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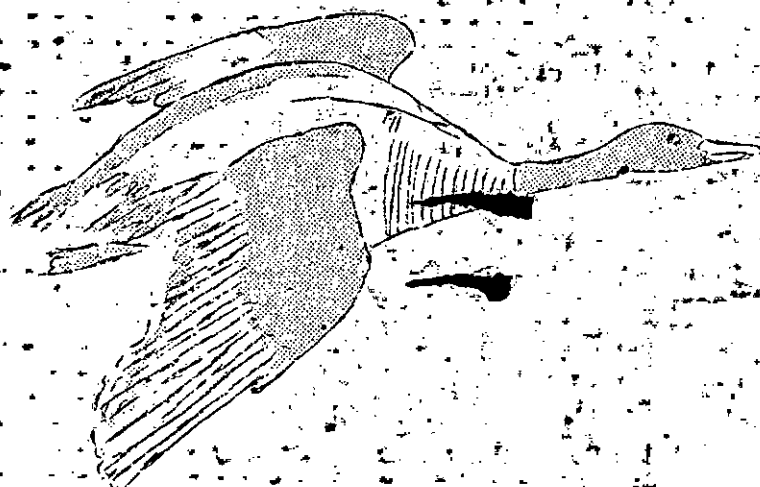
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U. S. Air Service.

# AIR CORPS



# NEWS LETTER

ISSUED BY THE  
OFFICE OF THE CHIEF OF THE AIR CORPS  
WAR DEPARTMENT  
WASHINGTON, D. C.

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# Table OF CONTENTS

	<u>Page</u>	
The Cheney Award for 1932 - - - - -	1 -	2
Wright Field Officers to Lecture to Harvard Students - - - - -		2
Two Noted Pursuit Pilots Lose Their Lives - - - - -	2 -	3
Captain Bernard S. Thompson is "Back on the Job." - - - - -		3
Graduated Scale on Landing Field Photographs - - - - -		4
Beautifying the Post of March Field - - - - -		4
New Commandant at the School of Aviation Medicine - - - - -		4
Training Schedule Takes Strange Forms - - - - -		4
Cross-Country Travel Kits - - - - -		5
New Gymnasium at March Field - - - - -		5
Nichols Field Pistol Club Wins Three Championships - - - - -		5
36th Squadron Insignia Approved - - - - -		6
Canopy for Flare - - - - -		6
Two March Field Noncommissioned Officers Pass Away - - - - -	6 -	7
New Headquarters at Mitchel Field - - - - -		7
Building Activities at Chanute Field - - - - -		7
"Ten Above" is Cold at Any Latitude - - - - -		7
S. A. E. Meet Leaves Pleasant Memories - - - - -		7
Boy Scouts Gather at Randolph Field - - - - -		7
Frank Luke Trophy Presented - - - - -	8 -	9
Aerial Delivery Unit Developed - - - - -		9
Weather Man Deals Harshly with Airmen Testing Cooking Equipment - - - - -		9
Signal Corps Activities at Bolling Field, D.C. - - - - -		9
Fine Recruits for Air Corps Technical School - - - - -		9
California National Guard Airmen Visit Reno - - - - -		9
Salvaging a Plane from a Panama Swamp - - - - -		10
Wright Field Engineer Receives <del> </del> Medal - - - - -		10
Duyton Section, American Society Mechanical Engineers, meet at Wright Field - - - - -		10
Albrook Field receives P-12E Planes - - - - -		10
Bling Flying Equipment Meets <del> </del> Test - - - - -		11
Boards of Officers Convene at Wright Field to Pass on New Airplanes - - - - -		11
Air Corps Armorers see Latest Gadgets - - - - -		12
Great Things Predicted for Rookie Armorer - - - - -		12
Photographers Test Selves and Equipment in Winter - - - - -	12 -	13
War Department Orders Affecting Air Corps Officers - - - - -		13
Bolling Field Has Finest Looking Soldier - - - - -		13
Randolph Field Soldier Gets Silver Star for Bravery - - - - -		13
Contracts for New Airplanes - - - - -		13
Notes from Air Corps Fields - - - - -	14 -	21
List of New Material Added to Information Division Files - - - - -	22 -	24
Inspection Division Notes - - - - -	25 -	26

Information Division  
Air Corps

January 31, 1933

Munitions Building  
Washington, D.C.

The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

Publishers are authorized to reprint material appearing herein, except that portion of the News Letter beginning with Notes from Air Corps Fields.

## THE CHENEY AWARD FOR 1932



Upon the recommendation of a Board of Air Corps officers, Private 1st Class, Specialist 2nd Class Arden M. Farley, of the 94th Pursuit Squadron at Selfridge Field, Mich., has been designated the outstanding hero of Army Air Corps activities for the year 1932, and will receive the Cheney Award, which is given annually for "the outstanding act or acts of valor, self-sacrifice or extreme fortitude in a humanitarian interest in connection with flying." The Award consists of a bronze plaque with the recipient's name engraved thereon, an engraved certificate describing the act and a substantial cash award. The Board was composed of Major Arnold M. Krogstad, Captain Arthur B. McDaniel and Lieut. Roland Birn, all on duty in the Office of the Chief of the Air Corps. In the absence of Major-General B.D. Foulis, Chief of the Air Corps, the proceedings were approved by Brigadier-General Oscar Westover, Assistant Chief of the Air Corps. Officers and enlisted men of the Air Corps or Air Corps Reserve are eligible for the award.

The act of valor for which the award was made occurred on December 6, 1932, near Pontiac, Michigan.

Private Farley was riding in the gunner's seat of a two-seater Pursuit airplane, with 2nd Lieut. William H. Dum, Air Corps Reserve, in the forward cockpit at the pilot's controls. The engine cut out badly, necessitating a forced landing. The only available field was short and rolling and surrounded by high tension wires and trees, and the pilot cut his switches as the tail brushed the trees and landed on the rough ground. Just after going over the crest of an incline, the tail reared up and the airplane smashed down on its back.

So hard was the impact that the streamlined head rest was crushed down on Private Farley's head. Fortunately he was not badly injured, and he barely managed to escape from the wreckage. Flames broke out about the engine as he regained his feet. There was a deep cut over his left eye and his face was badly bruised. As for Lieut. Dum, his head and shoulders were visible in the overturned cockpit, but his 190-lb. bulk prevented his ready escape, as his parachute had jammed in the seat. Without thought of possible danger to himself, but seeing only an officer of his Squadron and a fellow flyer in distress, Farley crept beneath the wreckage, unfastened the lieutenant's leg and chest straps of his parachute harness and tugged and struggled until the pilot was on the ground. Together they regained their feet and ran from the airplane which was now ablaze. They had gone about 50 yards when the fuel tanks exploded, and flames leaped 30 feet in the air.

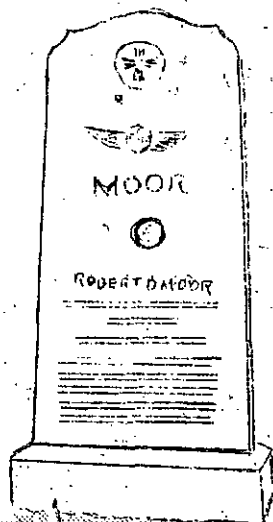
"I am certain," Lieut. Dum stated, in reporting the accident, "that I could not have gotten out of the ship without the assistance of Private Farley. His clear thinking and quick action is in my mind all that saved me from burning to death."

Private Arden M. Farley enlisted four years ago at the age of 19, and has been in the famous 94th Squadron since that time, earning promotion to Private, 1st Class, and the comparatively rare rating of Specialist, 2nd Class. He was born at Albany, Ohio, and his father, William G. Farley, lived at 2603 East Main Street, Springfield, Ohio, at the time of his son's first enlistment. The initial recommendations for this Award were made by Lieut. Dum; Captain A.B. Ballard, his Squadron Commander; and Major George H. Brett, Commanding Officer of Selfridge Field, Mt. Clemens, Mich.

Just fifteen years ago, on January 20, 1918, Lieut. William H. Cheney, of the American Air Service, was killed in an air collision at Foggia, Italy, and the Award and its trust fund were established in his memory by his mother, Mrs. Mary L. Scofield, Peterboro, New Hampshire, and his sister, Mrs. Ruth Cheney, (Thomas W.) Streeter, of Morristown, New Jersey. The first Award was made in 1927, when it was bestowed on Master Sergeant Harry Chapman for conspicuous bravery in the Airship Roma disaster, which occurred in February, 1922. For the year 1928, Lieut. Uzz G. Ent received the Award for remaining with and trying to rescue his dying companion, Lieut. Paul Evert, in a burning balloon which had been struck by lightning during the National Elimination Balloon Races. For 1929, Lieut. William A. Matheny received the Award for his rescue of his co-pilot, Lieut. Dwight Canfield, from the flames of a burning Bomber which had been wrecked by a forced landing in the Nicaraguan jungles over which these Army officers had been flying. No deed in the year 1930 approximated the high standard of heroism for which the previous awards had been made, but it was given twice in 1931, when the Awards Board could not decide who of two members of the Army Air Corps was most deserving. Private John B. Smith, then a member of the Third Attack Group at Fort Crockett, Galveston, Texas, slid headfirst into the cockpit of a wrecked and burning airplane and rescued the pilot, Lieut. C.W. Causey, who was trapped therein. Later in the year, near Detroit, Mich., Lieut. Robert D. Moor, the pilot of

Cate 3/29/35 mms

of a two-seater Observation plane which was disabled by a collision in mid-air,--stayed with the ship and kept control until the enlisted passenger made a safe parachute jump, whereupon the airplane spun into the ground and killed the pilot before he could jump. The award in Lieut. Moor's case was made posthumously, and provided for the erection of a suitable tombstone on his grave at Holland, near Toledo, Ohio. This headstone was recently completed, and a rough sketch thereof appears on the left. The inscription which is chiseled thereon reads as follows:



ROBERT D. MOOR  
1ST LIEUTENANT, AIR CORPS, U. S. ARMY  
1894 - 1931  
AWARDED THE DISTINGUISHED FLYING CROSS  
AND THE CHENEY AWARD FOR HEROISM  
WHO, ON THE 23RD OF AUGUST, 1931,  
GALLANTLY SACRIFICED HIS LIFE WHILE  
PILOT OF AN AIRPLANE FORCED DOWN  
OUT OF CONTROL. HE GAVE UP HIS OWN  
OPPORTUNITY TO ESCAPE BY URGING AND  
SUCCEEDING IN GETTING HIS PASSENGER  
TO JUMP TO SAFETY.

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#### WRIGHT FIELD OFFICERS TO LECTURE TO HARVARD STUDENTS

Four Wright Field officers, Captains Albert W. Stevens, D.M. Reeves, Bruce Hill and Lieut. J. F. Phillips, have been requested by the Institute of Geographical Exploration of Harvard University to conduct a course of lectures at different periods of time, on Aerial Photography and related subjects before the Institute's student body. Furlough leave has been granted them for the purpose. Captain Stevens will be at Harvard from February 5th to 19th; Captain Reeves from February 19th to March 11th; Captain Hill from March 12th to April 1st, and Lieut. Phillips from April 9th to 29th.

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#### TWO NOTED PURSUIT PILOTS LOSE THEIR LIVES

"Friday, the 13th," considered by those superstitiously inclined as the prize "Jinx" of them all, apparently gained more adherents among the flying fraternity, as on that day, in January, one of the best Pursuit pilots in the Air Corps, Captain Hugh M. Elmendorf, lost his life while flight-testing a new type of two-seater Pursuit plane in the vicinity of Patterson Field, Fairfield, Ohio. Then, as if this accident was not sufficient to paint Friday in colors of the darkest hue, another distressing accident occurred on January 20th, when another outstanding Pursuit pilot in Air Corps circles, 1st Lieut. Irvin A. Woodring, flight-testing the same type of ship but adapted for Attack use, crashed approximately four miles from Wright Field and was instantly killed. The death of these two popular officers was a great shock to the Air Corps.

Fate at times plays a mysterious hand in the lives of the mortals of this world. The fortunes of Captain Elmendorf and Lieut. Woodring were strangely intermingled during their service in the Air Corps. The latter was a protege of the former while both served with the 95th Pursuit Squadron at Rockwell Field, Coronado, Calif. Both met their death on a Friday and both piloted the same type of airplane on their last flight. Prior to Captain Elmendorf's death, the most serious airplane accident which befell him during his career as an Air Corps pilot occurred at Selfridge Field, Mich., on July 14, 1927. He had no sooner made a landing in a P-1 Pursuit plane when a Transport plane, piloted by Lieut. Woodring who was just taking off, collided with it. At that particular time, Lieut. Woodring was being instructed in piloting a Transport plane by the late Lieut. LeClaire D. Schulze. The left wing of the Transport slid up along the fuselage of Captain Elmendorf's plane, striking him on the top of his head and crashing him down in the cockpit. Captain Elmendorf sustained a very serious injury to his back, and was confined at Walter Reed Hospital for an extended period. He eventually recovered from his injuries and continued his brilliant exploits as a Pursuit pilot, but there were some who expressed grave doubts if he would recover from a recurring injury to his back.

Again fate figured in a near tragedy in the lives of these two Pursuit pilots on April 23, 1930, during the Air Corps Maneuvers at Sacramento, Calif. They were engaged in a "dog fight" as part of a program arranged in honor of the citizens of Sacramento, when Lieut. Woodring was seen to shoot out of his ship. He fell a hundred feet or so, according to witnesses, and then his parachute opened and he drifted down to terra firma a full fledged member of the Caterpillar Club. According to Woodring's report of his jump, his plane started in a spin out of control, and he realized that a crash was inevitable. He loosened his safety belt at about a thousand feet and was immediately catapulted into space.

On the day Captain Elmendorf was flight-testing the new type of two-seater Pursuit ship, he had with him as Observer Captain Frank O'D. Hunter. Both officers had been at Wright Field for a week testing the plane in order to decide upon its suitability for adoption by the Air Corps for service use. Captain Hunter, already a Second Degree member of the Caterpillar Club, realized his peril when the plane started on its downward course and managed to jump with his parachute. His Third Degree initiation was fraught with just as much hazard as his other two and, due to the low altitude of the plane at the time he left it, he was severely injured. According to reports recently received from the hospital where he is confined, he is doing well.

Captain Elmendorf was one of the outstanding officers of the Air Corps, one who was especially skilled in Pursuit Aviation. When Captain Hunter was relieved from duty in the Training and Operations Division, Office of the Chief of the Air Corps, as Pursuit aviation representative, Captain Elmendorf succeeded him in that position. He was born at Ithaca, N.Y., on January 3, 1895, and graduated from Cornell University in that city. During the World War he was commissioned a 2nd Lieutenant, Infantry O.R.C., August 15, 1917; promoted Provisional 1st Lieutenant of Infantry, February 9, 1918, and Provisional Captain of Infantry, October 28, 1918. He served

at Camp Greene, N.C., until April, 1918, when he was transferred to the Infantry School at Camp Benning, Ga., as an instructor. On March 10, 1921, he was transferred to the Air Corps and, after completing the primary flying course at Carlstrom Field, Arcadia, Fla., and the advanced flying course at Ellington Field, Houston, Texas, he was rated a Pursuit Pilot on December 7, 1921. He served with the First Pursuit Group at Ellington Field and then at Selfridge Field, Mich. After a three-year tour of duty in the Hawaiian Department, he returned to Selfridge Field and assumed command of the 94th Pursuit Squadron.

Upon his return to duty following his recovery from his accident in July, 1927, at Selfridge Field, Captain Elmendorf was assigned to the command of the 95th Pursuit Squadron at Rockwell Field, Calif. While in command of this organization, he developed Pursuit tactics at extremely high altitudes, leading his entire squadron in maneuvers at an altitude of 28,500 feet over Mather Field, Sacramento, Calif. In September, 1930, he was transferred to Washington to duty in the Training and Operations Division, Office of the Chief of the Air Corps, swapping jobs, as it were, with Captain Hunter who, upon his arrival at Rockwell Field, assumed command of the 95th Pursuit Squadron. Captain Elmendorf was recognized throughout the Air Corps as an exceptionally well qualified aerial gunner. In 1927, in the Annual Machine Gun and Bombing Matches at Langley Field, Va., he captured the Pursuit Pilots' Match with the score of 902.1 out of a possible score of 1525. This score was the highest obtained in this particular match from the beginning of the Matches in 1926 up to last September, when 2nd Lieut. Winslow C. Morse scored 1014 points, although it should be noted that the highest possible score in that match in 1933 was raised to 1750.

Captain Elmendorf was buried at the Arlington National Cemetery on Monday, January 16th, 1933. Planes from Bolling Field flew over the grave during the last rites. The pallbearers were Captains William J. Flood, Harlan W. Holden, Edwin J. House, Charles M. Cummings, Major Asa N. Duncan and Lieut. H.A. Halverson.

Lieut. Woodring, who before his death was the last surviving member of the famous "Three Musketeers," who startled spectators during the National Air Races at Los Angeles, Calif., in 1928 with their spectacular acrobatic flying (the two other members being Lieuts. J.J. Williams and W.L. Cornelius) was born at Enid, Oklahoma, February 1, 1902. Following his graduation from High School at Enid, he attended the Oklahoma A. & M. College for three years. Appointed a Flying Cadet, he graduated from both the Air Corps Primary and Advanced Flying Schools, received a commission as 2nd Lieutenant in the Air Reserve, and the rating of Airplane Pilot in September, 1924. For nearly three years thereafter he was affiliated with commercial aviation, holding a transport pilots' license from the Department of Commerce. On January 25, 1927, he was appointed 2nd Lieutenant, Air Corps, Regular Army, and assigned to duty at Selfridge Field, Mich. He was promoted 1st Lieutenant on November 1, 1932. While a member of the First Pursuit Group at Selfridge Field, he won the 1927 Mitchel Trophy Race. He served as Assistant Engineer Officer of the 27th Pursuit Squadron from July, 1927, to July, 1928, when he was transferred to Rockwell Field, Calif. He participated in the National Air Races at Spokane, Washington, in 1927, and at Los Angeles, Calif., in 1928.

A spectacular transcontinental flight from Vancouver, Washington, to the airport at Newark, N.J., in October, 1930, under extremely adverse weather conditions, won for him the award of the Distinguished Flying Cross. Lieut. Woodring's mission was to carry a very important document, the London Naval Treaty, from Vancouver to New York, to be taken from there to London by a representative of the Japanese Government. Lieut. Woodring was accompanied by Lieut. William Caldwell, Air Reserve, who was also flying a Pursuit type plane. Extremely hazardous flying conditions were encountered in Wyoming, snow and clouds completely destroying visibility from the ground to an altitude of about 16,000 feet. Although the airplanes used in this flight were selected for speed and not suitable for extensive blind flying, and the pilots realized the dangers involved, they were determined to take no chances in delaying the successful accomplishment of the mission. Blinded by the snow storm, Lieut. Caldwell crashed to his death at Laramie, Wyoming. This officer was awarded the Distinguished Flying Cross posthumously.

Lieut. Woodring served with the 95th Pursuit Squadron at Rockwell Field, under Captain Elmendorf, as Operations Officer. He was in command of the Squadron from July, 1930, to February, 1931. He participated in the refueling endurance flight of the Air Corps transport plane "Question Mark," a pioneering feat in aviation which led to similar flights of longer duration in the months that followed. From July, 1931, to July, 1932, Lieut. Woodring attended as a student the Air Corps Engineering School at Wright Field, Dayton, Ohio, and following his graduation was assigned to the Flying Branch, Administrative Section, of the Materiel Division at that field.

Lieut. Woodring was buried at Arlington National Cemetery on Monday, January 23, 1933, with full military honors. A four-plane formation from Bolling Field (one blank file) flew over the grave during the funeral ceremony. All officers on duty in the Office of the Chief of the Air Corps attended the funeral, as was the case in the funeral of Captain Elmendorf. The pallbearers were Major Asa N. Duncan, Captains Holden, Flood, House, Cummings and McDonald.

The death of these two promising young officers constitutes a distinct and untimely loss to the Air Corps. Engaged in testing the latest type of aircraft for Air Corps use, their death may be considered as truly in the service of their country and with as much distinction as though it had been in actual warfare. The Air Corps extends its deepest sympathy to the bereaved families of the deceased officers.

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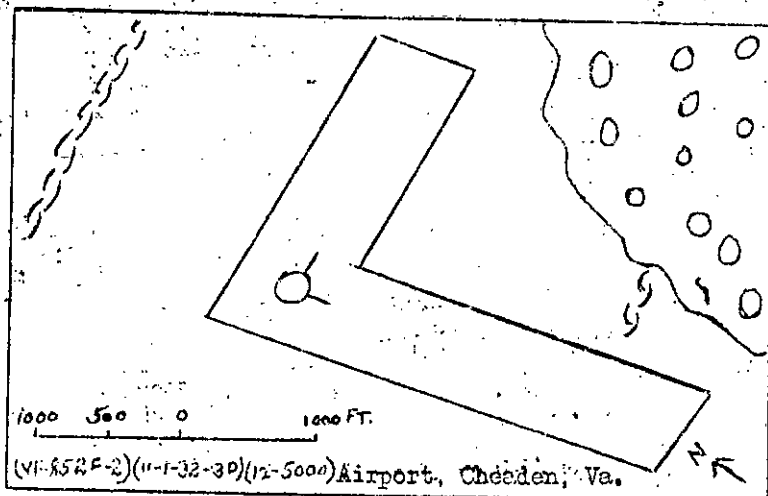
#### CAPTAIN BERNARD S. THOMPSON IS "BACK ON THE JOB."

After spending considerable time in Army hospitals as the result of an airplane crash at LaPrayer two years ago, Captain Bernard S. Thompson, Air Corps, recently reported from Walter Reed General Hospital, Washington, D.C., to Randolph Field, Texas, where he is now on duty as Post-Signal Officer. Captain Thompson, formerly Operations Officer at Kelly Field, Texas, replaces Captain Frank L. Cook, who was ordered to duty in the Hawaiian Islands. Captain Thompson was a member of the Army Pan-American Flight around Central and South America in 1926. Other duties assigned to Captain Thompson are Athletic, Library, Recreation and Chemical Warfare Officer.

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After three attempts, accompanied by a wild exhibition of flying, the student finally brought his plane to the ground. "Gosh," he said, "I didn't know it was so hard not to fly."

#### GRADUATED SCALE ON LANDING FIELD PHOTOGRAPHS



A collection of excellent photographs of outlying emergency landing fields in the vicinity of Langley Field, Va., was recently submitted to the Office of the Chief of the Air Corps by the Second Photo Section. In addition to the usual identification markings on each photograph, there also appear an arrow pointing to True North and a graduated scale of the photograph. This graduated scale enables anyone seeking information on a certain field to readily size up the field in his own mind. By being inserted immediately above the neat line, the graduated scale does not mar the photograph.

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#### BEAUTIFYING THE POST OF MARCH FIELD

The beautification of the grounds and buildings at March Field, Riverside, Calif., has progressed with leaps and bounds during the past three years since the extensive construction program began. The re-landscaping of the post and the complete replacement of old buildings by new construction has necessitated an extensive program of planting and planning. The work was effectively started by Lieut. Stitt, under whose guidance and untiring efforts a systematic and scientific plan was inaugurated. Upon his transfer to foreign service, Lieut. Stitt was replaced by Captain Robert E. Selff, who has carried on the work during the past one and one-half years. Through the cooperation of the California State Experimental Farm at Davis, Calif., and various commercial concerns, Captain Selff has secured a large number of shrubs, trees and perennial flowering plants which have recently been planted over the entire building area of the Post.

Although results are not now at once apparent, it will not be many years until the foresightedness of these two officers will take the form of a beautiful oasis in the center of this otherwise semi-desert country.

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#### NEW COMMANDANT AT THE SCHOOL OF AVIATION MEDICINE

Lieut.-Colonel Albert P. Clark, Medical Corps, a new arrival at Randolph Field, Texas, was designated as Commandant of the School of Aviation Medicine in War Department Orders. His duties are of a triple nature in that he is not only Commandant of the School of Aviation Medicine, but also the Post Surgeon of Randolph Field and Flight Surgeon of the Air Corps Training Center.

Coming from five different States and one foreign country, nine medical officers entered the School of Aviation Medicine to take a four months' course in specialized aviation medicine. Included among those listed is Major Joseph Shiang-Min Lee, Medical Corps, Chinese National Air Force. The other students are: Lieut.-Col. A.D. Tuttle, M.C., Post of Embarkation, Brooklyn, N.Y.; Captains Walter S. Jensen, M.C., 2nd Medical Regiment, Fort Sam Houston, Texas; Fletcher E. Ammons, M.C., Fitzsimmons General Hospital, Denver, Colo.; Frederick S. Craig, M.C., Fort Sill, Okla.; Edward J. Tracy, M.C., 2nd Division, Fort Sam Houston, Texas; John E. Pluenneke, M.C., 2nd Medical Regiment, Fort Sam Houston, Texas; Ehrling L. Bergquist, 2nd Medical Regiment, Fort Sam Houston, Texas, and 1st Lieut. James M. Kolb, Medical Reserve, of Clarksville, Arkansas.

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#### TRAINING SCHEDULE TAKES STRANGE FORMS

The training directive as laid down for the education of Army personnel at March Field, Riverside, Calif., looks conventional enough on paper, but the local officers and enlisted men have begun to wonder if it is not actually taking the form of a real war.

Recently, 19 Pursuit, Bombardment and Transport airplanes were sent to various parts of Southern California to spend a week end in the field testing field cooking equipment. All went well until the planes were about ready to take off for home, having exhausted their supply of food and cooking fuel, when fate turned the week end camping trip into a hair-raising episode in which the intrepid aviators placed their situation against nature. A storm suddenly broke in Southern California. One flight was forced to land at Silver Lake, a dry lake bed near Death Valley, and remained there without food or shelter for more than 24 hours. An abundant supply of snow, an almost unheard of commodity in that section of the State, fell as manna from Heaven and was used as a water supply during the uncomfortable stay. Other flights were more fortunate in the landing fields they found available and, although they were tired, hungry and broke by the time they arrived home some two days behind schedule, they were none the worse for their experience.

Shortly before their arrival home, they were greeted by a reception committee of inhuman-looking masked figures that came running toward their planes as they were taxiing toward the line. Further investigation revealed that these unfortunates were also conscientiously maintaining the high standard of training of the Air Corps, and had sworn themselves to wear gas masks for a week during all working hours in order to familiarize themselves with this equipment and to do their work efficiently despite this modern method of necessary "torture."

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Airline passenger: "What town is that?"  
Second A.P. "Town! I don't even know what State it is."

CROSS-COUNTRY TRAVEL KIT  
By the Wright Field Correspondent

A new and ingenious traveling bag for every item of wearing apparel that could be imagined as necessary to a fastidious officer on cross-country duty was designed by Major E.L. Hoffman and made up in experimental numbers in the Equipment Branch of the Materiel Division. With this bag in one's possession, living up to the old adage, "A place for everything and everything in its place," should prove much simpler than living up to most old adages ever turns out to be.

Constructed of 23-ounce khaki duck, the dimensions are 35 inches long by 22 wide, and the weight, 8½ pounds. All openings are of the zipper type. The main compartment, which covers the full dimensions of the bag, is 4 inches deep. In one end are snapped two hangers. Under these hangers is a label which reads: "Coat hanger will carry two coats. Other hanger will carry two pants plus overcoat folded in middle." The length of the bag permits the coats to lie flat without folding. On both outer sides of the main compartment are pockets, all duly labeled and zipper operated. On one outer side are five, as follows: for handkerchiefs; for tobacco, pipes, matches, etc. (18 x 7"); for toilet articles, towels, and soap (18 x 7"); for cap and ties, with a stiff holder to keep ties from wrinkling (15 x 6"); for shirts laid flat (20 x 12"). On the other outer side are three similar pockets, as follows: for underwear and pajamas (9 x 18"); for shoes and socks, with drawstring bags for shoes (9 x 18"); for soiled clothing (20 x 12").

The bag has a lateral stiffener across the center and is carried by a handle placed at top end. If desired, it may be folded longitudinally once, snap tabs securing the bottom end to the top end under the handle. Besides lightness of weight and low cost, the main convenience of the bag lies in the ease with which the smaller various articles may be located without mussing or disturbing the main articles of clothing.

Ed. Note: In the past it was customary for Air Corps flyers on extended aviation flights, when ferrying airplanes, on maneuvers, etc., to carry an extra handbag with personal effects, besides the clothing bag which ordinarily is opened flat and hung from a cross brace in the rear of the fuselage (in all except the single seat Pursuiters). The more pieces of baggage carried per person, the more opportunities there were of one piece being mislaid, especially in those instances where flights, squadrons and other large units would land at a "foreign" field and have their baggage transported in bulk between field and quarters.

Of course, there will be different ideas from users thereof of how the bag's innards should be laid out; for what of the goodly number of non-smokers who have other uses for the smoking compartment; or those who travel in "civies" and think that a hard derby hat in their baggage increases the flying qualities of the airplane, - what other use could a hard bowler have on a long flight? Hence the bag, as previously stated, is being made up in experimental numbers of small lots, and suggestions and criticisms from the users will no doubt be received with much interest.

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#### NEW GYMNASIUM AT MARCH FIELD

The new gymnasium at March Field, Riverside, Calif., is nearing completion and will probably be in use by the time this is published. An interesting feature of this new structure will be its unusual floor. A slab of concrete, 5 inches deep, forms the base, and this is covered by one-half inch of tar-concrete mixture to make it waterproof, preserve it and give it life and spring. On top of this are placed 2" by 4" sleepers, 18" apart, which are anchored to the concrete. This network is filled with the same mixture of tar and concrete that is found on the layer directly above the base. On top of this is a ¾" pine sub-floor, topped with ¾" maple covering. The balcony will have a capacity of 440 seats. It is planned to construct six bowling alleys in the new building.

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#### NICHOLS FIELD PISTOL CLUB WINS THREE CHAMPIONSHIPS

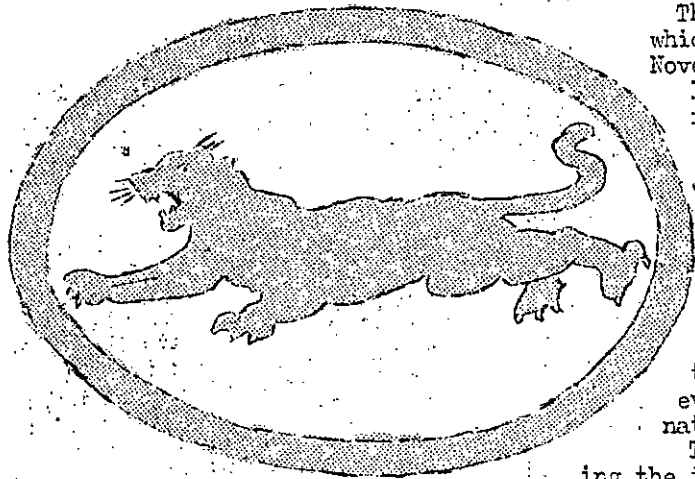
The culmination of the target pistol season in the Philippines came when the Open Championships of the Islands were shot off on the Nichols Field Range on the last two Sundays in November. First came Match B, the slow fire pistol championships, which was won by 1st Lieut. J.L. Hitchings\* of the Nichols Field Club, with Sergeant L.K. Burlingame, also from Nichols, a close second. Match C, the rapid fire championship, open to all pistols or revolvers over .22 caliber, with barrels not over six inches and pulls not under four pounds, was also won by Lieut. Hitchings with a .38 revolver. Both of these matches were fired on the Standard American Target at 50 yards, under U.S. Revolver Association Rules, on the first Sunday.

On the second Sunday, the most hotly contested championship of the year, the Pistol Team Match, was shot off under the same rules as Match B. Six teams competed, the Cosmopolitan Gun Club, the Manila Police, the Philippine Constabulary, the 31st Infantry, the Manila Motorboat Association and the Nichols Field Club. At the end of the first order, the Motorboat Association had a 27 point lead, with the Cosmopolitan Club second and the Nichols Club third. The second order changed matters materially, however, leaving the Nichols Club in the van. In the last order, the anchor man of the Nichols Field Club, Staff Sergeant Caldwell, was under considerable pressure and threw one miss; but pulling his group together, he ended with a creditable score, giving Nichols the victory. The Nichols Field Club scored a total of 2045 points, the Cosmopolitan Club coming in second with 2019. Members of the winning team were 2nd Lieut. C.G. Pau, 57th Infantry, who has fired all season as a member of the Nichols Club; Staff Sergeant Mack H. Dobbs; Staff Sgt. J. Caldwell, and Pvt. H. Nyquist, all from Nichols. The team was coached by Lieut. Hitchings who did not, however, compete.

On the first Sunday, Major John B. Brooks, Commanding Officer of Nichols Field, and Honorary President of the Club, distributed the prizes. On the second Sunday, Col. Lorenzo D. Gasser, Commanding Officer of the 31st Infantry, performed this honor. The prizes were worthy of the importance of the contest and comprised seven sterling silver cups, a solid gold medal seven silver medals and eleven bronze medals.

\*Readers of the News Letter will recall Lieut. Hitchings as the author of a series of articles on pistol shooting which appeared in this publication during the greater part of 1931





The insignia for the 35th Pursuit Squadron, which was approved by the War Department on November 7, 1932, and which is sketched to the left, reminds one of an advertisement which recently appeared in the newspapers, extolling the virtues of a certain brand of cigarettes. The caption under the illustration which featured this advertisement read - "Nature in the Raw is Seldom Mild." The denizen of the jungles selected as the pet of the 35th Pursuit Squadron, Langley Field, Va., looks anything but mild, and if insignias of organizations give a true index of their character, it is certain that the 35th will be heard from should it ever be involved in a fracas of a serious nature.

The letter from The Adjutant General, approving the insignia, reads as follows:

"1. The following insignia hereinafter described for the marking of airplanes of the 35th Pursuit Squadron, Air Corps, is approved.

On a silver oval within a blue border a black panther courant, tongue red.

The panther should face to dexter instead of sinister.

The 35th Pursuit Squadron, Air Corps, a World War unit, was originally organized May 25, 1917, at Kelly Field, Texas, as the 35th Provisional Aero Squadron. July 9, 1917, it was redesignated 35th Aero Squadron. It served overseas from August 23, 1917, to March 7, 1919, as a construction squadron, and did not engage in combat. The 35th Aero Squadron was demobilized at Garden City, Long Island, New York, March 19, 1919. March 24, 1933, the 35th Aero Squadron was reconstituted on the active list of the Regular Army as the 35th Pursuit Squadron; June 25, 1932; it was made active at Langley Field, Virginia.

Under the provisions of paragraph 13b, AR 260-10, the 35th Pursuit Squadron, Air Corps, is entitled to a silver band for its guidon engraved "World War."

A form of the true hunting leopard, but somewhat smaller and even more wiry, the black panther stands out as one of the boldest and most fearless of wild animals. The cat originated in the wilds of the African jungles where self defense and the struggle for existence were the main activities of animal life. Only the swiftness with which the panther could attack, and the effective, penetrating claws and teeth with which he was armed, made it possible for him to survive in the savage world around him. It was the panther that learned to hide among the branches of tall trees and attack his prey from above; in doing so he had the advantage of being concealed until the proper moment for attack and the unsuspecting prey had no opportunity for escape. It was with the deadly and fearless fighting characteristics of this king of beasts in mind that the 35th Pursuit Squadron adopted the black panther for its insignia."

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#### CANOPY FOR FLARE

"Quite in accordance with the economic times," says the Wright Field Correspondent, "the Materiel Division, Wright Field, Ohio, has made a parachute flare canopy from the material of a salvaged service parachute, discarded because of age limits on this material. The flare canopy is eight feet in diameter, and when air tested at 250 miles per hour was found sufficiently strong for the purpose for which it will be used. The cost of this canopy will run \$1.50 for the making, against a total cost of \$12.00 to \$15.00 each for wholly new canopies made under present specifications. Canopies made of salvaged parachute silk will be sent to the Ordnance Department for approval."

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#### TWO MARCH FIELD NONCOMMISSIONED OFFICERS PASS AWAY

The death of two noncommissioned officers came as a severe blow to March Field personnel. Sergeant Webb L. Green, of the 95th Pursuit Squadron, was killed on December 10th, when the car which he was driving crashed into a truck which was parked in the middle of the highway, between Colton and Redlands, Calif. The truck driver at the time was asleep in his cab. Sergeant Green was instantly killed, having sustained a fractured skull and other injuries.

Sergeant Green was born at Parsons, Kansas, June 10, 1890. At the time of his enlistment in the Air Corps, August 24, 1926, he was a resident of Joplin, Mo. He served with the 94th Pursuit Squadron from Sept., 1926, to August, 1929. Upon his reenlistment he joined the 95th Pursuit Squadron. He was appointed Corporal, January, 1930, and Sergeant, December, 1930.

Sergeant Green was a member of the Caterpillar Club, jumping with a parachute to save his life on May 2, 1930, near Fresno, Calif. At that time he and five other enlisted men were passengers in the cabin of a transport plane, piloted by Lieut. Warren A. Maxwell. Sgt. Arthur sat beside him in the cockpit. Some eight miles from Fresno, Calif., the propeller on the right motor of the plane broke in two and the airplane started jumping badly. Sergeant Arthur was told by the pilot to yell to the occupants of the cabin to jump, but these six men were a step ahead, sensed what was coming and took leave of the imperiled plane in rapid succession. There was no excitement and no hysteria. All six yanked the rip cords of the parachutes and landed safely. Sergeant Arthur refused to jump, although told to do so, and stood by. Although the transport piled up in a vineyard, neither Lieut. Maxwell nor Sgt. Arthur was injured.

A heart attack resulted in the sudden death of Master Sergeant A.B. Neiswander, line chief of the 64th Service Squadron, on December 13th. Neiswander had a long and honorable record of service and was in his seventh enlistment at the time of his death. He enlisted in the Marine Corps in 1905 and served therewith in the Philippine Islands during the Insurrection, being wounded during the hostilities. In 1914, he enlisted in the 108th Aero Squadron and soon after the war was declared he was promoted to Master Sergeant, which grade he had

held continuously to the time of his death. In 1915, he joined the 1st Aero Squadron at Fort Sill, Okla., and served with that organization during the Punitive Expedition into Mexico and overseas during the World War. His efficient service in both peace and war made him well known throughout the Air Corps, and his loss is keenly felt. Sergeant Neiswander was a native of Kansas, having been born at Topeka on February 21, 1886. He is survived by his widow, Mrs. Rose Neiswander.

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#### NEW HEADQUARTERS AT MITCHEL FIELD

The Mitchel Field Correspondent announces for the benefit of all visiting firemen that the new headquarters and operations building at Mitchel Field is now occupied and functioning with a high degree of efficiency. It is located on the flying line directly in back of the spot where the old operations used to stand.

Less than 24 hours after Post Operations had vacated their old shack, an army of workers swooped down upon it. They began jabbing their crowbars into the rotted boards with a vehemence and shouted lustily whenever a wall toppled. In a way it was a sad sight to see the historic old shingle and beaverboard crumble. It had been warm and friendly in its day and had spelled home to many of us. At this point it is practically razed. The last pile of old boards heaped up in front of the new and resplendent red brick building is significant of something - significant perhaps of a new era far beyond our wildest dreams.

In the past it has been difficult at Mitchel Field to extend the proper courtesies to visiting pilots. "Handicapped by a lack of transportation and housing facilities," says our Correspondent, "we have been unable to extend a welcoming hand. We are rapidly approaching a status whereby this will be corrected. In several months the new bachelor building will be completed and in operation. Then we hope to be able to extend every possible courtesy to all pilots who visit us."

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#### BUILDING ACTIVITIES AT CHANUTE FIELD

Plans and specifications for 16 sets of noncommissioned officers' quarters were received at Chanute Field, Rantoul, Ill. The Construction Quartermaster advertised for proposals on December 21, 1932, and the bids were opened on January 17th, 1933. The proposals are for the 16 sets to be constructed in eight double sets. According to the Chanute Field Correspondent, the news that bids were advertised was the occasion for much enthusiasm on the part of the local civilian population.

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#### 'TEN ABOVE' IS COLD AT ANY LATITUDE

An example of what the well dressed aviator will wear in cold weather was recently illustrated at Post Field, Fort Sill, Okla., when Lieut. Brentnall came through from Randolph Field, Texas. When he started peeling off his flying clothes, the following items of apparel came into view: 1 Winter flying suit; 1 Helmet, goggles, woolen face mask; 1 Silk Scarf; 1 Summer flying suit; 1 Mechanics' suit; 1 Leather jacket; 1 pair moccasins.

As Lieut. Brentnall took quite a while thawing out, the News Letter suggests that on his next visit to Fort Sill he add "Undershirt and drawers, woolen issue."

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#### S. A. E. MEET LEAVES PLEASANT MEMORIES

That the recent visit of the Detroit Section of the Society of Automotive Engineers to Selfridge Field left pleasant memories not only at Selfridge Field but in the minds of the visitors was evidenced by several letters recently received by Major George H. Brett, Commanding Officer of the field.

A pleasant note from Mr. E.V. Rippingille, Chairman of the Detroit Section of the Society, said that he hoped that the visit to Selfridge Field would be made an annual event. He added that the members and guests were much enlightened by the talks on military aviation given by Major Brett at the luncheon tendered to the Society and pointed out that a better understanding of functions and operations of a military organization will result in greater interest in promoting adequate recognition and financial support. Mr. Rippingille assured Major Brett that what the Society saw and learned at Selfridge Field undoubtedly made many new friends for military aviation.

Another appreciative letter from Mr. Iris Louis Carron, Detroit lawyer and member of the S.A.E., told of the impression received of the spirit of harmony that seems to exist between the officers and men at the Field. As Mr. Carron said: "All of them are enthusiastic about the work. From a civilian viewpoint it gave an impression that the men in the service are sincere." He suggested more special visitors' days at the Field, assuring Major Brett that "Once a visitor, always a booster."

At Selfridge Field it is felt that the enthusiasm and appreciation as expressed by letters such as the ones mentioned much more than repays the Air Corps personnel for the little trouble required to acquaint the visitors with the Air Corps program of training and preparedness.

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More than 150 Boy Scouts and their parents recently attended the Court of Honor which followed a dinner held by the Scouts of District No. 5 at Randolph Field, Texas. Major F. L. Martin, Commanding Officer, was the principal speaker. Fourteen second class and 58 merit badges, also 8 apprentice sea scout awards were made, including 7 merit badges to scouts from Seguin and Randolph Field.

Major Henry W. Harms reported for duty at Randolph Field as Assistant Commandant, succeeding Major Thomas L. Hanley, transferred to Fort Leavenworth, Kansas. Major Harms recently arrived from the Philippines.

## FRANK LUKE TROPHY PRESENTED

The entire First Bombardment Wing of March Field flew to Phoenix, Arizona, on December 17th, where it participated in the presentation of the Frank Luke Trophy to the War Department by the Phoenix American Legion. This trophy will be presented annually to the West Coast Pursuit pilot having the highest score in his annual gunnery record firing, and is in honor of the famous "Balloon Buster" of World War days whose home was in Phoenix. Lieut.-Colonel H. H. Arnold accepted the trophy on behalf of the War Department. The presentation ceremonies were broadcasted over a national radio network. A huge crowd was in attendance at the Sky Harbor Airport to witness the review of the Bombardment Wing, the ceremonies that followed on the ground, and later the take-off when the Wing started on its return flight to March Field. It has not yet been announced who will receive the trophy for this year.

Characterizing the above as a great air show, the ARIZONA REPUBLIC, of Phoenix, Arizona, goes on to say:

"Arizona's greatest air spectacle was presented at Phoenix Sky Harbor, December 17th, by the 7th Bombardment and 17th Pursuit Groups of the West Coast Army Wing in appreciation for the Frank Luke, Jr., Memorial Trophy which was officially accepted by the War Department from the American Legion. Between 10,000 and 15,000 witnessed the aerial demonstrations at the Airport, while additional thousands watched from points of vantage in the city and from hundreds of automobiles parked for blocks along streets leading to the flying field.

More than 60 planes were sent here from Riverside, Calif., for the event, and 54 of them were in the featured air spectacle, the review before Lieut.-Colonel H.H. Arnold, March Field Commander and director of the maneuvers. The spectacle was presented in a perfect setting. Ideal flying conditions prevailed. The fliers seemed inspired with the spirit of the event and gave Arizonians a perfect demonstration of daring, ability and skill. There was no accident of any kind to mar the proceedings. Interest was early given the aerial display by the arrival over the city of the Bombardment Group. This contingent of 26 Bombers, led by Major Carl Spatz in a Pursuit plane, hovered over the city for several minutes and then flew over practically all parts of the valley in various formations.

A few minutes later, the Pursuit ships arrived under direction of Captain Frank O'D. Hunter. They likewise toured the valley in various formations. In the meantime automobiles were crowding the streets leading to the Airport as thousands stormed the field to view the pageant. It was estimated that close to 15,000 were present when the planes passed in review. After the Pursuit planes had made several trips around the valley, the entire Wing went to its rendezvous point where parade formation was perfected. The rendezvous was held at 11:35, and at exactly 11:45 o'clock, as scheduled, the ships passed before Colonel Arnold. It was a magnificent spectacle. All the planes were flying low and the field literally reverberated with the thunder of motors as the armada passed overhead. The Bombers were in squad formation while the Pursuit ships passed the reviewing stand in parade formation. All ships were perfectly aligned as they passed Colonel Arnold, sweeping by with throttles wide open and the blasting of perfectly tuned motors giving a vivid reminder of the great strength and power that lay behind the rapidly advancing fleet of fighting aircraft. The fleet continued on toward Phoenix in parade formation and held it until close to the center of the city. The Bomber planes then turned and began landing, while the Pursuit ships climbed high into the heavens. Captain Hunter then led them in a series of startling maneuvers. These ships, capable of attaining a speed of 275 miles an hour, were put through power dives, snake dances and practically every formation and maneuver employed by the War Department in training its fliers. The power dive was perhaps the most spectacular of the maneuvers. From an altitude of more than 3,000 feet, the 27 ships were driven earthward in a headlong dash that brought them almost to the field. The "Snake Dance" program was a pretty sight, with the ships weaving in and out, up and down, always in perfect time and accord. Then suddenly all too quick for the thousands of eyes glued to the heavens, the maneuvers were at an end. Another exhibition of dropping planes to the field in perfect formations of three was completed.

Colonel Arnold arrived at the Airport a few minutes before the first of the Pursuit planes put in an appearance. With his arrival, those given seats of honor in the reviewing stand took their places with him, and Mr. and Mrs. Frank Luke, Sr. were accorded special honor. Other relatives of the World War hero were also among those in the reviewing stand, as were Legion, State, County and City representatives. Governor Hunt was represented by Colonel Oscar Temple, Adjutant General. Governor-elect B.B. Moeur was present, as was Mayor Fred J. Paddock, of Phoenix, county officials and American Legion officials.

Mr. Moeur complimented the Army fliers on the wonderful exhibition they had given, and extended the greetings of the Arizona Department, American Legion, to the visiting airmen. He then introduced Mr. Russell Meadows, National Vice Commander of the American Legion, who gave a brief description of the high lights in the life of Frank Luke, Jr. Mr. Meadows described the ambitious life of the Phoenix youth as a school boy, in which track, football, basketball and other sports played a big part. He declared Frank Luke had played these games with the same courage and bravery that he fought the enemy during the World War. He recounted acts of bravery in the early life of the youth who twice risked his own life to save those of others. Frank Luke's meteoric career in the world war was then described by the speaker. He told of Luke's winning the title of "The Balloon Buster of Arizona" for his many unprivileged invasions of enemy territory in which the "aerial eyes of the enemy," the observation balloons, were his favorite objects of attack. Mr. Meadows completed his address by describing the final trip of Luke into enemy territory, a trip which ended in his death after he had left behind him a trail of shattered balloons - one of the eight Fokker planes that finally blasted him from the skies - his straffing of the troops at Marvoux as his plane, engine dead, glided to earth, and his answer to the calls of the enemy that he surrender by emptying his puny automatic against them as he dropped, his body riddled with bullets.

Mr. J.R. Moeur described the Luke Memorial Plaque as it was exhibited before the throng, and introduced Mr. Martens, State Commander of the Legion, who made the official presentation of the trophy to Colonel Arnold as representative of the War Department. Colonel Arnold expressed the regret of F. Trubee Davison, Assistant Secretary of War for Aviation, for his inability to attend the ceremonies, and made a brief acceptance speech. He declared that it was "fitting that the award should be given only to a Pursuit pilot, as Frank Luke, Jr., first, last and always was a Pursuit pilot." The trophy will be for aerial gunnery skill. Colonel

Arnold spoke briefly of the remarkable deeds of Frank Luke during the World War and told of the high esteem in which the memory of the noted hero is held not only among the Army officials but by the men who today are the Pursuit pilots of the fighting forces. He concluded with an expression of thanks to the American Legion and to all who had assisted in making possible the presentation of the trophy and the program at Sky Harbor.

"Taps" was sounded as Colonel Arnold concluded his address, and the throng stood in silence and at attention as a tribute to the memory of the dead flier. This officially closed the presentation ceremony."

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#### AERIAL DELIVERY UNIT DEVELOPED

The development of an inexpensive aerial delivery unit has been completed at the Materiel Division, Wright Field, Dayton, Ohio. This aerial delivery unit is designated as Type A-3. Experimental drop tests were conducted with this type unit, which is composed of a salvaged 24-foot service parachute canopy attached to a cylindrical-shaped bag of duck fabric in which is stowed a five-gallon commercial milk can in a separate compartment. The complete unit is carried in and released from the wing bomb racks by means of a static line attached to the apex of the container. Service tests were waived of this type equipment, as its operation and function are identical to the previous Type A-1, except that it is of a simplified and less expensive design.

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#### WEATHER MAN DEALS HARSHLY WITH AIRMEN TESTING COOKING EQUIPMENT

Field service cooking sets are undergoing elaborate tests at March Field, Riverside, Calif. Each of the eighteen flights of the First Bombardment Wing is required to spend at least one week end in the field operating these sets under actual field conditions. Nineteen airplanes of Pursuit, Bombardment and Transport types were recently caught in severe snow storms while conducting these tests and some crews were required to resort to hard tack and melted snow for sustenance until the storm abated. One flight, returning from Death Valley after tests had been made, was forced to land in a desert dry lake bed. Another flight remained at Blythe, Calif., and two flights landed at Palm Springs on the return trip from Calexico.

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#### SIGNAL CORPS ACTIVITIES AT BOLLING FIELD, D.C.

There is no depression at Bolling Field so far as Signal Corps activities are concerned. In addition to being the control station for the Air Corps Alert Net, this is also the home station of the Meteorological Control Officer of the Third Corps Area. There is practically every means of communications here that would be found at any post. Among these may be listed the Radio, Teletype, Telegraph and the local ground station for working airplanes while in flight. The meteorological section at this station is responsible for the handling of all plane movement messages not practicable for radio to handle. This, along with the usual routine work performed by a meteorological station, such as upper air observations, the drawing of weather maps and posting hourly weather from other stations keeps the personnel busy.

Weather reports are received by radio from eleven Army meteorological stations. It is easily seen that such a number of reports would by no means be sufficient to satisfy the needs of the average Air Corps field. Bolling Field is therefore dependent largely upon the Department of Commerce teletype service for the necessary weather data. The more important teletype circuits received by Bolling Field are as follows: Washington to Atlanta, Newark to Washington, Washington to Cleveland, Boston to Newark, Carden to Columbus. The stations on these circuits submit weather reports hourly. In case of any appreciable change in weather conditions at any airways station, a special report to that effect is immediately sent in. The Army stations worked by the local radio station are Middletown, Pa.; Aberdeen Proving Grounds, Md.; Fort Monmouth, N.J.; Mitchel Field, N.Y.; Langley Field, Va.; Pope Field, N.C.; Burgess Field, Pa.; Wright Field, Ohio; Selfridge Field, Mich.; Chanute Field, Ill.; Scott Field, Ill.

Some of the above-named stations are equipped with teletype. To prevent traffic congestion, however, teletype is never used in any instance where radio can handle the situation just as efficiently.

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#### FINE RECRUITS FOR THE AIR CORPS TECHNICAL SCHOOL

Recruiting for the Air Corps, Chanute Field (student body cadre of the Air Corps Technical School) which was resumed recently after having been restricted since January, 1932, is progressing satisfactorily, there being, on January 6th, approximately one hundred new soldiers undergoing recruit training. This group of young men are the subject of much favorable comment on the part of those with whom they come in contact. No effort is spared to obtain the highest type of young men, with the view of their entering the Air Corps Technical School, and the results are most gratifying.

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#### CALIFORNIA NATIONAL GUARD AIRMEN VISIT RENO

A flight of five ships of the 115th Observation Squadron, California National Guard, under the command of Major Peterman, and including Captain Robinson, Lieuts. Sewall, Claiborne, Burrows, Gard, Thomas, Wallen, Gilmore and Sergeant Hovey, flew to Reno, Nevada, recently. The mission was what might be called a combined aviation, deep reconnaissance, interception and photographic problem. The ships left Griffith Park at 5-minute intervals, proceeded to Carson City by different routes, rendezvoused there at 7,000 feet, and proceeded to Reno in formation. It is interesting to note that, although none of the participating pilots ever made this trip by air before, all of the ships made the rendezvous and were in formation within two minutes of the appointed time. All points of interest in and around Reno were reconnoitered and investigated, from a purely military standpoint, of course, and the entire detachment returned to their base, the Golden Hotel, thoroughly satisfied that Reno's claim of being "the biggest little town in the world" was well founded. The return trip was made next day without incident.

## SALVAGING A PLANE FROM A PANAMA SWAMP



NOT long ago, considerable excitement prevailed in the Pacific Sector in Panama, when Lieut. Charles H. Deerwester, Squadron Commander of the 80th Service Squadron, Albrook Field, crashed into the swampy jungles half way between Capira and Crusas Point, ten miles west of Chorrera, Republic of Panama. Lieut. Deerwester was flying a P-12B in a four-ship formation composed of Lieuts. Allison, Stophlet, Hockenberry and himself, all of the 16th Pursuit Group, when his motor stopped suddenly and the ship settled into the swamp and nosed over in waist deep water.

Two of the four ships immediately returned to Albrook to report the location, while Lieut. Hockenberry remained to watch for Lieut. Deerwester. After removing his parachute and clothes, Lieut. Deerwester slipped into the water, climbed onto the plane and by gestures and arm waving assured Lieut. Hockenberry that he was uninjured. In the meantime, rescue forces had been turned out. Lieut. Stephenson, pilot, and Capt. Gayle, Flight Surgeon, proceeded to Chorrera by plane and then by foot and auto, using native guides furnished by the Alcade at Chorrera. Messages in Spanish were dropped by plane to the natives in the surrounding jungles, requesting them to proceed to the wrecked plane. Water, food, blankets, machetes and a mosquito bar were dropped at the scene of the accident to Lieut. Deerwester. The Q-2, a staff boat from Fort Anador, was ordered to proceed to Chaume Bay to stand by. Meanwhile, citizens of La Playa, Panama, had read the message and proceeded up the Rio Pereguite, finally reaching the wreck. Lieut. Deerwester was led out to the Pacific Ocean, four miles away, and was picked up by the Q-2 and then by the Douglas Amphibian from Albrook Field, that ship reaching the field at about 5:30 p.m. that evening. He sustained a slight sunburn and many mosquito bites, and remarked about the many snakes, alligators and insects that enjoyed the sudden activity in and about the jungles.

Two days later, on December 15, 1932, Lieuts. Carl J. Crane, Post Engineering Officer, and Dixon M. Allison proceeded by boat and then by foot to the scene of the wreck and found that the plane could be salvaged. Permission was secured from the Republic of Panama to move the plane from the swamps, and Lieuts. Edward N. Hamilton and Donald R. Hutchinson, with 16 enlisted men, were detailed to salvage it. On December 18th, the 18 men left by boat for La Playa and established a camp on the beach in Chaume Bay, a portion of the Gulf of Panama. Work then began in earnest. Camp was pitched and jungle trails were cut four miles through dense jungle and swamps to the wreck. Piece by piece, the plane was dismantled and carried back to the camp. The motor was put on sledges and dragged uninjured to the ocean. In the meantime, food, supplies and replacements were brought daily in the Douglas Amphibian to the nearest island, and a small boat was sent out for the supplies and new men that came to replace the soldiers taken sick on the salvage expedition. An 18-foot flood tide that swamped boats, overturned pontoons and dumped the motor into the water appeared to be one of the major problems of the mission during the last night. However, the motor and plane were soon secured in boats again and the salvage party reached Albrook Field, December 27, 1932.

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## WRIGHT FIELD ENGINEER RECEIVES MANLY MEDAL

Recognizing his work on engine pressure indicators on test engines as the most outstanding contribution to aeronautical engineering for the year 1932, the Society of Automotive Engineers, at its annual meeting held at the Book Cadillac Hotel, Detroit, Mich., on January 24th, presented the Manly Medal to Mr. F.L. Prescott of the Power Plant Branch, Air Corps Materiel Division, Wright Field, Dayton, Ohio. The Manly Medal is awarded each year by the Society of Automotive Engineers for the outstanding contribution to aeronautical engineering for the year, and is given to perpetuate the memory of Charles M. Manly, who, working with Mr. S.P. Langley, airplane pioneer, was among the first to adapt the internal combustion engine to aircraft use.

Mr. Prescott is a senior mechanical engineer of the Power Plant Branch, specializing in engine research and design. He is a native of Grand Rapids, Michigan. He attended the University of Florida, receiving the degrees of B.S.M.E. in 1921 and M.E. in 1923. He became instructor and associate professor in mechanical engineering in the University of Florida and served in that capacity until July, 1929, when he came to Wright Field. Two years prior to joining the engineering staff at Wright Field, Mr. Prescott came to that field for special work in the study of torsional vibration of crankshafts. This was embodied in a paper presented before the American Society of Mechanical Engineers at Wright Field in May, 1930. A description of his work on engine pressure indicators on test engines was set forth in a paper entitled "Indicators as a Means of Improving Aircraft Engine Performance," presented at Cleveland, Ohio, at the Aeronautical Meeting of the Society of Automotive Engineers in August, 1932. Mr. Prescott is a member of the Society of Automotive Engineers and Chairman of the Dayton Section.

This is the second award of the Manly Medal to a Wright Field engineer, a total of only three awards having been made. The first award was to Mr. S.D. Herron, of the Power Plant Branch, in August, 1929, for outstanding work in the development of the air-cooled cylinders and fuel investigations.

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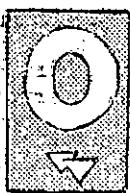
The Dayton Section of the American Society of Mechanical Engineers met at Wright Field on December 14th. From four until six o'clock, they made an inspection tour of the field. Dinner was served in the cafeteria at six o'clock, and at eight they repaired to the Materiel Division Auditorium, where Captain Bruce Hill and Lieut. David G. Lingle entertained them with illustrated lectures on Aerial Photography and Activities of the Materiel Division, respectively. About fifty members attended the meeting.

Twelve P-12E's, expected for many weeks, reach Albrook Field, Panama, on January 2nd, and were assigned to the 16th Pursuit Group. Four of the planes were assigned to Group Headquarters and the others to the 24th and 78th Pursuit Squadrons. This gives each squadron eleven ships, and with the coming maneuvers and the dry season, the 16th Pursuit Group anticipates a busy three months of training and cooperative missions with the Pacific Sector.

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## BLIND FLYING EQUIPMENT MEETS RIGID TEST

By the Wright Field Correspondent



On December 29th, as if to cover the departure of the much-abused 1932, a heavy fog bank came rolling from the South across the Middle States, inundating Wright Field and the surrounding territory. At 4:00 p.m., the airdrome flood lights were turned on, although the density of the mist was such that they could offer little aid to pilots caught out flying. Earlier in the afternoon the clear skies had invited several pilots to take the air, among them Captain Albert F. Hegenberger who, with G.C. Kruesi, radio engineer, as observer, had decided to run some tests on blind flying equipment.

Their airplane was a BT-2B, equipped with artificial horizon, directional gyro, magnetic compass, airspeed indicator, sensitive altimeter, radio compass with visual type indicator giving right and left indications, boundary marker indicator, and radio receiving set. As ground equipment they had had set out, in a line along the wind direction, the field localizing transmitter with boundary marker, 1200 feet beyond the boundary of the field, and a portable radio transmitter 8000 feet beyond the boundary marker. The BT-2B used frequently for these experiments and especially equipped has a cover for the pilot's cockpit which completely shuts off the pilot from the light of day, making it compulsory for him to take off, fly, and land solely by the aid of his instruments. An observer is carried in such flights to preclude the possibility of a crash with other flying craft.

In order to test the functioning of the radio equipment, both airplane and ground, the pilot made five practice landings without cover. The cover was then put on with the pilot shut in. They had flown but a short distance from the field when the observer noted the fog rolling toward them. The pilot was headed directly into it. Soon one didn't need a cover. The air was dense, up, down laterally, with a fog bank a thousand feet high. Unconscious of the outer air conditions, the pilot made a wide turn, tuned in on the radio transmitters, came over the field, made an excellent landing, then immediately took off again. On this flight, however, the pilot unfastened the cockpit cover and came out of his limbo to find himself flying "blind," indeed. Equipped as he was to meet the situation, however, this was not an alarming dilemma. Completely lost as to location and with no landmark visible, he turned a wide circle tuning in once more on the radio transmitters. Finding the course into the field, the approach at reduced altitude was accomplished with no more complication than had been met with in the other practice landings.

An interesting fact was disclosed as altitude was reduced, however. It was found that looking vertically downward, visibility could be had through the fog to an extent of approximately 50 feet. This was sufficient to enable the pilot to cut the motor, glide in, and make a three-point landing, instead of the power landing necessary when the enclosed cockpit is used and no visibility whatever obtains. While there is no assurance that this slight downward visibility would be typical of all fogs, because of the density of this one, it seems probable that such would generally be the case, and thus it is possible that the natural three-point landing might be accomplished in the majority of cases instead of the power landing, in which pilots need some practice before being able to accomplish same with confidence. Twice more the pilot took off, lost himself in the fog, and with his blind flying equipment, found his way back into the field to a perfect landing. This is the first instance in which blind-landings with blind-flying equipment have ever been made under actual fog conditions, and pilot and observer rejoiced in the opportunity of thus putting the equipment to the test.

Several other planes not equipped for fog flying were lost above Wright and Patterson Fields that day and made forced landings beyond the fog's scope. One pilot, familiar with the blind flying experimental work in progress at the Materiel Division and having seen the BT-2B go deliberately into the fog several times and reappear as if with a definite purpose, trailed the blind-flying plane into the Field and landed safely. This suggested the possibility of the leading plane of a squadron being equipped for the protection of the squadron under such conditions. It is hoped in the not distant future to make several blind-flying equipped planes available for service test.

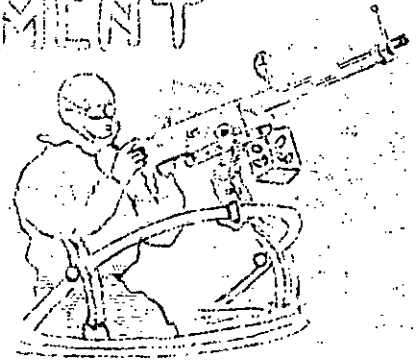
Not to be outdone by their commercial brothers, the pilots at March Field, Riverside, Calif., are being trained in instrument flying. A BT airplane has been equipped with necessary instruments, and it is expected that during the training year all pilots of the field will have the opportunity of receiving this valuable training. In addition to maneuvering the plane by instrument alone, pilots are required to navigate on straightaway and triangular courses. In addition to the obvious military value of this training, "it is believed," says the March Field Correspondent, "that Reserve officers on temporary active duty who will soon be flying commercially, will be better fitted to take their places alongside of commercial pilots in airline flying due to the training received."

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### BOARDS OF OFFICERS CONVENE AT WRIGHT FIELD TO PASS ON NEW AIRPLANES

Wright Field, Dayton, Ohio, was a particularly busy place during the second week in January, when Air Corps officers assembled there to confer on latest types of airplanes for military use. On January 10th, a board convened to consider the suitability of the P-25 airplane as an Air Corps Pursuit type, those comprising the board being Major G.H. Brett and Captain R.C.W. Blessley, of Selfridge Field; Major B.Q. Jones and Capt. H.H. George of Langley Field; Major Carl Spatz and Captain Frank O'D. Hunter, of March Field, and Major Millard F. Harmon and Lieut. C.E. Crumrine, of Barksdale Field, La. On the following day a board convened to consider the suitability of the A-11 airplane for attack service and to make recommendations to the Chief of the Air Corps regarding a directive for the future development of Attack airplanes. The board consisted of Lieut.-Col. James E. Chaney, Major Walter H. Frank, Captain Arthur B. McDaniel, Office of the Chief of the Air Corps; Lieut.-Col. Horace M. Hickam and Captain C.C. Chauncey, of Fort Crockett, Texas; Captains J.G. Taylor and John Whiteley, of Wright Field; Captain C.M. Robinson, of Maxwell Field, Montgomery, Ala., and Captain George C. McDonald, Office of the Chief of the Air Corps.

# PHOTO & ARMAMENT ACTIVITIES



## AIR CORPS ARMORERS SEE LATEST GADGETS

On December 15th, 1932, the eighteen members of the Officers' Armament Class, The Air Corps Technical School at Chanute Field, Rantoul, Ill., with three officer instructors, under command of Capt. Arthur G. Hamilton, Air Corps, Director of Armament, performed a training flight with eleven airplanes to Wright Field, Dayton, Ohio, where they spent two hours acquainting themselves with activities, methods, and latest developments of the Armament Section of the Materiel Division. The cooperation of the Chief of the Materiel Division in permitting such liaison visits of various officers classes of the Air Corps Technical School, is considered a valuable aid to the instruction of the school.

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## GREAT THINGS PREDICTED FOR ROOKIE ARMORER

A new Armament Student for the Air Corps Technical School arrived at the Station Hospital, Fort Sheridan, Illinois, on December 20, 1932, in the person of John F. Guillett, Junior, eight pound son of Lieut. and Mrs. John F. Guillett of Chanute Field. Reports are that the young armorer is being given an early diet of TNT and smokeless powder, with cosmoline chasers, and that he already outrivals a synchronized machine gun in his vocal ability. Young Guillett is a welcome new member of the command, and in spite of the fact that for some time he will necessarily be an observer, it is confidently expected, inasmuch as his feeding mechanism is declared to be perfect, that he will eventually pass his service test, and will develop into a first-class heavy armament engineer.

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## PHOTOGRAPHERS TEST SELVES AND EQUIPMENT IN WINTER ✓

On December 15, 1932, advantage was taken of the sub-zero weather by Lieut. George W. Goddard, Air Corps, Director of Photography, The Air Corps Technical School, to give the two photographic field truck units an exacting cold weather test, as well as to afford frigid field training for photographic students. One class of students was sent out with the trucks to a point about two miles west of Ludlow, Illinois, where they set up their equipment, took photographs, developed the negatives, and made the finished prints, all with excellent results, in spite of the fact that the temperature of the air in which they worked was well below zero. The men of the photographic expedition quickly dubbed themselves, "The Arctic Hypo Hounds" of the Air Corps Technical School. The next war may not be fought in the tropics, you know.

Since the above item was written, Lieut. George W. Goddard submitted additional information on the cold weather activities of the Chanute Field photographic personnel, as follows:

One of the latest developments in the training of aerial photographers at the Army Air Corps Technical School has been in overcoming the difficulties encountered in subzero weather.

The addition of this new development to the remarkable list of achievements already made in photography by the Army Air Corps since the war greatly increases the usefulness of aerial photographic observation and mapping in military and peacetime operations. This service, commonly referred to as "The Eyes of the Army," has developed tropical developing and printing methods, quickwork processes, laboratory operations during flight, night photography, multi-lens mapping methods, long range photography, together with a number of less important developments and, with the addition of arctic training, it will be in a position to furnish 24 hours a day service to the Army at any point on the globe. During the winter months, the officers and enlisted students of the Army Air Corps Technical School, Chanute Field, Rantoul, Illinois, have been receiving training in the operation of the new Army Air Corps field laboratory trucks, and have produced excellent results in temperatures ranging as low as ten degrees below zero. Two four-wheel drive, three-ton trucks, manned by one officer and 24 enlisted men, and equipped with powerful electric generators and latest photographic laboratory equipment, are being used for this training. One truck is used entirely for the development of aerial films and the second truck is used for the printing of negatives, with a capacity of approximately 8,000 8 x 10 inches contact prints and enlargements in 24 hours. A large tent, 30 feet by 70 feet, covers the entire unit when in operation and affords additional space necessary for drying of the prints, chemical mixing, administrative work, and housing and rationing the personnel. The four-wheel drive trucks have excellent traction, and when equipped with chains are capable of operating in exceptionally deep snow.

The unit is generally located on the bank of a small stream several miles from the home airdrome. A small hole is chopped through the ice and the water is pumped to the trucks by a small electric pump. A number of ingenious ideas to control the temperature of the developing solution, film drying, heating and ventilation, have been devised. The problem of drying a roll of film, 75 feet long and 9 inches wide, in subzero temperature presented the most

difficult problem.

An airplane is assigned to the unit on all training missions; the films are exposed and dropped from the plane to the laboratory unit in small parachutes; and the films are developed, printed, assembled and delivered to the home airdrome in three hours.

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#### WAR DEPARTMENT ORDERS AFFECTING AIR CORPS OFFICERS

**CHANGES OF STATION:** To the Philippines: 1st Lieut. Jack J. O'Connell from Fort Crockett, Texas.

To Hawaii: 2nd Lieut. John F. Egan from Selfridge Field; Capt. Frank L. Cook, from Randolph Field.

To Panama Canal Zone: 2nd Lt. Jacob E. Smart from Advanced Flying School, Kelly Field.

To Cambridge, Mass.: Capt. Bayard Johnson, Wright Field, to Massachusetts Institute of Technology.

To Chanute Field, Ill.: 1st Lieut. David M. Ramsey from Hawaiian Department.

To Barksdale Field, La.: 2nd Lieuts. John E. Barr and Herbert C. Gibner, Jr., upon completion of course of instruction, Air Corps Advanced Flying School, Kelly Field.

To Chauman Field, Miami, Fla.: 1st Lieut. Wm. M. Lanagan, from Office Chief of Air Corps.

To Fort Crockett, Texas: 2nd Lieut. Merrick H. Truly from Advanced Flying School, Kelly Field, Texas.

To March Field, Calif.: Capt. Vernon L. Burge from Philippines.

To Randolph Field, Texas: Capt. William J. Flood, from Office Chief of the Air Corps, for duty and flying training with the class commencing about March 1, 1933.

To Wright Field, Ohio: 2nd Lt. Robert K. Giovannoli from duty as student, Air Corps Engineering School.

**PROMOTIONS:** To Captain: 1st Lts. Harold A. Bartron, John F. Whiteley; to 1st Lieutenant: 2nd Lieuts. George W. McGregor and Charles A. Harrington, all to rank from December 1, 1932.

Relieved from detail to the Air Corps: 2nd Lieuts. Kenneth E. Tiffany, Jarvey H. Fischer, Harold E. Shaw to Infantry, 2nd Division, Fort Sam Houston, Texas; 1st Lieut. George D. Pence, 2nd Lieuts. Curtis A. Schrader, Walter P. Goodwin to Field Artillery, 2nd Division, Fort Sam Houston, Texas; 2nd Lieuts. Byron L. Pänge, Stephen M. Mellnik to 6th Coast Artillery, Fort Winfield Scott, Calif.; Walden B. Coffey to 5th Infantry, Jefferson Barracks, Mo.; Meyer A. Braude to 2nd Infantry, Fort Brady, Mich.; Charles M. Iseley to 12th Cavalry, Fort Brown, Texas.

**ORDERS REVOKED:** Assignments of Capt. Donald L. Bruner from Wright Field to Kelly Field; 2nd Lt. Bryant L. Boatner from Selfridge Field to Hawaii; 1st Lieut. Jack Greer to Barksdale Field from foreign service tour.

**RETIREMENTS:** Capt. George W. McEntire to proceed to his home to await retirement; Staff Sgt. Albert M. Cloud, 59th Service Squadron, Langley Field, Va., placed on retired list Dec. 31, 1932, with rank of Captain, under provisions of Act of May 7, 1932.

**DETAILED TO AIR CORPS:** Robert K. Kelly, 2nd Lt. to Primary Flying School, March 1, 1933.

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#### BOLLING FIELD HAS FINEST LOOKING SOLDIER

Recently, in accordance with instructions from the Commanding General of the Sixth Corps Area, the best appearing soldier at Chanute Field was chosen to appear with the finest looking soldier from each station in the Corps Area. In choosing the soldier, the Committee, consisting of Lieut.-Col. James A. Mars, Commanding Officer and Commandant; Captains Charles E. Branshaw and Fred S. Borum, chose a group of twenty-five men of the most soldierly appearance at Chanute Field. Through a process of elimination, the committee found its choice to be Private Warroll G. Law, of the Air Corps Detachment, Bolling Field, who is a student in the Airplane Mechanics Course at the Air Corps Technical School.

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#### RANDOLPH FIELD SOLDIER GETS SILVER STAR FOR BRAVERY

For gallantry in action in France during 1918, Sergeant Benj. H. Nichols, Randolph Field, was awarded by the War Department the silver star citation with oak leaf clusters. Sergeant Nichols, now on duty with the School of Aviation Medicine, served overseas with the Second Division during the World War, and the star was issued for his part in the battle of Belleau Wood, June 6, 1918, and in the Argonne Forest in November of that year.

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#### AIR CORPS CONTRACTS

The Boeing Airplane Co., Seattle, Wash., was awarded a contract for 111 P-26 planes and engineering data and spare parts therefor, in amount of \$1,201,117.50; the Glen L. Martin Co., of Middle River, Md., a contract for 14 YB-10 Bombers, data and spare parts therefor, in total amount of \$782,727.95; The Bellanca Aircraft Corp., New Castle, Del., a contract for 10 single-engine Cargo Transports, Type C-27A, with complement of spares, in an amount of \$275,651.00; the Douglas Aircraft Co., Inc., Santa Monica, Calif., a contract for 15 C-38E Observation planes, with spare parts, purchased from Militia Bureau funds for use by the National Guard, in the total amount of \$174,613.40; and the Pratt & Whitney Aircraft Co., East Hartford, Conn., a contract for 28 Y1R-1690-D (Hornet) radial aircooled engines and spare parts for use with the C-38E airplanes, in the amount of \$157,729.12. The contract with the Glen L. Martin Co., also provides for 12 YB-12 planes and engineering data and spare parts in an amount of \$644,081.28, and 12 YB-13 planes, data and spare parts, in an amount of \$644,081.28, each model being procured for service test with a different engine installation.

All of the above contracts involve a total expenditure of \$3,880,001.53.

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The News Letter is indebted to Lieut. Bryan, of the 113th Observation Squadron, Indiana National Guard, for the artistic cover design featuring this issue of the News Letter.



Chanute Field, Rantoul, Ill., Jan. 6th:

Student officers of the Air Corps Technical School are taking advantages of the Holiday period to perform extended aviation training flights for which they have no opportunity during other parts of the school year. Such scheduled flights which must be carried out at times when routine classroom is temporarily suspended, included: Lt. D.R. Kilpatrick to New Orleans, La., via Scott Field and Barksdale Field, and return by the same route; Lt. G.R. McGregor and Lt. W. Ritchie to Randolph Field, via Scott Field, Little Rock, Ark., and Memphis, Tenn., and return via Dallas, Texas, Fort Sill, Okla., Muskogee, Okla., and Scott Field; Lt. D.T. Mitchell to Fort Sill, Okla., via Scott Field, and return via Dallas, Texas, Oklahoma City and Muskogee, Okla. and Scott Field; Lt. R. Kyle to Atlanta, Ga., via Louisville, Ky., and return via Columbus, Ga., Maxwell Field, and Louisville, Ky.; Lt. G.R. Acheson to Randolph Field via Scott Field, Muskogee, Okla., and Dallas, Texas, and return by the same route; Lt. E.J. Rogers to Randolph Field via Scott Field and Muskogee, Okla., and return via Fort Clark, Texas, San Antonio, Texas, Dallas, Texas, Muskogee, Okla., and Scott Field; Lt. T.M. Bolen to March Field, Calif., via Scott Field, Dallas, Texas, El Paso, Texas, and Tucson, Ariz., and return via Tucson, Ariz., El Paso, Texas, Dryden, Texas, San Antonio, Texas, Dallas, Texas, Muskogee, Okla., and Scott Field.

In accordance with the program of instruction, classes of The Air Corps Technical School were suspended upon the completion of instruction on Friday, December 24, 1932, and were resumed with the morning session on Tuesday, January 3, 1933. During the holiday period, legislative furloughs to officers and civilian employees, and furloughs to enlisted men were granted as freely as existing policies and conditions permitted.

Under the sponsorship of Major Milton O. Beebe, Post Chaplain of Chanute Field, Santa Claus, in person visited Chanute Field, on the afternoon of December 24th, and presented toys and other gifts to the kiddies of the post at the Post Christmas Tree. In arranging the Christmas Tree program, the Chaplain was assisted by committees of ladies of the post. The committee for gifts was headed by Mrs. Roscoe C. Wriston, while Mrs. Edward H. Wood was chairman of the committee on decorations. Mrs. Samuel C. Skemp was in charge of the program, having planned and conducted a playlet enacted by the children. After completion of the program, a telegram was read to the children from Santa Claus, stating that he would arrive at once. Soon the jingle of sleigh bells was heard and Santa Claus burst in. For one-half hour, joy reigned supreme while gifts were presented to the one hundred and sixty-seven children of Chanute Field.

Announcement is made of the marriage of Miss Grace Miriam Such of Springfield, New Jersey to First Lieut. James L. Whelchel, Quartermaster Corps, of Chanute Field, the Secretary-Treasurer of the Chanute Field Officers' Club. The bride is a sister of Mrs. Edward J. Rehnann, wife of Major Rehnann, Infantry, while Lieut. Whelchel is a nephew of Lieut.-Col. Robert Lee Longstreet, Quartermaster Reserve, Washington, D.C., and of the late Lieut.-Col. James Longstreet, Cav., U.S.A. The newlywed couple is now at home in their residence in Champaign, Ill.

On December 17, 1932, the Chanute Field Officers' Club entertained at a tea and musical recital, consisting of violin, vocal and piano renditions by visiting artists. Hostesses for the musicale and tea were Mrs. Howard W. Ballantyne and Mrs. Hartwell H. Williams. About fifty club members and guests attended.

An Air Corps Captain of Chanute Field has been the recipient of a Christmas gift consisting of a beautiful pair of Belgian dueling pistols, from his wife. But, in presenting them to him, the good lady reserved one of the pistols for her personal use.

Patterson Field, Fairfield, Ohio, Jan. 5th:

The following officers visited this station recently in the course of aviation training, ferrying flights, etc., Dec. 16th to Dec. 31st incl.: Capt. Beaton from Rockwell Field, Calif.; Lt. Coleman from Lunken Airport, Ohio; Lt. Miller from Selfridge Field, Mich.; Capt. Collings from Columbus Ohio; Lt. Burgess from Chanute Field, Ill.; Lt. Burns from Selfridge Field, Mich.; Lt. Wolfe from Chanute Field, Ill.; Lt. Williams from Columbus, Ohio; Lt. Craigie from Randolph Field, Texas; Major Lynd, pilot, Capt. Jones, passenger, from Ft. Leavenworth, Kans.; Lt. Allen from Chanute Field, Ill.; Lt. Kirksey from Langley Field, Va.; Capt. Hayward, pilot, Capt. Bradshaw, passenger, from Chanute Field, Ill.

Lieut.-Col. A.L. Sneed departed from this station on Dec. 21st on a twenty-day leave of absence. Capt. H.W. Flickinger assumed command during his absence.

Capt. Gill ferried an O-17 airplane to this station on Dec. 29th from Cleveland, Ohio, for minor repair.

The following officers ferried airplanes to this station during the past two weeks for major overhaul:

Lieut. McReynolds in a P-12E from Maxwell Field, Ala., on Dec. 26th; and Capt. Herold in an O2-H from Lambert Field, St. Louis, Mo. on Dec. 27th.

Lt. D.R. Goodrich accompanied by Lt. K.S. Stice flew cross-country to Stout Field, Ind. on Dec. 19th.

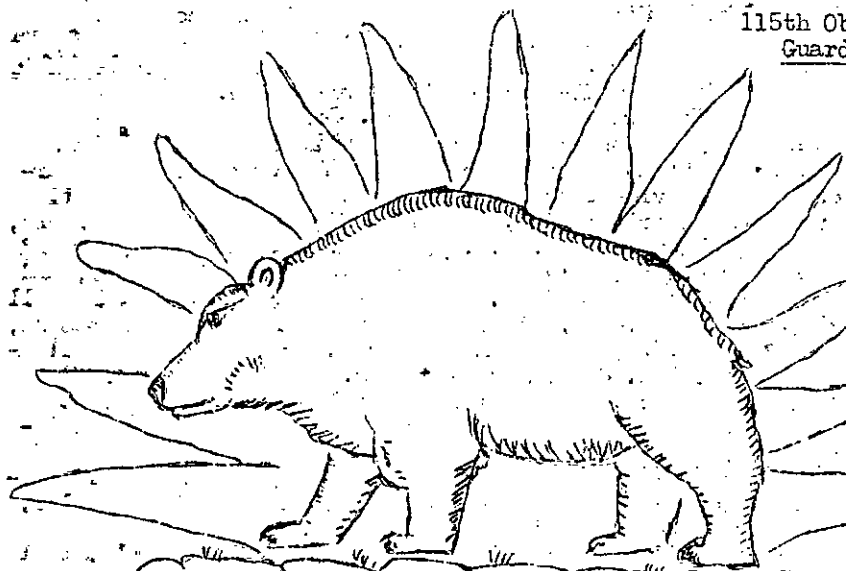
Lt. G.V. McPike ferried Air Corps supplies to Sky Harbour, Nashville, Tenn., on Dec. 26th returning to this station on Dec. 27th.

Post Field Fort Sill, Okla., Dec. 27th, 1932:

Flying at this station has been handicapped by unusually cold weather and rain during the month of December.

As Lieut. Brentnall took quite a while thawing out, the News Letter suggested that on his next visit to Fort Sill, he add "Undershirt and drawers, woolen, issue".

Capt. Pritchard and Lieut. Gregory were weather-bound in San Antonio, Texas, for five days while on an aviation flight from this station. The weather cleared just in time for them to get home for Christmas.



115 Obs. Sqdn C. N. G.

While visiting Reno, Nevada, on Dec. 4th, the nine officers and one noncommissioned officer of this command, flying in five planes, were royally entertained by Majors Renear, Brown and Captain John Grant.

On Dec. 17th and 18th, a flight, composed of Major Peterman, Capt. George Sherwood, Lieuts. Gard, Thomas, Haas, Wallen and Gilmore, performed a reconnaissance mission to San Francisco and return. It was a coincidence that the 40th Division Staff Play was held at San Francisco on the night of the 17th. Fog prevented the flight from reaching Crissy Field, but all ships sat down at Livermore and proceeded to San Francisco by automobile.

On Armistice Day, Lieuts. Gard, Wallen, Thomas and Haas flew a four-ship formation in the morning over Los Angeles and surrounding cities. In the afternoon the same officers flew to Santa Paula where the Ventura Post of the American Legion put on an air show with the usual civilian stunts and races. They were entertained there at a barbecue luncheon, where four kinds of cake were served. The return to Griffith Park was made without incident later in the afternoon.

All flying officers of the Squadron have been checked out on night flying, and most of them have completed night training flights. Lieuts. Wallen, Currows, Gard, Thomas and several others are taking time under the hood.

On January 11th, Lieut. Claiborne cooperated with the Coast Artillery by flying over West Lake Park from 7:30 to 8:30 p.m., for the purpose of permitting the Searchlight Section practice with their new lights. The plane was flown over the lights for 16 minutes before the first "hit" was made.

#### March Field, Riverside, Calif., December 21st.

The St. Francis Chapel at the famous Mission Inn, Riverside, Calif., was dedicated on December 15th, as "Wedding Chapel of Aviators." St. Francis of Assisi, after whom the Chapel was named, is known as the patron saint of the birds, and it was appropriate that this well known figure should have been chosen to honor flyers. A number of March Field officers and their wives were present at the ceremony, and Chaplain John T. Axton participated in the dedication. A beautiful pounded copper plaque in memory of the occasion was unveiled.

Second Lieut. George E. L. Campbell, Air Reserve; Corporals George W. Hollowell, L. C. Murphy and Private Adolph A. Hunzeker, 11th Bombardment Squadron, narrowly escaped drowning on December 5th, when the Condor Bomber they were flying was forced down in the ocean, one and one half miles off Laguna Beach.

Master Sergeant Carson H. Ivey, Ordnance Department, at March Field, was placed on the retired list of the United States Army, Nov. 30th, upon completion of 30 years of active service, of which four years, five months and six days were credited double time for service in the Philippines. Sgt. Ivey has had a long and colorful career in the Army. During every enlistment except the first, he has served as a noncommissioned officer, and every discharge certificate has shown his character as "excellent." He received high commendation from the Post Commander upon his efficient service.

A mass attack on March Field by an armada of storks has increased the strength returns considerably. Following is a list of the many recent additions: Pvt. and Mrs. Joseph Steininger, 11th Sqdn., a girl, Nov. 28th; Staff Sgt. and Mrs. J. P. Monroe, 23rd Photo Section, a girl, Nov. 30th; Pvt. and Mrs. Adolph Newman, 17th Group Hqs., a girl, Dec. 1st; 2nd Lt. and Mrs. Edwin Perrin, 34th Sqdn., a girl, Dec. 2nd; Corp. and Mrs. Harry Durent, 9th Sqdn., a boy, Dec. 3rd; Sgt. and Mrs. Julius Marquardt, 11th Sqdn., a girl, Dec. 5th.

#### March Field, Riverside, Calif., January 13th.

Major C. L. Tinker, accompanied by 2nd Lieuts. E. W. Anderson and D. D. Graves, departed from this station in December to join the ferry flight from San Antonio to Panama. Plans were made to catch the Army transport in Panama which arrived in San Francisco January 10th. Unavoidable delays, however, caused them to miss the boat by one day, thereby postponing indefinitely their return to March Field. Word was received that Major Tinker will return within the next week by commercial liner.

First Lieut. S. W. Towle assumed command of the 95th Pursuit Squadron, March Field, replacing 1st Lieut. L. H. Dawson, who was appointed Group Engineering Officer.

#### Material Division, Wright Field, Dayton, Ohio, January 11th.

Fifteen airplanes, led in formation by Capt. Rowland Blessley, arrived at Wright Field from Selfridge Field on Dec. 9th, taking off for a night return flight.

Brig.-General E. C. Pratt left for Washington on Dec. 15th to attend a meeting of the National Advisory Committee for Aeronautics.

Lieut. D. W. Watkins left for Buffalo to inspect the fuel system and engine controls of the mockup of a new airplane at the plant of the Curtiss Company. He was away for several days.

Lieut. W. J. Hanlon took off Dec. 23rd in an O-19B which he ferried to Rockwell Field.

Major J.H. Rudolph was a visitor at Wright Field for several days early in December. Major Hugh Knerr and Capt. R.B. Hough left for Washington Dec. 8th for conference with the Chief of the Air Corps regarding procurement matters.

Captain Bayard Johnson took off Dec. 23rd in a YA-8 plane for Aberdeen, Md., to make smoke screen tests. He returned by rail. Word was received of Capt. Johnson's transfer to Boston for duty as instructor of the ROTC unit of the Massachusetts Institute of Technology. He has served for several years in the Power Plant Branch of the Materiel Division, the association dating prior to a period of foreign service in the Philippines.

Wright Field officers attending the All-American Air Races at Miami, Fla., January 5th, 6th and 7th, were Majors F.H. Coleman, Hugh Knerr, Capt. H.R. Wells, A.F. Hegenberger, Lts. C.D. McAllister, F.D. Klein and G.V. Holloman. They returned to the field on January 10th. Lieuts. J.E. Parker and Paul Wolfe returned from the west coast on Jan. 6th, after an absence of almost three weeks. -- C.E. Orton, Chief of the Finance Budget Section, left Jan. 9th for Buffalo, New York City and Paterson, N.J., to audit Air Corps accounts at the plant of contractors. -- Lt. F.G. Osgood, Specialist Reserve, Meadville, Pa., reported to Wright Field Jan. 9th for two weeks' active duty and was assigned to Industrial War Plans Section.

#### San Antonio Air Depot, Duncan Field, Texas, Jan. 14th.

The Engineering Department of this Depot, during December, overhauled 28 airplanes and repaired 30, and overhauled 40 engines and repaired 19 of the various types.

Captain A.J. Lyon, Engineering Section, Materiel Division, Wright Field, stopped over at this Depot Dec. 30-31, in connection with his tour to the West Coast and return for conference at Air Corps activities on the operation of and difficulties encountered with various types of ignition shielding.

Major H.A. Strauss, Chief of the Procurement Section, Materiel Division, made an informal visit to the Depot as the guest of Capt. Warner B. Gates and family during a recent aviation flight to Kelly Field.

Major Carl Spetz in a YLB-7 plane, and Capt. F.O. Hunter in a B-12, of March Field, Calif., on an aviation flight to Randolph Field, stopped at this Depot January 6-7, for check-up and servicing of their ships.

Major C.L. Reavis, Commanding the 45th Division Aviation, Colorado National Guard, Denver, with Capt. R.L. Wilson and Lieut. Vaughn of that organization; Lieut. L.V. Beau, Jr., Air Corps Instructor of the Colorado National Guard; Capt. E.V. Harbeck of Barksdale Field, La.; and Lts. N.F. Twining and D.W. Mayhue of Fort Crockett, Texas, were out of town visitors attending the monthly Control Area Supply and Engineering Conference at this Depot on January 10th.

Capt. E.W. Flickinger and Lieut. P.W. Timberlake, of the Fairfield Air Depot, Fairfield, O., ferrying a new B-2 Bomber from that Depot to March Field, Calif., stopped at this Depot January 12th for a visit of several days, conferring on and observing Depot engineering methods here.

The Duncan Field Welfare Association performed some very effective work this winter in assisting the needy. During Christmas week it took care of 12 families of former employees of this Depot, in addition to contributing a large quantity of children's clothing and shoes for issue to the Central Relief Committee of San Antonio, which Committee, composed of some of the most prominent citizens of the community, expressed great appreciation for the aid which the Association rendered.

#### Clark Field, Pampanga, P.I., December 15th.

3rd Pursuit Squadron: All available pilots in the Squadron are flying an average of 30 hours a month now, making up for flying training lost during the past rainy season. Early morning gunnery and bombing practice is being carried out without interfering seriously with other training missions scheduled later in the day. Some excellent scores are coming in.

Lieut. J.W. Persons is now recuperating in Baguio from painful cuts and bruises received when his P-12 crashed on Clark Field, Nov. 29th. Latest reports are that he will be back before long in good condition.

Major and Mrs. Brower and daughter arrived on the last transport and have been taking an active part in our post activities since that date. Other additions at the same time were Capt. H.R. Rivers and Lieut. L.E. Douthit.

Lieut. Wentworth Goss is returning to the States on the January transport. His new station will be Rockwell Field. -- First Sgt. William Jones suffered a broken arm received when he tripped and fell some two weeks ago. He is expected back to duty soon. -- Major and Mrs. Peak and son "Peanut" are leaving Dec. 14th on the Navy transport for a short visit to China.

Lieut. Ford L. Fair, on Nov. 9th, made his second emergency parachute jump when the P-12 he was flying caught fire in the air from gasoline which had leaked from the filler cap while performing slow rolls. No injuries this time. Fair said he remembered to land on his good foot.

A flight of nine Pursuit planes, led by Major Brower, recently made a one-day flight which covered the northern portion of Luzon. Landings were made at Tuguegarao, Aparri, Laoag and Luna. A few days later the same formation flew to San Jose, Island of Mindoro, and return.

#### Randolph Field, Texas, January 5th.

General Charles H. Danforth and his aid, Lieut. R.W. Douglass, flying an O-38, departed Jan. 3rd for Miami, Fla., by way of Pensacola, to attend the Air Races. Second Lieut. John H. Fite as pilot, and Capt. John B. Patrick, departed the same day for Miami, via New Orleans. On Jan. 4th, officers departing for Miami were 1st Lieut. Chas. W. Lawrence with 1st Lieut. Hoyt S. Vandenberg; 2nd Lt. Harley R. Grater with Pvt. Parker; 2nd Lt. Frank A. Armstrong with Sgt. Schaffer; 1st Lt. David M. Schlatter, solo; 2nd Lt. John G. Fowler with Pvt. Bechetti; 2nd Lt. James H. Wallace, solo, (will return Major Brinnard.)

First Lieut. Ned Schramm and Major Charles R. Glenn (A.C.) departed on Dec. 23rd for France Field, Panama, as members of the flight commanded by Lt. Col. Pirie.

During December, officers visiting Randolph Field were Capt. H.B. Chandler, Lieut. M.H. McKinnon, Rockwell Field; Lieuts. Thomas S. Power, R.S. Freeman, Langley Field; Lieuts. George R. Acheson, McGregor, B.S. Kelsey, T.M. Bolen, E.J. Rogers, Jr., Chanute Field; Lieut. E.W. Lawrence, Fort Crockett.

Randolph Field, Texas, January 18th.

Two Boston, Mass. Army flyers were visitors at Randolph Field on Jan. 9th, after attending the Air Races at Miami, Fla. They were Lieut.-Col. Rush B. Lincoln, Air Officer at Boston, and Capt. Glenn Salisbury, attached to the Organized Reserves there. Capt. Salisbury piloted an Observation type plane.

Major Carl Spatz and Capt. Frank O'D. Hunter stopped at Randolph Field enroute to Dayton, Ohio, as members of the Pursuit Board. Other officers visiting the post were Lieuts. L.H. McKinnon, Claire Stroh, B.S. Kelsey, Flint Garrison, Jr., Cowey, Stone, Mills, Pattenon, Earl, Murray and Saller.

DODO WRITES HOME.

Dear Mother:

Now that we are flying, I have many more interesting things to write about. Something exciting happens every day like skidding or slipping in a turn, dragging a wing, or breaking a shockcord. We have to be very careful with these airplanes. There are so many things that can happen and if you make one little mistake while flying the instructor gives you a bawling out. They say that when a man solos, he gets one of the greatest thrills of his life. Last week I underwent that thrill and believe me it was sure a great feeling to take that ship up and skid and slip around turns without getting a bawling out thru the earphones.

Speaking of earphones, our instructors are pretty smart. They have them hooked up so that they can talk to us but we can't talk back. It puts a stop to all arguing and saves the instructor from hearing some of the things we say in answering what he says to us.

I sure had a joke on my instructor the other day. When we came down, he thought I was landing the ship. But I wasn't. I thought he was landing it and just "followed thru" on the controls. The ship landed beautifully and I got the credit for it. He said it was the best landing I had made. I am getting along so well in my flying that Friday the Stage Commander had me take him up for a ride. When we got down, he said he would like to go up for a ride with me again Monday and told me to relax and have a swell time in San Antonio over the week end. Wasn't that nice of him?

I stayed at the barracks Saturday morning as I had a lot of outside work to do with a broom and a shovel but I went in to the Aero Club in the afternoon and got my crash tag. I can't quite understand why we should have to get crash tags because none of us ever intend to crash. I secretly suspect, however, that they have us wear them so that the women can see at a glance that we are flying cadets. Forewarned is forearmed you know.

Well, I must stop now and think up some new stunts to pull off for the Stage Commander tomorrow.

Your son,

A. Dodo.

#### SLIPS AND SKIDS

By Flying Cadet E.S. Allee.

There's no doubt about it - none at all,  
One's faith in mankind doth heal and mend  
When the Powers-that-be heed the wailing wall,  
And let Armistice Day last the whole week-end.

Am I wrong, or is it true  
That the Dodos are mending their erring ways  
Since the naughty things they used to do  
Have begun to confine them on Saturdays?

They say the male loves to puff and preen  
That given a chance he always will,  
Yet let a girl appear on the scene,  
And it just busts up some darn good drill.

What is that? A "dog fight" we see?  
Has war come again to this peaceful nation?  
Of course not! I knew it couldn't be!  
Just some of the boys out flying formation.

It's nighttime here at the front, Ma,  
In the light of an eerie Moon,  
And the wind howls with heathen madness  
With a slurring, chilling tune.

Life is Hell at the front, Ma,  
And the deadly incessant moan  
Of the swarming in air of the battling planes,  
As they swoop and screech and groan

And the combatant fighters above us,  
I can hear them diving now,  
As they cross over at the towers,  
And chatter machine guns below.

There's one that's rolling and falling  
Shot down from miles in the air,  
And he's headed straight for the barracks  
Good God, it's all I can bear.

Goodbye Ma, I'll see you in Heaven  
He's diving to hit in the room,  
He'll deal us death in a second  
I'm a goner and Hell is my doom.

Gee, I came out alive, Ma,  
You know that terrible roar  
Was just a barrack's-room airship,  
Flown by the guy right next door.

---oO---

Mitchel Field, L.I., New York.

Now that the festive excitement of the All-American Air Races in Miami has subsided, the pilots of the First Observation Squadron from Mitchel Field have settled down to the serious job of smoothing the wrinkles out of Chapman Field and getting set for their gunnery. The guns are all oiled and ready for operation; the only difficulty at this point is that some one furnished the wrong kind of targets. What kind they are we do not know. Perhaps a few stock market charts got mixed up in the delivery. Either that or billboard posters extolling the virtues of Florida's ozone. Anyway, we are keeping our south ear attuned for the first staccato rattle of a Browning and hoping for the best.

On the 21st of January every available airplane on Mitchel Field will be equipped with a full military load and flight-tested. The results are looked forward to with a great deal of interest, particularly the test which requires the ships to attain their service ceiling with a full load.

Colonel John H. Howard returned to Mitchel Field on the 15th to resume his duties as Commanding Officer, after a trip to San Antonio, Texas.

The officers at Selfridge Field are hard at it in the recently completed squash and handball courts that have been set up in the old Air Corps Supply building. Four singles squash courts and one doubles squash and handball court have been built after successful efforts to obtain money for lumber equipment were made by Major George Brett, Commanding Officer of the Post. The gymnasium had proved inadequate for winter exercises for officers, as there is only one basketball floor, and that is barely enough to take care of the enlisted men's basketball activities.

Interest is about divided evenly between handball and squash. A "ladder tournament" in each sport has been organized by the Athletic Officer, and a ranking board has been set up in the dressing room at the courts. Soon the ranking board will indicate the relative prowess of the various players, and a Post squash team and handball team can be selected, and outside teams will be challenged.

Amid much clapping of hands, stamping of feet, cheering, catcalling, yowling, booing, jeering, wise-cracking, and other noisy encouragement, the 17th and 27th Pursuit Squadron Basketball Teams opened the 1933 inter-squadron season by playing each other on the evening of Friday, January 6th. An exciting game it was to both players and spectators, and when all the excitement has quieted down it was found that the 17th had carried away the honors for this opener of the season by defeating the 27th with the score of 28-19.

But though the 27th went down to defeat, it was not an inglorious defeat, and the 27th sideline supporters have plenty of hope for the future of their favorite team. The 17th took a lead of four points early in the first quarter, but early in the second quarter the 27th caught up with and then went past their rivals. Hefler, Harmer and Rapp cooperated for the 27th in achieving their common object of dropping the spheroid between the circular goal, and at the end of the third quarter, after the lead had shifted back to the 17th temporarily, the 27th was still ahead 16 to 15.

But then in the fourth period a combination of fatigue and fallingitis took their toll of the 27th, and whereas that worthy team could not increase their score beyond the 19 mark, the 17th started to roll their tallies up, and never stopped until they had reached a total of 28. Lieut. Piper, who played several minutes for the 27th, was especially afflicted with fallingitis. At one time, while acting as safety man for his team, and with no one near him at all, his feet slipped out from under him and he achieved a pretty combination half-roll and spin which left him prostrate and nearly incapacitated on the floor, while the spectators themselves were nearly prostrated with mirth at the sight. It is understood that Lieut. Piper is going into seclusion for a couple of weeks to teach his feet not to tangle with each other.

The stellar roles on the 17th team were played by Pvt. Day and Lieut. Krug respectively. Pvt. Day achieved a total of 13 points for his team, while Lieut. Krug amassed a total of 9. Lieut. McCoy did the refereeing, and did it very well, receiving few catcalls, and no boos at all, from the sidelines.

It is planned to have a long inter-squadron season this year at Selfridge. Five teams are competing for the honor of being post champion. The season is to be divided into two sub-seasons, each to consist of two rounds of games. The champion of each sub-season will play each other for the grand high post championship when the two seasons are over in March.

The March Field Basketball team started this season with ten wins and no losses. Five of these games were played in the San Bernardino Industrial League, and the team bids fair to cop the championship of the League for the second successive year.

The Squash Team is endeavoring to stimulate interest in this game at various Army stations and booked a number of games. The team is composed of the following members listed in order of their position on the local bumper-board: Lieuts. Mallory, Solter, C.B. Stone and Mills, Major Spatz and Lieuts. Israel and Murray. Lieut. Mallory is considered the ranking squash player on the Pacific Coast.

The March Field Pistol Team, composed of Lieuts. Harding, Briggs, Maxwell, Ives and Ott, won a close contest from the Fort MacArthur Team on Dec. 7th - score 265 to 268-2/5. A return match will be played in January.

The Randolph Field Basketball team, composed of student officers and flying cadets, recently journeyed to Lubbock, Texas, and playing on successive nights suffered two reverses; one at the hands of the Texas Tech. team, 28-42 and the other at the hands of the Texas A. & M. College, score 30-37.

Langley Field's Gold and Blue cagemen swung into action on the night of January 17th, drawing their arch rivals, the Fortress Monroe Artillerymen in the opening game of their 1933 basketball schedule. Unfortunately, the prolonged inter-squadron tournament was just completed and the Post team hardly had enough time to be organized. However, they will be ready to defend the Third Corps vage honors which they now hold against the pick of the Army basketball teams in this section of the country.

The 59th Bombardment Squadron were crowned Langley Field Squadron champions when they bested the 33rd Pursuit and the 19th Airship Company in the play-off to decide Post honors. The Post team will comprise 16 players, including two officers. Lieut. R.C. Hutchinson, 20th Bombardment Squadron, will be head coach, and Lieut. William E. Davis, 33rd Pursuit Squadron, his assistant. Both will take an active part in the strenuous schedule which will be played against strong fives of Newport News and Service teams. Many veterans are back this year to perform for the Airmen on the courts. A few newcomers who stood out in the recent squadron tournament were selected as suitable material, and another successful year looms, regardless of the late start. Flick, Moore, Kosky, Reiter, Harvey, Schubert, Tyrell, Leary, Ketchum, Kling, White, Poplin, Metz and Shady will comprise the Langley Field basketball team for 1933.

A hard week looms, with the Birdmen drawing their Service rivals in the opening game of the year. The Apprentice School of Newport News, always a tough assignment, is scheduled to be played January 19th, and the Devil Dogs from Quantico, Va., will be played the first two games of the four-game series, Saturday night, January 21st, and Sunday afternoon, Jan. 22nd.

Other games on the Langley Field Basketball Team schedule are tabulated below, as follows:

Jan. 24th, Fortress Monroe, at Langley, 9:00 p.m.      Jan. 26th, Apprentice School, at Newport News, 9:00 p.m.

Jan. 31st, Presbyterian at Langley Field,	9:00	Feb. 16th, Presbyterian at Langley,	9:00
Feb. 2nd, Presbyterian, Newport News,	9:00	Feb. 18th, Fortress Monroe at Langley,	9:00
Feb. 6th, Fortress Monroe, at Monroe,	8:00	Feb. 21st, Fortress Monroe at Monroe,	8:00
Feb. 7th, "Y" Reps at Langley Field,	9:00	Feb. 23rd, Apprentice School, Newport News,	8:00
Feb. 9th, Quantico Marines, Quantico,	8:00	Feb. 28th "Y" Reps at Langley Field	9:00
Feb. 10th, Quantico Marines at Quantico,	2:30	Mar. 2nd, Presbyterian at Langley	9:00
Feb. 14th, Fortress Monroe at Langley,	9:00		

The Third Corps Area playoff is slated to get under way on Feb. 25th, with games to be played on March 1st, 4th, 8th, 11th and 15th. The winner of the Langley Field-Fortress Monroe six-game series to represent the Southern District against the champions of the remaining three sections.

The flashy Gold and Blue vagemen of Langley Field broke into the win column at the expense of the scrappy Leathernecks of Quantico, scoring a 36 to 21 victory on the night of Jan. 21st in the Post Gymnasium before an overflow crowd. The battle between these two service fives was full of fight from the starting whistle to the final, with the local Birdmen drawing first blood and retaining their lead throughout the thrilling contest. "Rusty" Moore, classy Langley forward, starred on the offensive, bagging six field goals and three foul shots for a total of 15 points to capture scoring honors of the evening, with Flick, giant center of the Aviators, next in line for these laurels with ten markers. Sterling of the Marines, with four field goals, led for the Losing Leathernecks in their gallant fight, with Williams also a main cog in their line-up.

The Birdmen led 18-10 at the half. Quantico threatened their lead as they rallied in the third period to finish with 20 points, trailing the Army boys by four, but Moore, Schubert and Flick clicked in their passing game to ring up shots from all corners of the court which clinched this first game between these two representatives of Uncle Sam's Military Forces.

The afternoon of Jan. 22nd, Langley Basketball team duplicated their feat of the previous night to score their second consecutive court victory over the Quantico Marines - score 25 to 23 - before another capacity crowd which thundered their approval through a well played and fighting game in the Langley Gymnasium. Earl Harvey, diminutive forward, came through in a blaze of glory to bag the winning field goal which broke the 23-23 deadlock in the closing minutes of play, after the Marines had rallied at the start of the final quarter to gain their short-lived lead.

The first period ended with Langley in the lead 6 to 4; the second period ended 13 to 12, with the Army boys still enjoying their scant margin after Flick, Moore and Schubert had caged consecutive field goals at the start of the quarter. Williams, lofty center of the visitors, placed them in the lead once again with a field goal, but Moore and Schubert again came through with difficult shots as the third period ended 19 to 15, Langley still leading the pace. The final quarter was packed with numerous thrills that had the capacity crowd on their feet throughout. Quantico rallied as Posick and Williams scored field goals to net the score 19 all. "Rusty" Moore, Langley Forward, was removed from the game at the start of the final quarter after leading the scoring for both games, with 15 points in the first game and 11 during the three periods of this game. It was at this time that Harvey, stocky Langley forward, came through with two spectacular goals that gave the locals a well earned victory.

- Jack R. Germaine, Langley Sports Correspondent.

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Albrook Field, Canal Zone, officers appear to be going in for Polo. Ponies have been bought and a team is being formed by Lieuts. Edwin M. Day, Roland Akre and E.H. Manchester, Jr.

The Mitchel Field basketball team has just eased up the first step of the Corps Area championship ladder by defeating the Fort Hamilton aggregation 33-29. This initial victory is particularly encouraging in view of the fact that Hamilton has been more highly touted than any other team in the league. A long hard climb is necessary to achieve the championship class, but both players and supporters are confident of victory. The ranking players on the squad are Lieut. R. Dreyer, CAC, center; Pfc. F. Reese, forward; Pfc. N. Snow, forward; Staff Sgt. C. Wilson, guard; Cpl. Seberle, guard; Cpl. D. Reynolds, forward, and Sgt. Tindal, guard. The team is being coached by Lieut. P.S. Wooley, and the type of play is patterned after West Point.

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Despite the cold weather, the ardor of a foursome of golfing enthusiasts has not been altered. Given a mere glint of sunshine, the Mitchel Field quartette, composed of Col. Howard, Major Wash, Capt. Harmon and McCulloch, and sometimes an alternate, Lieut. C.J. Kenny, don their winter breakers and resume their 18-hole struggle around the Meadowbrook course.

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The Artillerymen from Fortress Monroe scored a 51 to 43 victory over the crack Langley Field basketball five in the first contest of the Third Corps Area elimination playoff; Jan. 18th. This game marked Langley's initial appearance of the year as a Post team and their play was remarkable, considering the great handicap of hardly being organized, but two short practices being staged prior to the battle at the Monroe gymnasium.

The Artillerymen were off to a huge lead before the Birdmen's attack was organized, and first half play was all for the boys from the Fort. Langley rallied in the closing two periods featuring a great passing game with "Red" Moore and "Muffy" Miller, two of the Airmen's outstanding football stars, scoring baskets from all sections of the floor. Flick and Schubert also contributed to the scoring for the Air Corps men. The Artillerymen have a classy five, and the six-game series between these two capable Army fives should prove a real treat to the many sports followers who jam the Monroe and Langley gyms to witness these games.

Captain G.L. Usher, Post Athletic Officer, is well pleased with the showing made by the Langley quintet and sees another banner year on the court for his men. Langley is now the reigning champs in football and basketball in the Third Corps Area, and runners-up to Fort Meade for baseball honors.

There is much rivalry between the Birdmen and the Coast Artillerymen in all sports, and the Air Corps boys have been successful in all major sports against their worthy opponents.

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What are your flying qualifications?  
I eat bird-seed for breakfast, read the fly paper and hop to work.

The following will be of interest to Air Corps flyers. It is a letter from the Chief Engineer, Airways Division, Aeronautics Branch of the Department of Commerce and a copy was forwarded by the Department of Commerce to all transport companies and to the Chief of the Air Corps.

"Circular Letter A.D. 216  
October 29, 1932.

Reporting Irregularities in Functioning of Aids

In a letter of September 21, 1932, we solicited the aid of airline operators in the matter of reporting irregularities in the functioning of air navigation facilities established and maintained by the Department of Commerce. Favorable replies have now been received from all the companies expressing their willingness to cooperate with us in this respect.

One of the companies has offered a suggested plan to carry out this procedure which we are glad to indorse and offer as a suggested plan to be carried out by other companies in so far as practicable. This plan is briefly as follows:

(a) In the event of a radio range failure during flight "over the top" or whenever the failure of any aid is noted when flying under adverse weather conditions and the operation of such aid is essential to the safe and orderly continuance of flight, it will be in order for the pilot to immediately report such failure by radio to the company control station, and not wait for the next scheduled contact.

(b) When a pilot observes the improper functioning or failure of a beacon light, radio range, marker beacon, intermediate field lights, or any other aid, and he is not flying "over the top" or under adverse flying weather, it will be in order for him to report such improper functioning or failure on the following radio schedule to the company control station. However, if the observation is made as the pilot is nearing a scheduled stop, and the irregularity will cause no inconvenience in continuing to the scheduled stop, the information may be held until arrival and then given to the field employee in charge for proper handling.

(c) It is the responsibility of pilots to observe and report all failures as outlined above, in order that our cooperation may be to the fullest extent, and the airway aids may be kept functioning in the best possible condition at all times.

(d) Upon receipt of reports from pilots as outlined above, the field employee in charge will immediately furnish the information to the nearest Airways Division representative, who in turn will forward it by radio or teletype to the proper airways maintenance personnel for prompt action.

(e) While it is the responsibility of the pilots to observe and report all irregularities as outlined above, it will be the duty of field personnel in charge to see that such reports are immediately turned over to the proper Department representative, and field personnel will, therefore, be held responsible until the information has been conveyed.

(f) Field managers will immediately contact their nearest Airways Division representative with a view to arranging the most expeditious and satisfactory manner of handling reports with them.

(g) Field managers will also see that personnel involved under them are thoroughly acquainted with the proper procedure of promptly transmitting reports to the Airways representatives.

We realize that this plan can not be carried out to the letter by all operating companies, but it is offered as a suggestion to be carried out in so far as practicable for the various organizations. District maintenance offices and Assistant Communication Supervisors will get in touch with the proper officials of each company operating within the confines of their respective territories in order that some suitable plan along the line of these suggestions may be adopted and agreements reached as to the details thereof. Splendid support has been offered by the airline operators, and we are looking forward to the betterment of the service through cooperation between them and our own organization.

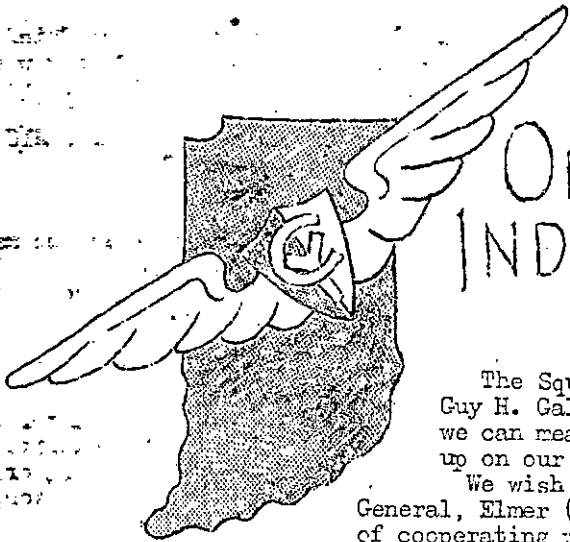
For the Commissioner:

(Signed) F. C. Hingsburg  
Chief Engineer, Airways Division."

The following which was garnered from the bulletin board of the Operations Office of the New Jersey National Guard Observation Squadron may prove of interest to Post Operations Officers in regular Air Corps establishments as well as the Operations Officers of the other National Guard squadrons. At regular Air Corps stations more categories of possible flying persons may be added to the subject list, such as "scientists, editors, Army Nurses, Cabinet Members, Members of Congress, etc.; and the Reserve Officer line might be split up to differentiate between those on inactive status, those on 14-day active tour and those on extended active duty.

WHO MAY FLY IN NATIONAL GUARD AIRPLANES  
as per NGR 46

PERSONNEL	PILOT	PASSENGER	X-COUNTRY	RELEASE REQUIRED	AUTHORITY
National Guard Officers					
National Guard Reserve Officers					
Regular Army					
Army Reserves					
Navy					
Marine Corps					
Naval Reserve					
Marine Corps Reserve					
Other Persons, except Women and Minors					
Women					
Minors					



# 113 TH. OBSERVATION SQDN. INDIANA NAT. GUARD.

The Squadron will have its annual inspection by Captain Guy H. Gale, A.C. (DOL) on February 12th and 13th. We hope we can measure up to Capt. Gale's expectation by being all up on our well polished toes for this occasion.

We wish to extend congratulations to Indiana's new Adjutant General, Elmer (Pete) Straub. Our Squadron is already in the habit of cooperating with General Straub through the 139th Field Artillery in which he has been a Captain. We have worked together on several adjustment problems, and assure General Straub that we shall continue our hearty cooperation with him in his new office.

On the morning of January 15th we practiced larger formation work with the 309th Reserve Squadron at Schoen Field. By combining our forces we are able to get practice in larger formation work which we could not otherwise have the advantage of.

Special thanks to the Massachusetts Squadron for your offer of the advisory services of Lieut. Don Flinn. Lieut. Taylor has been advised to get in touch with him by letter, but Lieut. Wirsching has been ordered to wire him immediately, as he ground looped while night flying his car to Dayton on Christmas eve. He received a bad cut on the side of his head and did some fancy bleeding before he reached a hospital. We hope he got in touch with Lieut. Flinn, for he is at this writing enroute to Chicago BY MOTOR CAR on his wedding trip. We hope his wife CAN DRIVE.

The same Lieut. Robert F. Wirsching and his bride, Miss Gladys J. Wilson, were married in the air over Indianapolis, Thursday night, January 19th, in a Stinson cabin plane, piloted by Lieut. Howard Maxwell of the Squadron. Rev. Arthur Abplanalp, also a member of the Squadron, performed the ceremonies. Here is one husband who not only gives his wife the air but also takes it with her - quite an accomplishment in modern matrimonial technique, is it not?

As the old saying goes, bachelors may come and bachelors may go, but Lieut. Sid Stout goes on forever.

Our Aviation Post of the American Legion is gaining ground and we will be glad to have the membership of any of you good aviators who are within flying distance of the post.

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## NOTE TO AIR CORPS COMMANDERS

Extra copies of "The Air Corps for 1932," published as the leading article in the last issue of the News Letter, are available for issue on request therefor.

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## MILITARY FUNERAL HELD FOR TWO FLYERS

A double military funeral was held at Galveston, Texas, on January 12th, for two Army flyers killed in an airplane accident at Fort Crockett. The body of Lieut. William I. Bogardus, 26, pilot of the plane, was sent to his home in Dallas, Texas, for burial, while Sgt. John Kennedy, 49, his passenger, was buried at the Arlington National Cemetery. Lieut. Bogardus was killed instantly when the plane in which he and Sgt. Kennedy were taking off for a practice flight suddenly plunged to the ground from an altitude of several hundred feet. Sgt. Kennedy, a veteran of 23 years' service in the Army, served during the World War.

Lieut. Bogardus was born at Rock Island, Ill., January 25, 1907. He attended the Rice Institute at Houston, Texas, for two years, and the Southern Methodist University at Dallas, Texas, for a similar period. Appointed a Flying Cadet in the Air Corps, he graduated from both the Primary and Advanced Flying Schools, appointed a 2nd Lieutenant, Air Reserve, and rated Airplane Pilot, June 29, 1932. He was placed on extended active duty under his Reserve commission with the 3rd Attack Group at Fort Crockett, Texas.

---cOo---

"In compiling the flying time for the Calendar Year 1932," says the News Letter Correspondent, Luke Field, T.H., "some interesting figures concerning enlisted pilots in the Hawaiian Department have been obtained. The records show that Master Sergeants Chester F. Colby and Samuel Davis have to their credit some 4,000 flying hours over a period of 14 years, a record we believe for enlisted pilots in the Air Corps. However, if the records established by Master Sergeants Colby and Davis be surpassed by other enlisted pilots in the Army Air Corps, we would be pleased to hear from you."

---cOo---

Captain Frank O'D. Hunter, Air Corps, who was seriously injured January 13th as the result of jumping from a low altitude with his parachute from the plane which crashed at Osborn, Ohio, causing the death of Captain Hugh M. Elmendorf, was removed to Walter Reed General Hospital, Washington, Ward 8. He is said to be getting along very nicely.



## Serial No. 326 LIST OF NEW MATERIAL ADDED TO INFORMATION DIVISION FILES

Dec. 31, 1932 to Jan. 26, 1933, incl.

Available for loan to Air Corps Organizations only upon request to the  
Air Corps Library, Munitions Bldg., Washington, D.C.

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- D 00.12/2 #17 Etude sur la Transmission de la Chaleur a l'Eau de Refroidissement dan un Moteur d'Aviation. Application a la Comparaison des Carburants. Mesures sur la Detonation, par N. Champsaur. Paris, En Vente Chez Ed. Blondel la Rougerie, 1932. Service Technique de l'Aeronautique. Publications Scientifiques et Techniques du Ministère de l'Air No. 17.
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- D 00.12/4 PTL-135 Fireproofing Preparations, Investigation of (Rodrigo Duacastella) by Physical Testing Laboratory, Engr. Dept. Naval Aircraft Factory Phila., Pa. 11/7/32 PTL-135.
- D 00.12/4 PTL-136 The Flexibility of Dope Films on Fabric as Determined by the Pfund Bond Tester, by Physical Testing Laboratory, Engr. Dept., Naval Aircraft Factory, Phila. Pa. 10/24/32. PTL-136.
- D 00.12/4 PTL-139 Fire Resistant Cotton Fabric, by Physical Testing Laboratory, Engr. Dept. Naval Aircraft Factory, Phila., Pa. 11/7/32 PTL-139.
- D 00.12/4 PTL-140 Aluminum Paste (Metals Disintegrating Co.) by Physical Testing Laboratory, Engr. Dept., Naval Aircraft Factory, Phila. Pa. 11/30/32. PTL-140.
- D 00.12/4 PTL-145 R.W. Nason & Co. Clear Nitrate Dope (Navy Dept. Specification 52D2) by Physical Testing Laboratory, Engr. Dept. Naval Aircraft Factory, Phila., Pa. PTL-145 12/8/32
- D 00.12/4 PTL-150 Tests of "#22" Welding Flux-Aluminum and aluminum Alloy by Physical Testing Laboratory, Engr. Dept., Naval Aircraft Factory, Phila., Pa., PTL-150. 12/12/32
- D 00.12/103 No. 6-32 Propeller Hubs and Cones - Precautions Concerning Use of, by Navy Dept. Bureau of Aero., Washington, Navy Yard Tech. Order #6-32. 11/11/32
- D 00.12/103 No. 10-32 Hand Pumps for Life Rafts- Replacement of, by Navy Dept., Bureau of Aero. Washington. 11/28/32 Tech. Order #10-32.
- D 00.12/103 No. 11-32 Models F3B & F4B Airplanes- Upper Wings- Handling of, by Hoisting Slings, by Navy Dept., Bureau of Aero. Washington. 11/28/32 Tech. Order #11-32.
- D 00.12/103 #12-32 Specifications for Bendix-Stromberg Aircraft Carburetors by Navy Dept., Bureau of Aero. Washington 12/1/32 Tech. Order #12-32.
- D 00.12/103 #13-32 Universal Ball and Socket Joints for Engine Controls, by Navy Dept. Bureau of Aero. Washington. 12/3/32 Tech. Order #13-32.
- D 00.12/103 #14-32 Parachutes-Relocation of Pocket for Hand Pull Ring, by Navy Dept. Bureau of Aero. Washington. 12/17/32 Tech. Order #14-32.
- D 00.12/103 #15-32 Draining of Sponson Walking Strips on Flying Boats, by Navy Dept. Bureau of Aero. Washington. 12/21/32 Tech. Order #15-32.
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D 00.12/123 Heat-treatment of Aluminum Alloys, by Navy Dept. Bureau of Aero. Washington. 12/3/32 Tech. Note #6-32.
- #6-32  
D 00.12/123 Protection of Windings of Magnets, Generators, Starters and Coils against Moisture Condensation, by Navy Dept., Bureau of Aero. Washington. 1/7/33. Tech. Note #1-33.
- #1-33  
D 00.57/24 Aluminum Welding with Dissociated Ammonia, by Metallurgical Laboratory, Engr. Dept., Naval Aircraft Factory, Phila., Pa. 9/21/32 ML-77
- D 00.57/25 Milburn Type LM-A Aircraft Welding Torch, Tests on, by Physical Testing Laboratory, Engr. Dept., Naval Aircraft Factory, Phila., Pa. 11/25/32 ML-60n
- D 10.1/167 Stock List Class 23-A Specification Metals. Compiled by Materiel Div., Field Service Sec. Wright Field, Dayton, O. 7/1/32.
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- D 10.13/138 Anodic Oxidation of Aluminum and Aluminum Alloy Parts & Assemblies by Metallurgical Laboratory, Engr. Dept., Naval Aircraft Factory, Phila., Pa. 11/25/32 ML-58.
- D 10.16/18 Relative Temperatures of Brass when Subjected to Reversed Direct Stresses in Vacuo and in Air, by H.J. Gough & D.G. Sopwith. London. H.M. Stationery Office 1932. Great Britain. Aero. Research Committee Report & Memo #1482
- D 11.1/72 Stock List Class 22 Woods. Compiled by Materiel Div., Field Service Section, Wright Field, Dayton, O. 7/1/32.
- D 11.4/30 Stock List Class 04-A Aircraft Hardware. Compiled by Materiel Div., Field Service Sec. Wright Field, Dayton, O. 6/1/32
- D 13.3/147 Tests of Webster Plier-Type Hardness Gauge, by Metallurgical Laboratory, Engr. Dept., Naval Aircraft Factory, Phila., Pa. 6/7/32 ML-66.
- D 13.6/15 Tests of Portable Hardness Testing Instruments, The Duroshop and the Dwarf Brinell Press, by Metallurgical Laboratory, Engr. Dept., Naval Aircraft Factory, Phila., Pa. 12/27/32 ML-82
- D 52.1/32 Die Verkehrsflugzeuge der Deutschen Luft Hansa 1932/33. Berlin. Druck Martin Philipsen, 1932.
- D 52.1/33 A Comparison between the Theoretical and Measured Longitudinal Stability Characteristics of an Airplane, by Hartley A. Soule & John B. Wheatley, Washington Gov't Printing Office, 1932. NACA Report #442
- D 52.1/Ber- Wind Tunnel Tests on Series of Modifications of Y1P-16 with Fluid liner Joyce and Air-cooled Engines. Prepared by L. Maite & R.W. Jones. Baltimore. B-J Aircraft Corp. Report #309 6/22/32
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- D 52.151/131 Recovery from a Spin by L.W. Bryant & Miss I.M.W. Jones. London. H. M. Stationery Office. 1932. Aero. Research Com. Report & Memo #1426
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- D 52.331/3 Hardness Survey of Burned Wing Spars of PM-1 Airplanes Nos. 8294 & 8297, by Metallurgical Laboratory, Engr. Dept., Naval Aircraft Factory, Phila., Pa. 8/24/32. ML-69.
- D 52.41/Kin- Stock List Class 02-F Parts for Kinner Engines. Compiled by Materiel Div., Field Service Sec., Wright Field, Dayton, O. 6/1/32.
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D 52.41/Pratt Corrosion Test of Magnesium Nose Section for Pratt & Whitney Whitney/28 R-1535 Engine, by Metallurgical Laboratory, Engr. Dept., Naval Aircraft Factory, Phila., Pa. 10/21/32 ML-78
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- 355.21/Spl An International Air Force, by J.M. Spaight, London, Gale & Polden, Ltd. 1932 7995
- 527/M76 Simplified Navigation for the Amateur, by D.L. Montgomery; a Treatise on Practical Navigation, Piloting, Coastwise Navigation, and Elementary Deep Sea Navigation. Los Angeles, Calif. Times-Mirror Press. 1932. 8292
- 620.2/Or7 General Engineering Handbook; Editor-in-Chief, Charles Edward O'Rourke. 1st Ed. New York & London, McGraw-Hill Book Co. 1932. 8278
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- 629.13/Un3me #295 Shear-Buckling Tests of Corrugated Metal Sheets, by Edgar Seydel. Dayton, O. Wright Field. Trans. #295
- 629.13/Un3teh/#3718 Preliminary Study of Retractable Landing Gears for High and Low Wing Monoplanes by E.H. Schwartz. Dayton, O. Wright Field. 10/29/32. Tech. Report #3718.
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- 629.13/Un3ten/#439 Meteorological Conditions during the Formation of Ice on Aircraft by L.T. Samuels. Washington. 12/1932. NACA Tech. Note #439.
- 629.13/Un3ten/#440 Flight Tests to Determine the Effect of a Fixed Auxiliary Airfoil on the Lift and Drag of a Parasol Monoplane by Hartley A. Soule. Washington. NACA Tech. Note #440 12/1932.
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- 629.17/Si.4 British Aircraft Illustrated by C.M. Sims. London, A. & C. Black Ltd. 1931. 7236
- 629.172/N 29 Sailplanes, Their Design, Construction and Pilotage, by C.H. Latimer Needham, with a Foreward by the Master of Semphill. London. Chapman & Hall, Ltd. 1932 7993.
- 629.18/Am3 Symposium on Aircraft Materials, Held at the Thirty-third Annual Meeting of the American Society for Testing Materials, Atlantic City N.J. June 23, to 27, 1930. Phila., Pa. 1930(?) 8295.
- 629.18/L 25 Metal Aircraft Construction by M. Langley. A Review for Aeronautical Engineers of the Modern International Practice in Metal Construction of Aircraft, containing over 240 diagrams & photos of the methods used by the most prominent designers at home and abroad. 1st Ed. 1932. London. Gale & Polden, Ltd. 1932. 8009.
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- 92/B43 Floyd Bennett; with a Foreward by Rear Admiral Richard E. Byrd. New York, W.F. Payson, 1932. 8249. By Mrs. Floyd Bennett.
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- 940.41/W65 Transporting the A.E.F. in Western Europe, 1917-1919, by William J. Wilgus. New York, Columbia University Press, 1931. 8321.

INSPECTION DIVISION NOTES

The following Technical Orders, Technical Letters, Air Corps Circulars and Air Corps Circular Letters have been distributed since the last issue and Air Corps News Letter on December 30, 1932.

Number & Date	Subject	Distribution
TL 32-187 12/19/32	Etching & Inspection of Certain Propeller Blades. (This TL replaces TL 32-187, dated 11/22/32)	General
TL 32-125 12/23/32	Installation of Propeller Hub Nut Cap, Part #25581, on R-1750-E & R-1820 Engines Equipped with Crankshaft Breather. (This TL replaces TL 32-125, dated 9/6/32)	Aberdeen, Barksdale, Bolling, Chanute, Crissy, Kelly, Langley, March, Maxwell, Selfridge, Wright, FAD, RAD, MAD, SAAD
TL 32-189 12/23/32	Exhaust Elbows on R-1750 & R-1820 Series Engines	Aberdeen, Barksdale, Bolling, Brooks, Chanute, Crissy, Kelly, Langley, Maxwell, Selfridge, Wright, FAD, MAD, RAD, SAAD, Hawaii.
TL 32-184 12/23/32	Breather Installation on R-975-E Series Engines	All depots, Wright & Chanute.
TL 32-179 12-23-32	Intake Pipes, R-1340 Series Engines	All depots, Wright & Chanute
TL 32-94 12/23/32	Exhaust Valves for Pratt & Whitney R-1690 & R-1860 Series Engines (This TL replaces TL 32-94 dated 5/3/32.)	FAD, MAD, RAD, SAAD, PHAD, PAD, Chanute & Wright.
TL 32-190 12/23/32	Correction to A.C. Specification for Stromberg Type MA-Y60 Aircraft Carburetors Dwg. #S32J1890. (This TL replaces TL 32-190, dated 11/25/32.)	MAD, FAD, SAAD, RAD, Chanute, Wright
TO 08-5-2 12/15/32	Commercial Electrical Equipment-Aircraft Radio-Installation & Inspection. (This TO replaces TO's 08-1-2, dated 11/27/31, 08-5-1A, dated 5/11/27, 08-5-1C, dated 11/24/31 & 08-5-2, dated 9/2/27.)	General
TR 32-193 12/13/32	M-8 Flare Adapters. (This TR rescinds by Parts List XX7939 dated 12/27/32.)	General
TL 32-192 12/24/32	Replacement of Strainer Assemblies when Installing New Type Main & Auxiliary Gasoline Tanks in Douglas O-2H, BT-1, O-25A, O-25B, BT-2A, BT-2B, BT-2C, O-38, O-38A & Certain O-38 Airplanes.	General
TL 32-197 12/24/32	Installation of Oil Temperatures Regulator Douglas BT-2A, BT-2B & BT-2C Airplanes	Chanute, Wright, FAD, MAD, RAD, SAAD
TO 01-130 12/30/32	Airplanes & Spare Parts-Assembly & Maintenance Instructions Y1C-21 & Y1C-26. (This TO replaces TO 01-130, dated 10/7/32.)	General
TO 06-1-2 12/23/32	Fuels & Lubricants-General-Fluids for Hydraulic Equipment. (This TO replaces TL 32-68)	General
TL 32-191 12/24/32	Replacement of Gaskets, Vellumoid, Landing Gear Oleo Leg-Douglas O-2H, BT-1, BT-2A, BT-2B, BT-2C, O-25A, O-38 & O-38A, O-25B Airplanes	MAD, FAD, RAD, SAAD, PHAD, Chanute, Wright
TL 32-194 12/24/32	Replacement of Fixed Gun Sight Mount-Thomas Morse O-19B, O-19C & O-19D Airplanes. (This TL replaces TL 31-218, dated 7/30/31.)	Ft. Bliss, Boeing, Brooks, Chanute, Crissy, France, Hatbox, Hensley, Kelly, Long Beach, March, Maxwell, Pearson, Pope, Post, Selfridge, Scott, Wright, all depots.
TL 32-195 12/24/32	Replacement of Camera Mount Support Arms-Fairchild F-1 & F-1A Airplanes	Bolling, Brooks, Chanute, Crissy, Langley, March, Maxwell, Mitchel, Scott, Wright, FAD, MAD, RAD, SAAD.
TL 33-3 1/12/33	Reworking Exhaust Rocker Arms on R-1750 and R-1820 Series Engines	Aberdeen, Barksdale, Bolling, Chanute, Crissy, Kelly, Langley, Maxwell, Selfridge, Wright, FAD, MAD, RAD, SAAD, Hawaiian Dept.
TO 00-0-12 1/1/33	Monthly Index of Technical Instructions	General
TL 33-8 1/20/33	Replacement of Tail Wheel Fork-Thomas Morse O-19B, O-19C, O-19D & O-19E Airplanes	Biggs, Ft. Bragg, Boeing, Brooks, Chanute, Crissy, France, Hatbox, Hensley, Long Beach, March, Maxwell, Pearson, Salt Lake City, Scott, Ft. Sill, Selfridge, Wright.
TL 33-7 1/20/33	Installation of Tube Assembly Ignition Shielded on V-1150 Series Engines	Boston AP, Bowman, Candler, Chanute, Ft. Crockett, Edgewood, Kelly, Langley, Lunken, Marshall, Maxwell, Mitchel, Pittsburgh AP, Pope, Pt. Columbus, Randolph, Richards, Schoen, Wright, MAD, FAD, SAAD, Hawaiian Dept.
TL 33-9 1/24/33	Replacement of Fixed Gun Sight Mount-Douglas O-2H, O-25A, B & C, O-38, O-38A & O-38 Airplanes.	General

The following Air Corps Circulars and Air Corps Circular Letters have been distributed since the December 30, 1932, issue of the Air Corps News Letter:

AIR CORPS CIRCULARS

Number & Date	Subject
15-1A 11/12/32	BLANK FORMS & REPORTS - Air Corps Form No. 1-Airplane Flight Report.
15-10 12/15/32	" " " Air Corps Form No. 3-Photographic Training & Operations Report.
15-15 12/5/32	" " " War Department Air Corps Form No. 15 - Invoice.
15-21 12/6/32	" " " Air Corps Form No. 21 - Communications Operations Report
15-32 12/10/32	" " " Activity Report
15-43 12/6/32	" " " Air Corps Form No. 43-Armament Inspection Record.
15-44 12/6/32	" " " Air Corps Form No. 44-Radio Inspection Record.
45-4 12/8/32	INFORMATION - Characteristics and Performance of New Airplane & Engines.
0-1 1/5/33	GENERAL INDEX
5-10 12/27/32	PUBLICATIONS - PRINTING & BINDING - Notice to Pilots.
15-54A 12/20/32	BLANK FORMS AND REPORTS - Air Corps Form No. 54 -Unsatisfactory Report
65-26 1/11/33	SUPPLY - Stationery and Office Furniture
90-2 1/5/33	AIDS TO AVIGATION - Changes and Corrections to Air Navigation Maps.

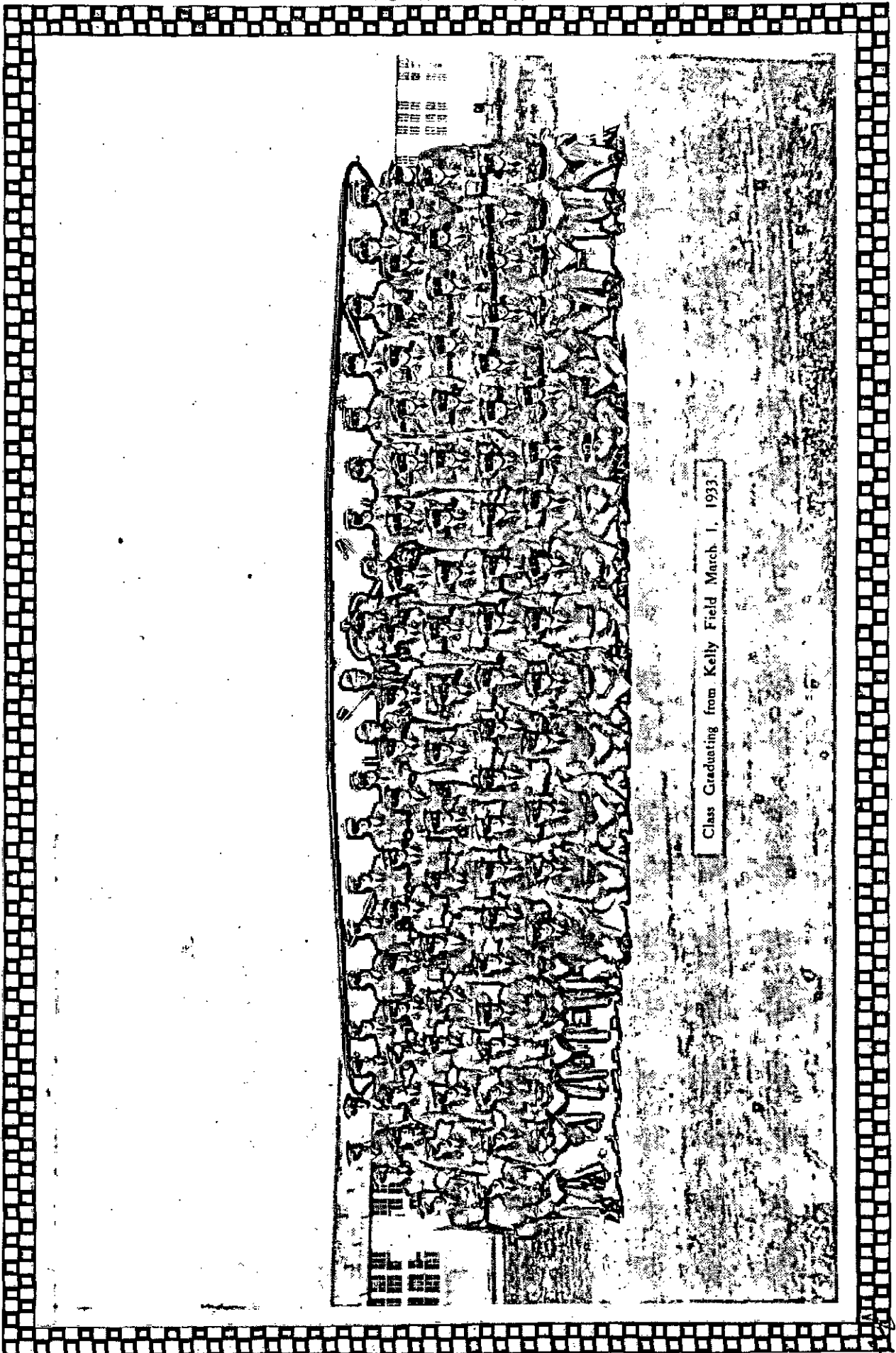
AIR CORPS CIRCULAR LETTERS

W-2138 AC 12/12/32	Mackay Trophy Award for 1932.
W-2139 AC 12/13/32	Cheney Award for 1932.
W-2141 AC 12/28/32	Report of Station Inspector.
W-2142 AC 12/28/32	Operations Chart.
W-2144 AC 12/30/32	Changes in Bids and Acceptance by Contracting Officers.
W-2147 AC 1/10/33	Invitations for Bids.

AIR CORPS *Library*

# NEWS LETTER

ISSUED BY THE  
OFFICE OF THE CHIEF OF THE AIR CORPS  
WAR DEPARTMENT  
WASHINGTON D.C.



Class Graduating from Kelly Field March 1, 1933.

*2437  
1933*



A MESSAGE FROM MR. DAVISON:

ASSISTANT SECRETARY OF WAR (AIR)  
Washington

February 27, 1933.

Dear General Foulcois:

May I ask you to transmit the enclosed communication to the officers, enlisted men and the civilian employees of the Air Corps and their families?

Very truly yours,  
(signed) F. TRUBEE DAVISON,  
Assistant Secretary of War.

Major General Benjamin D. Foulcois,  
Chief of the Air Corps,  
Washington, D.C.

-----  
ASSISTANT SECRETARY OF WAR (AIR)  
Washington

February 27, 1933.

TO: The Officers, Enlisted Men and the Civilian  
Employees of the Air Corps and their families:

Since the enactment of the Five Year Program in 1926, the Air Corps has made considerable progress. In spite of the decrease in appropriations, that program has been completed as far as tactical units are concerned. Our equipment is better and there is more of it. Our housing is more attractive and more livable. The relative fighting strength of the Air Corps has materially increased and, therefore, the Nation is more secure.

This progress has, nevertheless, been accompanied by many disappointments. Some objectives have not been reached. Some hopes have not been realized. But, going up or down, in good times and bad, your devotion to the Service has never wavered.

Whatever progress has been made is due to your loyalty, ability and courage. Many others have had a part in it, but that part is insignificant compared with yours. By this same token, the future holds for you a very serious responsibility and a continuing opportunity, and I know that you will meet them effectively as you have in the past.

The most trying experiences come when the risks of military flying have fatal consequences. The men take those risks consciously and as incidents in the line of duty. But the Air Corps women are the ones who have the real burdens to bear, and they have met them with a cheerfulness and fortitude which makes those who appreciate their gravity very proud of them.

I would like to say to each of you, personally, that I am profoundly grateful for your loyalty and support and for your friendship. No man could have had them in greater measure than I. No man could have had a more inspiring association and, frankly, I hate to lose it. It will leave a very big hole in my life. My hope is that in the years to come I may have the privilege of continuing those friendships and, in one way or another, of serving the Air Corps.

Ours may not be the biggest air force in the world, but, by gracious, it is the best!

Happy landings!

(Signed) F. TRUBEE DAVISON.



## ARMY MUTUAL AID ASSOCIATION PREMIUMS

The Army Mutual Aid Association has found it necessary to increase from \$3.00 to \$3.75 per month the special premiums charged members on flying duty who have joined the Association since April 17, 1923. The increase is necessary on account of excessive mortality suffered among members in that group during the year 1932, when the loss was almost double that of any previous year. It should be noted that the premium charged is lower than it was in 1926 and, if future mortality is as low or lower than the average during the period 1926 to 1931, inclusive, the Association will be able to reduce the flying premium again in the near future. It is believed that the Army Mutual's practice of a flat premium for all who draw flying pay is the most equitable plan, and that every member of the Air Corps who has dependents should carry insurance in the Association. The Association makes no money on this group. No charge is made for overhead and all special assessments received from fliers, as well as general reserve credits from matured policies among the group, are transferred to the special fund. It is a fact that observers, flight surgeons, balloon pilots and a few older fliers can secure commercial policies from companies which will charge fliers with low hazard less premium than the Army Mutual charges, but the same companies charge combat plane pilots, fliers engaging in experimental work, cross-country flying and formation flying higher premiums than does the Army Mutual. It is gratifying to note that most of the favored few who can get insurance cheaper elsewhere carry Army Mutual memberships nevertheless, as a matter of esprit de corps, for the mutual protection of our group as a whole. The management has been essentially fair to aviators, and the premium plan now in force was worked out by officers of the Air Corps who have studied the situation thoroughly. The recent increase is not proportionately large when compared to reductions made in the past or when compared to commercial rates in general. The Army Mutual has in the past been a leader in rate reductions and has had a good influence in inclining others to make Army fliers only reasonable charges.

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## ENID, OKLA. PERPETUATES MEMORY OF LT. WOODRING

A resolution has been passed by the mayor and city commissioners of the City of Enid, Okla. changing the name of the Enid Air Park to Woodring Field. In all probability the dedication ceremony will be held the latter part of April or first of May.

The Resolution is as follows:

WHEREAS, I.A. Woodring, Lieutenant in the United States Army Air Service, on the 20 day of January, 1933, lost his life near Wright Field, Dayton, Ohio, while in the service of his country and in the line of duty, and,

WHEREAS, Lieutenant Woodring was a resident of the City of Enid, Oklahoma, for many years, and received his first air training in Enid, and,

WHEREAS, Lieutenant Woodring performed valiant service for his country, and was recognized as one of the foremost and able air men in the nation, and,

WHEREAS, the City of Enid desires to perpetuate his memory and to give recognition of his patriotic services to his country, deem it highly desirable and proper to name the Enid Air Park, Woodring Field;

THEREFORE BE IT RESOLVED BY THE MAYOR AND CITY COMMISSIONERS OF THE CITY OF ENID, OKLAHOMA, in regular meeting assembled, in loving memory and in honor of I.A. Woodring, Second Lieutenant in the United States Army, Air Service, the Enid Air Park shall on and after the 1st day of March 1933, be named and officially known as Woodring Field.

BE IT FURTHER RESOLVED, that this resolution be spread in full in the permanent records of the City of Enid, and,

BE IT FURTHER RESOLVED, that the City Clerk of the City of Enid, deliver a copy of this resolution to the relatives of Lieutenant Woodring.

Unanimously adopted this 13th day of January, 1933, by the Mayor and Commissioners of the City of Enid, Oklahoma.

J. A. McGill, Mayor.

J.M. Stucker, Commissioner.

Geo. R. Reinhardt, Commissioner

Attest:

Lillian Plageman,  
City Clerk.

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## SERGEANT FISHER RETIRED

Having completed over thirty years of active service, First Sergeant Anthony L. Fisher of the 70th Service Squadron, March Field, Calif., was placed on the retired list on January 31st, 1933. Sergeant Fisher first enlisted in 1898, and has served in Tennessee, Kentucky, Missouri, Georgia, Philippine Islands, Vermont, New York, California, Michigan, Arizona and Alabama. During his entire service, he has never lost a day of unauthorized absence from duty. All of his discharge papers show character "Excellent." He received a high commendation for his record as a soldier from the Post Commander.

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## FURTHER TESTS IN COSMIC RAYS

Dr. Victor Neher, Assistant to Dr. Robert A. Millikan, of the California Institute of Technology, Pasadena, Calif., was at March Field, Riverside, Calif., during the middle of February, conducting further important tests in cosmic rays. Lieut. Carl Murray, of the 73rd Pursuit Squadron, piloting a Pursuit plane, assisted in these tests, flying the instruments to the highest altitudes attainable. Other tests were run during the past year in various parts of this country, also in Canada, Central America and South America, but the altitudes reached at March Field during the latest tests exceeded those reached elsewhere.

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## RADIO TESTS IN HAWAII

The 72nd Bombardment Squadron, Luke Field, T.H., has been conducting tests with communications equipment to ascertain the distance the airplane set could be successfully used a ground station. The greatest distance worked so far has been approximately 24-miles, reception at both stations being very clear. This test is conducted in the following manner: Five to six planes with communication equipment are sent to as many landing fields on the Island with instructions as to time and manner of working with the Squadron's ground set which is operating under direction of the Communications Officer. After all planes have checked in from the ground they are directed to assemble at some point, as nearly equidistant from each field as possible. From time of take-off from outlying fields until assembly point is reached, planes are required to check in with Squadron Command plane at frequent intervals. After rendezvous, the Squadron Ground Station directs an attack upon some objective. All missions have been worked with radio telephone.

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The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation. Publishers are authorized to reprint material appearing herein, except that portion of the News Letter beginning with Notes from Air Corps Fields.

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### MATERIEL DIVISION AERONAUTICAL DEVELOPMENTS DURING 1932 \*

By Major C.W. Howard, Air Corps,  
Chief, Engineering Section

It is desired to outline briefly the major Experimental Projects and developments of the Engineering Section of the Materiel Division for the past calendar year and to comment on some of the principal projects that are to be undertaken this coming year. There are many minor investigations and a few secret projects that cannot be included in this paper. The annual appropriations for the Air Corps provide approximately \$1,500,000. for the purchase of experimental and service test equipment and from the funds that are allotted for payroll purposes the Engineering Section is allotted approximately \$900,000. for the salaries of the engineering and administrative personnel. The activities of the engineering personnel are largely directed to plans, preliminary designs, testing, and the details of engineering administration in connection with the development and construction of new types, and the improvement of existing airplanes, engines, and the numerous accessories that are obtained from the industry. Research and experimentation carried on in our laboratories are confined to projects that are not covered by the aircraft manufacturers or other Government laboratories.

In the expenditure of both cash and labor the Materiel Division, and in turn the Engineering Section, is guided by an experimental program which is first prepared and submitted to the Chief of the Budget by the Air Corps as supporting data for the annual estimates. At the beginning of the fiscal year for which the funds covered by those estimates become available, the program is revised to provide for contingencies that have arisen since the estimates were first submitted. The revised program receives the approval of the Chief of the Air Corps. In addition to the experimental and research program, Directives are published at the Materiel Division after approval of the Chief of the Air Corps. The Directives contain the general requirements in non-technical language of the new types of airplanes that are to be developed. The requirements are set up by a board of officers appointed by the Chief of the Air Corps for each specific type. The members of this board are selected from the personnel of the Office, Chief of Air Corps, tactical organizations, and the Materiel Division. The current Directive for Tactical Types provide for the following: Corps Observation Airplane, Army Observation Airplane, Light Multi-motored Bombardment Airplane, Heavy Bomber, Attack Airplane, and Pursuit Airplane.

Pursuit Airplanes are covered by four separate Directives which provide for the following subtypes: High Speed at Low Altitude, High Speed at High Altitude, Biplane Pursuit, and Intermediate Maneuverable type.

In 1931 a Board met for the purpose of formulating Directives for the Lighter-than-Air program. This Board recommended a larger type of nonrigid airship of 300,000 to

\*Calendar year.

350,000-cu.ft. capacity for use as an observation and long-distance reconnaissance airship and bombardment airship. It must be realized, of course, that a 350,000-cu.ft. capacity airship will not fulfill the various functions required, but it represents the best type available with the amount of procurement funds now allotted to Lighter-than-Air. It is known as the Type TC-13. In addition, another type of car, which will be interchangeable, is under construction.

Last year the various types of airplanes were enumerated which were in the experimental and service test stages of development. There is little change in respect to the status of the YO-40, manufactured by the Curtiss Company, in view of the accident at the plant of the manufacturer which resulted in its being completely "washed out." A service test order for this airplane has been placed. The service article will be fitted with an improved landing gear, and minor changes are being made in the wing section. It will be powered with the Curtiss Wright Cyclone engine. In addition, the manufacturer is submitting one article with a monoplane in place of the sesquiplane wing arrangement. This will make possible a direct comparison of the relative values of these two wing arrangements for an observation airplane of the Corps type. The performance of this airplane exceeds the requirements of the Directive for the type.

Four O-31's, manufactured by Douglas Aircraft Corporation, are now on service test. The performance of these airplanes also exceeds the requirements of the Directive, but it has been found possible to still further increase the high speed by minor refinements. Changes in the landing gear, wing arrangement, and rear cockpit are, therefore, being made on the articles that are still under construction. The dimensions of the observation cockpit have been appreciably increased. The high speed is now in the 200 mph class.

For the Army Observation, service test quantities of the O-35 (Douglas) and the O-27, manufactured by the General Aviation Corporation are being delivered to the activities that have been designated for their service test. The high speed of the YO-27 has been appreciably increased. The O-35 for service testing has undergone only the usual refinements of an experimental article that goes into service test design. The continued development of this type of observation airplane will depend largely upon the experience of the tactical units in which it is tested. Both of these types are equipped with retractable landing gears. There have been a number of instances of landings with the wheel up. The damage has been slight but has led to experiments on positive methods of warning the pilot of the position of the wheels. The most effective apparatus appears to be an electric vibrator attached to the brake and rudder pedals. Upon closing the throttle with the gear in the "up" position the circuit to the vibrator is closed and the pilot's attention is thereby directed to the gear.

Light Bombardment. Development of the Light Bombardment Airplane has resulted in procurement of a service test quantity of the B-7, manufactured by the Douglas Company. The ex-

V-6380, A.C.

perimental model designed and constructed by the Glenn L. Martin Company was submitted to the Division for test but was returned to the manufacturer for alteration and improvement. It has been resubmitted as a heavy bomber and its performance greatly exceeds the requirements of the Directive for both types of bombardment airplanes.

**Heavy Bombardment.** The service test articles of the Heavy Bombardment type B-9, manufactured by the Boeing Airplane Company, are now being delivered. This airplane represents a marked improvement, from a structural and maintenance standpoint, over the first articles that were received at the Division. The use of a geared engine has been definitely proved to be advantageous for airplanes of this class. For example, flight tests of the Curtiss B-2 airplane with direct drive, a 7:5 reduction gear, and 2:1 reduction gear for the propeller indicated an increase in high speed of approximately 20 miles per hour for the 2:1 gear over the direct drive.

One of the original experimental models of the B-9 (Boeing) is being equipped with a V-1570-F (Curtiss) engine and supercharger. The exhaust-driven supercharger improves performance above 20,000 feet, but it is questionable whether this type of installation is justified from a tactical standpoint.

**Attack:** The YA-8 Attack airplanes, manufactured by the Curtiss Company, are now undergoing service test at Fort Crockett. Preliminary reports indicate that the requirements for the Attack type have not been met. The Division now is conducting tests on the YA-10 (Curtiss) which is simply a YA-8 equipped with a Pratt & Whitney Hornet (R-1690) engine, instead of a Curtiss V-1570-F. Performance estimates indicated that the difference in speed would be negligible by this engine change and that there would be certain advantages in the take-off characteristics. Actual flight tests have revealed the air-cooled engine installation results in a loss of 12 miles per hour in speed; although the take-off characteristics are greatly improved. The difference in speeds of YA-10 and YA-8 amounts to 25 m.p.h. (The service test article with the direct-drive Conqueror was 13 miles slower than the experimental article, which has not wholly been accounted for.) This loss in speed can only be accounted for by interference effects, as it is usually possible to calculate very closely the high speed of an airplane where the performance estimates are based on actual flight tests as is the case of the YA-10. One of the service test articles is now under test powered with a CV-1570 geared Conqueror (Curtiss) engine. This increases the weight with some improvement in high speed and marked improvement in take-off characteristics.

**Pursuit.** The XP-936, now designated P-26, which was referred to last year as being in the experimental stage, has passed through the service test stage, and is now ready for procurement as a standard type. The P-26, built by the Boeing Company, has a high speed that meets the Directive requirements specified for the maneuverable type at the time this airplane was laid down. The XP-934, built by the Curtiss Company, recently arrived at the Materiel Division. This airplane is designed primarily for high speed at low altitude. An air-cooled engine installation was made at the plant of the manufacturer but failed to give the desired performance.

There have been various preliminary designs submitted by manufacturers of airplanes to meet the high speed at low altitude requirement based on the results obtained on the small high speed air-cooled types such as were used in the National Air Races. In general, however, the Division will not encourage manufacturers to lay down new types until

high-powered engines now in experimental stages have been proved to meet military requirements. Preliminary designs and calculated performance on a considerable number of combinations of airplanes and engines are under way. These preliminary designs and performance estimates contain studies of adaptation of present models, with the various engines, and new designs and lay-outs, some of which will be used in connection with the preparation of new Directives, and others as a basis of making changes in existing types.

On the experimental and service test program for the power plants there are a number of liquid-cooled engines of the 1000-horsepower class. Experimental engines must pass the type and endurance tests before they can be released for installation in aircraft. It is the policy of the Air Corps to require the following tests on a new type or model of an existing type of engine:

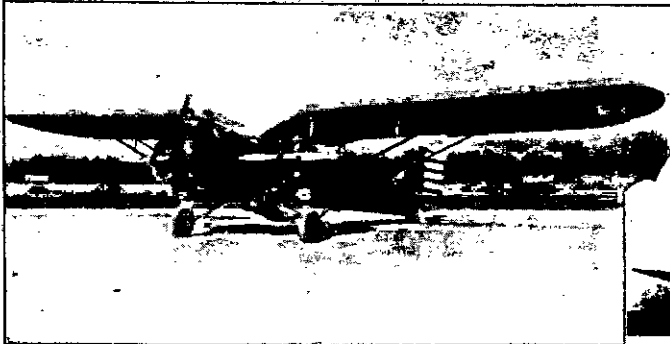
**Development Test.** This is the first test to be run on an engine of new design. The test is of fifty hours' duration and consists of ten five-hour periods, the first half-hour of each period being at full power, the next four and one-half hours at 90% full power, and the last hour of the last period at full power. Inasmuch as the primary object of the development test is to bring out any weakness or design defects which may exist in the engine the conductance of this test is not as strict as the type test, and reasonable replacements of failed parts and adjustments are allowed. The development test is generally run at the manufacturer's plant, but is witnessed by representatives of the Division.

**Type Test.** Upon completion of a satisfactory development test, another engine, preferably a production model incorporating modifications that are found to be necessary as the result of the development tests, is submitted to a type test. The object of this test is to determine whether the engine is approved for service test in an airplane, or airplanes. If a major failure occurs during the type test, the entire test is discontinued and the testing is re-run on a third engine which incorporates the improvements found to be necessary as a result of the failure of the first type test. The type test consists of 150 hours, and includes 50 hours' full power, 25 hours each at 97, 93 and 89 per cent speed on propeller load; 15 hours of alternate 5-minute periods of idling and full power; 10 hours at full power and 110 per cent rated speed, and whatever dive tests are considered necessary by the Air Corps.

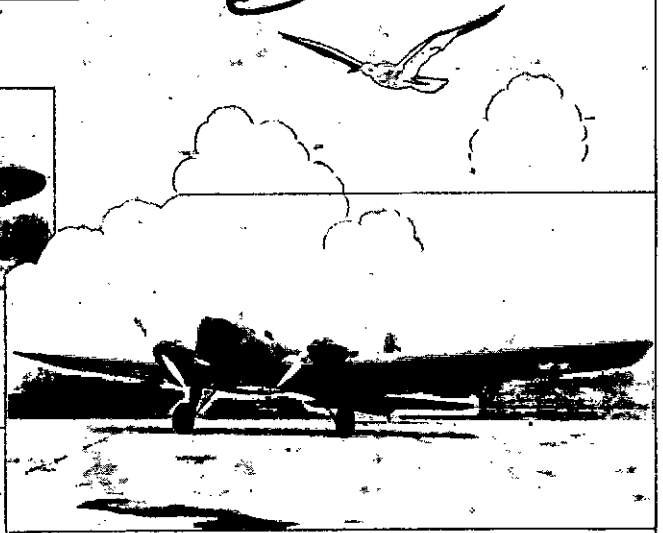
**Service Test.** When the type test has been passed to the satisfaction of the Materiel Division, engines in quantities of three to twenty-five are procured and subjected to service test of not less than 200 hours each in service type airplanes. At the completion of 200 hours and with a satisfactory service test report the engines are recommended for standardization. It would appear that an engine which has passed tests as rigid as those outlined above could not fail to give satisfactory service. However, experience with engines installed in Pursuit type airplanes has indicated that these tests alone are not sufficient.

The matter of diving Pursuit types of airplanes at full throttle has been investigated. The speed of the P-26 after remaining in a vertical dive for 6000 feet is over 400 m.p.h. The difference in speed with power off and power on is less than 15 miles an hour. The difference in engine r.p.m. is 450 r.p.m. The loads on the connecting rod bearing increase approximately as the square of the r.p.m., so that it may be readily seen what a terrific price must be paid from

# TACTICAL TYPES



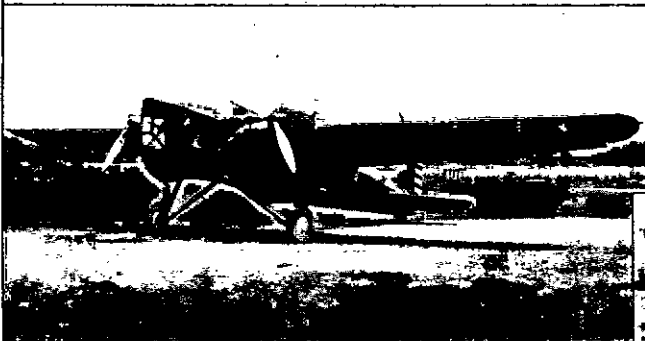
LIGHT BOMBER



HEAVY BOMBER



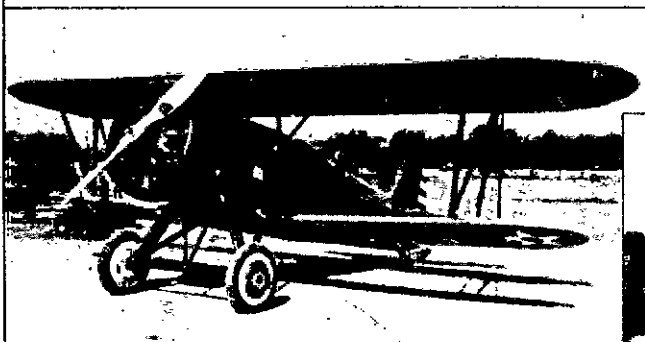
ATTACK



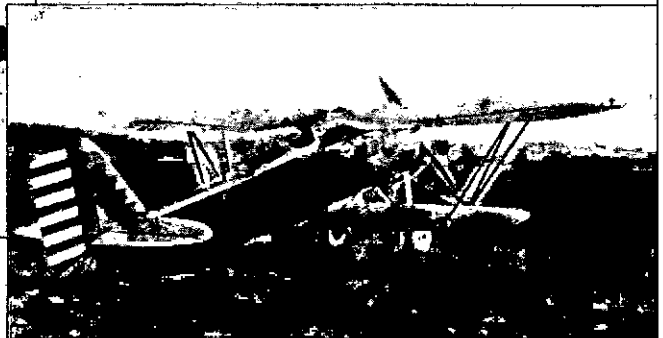
ARMY OBSERVATION



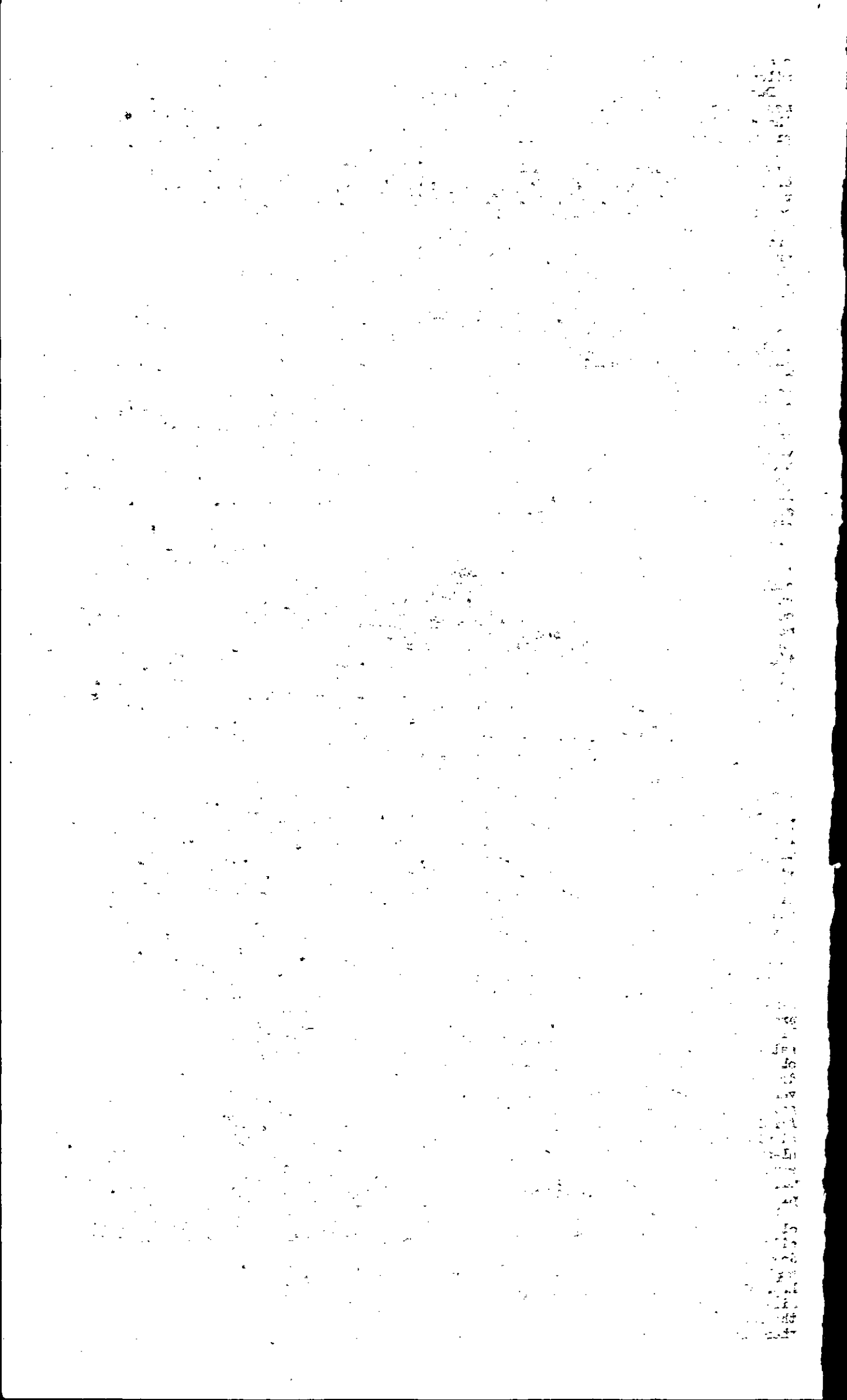
CORPS OBSERVATION



SINGLE-PLACE PURSUIT



TWO-PLACE PURSUIT



a design standpoint for the additional fifteen miles an hour attained in vertical dive.

During the past year a great deal of sentiment has crystallized in the Air Corps towards the substitution of air-cooled power plants in practically all existing types that are now in the experimental and service test stages. In view of this it is desired to set forth a few of the principles based upon which the continued development of the liquid-cooled engine is considered to be necessary and expedient.

The variables which enter into the design problems of airplanes and affect performance are power, weight, drag, and wing efficiency. The power plant design affects directly three out of four of the above variables. The power plant and its accessories actually represent a greater percentage of the total weight of the modern airplane than the airplane structure, including the fuselage, wings, landing gear, and permanent installations. The criteria upon which the relative usefulness of military power plants are based include, in the order of their importance, weight per horse power, specific fuel consumption, and reliability. To compare the liquid-cooled with the air-cooled engine, one should first take into consideration the prerequisites for engines of the present power class used in military aircraft. The air-cooled engine is superior from the standpoint of weight per horsepower and reliability. With respect to streamline installations and fuel consumption, the liquid-cooled engine ranks at present with the air-cooled engine. However, new developments in the air-cooled field make possible a lower fuel consumption than that of any conventional liquid-cooled engine. The ring cowl on some air-cooled installations has reduced the drag to equal that of the best liquid-cooled installations, even taking into consideration the savings obtained through the use of Ethyl Glycol as coolant.

Experience has shown, however, that the interference effects in high speed airplanes are so great that the best designs come from the designer who has the faculty of foreseeing interference and inter-effects and is able to produce the best compromise of the characteristics desired. A maze of conflicting information has resulted from the studies at the Division and from data obtained from actual flight tests. In some instances, the same airplane (such as the B-9), flown under identical conditions with air-cooled and liquid-cooled engines, has shown superior performance with the air-cooled engine. In other instances, notably with Attack airplanes, the reverse is true. However, from the developments of the last year it can be concluded that for engines of the 600-h.p. class, the air-cooled engine can be used in the military airplane to better advantage than the liquid-cooled engine, and with a gain in reliability. At present one exception is the V-1570 (Curtiss liquid-cooled) with a side type or centrifugal type of supercharger. This type of supercharger has distinct advantages over the gear-driven supercharger which is used in all conventional air-cooled engines. These advantages result in performance above 20,000 feet far in advance of those that have been obtained with the air-cooled engine. The P-6D airplane, for instance, at 20,000 feet, with this equipment had a high speed in excess of 200 miles per hour; and the P-6D is a 1925 airplane.

In considering engines of the 1000-h.p. class for military airplanes, we should consider precedent and experience abroad in like developments. There are now a number of examples of liquid-cooled engines of the 1000 h.p. class developed for racing purposes. The air-cooled engine has yet to prove itself in the larger units. It is well known that there is a limiting cylinder size for an effi-

cient power output. This applies especially to air-cooled radial designs, and the present displacement of 1800 cu. in. for a 9-cylinder radial engine appears to be approximately the limit. Or, in other words, the air-cooled cylinder is limited to about 200 cu. in. With the liquid-cooled engine it is possible to increase the displacement by increasing the number of cylinders, but for radial air-cooled types this is limited by the cooling problem. At present manufacturers are working with the two-row radial. This development shows considerable promise.

The relative weights of the liquid-cooled and air-cooled engines with increased power and displacement should be practically the same as those of the smaller units. It can be concluded, therefore, that the question of cooling is the obstacle which in the light of present knowledge prevents the practical realization of air-cooled radial type engines in power units of more than 600 h.p.

The Materiel Division in cooperation with the engine manufacturers has taken another step during this past year in the improvement and towards continued increase in power of a small air-cooled radial. For example, a 1340-cubic inch displacement engine has been shown to be capable of delivering 600 h.p. at sea level. This represents an engine which is far more efficient than the Conqueror or the Rolls-Royce Kestrel, both from the standpoint of weight per horsepower and cubic inch displacement. The method used for obtaining this increased power is by ground boosting or supercharging at sea level and by increasing the compression ratio. In addition, this year has brought about further improvements in piston design, fuel, oil, cooling, spark plug design and cylinder construction. The reduction gear is now successfully applied to the radial engines of the 600-h.p. class. As an example the engines for the B-9 airplane (Boeing) are both supercharged and geared, and the same applies to the engines for the XB-907 (Glen L. Martin) Bomber.

The problem of reduction gears for both air-cooled and liquid-cooled engines is slowly correlated with propeller design. The three-bladed propeller has proved to be a distinct advantage for many installations. It is a simple means of reducing propeller tip speeds. Also a propeller of small diameter makes it much simpler for the airplane designer to provide for proper clearance between the ground and the propeller, and allows the engines to be placed further inboard, thereby improving, in many cases, the aerodynamic characteristics and structure of the airplane. There are three types of controllable propellers in service test. The controllable pitch propeller has two applications; one for improving the take-off of heavily loaded airplanes, which with a fixed propeller requires a compromise between the take-off and high speed characteristics; the other for permitting the most efficient angle of propeller setting at all altitudes where supercharging is used.

Investigations have continued in the fuel and oil testing laboratories and as a result of the work accomplished much has been learned about the characteristics of various base fuels and the technique of "knock-testing." The latest changes in the specification for aircraft fuels eliminate the reference to octane-pentane ratings. The specification now prescribes a standard fuel, which is used as a basis of comparison in the test engines for knock-testing fuel samples that are submitted in connection with improved and experimental fuels, as well as the fuel that is used by the tactical organizations. Studies on the prevention of cylinder bore and exhaust valve corrosion due to use of gasoline containing tetraethyl lead have resulted in marked improvements.

The side-type supercharger development has

suffered serious setback from an unexpected source. With the advent of hot weather it developed that our present fuel systems are inadequate since the fuel in the tank and lines is at greatly reduced pressure at high altitudes. During the hot months the fuel assumes the approximate temperature at sea level and then during the climb to operating altitude does not have sufficient time to cool. As a result vapor forms in the fuel lines on the suction side of the pump. The installations, therefore, on all supercharged airplanes have had to be changed to provide for larger lines and improved plumbing.

Cooling system developments have been neglected during the year due to shortage of personnel and the difficulty in obtaining engineers adapted for this type of development work. It has only been within the last year that a comprehensive program has been laid out for the purpose of bringing this phase of the liquid-cooled engine development up to date. The program includes studies of the use of greater core depth, problems of radiator cowling, and means of removing gas or vapor formed in the cooling system.

A definite requirement for radio installations on practically all types of tactical airplanes had led to continued studies, investigations, and tests of shielding, bonding and conduit systems.

Two types of engine starters are on our development program. One type is designated as a cartridge starter, the source of power being derived from a powder charge contained in a shell similar to the conventional shot gun shell. The other type is a direct cranking starter which is an adaptation of that used by the automotive industry. The principal difficulty with the latter type is due to its failure to turn the engine over fast enough to effect satisfactory starting. It has the advantage, however, of superior cool weather performance, as it is free from the difficulties that have been experienced with the present inertia type starter which involves a complicated system of gears and a clutch. Each of these developments might still be considered in a highly experimental stage, and in the meantime an effort is being made to remedy the defects in the present standard starter by means of improvements of minor details.

The problem of silencing aircraft in flight involves two major elements - the propeller and the exhaust. Silencing can be accomplished through the propeller by special design, and reduction gears for the engine. It has been found that above certain critical tip speeds, the intensity of sound increases very rapidly. This has led to the design of broader blades and the use of three blades as means of decreasing diameter. In each instance special attention has been paid to the shape of the tip. Long narrow tips give higher efficiency, but this will have to be sacrificed for silent operation. The controllable pitch propeller is a simple means of reducing the sound, since the r.p.m. can be reduced by increasing the pitch when in flight. The matter of silencing by means of exhaust mufflers is more troublesome. The use of mufflers results in loss of speed and means added weight. Also, long exhaust stacks have for many years been considered one of the principal sources of fires. This is simply another case where new demands have made it necessary to effect compromises.

Under the heading of research and experimentation, carried on at the Division, there are developments in metal structures including new designs embodying the metal monocoque principle. The static tests of the P-26 (Boeing) have been highly satisfactory from a structural standpoint and have exceeded the requirements under all conditions. The development of the stress-skin type of metal fuselage

structure has made necessary certain additional specific rigidity requirements. These will include such items as: tail torsion tests, wing vibration and torsion tests; tests for vibration frequency of any part of the airplane suspected of possible flutter in flight.

The use of the externally wire-braced monoplane has necessitated definite means of determining the initial stresses of the brace wires. A number of strain gauges have been developed. These are on service test and it remains for the service to determine how practical they are for use in connection with maintenance.

The streamline wheel and tire developments are represented in a number of active projects. Armament developments have been largely centered around bomb sights and bomb racks during the past year. A project has been initiated to install wing guns on a P-6E. Tests were at one time conducted on this method of mounting the fixed guns but were not considered sufficiently conclusive, even though reported on negatively by tactical units.

Experimentation with instruments and radio aids to navigation has resulted in the development of the radio compass, Type E-4, previously described and now in service test status; the flight indicator, Type C-1; turn indicator, Type A-1 (artificial horizon); and directional gyroscope now ready for standardization. Developments of a suction pump to be driven directly from the engine, for the purpose of operating flight instruments requiring a vacuum, is now under way. This will eliminate the use of the venturi heads and danger of instruments being rendered inoperative due to the formation of ice in flight. The sensitive altimeter, Type C-1, is now standard. Navigation equipment for a heavy bombardment airplane has been worked out and consists of the following items:

- Aviator's Kit
- Altimeter, Type C-5
- Airspeed Indicator, Type C-4
- Aperiodic Compass, Type D-7
- Drift Sight, Type A-3
- Radio Compass

In addition to the usual instruments the pilot's cockpit is equipped with a Command radio set - interphones, and radio compass.

The problems of blind flying involve experimentation in the highly specialized fields of radio communication devices and flight instruments. These involve the development of equipment for both aircraft and ground installations. The work of the Division, which has been directed to three systems, has extended over a period of four years and has resulted in the design, construction, and test of both radio and mechanical devices, some of which performed satisfactorily from a purely laboratory standpoint, but were either too complicated, too delicate, or too heavy for military use. As an example, a system of underground cables which was developed by the French marked the boundary of the landing field both in horizontal and vertical dimensions was tried out on a miniature scale installation. It was found that not only the special equipment required for installation in the airplane was too heavy, but that the adoption of a cable system for emergency airdromes in war times would be of questionable use in view of the difficulties in transporting and installing cables. Another system utilized the airways radio beacon to guide the pilot to the airdrome and a portable direction beacon to show the direction for landing, together with instruments that had been developed primarily for navigation. The aim in these developments was to utilize instruments for installation

in the airplane that could also be used for flight aids under normal conditions. The ground installations must be portable, light, and simple to set up, install and operate. This had led to the substitution of the Radio Compass and two small radio transmitters for the airways and portable directional beacons. This latter principle was demonstrated to be practical. The apparatus that was installed in the airplane consisted only of the radio compass, flight indicator, (gyro horizon), turn indicator, (gyro compass), sensitive altimeter, airspeed indicator, and the usual engine instruments. For the ground installation a small transmitter was used at the end of the landing runway in the vicinity of the boundary, or a little beyond, a similar transmitter was located one or two miles farther away in prolongation of a line drawn through a point in the landing area and the transmitter near the boundary of the area. In the use of this system for blind landings the pilot is directed to the approximate position of the airdrome by radio compass if there is a broadcasting station in the vicinity; if not, by the magnetic compass and dead reckoning. Upon nearing the airdrome the pilot tunes the radio compass in on the Field localizer transmitter nearest the boundary of the landing area. When the airplane passes over this point on the ground, the indicator of the compass oscillates from one side to the other. The pilot is then to tune the radio compass to the second transmitter. This is accomplished by simply a flip of the tuner. The airplane now can be headed along the reverse bearing of the landing direction. Upon crossing the outer station a 180-degree turn is made by the use of the turn indicator at an altitude of 500 feet. The airplane is placed in a gradual power glide headed towards the transmitter nearest the boundary line (Station No. 1) of the landing area. An altitude of at least 150 feet above the ground, indicated by the sensitive altimeter, is maintained until the boundary transmitter is crossed. The engine r.p.m. is then set so that an airspeed of about ten miles above the stalling speed of the airplane is maintained in the position of level flight. The rate of descent should then be about 300 or 400 feet per minute, which is readily indicated on the sensitive altimeter.

It should be understood that the radio compass is an accessory to the conventional radio installations and therefore two-way communication is possible between the ground and the pilot where the airplane is equipped with two-way radio. In such cases the pilot can determine the exact setting of the sensitive altimeter to show the barometric height of the landing field. The sensitive altimeter is subject to errors as a result in changes of the atmospheric pressure. Under ordinary conditions errors from this source will not exceed 40 feet. In case the barometric altitude of the landing field cannot be determined by the operator of the ground stations, a safe blind landing can be made by simply locating the two markers or field localizers in such a position that an error of a hundred feet can be made in the altitude at which the airplane crosses the boundary transmitter. The pilot must know the actual height of the landing area above sea level.

The developments and experimentation on new materials have included studies of the difficulties that have resulted from the deterioration of shatter-proof glass in the tropics. The manufacturers have cooperated in this work and a service test of laminated glass, which represents the best materials now available for the resistance to intense sunlight, is being sent to Panama. Upon request of various service activities, tentative specification was drafted to cover Polished Pigmented Nitrate Dope Surfaces for Aircraft. The relative cost and serviceability of the polish finish is about 400

per cent more than the standard finish. The reports thus far received on the serviceability indicate that the high gloss finish is superior insofar as the retention of gloss and excess of cleaning are concerned. The weight of the high gloss finish is of course appreciably higher than the standard finish.

Confusion exists in the various activities as to the proper use of greases for starters, rocker arms, et cetera. Spot welding is being studied both from a standpoint of stainless steel structures and aluminum alloy structures. Magnesium alloys are being tested in propellers and seats, as well as being adopted as a standard material for certain engine parts. An extensive program for the development and testing of solder which will have a higher melting point is under way. This has been necessary as a result of frequent failures of soldered joints of the radiator used on present liquid-cooled engine installations employing Prestone (Ethylene Glycol) as a coolant. Attention is also being directed to synthetic rubber as a substitute for natural rubber in gasoline hose, balloon fabric, and other rubber materials. Tests are being continued on the investigation of the deterioration of parachute silk when in service. Indications are that sunlight is more harmful to silk than salt water.

In summarizing the engineering accomplishments for the past year, the development of the P-26 airplane to a stage where it is now ready for production will place the Air Corps in a secure position in relation to performance judging from what we know of developments of this type abroad. For bombardment the B-9 (Boeing) and the XB-907 (Glenn L. Martin) are ready for production and occupy even a higher position on the scale of comparative performances. However, it is anticipated that there will be additional engineering required before they will be accepted by the tactical organization as enthusiastically as the Pursuit type. The O-31 (Douglas) and the O-40 (Curtiss) are faster than any Observation types in a like stage of development. The P-25 (Consolidated) shows great promise. The engineering departments of the manufacturing companies who produced these airplanes are to be commended for their splendid cooperation and initiative in making these airplanes possible.

It is believed that the urgency of replacement of standard types will be the justification for the procurement of existing attack airplanes rather than the merit of the present type. For a light Bombardment airplane the B-7 (Douglas) is considered satisfactory, from an engineering standpoint, for the purpose of determining the usefulness of this specific type from a tactical standpoint. The Training airplane and engine situation is highly satisfactory both to the training centers and the Materiel Division. A good airplane with several engine combinations is now realized in the PT-11 (Consolidated). In addition, the Air Corps has acquired design rights for the PT-9 (Stearman) and the P-10 (Verville), both of which are satisfactory airplanes and could be placed in production in case of an emergency. For Cargo types the Division has continued the policy of selecting commercial airplanes that best meet the specific requirements of the Air Corps. Consideration is being given, however, to the setting up of specific requirements for airplanes of this type, and preliminary studies are being made with this in view.

As it now appears there will be no outstanding increases in performance or changes in design during 1933, since the step taken in adopting the metal monocoque and low wing monoplane was a long one, and for engineering and economical reasons it will be well to continue these new types in production for some time. There remains a great deal to be accomplished, however, towards taking advantage of all the



potential possibilities of these new designs | and types of structures:

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### COSMIC RAY INVESTIGATIONS IN PANAMA

Dr. Neher, California scientist and co-worker with the world-famous Dr. Milliken in his search for information on the Cosmic Ray has again accepted the aid of the Air Corps in the furtherance of his tests - this time in Panama. "The tests conducted here," says the News Letter Correspondent, "did not necessitate the number of flights and the amount of heavy equipment such as was reported in the News Letter by the March Field representative on the tests conducted at that station. Only one flight was made here."

Dr. Neher was enroute to California and his ship delayed only several hours in Panama, most of the time being taken up in the passage from the Atlantic to the Pacific. Lieut. L.D. Frederick installed Dr. Neher's electroscope and photo recording apparatus in an O-19C and gave it a ride up to 21,000 feet and back. To save time or to make the flight possible the equipment was installed at France Field, and the start of the climb made there while the landing was made at Albrook Field and the instruments delivered from there to Dr. Neher at his ship."

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### QUARTERLY TACTICAL INSPECTION OF EQUIPMENT AT SELFRIDGE FIELD

Major George H. Brett, Commanding Officer of Selfridge Field, conducted his quarterly inspection on January 17th of tactical equipment of the 1st Pursuit Group, as per orders issued by the Chief of the Air Corps. The object of the inspection was to insure that all tactical organizations at the field are equipped and ready for field service. Major Brett caused all airplanes of every organization to be fully loaded and prepared as if for an actual wartime mission. The planes were paraded on their respective squadron hangar aprons, with a pilot and me-

chanic crew with each plane, and then the Major and his staff inspected every airplane. A very high wind and lowering clouds prevented an aerial review from being held after the ground inspection. However, each plane was taken up by its pilot on a solo hop and the guns tested by firing several rounds into nearby Lake St. Clair. Bomb racks and high altitude oxygen paraphernalia were also given practical tests to insure their being in efficient working order. Major Brett expressed himself as being pleased with the showing made by the Pursuit squadrons which make up the 1st Pursuit Group.

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### COLD WEATHER PHOTOGRAPHERS DEFEAT JACK FROST

While the coldest weather of the year was sweeping through the Midwest on February 9th, it gave the Air Corps the opportunity of testing men and equipment under severe operating conditions, which might some day be encountered in an actual war, according to information received from the Air Corps Technical School, Chanute Field, Rantoul, Ill. Fifteen miles northwest from Chanute Field, ten enlisted students taking the Photographic course at the School set up two portable Army Photographic Developing and Printing Labora-

tory trucks and got ready for action. The trucks were backed against some snow drifts on the banks of a river which furnished water for the developing and printing after holes had been chopped through the ice on its surface.

Overhead a pilot and photographer in an Army airplane were taking aerial photographs of surrounding landmarks; dropping the rolls of exposed negatives by parachute to the crew of the trucks below. Although handicapped by the intense cold, the students developed and printed the photographs. Temperature was 15° below zero

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### SECRETARY DAVISON INSPECTS LANGLEY FIELD PURSUITERS

The Hon. F. Trubee Davison, Assistant Secretary of War for Air, flew down from Washington on January 18th to inspect the 8th Pursuit Group under command of Major Byron Q. Jones.

The inspection was held to actually test the time it would require for the Group to start with bare airplane, install bomb racks,

bombs, gun parts and ammunition, and be on the line ready for take-off.

Secretary Davison was very pleased with the performance shown. He was surprised that a whole Group could be on the line with all armament ready to go in twenty-eight minutes and twenty-one seconds (by the Secretary's own stop-watch).

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### ITALIAN AIR ATTACHE VISITS SELFRIDGE FIELD

Commander Paolo Sbernadori, Air Attache to the Royal Embassy at Washington, D.C., made a visit to Selfridge Field for an interesting purpose. Arriving at the field on January 28th, he presented himself to Major George H. Brett, Commanding Officer of the Post, and requested cooperation and assistance in making advance arrangements for the trip through this place next summer of the twenty or so Italian naval seaplanes which will make a flight in formation from Italy to Chicago.

Major Brett placed the facilities of the Post at the disposal of Commander Sbernadori.

The Commander's main interest was in mooring and servicing facilities on Lake St. Clair, adjacent to Selfridge Field, and also the practicability of a route across Michigan. He intended to map out by air a route across Michigan, inspecting the many small Michigan lakes for their usefulness as emergency landing places for seaplanes. But bad weather set in as soon as he arrived here and lasted so long that the Commander was forced to return to Washington without completing his survey at this time. He expects to return in the spring to accomplish his unfinished business.

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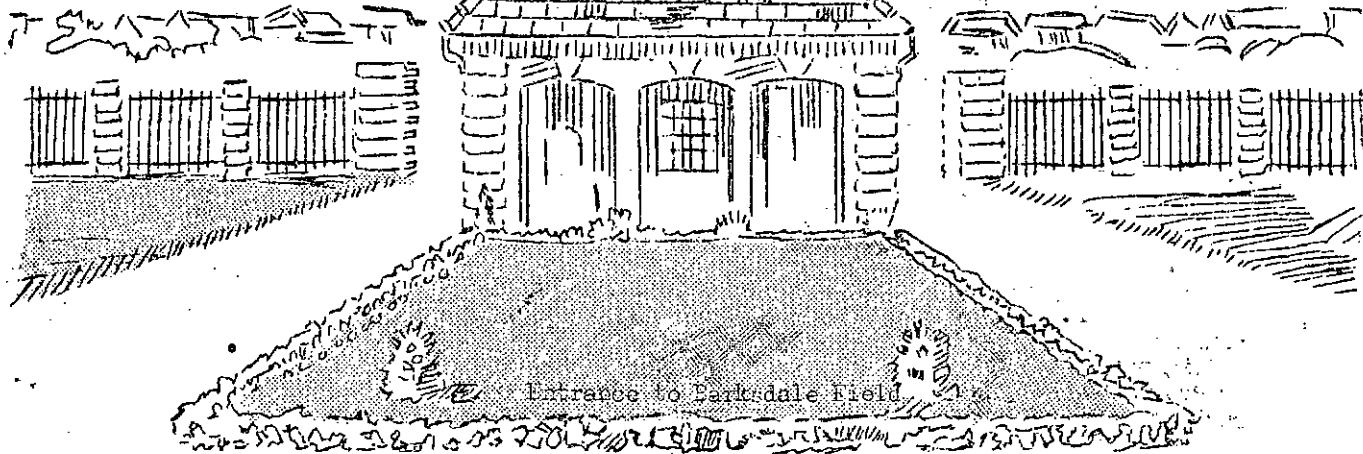
On January 17th, the Construction Quartermaster, Capt. Hartwell N. Williams, Q.M.C., opened bids and proposals of contractors, submitted for sixteen sets of noncommissioned

officers' quarters, the first item of construction scheduled under the program of new construction at the Air Corps Technical School, Chanute Field, Rantoul, Ill.

## BARKSDALE FIELD DEDICATED

Barksdale Field, Shreveport, La., the newest as well as the largest airport in the United States, was officially dedicated on the afternoon of Feb. 2nd with appropriate exercises. In the absence of the Hon. Patrick J. Hurley, Secretary

then introduced Mayor Hardy, and the invocation was pronounced by Dr. Smith. Mayor Hardy expressed deep regret at the inability of Secretary Hurley, General Foulis and Colonel Roberts, representative of General King, to be present at the dedicatory exer-



Entrance to Barksdale Field

of War, who during the course of his flight from Washington to Shreveport was delayed at Greensboro, N.C., due to bad weather, the Hon. F. Trubee Davison, Assistant Secretary of War for Air, delivered the dedicatory address. Thousands of people witnessed the dedication of this 23,000-acre reservation, which will be the home of the 3rd Attack Wing, Army Air Corps, when the organizations now at this new field - the 20th, 56th and 77th Pursuit Squadrons and the 71st Service Squadron - will be joined by the Third Attack Group now stationed at Fort Crockett, Galveston, Texas.

According to the press, the crowd at the dedication was conservatively estimated at approximately 40,000 people. The dedicatory exercises proper were followed by an aerial demonstration and maneuvers in which approximately 150 airplanes - gathered at the field for this occasion - participated.

Secretary Davison landed at Barksdale Field at noon from Maxwell Field, Ala., and was greeted by Major Millard F. Harmon, Commanding Officer of the field. Conducted to Major Harmon's quarters for luncheon, Mr. Davison took a brief rest prior to the dedicatory exercises.

Mrs. Kate W. Barksdale, of Goshen Springs, Miss., mother of the late Lieut. Eugene Hoy Barksdale, in whose memory and honor the field was named, was guest of honor at the dedication ceremonies. Mrs. Barksdale, with a group of relatives, including several sisters and a brother of the deceased flyer, arrived at Shreveport by airplane on February 1st.

At the beginning of the dedicatory program, an oil painting of the late Lieut. Barksdale was unveiled. This painting is the work of Robert E. Richard of Shreveport, who is presenting the picture to Barksdale Field. During the program a beautiful bouquet of roses was presented to Mrs. Barksdale by Mayor George W. Hardy on behalf of the city of Shreveport.

At the opening of the dedication ceremonies shortly after two o'clock, Secretary Davison was accompanied to the reviewing stand by Mayor Hardy; Brig.-Gen. Raymond Fleming, Adjutant General; Dr. Gerald L.K. Miller; Major Millard F. Harmon; A.H. Tarver, President of the Chamber of Commerce, and J.M. Lee, immediate past president. The Barksdale Field officers, headed by Lieut. C.E. Crumrine, paused before the stand and saluted. Next came the visiting pilots who saluted.

Major Harmon then opened the dedication ceremony by extending a welcome to all visitors from out of the State. Next he welcomed the citizens of Louisiana and of Shreveport. He

cises, due to circumstances over which they had no control. General Fleming, representing the Louisiana Executive, expressed Gov. Allen's deep regrets at being unable to attend, and said: "Governor Allen, as well as I, is proud of Barksdale Field."

Mr. Davison, introduced by Mayor Hardy, said:

"This is a historic occasion for the Air Corps of the United States and I venture to say it is a historic occasion for Shreveport. Some years ago it devolved upon the War Department to select a home for the Air Corps," Mr. Davison said, in recalling many visits in connection with the selection of the site for Barksdale Field, and he spoke particularly of the visit he made here in company with Gen. Fechet. The two came here for a preliminary survey of the site. The people of Shreveport were trying to make as good impression as possible, he said, but it turned out to be a rather humorous affair. He and the General spent two days in Shreveport and when they started to leave they found that the hard rain which fell during the visit rendered the field so bad that they could not take off at the time scheduled.

"I admit that that looked bad for Shreveport at that time," he said. "These progressive citizens, however, convinced us that was unusual weather here. The government would never have selected such a plant as Barksdale Field had it not been for the progressive spirit of the people of Shreveport." Speaking for the government, he said that it should be eternally grateful to the people of Shreveport for making it possible to build this great field by giving the government the big site. He said that it was quite appropriate that the field be named in honor of one who gave his life for aviation, and he paid high tribute to the late Lieut. Barksdale who, he pointed out, sacrificed his life in testing aircraft that American aircraft might hold the place that it holds today. When one knows the personnel of the American air forces as he does, he knows them to be among the very finest people on earth, Mr. Davison said in paying tribute to the nation's airmen. He said it gave him particular pleasure to dedicate Barksdale Field in honor of one who gave his life to the great service represented.

The dedication program, climaxed by the playing of the National Anthem by the Standard Refinery Band, was followed by an aerial demonstration in which approximately 150 airplanes participated. The planes, upon taking

off from the south field, passed in review before the reviewing stand, circled to the north and again filed in review, after which they came to the ground on the north field. This was followed by group demonstrations and by an acrobatic team of Barksdale Field flyers.

Mr. and Mrs. B.B. Purser of Anate, La., and four of their children were present. Mr. and Mrs. Purser are the parents of the late Lieut. Britton H. Purser, killed in the only fatality at Barksdale Field. He lost his life in an air collision on December 3, 1932.

The dedication of Barksdale Field was an event long looked forward to by Shreveport, beginning several years back, when the government, picking this 23,000-acre site from many offered by other cities, announced that Shreveport would become the future home of the Third Attack Wing.

Among the groups of visiting flyers at the new field were flights from Texas flying fields—Randolph, Brooks, Kelly and Fort Crockett. Maj. F.L. Martin, Commandant of Randolph Field, led a flight of 18 BT-23 planes. He was accompanied by Pvt. Mitchell, 52nd School Squadron. Other members of the flight were:

Pilot	Passenger
Lt. H.F. Dyer	Pvt. Murray, 46th Sq.
Lt. D.H. Alkire	Capt. J.B. Helfrich, M.C.
Capt. A.C. Strickland	Capt. N.G. Bone, ACR
Lt. R.D. Johnston	Capt. H.E. Calvert, MCR
Lt. I.M. Palmer	Pvt. Stracher, Hgrs.
Capt. J.E. Duke	Maj. R.K. Simpson, M.C.
Lt. W.J. Davies	Sgt. Fusselman, 52nd
Lt. R. Heber	Maj. D.N.W. Grant, M.C.
Capt. J.E. Patrick	
Lt. T.W. Scott	Pvt. Verick, 53rd.
Lt. A.L. Moore	Pvt. Owens, 53rd.
Lt. L.C. Craigie	Col. Claude Carter, TNG
Lt. W.H. Turner	Maj. M.G. Healy, M.C.
Lt. E.H. Porter	Lt.-Col. A.P. Clark, M.C.
Lt. G.A. Whatley	Pvt. Margolis, 53rd.
Lt. H.E. Rice	Capt. F.C. Thomas, QMC
Sgt. G.E. Holmes	Sgt. Fitzpatrick, 67th.

Captain Lester C. Maitland led a flight of 18 Attack planes from the Advanced Flying School, Kelly Field. With him were 1st Lieut. L.C. Mallory and 2nd Lieut. Albert Boyd, Air Corps; 2nd Lieut. M.E. Truly, student officer, and Flying Cadets Robert F. Strickland, Herman A. Schmid, Berton Root, Bob Arnold, David M. Barkley, Ernest W. Gray, Wilcox Wild, Dallas B. Sherman, William A. Coln, William B. Hooten, William W. Schaerdel, James M. Goodbar, George N. Backus and Allen L. Erickson. These student officers, upon graduation on Feb. 24th from the Advanced Flying School, are slated to be assigned to duty with the Third Attack Group.

Thirty airplanes from the 12th Observation Group, Brooks Field, Texas, led by Major Frank D. Lackland, reached Barksdale Field on February 2nd. They roared over the airport several times in perfect formation before landing and taxiing to the hangar at the southern end of the line. The officers of this flight, in addition to Major Lackland, were Captains W.B. Mayer, Robert Kauch, W.S. Scott, Wm. S. Gravelly, Benjamin F. Griffin, Lieuts. Frederick D. Lynch, W. S. Harlin, Raymond Morrison, Milton J. Smith, Joseph H. Hicks, W.W. Messmore, Wm. T. Hefley, Jr., Wm. C. Scans, Jr., Isaac W. Ott, Richard I. Dugan, L.S. Callaway, John J. O'Hara, Jr., Lorry N. Tindal, Carl R. Storrie, Samuel O. Redetzke, Wm. L. Kennedy, Robert S. Macrum, John W. Egan, James McK. Thompson, Edwin W. Rawlings, James L. Fletcher, Hiram Broiles, R.L. Spickelmier, Thomas S. Davis, Jr., Lewis J. Connors, James A. Maxwell, Jr., D.R. Nelson, O.E. Tibbs, W. W. Amorous, O.J. Mosman, C.B. Collier and Staff Sgt. Henderson.

Lieut.-Col. Horace M. Hickam, Commanding Officer of the Third Attack Group, Fort Crockett, was unable to take off with his flight of 24 planes on February 1st, on account of a dense Gulf coastal fog. He was among the honor guests at the dedication ceremonies. Twenty planes of

this Group gave a brief demonstration of ground strafing. In elements of three the planes dived to within almost 25 feet of the targets in the center of the landing area with two forward machine guns pelting leaden slugs into the targets representing enemy ground troops.

Three Army planes used by the Air Corps Reserve unit at Hatbox Field, Muskogee, Okla., arrived on the afternoon of February 1st, led by Lieut. Roy W. Camblin. Other officers from Kelly Field arriving that afternoon were Captains Morris Berman, Edgar E. Glenn, Thos. S. Voss, John W. Monahan, Odas Moon, Lieuts. E.T. Selzer, Henry R. Baxter, Neil B. Harding and George Murray.

Just before darkness, Lieut.-Col. Henry B. Clagett, Commanding Officer of Kelly Field, with Capt. Perry Wainer as passenger, came in for a landing.

More than 400 Air Corps officers, citizens of Shreveport and surrounding area, government officials and friends of the honored guests attended the banquet at the Crystall ballroom in Shreveport on the night of Feb. 2nd. The Hon. Patrick J. Hurley, Secretary of War, the honor guest, who landed at the Municipal Airport at Shreveport at six o'clock, stated in his address that the great new Army post has been completed as a part of the country's national defense scheme, "essential to the liberty of the people and the maintenance of free institutions." He emphasized that the aim of the United States is to live on the friendliest terms with all the world. "Our government has no imperialistic designs," he said, "nor have Americans any desire to maintain a system of national defense that will become a menace to the peace and happiness of any other people." The Secretary paid a tribute to the memory of Lieut. Barksdale, stating that that officer was a chivalrous knight of the air who gave his life in the advancement of science. Increased safety of both military and commercial planes was attributed by him to the services of Lt. Barksdale and those of his fellow test pilots who risked their lives daily in the interest of aviation development. Mr. Hurley congratulated the people of Shreveport on the splendid spirit they have shown in helping to make Barksdale Field a reality.

Mr. Yandell Boatner, who was president of the Shreveport Chamber of Commerce at the time the Barksdale Field site was selected, acted as toastmaster at the banquet. After tracing the negotiations leading to the acceptance of Barksdale Field by the government, he introduced Mr. Seth Richardson, Assistant Attorney General of the United States, who recalled some of the difficulties encountered in clearing up titles for the Barksdale tract.

Major General Benj. D. Foulis, Chief of the Air Corps, who arrived at Barksdale Field towards the close of the dedication ceremony, and who was the next speaker, said that he was deeply gratified by the large attendance at the dedication. "When I came in today, flying over the field while the event was in progress," he said, "I saw that great crowd of people and that great crowd of automobiles. It was one of the best experiences I have had for several years. This field is one of the most important links in our national defense. I was proud today when I saw the way the pilots performed with almost no preparations at all for the formations." In closing, he extended to Secretary Hurley and Assistant Secretary F. Trubee Davison "heartiest good wishes and respect in behalf of the Army Air Corps." "It is only through their unflinching efforts that we are where we are today in the Corps," he said.

Secretary Davison in his address recalled events in connection with Shreveport's efforts

to obtain Barksdale Field, and said that the spirit shown by the Shreveport citizens was magnificent. "When Barksdale Field is completed there will be no finer military airbase in the world," he said, "and you people of Shreveport may not realize it, but you are going to have a great family here and a great responsibility. I can tell you, from my experience, that the Army Air Corps is the best outfit in the world today."

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**ARMY PLANES JOINT HUNT FOR MISSING MAIL PILOT**

Fifteen planes from Randolph Field were pressed into service to hunt for Ray Fuller, lost air mail pilot. Fuller was flying his regular trip carrying mail for the American Airways from Big Spring to San Antonio, when he apparently lost his way in the heavy clouds. He reported to the Airways radio station at Winburn Field at 2:07 a.m., January 20th, when he was coming through the clouds to learn his position. His signal then faded and nothing more was heard from him. General Danforth ordered the 15 ships out to search the territory within a radius of 100 miles of San Antonio, and he himself searched the vicinity of Boerne, Texas. The search was called off when it was learned that the wreckage of Fuller's plane was found on a ranch near Boerne by Mr. A.B. Williams and Mr. Paul Green, of San Antonio, Texas. A parachute flare was found in a tree several miles north of Boerne. It was found about fifty yards from the highway, and about fifty volunteers, including a troop of Boy Scouts, started to search that territory. Fuller was evidently killed instantly when his ship crashed.

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**JOHN JAY IDE AT WRIGHT FIELD**

John Jay Ide, Technical Representative of the National Advisory Committee for Aeronautics in Paris, addressed the personnel at Wright Field, Dayton, O., recently, his subject being a "Review of Aeronautical Developments in Europe during 1932." Mr. Ide, whose visits have come to be regarded at the Materiel Division as annual events, was introduced by Gen. H.C. Pratt. His lecture presented a comprehensive picture of the European aeronautical field, especially the military field - whose developments Mr. Ide referred to as being no less than 'astonishing' - from the viewpoint of the technical engineer speaking to the technical engineer. Airplanes, power plants, superchargers, materials, structures and equipment were discussed. Photographic slides, many of the new types of airplanes exhibited at the Paris Exhibition, illustrated a most valuable talk.

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Ferrying new Curtiss Hawk Pursuit planes, Lieuts. Carlos Torres DeNavarra, Gustavo Alfonso, Pedro Duarte and Jose Barrientos of the Cuban Air Service landed recently at Bolling Field, D.C., from the Curtiss factory, Buffalo, N.Y., enroute to Havana, Cuba. An escort of planes from Bolling Field met the Cuban flyers and escorted them to the field, while Capt. Enrique A. Prieto, Military Attache of the Cuban Embassy; Lt.-Col. B.K. Yount, Commanding Officer of Bolling Field, and other diplomatic officials awaited their arrival. After luncheon, the visitors departed for Langley Field, Va., where they stopped overnight.

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Construction of the new officers' and noncommissioned officers quarters and Air Corps barracks was started at Post Field, Okla., and the work is well under way.

**NEW CLASS TO START TRAINING AT RANDOLPH**

"A new group of Dodos," says the News Letter Correspondent, "will arrive at the spacious Air Corps Primary Flying School Campus on March 1st, according to information received from the Office of the Chief of the Air Corps. To all concerned they will be known as the March, 1933, Class. The new aggregation will number 165. Perhaps they will refer to themselves as 165 strong, when each is notified by the Chief of the Air Corps that he has been selected to fill the role of flying cadet; but to the October class they will be just more dodos.

Although the lower class will be greatly outnumbered by their subordinates, the minority will rule as best they know how by this time. Those who will be upperclassmen to the men who arrive in March originally numbered 120, but less than half of that number have survived. Fatigue caps and coveralls do not make the most flashy drill uniforms in the world, but Dodos do get used to them. The new class will don the usual clothing, which might not appear particularly collegiate to some of the men just out of institutions of higher learning. Yet the days will be warmer and the sun will be brighter than when the October class became acclimated, in which case the Dodos may appreciate having their eyes well shaded while learning the school of the soldier and the manual of arms. Doubtless there will be many new Dodos with visions of crawling into an airplane cockpit the day after their arrival at the Air Corps Training Center but, as their predecessors found out, they will be fortunate if they get within a thousand yards of a plane until they have learned a great deal the School offers as a preliminary education.

Those who have been selected for the new class are as follows:

- |                        |                       |
|------------------------|-----------------------|
| Abrahamson, Melvin     | Kearney, Neb.         |
| Adkins, Steven M.      | Parkston, S.D.        |
| Altman, Dale E.        | Gresham, Ore.         |
| Ashman, Robert         | Appleton, Wis.        |
| Barney, Marshall H.    | Greensboro, N.C.      |
| Bartholomew, Oscar F.  | Echo, Ore.            |
| Basil, Frank           | Denver, Colo.         |
| Bayless, R.E.          | Hillsboro, Texas      |
| Bear, Clyde S.         | Montgomery, Ala.      |
| Beckler, Benj. F., Jr. | New Marchfield, Ohio  |
| Beetle, Richard S.     | Edgartown, Mass       |
| Bennett, Allan T.      | Wilmington, Del.      |
| Bradley, Robin N.      | Spokane, Wash.        |
| Bryant, Alexander W.   | Petersburg, Va.       |
| Buchak, Kirk           | Omaha, Neb.           |
| Bullock, Cady R.       | Ann Arbor, Mich.      |
| Burton, Alexander T.   | Beverly Hills, Calif. |
| Caldwell, Neil M.      | Jonesboro, La.        |
| Capp, William C.       | Venice, Calif.        |
| Carson, James W.       | Spartanburg, S.C.     |
| Carter, James T., Jr.  | Knoxville, Tenn.      |
| Cavanaugh, James       | Brighton, Mass.       |
| Chamberlain, M.B.      | Pontiac, Ill.         |
| Chapman, James W.      | Austin, Texas         |
| Clement, Browne        | Austin, Texas         |
| Clingman, H. Walton    | Boulder, Colo.        |
| Clark, Nevin E.        | Des Moines, Iowa      |
| Cook, Frank R.         | Denver, Colo.         |
| Connally, Milton P.    | Cisco, Texas          |
| Crawford, Walter A.    | Boise, Idaho          |
| Cunnison, Dale         | Riverside, Calif.     |
| Davis, Homer L.        | Arlington, Mass.      |
| Day, Stanley           | Oshkosh, Neb.         |
| Dolezal, Glen M.       | Englewood, Colo.      |
| Donahue, Vincent J.    | Jersey City, N.J.     |
| Driesslein, Homer W.   | Compton, Calif.       |
| Eades, William         | Lexington, Ky.        |
| Eberle, Fred C.        | Little Rock, Ark.     |
| Ecklund, S. Harold     | Lincoln, Neb.         |
| Eisenhart, Donald W.   | Culbertson, Neb.      |
| Ellis, Herbert A., Jr. | Asheville, N.C.       |

V-6380, A.C.

Evans, Archie J.	Chicago, Ill.	Timper, Norman F.D.	Watertown, Mass.
Evans, Charles E.	Tucson, Ariz.	Tindall, John C.	Springfield, Mo.
Fisher, William A., Jr.	Baltimore, Md.	Todd, Paul E.	San Antonio, Texas
Foley, Paul J.	Dorchester, Mass.	Trautman, Ray L.	Newport, Ky.
Friese, Norval E.	Seattle, Wash.	Trygstad, Victor S.	Northfield, Minn.
Garff, Herschel B.	Salt Lake City, Utah	Virgin, Edward	Montgomery, Ala.
George, Thomas D.	Mountain Grove, Mo.	Walker, Victor H.	Gallup, N.M.
Gerdine, Thomas F.	San Francisco, Calif.	Wasman, Elmer C.	Downs, Ill.
Gildea, R.E. Lee	Catonsville, Md.	Whitehead, Ross	Mt. Vernon, N.Y.
Gray, Fred C., Jr.	Abilene, Texas	Wilson, Paul B.	Carlisle, Penna.
Gwillam, Oakley B.	Calgary, Alberta, Canada	Winwood, James F.	Salt Lake City, Utah
Hall, Sylvester A.	Lafayette, Ind.	Yedkley, William H.	Lorain, Ohio
Hardeman, Ralph P.	La Fayette, Ga.	Zacker, Payl G.	Lodi, Calif.
Harmantas, Louis	Cambridge, Mass.	Zepp, Payl L.	Baltimore, Md.
Hatcher, William A., Jr.	Detroit, Mich.	<u>Air Corps Enlisted Men (Privates)</u>	
Hay, James B.	Waterloo, Iowa	Henry Altman, 26th Attack Sqdn.	Schofield Bks.
Haynes, Frank V.	Clyde, N.C.	Richard C. Kugel, 72d Bomb. Sqdn.	Luke Field, TH
Hilger, John A.	Houston, Texas	L.E. Martin, 47th School Sqdn.	Randolph Field.
Hinton, J.W.	Port Arthur, Texas	R.H. Mueller, 18th Pursuit Group,	Schofield Bks.
Hunt, Oram F.	Swedesboro, N.J.	John C. Myers, 47th School Sqdn.	Randolph Field
Hunter, William C.	Bridgeport, Ohio	T.A. Nadeau, Jr., 75th Service Sq.	Wheeler Field
James, Weldon M.	Fort Worth, Texas	H.N. Penland, 19th Pursuit Sq.	Schofield Bks.
Keese, William B.	Wyoming, N.J.	Wm. F. Proctor, A.C. Det.	Bolling Field, D.C.
Kester, Edson E.	Jacksonville, Fla.	R.W. Rodieck, 3d Attack Group,	Ft. Crockett.
King, Ellroy, Jr.	Weatherford, Okla.	Jos. B. Smith, 7th Obs. Sqdn.	France Field, C.Z.
Lamp, Milton A.	Wichita, Kans.	Caleb B. Bell, Jr., 2nd Photo Sec.	Langley Field.
Landauer, Joseph P.	Seattle, Wash.	<u>Enlisted Men, Other Branches</u>	
Lincoln, Elmer D., Jr.	Portland, Ore.	Corp. Henry G. Brickman, 33d Inf.	Fort Clayton
Lininger, John B.	Columbus, Ohio.	Panama Canal Zone.	
Livingstone, Richmond A.	Pawtucket, R.I.	Pvt. Andrew O. Lerche, 11th Engrs.	Corozal, C.Z.
Luedecke, Alvin R.	El Dorado, Texas	Pvt. Lawrence Handler, 17th Signal Service Co.	Washington, D.C.
Magill, William J.	Clark, Colo.	Sgt. Charles W. Dutreau and Pvt. John H. Knox,	
Martin, Henry C., Jr.	Pittsburgh, Penna.	Medical Dept., Wm. Beaumont Hospital, El Paso.	
Mason, Beverley F.	Dunsmuir, Calif.	<u>Student Officers</u>	
MacAllister, Donald	Patterson, N.J.	Captain William J. Flood, Air Corps	
McDermont, Verne A.	Riverside, Calif.	2nd Lieut. Charles F. Born, Cavalry	
McGuide, Jesse E.	Austin, Texas	2nd Lieut. Walter E. Kraus, Field Artillery	
McKinney, James E.	Olney, Texas	2nd Lieut. Elwin H. Eddy, Field Artillery	
McMahon, George R.	Huntington, W. Va.	2nd Lieut. Robert H. Kelly, Infantry	
Miller, Carlos O.	Los Angeles, Calif.	2nd Lieut. John F. Wadman, Infantry.	
Moncrief, Hayward A.	Kosse, Texas	---oCo---	
Moreman, Otis S., Jr.	Waverly, Ala.	<u>SECRETARY DAVISON IN AIR COMBAT EXERCISE</u>	
Moser, Glen C.	Los Angeles, Calif.	The 2nd Bombardment Group, Langley Field, Va.	
Mostoller, Charles R.	Stayestown, Penna.	was highly honored recently when the Assistant	
Motley, Clifford	Norman, Okla.	Secretary of War for Air, the Hon. F. Trubee	
Motley, Luke, Jr.	Tenaha, Texas	Davison, accompanied the Group on a combat ex-	
Mundell, Leo	Fountain, Colo.	ercise which lasted approximately one and one-	
Norman, Joseph L.	Buffalo, N.Y.	half hours.	
Nowak, Joseph E.	Indianapolis, Ind.	Mr. Davison donned the full regalia of the	
Olmstead, Fay W.	Aurora, Colo.	bombardment aviator, which included the winter	
Palmer, Albert L.	Terrell, Texas	flying suit, parachute, radio transmitter and	
Pannis, William W.	Philadelphia, Penna.	helmet, goggles and fleece lined boots. Dur-	
Parker, Keller P.	Dallas, Texas	ing the entire mission, Major Dargue, the	
Patton, James S.	Martinsville, Ind.	Group Commander, exercised direct control over	
Pegler, Ernest	Sierra Madre, Calif.	each airplane participating through the medium	
Peterson, Clair A.	Fargo, N.D.	of radiophone communications. Bombs were	
Peterson, Irwin W.	Worcester, Mass.	dropped, the Group drilled in formation man-	
Philbrick, Alfred P.	Portsmouth, N.H.	euvering, and a final landing was made by	
Pierce, Arthur J.	Montague, Mass.	squadrons in column on the home air-drome. Mr.	
Pierce, George E.	Montague, Mass.	Davison could hear every order issued and ack-	
Pritchard, Rowland	Cheyenne, Wyo.	nowledged over the radio through the helmet	
Proper, Louis	Modesto, Calif.	provided him, and upon completion of the exer-	
Puhaty, Edward J.	Portland, Ore.	cise expressed himself as being highly pleased	
Rees, Doyle	Smithfield, Utah	with the tactical progress made by the 2nd	
Rendle, Irvine A.	Rawlins, Wyo.	Bombardment Group. His astonishment was also	
Rezac, George A.	Beryn, Ill.	expressed as to the manner in which the 2nd	
Robinson, Fred'k P., Jr.	New Orleans, La.	Bombardment Group has increased the maneuver-	
Root, Edgar W.	Birmingham, Ala.	ability of the heavy Air Corps Bombers by	
Ruisi, N. John	Brooklyn, N.Y.	means of the development of entirely new types	
Saibara, Robert	Webster, Texas	of formations and highly improved individual	
St. Germain, Don P.	Breaux Bridge, La.	piloting technique.	
Sanford, George S.	Crichton, Ala.	Mr. Davison flew in Major Dargue's Group	
Schaefer, William T.	Ripon, Wis.	Command airplane, the familiar Keystone B-6	
Scherer, Robert M.	Olney, Ill.	#100, with the Group insignia displayed proud-	
Schoellkopf, Jacob F.	Buffalo, N.Y.	ly on the nose of the Bomber's cockpit.	
Shannon, Perry	Fort Worth, Texas	---oCo---	
Shoemaker, George R.	Pottstown, Penna.	Capt. Wm. C. Goldsborough, who recently re-	
Simmons, J. Osgood	Brunswick, Ga.	ceived orders to proceed to Scott Field, Ill.,	
Sipsey, Harold J.	Lawrence, Mass.	has been Assistant Stage Commander on the	
Smith, Calvin J.	Los Angeles, Calif.	Primary Stage ever since Randolph Field opened.	
Smith, Eugene	Newburyport, Mass.	He will not only be missed by the flying cadet	
Spicer, Henry R.	Los Angeles, Calif.	whose fate oftentimes rested in his hands, but	
Stafford, Vernon C.	Wellington, Texas	by many of his friends at Randolph Field.	
Stathis, Nicholas P.	Watertown, Mass.		
Stone, Frank C.	Wichita, Kans.		
Strick, John F.	Lorain, Ohio		

## LANGLY PURSUIT PILOTS AT MIAMI AIR RACES

With 39 Pursuit airplanes, the Eighth Pursuit Group took off from Langley Field and stormed the Atlantic Coast enroute to the Miami Air Races. The trip was scheduled for a one-day hop. Starting at dawn on the morning of January 3rd; the Group made the first stop at Pope Field on schedule. The flight of nine P-6E's, led by Major Byron Q. Jones, having the edge over the P-12's flown by the rest of the Group, were the first to land, gas and take off for Jacksonville. The rest of the Group took off when their cocers at Pope were completed.

The trip was uneventful as far as Savannah, but shortly after this beautiful Georgia city was passed each Squadron in turn ran into a curtain of fog and light rain. Two of the outfits led by Captains A.E. Waller and N. Longfellow, thought of their history books and the places in Savannah that these books extolled and decided to go back and get a look, first hand, as long as they were in that vicinity. The flights led by Major Jones, Captains George and Elliott, thought this was really nothing to deter a Group of Army aviators, so they plowed on through until it was too late to turn back. There were about 50 miles of "soup," and it took about 25 minutes to go through.

Jacksonville finally popped up along the railroad track someone had been good enough to put through this fog-eaten country and by which the Group were navigating. The sight of land to Columbus was no better sight than this airport.

Wires started humming with messages trying to locate and account for those of the Group not at Jacksonville. Airplanes were serviced and pilots and men fed. By this time it was too late to take off for Miami, so it was decided to spend the night in Jacksonville and wait for the rest of the Group to catch up and then all proceed to the Air Races. The wanderers finally caught up with the Group at Jacksonville, but the weather was still too dense to buck after the ride of the day before until about 3:00 o'clock, when Major Jones finally gave the word and the pilots took off for Miami.

"We were racing with darkness by now," says the News Letter Correspondent, "and pushed our planes as much as possible. Miami was reached and we all sat down at the Municipal field at dusk, got our assignments and hotel rooms and separated for much needed rest.

The next afternoon, the first day of the Races, the Group, led by Major Jones, staged a spectacular 'rat race,' followed by a review. The evening was spent in various and sundry ways, and about fifteen enjoyed a banquet given by the Chamber of Commerce of Miami Beach at the Roney-Plaza. The next day, Friday, the 'rat race' was repeated, and that night all were entertained at the Annual Arsenicker Club ball.

On the last day of the Races, the Group spent about 45 minutes thrilling the people in the stands; first by a longer and milder rat race, which had received the comments and pleads of the spectators for the two days previous, and followed by the acrobatic teams of the various squadrons. As the Headquarters Flight and 36th Squadron acrobatic teams warmed up, Captain A.E. Waller had the 35th Squadron go through some intricate three-plane formation flying, and Captain George took his 33rd Squadron and started climbing for altitude. When the acrobatic teams finally came in for a landing, Capt. George turned the nose of his airplane for the ground and climaxed the Army's show with a roaring, deafening, spectacular vertical dive of nine planes, thus ending the Eighth Pursuit Group's participation in the 5th All American Miami Air Races. The Races were formally closed with a ball held at the Miami Biltmore Hotel.

With the return trip coming up the Group split, some returning on the 8th and some wait-

ing over in Miami for various activities. The 35th Squadron arranged an all day fishing trip off the coast of Florida, and Lieut. Terry M. Turner came in with the winning catch, a 7-foot sailfish weighing 60 pounds. Other trophies of the trip are some baby alligators which are at present reposing in various bath tubs on the post. The return trip was made in one day, with the exception of the 35th, which again encountered bad weather and stopped off at Jacksonville, completing the trip the following day."

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## MITCHEL FIELD PLANES GIVEN FULL LOAD TEST

All available airplanes at Mitchel Field, Long Island, N.Y., were wheeled out on the flying line on Saturday, Jan. 21st, adorned in their full garb of radios, cameras, guns, pyrotechnics and night flying equipment. The occasion was the new quarterly equipment test.

After an inspection on the line by Colonels Roy Kirtland and John H. Howard, all ships took off, made a climb to 15,000 feet against time and then tested all equipment. The results of all the tests proved very satisfactory. Cameras clicked off their pictures with precision; radios checked in on schedule; and the open water off Fire Island churned as the result of some fast lead hurling. In the altitude test, the O-39's, O-25C's and the O-1G's all reached 15,000 feet with their full loads in or under the rated ascent. No higher ascents were made, due to the lack of oxygen equipment at the Field.

Except for the lack of complete gun installations on two ships, all carried their complete military load. The experiment proved to be a worthy enterprise, because it brought forth some of the problems to be contended with in the event of a sudden mobilization. With these tests being conducted every quarter, the question of mobilizing a squadron for the field should soon be as easy as every day operations.

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## FAST FLYING IN A TRANSPORT AIRPLANE

Lieut. John E. Boyle recently flew the Ford tri-motor Transport from Langley Field to Kell Field, taking as passengers Major Junius W. Jones, Captains Theodore K. Koenig, Bernard J. Tocher, Idwal E. Edwards, Walter H. Reid, Lieut. James A. Willis, Jr., Staff Sgts. Oliver E. King and Brown C. Tucker, who were enroute to Panama.

The trip was made with one stop-over at Maxwell Field. No time was lost along the route. The trip from Langley to Maxwell, a distance of 650 miles, was made in 5½ hours, and the trip from Maxwell to Kelly, a distance of 750 miles, was made in 6 hours and 5 minutes. Average speed for entire distance of 1400 miles, approximately 120 m.p.h. Quite a nice jaunt.

On the return trip some bad weather confronted the pilot and, in order to get thru, Johnny had to go under and over and down thru a hole, but he brought the plane in on time.

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The Commanding Officer of Selfridge Field, Major George H. Brett, recently made an interesting aviation flight to Fort Riley, Kans. accompanied by Lieuts. McCormick, Armstrong, Cluc and Hughes, he took the new cargo ship assigned to Selfridge, a Northrup C-19, to Fort Riley via Chanute Field, Scott Field and Kansas City.

The trip had the dual purpose of testing cross-country qualities of the new airplane and to bring back a Curtiss P-6A which had been lent to Fort Riley for Reserve training.

V-6380, A.C.

## BOMBARDMENT GROUP FLIES DOWN SOUTH

**T**HE 2nd Bombardment Group with a strength of 26 B6-A Keystone Bombardment airplanes and one Y1B-9 Boeing Bomber returned to Langley Field, Va., on January 10th and 11th, after a series of tactical exercises which included in the itinerary Savannah, Ga.; Jacksonville, St. Augustine and Miami, Fla.; Fitzgerald, Ga., and Montgomery, Ala. Throughout the period, which began at 8:45 a.m. January 3rd, and ended when the Headquarters Flight and the 49th Squadron returned to Langley Field from Montgomery at 12:30 p.m., January 11th, every movement executed by the Group or squadrons was under direct radio control. The navigation experience gained was exceeded only by the high degree of success attending the establishment and maintenance of command radio communications. In order that interested units may have a clearer background for the brief narrative to follow, it should be noted that each Bombardment airplane in the Group is equipped with either the SCR 152 or 167 long wave receivers. All airplanes, except a few #2 and 3 wing planes, have the SCR 134 long wave transmitters. The Group Commander, Deputy Group Commander, and each Squadron Commander and Squadron Communications Officers also are provided with the new short wave two-way command sets. These command sets had just been received and installed prior to the departure for Miami and on the first leg to Savannah Ga., while the Group was operating on a frequency of 400 K.C. on the long wave sets, the Charleston Navy Yard suddenly broke in with code on the same band to such an extent that all radiophone transmission was out of the question. During a slight lull in the Navy transmission, the Deputy Group Commander directed an immediate shift to 7550 K.C.'s on the new short wave sets, and thereafter throughout a series of radio-controlled maneuvers over Savannah and at the airport no reception difficulties whatsoever were experienced by the personnel in the aircraft so equipped, although a shortage of short wave sets for the entire group necessitated a relay of orders by visual signals within squadrons.

At Savannah plans had been well laid for the accumulating and testing of data incident to Local Air Defense Project No. 8. All units were held over in Savannah the next day due to solid fog down the coast, and on the following day, January 5th, the Group proceeded to Miami without incident, except for a remarkable demonstration of radio control from the Group Commander in a detached B-9, through the Deputy Group Commander who was in immediate command of the Group formation of B-6's. Upon leaving Savannah, fog and low ceilings were reported in the vicinity of Brunswick, Ga., about half way to Jacksonville, although the weather at Jacksonville had been reported as breaking. The leading squadron was put on the Jacksonville beacon; the Group Commander in a B-9 stayed under the fog well to the north of the course where a 25 to 100-foot ceiling was found; and the Deputy Group Commander, in constant radio communication on 7530 KC short wave with the Group Commander, in touch with the 30, 50 and 55 minute after the hour weather broadcast from Jacksonville on 344 KC long wave communications and flying to the flank of the Group formation, "feeling" the "n" sector edge of the Jacksonville directional beacon, was thus enabled to exercise the closest possible coordinated control over the Group formation during this 80-mile passage over solid fog, and later during a similar passage of about 50 miles south of Jacksonville prior to reaching clear weather at Cocoa. During the progress of the Group toward Miami, the Group Commander broke through under the fog, landed at Jacksonville, and within 30 seconds a portable loud speaker had been rigged on the horizontal stabilizer of the B-9, through

which all transmission and reception of messages between the Group Commander and his Deputy were amplified and provided a source of great interest to crowds which quickly assembled.

During the period in Miami, one daylight squadron mission, one night squadron mission and one daylight Group mission were flown during which all tactical maneuvering was accomplished under direct radio control.

Leaving Miami by separate units on the morning of January 9th, the 20th Squadron reached Savannah, where unfavorable weather prevented a continuation to Langley Field until the following day. The 96th Squadron spent the night in Fitzgerald, Ga., as part of a prearranged tactical exercise, while Headquarters Flight and the 49th Squadron proceeded to Maxwell Field to give a demonstration of bombardment tactics to the students of the Air Corps Tactical School. Both Headquarters Flight and the 49th Squadron arrived at Maxwell Field considerably after dark and departed for Langley Field the morning of January 11th, about three-quarters of an hour before dawn.

All airplanes participating in these exercises returned to Langley Field in good shape except for badly needed maintenance owing to the skeletonized crews authorized for the trip.

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## EXCELLENT RECRUITS FOR TECHNICAL SCHOOL

Resumption of enlistments for the Air Corps, Chanute Field, which was authorized in November, 1932, after having been restricted since January of that year, resulted in bringing the student body cadre of the Air Corps Technical School back to the normal reservoir figure of 200. Of this group, approximately 90 percent are recruits, while the remaining 10 percent is composed of previous service men. The recruits are of a high type, a small percentage of them being college graduates, many with one or two years' college work to their credit and all of them high school graduates. Of these new soldiers, 75 finished their recruit training on February 1st, making them available for entrance in the February classes of the Air Corps Technical School. These men, receiving recruit training under the supervision of Captain Walter Bender, Air Corps, Commanding Officer of the Air Corps Technical School Detachment, have become most creditable appearing soldiers in the short time since their enlistment and, having been given a thorough trade test examination prior to their being accepted to insure that each possesses the proper qualifications as to intelligence and education, much is expected of them as students.

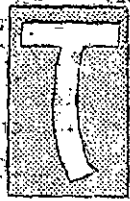
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## CUBAN OFFICERS TRY LANDING ON SNOW

Four Cuban Air Corps officers, Lieuts. Torres, Alphonse, Barrientos and Duarte, recently made Mitchel Field a stopping off place in their flight to Cuba with four new Sea Hawks from the Curtiss Factory at Buffalo. All four pilots were seasoned in Pursuit training, having about 1,000 hours to their credit. They evinced great delight over their new ships and the expanse of the country over which they were flying.

Enroute to Mitchel Field from Buffalo, they cruised over stretches of land covered with snow. They had all seen snow before, but as it is more or less a premium in Cuba, their curiosity about a snow landing got the better of them and they landed on a white field at Gloversville, N.Y., to try it out. All this occurred while the reception committee at Mitchel Field was pacing the floor in the Operations Building. A wire soon explained the delay, and everyone was happy.

## SNOWBOUND MINERS FED BY AIRPLANE



THE 11th Bombardment Squadron seems to have established a reputation for peacetime missions, according to the March Field Correspondent. He says: "For those uninformed people who believe that the only mission of the Air Corps is to destroy lives, a study of the history of peacetime activities of the Army would be a very enlightening hobby. Last winter, the 11th Squadron dropped fifteen tons of food to snowbound Navajo Indians in Arizona and New Mexico. At the request of the Department of the Interior, whose investigation showed that the unfortunate first Americans had gone for many weeks in the rugged, rocky mountain country, unable to procure aid from outside sources, more than 20,000 Indians were relieved by the mercy mission, attempted by pilots and planes of the Army Air Corps.

Recently, a plaintive call was received from a mine operator in Nevada, stating that eight miners and a woman and small child were snowbound 117 miles north of Las Vegas in the Gold Range Mountains, with their food supply exhausted and no hopes of receiving aid other than by air for weeks. Lieuts. J.A. Miller and Cedric J. Brockliss, of the 11th Squadron, volunteered their services in this hazardous mission and, accompanied by two mechanics, departed from March Field in a Curtiss Condor Bomber on February 2nd. Basing at Las Vegas, they packed food furnished by the mine operator into securely wrapped burlap bags in 100-pound units, fastened these bags to the bomb shackles in the bomb bay of the plane, and flew into the lonely and snow-covered area, far from the established airways and modern means of communication. A forced landing in this country would undoubtedly have proved fatal, but realizing that the risks they were taking were well worth while they completed their mission successfully. Food weighing more than 500 pounds was dropped as the snowbound miners stumbled into the snow and wildly waved their thanks to the peaceful warbirds.

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## NEW AIRPLANES RECEIVED AT FRANCE FIELD

France Field welcomed the arrival, on New Year's Eve at 4:30 p.m., of 17 planes which will be assigned to the Panama Air Force for its use in the defenses of the Canal Zone. The flight was led by Lt.-Col. John H. Pirie and was made up of the following personnel: From Washington with Col. Pirie were Capt. Martinus Stenseth and Lieut. Thomas D. White; from March Field, Major Clarence L. Tinker, Lieuts. D.D. Graves and E.W. Anderson; from Rockwell Field, Capt. R.E. LeBrou, Westside T. Larson, Lieuts. Delmar T. Duntun, Robert W. Goetz, T.B. Anderson; from Kelly Field, Major Charles R. Glenn, M.C., Flight Surgeon, Capt. O.A. Anderson and Lieut. Ned Schramm, and from Barksdale Field, Lieuts. Mark D. Steensen, Ernest E. Holtzen, Morris J. Lee, Robert M. Losey, Henry K. Mooney and Dean C. Strother. The original plan called for the arrival of the flight in sufficient time to enable the officers and men to return to New York and San Francisco via Army transports leaving the Canal Zone on the 28th and 30th of December, respectively, but unexpected delays caused them to miss these ships and their visit was prolonged to the evident enjoyment of not only the personnel of the flight but also the personnel of France Field.

It was first thought all would be left here until the next sailings of transports, one the last week in January for New York and the one for San Francisco about three weeks later. However, all were ordered home on commercial transportation - those from Washington, Kelly and Barksdale going on the Panama R.R. "S.S. Cristobal," sailing January 15th for New York,

and those from the west coast going via the Dollar Line "S.S. President McKinley," sailing for Los Angeles on January 13th.

"It is nice to see people from the States," says the News Letter Correspondent, "but we would rather see them up there when it comes to ferry trips to Panama - with the longest aviation flight here limited to 200 miles."

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## ANOTHER FERRY FLIGHT TO PANAMA

Army Air Corps personnel from eleven different Air Corps stations were recently on temporary duty at Kelly Field, Texas, awaiting final orders and other details pending their departure on a ferrying flight to the Panama Canal Zone. Major Junius W. Jones, Chief of the Inspection Division, Office of the Chief of the Air Corps, the Commanding Officer of the flight, set up his own headquarters which functioned as an organization at Kelly Field to such an extent that a telephone was installed in the office of the Panamanian flight.

This flight the second which made Kelly Field its headquarters and starting point for the long jaunt to Panama, was made up of 12 P-12E Pursuit, 3 B-3A Bombers and 2 O-19C Observation planes. The previous flight, which also comprised 17 planes, departed from Kelly Field the latter part of December, with Lt.-Col. John E. Pirie in command.

Members of the second ferrying flight to Panama assigned to fly the 12 P-12E's were Major J.W. Jones, Captains Theodore K. Koenig and Idwal H. Edwards from Office of the Chief of the Air Corps, Washington; Capt. Audrey E. Ballard and 2nd Lt. Arthur W. Keehan, Selfridge Field; Capt. Walter H. Reid, Langley Field; 1st Lieuts. Wm. N. Amis, Wright Field; James A. Willis, Jr., Bolling Field; Donald R. Goodrich, Patterson Field; 2nd Lts. Nathan B. Forrest, Jr., Roger J. Browne and Jerald W. McCoy, France Field, Panama.

Pilots and passengers, B-3A #30-289: Capt. Louis N. Eller and 1st Sgt. Harry F. Bills, Kelly Field; Capt. James A. Hollison, Randolph Field; Staff Sgt. Anthony J. Gorges and Corp. A.E. Jorgensen, Barksdale Field, La. - B-3A No. 30-294: Capt. Bernard J. Tocher, Middletown Air Depot; 1st Lt. L.D. Weddington, Randolph Field; Tech. Sgt. Wm. E. Pope and Staff Sgt. Wm. Rose, Selfridge Field; Tech. Sgt. Harry Glasscock, Kelly Field - B-3A No. 30-307: 2nd Lieuts. Walter E. Todd and Samuel V. Stephenson, France Field; Staff Sgt. Oliver E. King, Middletown Air Depot; Brown C. Tucker, Langley Field; Lee R. Simon, Kelly Field.

Capt. Calvin E. Giffin and Staff Sgt. Wm. M. Cornell, Brooks Field, were assigned to fly in one of the O-19C's and 1st Lieut. Arthur L. Bump, Brooks Field, and Captain Harold E. Schneider, M.C., Flight Surgeon, Kelly Field, the other.

Upon arrival in Panama, Major Jones and Capt. Tocher were under orders to conduct a technical inspection of Air Corps activities in Panama.

The route scheduled to be taken by the flight was from Kelly Field to Brownsville, Texas; to Tampico, Tojoris, Minatitlan, San Geronimo, Tapachula, Mexico; Guatemala City, Guatemala; Managua, Nicaragua; San Jose, Costa Rica; David, Panama; Albrook Field, Panama Canal Zone.

Kelly Field officers who recently ferried planes from Rockwell Field, Calif., for concentration of the second flight to Panama were: Captains H.K. Ramey, Odas Moon, Dale V. Gaffney, 1st Lieut. Joseph Smith and 2nd Lt. Ralph C. Rhudy.

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The 11th Obs. Squadron, Texas National Guard, was represented at the All-American Air Races at Miami, Jan. 5-7, by Capt. Fred S. Willbut and Lt. R.F. Wisheart, who flew in an O-38.

V-6380, A.C.



# Radio

Shipment of the new radio command sets was recently completed at March Field, Riverside, Calif. Preliminary tests on this light weight, compact little set have sent the praises of communications officers soaring higher than the planes they fly. Although not entirely familiar with the operation of the sets, Lieuts. Ivan Farman and John S. Mills, running their first tests on the new type set, were recently conversing from plane to plane in a bombardment formation, and their conversation was heard by the Wing Communications Officer, Captain Chas. Downan, seated in a Pursuit plane, nearly 200 miles away. March Field has taken the development of radio communication seriously and is receiving new thrills daily because of the unusual performance of these highly efficient little sets. With such communication equipment in tactical organizations, the dreams of the aerial radio fans are at last coming true.

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Acting under suggestions of Major George H. Brett, Commanding Officer, the communications personnel at Solfridge Field recently installed an interesting and unique new method of communication, by which it is expected much greater efficiency will be obtained in conducting Group Problems in the future.

The new communications system is essentially a modified public address system, by which Group Headquarters is connected to the several Squadron operations offices. In Headquarters, Operations Office, there were installed a microphone, power amplifier and selector switches. There is a loud speaker in each Squadron Operations Office. The switches at Headquarters connect at will the microphone to one or all of the loud speakers. At each speaker is a rheostat for controlling the volume of its output, also a small push button which actuates a blinker situated beside the microphone at Headquarters. By means of the buttons and blinker orders or information received at any Squadron Operations Office may be acknowledged.

The system was tested by Lieuts. Doubleday and Shepherd, who were in charge of the installation. They found that even with all the ships turning up on the hangar line, speech issuing from the loud speakers in the Squadron Operations Offices can be readily understood. The system will receive its real test of practicality when Group Problems in connection with the spring training program commence. The speaker system should find its best application in alert problems. Hitherto, last minute orders had to be transmitted by telephone to the various squadrons, an unsatisfactory method because of the difficulty of understanding messages sent by multiple phone when airplanes are warming up on the line. At present the system is having a practical use in the calling of officers to come to Headquarters. When Major Brett, or the Operations Staff, desires anyone, it is a simple matter to plug in the microphone, turn the switch to the proper squadron speaker connection, and request the officer's presence.

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The 77th Pursuit Squadron, Barksdale Field, La., suffered its first casualty on December 3rd, last, since its organization and assignment to active duty status in November, 1930, at Mather Field, Calif. Unable to extricate himself from his ship after it collided in the air with the one piloted by Lieut. C. Darnell, 2nd Lieut. B.H. Purser, Air Reserve, was killed in the crash. Lieut. Darnell saved himself by jumping. Lieut. Purser graduated from the Advanced Flying School in June, 1932, and came to the 77th Squadron from Langley Field, Va.

## A NEW COURSE AT AIR CORPS TECHNICAL SCHOOL

Plans have been made for a new course in the Air Corps Technical School, Chanute Field, Rantoul, Ill., and arrangements for its accommodation and establishment are in progress. It is to be officially designated as the Course for Air Corps Supply and Technical Clerks. Establishment of this new course of training was ordered by the Chief of the Air Corps, under authority of The Adjutant General, due to the great need of Air Corps Supply, Engineering, and Operations clerks in the service, as expressed at the recent annual Engineering and Supply Conferences at the Materiel Division at Wright Field, Dayton, Ohio.

The first course will commence on or about July 3, 1933, and will be of five months, or twenty weeks' duration. It will not be included under the administration of any of the four existing departments of the School, but will be under the direction of an individual Director, who has been tentatively appointed from the staff of the School. Each class, of which there will be two each year, will consist of twenty students.

Those concerned with the establishment and conduct of the new course consider it especially desirable that the twenty enlisted students be of the highest type of reenlisted soldier, in order that advantage of experience in the service may be fully used to the benefit of both the student and the Air Corps. With soundly laid detailed plans, it is expected that students graduating from the course will be thoroughly conversant with all details and operations of technical office work and latest equipment, and will possess the qualifications necessary to permit their assignment to Air Corps Supply, Engineering, and Operations Offices, as capable and efficient clerks, well equipped to enter into and to carry on any technical clerical work in a fully satisfactory manner. An integral element, extending throughout the course, will be constant training in correct office etiquette.

The entire course of instruction will be devoted to training of specialized technical clerks, and no effort will be made to train the students in personnel or organization paper work, since the latter elements are not considered as included in the purpose of the course. A comprehensive curriculum and schedule of instruction, both oral and practical, has been drawn up, to include the following subjects: Elementary Typewriting; Applied Typewriting; Business Arithmetic; Penmanship; Shorthand; Organization of the Army and its various pertinent offices and units; The Air Corps Supply System; Functions of the Materiel Division; Storage; Procurement; Distribution and Issue; Quartermaster Supply; Inventories and Reclamation; Nomenclature of Aircraft, Airplane Parts, Engine Parts, Tools, Machinery and Special Equipment; Elementary Bookkeeping; Bookkeeping Machines; Military Correspondence; Military Communications; Organization, Station and Depot Supply; Bids, Contracts, etc.; Inspections; Property Accounting; Calculating Machines; Business English; Supply of other branches; and all pertinent Army Regulations.

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## "WELCOME TO ST. LOUIS"

This is not an empty slogan, but a sincere greeting to all visiting Air Corps personnel. "Lambert Field, where our hangar is located," says the News Letter Correspondent of the 35th Division Aviation, Missouri National Guard, "is one of the finest fields in the country. All modern airport refinements and equipment are in use by this municipally-owned airport. The field is just a 20-minute drive from the heart of St. Louis. When you call, avail you  
V-5380, A.C.

self of our facilities, which include free storage in a modern, spacious, well-heated hangar, gas, oil and expert mechanical and technical service. No matter what hour of the day or night you desire storage or servicing for your airplane, they are obtainable.

Since moving into our new hangar, which also houses all section activity, as well as administrative offices and an officers' club, tremendous advances in squadron training and efficiency have been made. A very ambitious training program has been followed in every detail, resulting in a very high rate of proficiency in such activities as Camera gunnery, on both fixed and towed targets; Fixed and flexible machine gunnery; Low altitude bombing; Radio Communication, interplane and ground to ship, using ICW, CW and voice telephone - distances as great as 250 miles were covered, maintaining communication; Aerial photography, both vertical and oblique, the verticals consisting of pinpoints, strips and mosaics.

Blind flying and radio beam training has added to the skill of our pilots; Artillery adjustment, simulated and actual, has been performed successfully; Cooperation with Infantry has been carried out; Formation flying has reached a new state of perfection. The enlisted personnel have been well trained in connection with this program. An obvious improvement is noted in all crew chiefs, technicians and specialists as a result.

During the past year, the aeronautical rating of JAP was received by Capt. Wm. P. Donovan, 2d Lt. S. F. Gerding; AP by 2nd Lt. E. D. Zadontseff and JAO by 2nd Lt. E. R. Alexander, B. W. Lichty, E. J. Burkhardt and W. A. Miller. Flying personnel holding ratings at Air Corps Flying School are Major P. R. Love, Commanding, Capt. W. B. Wimer and 2nd Lt. W. W. Kratz, AP; 2nd Lt. E. M. Kruse, AP & AO and 2nd Lt. C. C. Hutchison, JAP. In addition, six of our officers hold a dual rating, viz: Major P. R. Love and Capt. E. H. Kaoppel, AP & JAO; 1st Lt. W. B. Whitacre and F. Racen, JAP & JAO, and 2d Lt. E. M. Kruse, AP & AO.

Qualification for the past year in front machine gunnery and low altitude bombing was as follows: Major P. R. Love, Aerial Sharpshooter, 693; Aerial Marksmen, Capt. W. W. Brancell, 555; 2nd Lt. E. H. Lauth, 551; 1st Lt. F. T. Dunn, 544; 2nd Lt. E. D. Zadontseff, 485; 2nd Lt. E. M. Kruse, 483.

Through systematized training in pistol marksmanship, our record qualification in the use of this basic arm was 73% of squadron strength, compared to an average of 35% the previous year and an average of 35% in all National Guard organizations in previous years.

A particularly bright spot in our past year's work was the performance of a detachment composed of two tow target equipped airplanes and one tracking plane, flown and crewed by three officers and three enlisted men of this squadron. This detachment was assigned to duty towing antiaircraft targets for the 203rd Coast Artillery, Antiaircraft, Mo. N. G., at Fort Barrancas, Pensacola, Fla. Their brilliant work was commended very highly by the command of the 203rd, as well as higher authorities.

In spite of the concrete results obtained in the past year, an even more ambitious and intensive program has been outlined for the coming year. Scheduled flying missions are performed every Sunday at this station. Interested visitors will be welcomed this time."

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The thanks of the News Letter are extended to Captain James D. Givens, Air Corps, Secretary of the Air Corps Primary Flying School, Randolph Field, Texas, for his fine cooperation in connection with the production of the cover page for this issue of the News Letter. This cover was printed on the rotor press at that Field, as was the cover page for the December issue of the News Letter. Such cooperation gives encouragement to our efforts.

During the graduation exercises at the Advanced Flying School at Kelly Field, Texas, on Feb. 24th, the official wing insignia of the Air Corps was pinned on the breasts of 91 young men, who started their flying training at the Air Corps Training Center a year ago and who successfully completed the eight months' basic course at Randolph Field and the four months' advanced course at Kelly Field.

This graduating class comprises three officers of the Regular Army, detailed to the Air Corps for flying training, 83 civilian and enlisted students who trained under the status of Flying Cadet, and five noncommissioned officers of the Air Corps who retained their status as such during their period of training. The student officers will ultimately be transferred to the Air Corps, and the Flying Cadets will be commissioned 2nd Lieutenants in the Air Reserve and placed on extended active duty with Air Corps organizations. Preferring to retain the positions they occupied prior to their appointment as students at the Training Center, the five noncommissioned officers, who will also be commissioned in the Air Reserve, will not be placed on extended active duty under their Reserve commissions. Under a policy recently adopted by the Chief of the Air Corps, all enlisted students, regardless of their grade, will hereafter undergo their flying training at the Air Corps Training Center with the status of Flying Cadet.

Coincident with their receiving the wing insignia, all of the members of the graduating class will be given the rating of "Airplane Pilot."

By virtue of having the greatest number of native sons in this class, which started training in March of last year, California leads all the States of the Union in the matter of representation among the graduates. Out of her 25 students who started the one-year flying course, 19, or 76%, are graduating. This is considered an unusual record. From statistics compiled over a stretch of years, the general conclusion was reached that, taking the average run of young men eligible for flying training at the Army schools, the number of those graduating runs between 40 and 50 percent.

Los Angeles, Calif., leads all the rest of the cities represented in this class with five graduates. Texas is the nearest rival to California with 15 graduates.

Second Lieut. Merrick H. Truly, Infantry, a member of the graduating class, recently joined the famous Caterpillar Club, when a mishap in the air during a formation flight forced him to descend 1500 feet to terra firma suspended from his parachute.

One of the Texas delegation among the graduates boasts of a name which will be very appropriate should he adopt aviation as his future calling. His signature is George L. Fly.

The names of the graduates are as follows:

#### OFFICERS

2nd Lieut. John E. Barry, Field Artillery  
2nd Lieut. Herbert C. Gibner, Field Artillery  
2nd Lieut. Merrick H. Truly, Infantry

#### FLYING CADETS

Thomas S. Algert	Jean R. Byerly
Keith W. Allen	Robin C. Cannon
Wayne K. Allison	William A. Coln
William M. Ambrose	John E. Cook
Bob Arnold	Harold E. Dahl
Robert M. Arrington	George C. Diggs
Edward N. Backus	Murray B. Dilley
David M. Barkley	Henry C. Diltz
John H. Barry	Clarence P. Dittman
Harry H. Bissell	Duncan H. Dunlap
John V. Borden	Allen L. Erickson
Pete Brewster	George L. Fly
William M. Brown	Joshua H. Foster
Frank E. Busch	Watson M. Frutcheon

V-6380, A.C.

Kenneth P. Gardner	Leroy A. Rainey
John F. George, Jr.	William H. Reid
Maurice E. Glaser	William F. Richmond
James M. Goodbar	Osmond J. Ritland
Edmund T. Gorman	James J. Roberts
Wilson F. Grabill	Eldon A. Rohl
Ernest W. Gray	Berton Root
Arthur A. Haid	William I. Sanders
William B. Hooten	William W. Schaerdel
Lloyd P. Hopwood	Herman A. Schmid
Clifford L. Huffman	Dallas B. Sherman
Edward D. Kennedy	Richard W. Simons
Edward G. Kiehle	Donald K. Smith
Cyrus W. Kitchens	Norman W. Speaker
Leo Kriloff	Charles R. Springer
Thomas F. Langben	John O. Stewart
Arthur L. Logan	Malcolm F. Stewart
John L. McAllister	Fred J. Stevens
William J. McCray, Jr.	Robt. F. Strickland
Charles L. McHenry	Jerome P. Thompson
Cleopas J. Messer	John A. Way
Wilton B. Miller	Edwin D. White, Jr.
Chester C. Moonaw	Wilcox Wild
John O. Neal	Lester R. Williams
Harold L. Neely	Edmund C. Wolf
Millard R. Newland	Thurman A. Wood
John J. O'Connell	Raymond C. Woodward
William K. Payne	
James H. Price	

**AIR CORPS NONCOM. OFFICERS**

Staff Sgt. Paul S. Blair, Brooks Field  
 Staff Sgt. Gilbert E. Layman, Mitchel Field  
 Staff Sgt. Thomas W. Rafferty, Ft. Crockett  
 Sergeant Fred H. Wilson, Mitchel Field  
 Corporal Fred O. Tyler, Brooks Field.

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**WAR DEPT. ORDERS AFFECTING AIR CORPS OFFICERS**

**CHANGES OF STATION:** To Scott Field, Ill: Maj. Martin F. Scanlon, from duty as Asst. Military Attaché for Air, London, Eng.; Capt. Wm. C. Goldsborough, from Randolph Field; 2nd Lts. Leon R. Brownfield and Ralph O. Brownfield from Chanute Field.

To Barksdale Field, La.: 1st Lt. William E. Doolittle, 2nd Lt. Edw. H. Alexander, Chanute Field; 1st Lt. Charles G. Percy, Chanute Field; 1st Lt. Roy W. Camblin, from duty with 365th Observation Squadron, Reserves, Muskogee, Oklahoma.

To Muskogee, Okla.: 1st Lt. Edwin Sullivan from Randolph Field, for duty with Organized Reserves, 8th Corps Area.

To Chanute Field: Capt. Wm. Turnbull, upon completion Armament course at A.C. Tech. School.

To Fort Crockett: 2nd Lt. Thomas B. McDonald, from Hawaiian Department.

To Mitchel Field: Capt. Martinus Stenseth from Militia Bureau, Washington, D.C.; 1st Lt. John F. Guillett, 2d Lt. Geo. R. Acheson, Chanute Field.

To Hawaii: 2nd Lt. Wm. L. Kennedy, from Brooks Field.

To Panama: 1st Lt. B.A. Bridget, from Chanute Field.

To Wright Field: 2nd Lt. Howard G. Bunker, from Chanute Field.

To Brooks Field: 2d Lt. J.P. Newberry, Chanute Field.

To Langley Field: 2nd Lt. Charles G. Goodrich from Chanute Field.

To Maxwell Field: 2nd Lt. Frank F. Everest, Jr. from Chanute Field.

To Washington, D.C.: Major John B. Brooks as member of War Dept. Gen. Staff, from Philippines

To Chanute Field: 2nd Lt. Samuel V. Stephenson from Panama.

To London, Eng.: Capt. John W. Monahan, from Kelly Field, as Asst. Mil. Attaché for Air.

**RELIEVED FROM DETAIL TO AIR CORPS:** 2nd Lts. Joe E. Golden, Erskine Clark, Harley N. Trice to Infantry, 2nd Div., Ft. Sam Houston, Texas.

**TRANSFERRED TO AIR CORPS:** 2nd Lt. Charles T. Arnett, Inf., Jan. 25, 1933, rank June 13, 1929.

**ORDERS REVOKED:** Assignment 2nd Lt. John E. Barr to Barksdale Field from Kelly Field.

**RETIREMENT:** 1st Lt. Rowland Kieburts to proceed to his home to await retirement.

**CHIEF OF THE AIR CORPS RECEIVES MACKAY TROPHY**

Major-General Benjamin D. Foulois, Chief of the Army Air Corps, was the recipient of the Mackay Trophy at the hands of Senator Hiram Bingham, President of the National Aeronautic Association, at the Office of the Hon. F. Trubee Davison, Assistant Secretary of War for Air, on the morning of February 17th. General Foulois, the pioneer flyer of the Army Air Corps, was deemed most deserving of the 1931 award of the Trophy for his outstanding flight leadership during the Army Air Corps Exercises and Maneuvers in the spring of that year.

The Mackay Trophy, the award of which is limited to flying officers of the U.S. Army, is now of 21 years' standing. It was presented by Mr. Clarence H. Mackay in 1912 to the Aero Club of America, but for some years past the National Aeronautic Association, successor to the Aero Club of America, has acted as custodian of the Trophy for the War Dept. Lieut.-Col. Henry H. Arnold, now commanding March Field, Calif., who, like General Foulois, also piloted the early Wright plane, received the first award of the Trophy in 1912. Associated with the annual presentation of this Trophy are famous flight achievements which have made aeronautical history and added much glory to the Air Corps, U.S. Army.

The Board of Officers duly constituted to decide on the 1931 award of the Trophy, recognized the flight leadership of Gen. Foulois during the 1931 Air Corps Maneuvers as meriting special recognition, since these maneuvers constituted the largest concentration of military aircraft in the annals of the Air Corps, a total of 667 airplanes taking the air. The 1931 Air Division, in the matter of personnel, consisted of 692 officers, 69 Flying Cadets and 643 enlisted men. A total of approximately 38,000 hours was flown, and the mileage, computed at average cruising speed, was approximately four million. There were three accidents during these maneuvers, involving no fatalities or serious injuries.

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**SLIPS AND SKIDS**

By Flying Cadet E. S. Allee

At Randolph we often seem to recall  
 O poem we learned while very small  
 "Rain, rain go away,  
 Come again some other day.

Yet every cloud has a silver lining,  
 And when it rains and the sun's not shining,  
 There's really no need to be so sad.  
 We got new galoshes to make us feel glad!

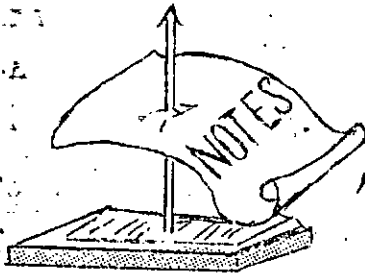
Then, too, as we once heard a dodo say,  
 When clouds were low and the sky was gray,  
 "I'm sorta glad this has come about.  
 If you don't get to fly you can't wash out!"

If the summer is spending the winter here,  
 The evidence seems to make it clear  
 That we can truthfully declare -  
 "It's a mighty rainy summer this winter."

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We extend our appreciation to the Materiel Division, Wright Field, for the very attractive insert accompanying Major Howard's article - a composite photograph of tactical types of airplanes used by the Air Corps. The layout was prepared by Mr. Bob Fitzgerald, of the Technical Data Section, who has previously designed a number of News Letter cover pages.

For some time no contributions to the News Letter have come from Fort Crockett, Rockwell and Maxwell Fields. Please!



# from Air Corps Fields

## Barksdale Field, Shreveport, La. Feb. 9th.

Weather, legislative furloughs, holidays and "flu" acted as a partial sedative of late for the exuberance of Barksdale Field, but things are again looking up. Gunnery practice was just getting under way when news of our long impending and oft postponed official dedication was received. An ambitious dedicatory program was mapped out, with the 20th Pursuit Group bent on displaying its available planes to such advantage as to darken the heavens and put the thunder to shame with its roar. Between routine formations, "Mobilization flights," gunnery and ground school and preparation for the Dedication Exercises, we feel that we are definitely emerging from our cocoon and are ready to spread our wings in full flight.

55th Pursuit Squadron: The Squadron is now firmly entrenched at Barksdale, with activities going forward under full steam. Preparations for the Dedication on Feb. 2nd and preliminary aerial gunnery engaged the attention of all concerned.

During January the Squadron engaged in field exercises at and around Texarkana, with "A" Flight coming in for the glory, being the first to brave the wild and oily out of doors in pup tents. Lieut. Saville commanded the expedition and brought them all back, though somewhat cooler, after a night on the ground.

Lieut. Crumrine, Squadron Commander, accompanied Major Harmon, our post commander, to Dayton, where they conducted test on the new proposed Pursuit ship. They returned here Jan. 18th, stopping at Washington enroute.

77th Pursuit Squadron: Capt. John M. Clark assumed command on Dec. 5th, relieving Lieut. J. G. Hopkins, who took over the duties of Squadron Adjutant. Capt. Clark came here from Mather Field, where he commanded the 80th Service Squadron.

Second Lieut. Milton Arnold, who reported for duty Dec. 20th and was assigned to this Squadron, was designated Asst. Post Engineering Officer. He swells our married list in the Squadron to four.

Three officers of the 77th were detailed as ferry pilots in the transfer of 9 P-12E's to Panama, 2nd Lts. Losey, Lee and Holtzen being the fortunate pilots. They are scheduled to return by transport via New York.

The Sunny South offered us some diversions in the way of weather this month. A blanket of snow covered the ground for four days - something almost unheard of in "These hyar parts." The weather is generally good, however, so we can't complain.

1933 - and with it the customary resolutions. Some pilots resolve to dispense with slow rolls at 25 feet; some swear off flying through fog; some have more personal resolutions that will go unmentioned, but the resolution of the 77th Pursuit is to get more airplanes. That failing, we do hereby swear and resolve to do our darndest with what we have.

Our target range was completed and we are trying to get in a few rounds each month. The elements are 'agin' us, and to date have us on the ropes. But better days are coming bye and bye - let us hope. Winter weather here

is most reminiscent of San Antonio - the usual rain, you know.

Again one of the 77th officers scorned the advice of his fellow bachelors and took unto himself a wife. Lieut. Joe Caldara, Air Reserve, is the lucky man, taking for a bride a very charming Maryland girl.

Officers of this Squadron have become "exercise bugs." Tuesdays and Thursdays at 3:15, one may find our entire officer personnel at the gymnasium, playing basketball, volleyball, or working on the rowing machine. The basketball games get pretty rough, but our Commanding Officer gives and takes it along with the rest of us, so we young bucks can't afford to falter. Plenty of exercise make for a better squadron and, if exercise will do it, the 77th will certainly be at the top.

## Albrook Field, Canal Zone, Feb. 2nd.

Panama moved one step nearer to an Air Corps Wing, when 18 enlisted men of the 19th Composite Wing Hqrs. reached Panama and were designated Wing Headquarters, Albrook Field, Jan. 25, 1933. Second Lieut. Jarred V. Crabb was attached as Commanding Officer of the Wing Headquarters.

During January, the two Squadrons of the 16th Pursuit Group worked on Squadron, Group and Composite Group problems. One Group problem with the 25th Bombardment and 7th Observation Squadrons from France Field and the 44th Observation Squadron of this station, all of the 6th Composite Group, was worked out each week with most satisfactory results.

Due to the shortage of planes in the Canal Zone, Pursuit has called upon all types of planes to simulate Bombers, and it is not an uncommon sight to see a "Bomber" formation composed of a Douglas Amphibian and two C-19C's "Bombing" the Pedro Miguel Locks.

On January 30th, the quarterly tactical inspection was accomplished with full military equipment. The 78th Pursuit Squadron reported reaching 15,000 feet with P-12E's in ten minutes, while the 24th Pursuit with P-12B's reached the required altitude in 12 minutes. The 44th Observation Squadron, minus cameras, but with all other equipment, had various results. One tow reel snip failed to reach the 15,000 feet as required; another required 50 minutes, and all six others maneuvered for five minutes after forty minutes of desperate climbing. One day previously, four C-19C's without military equipment reached 15,000 feet in 20 minutes, 30 seconds of full gun climbing. However, in fairness to C-19C airplanes, it must be understood that Air Corps units in Panama do, in addition to their own tactical training, 1,000 hours of cooperative missions, and the 44th Observation Squadron flies about 28 days a month with only eight airplanes.

A shift in Cargo planes in Panama gives the 80th Service Squadron at Albrook Field the only Ford Transport, one Douglas Amphibian and a C-6A Sikorsky. Because of the shortage of Pursuit ships, the four V-6380, A.C.

P-12B's, assigned to the 16th Pursuit Group Hqs., and serviced by the 30th Service Squadron, were turned back to the 24th and 78th Pursuit Squadrons.

The Squadrons of the 16th Pursuit Group have chosen the following distinguishing colors for the P-12B's which arrived this month. The 24th Pursuit Squadron has red noses, red ring cowls with four yellow diamonds spaced evenly about the cowling, and red tail assemblies. The 78th Pursuit has yellow nose and tail assemblies with four red diamonds spaced evenly about a bright yellow cowling.

The 44th Observation Squadron, 6th Composite Group, stationed here and long known as the "44th Perspiration Squadron" of the Canal Zone, took time off from its usual fatigue details and cooperative missions to blossom forth with six-inch triangle of white and black with a 3-inch strip around the center of the cowling of Fire Department Red.

#### Bolling Field, D.C., February 8th.

The semi-annual examination of flying personnel was conducted during January by the two Flight Surgeons - Majors Pratt and Harrison. Over 100 officers, including those on duty at Bolling; in the Office of the Chief of the Air Corps; the Industrial College and Aberdeen Proving Ground were examined. Major Pratt with an assistant flew to Middletown Air Depot to conduct the examinations there. The Major with two assistants will be on detached service at West Point during February to conduct examinations of the 1933 class of cadets.

Major Carl Spatz, leading a flight of four P-12B's and two Y1B-7's, arrived Jan. 23rd from Rockwell Field, Calif.

#### Richards Field, Kansas City, Mo.

Taking advantage of the occasion of a renewal and replacement of O1-E and PT-3 equipment of the Kansas City Reserve Air Corps unit, Capt. Wright, Commander, with 1st Lt. Graham M. St. John, organized an aviation flight to Dayton, Ohio, to get the new equipment, returning with four O1-E's and one PT-3. Four Reserve officers and two enlisted men made the trip - Lieuts. William A. Ong, E.P. Curry, Richard Morehouse, A.G. Hunter, Staff Sergeant M.J. Moidel and Corporal John Hall.

The flight to Dayton was made via Scott Field and Bowman Field, Louisville, Ky. The return trip was accomplished by way of Schoen Field, Indianapolis, and Chanute Field, Ill. While at Dayton, the officers had an opportunity to see the new Air Corps equipment undergoing test at Wright Field before the Attack, Bombardment and Pursuit Boards. During the evening spent at Chanute, the group was entertained at the home of Capt. and Mrs. T.M. Jervey. Captain Jervey, jovial World War Ace, exchanged stories about the war with Capt. Wright and Lt. St. John, famous indoor sport of Air Corps officers who served in France.

#### Chanute Field, Rantoul, Ill., February 1st.

Flight training, under the provisions of the War Department Training Program, as applying to pilots and observers at this station, has progressed satisfactorily, the collective execution of the program at this time being approximately sixty percent. Three airplanes were equipped for blind flying, with necessary hoods and head rests.

The Chanute Field Officers' Club recently held its semi-annual election of officers, the following being elected to office: President, Capt. Charles E. Branshaw; Secretary-Treasurer, Lieut. Roscoe C. Wriston; Members of the Board of Governors, Capt. Fred S. Borum; Capt. Dan C. Ogle (Medical Corps); and Lieut. Claud T.

Gunn, (Finance Dept.). Lieut. Wriston was also appointed Mess Officer of the 'Officers' Mess.

Lieut. Robert M. Kraft, who has been sick in Walter Reed General Hospital for over a year, returned to the field on January 17th. He departed on a month's sick leave, after which he will return to duty.

#### Advanced Flying School, Kelly Field, Texas.

Major Wm. C. Ocker is still in the Base Hospital at Fort Sam Houston, being treated for injuries received in an airplane accident at Fort Clark, Texas, on Dec. 2nd, when his plane ground-looped. Capt. Perry Wainer was passenger with Major Ocker, but he escaped serious injury.

Kelly Field's eligible young bachelor officers' roll call is doing the Vanishing American act. Nevertheless, 2nd Lt. Wm. L. Morgan's many friends were happy to hear of his marriage to Miss Leroy Derman Browne, daughter of Mr. and Mrs. Hal Browne of San Antonio.

And now there's one about 1st Lt. William K. Moran who, it is reported, fell from a tree while deer hunting in the hills of ole Lone Star State. Lt. Moran has been undergoing treatment at the Base Hospital at Fort Sam Houston for an injury to the spine, the result of his Tarzan episode.

Mr. Ernest M. Suddith (Civilian) Chief Aircraft Inspector, being a little late enroute to work, decided he could run his car (Austin) underneath a railroad flatcar. Much to his regret, the Austin rebounded and so did he. Picking himself up, he righted the car and drove to the Kelly Field hospital where a few stitches were applied to patch his lip.

Lt. Orvil A. Anderson was on DS in Panama, having ferried an O-19 to that Department.

The following song was recently dedicated to the Commandant of the Air Corps Advanced Flying School by Mrs. Louie C. Mallory and Capt. Earl H. Deford:

"It's only a shanty on old Kelly Field,  
The roof is so rotten the sky is revealed,  
The dust from each plane  
Drives one almost insane,  
And the cooking next door one can smell  
Very plain.  
The ants and the roaches give you nightmares,  
The roads are lighted with aeroplane flares,  
But I will always go back  
To my old G.I. shack,  
My Quarters on old Kelly Field!"

It's still the same shanty on old Kelly Field,  
The place is completely run down at the heel,  
We've a Commandant here without any hair,  
But I want to say he treats everyone square.  
I wouldn't trade quarters with the men they  
call King,  
The houses at Randolph don't mean a thing!  
If they send me away  
I'll gladly come back some day  
To my quarters at old Kelly Field."

#### San Antonio Air Depot, Duncan Field, Texas.

In connection with the second large flight of airplanes concentrated at Kelly Field for ferrying to the Panama Canal Department, consisting of 12 P-12B's, 3 B-3A's and 2 O-19C's on which this Depot made the necessary inspections and preparations, many new faces and old friends were seen around these parts, among whom the following were visitors at the Depot from time to time: Major Junius W. Jones, of the Office of the Chief of the Air Corps, commanding the flight; 1st Lt. Wm. N. Amis of the Field Service Section, Material Division, Wright Field, who participated therein; also Capt. H.A. Bivins, Technical Supervisor of the Fairfield Air Depot Control Area, and 1st Lt. C.H. Ridenour, Tech-  
V-6380, A.C.

nical Supervisor of the Rockwell Air Depot Area, who were visitors here on matters connected with the flight.

Among the visitors to this Depot during the latter part of January were Lieut.-Col. H.M. Hickam, Commanding Officer of Fort Crockett and Capt. L.L. Harvey of that station, and Major T.W. Blackburn, commanding the 36th Division Aviation, Texas National Guard, Houston. Incidentally, the new system of air transportation of supplies in the Depot's Control Area is affording a means of increased liaison between the Depot and the stations of the Area. Mr. R.P. Evans, Chief Clerk of the Field Service Section, Materiel Division, arrived here Jan. 31st for a few days' visit and conference on various matters affecting the Depot.

#### 36th Division Aviation, Texas National Guard.

The 11th Obs. Sqdn. is 13th on the priority list for one of the new O-38E Douglas Observation planes, with a maximum speed of 175 miles and a cruising speed of 140 miles. Delivery is expected in early spring.

Capt. W.M. Pratt, Flight Surgeon, and Sgt. W.F. Morris flew to Cleveland in an O-17, leaving Houston Jan. 21st and returning the 31st. Capt. Pratt attended a demonstration of electrical appliances in Cleveland staged for the Flight Surgeons of the Army Air Corps.

Lieut. B.L. Austin, commanding the 11th Photo Section, and Emma Lou Roots, of Austin, were married Dec. 31st. They will make their home in Galveston, where Lt. Austin represents Giesecke & Harris, Austin architects. The Squadron officers presented the couple with six silver goblets.

The British cruiser "Danae," with a number of young Britishers on training, made Houston early in January and remained 10 days. A dance was given the visiting young tars in the City Auditorium, attended by the belles of Houston. The officers were entertained by the Chamber of Commerce and civic officials at dinners and dances at the various country clubs. One of the features was a hunting expedition organized for the British officers. The 11th Observation Squadron established radio communication, two-way code and voice, with the "Danae" radio detail, and held a 20-minute communication. Lt. Theodore Castle was in the cockpit at the radio controls during the communication.

#### France Field, Panama Canal Zone, Jan. 24th.

Most of the visitors to Panama, especially those of the Air Corps, have ambitions in the line of carrying back to the States with them great tales of how they landed "their tarpon," but few are as lucky as Lt.-Col. Frank M. Andrews who caught one last spring after his flight down from the States. There were undoubtedly great tales of that fish, but this year Lt.-Col. John H. Pirie is going home with a better tale and, though the fish was not actually his, we believe he went through most of the motions anyway. The day before Col. Pirie was to sail for the States, Major Brereton arranged a fishing party in his boat to give the Colonel his last opportunity. His other guests were Capt. Frank Foster, skipper of the Panama Railroad S.S. "Cristobal," and Lt. George E. Rice, Air Corps. Capt. Foster is known in these parts as a wily fisherman, and if anyone can catch them he can. After trolling in Mindi Lake and the French Canal for a couple of hours with no luck, Capt. Foster had a tremendous strike, and the battle of a lifetime was on. Capt. Foster believes in the game part of game fishing and uses only the lightest of tackle, and upon this occasion was armed with a six-ounce rod, which meant that even a small fish would have its chance against the skill of the fisherman. The fish was hooked at 4:35

p.m., and hooked good. The fish was played all over Mindi Lake, down the French Canal, into the Panama Canal, and at 2:00 a.m., after 9 1/2 hours, the workers at the Cristobal docks gathered to see what the stir was about in the small vessel approaching. As the boat reached the dock the fish was about played out and they managed to land it. The fish was over six feet in length, and weighed 140 lbs! After looking the fish over and seeing it was none the worse for wear other than utter exhaustion, they threw it back in to search again for that peaceful life it had known before the advent of Capt. Foster. Col. Pirie will tell you this is not an exaggeration.

#### Brooks Field, Texas, Jan. 24th.

Pilots visiting the field during the month were Lts. J.R. Williams, H.H. Reilly from Langley Field and L.K. Welsh and L.F. Harmon from Scott Field.

Lt. R.L. Spickelmier departed on an extended aviation flight to the West Coast on Jan. 24. Staff Sgts. Cunningham, 22nd Obs. Sqdn. departed for duty in Hawaii, and Brinkman, 88th Obs. Sqdn., to the Philippines.

Major-General Winans, Commanding the 8th Corps Area, and party, departed for Fort Bliss on Jan. 18th, in a C-7A Transport piloted by Lieut. W.W. Messmore.

The 12th Obs. Squadron assembled to bid a fond farewell to Master Sgt. Atlas F. Bryant, who was placed on the retired list as of Dec. 31st. The members of this command regret the loss of Sgt. Bryant.

Extended aviation flights were made by members of this command, as follows: Lt. W.R. Walner with Lt. Armstrong to March Field, Calif.; Lt. L.J. Connors with Sgt. Pureska to Bellingham, Wash.; Lt. Thad V. Foster with Lt.-Col. Ira Longenecker to Long Beach, Calif.; Lt. H. Broiles with Sgt. Lindle to Mitchel Field, N.Y.; Lt. J.A. Maxwell, Jr., with Lt. J.H. Raker, F.A., to Los Angeles, Calif.; and Lt. J.L. Fletcher with Sgt. Greene to Fort Benning, Ga. Lt. Foster piloted a BT-2B, all others O-19E's.

Lt. Howard C. Stelling, Air Reserve, was recently married to Miss Helen Wainwright, former Olympic Swimming Champion.

Visiting pilots from other stations were Capt. A.G. Hamilton with Pvt. Talley, Chanute Field; Lt. Dally with Lt. Milstead and Lt. Wiley with Lt. Welch from Scott Field; Lieut. Waldron with Lt. Collins, Corp. Edwards, and Lt. Riley with 4 passengers from Langley Field; Lt. Schoemaker with Pvt. Waldropf and Lt. Cornell, solo, from Fort Crockett.

#### Fort Sill, Okla., January 30th.

A type C-3 Observation Balloon, while on an experimental flight in ballast at Post Field on Jan. 26th, caught fire and was destroyed. There was no injury to personnel. This balloon was equipped with experimental fins developed by the Materiel Division and was being tested by the 1st Balloon Co. at the time of its destruction.

Capt. E.H. DeFord, piloting an ambulance airplane from Kelly Field, arrived here Jan. 14th for purpose of transporting the wife of Lt.-Col. L.J. McNair, Field Artillery, to the station Hospital, Fort Sam Houston.

A grass fire, fanned by a 30-mile gale, jumped the paved road northwest of Post Field and swooped down toward the building area on Jan. 26th. For a time it appeared that nothing could save the temporary buildings of Post Field, but through the valiant efforts of all the troops on the field the course of the fire was diverted to the north of the buildings and no real damage was done. Brig.-Gen. Wm.M. Cruikshank personally directed the fire fighters, assisted by Capt. J.D. Ham, QMC.

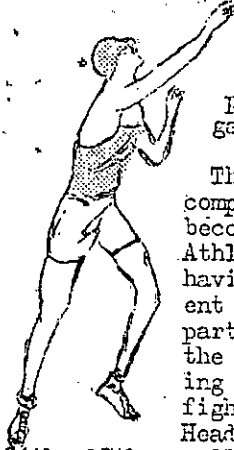
V-6380, A.C.

## KEEPING FIT

The Air Corps Sill, Okla., is Post Basketball



at Post Field, Fort represented in the League by the First Balloon Co., winners of the Post Championship last season. At the present writing they are in second place with a record of four games won and one lost.



The inter-squadron basketball competition at Selfridge Field is becoming so keen that the Post Athletic Officer is considering having the fire department present at all contests to keep the participants from heating beyond the danger point. At this writing the 57th Service Squadron is fighting it out for the lead with Headquarters Detachment, with the 94th, 17th and 27th Squadrons worrying the two leaders from the rear. Capt. Guzak, Coach of the 57th, goes around making pessimistic predictions about his team, but it is noted that it is in the lead with 5 wins and no losses. Headquarters, with Lieut. Pettigrew coaching, is in second place with 4 wins and 1 loss, but it is noted they are holding secret practice sessions. They have covetous eyes on the basketball crown, so the 57th feels none too easy in their present lead.

The gallant 94th, led by Lieuts. Partridge and McCoy, are showing steady improvement, as are also the 37th and 17th. With nearly 30 more games to play in the season, they may easily change the order of things.

The Mitchel Field Athletic Association started off the basketball season last October with the Inter-Squadron League, each Squadron entering a team. With the conclusion of the League schedule, the 5th Squadron being victorious, came the try-outs for the Post Team, during which time games were played with the leading teams of both the North and South Shore Leagues of Nassau County, Long Island. In this series of games, Mitchel Field won seven straight games and lost the eighth to Amityville Lone Stars by the close score of 34-31. It is understood this team is composed only of ex-stars from colleges and universities in and around New York City. By this time the team that was to represent Mitchel Field Athletic Association in the New York Harbor Service League had been picked. This League is made up of teams from Forts Totten, Jay, Hamilton, Slocum, Wadsworth, Navy Hospital, Marine Barracks and Mitchel Field.

Mitchel Field to date has played seven games in this League, winning from Forts Totten, Jay, Hamilton, Wadsworth, and Navy Hospital, losing two close games to Marine Barracks (35-41) and to Fort Slocum (33-37). Both of these games were played away from home.

After a poor start, due largely to injuries and sickness, the Bolling Field Basketball team is gradually rounding out into the formidable outfit the sportsmen of the District of Columbia have come to expect of the Flying Dome Detachment. To date the Airmen won 16 of their 27 contests, taking the measure of some of the smartest unlimited teams in the Capital. The most bitter defeats administered to the fliers came during the absence of Eckert, stellar forward and high scoring ace. Fort Myer drubbed them 47-29, but a few days later the Cavalrymen went down to defeat 32 to 26 in a Government League game. Strangely, both teams are in the same division of Corps Area competition and are also in the Government League, and meet six times this season.

Although out of the money for first place in Government League competition, the team is expected to finish near the top in the first half, and even the most timid supporters are looking for the fliers to cop the second-half to allow them to play the 3-game series for the cup. Quigley, regular Forward and captain, is on the injured list with a badly sprained wrist, which will prevent him from playing for a few weeks, but the addition of Sanaols and Gray, veteran guards, helps out considerably.

Lieut. Zimmerman's well drilled Luke Field Basketball squad is going great guns this year. In five games played to date, the fliers averaged 57 points per game. There are no individual "stars" or high point men on this squad, lightning floor work and passing featuring all games played. The regular starting lineup of Lieut. "Bill" Pryce at center, Johnson, Searcy, or B. Hess at forwards, and Finklestein and Saddler at guards give the fliers a veteran squad, only "Sad Sam" Welms being lost from last year's Department champions. Sam is not a hold-out, however, but returned to the mainland between seasons. In the League standing, Fort Kamehameha trails Luke Field with four wins and one loss; Fort Shafter is third, tied with Honolulu, each three wins and two losses. Mine Craft, Marines and Itasca follow in order named.

The 77th Squadron basketball team, coached by Lieut. Gebelin, lost its first game with the 55th Squadron, 23-13, but won its second game with the 71st Squadron, 29-18, and is on its way to more victories. The team is a scrappy outfit and should come along in great style. - Barksdale Field.

After three consecutive defeats at the hands of the classy Coast Artillerymen from Fortress Monroe, a rejuvenated band of Gold and Blue Airmen of Langley Field came back to capture a thrilling 37 to 33 victory over their service rivals, thereby extending the playoff for championship honors for the Southern District of the 3rd Corps Area. Had the Artillerymen again won over Langley, the series would have automatically ended with Monroe representing the Southern District in the playoff with the champs of the remaining two sections of the 3rd Corps Area.

The Inter-Squadron bowling tournament at Langley Field is furnishing plenty of action, with the various bowling experts of the Air Corps post shattering records. At present, the 59th Service Squadron, reigning bowling champs, are setting the pace, together with the 20th Bombardment Squadron and the 19th Airship Company, each team having a clean slate with three victories and no defeats. First Bombardment Brigade Hqrs. and 2nd Wing Hqrs. trail with a .657 percentage.

In taking all three games from the 96th Bomb. Sqdn., Hanel, team captain of the 19th Airship Co., and one of the most consistent bowlers at Langley Field, took individual honors with a high game of 244 and a 3-game total of 678. His team-mate, Howieson, bowled a 632 set. In taking two out of three games from Wing Hqrs., Sergeant Eberly of the victorious Brigade Hqrs. team set the pace, bowling 650 for 3 games. The 36th Pursuit took two out of three from the 53th Service Sqdn.

Records started tottering when "Dutch" Schumann, another outstanding bowler at the field, spilled 246 pins to eclipse Hanel's record. Then Corp. Snodgrass, 20th Bombardment Sqdn., made the phenomenal score of 267 in a single game and 723 for the set, a record which will be hard to beat. The bowling tour-

if nement at Langley will continue until next May, the schedule terminating on the 13th of that month. Much enthusiasm over the entire field is being shown in this popular indoor pastime.

A capacity crowd braved the inclement weather on the night of Jan. 26th and milled their way to all corners of the Langley Field gymnasium to be rewarded with an excellent wrestling and boxing card far above par. Two heavy-weight grapplers thrilled the crowd in a fast action bout which lasted 25 minutes. Five boxing bouts followed, also a battle royal in which five husky darkies participated.

A squadron football game was played between the 75th Service and the 6th Pursuit Squadron on the Horse Shoe Field. The game was full of thrills and was played on even terms during the first half. In the third quarter the 6th Sqdn. scored 13 points to win. Schofield Barracks officials handled the game in fine style. Good sportsmanship and fine playing was evidenced by both of these Wheeler Field teams.

The 26th Squadron, Wheeler Field, is justly proud of its football team which, under the able coaching of 2nd Lt. George McCoy, Jr., has so far been undefeated. "Although we have played only two games to date," says the News Letter Correspondent, "both with the 19th Pursuit Squadron, the first ending in a 7-7 tie and the second in a 15 to 0 victory, we are confident our team will capture the Wheeler Field championship.

The March Field Squash team is certainly doing its "damndest" to popularize this game in the Air Corps. In 48 individual contests thus far, only 12 were lost. The team consists of the following players in the order of their standing: Lieuts. Joel E. Mallory, A.F. Solter, Chas. B. Stone, III, Robert S. Israel, John S. Mills, Major Carl Spatz and Lieut. Carl Murray. The March Field players have nothing but the highest praise for the sportsmanship of the opponents whom they played. It is their opinion that Squash is one of the best possible games for Air Corps officers, due to the eye training, development of fine muscular coordination and the intense exercise offered in a minimum of time. The game requires only a small financial outlay for equipment and an elaborate organization is unnecessary, because the game is played by two contestants and contests can be arranged within a moment's notice at the convenience of the players concerned. Since it is played indoors, fair weather is immaterial. It is believed at March Field that Squash bids fair to be the most popular form of daily exercise in the Air Corps within the next few years.

Mitchel Field is also going in for Squash, and the "racketeers" from that post are expected to be heard from in the very near future.

Challenges were issued by the Hawaiian Air Depot baseball team to several representative baseball clubs on the Island of Oahu. These games will be played prior to and in preparation for the start of the regular season. This being the first year the Hawaiian Air Depot participated in Athletics, it is difficult to estimate the sort of team we will be able to put in the field. However, many first rate players were uncovered, and it is hoped we will be well up in the League standing. Funds for the purchase of baseball equipment were raised through a series of dances held in Honolulu which proved highly successful.

Major Francis H. Poole, Post Surgeon at March Field, is recovering from a very serious case of pneumonia. His condition for a time was considered very serious, but he is now well on the way to recovery.

Selfridge Field, Mich., February 3rd.

This winter the charity aid at Selfridge Field was put on an organized basis, and the officers and men here have had the satisfaction of knowing that their donations have been put to good use in the war against hard times in the nearby towns of Mt. Clemens.

Major George H. Brett, Commanding Officer, issued a call for voluntary contributions early in the year. Each officer and man was given an opportunity to pledge a part of his pay each month. In this way the income for charity was stabilized so that the money could be more effectively employed in helping depression victims. Major Brett decided that the entire charity money should be given to a single welfare organization throughout the year, thus insuring that the utmost good should come from the money and so that the contributors at Selfridge Field would know where their money was going.

The Salvation Army in Mt. Clemens is receiving the monthly income from Selfridge Field. That the money is doing good work was testified to the other day when Capt. W.J. Ousterhout, who commands the Salvation Army Unit, announced in the Mt. Clemens newspapers that the Selfridge Field donations enabled them to carry on their soup kitchen. Up to Dec. 14, over 1400 people were supplied with free soup from the kitchen.

Material Division, Wright Field, Feb. 10th.

Maj.-Gen. B.D. Foulis and Capt. E.J. House arrived here for a brief conference on Jan. 31st, en route to Maxwell Field, Ala., returning to the Field Feb. 5th and taking off for Bolling Field the next day.

The Hon. F. Trubee Davison, Asst. Secretary of War, piloted by Lt. E.R. Quesada, arrived here from Scott Field on Feb. 5th and taking off the next morning for Bolling Field.

Brig. General H.C. Pratt recently attended a meeting of the National Advisory Committee for Aeronautics in Washington.

Capt. A.W. Stevens left Feb. 5th for Harvard University to deliver a course of lectures to the students of the Institute of Geographical Explorations. The subject of the lectures will be aerial photography; its general principles.

Lt. E.W. Claxton, Construction Corps, USN, stationed at the Naval Aircraft Factory at Philadelphia, arrived here on February 7th for a short period of temporary duty.

Major Leslie MacDill spent several days at Wright Field the latter part of January. He is a former Chief of Engineering of the Material Division.

Capt. D.M. Reeves delivered a lecture on Jan. 27th before the Engineering Society of York, Pa., on the "Development and Testing of Aircraft."

Major A.H. Gilkeson, former Chief of the Equipment Branch, flew in from Chamute Field on Jan. 10th for consultation with engineers; also Lt. J.L. Davidson, formerly associated with the Technical Data Branch, from Chamute.

Lts. H.S. Carr and W.T. Moore flew to Rock Island, Ill. on January 12th.

Lt. W.J. Hanlon returned from the West Coast January 20th, after a 3 weeks' flying trip.

Lt. C.D. McAllister spent a month's leave in Florida, leaving here on January 23rd.

Mr. A.C. Lovesey, Rolls Royce Limited, England, was a visitor here on January 23rd.

Lt. E.M. Powers took off on Jan. 25th for Middletown, Pa., thence to Paterson, N.J. and Langley Field, Va., for purpose of making inspection of aircraft engines.

The Wright Field Reserve Officers Luncheon Club held a meeting on Feb. 2nd. J.C. Yingling of the Aircraft Branch talked on the new features of the TC-13 Airship under construction at present at Akron, and which it is expected V-6580, A.C.



will be ready for flight testing in March. Mr. Yingling has had wide experience in Lighter-than-Air work, and his talk proved most interesting.

January with its mean weather handicaps was not successful in putting much of a damper on the week end aviation training flights, for it is at such periods that busy engineering officers are able to get in the more solid blocks of their flying time. The schedule of Jan. 28 is rather typical: Capt. A.W. Vanaman and Lt. F.D. Klein to Buffalo; Lts. Paul Wolf and O.R. Cook to Selfridge Field; Lts. M.H. Carr, R.S. Heald and C.A. Bassett to Bay City, Mich.; Maj. W.E. Kepner and Lt. R.K. Giovannoli to Middletown, Pa.; Major R.A. Strauss to St. Louis; Capt. Clements McAllen to Fort Riley; A.J. Lyon to Evansville, Ind.; A.E. Jones and R.W. Probst to Toledo; Bruce Hill and Lt. J.F. Phillips to Iowa City; Lts. George Smith to Atlanta; M.E. Cross to Savannah, J.M. Gillespie to Chicago; J.E. Parker to Maxwell Field and J.T. Murtha to Memphis, Tenn.

#### Patterson Field, Fairfield, O., Feb. 2nd.

At a meeting of the Wilbur Wright Officers' Club held in Wright Field Auditorium on January 20th, the following members-at-large of the Board of Governors were elected: Major W.E. Kepner, Lts. F.M. Hopkins, Jr., and A.R. Crawford. Lt. R.L. Williamson was appointed to succeed Lt. F.L. Zeigler as Secretary-Treasurer, effective January 20, 1933.

Ferrying planes to this station for motor change were Lt. Snyder from Chicago, Ill., on Jan. 20th, in a BT-2; Capt. Stromme, Buffalo, N.Y., Jan. 26th, in OI-E; Capt. Gardner from Sky Harbor, Tenn., Jan. 20th, in an O2-H. For minor repair, Capt. Gardner and Lt. Flannery, from Sky Harbor, Tenn., Jan. 26th, in an O2-H; Capt. Skepp, Chanute Field, Jan. 16th, in an O-25; For major overhaul: from Selfridge Field, Lts. Auton and Miller in two P-16's; Burnett in a P-6E; Unruh and Neal in two P-12E's on Jan. 20th; Aring in a P-16, Jan. 24th; Wood in a P-6E, Jan. 23th; Sillin, Wood and Burnett in three P-6E's, Jan. 30th.

Lt.-Col. A.L. Sneed departed Jan. 23rd, ferrying Air Corps supplies to Lambert-St. Louis Field, Mo.; Richards Field, Kansas City, Mo.; Ft. Leavenworth, Kans.; Marshall Field, Kans. and Scott Field, Ill., returning Jan. 26th.

Capt. Lewis flew to Bridgeport, Ohio, Jan. 24th to investigate the airplane crash which occurred there on the 23rd.

Staff Sgt. Guile ferried Air Corps supplies to Scott Field, Jan. 27th, in a C-27.

Lt.-Col. A.L. Sneed and Lt. K.S. Stice attended the dinner given in honor of Major-Gen. Hugh A. Drum at the Dayton Biltmore Hotel on evening of Jan. 27th. Reserve officers from this station attending were Messrs. R.D. Penland, H.L. Morgan, Thomas C. Hughes, Claude P. Rowan and Edward F. Gentner.

Lt. F.M. Zeigler flew to Newark, N.J., Jan. 30th to confer with Commanding Officer of the 119th Obs. Sqdn., New Jersey National Guard, regarding Air Corps supplies and equipment.

Master Sgt. Guile, accompanied by Corp. Houser, mechanic, ferried Air Corps supplies to Sky Harbor, Tenn., Jan. 19th; Lieut. G.V. McPike ferried supplies to Selfridge Jan. 20th.

The construction of Hangars "A" and "B" and the Oil Reclamation Building is approximately complete and are expected to be ready for occupancy about Feb. 16th. The new Administration building is expected to be available for use about March 1st.

#### Wheeler Field, T.H., January 11th.

6th Pursuit Sqdn. With bombing completed and scores for the gunnery season tabulated, it was evident the Squadron did its work well. Eighteen pilots qualified as Experts. High

honors in the Squadron went to Lt. Carl Swyter, who scored 1231, making him second ranking among the Island Pursuit pilots.

2nd Lts. J.C. Gordon and C.B. Dougher arrived on Dec. Transport and were assigned to the Squadron for duty.

19th Pursuit Squadron: This Squadron engaged in high altitude flights, employment and tactic missions and combat exercises, and performed a mission consisting of an attack on silhouettes, dispersed, firing both by elements and flights. A "casualty" score of over fifty percent was recorded.

2nd Lt. A.F. Hastings, Air Reserve, joined the Caterpillars while engaged in individual combat above the clouds over the Waianae Mts. when his plane spun into the clouds. He struck the ground immediately after the chute opened and though the landing was a bit rough, Lt. Hastings pronounced it very successful.

This Squadron cooperated with the 8th Field Artillery in a tow target mission which was satisfactorily completed.

26th Attack Squadron: We are all saddened by the news of the death of Lt. R.J. Moore's father, which necessitated his returning to the mainland on two months' emergency leave. Our sincere sympathy goes to the bereaved family and we hope Lt. Moore will soon be with us again.

75th Service Squadron: At present we are moving to the new hangars. The parachute department, paint shop, hangar supply, welding department, woodworking shop, machine and instrument section have completed moving. The final assembly, motor overhaul and administrative section will move in the next few days. Several weeks were spent in moving heavy machinery, setting up and installing the machines in the new hangar.

Fifth Composite Group, Luke Field: The command was strengthened during the month by the arrival of 2nd Lts. Robert A. Stunkard, Donald N. Yates, Louis A. Guenther, Richard H. Wise, Joseph F. Carroll, John R. Skeldon, Robert E.L. Eaton, Hilbert F. Muentzer, Gerald E. Williams, Edward J. Timberlake and Russell H. Griffith, recent graduates of the Advanced Flying School.

Lt. Ralph E. Holmes, Chanute Field, arrived on the December transport and was assigned to duty with the 50th Obs. Sqdn. and appointed

Group Communications Officer, relieving 2d Lt. Robert E.L. Choate, who left the Department on the January transport for Langley.

Training for the month was not as complete as in previous months, due to the Christmas holidays, though for the first three weeks

quite an extensive program was completed. For observation units, tactical missions were accomplished in Aviation, both flight and individual; Aerial Gunnery and Bombing; Instrument Flying; Performance flights; Radio Communication; Simulated Infantry missions; Aerial Photography; Day and Night Reconnaissance, and Transition flying in Bombardment planes. Training in Radio Communications; Aerial Gunnery and Instrument Flying were particularly stressed. Training in Bombardment units consisted principally of Instrument Flying, Aerial Gunnery and Bombing; Aviation; Formation and Night Flying, emphasis being placed upon Aerial Gunnery and Instrument Flying.

72nd Bombardment Squadron: It is with regret that we lose Lt. Lloyd H. Tull, who received orders to return to the Mainland on the April transport. He has been with the Squadron for nearly two years.

The Squadron extends Aloha to 2nd Lieuts. L.A. Guenther, E.J. Timberlake and R.H. Griffith, assigned to the organization. Lt. Guenther was assigned as Squadron Supply Officer; Lt. Timberlake, Armament and Transportation Officer; and Lt. Griffith as Squadron Adjutant.

Randolph Field, Texas, February 10th.

With just three more weeks of Basic Training in store, 92 members of the Class of July, 1932, are counting the hours until we bid farewell to Randolph and proceed to Kelly Field for the Advanced training. Seven months of strenuous work are behind us, and as the termination of our stay at Randolph approaches, a brief review of our training thus far flashes through our minds.

From all parts of the country, 196 Flying Cadets reported for flying training on July 1st. Soloing and the early phases of flying went by very quickly and, as the class went on to aerobatics, hurdles, and strange field landings, only half of the original number of men remained. Finally, the big day arrived, and 98 Flying Cadets realized that they had touched their PT's wheels for the last time on Primary Stage. Although the biggest cut to be made in the class had taken place, we realized that there still remained eight months of training more strenuous and more trying than that of the preceding period. For, as we marched over to Basic Stage for the first time, we realized that we would now be regarded not just as students, but also as capable pilots.

After four hours of dual instruction on these larger ships, practically everyone had managed to take one up and land it without undue activity on the part of the G.I. Ambulance. The thrill of soloing a ship so much larger and more powerful than the PT's was short-lived, for was much to be done in the way of maneuvering these planes along certain well laid out lines.

Pylon and lazy eights, 360's, 180's and hurdles, Chandelles and forced landings - all had to be performed well in a very short time, and we realized that the BT's response to controls was something utterly different than that of the ships we had flown for the previous four months. Soon, however, these maneuvers were mastered to some extent or another, and then the really interesting part of Basic Training began. Formation Flying! How many times had we as Dodos cast a long glance at that echelon of BT's sailing along the sky, mocking us with its dignity and beauty! Could it ever be possible really to fly so close in to so many ships? Well, we soon found out that it not only could be, but had to be done. No one in the upper class will ever forget their first day on formation work, and the continual storm they were in trying to correlate their flying with the signals of the instructor. Time passed, and hours were spent in formation practice, and now it isn't quite so hard to stay in there and keep your head when you're diving in formation at disconcerting velocities.

Strange Field landings, four phases of them, were soon encountered, but to discuss this phase of training would start a recount of amusing occurrences that would fill the paper. Enough to say that the four phases are over.

Night flying and cross-countries were next on the menu. Night flying, needless to say, was heartily enjoyed by all those lucky enough to receive an invitation, but cross-countries were even more delightful, for here was a chance to see this big glorious State, and have no one tell you just how to see it. Of course, the Flight Commander might say, "Well, this morning we go to Fort Clark," or something like that. But no need to let that spoil the fun, especially when you have a huge gas supply, loads of requisition blanks, and a map of Texas. Strange to say, not many took advantage of this astounding sight-seeing offer that was just thrown their way. These people had seen enough of Texas, anyhow, without a little extra for good measure. But there were several blisters, one in particular, that just was wild about Texas, and whenever he got up in his BT on a cross-country, he was just so overwhelmed by its vastness and beauty, that he never arrived at

his destination until he had put in at least three hours of "seeing Texas First."

Enough of this story. The fact remains that we are on the verge of advanced training, and Wings do not seem so remote now as they once did. The 92 of us that are left sincerely hope that we can wind up our basic Stage in a fashion that will justify the training we have undergone thus far and, with our eyes toward our potential wings, we intend to succeed at Kelly. May those with whom we have been associated so far point with pride to us, in June, as the Class of July, 1932!

Having completed the Primary and Basic Training at Randolph Field, the following students will be transferred to Kelly Field for advanced training on March 1, 1933:

Officers

1st Lieut. Randolph P. Williams, A.C.  
2nd Lieut. Joseph B. Zimmerman, A.C. (F.A.)

Flying Cadets

Howard O. Aigeltinger	Charles L. Hamilton
Edward S. Allee	Kernit A. Marcos
William L. Altenburg	Lowell E. Meacock
William T. Arthur	Charles P. Hollstein
Edwin D. Avery	Eyvind Holterman
Joe E. Barton	Daniel E. Hooks
Martin A. Bateman	Stanley C. Hoyt
Henry S. Bear	William T. Hudnell
Lloyd H. Bidwell	Harold L. Jones
Richard C.W. Booker	Philip B. Klein
Homer A. Boushey, Jr.	Roger E. Kruse
Clyde P. Brandenberger	John S. Lambie, Jr.
Willard V. Brown	Beirne Lay, Jr.
Howard A. Cheney	James E. League, Jr.
James T. Connolly	Sterling T. Love
George K. Crain	George F. McDermott
Joel L. Crouch	George H. Macintyre
Newton H. Crudley	Charles D. Manhart
John F. Davidson	Jeff C. Look
Don C. Darrow	Joseph C. Moore
Horran S. Davis	Ray A. Noland
Walter E. Davis	Franklin K. Paul
Donald B. Diehl	Daniel W. Pippinger
Harold L. Dietz	William S. Pocock
John P. Donlin	Francis Pope
Edward R. Dorsey	Herman G. Portman, Jr.
Sammuel C. Dunlap	Louis P. Ricks
James Y. Eastham	Charles D. Rogers
William S. Edgar	Thomas J. Schofield
Dross Ellis	Bernard A. Schriever
Albert V. Endress	Elmer P. Schwarz
Ladson G. Eskridge, Jr.	Everett G. Senter
Frank H. Evans	Hamilton Smith IV
Charles E. Flaherty	John F. Strickler, Jr.
Lawrence S. Fulwider	James E. Stroud
Thomas J. Gaughen	John D. Treher
Jay L. Gentry	Edwin A. Warren
Elym H. Gibbon	Raymond W. Wells
John H. Gibson	Daniel W. Wickland
Hal W. Gregory, Jr.	James W. Williams
Jean D. Grenier	Edgar M. Wittan
Harold A. Gurn	Andrew M. Wynne
Elkins H. Hale	George W. Youngerman
Cyril A. Coyette	Raymond A. Young, Jr.

Enlisted Men Training in Grade

Lester Sgt. Carlton P. Smith  
Technical Sgt. Frank J. Siebenaler

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With a start of 21 winners out of 21 games played, the 67th Service Squadron team won 2 more games on Feb. 1st, one from the 52nd School Squadron, 60-44; the other from the 71st Brigade, National Guard, 50-20. Summing it all up, the Squadron is making ready a conspicuous place in the Recreation Hall for the championship cup.

INSPECTION DIVISION NOTES

The following Technical Orders, Technical Letters, Air Corps Circulars and Air Corps Circular Letters have been distributed since the last issue of the Air Corps News Letter on January 31, 1933.

Number & Date	Subject	Distribution
TO 01-1-82 1/18/33	Airplanes and Spare Parts-General-Installation and care of Fire Extinguishers for Aircraft. (This TO replaces TO 01-1-82 dated 11/22/31 & TL 32-20)	General
TL 33-1 1/25/33	Replacement of Gasket, Part No. 0153682-3, Filler Cap, Part #0153682-1, & Bead type chain.	General
TL 33-2 1/25/33	Modification of Breaker Housing No. 2-298, for Scintilla V-AG Magnetos	All Depots, Chanute, Wright.
TL 33-4 1/25/33	Replacement of Spring Type Drives in Leece-Neville Types E-3 & E-4 Generators. (This TL replaces TL No. 31-115, dated 11/13/31.)	All Depots, Chanute, Wright
TL 33-5 1/25/33	Re-machining of Threads on Crankshafts Installed in R-1690-A Engines	FAD, MAD, SAAD, RAD, PAD, Chanute, Wright
TL 33-6 1/25/33	Changes Required on Type A-3 Heater Assembly, Part No. 30-1427	General
TL 33-11 1/25/33	Use of Silk Thread at Parting Surface of Engine Crankcases	All Depots, Chanute, Wright
TL 33-14 1/25/33	Replacement of Victorite Main Body Gaskets # P-11602 for Stromberg WA-Y60 Carburetors	FAD, MAD, SAAD, RAD, Chanute, Wright, Scott
TL 32-164 1/27/33	Reworking Scintilla Type V-AG12-D Magneto to Incorporate Pivotless Type Breaker Mechanism (This TL replaces TL #32-164, dated 9/2/32.)	FAD, MAD, RAD, SAAD, Chanute, Wright, Mitchell
TO 02-1-51 1/30/33	Engines & Spare Parts-General-Handbook of Instructions for the Scintilla Type SQ Double Magnetos. (This TO rescinds TL 31-159.)	General
TO 07-1-1 1/23/33	Dopes, Paints & related Material-General-Aircraft Markings, Insignia, & Camouflage. (This TO replaces TO's #01-1-16, dated 1/15/31 & 16-1-6, dated 1/15/31.)	General
TL 33-12 2/3/33	Replacement of Street Elbow-Landing Gear Oleo Filler-Boeing P-12B, P-12C, P-12D, P-12E, & P-12F Airplanes	Albrook, Barksdale, Bolling, Chanute, France, Kelly, Langley, March, Maxwell, Randolph, Selfridge Wright, all Depots.
TL 33-13 2/3/33	Information on the Operation of Airplanes Equipped with Wheel Fairings	Brooks, Chanute, Ft. Crockett, Edgewood Arsenal, Langley, Mitchell, Selfridge, Wright, FAD, MAD, SAAD, RAD.
TL 33-15 2/3/33	Blanketing of Prestone Radiators & Air Cooled Oil Coolers. (This TL replaces TL 31-299, 12/3/31.)	General
TL 33-16 2/3/33	Change in Landing Gear Oleo Unit-Keystone B-3A, B-4A, B-5A, B-6A, Y1B-6, LB-6 & LB-7 Airplanes	Chanute, Wright, all depots.
TL 33-17 2/3/33	Removal of Cadmium Plating from Propeller Hub Rear Cones - R-1690, R-1340 & R-985 Engines.	General
TL 33-10 1/31/33	Sperry Gyro Flight & Turn Indicators	General
TL 33-20 2/8/33	Replacement of Tube Assembly, Carburetor to Carburetor Balance, on V-1570 Series Engines	Boston AP, Aberdeen, Bolling, Edgewood, Langley, Mitchell, Chanute, Ch CA, Lawson, Ft. Leavenworth, Wright, Ft. Riley, Selfridge, Brooks, Ft. Crockett, Honsley, Hatbox, Kelly, Crissy, March, FAD, MAD, RAD, SAAD
TL 33-18 2/9/33	Marking of Landing Gear Struts to Determine the Type of Spring Used-Douglas O-2H, BT-1, BT-2, BT-2A, BT-2B, BT-2C, O-25A, O-25B, O-25C, O-38, O-38A & O-38B Airplanes.	General

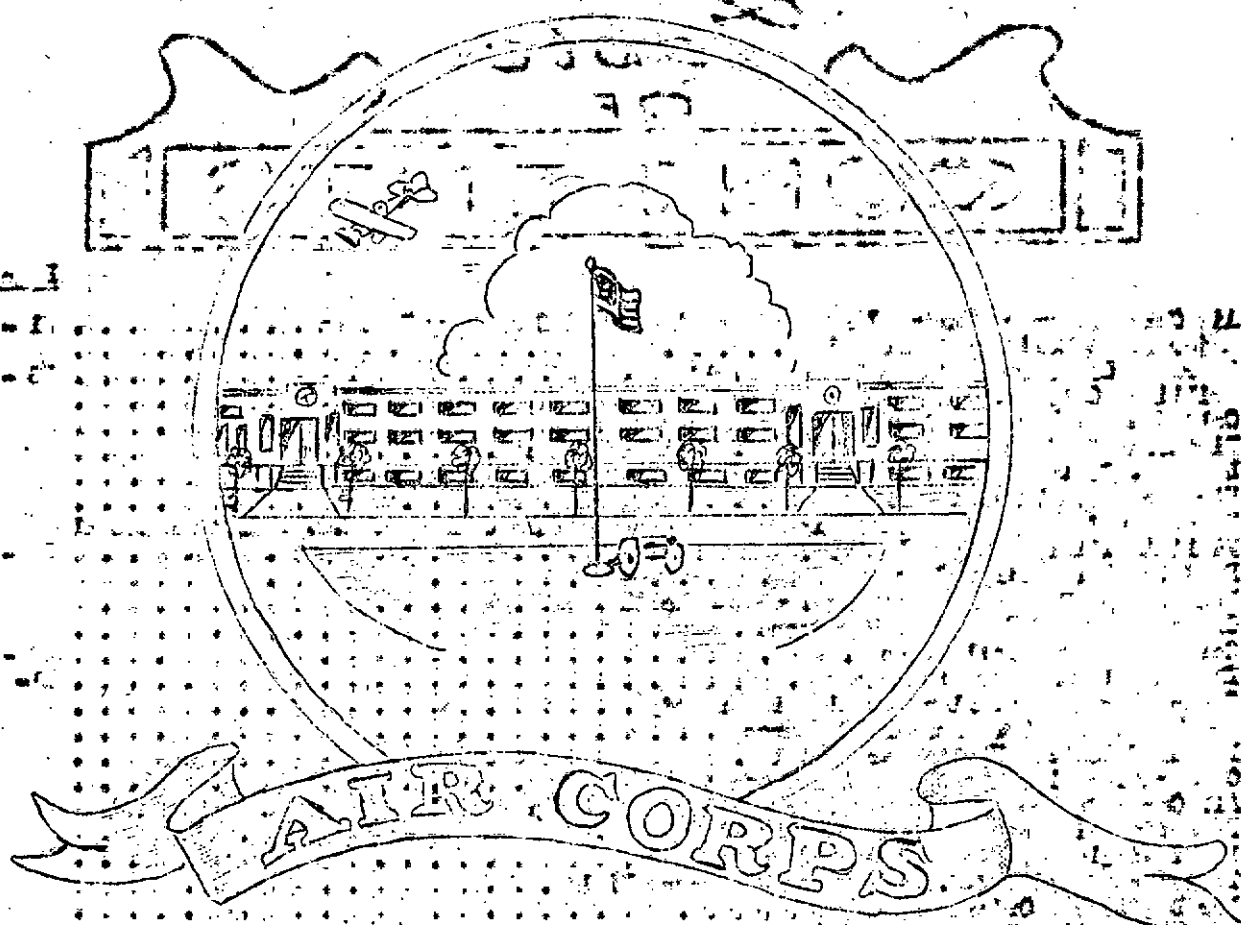
The following Air Corps Circulars and Air Corps Circular Letters have been distributed since the Jan. 31, 1933, issue of the Air Corps News Letter.

Number & Date	AIR CORPS CIRCULARS	Subject
15-3 1/17/33	BLANK FORMS & REPORTS -	Air Corps Form No. 3, Monthly Aircraft Operations Report.
15-4 1/17/33	" " " "	Form #4, Training & Operations Report
15-53 1/23/33	" " " "	53, Inspection & Flight Test Report
15-243 1/25/33	" " " "	243, Parts Shortage Sheet.
15-0 1/16/33	" " " "	Index & Requisitioning of Air Corps Blank Forms.
0-2 1/12/33	NUMERICAL INDEX TO AIR CORPS CIRCULARS	
65-23 2/1/33	SUPPLY -	Price List of Aircraft Fuel and Oil.

AIR CORPS CIRCULAR LETTERS

W-2150 AC 2/3/33 Instructions for Attaching Headset, Type HS-18, to Standard Air Corps Helmet.

The Signal Corps Aircraft Radio Laboratory, Wright Field, Dayton, Ohio, published the following report, distributed through the OCAC: Engineering Report No. 100-A - Method of Attaching Headset, Type HS-18, to Standard Air Corps Helmets. 1/2/33.



# NEWS LETTER

ISSUED BY THE  
OFFICE OF THE CHIEF OF THE AIR CORPS  
WAR DEPARTMENT  
WASHINGTON, D. C.

Bob. Fitzgerald  
Mar 27  
1933  
No 31  
050

# Table OF CONTENTS

	<u>Pages</u>
Air Corps Progress During Incumbency of Assistant Secretary Davison . . . . .	51 - 53
Major Brett Delivers Radio Talk . . . . .	53
Board of Officers Meets at Chanute Field . . . . .	53 - 54
Brilliant Colors Popular in the Tropics . . . . .	54
Cold Weather Test of Flying Equipment . . . . .	54
Picturing Student Life at Air Corps Technical School . . . . .	54
Lake St. Clair Zoned for Rescue Purposes . . . . .	54
Fire Destroys Luke Field Hangar . . . . .	54
Reserve and National Guard Officers Take Photographic Course at A.C. Technical School	54
Field Artillery and the Low Flying Attack . . . . .	55 - 59
Randolph Holds First Reunion . . . . .	59
Winter Test Detachment Returns from the North . . . . .	60
Organization of Transport Squadrons . . . . .	60
Soldier Becomes Collegiate . . . . .	60 - 61
The Annual Maneuvers in Panama . . . . .	61- 62
Sudden Lurching of Plane Results in Tragedy . . . . .	62
New Mascot for 73rd Pursuit Squadron . . . . .	62
Famous Scientist Visits March Field . . . . .	62
Observation Plane Serves as Ambulance in Emergency . . . . .	62
Air Corps Officers Lecture before Institute of Geographical Exploration at Harvard . . . . .	62
Transformation of Chanute Field Chapel . . . . .	63
New Insignia for 7th Bombardment Group . . . . .	63
Transfer of Major F.H. Coleman to Patterson Field . . . . .	63
War Department Orders . . . . .	63
New Observation Plane at Materiel Division . . . . .	63
Radio . . . . .	64
Well Known Air Corps Employee Passes Away . . . . .	64
The Air Corps Detachment at West Point . . . . .	65
Tough Opponents for March Field Pistol Team . . . . .	65
Notes from Air Corps Fields . . . . .	66 - 74
Inspection Division Notes . . . . .	75

The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation. Publishers are authorized to reprint material appearing herein, except that portion of the News Letter beginning with Notes from Air Corps Fields.

#### AIR CORPS PROGRESS DURING INCUMBENCY OF ASSISTANT SECRETARY DAVISON

**T**HE story of the Hon. F. Trubee Davison's incumbency of the office of Assistant Secretary of War for Aeronautics has been the story of the Five-Year Program for the development of the Army's flying arm. Two weeks after Congress had acted on the recommendations of the Morrow Aircraft Board by its Act of July 2, 1926, Mr. Davison took the oath of office. He found an Act that authorized a certain program, but no funds appropriated by Congress for this development program and no plans for the coordinated efforts of all concerned in the growth that the Air Corps was due to experience.

For the next few months he directed the work of the preparation of estimates for the next fiscal year (1928), whereby the Air Corps could procure the authorized increase in airplanes and flying personnel. The result was an increase of four and one-half million dollars in Air Corps appropriations for F.Y. 1928 over the \$16,937,500 for 1927, and further increases until the peak, in 1931, of \$35,923,473. The presence of an Assistant Secretary was necessary, not only to relieve the Secretary of War in the work of coordinating the increase in Air Corps personnel, but to assume direct responsibility for the Administration in the matter of airplane procurement. A new policy of procurement of experimental aircraft and engines was instituted, based on the Air Corps Cooperative Policy. This policy eliminated the old method of competitive bidding, experimental design competitions and sole source contracts which had all proved very unsatisfactory and in their places substituted a cooperative agreement of mutual benefit to manufacturer and government alike. It now enables the government to terminate experimental contracts at any time should the article not meet requirements or justify further expenditure of funds, and at the same time recognizes any legitimate charges or proprietary rights involved. Under this policy it has been possible to shorten the time required to develop experimental equipment from its inception to the production stage of one year, and to pay for it on an actual cost basis.

In 1927, the new site of the Air Corps Materiel Division was dedicated at Wright Field outside of the city of Dayton, Ohio. The testing facilities there are now the finest in the world, particularly those for testing aircraft engines and propellers. The Power Plant Laboratory is equipped with ten dynamometer stands for testing aircraft engines, both air and liquid-cooled types, up to 1500 horse power, as well as engine cylinders of all types and sizes.

Equipment is now being installed which will make it possible to test aircraft engines at simulated altitudes as high as 30,000 feet. This installation includes special air-conditioning apparatus capable of cooling 185 pounds of air per minute as required for the carburetors of a 1500-horsepower engine, from maximum summer temperatures to temperatures as low as 55 degrees below zero Fahrenheit. A refrigerated test room is also provided for testing liquid-cooled engines developing as much as 800 horsepower in severe winter temperatures of minus 40 degrees Fahrenheit, using carburetor air cooled to the same temperature.

A new torque stand building, recently constructed at Wright Field, provides for the endurance testing of engines and propellers under installation conditions on the airplane. There are seven torque stands of the fixed type, with clearance for swinging propellers and test clubs as large as 18 feet in diameter. In their construction, noise, vibration, and fire hazard have been reduced to the minimum.

The Propeller Testing Laboratory, the only one of its kind in the world, is in an advanced stage of completion. The three whirl stands or test rigs are equipped with electric, propeller driving motors, capable of whirling propellers up to a diameter of 40 feet. These motors develop 2500, 3000 and 6000 horsepower, respectively. The rotating electrical machinery installed in the propeller laboratory aggregates over 48,000 horsepower.

The increase in the high speed performance of military airplanes has been outstanding, particularly in the case of all new tactical types. This increase is largely the result of aerodynamic refinement of the airplane structure, the reduction of drag through the use of retractable landing gear, and the greater engine power. The principal contributions to structural refinement involve the increasing use of low wing monoplane construction, cantilever metal wings, metal monocoque fuselages, inclosed cockpits, retractable landing gears and streamline wheels.

Engine development has no doubt been the greatest factor in increasing performance through the use of higher compression, supercharging, ground boosting, variable pitch propellers, and fuels of higher knock-rating. The American-built air-cooled engine has become more efficient and reliable than those built in foreign countries and has been developed to give a maximum output of 600 horsepower in its present state of development. The liquid-cooled engine has progressed toward the 1,000 h.p. unit. The use of high temperature coolants such as ethylene glycol permits higher operating temperatures and reduces the amount of radiation required fully 70 percent with consequent reduction in installed weight. Power increases and new alloys have brought engine weights close to one pound per horsepower, one-half that of the wartime Liberty.

Further increases in performance have been achieved by means of variable pitch propellers. Reduction in the weight of the blade has been obtained through the use of welded aluminum and new alloys of magnesium. The hollow steel propeller has been brought to a practical stage of development. The turbo supercharger has been brought to a high state of development, both in the gear-driven type as used on air-cooled engines and in the exhaust-driven type as used on liquid-cooled engines. In combination with controllable or automatic propellers now on service test, it will be possible to obtain maximum performance from supercharged engines at all altitudes instead of at a specific altitude as at present.

Within the past two years a complete new complement of armament has been developed for all types of aircraft, both experimental and service test. Among the items causing a decided change in design of tactical types are the electrically-operated, external bomb racks and

release mechanisms, the inside track mount providing a 360-degree angle of fire for flexible machine guns, the relocation of the fixed synchronized guns away from the instrument board to facilitate loading and servicing, and the mounting of free guns in the wing leading edge or landing gear fairing for attack purposes. Bomb sights with automatic releasing mechanisms have actually made possible greater accuracy in bombing from high speed airplanes at high altitudes.

The solution of the difficult problem of fog-flying and blind-landing has met with considerable success through the application of radio and other electrical phenomena. The system developed by the Air Corps is so simple that it requires no additional radio equipment in the airplane other than a radio compass and a boundary marker short wave pick-up, and only a very small light weight transmitter for ground use. In demonstration flights an Air Corps pilot (Capt. Hegenberger) was the first aviator ever to make a successful solo flight, taking off and returning to the starting point without vision outside of the enclosed cockpit, depending solely on the use of instruments. The success of the system marks a great advance in the art of aviation, both from commercial and military standpoints. Investigations have been extended to the development of portable radio beacons and electrified underground cables for localizing landing areas and paths for approach through fog and darkness.

Development of radio communication equipment has produced new aircraft command sets and universal receivers, having ranges of frequencies from 235 to 8000 kilocycles by use of plug-in coils.

For aerial mapping the Air Corps has produced the T-3A (five lens) camera which has been used extensively by the U.S. Geological Survey, the U.S. Coast and Geodetic Survey, and the Corps of Engineers in obtaining photographs for use in preparing maps of several inaccessible regions of the United States. Another camera has been specially developed for taking high altitude photographs and for making large scale mosaics. Other photographic equipment has been developed by the Air Corps for night photography, quick-work photography, and long distance photography. A record photograph for distance of 331 miles was taken of Mount Shasta, Calif., in January, 1932, with an Air Corps camera equipped with special lens, infra red filter and infra red sensitive film.

At present there are few, if any, pre-program airplanes still classed as "in commission" in the Air Corps. Not only have they all been replaced by those of more modern design, but replacements have also been made for airplanes of the later types which were worn out through ordinary wear and tear or which were destroyed by accidents.

The following table indicates the difference in the airplanes on hand since Mr. Davison took office:

	June 30, 1926	June 30, 1932 (Production funds only)	Increase
Pursuit	126	439	313
Bombardment	83	156	73
Attack	0	108	108
Observation and Photographic	578	412	less 166
Cargo, Training and miscellaneous	467	531	64
<b>Total</b>	<b>1254</b>	<b>1646</b>	<b>392</b>

In other words, the 1254 airplanes have practically all been replaced and 392 more airplanes added, to June 30th last, not counting those other airplanes delivered since 1926, which have given up the ghost in the course of their operation. In 1926 there were no special

types of photographic airplanes and no attack airplanes. A number of observation models were used in cases where the basic training models now give far more efficient service, and this accounts in some measure for the present decrease in the number of observation airplanes.

During the same period, purchases out of production funds have totalled as follows for the various types:

Pursuit airplanes -	634	\$11,319,336.
Bombardment airplanes -	230	9,951,274.
Attack airplanes -	164	3,651,536.
Observation and Photographic -	578	11,676,775.
Cargo, Training, Ambulance,		
Miscellaneous -	659	10,698,733.
<b>Total -</b>	<b>2265</b>	<b>\$47,497,654.</b>

The Air Corps, however, needs more than airplanes with which to perform its work. It needs pilots, mechanics, clerks, engineers and administrators, and these people as well as the airplanes which they keep in the air, must be housed. From July 1, 1926, to the present date, \$31,975,655 has been spent on housing of personnel and \$17,079,119 for the storage of airplanes and technical equipment. Real cities have sprung up in those years in the shape of Air Corps stations; and other stations have been brought to an active status and modern buildings erected in the place of temporary shacks and hangars built on them during the emergency of the World War.

Randolph Field, the Air Corps Primary Flying School, near San Antonio, Texas, and Earksdale Field at Shreveport, La., the home of the 20th Pursuit Group, to which will be added the 3rd Attack Group, were farm lands prior to 1926. March Field, Riverside, Calif., has been placed on active status and rebuilt; and after housing one of two primary flying schools is now the home of one of the largest air commands in the world, the 1st Bombardment Wing. The Air Corps Tactical School was recently moved from Langley Field, Va., to a now enlarged station at Maxwell Field, Montgomery, Ala., and the 8th Pursuit Group was then organized at Langley Field to combine with the 2nd Bombardment Group already there and constitute the 2nd Bombardment Wing.

Albrook Field, on the Pacific side in the Canal Zone, is now an active field, and Hamilton and Benton Fields in the San Francisco Bay region are rapidly taking shape. A new Bolling Field is being built just south of the original but inadequate old field at Washington, D.C.

One of Mr. Davison's last official acts was the approval of orders for the organization of the five additional Pursuit squadrons necessary under the terms of the 5-year program.

To man such units, an increase in personnel has naturally been necessary, as follows:

	Air Corps Officers	Detailed in Air Corps	Enlisted Men	Flying Cadets
1926	884	35	8,533	142
Present	1243	107	13,038	252
Increase	359	72	4,465	110

Practically all those officers detailed in the Air Corps are those undergoing flying training at the Flying Schools with a view of transferring permanently to the Air Corps. These schools, and there are several others in the Air Corps besides the flying schools, play an important part in keeping such personnel in a high state of training. From the day that the Office of Assistant Secretary of War for Aeronautics was authorized to the present, 5670 graduates have passed through one or the other of the Air Corps Schools. Those receiving their wings and the rating of Airplane Pilot at Kelly Field numbered

316 officers, 1963 flying cadets, 13 noncommissioned officers and 17 officers and enlisted men of other armies. To this number should be added the aggregate of 21 graduates of all categories from the Lighter-than-Air School at Scott Field, Ill., inoperative since 1929. The Technical School at Chanute Field, Rantoul, Ill., has graduated 210 officers of the Regular Army, Reserve and National Guard Air Corps; 3395 enlisted men of the Air Corps and National Guard, 70 members of other branches of our armed forces, and 23 of other countries. The Engineering School, now at Wright Field, Dayton, Ohio, has graduated 65 officers and 2 Naval officers, and the Tactical School, now at Maxwell Field, Ala., has graduated 103 Air Corps officers, 65 Regular Army officers of other branches of the Army, and 7 officers of other countries. In addition there have been 135 Air Corps graduates of other service schools or of civilian institutions offering specialized courses. Notable records and accomplishments of a high order during Mr. Davison's tenure of office have been numerous. Some of these have gained the designation of "the most meritorious flight or flights of the year in the Army" and have thus earned the award of the Mackay Trophy. Such was the Pan-American Flight, commanded by Major Herbert A. Dargue, in 1926; the California-Hawaii flight of Lieuts. Lester J. Maitland and Albert F. Hegenberger, in 1927; the flight-spinning tests of Lieut. Harry A. Sutton in 1928; the high altitude flights and photography of Captain Albert W. Stevens in 1929; the Arctic Patrol Flight of the 1st Pursuit Group led by Major Ralph Royce in 1930, and the

flight of the huge fleet of 672 airplanes of the 1st Provisional Air Division in 1931 for which leadership the Trophy was awarded the then Assistant Chief of the Air Corps, Brigadier General B.D. Foulis. The Mackay Trophy has not yet been awarded for 1932, but two notable flights will probably be considered by the Awards Board in this respect, the previously mentioned blind solo flight of Lt. Hegenberger and the flight of the 11th Bombardment Squadron commanded by Lieut. Charles H. Howard from March Field in January, whereby tons of food were dropped to thousands of stormbound and starving Navajo Indians in Northern Arizona.

One or more field exercises or concentrations have been held each year except 1932. In some of them the Air Corps has pitted certain of its components against other of its own units. Others have been combined exercises in the use of air and ground arms, such as the Air Corps Anti-Aircraft tests at Fort Humphreys, Va., in 1931, in which valuable data were obtained which should make for greater efficiency in both these branches of the Army.

As incumbent of the office of Assistant Secretary of War for Aeronautics, Mr. Davison has not necessarily confined himself to this office's physical limits. He has flown many hundreds of hours, and at high speed, to and from various Air Corps fields for which he has been responsible and so kept in touch with the Air Corps and its activities.



#### MAJOR BRETT DELIVERS RADIO TALK

Major George H. Brett, Commanding Officer of Selfridge Field, Mt. Clemens, Mich., recently gave a radio talk over Station WXYZ of Detroit, under the auspices of the Sandlot League of that city, an organization whose purpose is to develop athletics among the boys and girls. The subject of Major Brett's talk was "Teamwork," and it illustrated from his own experience in the Air Corps what he knew about the subject. The text of the talk was as follows:

"Having gone through the various stages of youth with probably the normal experiences of the average boy and young man and having now been engaged for seventeen years on probably one of the most dangerous types of work existing in present civilization, I feel that I am in a position to at least express an opinion on the subject of teamwork. The boy or young man who enters competition as an individual neglects one very important phase of training, and that is the ability to appreciate coordination and cooperation with other individuals. The boy or young man who concentrates his athletic activities on sports where the individual is not dependent upon others is usually the worst fault finder with his own team whenever he is thrown into sports which involve teamwork.

Now, taking up the subject of flying, we have had through the past ten years many remarkable individual performance flights, and yet, to me, the most remarkable thing in the flying field today is to see a group of airplanes maneuvering through the air.

In the case of the individual performance flight, the man has nothing to worry about but himself. He and his airplane are the most important things in the world to him, and in all his decisions he is controlled purely by self-preservation and the accomplishment of the work which he has started out to perform.

On the other hand, take the man who is flying as a wing man in a formation of eighteen airplanes, half way back through the formation. He must not only think of himself, but he must keep constantly in mind that any mistake on his

part, any miscalculation or carelessness, may result in either injury or death to two or three men in his immediate vicinity. Although he is flying alone he must constantly bear in mind the fact that he carries the responsibility for the lives of other pilots. Quick thinking, coordination, cooperation, confidence in the ability of others is developed to the highest degree, and all young men who are working on teams should have, to the highest attainable degree, the same objectives.

From the standpoint of sportsmanship there also enters into the air game the actual protection of other people. We have all read of the accident of Hinds in Detroit some two months ago, where the pilot, to protect the lives of children, wrecked his plane, with the possibility of injuring himself. In addition to that, we have numerous instances where a pilot carrying a passenger has actually landed his airplane under the most adverse conditions due to the fact that he was unable to make his passenger jump with the parachute. There are other cases wherein the pilot has been killed due to the fact that he could not get his passenger to jump until too late.

To my way of thinking this is the highest type of sportsmanship. In order to be a good athlete one must be a good sportsman, have excellent coordination, mental and muscular, and must be able to cooperate to the highest degree and have utmost confidence in his teammates.

A Board of Officers, appointed by the Chief of the Air Corps, consisting of Lieut.-Colonel James A. Mars, Major Frank D. Lackland, Captains Ross G. Hoyt, William D. Wheeler, Samuel C. Skemp, William A. Hayward, Eugene L. Eubank, Charles C. Chauncey, and 1st Lieut. Harry A. Halverson, met Monday, February 27th, at Chanute Field, and adjourned the following Friday, after having accomplished their mission, that is, making recommendations for the consolidation of courses and the improvement of the Air Corps Technical School, Chanute



Field, Rantoul, Ill. All visiting officers expressed themselves as surprised at the equipment and instruction given at the School. They did not realize its scope, and everyone went away agreeing to do what they could to improve the calibre of students sent to this School.

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#### BRILLIANT COLORS POPULAR IN TROPICS

After describing the colorings adopted by the 24th and 73th Pursuit and the 44th Observation Squadrons at Albrook Field, Canal Zone, as distinguishing marks for their planes, and which was described in the last issue of the News Letter, our Correspondent adds that color also seems to please both the natives of Chaume, Republic of Panama, and the cattle that roam about all landing fields in the Republic. He goes on to say that "it was hinted that Chaume would be the base of Wing Operations during the maneuvers in February. Therefore, the 44th Observation Squadron was assigned to fix up the field, and 2nd Lieut. Millard C. Young with the necessary men and tools were flown up to Chaume to level out ant hills, fill in ditches and haul rock from the field. The work completed, numerous red and yellow flags were used to designate the only safe runway in the field. Alas, the color was apparently too much for the natives and cattle, as the stakes are still standing, but Lieut. Young's red and yellow cloth is strangely absent. Some pilots say the cattle look less hungry, but there were numerous red and yellow handkerchiefs in and about Chaume when your correspondent landed there two days later."

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#### COLD WEATHER TEST OF FLYING EQUIPMENT

During the week ending February 11th, the Winter Test Detachment, organized at Selfridge Field to test the efficiency of airplane cold weather equipment, had such ideal test conditions at their home port that they did not travel north as was planned. For nearly a week the weather was intensely cold and the ground was covered with snow. Engine heaters and starters proved their efficiency or inefficiency in temperatures that went as low as 13 below zero, while the snow on the field enabled skis to be tested on landings and take-offs.

When the weather again turned warm, the Detachment took off for colder climes. On Feb. 14th, the whole Detachment, including five Selfridge Field Pursuit ships and two Bombers from Langley Field, flew to Sault Ste. Marie in northern Michigan, where there is plenty of cold and snow for their purposes. The outfit contemplated staying up north for three days and then return to Selfridge for a short rest before going on a trip to Duluth for some more frigid experiences. The flying personnel of the Detachment includes Major A.H. Gilkeson and 2nd Lieuts. Warburton, Olds, Griswold, Ryan, Bradley, Smith and Hughes.

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#### PICTURING STUDENT LIFE AT TECHNICAL SCHOOL

The Department of Photography of the Air Corps Technical School, Chanute Field, Rantoul, Ill., has begun a motion picture of the history and experiences of Air Corps, Chanute Field, Recruits, of the student body cadre of the Technical School, from the time they dismount at the Rantoul railroad station or bus terminal until they depart from Chanute Field. This picture will include scenes such as their first entrance through the main gate, the receiving barracks, uniform clothing issue, medical and dental examinations, messing, drills, entrance in school, classroom scenes, inspections, athletics, day room recreation, graduation, and departure of the soldier graduate by airplane

for his new station. Though the motion picture has not yet been completed, parts of it were presented at preview to various officers interested, and it promises to be a most interesting and valuable project, worthy in its completed form of extensive circulation.

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#### LAKE ST. CLAIR ZONED FOR RESCUE PURPOSES

An Operations Memorandum recently issued by the 1st Pursuit Group Headquarters, Selfridge Field, revealed a new rescue system for use in case planes are forced down on Lake St. Clair. The system, which has been devised by Captain R.G. Hoyt, Group Operations Officer, under the direction of Major George H. Brett, the Commanding Officer, provides for ready location and quick relief for occupants of disabled planes on the water.

Maps of Lake St. Clair have been posted in the Post Operations office and the Post boat house on the Lake. These maps have been zoned by lines radiating from Selfridge Field and the zones named after some prominent landmark in each zone.

In case of a forced landing in the Lake, the pilot observing the position of the airplane will get the approximate bearing of the line passing through Selfridge Field and the disabled aircraft. Upon landing, the reporting pilot will immediately determine the zone by referring to the map in Post Operations and report to the Post Operations Officer, who will issue the appropriate orders for employing the amphibian rescue plane or the speedboat.

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#### FIRE DESTROYS LUKE FIELD HANGAR

For the second time during the last two years, the 23rd Bombardment Squadron was visited by a disastrous fire - January 18th - this time destroying the hangar and the parachute building and causing damage exceeding \$100,000. The fire was discovered by Sergeant Vickery while playing baseball on the flying field. He noticed smoke coming from the Parachute Department, and the alarm brought sufficient men out immediately to remove all airplanes from the hangar except one. "This," says the News Letter Correspondent, "was old No. 215 that had been expected to aid us in our camouflage experiments. It required just twelve minutes, after the alarm sounded, to open the doors and drag the other seven planes to safety. Due to the high wind prevailing, it was impossible to combat the fire with any degree of success, it having gotten a good start before being discovered. We give the Navy credit here for such prompt assistance with their fire fighting equipment, and they know how to use it. One man in the Squadron, possibly remembering the fire in 1931, took no chances. Long after all others had left the scene of the fire, he was discovered atop his tent with a "Pyrene," Don't blame him, though, for he had a nice paint job on his shack."

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The following Reserve and National Guard officers recently reported at the Air Corps Technical School, Chanute Field, for a three months' course in Photography:

Captains Gerald V. Kelley, Vincent B. Moore, 1st Lieuts. Reed E. Davis, Joe O. Edge, 2nd Lieuts. John J. Mulvey, John E. Sandow, Air Reserve; 1st Lieut. Frank A. Low, Minnesota National Guard, and 2nd Lieut. Paul W. Flanary of the Tennessee National Guard.

They will pursue this course under the direction of Lieut. George W. Goddard, Director of the Dept. of Photography, and under the special supervision of Lt. James S. Stowell, Instructor in the Department of Photography.

## FIELD ARTILLERY AND THE LOW-FLYING ATTACK

By Major Louis E. Hibbs, Field Artillery

Note: This article is reprinted from the Field Artillery Journal by special permission of the editor of this publication, Major Dean Hudnutt, F.A., as well as of the author, who, during two different tours of duty, was associated with Air Corps organizations, the first instance at Fort Sill, Okla., when a student at the Field Artillery School and then as an instructor of the Department of Tactics at that institution, and later as a member of the Field Artillery Board at Fort Bragg, N.C.; his present station, to which he was assigned following a tour of duty in Hawaii.

Major Hibbs is a graduate of West Point, Class of 1916. After serving overseas during the War, when he was wounded in action, he served as aid to Gen. Douglas MacArthur, then Superintendent of the Military Academy. Later he served as Adjutant thereat. He graduated from the Command and General Staff School, Fort Leavenworth, Kansas, in 1927.

THIS article is not intended to open a controversy - to grind any axes or plead any causes; it endeavors to be an impartial examination into a problem which confronts every Field Artilleryman: if not as a burning actuality in these times of peace - when our attention tends to wander off, not unaccountably, into clothing records, gunners' examinations, schools for bakers and cooks and many other kindred channels - at least with startling certainty as a prospect in any future major war. Much of what is contained herein is conjecture; much will be subject to individual differences of opinion, since much is individual opinion; and much will be conclusion reached through theory - not tested - and therefore inconclusive: much of what is written here, however, will afford food for thought and development and herein lies the justification for its writing. It is quite certain that in any future war, large or small, we are going to be attacked by low-flying aircraft: certain at least until we have developed an adequate defense against such attack, and it is with the broad phases of this subject that we herein will concern ourselves.

There are, generally speaking, two classes of air units which are intended for attack of ground troops, a class which operates at high or moderately high altitude and a class operating at extremely low altitude in a type of flight characteristically known as "hedge-hopping." This low flying class is known in our service as attack aviation; the individual plane, as the attack plane. It is with defense against this attack aviation that we of the Field Artillery are so vitally concerned.

We may expect to be protected by our own pursuit planes and by our organized anti-aircraft ground units against enemy aircraft operating at high, or moderately high, altitude; indeed such protection necessarily must be undertaken by other agencies, for we cannot expect to man the expensive and extensive means to protect ourselves against this type of aircraft and still be equipped for efficient performance of our battle missions. When, however, we examine the subject of protection against attack aviation we find it a different matter entirely, for the protection which can be afforded by the above agencies against the low flying aircraft, i. e., against attack aviation, is very meagre; it is quite apparent that we must provide our own protection in this case.

In immediate defense against this latter type of attack we may expect little help from our pursuit planes, for pursuit aviation seeks combat at higher elevations where it is better able to utilize its speed and maneuverability. This is particularly true of combat between attack

attack aviation and pursuit, since pursuit, as a type, is generally inferior in armament and needs to utilize in combat the superiority it otherwise possesses in order to make up for this inequality. In passing, it is interesting to note that in combat the probability of the pursuit type of plane's being the victor over the attack type of plane is at present subject to argument, the attack type finding not a few adherents to argue the possibility that it would be the superior. Of course, if this possibility should develop into fact the pursuit type as we know it will probably disappear in favor of the attack type; this, however, is outside of our discussion.

Against planes flying at very low altitudes the larger caliber guns of the anti-aircraft units are practically helpless, due to the possibility of endangering our own ground troops by fire, and due also to the short periods of time during which the planes may be expected to remain in view, appearing now here, and now there - dipping in and out of the folds of the ground. Present equipment for these guns does not contemplate their engaging such targets. We may expect some protection from the small caliber guns of the anti-aircraft units, but these again will be avoided by the enemy when their location is known to him and they will be little better off in action against him than our own small caliber weapons unless (which is not likely) they be placed in our own columns or positions, for in attack of ground troops the attack plane is most vulnerable to fire from the position of the target attacked, as will appear later. So, while we should be grateful for the presence and assistance of these small caliber anti-aircraft installations, we must not count upon them, for there is small probability of their being present in such numbers, or so fortuitously, as to be competent to take over, in its entirety, a responsibility which concerns us so primarily and which we can be, and should be, equipped to handle.

The basic principles under which attack aviation operates against ground troops emphasize the characteristics of surprise action at low altitude, high speed, and a quick getaway. The attack plane seeks the concealment of terrain features until within short range of its target, flying at very low altitude, and attacks at high speed on a single sweep over its target, regaining concealment by terrain features as quickly as possible. Such surprise action heightens the moral effect of the attack upon ground troops and reduces the time available to them for taking cover or, by scattering, to reduce the effectiveness of fire from the plane. In addition, such tactics reduces the possibility of the plane's being shot down by the ground troops by reducing the time available to them for firing on the plane and because the high speed and low altitude of the plane increases its angular speed as viewed from the ground troops' defensive guns, thereby making the plane more difficult to hit.

The advantages resulting from operation according to these basic principles are so marked that we may expect no material departure from them until defensive measures are developed which may be so effective as to make such operation unprofitable: therefore our defensive measures against air attack should be designed to meet attacks so delivered. The weapons to be employed by attack aviation will certainly include both machine guns and bombs and, possibly, chemical agents though the latter, except smoke, are conceived to be more profitably suited to air formations other than the low flying attack. Smoke might find a use in obscuring the at-

tacking planes from the ground in order to reduce the danger from fire of ground weapons. However, it has three aspects disadvantageous to the plane; for it obscures the target, it may cause collision as between planes or between the plane and ground objects, and, since to be effective it should be placed prior to the attack, it reduces the surprise effect; for these reasons its use appears problematical.

One type of our present attack planes carries ten bombs. Of course the complement of bombs is susceptible of increase, but since additional weight cuts down speed and maneuverability a balance will always be struck in such matters. There seems little probability that this number of bombs can be very materially increased without sacrificing maneuverability which can ill be spared; in any event the number of bombs carried will have little effect probably upon the tactics of attack aviation, so for purposes of discussion we may disregard it. The type of bomb to be carried does not enter into our discussion since it affects the altitude from which the plane may drop them and thereby does affect the tactics of attack.

Generally speaking, in attack columns on the road or troops in the open, the most effect from machine gun fire from the attack plane will be had when the plane is at very low altitude, for then the fire is the least plunging and, in addition, considerable effect is likely to be had from ricochets. At the present time it is understood that developments are under way looking to the production of some type of bomb which will be delayed in either its action, such as delay-fuzed bomb, or in its flight, such as one equipped with a parachute. This development is desired for the purpose of permitting the dropping of bombs from a plane at extremely low altitude and with safety to the plane, because the delayed operation of the bomb will permit the plane to pass beyond the danger range before the bomb detonates. Lack of such a bomb has in the past made it dangerous to the plane to drop bombs at the altitudes which are desirable for machine gun attack and has resulted in the practical necessity of refraining from dropping bombs as a combined attack taking place concurrently with the machine gun attack. This has made it necessary either to seek higher altitudes for the combined attack or for the attack plane to return, after completion of the machine gun attack, and execute its bombing attack at higher altitude. Either of these alternatives has been undesirable; the first reduces the effect of machine gun fire, the second sacrifices surprise effect and re-exposes the plane to fire.

The development of this bomb has not been carried to a conclusion, but successful accomplishment of the result may be confidently expected.

Present thought on attack planes equips them with from four to six (and possibly eight) fixed machine guns firing to the front and at least two guns which may be fired at will to the sides and rear, a veritable arsenal! The fixed guns are mounted across the full wing spread of the plane and are so sighted as to sweep a broad path ahead of the plane. The fixed guns at present carry some 300 rounds of ammunition each; when this is exhausted it may not be replaced until the plane lands and is reserviced. With rates of fire of about 700 rounds per minute, the plane has about twenty-six seconds' continuous fire possible from its wing guns. This may seem to be a short period of fire, but it must be recalled that fire will be executed in bursts and that at the speeds with which the plane attacks, these groups of bursts will be of short duration, probably not exceeding five to ten seconds each. In the case of a plane flying 200 miles per hour this amount of ammunition would permit the plane if it so desired, to fire continuously while it swept a stretch of road about 2600 yards long.

Since the attack plane is most likely to come under fire of ground troops at short range, its greatest danger is from fire of small caliber

guns. Of these weapons the commonest by far are those of the rifle calibers, approximately caliber .30. It is entirely possible that the vital portions of the plane will be armored to withstand this caliber—even perhaps the armor piercing bullet of this caliber. This addition of armor to the plane will surely be accepted reluctantly by air forces, for it will mean greatly increased weight, but it seems a probable development and it is mentioned here to point out the fact that we may have to go to increased velocities, or larger calibers, or both, in our small caliber anti-aircraft weapons.

Since speed is one of the major requirements of a plane suitable for attack aviation, it is quite certain that such planes will be capable of at least 200 miles per hour and our defensive plans should be based upon that figure as a minimum.

Let us pause for a moment and look at what the attack plane may be when we discover it rearing in on one of our columns:

If it is a two-seater, single-motored plane, either biplane or monoplane, and is equipped with mufflers to cut down its motor roar. It carries armor which is proof against the caliber .30 bullet, protecting its vital points and its occupants from fire directed at the plane from the front, from below, and from the sides. It has an armored shutter for protection of its air-cooled motor while under fire, or has a V-type motor, armor protected, with an armor shutter for periodic protection of its radiator. It carries ten bombs which it may release simultaneously, or in succession, or in any other desired manner. It mounts eight caliber .30 machine guns; two swivel mounted as a pair in the rear cockpit, two on the wing each side of the fuselage and half way out to the wing tip, and two mounted in the landing gear below the reach of the tips of the propeller. These latter six machine guns are fixed guns and are so sighted as to place their cones of fire equally spaced over a front of sixty feet at about 200 yards in front of the plane. In direction the center of their pattern coincides with the center line of the plane. These fixed guns are controlled by aiming the plane, though a portion of them may be set to sweep the ground ahead of the plane even though the plane be flying a course parallel to the ground. There are two advantages sought from this last named arrangement: first, the plane when attacking a column can continue fire with its fixed guns even though it has levelled-off to drop its bombs; second, it affords additional safety to the plane, for if the plane is required to fly straight at its target, it presents itself during this short period of time as a practically stationary target to any machine guns which it is directly approaching. In this case, it is more easily hit than when it is flying parallel to the ground, for then it must be led by a machine gun even though the plane is going to pass directly above the gun.

As we have said before, attack aviation seeks to attack without warning, strike quickly, and be gone before it can be taken under fire. It relies upon its hedge-hopping flight to afford it immunity from attack by pursuit planes and large caliber anti-aircraft guns, fire and to conceal the fact of its presence and its purpose from the target which it is planning to strike.

In wooded country attack planes will have little difficulty in concealing themselves from view of their intended target, particularly if they have any prior knowledge of the terrain over which they are operating. Where the country is open and rolling, their task of concealment will be considerably more dif-

difficult, and, in country which is not only open but which is also flat, such as is found in some of our central states, they will need to be very skillfully led to effect surprise on a vigilant enemy. Their task of effecting surprise on average terrain will not be as easy of accomplishment as casual mention of it may lead us to believe, but unless we are trained in vigilance it will be attained, probably much to our sorrow, and probably when we least expect it.

The attack planes will probably select the nearest cover to the target as the point from which to launch their attack unless, of course, this cover is so situated as to disclose their presence before advantage may be taken of it, or unless more advantage may result to the planes by reason of other considerations, such as attack with the sun behind their backs. Generally speaking, attacks will probably not be initiated from cover more distant than 500 yards, for greater distance exposes the plane for a longer time and at an initial range which is long for maximum effect from their machine guns. When cover close to the target exists, and other considerations do not mitigate against its use, the closest cover will probably be used. The utilization of the closest cover could, of course, be carried to an absurdity by selecting cover which is too close for effective attack; considerations of danger to the plane by reason of the length of time of exposure will always have to be balanced against those relating to effect upon the target.

As a general rule, it seems reasonable to suppose that the greatest danger to us will come from the direction of the closest cover and, when the sun is shining in the early part of the morning and the late part of the afternoon, from the direction of the sun, especially when cover which might easily be utilized lies in that direction.

In practically all cases the attack may be expected to pass directly over the target, for, while the machine gun attack will probably always initiate the action, it is upon bombs that the main reliance for effect will be placed.

The most profitable form of target for attack will be that which may be taken in enfilade. Such a target is best suited for attack by machine gun fire due to the elongated pattern of the gun, and is more easily hit by bombs because of the length of the target. We can count, almost surely, that when we are in a position where enfilade attack is open to selection by the enemy, and other considerations are not paramount importance, that he will so attack. Of course, where considerations of cover and protection to the plane are at variance with the considerations of target vulnerability, the plane will probably be governed in its actions by the former. That is to say, if, for instance, the only cover permitting surprise action exists on the flank of a column and the column may only be enfiladed by attack from other directions and from which no surprise may be effected, then the attack will probably not be made in enfilade.

Or, taking another case, with the sun low in the heavens a battery which is just going into position will probably be attacked from the direction of the sun, regardless of whether the attack is in enfilade or not. It is pertinent here to point out that it is the direction of flight of the plane while attacking, with respect to the direction of the longer axis of the target, which determines whether or not the attack is in enfilade; not necessarily the position, with respect to the target, of the cover from behind which the plane first appears. For example, a column on a road, closely wooded on each side, may easily be attacked in enfilade though the cover is on the flanks, the plane merely coming

in over the trees and turning up or down the column.

In enfilade attack, the length of target to be attacked by any one plane, or by a group of planes acting as a unit, will probably be limited to that which can be effectively covered by the bombs carried by the plane, dropped in succession. At the present time opinion seems to be fairly well centered upon a length of 400 yards as being the maximum length which is appropriate for such attack. In the attack of targets of smaller length it seems probable that only the number of bombs necessary for effective coverage will be dropped and the remainder conserved for subsequent use, unless the target is very concentrated and of a high order of importance with a high order of effect desired, in which case a more powerful concentration may be in order.

In attacking a column, a group of three planes will generally attack as a unit; the central plane attacking in enfilade over the column. The remaining two planes, slightly echeloned to the rear, will attack one on each side of the column, the effect from their fire and bombs adjacent to, or overlapping, that of the central plane. This method, even though the column be long, is preferred to a method wherein each plane attacks a portion of the column with all three attacking simultaneously, or the alternative method of each one's attacking the same portion of the column in rapid succession. The latter form of attack of any target is not looked upon with favor because of the loss of the moral effect of surprise action and because of the danger to the planes which follow the leader, by reason of fire from the forewarned ground troops.

What we may expect in the nature of target attack is very much a matter of conjecture. At night there is the ever present danger to the plane from collision with his fellows or with ground objects, even on clear bright nights and illumination provided by flares. This danger will undoubtedly act as a deterrent to attack and, while it will not prevent attack, it is probable that low-flying attack at night will give way to night attacks at greater altitude, in which case the use of machine guns against ground troops may be unprofitable and bombs alone will be used.

We must not be misled by these conjectures into an assumption that we will not be attacked at night; on the contrary it seems most probable that we will be and that these attacks will become more and more frequent as our daylight anti-aircraft defensive fires increase in efficiency. If we can make it costly to the enemy to attack by daylight, which is the time when we can best see his planes, he may be expected to make the bulk of his attacks at night - for then our difficulties will be greatly increased with respect to the fire of ground weapons because of the difficulty of seeing the plane - even though the efficiency of attack be lessened because it is made at higher altitude in order to reduce the danger of collision. It also seems probable that except on clear bright nights the use of flares will be common, if not to light the target during attack, at least to disclose its position. This practice will reduce the surprise effect, but its moral effect will be high for it is a nerve-wracking experience to stand conspicuously in the spotlight of a flare and wait for a shower of bombs, especially when the plane is not visible and one stands little chance of even getting a shot at him!

Summing up, it sounds as though it were going to be pretty tough on the ground troops, but there are several things at least from which we may derive some comfort:

In the first place, planes cost money and they are costly to maintain and take time to manufacture; in all probability, therefore, we are not going to be attacked continually by

swarms of planes nor there are other, and possibly, more profitable, uses for them.

Secondly, after exhausting their bombs and ammunition in attack, it is necessary for planes to return to a base of operations and be reserviced. During these journeys, if they seek altitude the planes will be in danger from our own planes and from our anti-aircraft fire, and, above all, at night must land in illuminated landing fields, which will be, consequently, excellent targets for bombing attacks by our own planes. Here, indeed, is a potential shutting down of their night activity at the source which must not be overlooked.

Thirdly, in the daytime, attack planes may expect to be in continual danger from ground fire. Casual mention of "hedge-hopping" as the accepted method of concealing the attack from the target implies its routine practicability, but it is not going to be easily practicable for the planes, for it must be remembered that in operations involving any large number of troops, all roads throughout an area or all folds in the ground, will probably be occupied by troops, and it will be difficult for planes seeking concealment from their selected target to avoid coming under fire of other units. There is a lesson in this statement which we will do well to record here before we overlook it: all low-flying enemy planes should be attacked wherever they appear unless orders to the contrary have been issued (such as might be necessary in order to avoid disclosure of movements at night, or location of important installations). Certainly, in daylight marches, all columns should endeavor to bring the enemy down whenever he is within range without regard to his actions or intentions. This introduces a problem of identification of our own planes, to avoid taking them under fire - failing a sure and instant means of identification, we might better keep them well off the tree tops than allow the enemy to pass peacefully while we determine his nationality.

The foregoing discussion has been necessary in order that we may approach the second part of this article with an understanding of what our enemy is going to be, and how, when and where he may be expected to act.

There are three ways in which we may drive off the enemy's attack aviation, or escape the effect of its attacks:

The first is to conceal ourselves from him; a result which will unquestionably be sought to the limit of its capabilities. Unfortunately, moving on roads or across country, even the daylight concealment of foot troops from view of a low-flying plane is a difficult matter; when we come to the problem of concealment of vehicles it becomes well-nigh impossible. At night the concealment problem is not so difficult, but developments in illuminating flares are rapidly making it more so; certainly movement at night on roads which are suspected by the enemy will be difficult of accomplishment without his knowledge if he is determined upon its discovery.

The second way, avoiding the effect of the enemy's fire, is to so spread out our ground troops as to reduce the resulting casualties or, what is better, so as to make attack unprofitable by reason of the thin target presented. Such procedure, after discovery of the enemy's intended attack, is not practicable by reason of the time element, as will be shown later; if the future tactics of attack aviation develop into attacks at night rather than in the daytime, or if they develop into a serious threat against us without any effective counteroffensive measures being possible on our part, then we may find that our movements in the presence of hostile aviation must be made in a scattered formation and not confined to the roads. Such an eventuality seems far-

fetched indeed, but is not beyond the realm of possibility, even though it would entail a great loss of mobility and maneuverability and great difficulty in maintaining control.

The third, and by far the most effective way of combating the enemy low-flying attack is to develop our anti-aircraft fire, or other offensive means, so as to make this form of attack unprofitable to the enemy.

If we can bring down enough of the enemy's planes to make it a definite menace to him to come sweeping in over us at very low altitude, it may be expected to result in his abandoning the low-flying attack during daylight in favor of higher altitude where he must content himself with bombing, and where he is reasonably safe from the fire of small calibers. Driving him up into the air will result in: (a) reduction of his accuracy in bombing; (b) increased danger of attack of his planes by our own planes; (c) an opportunity for the employment of our larger caliber anti-aircraft guns against him; (d) loss to him of the surprise and moral effect of low-flying attack; (e) increased chances of our troops' not being discovered, thereby escaping attack.

Of these three methods of combating the attack aviation, the first mentioned, that of concealment, is almost impossible; the second, that of presenting a thin target only, should be considered in the light of a last resort, for it entails making great sacrifices in mobility and control and accepting the lesser of two evils on account of the number of casualties we would otherwise suffer. (Of course, we will unquestionably utilize certain formations which partake of the "scattered target" type; what is referred to here as a last resort is the habitual departure from formations on roads and the movement of all troops across country on broad fronts.) The third method, that of driving the enemy up into the air, is the one to which we should look. It will undoubtedly require equipment which we do not now possess and probably intense study and development; with possible sacrifices in added weight and equipment. If, however, we must make sacrifices to obtain immunity from this type of attack then there is no alternative.

While we speak thus of immunity from this low-flying attack, we must take it with a grain of salt, for obviously there will arise tactical situations where the results obtained from such attack, even though the casualties in planes be large, will justify their being carried out. Such situations may, for example, arise in the need for delaying pursuit or retreat and will probably occur in such critical stages of actions. Our immunity to this form of attack, granting that we may secure it, will therefore only apply to the usual run of operations; even if there secured, it will be necessary for us to be continually vigilant in order to retain it.

Field artillery is most vulnerable to attack in its animals. The horse is a large target and is amazingly easily put out of action by shell fragments, especially when struck in the barrel; in addition he is extremely susceptible to being stampeded and readily injures himself when running blindly in a terrorized state. Thus we may say without fear of contradiction that the most vulnerable target which Field Artillery presents to the attack plane is a horse-drawn unit in column on the road; next in order of vulnerability are those formations or installations where the animals are grouped as a more or less concentrated target - horse-drawn batteries going into or

\*A fourth method of combating the attack, i. e., that of utilizing armor for protection, is not discussed here for reasons of weight and impracticability, though its use does appear later in special forms.

out of action, horse-lines or limber positions exposed to attack, large groups of mounted men, etc. The crippling of the animals of a Field Artillery unit may be more effective, and a much more costly loss to us in battle efficiency, than an equal percentage of losses in personnel. This may sound like a cold blooded "cannon-fodder" statement but it is basically true: two men from a gun crew of nine may fire the piece and later even serve as drivers, but a gun team of one pair is inadequate to handle the carriage except in the easiest sort of going.

Here, by way of not glossing over an unwelcome truth, let us pause to note that in this matter of vulnerability of animals lies another cogent reason for adoption of motor transport for future artillery use. Truly, if "a battery seen is a battery lost" (and this saying implies "lost by reason of the enemy's artillery fire"), how much more applicable may it be to a horse drawn unit caught in column on the road by a flight of attack planes? It requires little imagination to picture the result. Even supposing that no casualties result from the attack, there must certainly be a demoralizing disorganization which it will take many minutes to rectify - and who can fancy a situation where no casualties will have resulted when all of our drivers, our mounted men, and our animals, have been completely exposed to the fire and to accident attendant upon the stampede of such teams as become terrified by the gun fire and bombs - both our own and the enemy's? (This is not a wildly imaginative picture conjured up for effect, such as appear in press and print devoted to sensationalism, but arises from a sad conviction of certainty supported by experience of fire far less potentially effective than we may expect from a flight of attack planes.) On the other hand we may armor the vital parts of motors, and, when attacked the personnel may seek what little cover they can take in the short time available to them.

To return to our discussion, we may place next in order of vulnerability of units, those which are motor-drawn, in the order; columns, and concentrated targets where personnel is also present. Batteries in position are considered to be of a low order of vulnerability when shelter has been provided for personnel. If attack by planes is a common procedure of the enemy, small trenches to shelter personnel of the gun crews will appear as if by magic upon occupation of the position and without materially cutting down the efficiency of the fire of the battery. Once having provided pits to shelter personnel a battery in position cannot be classed as a very vulnerable target for attack.

To be concluded in next issue.

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#### RANDOLPH HOLDS FIRST REUNION

In response to an invitation extended by the Flying Cadet Battalion to all officers who had received flying training since September, 1922, over 400 airmen gathered in the spacious Flying Cadet Mess Hall on the evening of February 21st and pledged their enthusiastic support to the further crystallization of class esprit and Air Corps tradition.

Among the distinguished officers whose presence made this meeting of primary importance to the Air Corps were General Danforth, Commanding General of the Air Corps Training Center; Colonel Clagett, Commandant of the Air Corps Advanced Flying School; Major Martin, Commandant of the Air Corps Primary Flying School; Colonels Harwood, Clark, Majors Lackland and Miller.

In a short introductory address, Lieut. Griffiss outlined the purpose of the gathering and urged graduates and undergraduates to

"Keep alive the flying days of yesterday," pointing out that this could be done by "Giving our whole-hearted support to the Flying Cadets in their endeavor to develop Class Esprit and Air Corps Tradition." Major Martin spoke concerning the work of training fundamentally sound flyers at the post under his command. Col. Clagett outlined the program carried on at Kelly Field during the advanced stage of training the military pilot; and Major Lackland, Commanding Officer of Brooks Field, gave an outline of the duties of a tactical unit, thus summing up the three stages of advance from dodo to junior officer.

In discussing the serious question of air discipline, General Danforth urged the large gathering of flyers, and the Flying Cadets in particular, "Never take any foolish chances. No matter where you are, where you are assigned, or how "hot" you get, remember there are hazards enough incidental to flying....and that an accident can happen to you the same as to Tom, Dick or Harry."

Tables were arranged according to classes since the beginning of the present training system, and there were few classes which were not represented by men who had taken the course as Flying Cadets and graduated into the world of military flying. The Cattlet and Williams trophies were awarded to Flying Cadets League and Eskridge for meritorious military and athletic service, respectively; and Flying Cadet Brown received thanks from Lieut. Griffiss, representing the graduate and undergraduate bodies, for conceiving the idea and writing the words for the song "Sons of Randolph," which is henceforth to be the official song of the Flying Cadet Battalion.

From the Fresh Crab cocktail which opened the meal to the coffee and cigars which marked its close, the banquet was tasty and well served, with absolute minimum of delay due to the large number of guests.

Beside each place was placed a copy of the Air Corps Primary School roster, a small blue booklet containing the record of every man who enrolled in the primary schools at Brooks Field, March Field or Randolph Field. Many thousand names, as well as exhaustive statistical studies by class and group, made this publication one of the chief sources of interest throughout the evening. Flying Cadets were interested in looking up their instructors and friends, while the older members of the group were perhaps turning back the pages of time as they found names of former classmates. The importance of this booklet, published at a time when all minds were turned toward the problem of bringing shape and form to Air Corps tradition, is inestimable. It is a starting point from which all future records must be reckoned.

An amusing program, composed of skits and songs, followed the speeches. The skits were played by Flying Cadets, while the songs were sung by the entire body. Flying Cadets Kruse, Altenburg and Dunahoo were outstanding with their skit in which General Danforth, Major Martin and Captain Cannon were represented in pantomime and treated summarily in the spirit of fun which prevailed.

The first class reunion of past and present students of the Air Corps Training Center was a tremendous success. The date of future reunions will be October twelfth of each year, and on that date it is hoped all former students, whether graduated or not, whether Flying Cadets, Student Officers, Training in Grade, or Foreign students will again gather with fellow classmates to fly over again the old days on Primary, Basic and Advanced Stages and experience that heartening sense of belonging in fact or in spirit to that great body of fine men, the Air Corps.

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Ma, what does Pa mean by a streamlined model? I don't know, son, but if it's what I think - he better look out.

## WINTER TEST DETACHMENT RETURNS FROM THE NORTH

Eight pilots and planes, under the command of Major Adlai H. Gilkeson, recently returned to their home station at Selfridge Field, Mich. from a three-day excursion into the land of lower temperatures. "Sault Ste. Marie isn't the most northerly point in our country, but isn't far short of it," says the News Letter Correspondent, "so there Army planes were routed to the 'Soc' as the location for their winter testing.

The Winter Test Detachment, as the eight pilots and planes and their mechanics are called, is the result of recent developments in cold weather flying material. The Army has developed numerous devices for starting motors in extremely cold weather, experimented in new and lighter oils for cold flying and has developed several kinds of skis for use in dense snow. None of these developments can be tested thoroughly at existing Army fields, so it became necessary to seek colder climates and deeper snow. The expedition consisted of one P-12E, one P-12F, one P-12C, one P-6E and one P-16 two seater Pursuit, two B-6 Bombers from Langley Field, and one Ford Transport. All ships were equipped with some kind of skis except the Ford and one Bomber.

Very excellent weather conditions for preparatory tests were encountered at Selfridge Field for several days previous to departure. The temperature dropped to a low of -13F and stayed around zero for three days. The planes were staked down outside the hangars and each day attempts at starting were made. On the first morning very poor results were obtained, due to the crew's inexperience in starting very cold motors and to the fact that they had not become sufficiently acquainted with the oil burning heaters used in warming up the motors. Before the expedition set out, however, it had become quite efficient at starting and no motor required more than half an hour's heat and cranking to start perfectly. The flight to Sault Ste. Marie was without any unusual event. Landing was accomplished without mishap and a foot of snow was found on the field. The planes were staked down and covered (there is no hangar at the airport) and left under guard for the night. The following day the weather was slightly disappointing, being only five above. In fact, the temperature during the three days never went much below zero. All motors were started within half an hour the following morning, and numerous test flights were carried out. The Bomber with three skis found it impossible even to taxi. The texture of the snow seemed to have changed during the night and great quantities were frozen to the skis. It was soon found that in parking skis for the night, straw or planking should be placed between ski and snow to prevent freezing. All machine guns were found to function satisfactorily, but a lighter grade oil for their moving parts was found necessary.

Several of the pilots visited the Headquarters of the Provincial Flying Services, Inc., located at Sault Ste. Marie, Canada. There we learned that our little cold weather experimenting was mere child's play - we were shown flight reports where the temperature varied between thirty and fifty three below for an entire week. An interesting story was told of one Canadian pilot who was forced down a thousand miles in the interior and whose propeller was smashed in landing. The pilot and his mechanic set to work, and within six weeks they killed a Caribou, made glue and fashioned a wood propeller from an old ski which they carried. The Winter Test Detachment expects to make a flight to Duluth very shortly and is hoping to find deeper snow and lower temperatures.

The frozen north is not so frozen, according to tales brought back by members of the Winter Test Detachment, who have just returned from a ten-day stay at Duluth, Minn., where they have been testing newly developed cold weather oils, engine starters, engine warmers, and ski landing gears. The officers and men of the Detachment admitted the temperature was pretty low up in that latitude, but the warmth of the Duluth hospitality made up for the coldness of the weather. The days were filled with hard work and hard flying, many flights being made to altitude where minus 40 temperatures could be found and many landings being made on the snow-covered airport. The mechanics worked fast and furiously repairing damaged equipment and starting engines that had been purposely left outdoors for many hours in sub-zero temperatures. But the good people of Duluth made sure that the evenings furnished relaxation from the day's work of the pilots and mechanics. Major Lyman, Corps of Engineers, who is stationed at Duluth, made sure that no one lacked for entertainment, and he helped organize many parties and introduced the military men to the civilian population.

Official reports as to the work accomplished by the Winter Test Detachment are now being made out. The Detachment will be disbanded shortly. Major Adlai H. Gilkeson, Commanding the Detachment, hopes, however, that the outfit will be reorganized next winter for tests farther afield. He believes that real and final data can only be obtained by operating in Alaska, where the ultimate in winter weather conditions can be encountered.

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## ORGANIZATION OF TRANSPORT SQUADRONS

Pursuant to instructions received from the Chief of the Air Corps Materiel Division, the 2nd Provisional Air Transport Squadron was constituted at the San Antonio Air Depot, Duncan Field, Texas, with the station Operations Officer as the Commanding Officer and Operations Officer thereof, the remainder of its personnel to be such enlisted pilots as may be assigned to the Depot for general transport duty. This is one of the provisional squadrons constituted at each of the continental Air Depots as a part of the First Provisional Air Transport Group, to be considered as a provisional and embryonic organization, under the new Air Corps policy looking to the establishment of such a Group with the basic function of supplying tactical organizations in the field, and the further function of transporting supplies from the Depots to stations in their Control Areas.

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## SOLDIER BECOMES COLLEGIATE

"Much newspaper publicity, both pro and con," says the News Letter Correspondent, "has been given to the public question of whether Chanute Field and the Air Corps Technical School will be retained at Rantoul, or moved to another location. The Chanute Field Correspondent feels unable to express his personal opinion in this debate, even though he elected to do so. However, there has only recently appeared one decided advantage of retention of the school so near to Champaign-Urbane, the seat of the University of Illinois. The cultural value to soldiers of this close association with one of the foremost educational institutions of the nation was strikingly set forth a short time ago, when a recruit was called to account for a minor infraction of standing orders. He was instructed to report to Captain Walter Bender, the Commanding Officer of the Air Corps Technical School Detachment, which consists of several hundred soldiers. After carefully,

V-6392, A.C.

checking over his new brass buttons and straightening his belt, he knocked on the Detachment Commander's door and, with a manly

effort at a salute, he bravely announced, 'Sir, I am here to see the Dean of Men!'

## THE ANNUAL MANEUVERS IN PANAMA

Reports on the annual maneuvers in the Panama Canal Zone were received both from France Field and Albrook Field. The France Field Correspondent goes on to say that the part played by the Air Corps in the annual maneuvers this year was not as extensive as in the last few years previous. The maneuvers this year were divided into three periods; the first being devoted to anti-aircraft defense, the second to maneuvers individually by the Atlantic and Pacific sectors, and the third period to combined maneuvers of the Atlantic and Pacific Sector troops in the Chame area.

During the first period approximately 15 anti-aircraft intelligence stations were established on each side of the divide and all were in telephone or radio contact with anti-aircraft Headquarters. In order to test out the efficiency of this system, the 25th Bombardment Squadron simulated a hostile attacking force and launched an attack on the Canal from David. The Canal was defended by two Pursuit Squadrons and two Observation Squadrons. The attackers' position was located and followed accurately enough to warn Pursuit, and an interception was made about 15 miles from Gatun - the Bombers' objective. Night attacks on the Canal by Bombardment were also simulated during this period for the cooperation with the anti-aircraft searchlights. The Navy Bombers and Torpedo planes also launched two attacks against the Canal which were not intercepted.

During the second period the Atlantic Sector troops proceeded through the jungles toward Porto Bello and the air units were only called upon for a few liaison missions.

The last period saw the combined forces of the Atlantic and Pacific Sector in a stand against an imaginary enemy which was advancing toward the Canal from the west along the National Highway. All troops went into action near Chame. During the withdrawal from this area a situation was assumed in which the enemy was attempting to establish a beach head near Chorrera and the air force was called upon to transport a battalion of mountain artillery from Chame to a position where it could harass the enemy. The 25th Bombardment Squadron in two trips transported all the equipment for the battalion and 80 men. The 7th Observation Squadron transported 18 additional men. For this movement close protection was given to the Squadron by the two Pursuit squadrons of the 16th Pursuit Group at Albrook Field. When the artillery were in position, the Air Corps passed in review over the guns amid the roar of blank ammunition and the clicking of cameras.

The last day of the maneuvers was occupied by a review by the Department Commander of all the troops on the Isthmus at Albrook Field. Considerable difficulty was experienced by the 25th Bombardment Squadron when the parking position for the airplanes was designated in a part of the field which had never been used previously. Three planes sank to their axles in the soft earth and two more went up on their noses. The damage, however, was slight. After all foot and mounted troops had passed in review, the air units cleared the field and also passed in review - the largest aerial review in the history of the Army in Panama, with 13 Bombers, 18 Observation and 30 Pursuit airplanes.

"The month of February was indeed a busy one for Albrook Field," says the News Letter Correspondent from this new Air Corps activity in the Canal Zone. "Maneuvers began in early February and terminated with a splendid review of

all Departmental ground and aerial forces. The review took place at Albrook Field on what is termed, rather sarcastically, our 'aquarium - the flying field.'

Early in February, France Field intrepid bombers, simulating an attack of enemy planes from an aircraft carrier, flew up country as far as David, from there launching their bombing raid. Their presence and progress was reported by various Anti-Aircraft Intelligence Service outposts and by the 44th and 7th Observation screen. The bombers were sighted by the Observation screen around Penonome, and Albrook Field ground station was immediately radioed, giving the place, altitude and time the attackers were sighted, and their course. The bombers turned from Penonome into the area patrolled by the 7th Observation Squadron from France Field. The 16th Pursuit Group from Albrook Field, notified of the presence of the bombers and their course, immediately took off and intercepted the bombers about 15 miles from the bombing objective. There a spirited attack took place, wherein the 16th Pursuit Group dispatched the bombers, or the bombers dispatched the pursuit, according to whom you are speaking, a pursuiter or a bomber.

The second and most successful bombing raid occurred a few days later, with the aid of the Navy. The Navy sent a number of bombers, about twelve in all, to bomb and render useless the Panama Canal. The Navy planes divided their forces and attacked from two directions. They had a rather clever idea of decoying the protective air force with a few ships, then attacking the canal with the remainder. It worked like a charm. The canal was attacked simultaneously at San Miguel and Gatun Locks. The Navy deserves a great deal of credit for this successful raid. It was carefully and wisely planned and precisely executed. They took every advantage of the cloudy weather conditions and lack of coastal and inland Anti-Aircraft Intelligence Service Stations.

The climax of the maneuvers for the Air Corps occurred on February 22nd. An advanced airfield had been established February 12th at La Chorrera by the 44th Observation Squadron. The entire aerial force of the Canal Zone was moved into their capacious field on February 22nd. The ground troops were entrenched in the Chame area, simulating a defense against a superior attacking force. An enemy vessel, simulated, was preparing to land a force, also simulated, on the beach (not simulated) opposite La Chorrera, for the purpose of destroying the Naval defenses at Farfan Point, and possibly to cut the lines of communication from the Chame area to the Canal Zone. There was immediate need of opposing and prohibiting this landing. The open-mouthed natives were treated to the scene of aircraft taking off in droves and flocks, and heading for the Chame area. The France Field bombers and the 7th Observation Squadron, given close protection by the 16th Pursuit Group, flew to Chame and there the bombers and observation planes loaded a battery of 3-inch mountain guns, complete with personnel (except mules). They then flew to La Chorrera, where the battery was rapidly put into action, serving shrapnel (simulated) a la carte to the simulated landing party. The whole undertaking was a complete success, no casualties except a few sea-sick artillery passengers.

Captain Ott, in command of France Field's bombardment squadron, fell into a neat trap concocted by nature, aided and abetted by the Constructing Quartermaster Corps, U.S. Army. On February 23rd, while parking his ships, pre-



paratory to the aerial review, six out of his thirteen bombers either sank quickly to the axle or buried their noses in the sand. From a distance it looked very much like scattered and broken toys strewn by some bored childish hand. To Captain Ott's credit, every ship partook in the review the following day.

The maneuvers were terminated on February 24th, with a review as diversified as it was impressive. Marching troops, mounted troops, pack mules, trucks, caissons, wagons and tanks—splendid in discipline, moved all in exact formation. Topped with an aerial review of unusual brilliance, it was a sight to thrill even the oldest 'Top Sarge.'

This terminated the review and Albrook Field moves into the month of March, confronted with the problem of beautifying the post before the start of the rainy season.

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SUDDEN LURCHING OF PLANE RESULTS IN TRAGEDY

A strange tragedy occurred at March Field, Riverside, Calif., on Feb. 26th, resulting in the death of Sergeant Vincent Maillo, 11th Bombardment Squadron. As this Squadron circled March Field preparatory to landing, following a night flight from Tucson, Ariz., the plane in which Sergeant Maillo was riding as co-pilot suddenly lurched out of control. The pilot instinctively pushed forward on the wheel, diving out of the formation to prevent collision with the other planes. As he did so, Sergeant Maillo was thrown from his seat and hurled against the center section struts of the plane. He lay there apparently unconscious for a moment as the pilot recovered control of the plane and attempted to reach him and pull him back to safety, but he was out of reach, and before anything could be done to help him, was blown off, disappearing in the darkness. Two other members of the crew, Privates Otto G. Glass and Hartley E. Roberts, seeing Maillo leave the plane, believed that an emergency existed and took to their parachutes. The plane was landed safely and the pilot immediately reported the story. A few minutes later, Roberts limped into the Squadron Operations Office with a sprained ankle, and Glass came in with a severe cut over one eye, which may result in further complications. A search was started by all available personnel of March Field, the territory adjacent to the field being lighted by flares, automobile headlights and flashlights. The lifeless body of Sergeant Maillo was found some three hours later. His ripcord had never been pulled.

Sergeant Maillo was born in Naples, Italy, in 1896. He joined the Army in 1914, serving with the 56th Coast Artillery, the 64th Coast Artillery, the 61st Service Squadron, 4th Observation and 11th Bombardment Squadrons, Air Corps. He is survived by a sister, Mrs. Anna Enrico, who has not been located at this time.

This accident marks the first casualty from flying causes that the 11th Bombardment Squadron has had since its re-constitution on the active list in 1928.

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The strength return of the 73rd Pursuit Squadron was increased recently when there was an addition to the roster "Little Willie," six-months old cub bear, which was procured at Tucson, Ariz. and transferred to March Field by air when the Wing returned from its training flight to Arizona. The new mascot is a particularly appropriate addition to the organization, because the 73rd first became an active unit in the Air Corps in the State of California and adopted as its insignia the State of California bear.

What kept you from sleeping on the airliner? The buzz of the wasps and hornets.

The internationally known scientist, Prof. Auguste Piccard, who holds the world's altitude record of ten and one-third miles, visited March Field on Feb. 28th and was shown the activities on the post. During the evening, he delivered a lecture in Riverside, illustrating his remarks with slides. Prof. Piccard stated that the purpose of his experiment last summer was to study the mysterious cosmic rays which present one of the most interesting of the unsolved mysteries of science.

In connection with this study of the cosmic rays, March Field recently performed its second series of experiments in cooperation with Doctors Robert A. Millikan and Victor Neher, of the California Institute of Technology, who are recognized as leaders in this field of research. A Pursuit plane, flown by 2nd Lieut. Carl Murray, 73rd Pursuit Squadron, carried the scientific instruments to an altitude of 25,000 feet where records were made of the activity of this illusive ray. Through such experiments as these in various parts of Canada, United States, Mexico, Central and South America, these two scientists have assembled a mass of data which they believe is destined to throw a considerable amount of new light on this important study. The flights at March Field, however, have been made at greater altitudes than similar airplane flights made for this purpose in other parts of the world.

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OBS. PLANE SERVES AS AMBULANCE IN EMERGENCY

In answer to a call for a mercy mission from the Engineer Corps operating near Aguadulce, Republic of Panama, Lieut. W.G. Benn, Air Reserve, 7th Observation Squadron, recently took off from France Field in a Thomas-Morse O-19C airplane and covered the 85 miles to Aguadulce in 35 minutes. However, he found that his patient, a soldier of the Engineer Corps, stricken with appendicitis, was not able to sit up in the rear seat as had been expected.

Necessity is the mother of invention, for by removing the back of the seat, swinging the seat itself against the side of the airplane, removing the box for the radio transmitter which is located behind the seat, plenty of room was afforded wherein the patient could lie down. Stowing all extra flying equipment, transmitter box and seat back into the rear of the fuselage, a mattress was laid down on the floor of the plane, making a comfortable bed.

Two men straddled the fuselage, one in front of and the other behind the rear cockpit facing each other and, with the aid of two men on the ground, the patient was lifted up and lowered on the mattress in the bottom of the plane. His head was placed immediately behind the control stick socket, and he had more than sufficient room to stretch out, making a very comfortable bed in this emergency. By cutting the lacing of the canvas between the two cockpits, Lieut. Benn was able to watch his patient en-route.

The 78 miles to Albrook Field was covered in 45 minutes. Here the plane was met by an ambulance which took the patient to the hospital for the necessary operation. Personnel of France Field hope that this information may be of value to other members of the Air Corps.

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Captain D.M. Reeves, Chief of the Technical Data Section, Materiel Division, Wright Field, spent several weeks at Cambridge, Mass., delivering a course of lectures on aerial photography before the Institute of Geographical Exploration of Harvard University. Capt. Bruce Hill left for Cambridge recently to give a continuing series in the same course. He will discourse on Theoretic Bases for Photographic Mapping.

Through the ingenious efforts of Major Milton O. Beebe, Post Chaplain, and the cooperation of the Commanding Officer, Department Heads, and the ladies of the post, the Chanute Field Chapel has been changed from a mere barn-like shack with an unsightly interior to an attractive little church with accouterments proper to its dignity as an Air Corps Chapel.

Chaplain Beebe, with unusual ability to find bargains, arranged to buy, within the limits of his small Chaplain's Fund, a set of theatre chairs, and around these he has built his new chapel interior. The woodworkers of the Department of Mechanics, Air Corps Technical School, donated their own time and built a handsome walnut altar which has called forth many compliments as a work of art, with its beautiful matched panneling and raised scriptural lettering of serrated design, carved from walnut blocks. Post carpenters built chancel and altar platforms, a chancel rail, a lectern and a choir loft. Altar hangings are of royal blue velvet, while window draperies are of neutral gray course-weave material. Aisle and chancel runners are of pleasing gray carpet.

One of the most notable additions to the chapel is Major Beebe's much discussed "Flying Organ," which was received by him in Chicago as a gift to Chanute Field several weeks ago, and which was flown to Chanute Field in the cabin of an air transport, merrily broadcasting its musical creed at the touch of a soldier organist while in flight to its new home at Chanute Field. As a supplement to the bugle in church calls, an officer of the post donated an antique bell, which it is expected will be installed in a small belfry.

The seating capacity of the chapel now accommodates 125 persons, with possible expansion to 150. "Chanute Field," says the News Letter Correspondent, "is to be congratulated upon this new attractive chapel rearrangement, as well as having on its roster Major Beebe, who now states he is ready in proper style for services, weddings, christenings, and other activities of his official and personal range of action."

#### NEW INSIGNIA FOR 7TH BOMBARDMENT GROUP

A new insignia to be worn on the uniforms of officers and enlisted men has been designed by the 7th Bombardment Group, March Field, Calif. and approved for use by the Secretary of War. It consists of a shield, crest and motto of the coat of arms of the 7th Bombardment Group. It will be manufactured in bright metal and enamel in one size, not larger than 1 1/2 inches in height. The motto "Mors ab alto" meaning "death from above," the shield of azure and a crest on a wreath of colors with a bomb paleways sable piercing a cloud proper are the distinctive features of the design.

The transfer of Major F.H. Coleman to Patterson Field as Commanding Officer left the Equipment Branch of the Materiel Division without a chief. It was with regret that the members of this Branch saw Major Coleman depart, for he has shown great interest in the projects of each of the units and had been active in forwarding their development. Major E.L. Hoffman succeeds Major Coleman as new Acting Chief of the Equipment Branch, though at present he is on leave in California. Major Hoffman has been associated with the Equipment Branch for many years as Chief of the Parachute Unit and is acknowledged as one of the foremost parachute authorities in the world.

**CHANGES OF STATION:** To Office of the Chief of the Air Corps: Lieut.-Colonel Walter R. Weaver upon completion present course of instruction at Army Industrial College; Capt. George C. Kenney and David S. Seaton upon completion of present course at Army War College. To March Field, Calif.: Major Eugene A. Lohman from Panama; To Patterson Field, Ohio: Major Fred H. Coleman from Materiel Division, Wright Field. To Langley Field, Va.: Lieut.-Col. Albert L. Sneed from Fairfield Air Depot, Patterson Field. To Crissy Field, Calif.: 1st Lieut. Fred A. Ingalls from Hawaii.

To Washington, D.C.: Major Ralph P. Cousins to Militia Bureau upon completion of course at Command and General Staff School, Ft. Leavenworth. To Mitchel Field, N.Y.: Major Follett Bradley upon completion of course at Naval War College, Newport, R.I.

To Fort Riley, Kans.: Major Rosenham Beam upon completion of course of instruction at Command and General Staff, for duty as instructor at Cavalry School.

To Maxwell Field, Ala.: Captain Grandison Gardner and 1st Lt. Warren R. Carter for duty on staff and faculty of Air Corps Tactical School upon completion of course of instruction at this school.

**RELIEVED FROM DETAIL TO AIR CORPS:** 2nd Lt. Kenneth F. Zitzman to Signal Corps, 2nd Division, Fort San Houston, Texas; 2nd Lt. Samuel A. Daniel to 2nd Infantry, Fort Wayne, Mich.; 2nd Lt. James L. Massey to Infantry, 2nd Div., Fort Francis E. Warren, Wyoming; 2nd Lt. Robert F. Moore to 6th Coast Artillery, Ft. Winfield Scott, Calif.; 2nd Lt. Arville W. Gillette to Infantry, 2nd Div., Fort San Houston, Texas; 2d Lt. Julian D. Abell, Corps Engineers, to Detroit, Mich., as Assistant to District Engr.

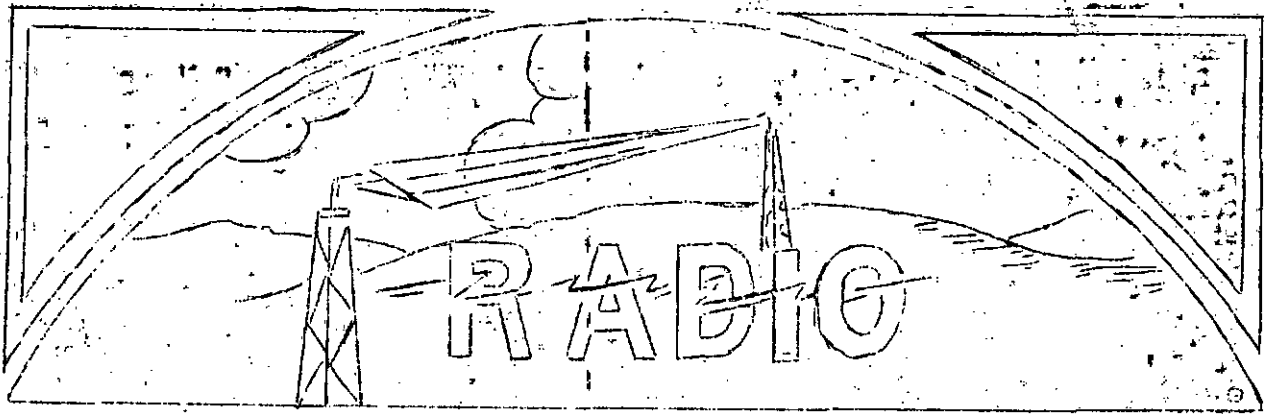
**DETAILED TO AIR CORPS,** and to Randolph Field Texas, for primary flying training: 2nd Lieut. Graves C. Teller, Infantry.

**PROMOTIONS:** To Lieut.-Colonel: Majors John N. Reynolds, Robert Coker, rank Jan. 1, 1933; Major Frank M. Kennedy, March 1, 1933; To Capt 1st Lts. Guy L. McNeil, Dec. 18, 1932; Clarence P. Talbott, Alfred L. Jewett, Louie C. Mallory, Lewis S. Webster, Jan. 1, 1933; Roy W. Camblin Jan. 14, 1933; Cornelius J. Kenney, Feb. 1, 1933; Winfield S. Hamlin, Feb. 21, 1933; Robert T. Zane, March 1, 1933. To 1st Lieut.: 2nd Lieut. Maurice F. Daly, Jan. 1, 1933; Laurence S. Kuter Jan. 25, 1933; George McCoy, Jr., Feb. 21, 1933; Julius T. Flock, March 1, 1933.

**RETIREMENT:** Master Sgt. Frank Krick, Chapman Field, Miami, Fla., March 31, 1933, with rank of 2nd Lieutenant.

#### NEW OBSERVATION PLANE AT MATERIEL DIVISION

A new Observation airplane, known as the O-43, arrived recently at Wright Field from the plant of the manufacturer for flight testing. A high wing monoplane with metal monocoque fuselage, the O-43 incorporates improvements over an earlier Observation type rather than any radical new design features of its own. The principal changes are the substitution of a cantilever landing gear strut type of the earlier airplane and the replacement of the stubs of the gull wing by a straight center section. The wing retains the parasol feature. The change in the center section is for the purpose of providing better landing vision for the pilot. The rear cockpit has been enlarged and made deeper. A streamlined glass windshield offers protection for pilot and observer. The airplane was constructed by the Douglas Co., and power is furnished by a Curtiss Conqueror motor V-6392, A.C.



An exceptional student graduated recently from the course for Radio Mechanics and Operators, Air Corps Technical School, Chanute Field, Rantoul, Ill., Private Victor H. Bardon, 5th Observation Squadron, Mitchel Field, N.Y. This student, a fine soldier, has, in radio code reception, in a three-minute test, closely approached the world's record, with a speed of 56 words per minute without error. In addition to this, he types regularly at the rate of 95 words per minute, and has attained to a maximum speed of 125 words per minute. Private Bardon's academic record has resulted in the high final average of 89.43 percent, and the Department of Communications of the School takes much pride in graduating a student of this caliber.

Considerable work and experimentation was completed by 1st Lieut. La Gue, Communications Officer, and 1st Lieut. Raymond Wilson, Engineering Officer, 120th Observation Squadron, Colorado National Guard, on the building and installation of a successful radio receiver for airways beacon, to be used in connection with blind flying. The finished product weighs but seven pounds; has one tuning dial, one volume control dial, and requires an antenna of only six feet. The antenna extends from a mast, about 3 feet above the fuselage, situated at the rear of the rear cockpit. "There is great enthusiasm among the officers on the success of the receiver," says the News Letter Correspondent, "and we extend to Lieut. La Gue our compliments. We think the receiver is far superior to any receiver on the market which may be purchased at a reasonable figure."

Lieuts. H.W. Ferguson and H.A. Craig left Randolph Field, Texas, recently for a combination extended aviation flight and to test radio equipment. The ship was equipped with a short wave set recently furnished to the Signal Corps, and during the flight expected to test out this set with the Department of Commerce radio broadcasts. Their itinerary takes them from Randolph Field to El Paso, Texas; El Paso-Rockwell Field, Calif.; Rockwell Field-March Field; March Field-Santa Monica; Santa Monica-March Field; March Field-Crissy Field, San Francisco; Crissy Field-Pearson Field, Washington; Pearson Field-Seattle; Seattle-Pearson Field; Pearson Field-Crissy Field; Crissy Field-March Field; March Field-Amarillo; Amarillo-Dallas; Dallas-Randolph Field.

Major George H. Brett, Commander of the 1st Pursuit Group of Selfridge Field, Mich., accompanied by the Group Operations Officer, Capt. Ross G. Hoyt, flew to Louisville, Ky., on Feb. 16th to attend a conference of officers of the 5th Corps Area. The conference, which lasted for several days, had as its purpose the making of tentative plans for the conduct of the Joint Anti-Aircraft - Air Corps Exercises to be held in the vicinity of Camp Knox during April and May. An interesting feature of this air trip was a radio test conducted by Capt. Hoyt during the flight. With a type H-AA-183 sending and receiving set in his P-6E Pursuit plane, he maintained constant radio telegraphic communication with his home station until he landed at Bowman Field, Louisville, 350 miles away.

#### WELL KNOWN AIR CORPS EMPLOYEE PASSES AWAY

The death recently of Colonel Overton C. Pierce, who was on duty in the Personnel Division of the Office of the Chief of the Air Corps, is mourned by his many friends and acquaintances among officers and civilians. Word of his death came as a distinct shock, since he was at his desk only the day before.

Colonel Pierce, who was 66 years of age, was a resident of Washington for a good many years. He was born at Lancaster, Ky., April 12, 1886. He attended the graded schools at Lancaster, from 1871 to 1890, and thereafter the Lancaster Academy for two years and Center College, Ky., for a similar period. He served slightly over eight years as an enlisted man in the U.S. Infantry, his last enlistment being during the period of the Spanish-American War. Upon his discharge from the military service, he accepted a Civil Service position in the office of the Adjutant General of the Army, being affiliated with that War Department Bureau until Aug. 19, 1917, when he again entered the military service, this time as a commissioned officer in the Quartermaster Corps with the rank of Major. Assigned to duty overseas, he was in charge of the Personnel Section, Motor Transport Corps, American Expeditionary Forces. His ability in administrative and executive duties was amply

attested by decorations and citations received in consequence of his assignments during that period. On April 1, 1920, he was honorably discharged from the military service with the rank he then held, that of Colonel, and was subsequently appointed as Colonel in the Quartermaster Reserve Corps. On August 21, 1926, he was transferred to the Air Corps Reserve.

Colonel Pierce entered upon duty in the Personnel Division, Office of the Chief of the Air Corps, as Principal Clerk, a position he held until his death. He probably had a wider acquaintance among the commissioned personnel of the Air Corps and a more comprehensive knowledge of personnel matters affecting this branch of the service than any other individual. The loss of Colonel Pierce is keenly felt, and the deepest sympathy of the Air Corps is extended to his bereaved family.

Under War Dept. orders recently issued, Major Junius W. Jones, Chief, Inspection Div., Office Chief of the Air Corps, goes to Newport, R.I., as student at Naval War College, 1933-34 course; Major Carl Spatz, March Field, to Office Chief of the Air Corps; Major Henry C. Harms designated as Asst. Commandant, A.C. Primary Flying School.

**THE AIR CORPS DETACHMENT AT WEST POINT**  
By 1st Lt. J.M. Weikert, A.C.

This article is written with the idea of acquainting the Air Corps with the fact that an Air Corps Detachment is stationed at the United States Military Academy at West Point, N.Y.

It originated in 1927, upon the urgent request of Major George Stratenayer, Air Corps, and Colonel C.C. Carter, Professor of Natural and Experimental Philosophy, in whose Department a course in Aerodynamics is given. The Chief of Department then sent here one airplane, a Loening OA-1A Amphibian, one of the planes used on the Pan-American Flight. It is necessary to have amphibian or sea planes here to operate from the river, due to the absence of a landing field. A small hangar was soon erected, and operations were carried on by the two officers and one enlisted mechanic stationed here at that time. Various types of Loening amphibians were assigned here during the past five years, the last one being a Keystone-Loening OA-2, which was placed on survey last December.

The Detachment now consists of four officers and seven enlisted men. It is equipped with two airplanes, a Sikorsky, Jr., single engine, four-passenger cabin amphibian Y1C-23, and one BT-2B on floats. A new hangar, 60x110, with a clearance of 19½ feet, situated at the edge of the river on the north side of the post, was completed in Dec. 1932.

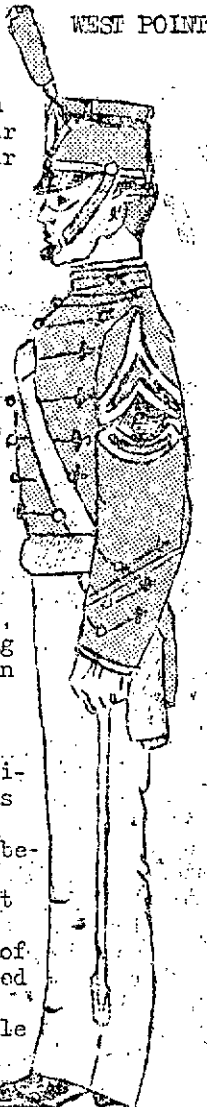
The West Point Radio Station is now part of the Air Corps radio control net and is in direct communication with Air Corps stations the last 15 minutes of every hour between 9:00 a.m. and 4:00 p.m. on all working days except Saturday, when they close at noon.

Major-General Wm. R. Smith started negotiations for a piece of land just south of Highland Falls, to be made into a landing field, but due to the necessity for economy the project was dropped. However, we hope some day to have a field for land planes as well as amphibians and seaplanes.

The four officers are instructors in the Academic Department, Lieuts. John M. Weikert and T.A. Sims in Technical Mechanics, Astronomy, Hydraulics and Aerodynamics; and Lieuts. R.E. Randall and C.A. Harrington, in Mathematics. The Air Corps also furnished four assistant football coaches last fall, Lieuts. M.F. Daly, L.G. Saunders, N.B. Harding and A.W. Meehan.

During January of this year, a series of lectures on Air Corps Tactics was given to the graduating class of cadets. Several lectures were given by Air Corps officers stationed here to pave the way for a presentation of the Picture of the Air Corps in its broader aspects by Brig. General Oscar Westover, Majors W.H. Frank, H.A. Dargue, B.Q. Jones and Capt. A.B. McDaniel. These lectures were both instructive and interesting to the cadets. One week after their termination, some 206 cadets out of 350 indicated their desire to join the Air Corps upon graduation by requesting the Air Corps physical examination.

A board of flight surgeons, consisting of Majors C.W. Cummings, E.F. Harrison, C.V. Shook, H.H. Fisher and Capt. J.M. Hargreaves met here February 6th to conduct the physical examina-



tions. The results indicated that approximately fifty percent of the men passed successfully in other words, about 100 men will report to Randolph Field for flying training next fall.

**HIGH ALTITUDE TEST OF AERIAL CAMERAS**

During the course of an experimental high altitude photographic flight from Bolling Field, D.C., to New York City on March 5th, for the purpose of testing the latest type aerial camera as used by the Army Air Corps, Captain Albert W. Stevens, photographer, and 1st Lt. Charles D. McAllister, pilot, experienced about the coldest weather they ever encountered during their flying careers. At an altitude of 24,000 feet the temperature was 37 degrees below zero, Fahrenheit, while at 26,300 feet, the highest altitude at which they operated, and where they remained for nearly 4 hours, the temperature went down to 51 degrees below zero, Fahrenheit. During the greater part of their flight of 5 hours and 35 minutes, the Army airmen hovered slightly west of Staten Island. A terrific gale from the north, which the officers calculated was blowing at the rate of over 120 miles per hour at this high altitude, kept their Fairchild cabin photographic plane practically stationary, although its air speed was supposed to be about 130 miles per hour. At times the plane was actually losing ground and was being forced backwards.

Lieut. McAllister stated that the climb to 20,000 feet required 40 minutes but that progress beyond that point slackened considerably. Both airmen used compressed oxygen while working in the rarefied atmosphere and, despite the fact that they were in a closed cabin plane and warmly clad, the penetrating cold made working conditions far from comfortable, since it was necessary to keep open a window through which to project the camera for oblique shots. Capt. Stevens stated one camera was frozen solid during the course of operations and that several of his fingers were nipped by the bitter cold weather.

The atmosphere was remarkably clear, the visibility being such that from their position over Staten Island they viewed the Hudson River as far as West Point, as well as the snow-covered Catskill Mountains beyond, also the whole length of Long Island, Long Island Sound, and in other directions, Trenton, N.J.; Philadelphia; Atlantic City; the big Navy airship hangar at Lakehurst, N.J.; and other distant points. New York Bay, Capt. Stevens stated, looked like a huge map.

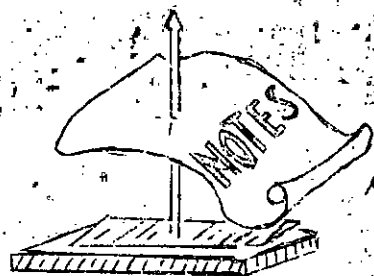
Both Capt. Stevens and Lieut. McAllister are stationed at the Materiel Division, Wright Field, Dayton, O. They were ordered to the Capital City for temporary duty for the purpose of taking official photographs of the Inaugural Ceremonies.

**TOUGH OPPONENTS FOR MARCH FIELD PISTOL TEAM**

The March Field Pistol Team recently tackled some of the stiffest competition in Southern California, putting up a good showing in each contest. Among the teams chosen were the Riverside and Bakersfield Divisions of the State Highway Patrol, including several members of the State Championship team of that organization; and the Coast Artillery team from Fort MacArthur. Results of the two competitions held recently were:

Feb. 15th	Feb. 22nd
Fort MacArthur...1351	Bakersfield...1368
March Field...1330	Riverside...1332
Riverside...1292	March Field...1321

The March Field team is composed of the following marksmen: Lts. Harding, Maxwell, Ott, Briggs, Ives and George.



# From Air Corps Fields

Randolph Field, Texas, February 10th.

With each day bringing Dodo Days nearer and nearer to a close, the Flying Cadets of A Stage find themselves fully occupied by the somewhat exacting requirements of the Chandelle and Lazy Eight, not to mention a score of other maneuvers equally difficult.

At the time of writing, the average of the Stage for hours in the air is well above forty, but it is very possible that by the end of the month those who are left of the late lamented class of October, 1932, will either have dwindled to the infinite or amassed the stupendous total of fifty hours or more.

With only a few exceptions, each man on A Stage has undergone two check rides, while at the present moment each hangar is undergoing a visit from check pilots for the purpose of judging progress and making corrections. Each Dodo is expected to have a working understanding of the Chandelle and Lazy Eight in addition to the ordinary banks, glides and landing patterns, or else. Added to the work which the Dodo may perform during his solo time are the breath taking roll, half roll, vertical reverse and Immelman; maneuvers which the Dodo never, never tries by himself. In the time to come, however, these will be the criteria of excellence on A Stage, and much woe will be to him who cannot roll out on a point.

Fear is an attitude of mind, but be it said at this point that on A Stage it is very often an attitude of airplane, for many's the Dodo who has found himself in a region of exceedingly low barometric reading due to the utterly fantastic attitudes assumed by the P.T. in flight. One by one and two by four the Dodos have departed for home and fireside until half, yea, less than half remain. These who are yet among those present hope with a mighty hope so as to remain. One ray of brightness shines through the storm clouds, and this is the all inspiring truism that "It can't go on forever." And so it goes with the Dodos who infest A Stage who are casting glances at B Stage.

Captain James A. Mollison and Lieut. D.L. Weddington departed on Feb. 6th as members of the second flight of Army planes to leave for Panama within the past few months. Major Junius W. Jones was in command of the flight. Seventeen planes comprised the flight, consisting of 12 P-12E Pursuit, two O-19 Observation and three B-3A Bombers. The ships will be added to the new group to be organized at Albrook Field, Canal Zone. The personnel of the flight returned to New York by water and were met by Lieut. J.H. Wallace in a Fokker C-7 at Mitchel Field on Feb. 21st and returned to San Antonio. Capt. Mollison did not return by air, due to the fact that he contracted pneumonia about two days before the transport docked in New York. After a brief stay in the hospital at Mitchel Field, he returned by rail.

Lieut. H.S. Vandenberg as pilot and Lieut. J.P. Kirkendall as passenger departed from Randolph Field on February 24th on an extended aviation flight for training purposes. The ship was equipped for night flying, and some of the legs of the flight will be made at night over the Department of Commerce lighted airways. Their itinerary takes them to Miami, Fla., via Fort Sill, Okla.; Kansas City, Mo.; Chanute

Field, Ill.; Selfridge Field, Mich.; Buffalo, N.Y.; Mitchel Field, N.Y.; Bolling Field, D.C.; Langley Field, Va.; Fort Bragg, N.C.; Jacksonville, Fla.; Miami and Tampa, Fla.; Montgomery, Ala. to Randolph Field.

Major F.L. Martin, Captains L.L. Koontz, R.D. Biggs, E.D. Jones, P.L. Williams, J.B. Patrick, Wm. J. Flood, Lieut. P.H. Prentiss, and Mr. Chatack of San Antonio departed on Feb. 25th by automobile for a fishing trip covering a period of three days at San Martin Dam in old Mexico. They reported the trip as highly successful and that there was an abundance of hungry fish. After returning, one officer was heard to remark that he would not go on another fishing trip unless a showdown inspection was held before departing with a view of being certain that all the officers had fishing tackle and cigarettes before they left.

## L'ENVOI

By J. Britt League, Battalion Adjutant.

Eight months have passed since we first entered Randolph Field. At last our dream has come true - Kelly Field, which was hardly a reality eight months ago. Those months have wilted away and now we stand on the threshold of our last period of training before we realize our one ambition - WINGS.

As we look back on our stay at Randolph Field we realize that it has been a short but very pleasant one. The petty grievances of our Dodo days have been entirely forgotten through our past four months in the Upper class. We have done all the same work, made the same mistakes, although our experiences have been somewhat varied. Through our daily contact we have created friendships that will last through the years to come.

We wish to extend to our instructors on A and B Stages our sincerest thanks for your undying efforts and constant teachings that have carried us this far in the course. To our ground school instructors we wish to show our appreciation for the knowledge of aviation that you have so unceasingly pounded into our heads. To the Commandant, the Tactical officers and the Flight Surgeons, we wish to express our gratitude for the splendid cooperation that you have shown us in all our problems. We wish to take this opportunity to tell our LOWERCLASS that we have thoroughly enjoyed having you as our Dodos and we sincerely hope you are very successful on B Stage and with the new Dodos.

In parting, we say to everyone - best o' luck.

## FLEA CIRCUS

By Flying Cadet E.S. Allee

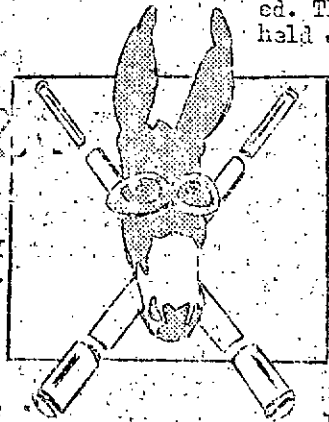
I think that I shall never see,  
A creature clever as a flea.  
A flea whose tiny mind's obsessed  
With how to do his tricks the best.

A flea who works so hard all day,  
And strives for art instead of pay.  
A flea who might in winter share,  
The warmth of some kind canine's hair.

And yet this pleasure does disdain  
That it may use its time to train,  
Oh, poems are made by fools like me,  
But it takes skill to train a flea.

### 35th Division Aviation, Missouri Nat'l Guard.

We are breathing a little easier since our Annual Armory Inspection was successfully passed. This inspection was held Jan. 29th and was conducted by the Squadron's Air Corps Instructor, Captain Amin T. Herold. He had as a guest at this time Major Houghland, Air Officer, 7th Corps Area, Omaha, Neb., who complimented us highly upon our showing. Troops, equipment and buildings were inspected. Tactical performances of the day included squadron formation flying, photography, camera gunnery on towed targets, bombing and last, but not least, a three-ship radio interception problem, which was especially prepared for the occasion by Capt. Herold. This was a really difficult problem and had everyone working at a furious pace to make it a success. We are, indeed, pleased that our efforts were so well repaid by a decidedly favorable report.



On January 29th and 30th, a technical inspection was conducted simultaneously with the Armory Inspection, the inspector being Captain Bivins of the Fairfield Air Depot. We are rather proud of the report we received on this inspection.

After the flurries from these inspections had subsided, our Squadron swung back into the training program in earnest. We were fortunate in obtaining a bombing range near the field, and have been giving our pilots plenty of low altitude bombing practice, using dummy bombs. Three of our planes are now completely equipped with excellent radio installations. Through intensive practice in the use of these sets, along with buzzer practice, about ten of our observers are approaching a twenty word a minute speed in sending and receiving code. Some very good results were obtained recently by our Photo Section. Several ambitious missions are planned and will be rushed to completion, weather permitting.

While visiting Chanute Field recently, two of the officers of our Squadron discovered that Lieuts. Bridges and Rogers of that station were Kelly Field classmates of our Commanding Officer, Major P.R. Love. Incidentally, Col. Lindbergh was also a member of the same class. Lieuts. Bridges and Rogers had not heard of the Major for some time, and so promptly paid him a visit.

During the past two months over thirty visiting pilots availed themselves of our accommodations. A few of these were Lt.-Col. Sneed, Fairfield Air Depot; Majors Houghland, Omaha, Neb.; Spatz, Rockwell Field; Captain Bivins, Fairfield Air Depot and Lt. McPike also of that station.

Before concluding, everyone in the Air Corps is reminded that our hangar facilities are ample; a Packard car is available for use by visitors; and courteous, efficient service will be rendered visitors at all times. So, when passing through St. Louis, stop at Lambert Field and call at the Missouri National Guard Hangar.

### 28th Division Aviation, Penna. National Guard.

The annual Federal Inspection was held on Feb. 23rd and 24th, and, although the official reports were not published, the members of the Squadron feel sure that it was the best the Squadron has ever had. The personnel was inspected by Major George Phillips, Pa. N.G., of

the Division Staff, and Lieut. Richard H. Magee, A.C., DCL. Capt. Toohar and Sgt. King, of the Middletown Air Depot; at the same time conducted the technical inspection. We are always glad to see the technical inspectors, as it gives us an opportunity to solve many of our National Guard problems.

Despite the rain, a six-ship formation was flown Saturday afternoon by the following pilots of the Squadron: Major Dallin, Capt. Logan, Lieuts. Scattergood, Semans, Carlisle and Humphries.

On March 4th, the entire personnel of the Squadron and invited guests enjoyed an Organization Day program which included "hops" for all enlisted personnel not on flying status. The Commanding Officer, Major Dallin, gave a short address on the past, present, and future and the ideals and aims of the Squadron, and Lieut. Magee, our Instructor, read the commendations received during the last year. After an eulogy to the deceased members of the organization, dinner was served to all present.

New officers assigned during the past six months were: Pilots - Lieut. Robert Humphries, Kelly Field graduate, who spent some time with the First Pursuit Group at Selfridge Field; and 2nd Lieut. Wm. R. Calligan, Jr., also a graduate of Kelly Field and until recently stationed at Mitchel Field with the 5th Observation Squadron, 9th Observation Group. Observers - 2nd Lieut. Lewin Barringer, who holds a Transport Pilot's License and is chief pilot at Wingsport; Bluebell, Pa.; 2nd Lieut. John S. Miller, Jr., who graduates this year from Hahnemann Medical College; and 2nd Lieut. Claude Craven, an engineer with the Bell Telephone Co. of Penna., and a former radio expert with the Naval Reserve.

The Photo Section recently received a new B-3A Developing Assembly which is very satisfactory.

The addition of Philadelphia to the itinerary of the Supply Transport System at Middletown Air Depot is much appreciated by 2nd Lieut. Quinn, Supply Officer.

### March Field, Riverside, Calif., March 4th.

On February 28th, seventeen Reserve officers reverted to inactive status, after completing a year's active duty at this station. They were 2nd Lieuts. Walter M. Bass, George E. Batty, George E. Campbell, Carl M. Christenson, James C. Jensen, Richard F. Fender, Elbert B. Gentry, Joseph D. Hutchinson, James Matthews, Robert J. McLean, Silas M. Miller, George I. Rhoades, Charles D. Shaw, Calvin B. Simmons, Roger W. Smith, James M. Treweek and Fred N. Ward.

The problem of race suicide is no worry to the personnel at March Field, thanks to the most recent contribution - a son, Roy Henry Lynn, Jr., born on Feb. 6th to Lieut. and Mrs. Roy H. Lynn of the 73rd Pursuit Squadron.

Not to be outdone by the huskier sex, the ladies have organized a daily recreation hour in the new gymnasium under the leadership of Mrs. Paul E. Burrows. The period begins with calisthenics, reaches the climax of its intensity in volley ball and tapers off in a series of bowling contests. Sore muscles and black and blue knees during the first few days were evidence of the interest being taken by March Field women.

Private Alfred R. Kerzman, 64th Service Squadron, was killed in an automobile accident on the night of February 13th, when his car crashed into the fence near the east entrance to March Field. His body was shipped to Germany, his native country, for burial.

### Patterson Field, Fairfield, Ohio, 1-17-3/7, 1933.

Lt. F.M. Zeigler and Mr. Sgt. Cecil E. Guile were assigned to the 1st Provisional Transport Squadron recently organized at this station.

Avigation training flights were made by Lieut. G.V. McPike, accompanied by Lieut. Thorpe, to Detroit, Jan. 12th; Capt. Flickinger to Selfridge Field, Feb. 3d, and accompanied by Major Grow, M.C., to Zanesville, O., Feb. 13th; Capt. Burton F. Lewis to Selfridge Field, Feb. 27th; Capt. Hugh A. Bivins, accompanied by Staff Sgt. Blair, to Columbus, O., Feb. 17th; Lt. Zeigler to Detroit, Feb. 10th; Lt. Timberlake to Zanesville, February 15th.

The following officers ferried planes to this station for minor repair: From Schoen Field, Ind.: Lt. Smith, a BT-2B, Jan. 3d - From Sky Harbor, Tenn.: Lieut. Sloan a BT-1, Jan. 6; Capt. Gardner, a BT-1, Feb. 2d - From Lunken Airport, Ohio: Lt. Schlanser with Lt. Dunbar, an Ol-E, Jan. 10th; Lt. Coleman an Ol-B, Jan. 14th - From Kansas City, Mo.: Lt. Moorehouse, an Ol-E, Jan. 11th - From Stout Field, Ind.: Lt. Morgan, an O-17, Feb. 1st; Sgt. Long, a BT-1, Feb. 21st - From Chanute Field, Capt. Stewart, an O-25, Feb. 2nd, and a C-14, Feb. 27th - From Mitchel Field N.Y.: Lt. Cullen an O-31, Feb. 12th and 15th - From Selfridge Field: Lt. Partridge, a C-9, Feb. 11th - From Buffalo, N.Y.: Capt. Stromme, an Ol-F, Feb. 16th - From Maxwell Field, Ala.: Corp. Williamson; a C-14, Feb. 24th - From Chicago, Ill.: Lt. Webster, an Ol-B, Feb. 13th. Capt. Melvin B. Asp, formerly stationed at this post, visited here Feb. 15th, from Maxwell Field, accompanied by Corporal Peck.

Lt. D.R. Goodrich, one of the pilots on the Panama Flight, returned here Feb. 28th after an absence of almost six weeks.

The following officers ferried planes to this station for major overhaul: From Selfridge Field - Lts. McGuire, LeMay, Egan, Piper and Griswold, 5 P-12E's; Lt. Doubleday, a P-6E, Jan. 4th; Lts. Partridge, Jacobs; P-6's, Griswold and Pettigrew, P-12's, Jan. 10th; Lts. Wood, a P-6E; Keehan and Bradley, P-12E's, McCoy, P-16, Jan. 11th; Lts. Sheppard, Piper, P-12E's; Krug a P-6E, Feb. 16th - Lt. Schlatter an XP-6C, Feb. 17th; Lts. Piper and Uhruh, P-12E's; Jacobs; Burnett and McCormick, P-6E's, Feb. 23rd - From Richards Field, Mo.: Capt. Wright with Lieut. Hunter, Lt. St. John with Lt. Curry, Ol-E's; January 12th.

During December, the Depot made major overhauls on 19 airplanes, 30 engines, and minor overhauls on 16 planes and 28 engines. In January, 20 airplanes and 45 engines were given major overhauls and 30 planes and 15 engines minor overhauls.

Air Corps supplies were ferried from this Depot to various stations, as follows: To Chanute Field, Lt.-Col. A.L. Sneed, accompanied by Corp. Houser, Jan. 11th; Mr. Sgt. Cecil B. Guile, Feb. 15th; Lt. F.M. Zeigler, accompanied by Major M.C. Grow, M.C., Feb. 4th - Mr. Sgt. Guile ferried supplies to Maxwell Field and Sky Harbor, Jan. 2nd; to Lunken Airport, Jan. 3rd; Scott Field, Ill.; Jan. 10th; to Chicago, Feb. 13th; to Sky Harbor, Tenn. and Maxwell Field, Feb. 3rd; to Bowman Field, Ky., Feb. 9th; to Bowman Field, Feb. 23rd; to Maxwell Field, Candler Field, Ga., Lawson Field, Ga., Roberts Field, Ala., and Sky Harbor, Feb. 24th; to Stout Field, Ind., and Scott Field, Ill., Feb. 28th - Lt. P.W. Timberlake to Bowman Field, Feb. 24th - Lt. F.M. Zeigler to Maxwell Field, Feb. 16th and, accompanied by Corp. Houser, to Schoen Field, Ind., Feb. 25th.

Airplanes were ferried by Depot personnel to various stations, as follows: Capt. H.W. Flickinger, accompanied by Lt. P.W. Timberlake and Mr. C.O. Perry, an XB-2 to March Field, Calif., Jan. 10th; Lt.-Col. A.L. Sneed an A-3 to Edgewood Arsenal, Md., Feb. 2nd; Lt. P.W. Timberlake a P-12C to Fort Leavenworth, Kans., Feb. 16th; Lt. G.V. McPike, a P-12C to Maxwell Field, Feb. 20th; Capt. H.W. Flickinger, an Ol-G to Mitchel Field, N.Y., Feb. 23rd; Lieut. F.M. Zeigler a BT-2B to Maxwell Field, Feb. 20. Capt. Stewart from Chanute Field ferried a C-14 to this Depot, Feb. 2d, for major overhaul.

Lt.-Col. A.L. Sneed, accompanied by Major M. C. Grow, flew to Columbus, O., Feb. 20th; Lt. F.M. Zeigler to Bowman Field, Feb. 23rd; and, accompanied by Pvt. Szytkiewicz, to Middletown Air Depot, Pa., Jan. 2nd; Lt. Williamson, accompanied by Lt. Stice, to Columbus, O., on Jan. 5th, and to Evansville, Ind., Jan. 6th.

Richards Field, Kansas City, Mo., Feb. 15th.

The month of January saw quite a lot of activity in the Kansas City unit. The weather for the entire month was far warmer than normal, and much inactive flying was done.

On Jan. 3rd, a formation was flown for the military funeral of Maj. John Armour, Med. Res. The formation of three Ol-E planes was flown by Lts. E.P. Curry, E.A. Jaquish and Moon Mullins, Air Reserve.

On Jan. 9th, a 9-ship formation was flown to Jefferson City for the inauguration of Governor-elect Guy B. Park of Missouri. Sixteen officers and two enlisted men made the trip. The three-element formation was led by Capt. Wm. B. Wright, A.C., over the city and capitol building in various formations. The return trip to Kansas City was made the same evening.

On January 11th, a training flight to Dayton was authorized, at which time delivery was taken of three planes from the Depot at Patterson Field. The flight consisted of Capt. Wm. B. Wright, Lts. Graham M. St. John, R.A. Moorehouse, A.C. Hunter, E.P. Curry, Wm. Ong, Sgt. Miel and Corp. Hall. A stop was made at Scott Field for lunch. From Scott, the flight went to Louisville, Ky., for an overnight stop, and a visit was paid the Reserve Unit at Bowman Field. Much interest was shown by the Kansas City officers in the activities of the Louisville unit. The following day the flight made the remainder of the trip to Dayton, landing at Patterson Field. In the afternoon, the officers paid a visit to Wright Field to view the new developments in aircraft. On the morning of Jan. 13th, delivery was taken on two Ol-E and one PT-3 planes, and the trip resumed, with a stop at Schoen Field, Indianapolis, for lunch, and an overnight stop at Chanute Field. An intended visit to Chicago was cancelled, the weather being such that we could not obtain clearance from Chanute to that city. Also, in view of this fact, the return trip was made by way of Scott Field. Thick weather was encountered near Scott, and the flight spent some 25 minutes milling around in an attempt to locate the field. The remainder of the flight to Kansas City was made the next day.

On January 19th, a 3-ship formation was flown for the funeral of Capt. Wiles, Air Res., the formation being flown by Lts. E.P. Curry, C.D. Dailey and E.A. Sweeney, Air Reserve.

On Feb. 1st, a flight was made to Omaha, Neb., where a visit was paid to Major-Gen. Johnson Hagood, Commanding 7th Corps Area. Delivery was also made of a PT-3 plane for the use of the Reserve officers in the Omaha area. Seven ships made the trip, the flight being made up of four Ol-E's, 2 BT-2B's and one PT-3. The officers making the trip were Majors John Gaylord, J.E. Wren, Capt. Wm. B. Wright, Lts. E.D. Morley, T.S. Poquette, A.G. Hunter, M.H. Mullins, J.M. Pincomb, E.P. Curry, Warrant Officer J.P. Shreves and Pvt. E.C. Bullard.

We are quite proud of our new blind flying ship, a BT-2B plane equipped with a hood for the front cockpit, necessary instruments and a short wave radio set used in picking up weather reports and in teaching officers in the art - and it is an art - of flying the beam.

It seems that the local boys have developed quite a preference for flying PT-3's (or is it a preference?) An order was issued by Captain Wright, requiring all officers to fly 5 hours as pilot in PT-3 airplanes before being allowed

ed to fly any other type. Needless to say, the poor PT's are worked overtime. The reason for the order was the excess number of primary training type hours allotted this station.

Chanute Field, Rantoul, Ill., Feb. 20th.

As a winter innovation, the Chanute Field Post Gymnasium was made available a short period daily at 3:30 p.m. for officers to play volleyball and indulge in other forms of exercise. Under the conduct of Lt. James S. Stowell, Athletic and Recreation Officer, this afternoon exercise period has become extremely popular among the officers, a large number of whom attend with enjoyable results.

Capt. Wm. R. Turnbull, soon to graduate from the Officers' Course in Aircraft Armament, will be assigned to this field. Capt. and Mrs. Turnbull, who made their home in Rantoul since coming to Chanute in Sept., 1932, are welcome new members of the post.

Flying training missions to various points were recently performed by the following personnel of the field: Majors L.W. Ballantyne, C.F. Snell, Captains E.G. Harper, S.M. Connell, W.A. Hayward, M.N. Stewart, C.E. Branshaw, W.M. Turnbull, E.H. Wood, F.S. Borum, A.W. Marriner, Lieuts. H.S. Montgomery, W.K. Burgess, Geo. W. Goddard, H.W. Anderson, S.G. McLennan, L.G. Brownfield, E.A. Simeyer, L.H. Watnee, H.J. Flategal, F.E. Cheate, R. Scott, J.A. Bulger, D.F. Myer, T.M. Bolen, C. Somers, F.G. Allen, L.H. Warren, C.E. Percy, C.G. Goodrich, S.E. Anderson, Tech. Sgt. D.M. Swisher.

Lt. and Mrs. Russell Scott departed Feb. 9th for New York, enroute to service in Hawaii. Lt. Scott, who reported here in Sept. 1928, is a graduate of the Photographic course of the Technical School (1929) and since that time specialized in photographic instructional and administrative work and commanded troops organizations at the field. The officers and ladies of Chanute, as well as all other associates of Lt. and Mrs. Scott in this vicinity, regret to see them leave here.

The war-time 5-year buildings at Chanute, constructed in 1917 and still extant after 16 years of constant use and exposure to Illinois summers and winters, reached such a threadbare state that this season the sun avoided shining in their direction for days at a time, for fear the dismal aspect of such examples of housing will tend to dim his radiance. The buildings, housing extremely valuable equipment, are kept clean and bright through strenuous efforts of the Commanding Officer and his command, but no amount of effort can, by this time, maintain the floors in a consistently horizontal condition. The situation is such that soldiers turning in for the night with never a worry on their minds, may awaken in the morning to find their beds canted over in a serious bank. A corps of carpenters can frequently be seen busily shoring up girders of settled buildings, endeavoring to remove here and there a well-matched wave, where gravity has overcome the weakened self respect of part of an office or barracks building, while another more obstinate part of the same building has decided, for a short time at least, to remain near its original level. Without doubt, an altimeter passed longitudinally along the roofs of some of these buildings would be worn out through registering its fluctuations. It is suspected one of the School Headquarters' lady stenographers retained her trim figure through the medium of healthful exercise running up hill from her desk to her filing cabinet in the same office.

However, a climax was reached recently when, after the A.C.T.S. Detachment Commander found the Post Gymnasium unavailable for indoor training of his Bugle and Drum Corps, he approached the Quartermaster for afternoon practice space in the large Post Garage Building. After a moment's careful consideration, the Q.M. definitely refused the request with the laconic remark that the stru

remark that the structure of the building would not, in its present senile condition, be able to withstand the vibrations of the drums and bugles in action.

The receipt of a Ford C-2 Transport enables this station to transport graduates with greater facility. The Ford already made two trips, and others are in contemplation. This will relieve the congestion at the Technical School and serve to get graduates to their stations earlier, so they will be of more benefit to the service. Lt. Wriston took 18 graduates to Mitchel Field, and Lt. H.W. Anderson, 8 graduates to Ft. Crockett and San Antonio.

A satisfactory aerial review was held the morning of March 4th, although the weather was raw and the wind rough. It is planned to hold a few more of these reviews before the end of the school year, one in particular on Army Day, April 6th.

Capt. W.C. Farnum acted as Judge during a Fencing Meet Feb. 28th between the Universities of Illinois and Chicago. He and Lt. Dyke F. Meyer will officiate at the Illinois-Michigan dual meet to be held in March.

Capt. and Mrs. Simon Jacobson and family just moved on the post, occupying quarters vacated by Lt. Russell Scott, who departed for duty in Hawaii.

Brooks Field, San Antonio, Texas, Feb. 24th.

Flights to various stations by Brooks Field personnel were - Major Frank D. Laddland to Chanute Field, Feb. 24th, for temporary duty - Capt. Wm. S. Gravely to Santa Monica, Calif., to return a YO-31A to the Douglas Aircraft Co. - Lt. Isaac W. Ott to Mitchel Field, N.Y., in a C-7A to ferry pilots who participated in the ferrying of planes to the Panama Canal Dept. to their proper stations, - Staff Sgt. Opal E. Henderson to Chanute Field, Ill., to ferry enlisted men to Air Corps Technical School.

Visitors here were Capt. J.F. Whitely, enroute to Wright Field, from the Douglas Aircraft Co., Santa Monica, Calif.; Lts. W.M. Wiley, L.K. Welch, B.H. Dally, Jr. and J.D. Milstead from Scott Field.

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#### FAREWELL LUNCHEON TO MR. DAVISON

On March 1st, Hon. F. Trubee Davison, for 7 years the departmental head of the Air Corps as Asst. Sec. of War for Aeronautics, spoke his personal farewell to the Air Corps at a luncheon given in his honor at the Carlton Hotel by Air Corps officers in Washington.

More than 50 officers, many of them personal friends as well as members of his official family, gathered to express their appreciation for his guidance of the Air Corps through the changes incident to the 5-year development program. After luncheon, speakers were introduced by General Foulis.

Major Ralph Royce spoke of the Asst. Secretary's Office as viewed through the eyes of a member of the General Staff; Lt.-Col. Barton K. Yount spoke of the consideration shown the flying personnel and mechanics at Bolling Field by Mr. Davison and of the pleasant relations which existed between them. Lt. Roland Birn made known a few secrets of Mr. Davison's popularity with newspaper men and the public in general.

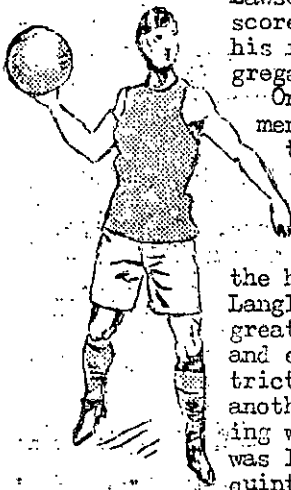
Capt. George C. Kenney (Irishmen always make good speeches) illustrated by an allusion to agriculture, Mr. Davison's ability to do his job in a competent manner.

General Foulis then relinquished the duties of Toastmaster to record the high lights of the career of the departing Assistant Secretary and to mention specific instances wherein his actions and his policies had benefitted the Air Corps. "We would feel honored, Mr. Secretary," concluded the Chief of the Air Corps, presenting him with a wallet, "to have you accept this token of our esteem for you; of our appreciation for your guidance and of



## KEEPING FIT

According to the "dope" submitted by Jack R. Germaine, Langley Field sports writer, the Blue and Gold basketball team from that station has been going great guns lately. On Feb. 17th, at the Post Gymnasium, they ran roughshod over the Cyrenes of Portsmouth, score 55-12. Lieut. Hutchinson, Langley coach, used every available man on his squad during the contest, which was witnessed by a capacity crowd. Earl Harvey set the pace for the Langley boys, scoring 17 points. Schubert with 12 and Kling with 8 points were next in line.



Lawson, center for the Marines, scored all the 12 marks for his fighting but outclassed aggregation.

On February 19th, the Airmen triumphed for the second time over the scrappy Fortress Monroe Coast Artillerymen, score 46 to 22. After three consecutive defeats at the hands of the highly touted Artillerymen, Langley Field came back in great fashion to win two games and extend the Southern District cage series for at least another game. From the starting whistle to the final there was little doubt as to which quint was the stronger.

Langley opened the contest with a powerful drive which netted them ten points in the opening quarter.

Against the Howitzer National Guardsmen of Richmond, Va., the Langley basketeers, on Feb. 20th, staged a "track meet," the final score being 70 to 23. Lieut. Hutchinson removed the first team from the court after 15 minutes of play, allowing his "Yannigans" to work out at the Guardsmen's expense.

"Pop" Lamkin's league-leading Apprentice five of Newport News, Va., gave the Blue and Gold Airmen little trouble on the night of Feb. 24th when they went down to defeat 38 to 21. Due to the Airmen's substantial lead, Lieut. Hutchinson allowed his Yannigans to play the third quarter, and they played their rivals almost on an even scale. Flick, pivot man, and Earl Harvey, forward, of the Birdmen, led their team into battle following the loss of the Southern District championship of the Third Corps Area to the scrappy Fortress Monroe Coast Artillerymen.

In the closing minutes of a nip and tuck battle, Langley came from behind to score a 47 to 43 victory over the YMCA Representatives and thus take the lead in the Newport News Peninsula League. The Reps were leading 43 to 35 with but a few minutes to play, when Flick rang up two consecutive field goals, Harvey a free throw and Schubert a trio, in order, tying the score. Field goals by Moore and Flick placed the hard-fought contest on ice for Langley Field.

Presenting a smooth-working floor game and exhibiting accuracy in basketing, Langley won handily over the Presbyterian quintet of Newport News, to increase their lead in the Peninsula Basketball League, which comprises the three select civilian fives, Fortress Monroe and Langley Field. The final score was 38 to 29, with Flick counting for eight field goals and one free throw for 17 points.

Lieut. Zimmerman's Luke Field basket ball squad clinched the Sector Championship again and in a much easier fashion than last year. No games were lost to date, and only the "Itaska" squad bars the way to a spotless record for the season. No trouble is expected from that quarter, as the "Itaska" lads have failed to register a win, though playing some close games. Eleven straight games is the re-

cord so far and next month we will tell how Luke Field romped all over the 3rd Engineers, pride of Schofield. A recent change in the line-up, placing Lieut. Bill Pryce at forward and B. Hess at center worked exceedingly well in the last two games when victories were registered over Fort Shafter and the Marines.

At Fort Sill, Okla., the 1st Balloon Co. basketball team played against the 13th Field Artillery in a 3-game series for the Post Championship. They won the first game but dropped the remaining two.

The Chanute Field Basketball Team entered the District Amateur Tournament at Homer, Ill. and defeated the Philo team in the finals to win the district championship. Chanute now goes into final play for State honors at Pana, Ill. The Hoopeston team will also be played, an aggregation which has always been Bad Medicine for the Army lads who hope to overcome them this time.

Six weeks of active play in the Langley Field Bowling Tournament were completed, the 59th Service Squadron being in the lead with 24 games won and three lost, and a percentage of .889.



The 20th Bombardment Squadron five holds second place with 21 wins and 6 losses, and following in standing in the order named are the 2nd Bomb. Group Hqs., 19th Airship Co., Brigade Hqs., 33rd Pursuit Squadron, Wing Hqs., 8th Pursuit Group Hqs., 58th Service, 36th and 35th Pursuit and 96th and 49th Bomb. Sqdns.

In individual bowling averages, Howieson is at the top of the list with a mark of 208.23 for 24 games. Others averaging 200 or over in 18 or more games are Rosloniec, 206.50; Hetrick, 202.38; Eberley, 201.98; Cattarius, 201.50; and Lieut. Wright, 200. Howieson, youthful ten pin bowler of the 19th Airship Co., rolled almost a perfect score. His failure to finish the string in the tenth frame, after ten consecutive strikes, forced him to be content with a score of 289. Only a week previously he crashed the maples for a mark of 275.

In individual high match games, Snodgrass, 20th Bomb. Sqdn., leads with 723. The 59th Service Sqdn. holds the record for high game with a score of 1097, as well as high match with a score of 3183. This squadron apparently has an exceptionally strong bowling five, for it has also registered high game scores of 1069 and 1067, and high match scores of 3089 and 2988. The 33rd Pursuit rolled a high game score of 1049 and high match score of 3055, while the 19th Airship Co. rolled a high game score of 1047 and a high match score of 3021.

The Langley Airmen recently scored a rousing 4 $\frac{1}{2}$  to 3 $\frac{1}{2}$  victory over the Loyola University of Maryland boxing team. The Army mittmen proved too experienced for the young Catholics in the heavy classes and only lost out in the 125 and 115-pound classes. Lieut. Wycliffe Steele is the boxing trainer at Langley Field, and looks forward to a banner year with his men who are undergoing strict training. He has a balanced team of nine classes, from bantamweight to heavyweight, and should deal the other boxing teams of the Third Corps Area plenty of misery before the tournament is over next month.

Culminating an extensive basketball schedule of several months in the San Bernardino Industrial League, the March Field quintet won the championship on Feb. 21st. A three-game series between the locals and the fast Paige Electric Team of San Bernardino was a real treat for the basketball fans. Honors were divided in the first two games of the play-off. The first half of the third game was a neck and neck struggle, March Field taking the lead in the

V-6392, A.C.

final half and winning by a close score of 34 to 32. Following this victory, the March Field team tackled the Chaffey Junior College Hoopsters in Riverside, one of the strongest aggregations in Southern California Junior College circles, and won by the score of 34 to 29. With the completion of the new gymnasium, an inter-squadron basketball league was started. A generous sprinkling of talent was brought to light in the preliminaries, twelve contests being played during the first two weeks of the schedule.

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The first series of games in the Selfridge Field basketball season is history, and the squadron teams are now fighting for the lead in the second series of games. The first series ended in an exciting tie between the Headquarters and 57th teams. Neither had lost to any other team in the league. The tie was the result of Headquarters licking the 57th at the end of the series in one of the most exciting games your correspondent has ever witnessed. The 57th had defeated Headquarters earlier in the season, but the latter were bound to even up. They did, by the skin of their teeth, in a game which ended 26 to 25. There was plenty of excitement on the side lines.

At present writing the second series is half over, with Headquarters in the lead with four wins, none lost, and 57th close behind with only one lost. The 94th, 17th and 27th are fighting it out for third place, each having won one and lost three.

On the evening of March 6th, the 1933 championship of the Selfridge Field Basketball League was decided definitely and in thrilling style, when Headquarters defeated their close rivals, the 57th, by the score of 30-18. The ardent interest taken in local basketball was shown by the packed condition of the gym galleries, which were filled with partisans of the two teams, all of them continuously cheering, howling and caterwauling their support of their favorite players during the contest. The game was attended by both rank and file. Major Brett, Commanding Officer of the post, was on hand to lend his support and an official atmosphere to the occasion. During the interval between the halves, Major Brett presented the silver baseball trophy to Lieut. Kessler of the 27th Squadron as a token of the championship of that team in the 1932 baseball league. At the close of the basketball game, the Major presented Lieut. Pettigrew, coach, and members of the Headquarters team a silver cup, inscribed "1933 Championship Selfridge Field Basketball Team." Chaplain McNally acted as master of ceremonies.

The game was more closely contested than the score indicates, and afforded many thrills to the spectators. During the first half and part of the second half the score was tied much of the time, but during the last part of the second half the 57th wilted and allowed several scores against them in rapid succession. In scoring, Beane of Headquarters was away ahead of the pack with six 2-point ballies to his credit. His team-mate, Saums, made four goals. Freedlund starred for the losers, sinking two field goals and three foul tries. Filiberti played a great game at guard for the 57th, as did Skinner for Headquarters.

Immediately after the game, plans were made for organizing a Post team from members of the different squadron teams in order to meet the Fort Brady basketballers. Captain Guzak and Lieut. Partridge will be in charge of the team.

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Lieut. Borger's Senior Volley Ball Team won the Luke Field Championship without the loss of a game. The Juniors, after a weak start, finished strong for third place in their league.

18th Composite Wing, Fort Shafter, T.H. Feb. 9th.

During the past month, the 18th Composite Wing was actively engaged in training, inspection of service equipment, etc., in order to be prepared to take on the Black Navy Air Force, represented by the Carriers Lexington and Saratoga which are expected to attack us between January 9th and February 2nd. As an air raid is a difficult thing to head off, especially if it arrives at dusk or dawn, the Wing has a hard job ahead of it. Morale is high, however, and although outnumbered more than two to one, the pineapple and sugar cane fliers expect to make any attack on Oahu very costly to the attackers. Having in mind the warm reception the Carriers received during the 1932 maneuvers, when they were discovered by the Wing and attacked far out at sea, it is believed the Navy this time will launch their attacks from at least 200 miles out. If so, they are going to be given a wonderful "Aloha," as that distance is just right for the 18th Wing. As one Pursuiter said: "Why I'd swim that far to get a carrier."

Captain Benjamin B. Cassidy, Wing Adjutant, with Lieut. Lloyd H. Tull as Assistant, took over the duties of Wing Operations recently vacated through the transfer of Capt. Byron T. Burt to Maxwell Field.

Master Sergeant Charles Maylon reported for duty and will assume the duties of Wing Sergeant-Major on the departure of Master Sergeant Herman Levy, who leaves for Randolph Field on the next transport.

18th Pursuit Group, Wheeler Field. Master Sergeant William O. Schupert, 65th Service Squadron, retired on Dec. 31, 1932, after having served 30 years in the U.S. Army. He originally enlisted at Ft. Wright, Wash., August 15, 1904, in Co. E, 10th Infantry, and served continuously since that time except for a 3-months' interruption following his first enlistment. Except for four years in Hawaii and two years in Alaska, his services were entirely in the continental United States.

This soldier held every enlisted grade and rating in the U.S. Army. He served on Recruiting duty in the City of Chicago for over five years; as Instructor of Cadets at Ohio State University, Columbus, Ohio, and at Cornell University, New York; attended the Store Keepers School at Fairfield, Ohio, and served in practically every duty of a soldier during his long service. He was appointed to the grade of Master Sergeant, Air Corps, August 30, 1924, and served in that capacity to date of his retirement.

Sergeant Schupert came to Hawaii from Mitchell Field, N.Y., where he had served nine years as Chief Clerk of Supply. He arrived at Luke Field on Nov. 16, 1928, and was assigned to Headquarters as Post Sergeant Major for Luke Field. From there he was appointed Assistant Warehouse Superintendent and Inventory Chief for the Hawaiian Air Depot, which handles all supplies and equipment for the Air Corps in the Hawaiian Department. He served in this Depot in that capacity until his retirement.

As Aerial review honoring Sergeant Schupert was held at Luke Field on Jan. 6, 1933. Every available airplane at Luke Field participated in this review. The review formation was led by the 23rd Bombardment Squadron, followed by the 72nd Bombardment, 4th Observation and 50th Observation Squadrons. All airplanes passed in review in columns of threes in echelon away from the reviewing stand. The squadrons were approximately 200 yards apart and airplanes were flown at an altitude of 50 feet and at a speed of approximately 100 miles per hour when passing in review. The review was augmented by the presence in the reviewing stand of Lt.-Col. G.C. Brant, Commanding Officer of the 18th

V-6392, A.C.

Composite Wing; Major Vincent B. Dixon, Commanding Luke Field, and Sergeant Schupert. This is a distinctive honor paid only retiring veterans of the Air Corps. It was the first aerial review held for a retirement at Luke Field in the past 3 years. Mr. Sgt. Schupert and Mrs. Schupert plan to make their home at Port Washington, New York.

18th Pursuit Group, Wheeler Field (8th Pursuit Squadron): Concentrating upon preparations for the Joint Army-Navy Maneuvers and working in cooperation with the 26th Attack Sqdn., we practiced element, flight and Squadron attacks upon simulated Bombers, Observation and Pursuit, as well as attack formations. Preparations are well along despite interference to some extent due to rainy season.

19th Pursuit Squadron: As a component part of the 18th Wing, we participated in high altitude individual combat, employment and tactics in preparation for the Army-Navy Maneuvers. Many new and old methods of combat in formation were tried with success. This joint maneuver creates a commotion every year. Battles are fought over again at mess, work or play until another year looms over the horizon of beautiful Hawaii.

26th Attack Squadron: Flying training for the most part was in cooperation with the 19th and 6th Pursuit Sqdns. acting as targets for Pursuit attacks. Looking forward to the Army-Navy Maneuvers, the various squadron departments made preparations for moving into the field. In addition, extensive tests of the new G-1 flexible ring mount were made, nearly all pilots firing the rear gun with this mount.

We are glad to welcome the return of Lt. Ralph J. Moore, Air Reserve, after several months' leave on the mainland. We are sorry, however, to lose two of our best liked officers - Lts. James L. Majors, transferred to Hawaiian Air Depot at Luke Field, and H. Huntley Bassett, who was transferred to Randolph. Our best wishes to both of them.

75th Service Squadron: On Jan. 9th, Lieut. Tourtellot flew Colonels Brant and Fair in the Dolphin to the Island of Kauai on a tactical inspection. They returned January 12th.

5th Composite Group, Luke Field, T.H. Luke Field welcomed 5 new officers in January, Capt. Robt. H. Finley and Lt. James L. Majors, transferred from Wheeler Field, and Lts. John J. Morrow, Carl W. Carlmark and John K. Poole, from the mainland for their tour of foreign service.

Lts. Robt. E. L. Choate and Fred R. Dent, Jr., two of our most popular young officers, left for the mainland Jan. 25th. Lt. Choate, Post and Wing Communications Officer for the past two years, deserves much credit for the splendid work of the Communications Section and the excellent record of the Wing Radio School, Luke Field. Lt. Dent served as Squadron Engineering Officer the past year for the 50th Obs. Squadron.

Training for the month consisted of Avigation, Formation, Employment and Tactics, and night flying for Bombardment units, and Avigation, Aerial Gunnery on both ground and towed targets, bombing, instrument flying, day and night radio communications, aerial photography, formation, and transition flying on Bombardment type planes for Observation units. In addition, the entire Group participated in two tactical exercises controlled entirely by radio from the command plane flown by the Group Commander, Major V. B. Dixon. Cooperative missions flown include three radio communications with the Navy, two artillery adjustments and three photographic missions with the 11th F.A., and one reconnaissance mission with the 8th F.A. Also 3 night tracking missions with the 64th Coast Art. Four airways flights were made to other islands of the Group for inspection of Air Corps equipment and transporting personnel.

4th Observations Squadron: Recent changes in commissioned personnel were: Capt. B. B. Cassidy, 18th Composite Wing Hqrs., attached for training; 2nd Lts. J. W. Fator and S. E. Rutherford,

Air Reserve, assigned to 50th Obs. Sqdn.; 2nd Lts. R. H. Wise, J. R. Skeldon and R. E. Eaton assigned to the 4th upon arrival in Hawaii; Capt. Robt. H. Finley attached for training; 2nd Lt. John K. Poole assigned to 4th; also 1st Lieut. O. H. Weyland.

Master Sgt. C. F. Colby, enlisted pilot assigned to the 18th Composite Wing, was attached to this organization for training.

50th Obs. Squadron: Lts. Doole, Rutherford, and Borgers were on two weeks' detached service at Kilauea Military Camp, Hilo, Hawaii.

Tech. Sgt. Elmer Dreier, transferred to Randolph Field, was replaced by Tech. Sgt. McKinney. First Sgt. E. M. Tilton reported for duty. Pvts. E. M. Kanes, M. B. Comstock and H. B. Waldrop are to receive medical treatment at Letterman General Hospital; Pvts. N. P. Rhodes, J. W. Swaskey are going back for discharge; Pvts. H. J. Justice, J. J. Pinelli, C. M. Shel-drop, O. K. Singleton, H. G. Williams and T. M. Yeoman completed two years service with the Squadron and are going back for assignment to their new stations.

2nd Lieut. John J. Morrow arrived recently and was assigned to this squadron; 2nd Lts. J. W. Fator, W. L. Combest and G. A. Doole received orders transferring them to the Canal Zone.

11th Photo Sec. 1st Lt. K. P. McNaughton and Tech. Sgt. J. P. O'Callaghan flew to Port Allen, Kauai, taking a mosaic of the area north and east thereof and the area north of Lawai, also ground photos of govt. buildings at Port Allen.

Hawaiian Air Depot, Luke Field: Depot operations consisted of routine overhaul, repair work for the 5th Composite Group, and repairs to plane and engine equipment and accessories. From Nov. 21st to Jan. 20th the Depot Engineering overhauled 8 planes and repaired four. Due to an epidemic of ground loops and wing trouble the Depot was hard put to keep serviceable wings on hand to meet numerous requests for same. During above period, 19 engines were overhauled and 14 were repaired.

On the departure of Capt. Byron T. Burt, Wing Operations Officer, he was tendered a farewell Aloha at the Depot which he commanded during the strenuous days of its move from Honolulu.

Selfridge Field, Mich., Feb. 17-March 9th.

Eight Pursuit pilots from Langley Field paid a courtesy call, having flown here on a training mission. Flying P-12's and led by Captain Marion Elliott, they arrived in formation and were greeted by many of their friends here. The seven other pilots were 2nd Lts. Bordelon, Hegy, Eckert, Wilson, Cox, D. S., Cox, H. M. and Wassell.

Second Lieut. Donald L. Putt, Asst. Operations Officer, 1st Pursuit Group, was transferred to a very interesting detail at Wright Field. He joined the group which forms the Army's first line of defense in the trying out of new planes. Lt. Putt is Ohio born; graduated from Carnegie Institute of Technology in 1928 with degree of B.S. in E.E. and graduated from the Army flying schools in 1929. Having specialized in Pursuit flying, his first assignment was at Selfridge. After graduating from the Air Corps Technical School, Chanute Field, in the Armament course, he returned to Selfridge. He fills the place in the test pilots' ranks left vacant by the death of Lieut. Woodring.

Major George H. Brett, Commanding Officer, performed considerable flying recently in connection with training or administrative duties. On Feb. 28th he returned from an extended training trip which he had taken on orders issued by the Chief of the Air Corps. His itinerary included stops at Wright Field, Louisville, Birmingham, Maxwell Field and Pensacola, Fla. He planned to continue from Pensacola in a big swing around the circle, including stops at New Orleans, Shreveport

and Muskogee, but a wire from Selfridge Field cut short his trip by informing him of a conference at Fort Hayes, O., relative to the Spring Maneuvers. Major Brett hurried back to Selfridge, making the trip in one day and taking off the next morning for Fort Hayes.

The Headquarters, 5th Corps Area, Fort Hayes, saw much of Major Brett lately. His trips there have become so frequent that people in Columbus

#### 113th Obs. Squadron, Indiana National Guard.

The Squadron congratulates our new 38th Division Air Officer, Lt.-Col. E. Weit Cook, who was our A.C. Instructor several years ago but resigned to take over the duties of Manager of the Curtiss-Wright Field at Indianapolis. Later he was a Major in the Reserve Squadron at Schoen Field. We are glad to have him associated with us again and know that he will be a valuable addition to the General's Staff. We wish him success in his new office.

Capt. Gale seems to have been well satisfied with our showing at the annual inspection, and much credit is due the enlisted men and the permanent duty men for their splendid appearance and the appearance of the planes which looked like new; in fact it is rumored Capt. Gale inquired as to how we managed to receive a consignment of new ships on the day of inspection.

#### Material Division, Wright Field, O., March 16th.

Major H.H. Fisher, Flight Surgeon, who came here from Scott Field in Jan. 1932, has been assigned to duty in the Philippines and is to sail from New York on June 2nd. Despite his short length of service here, he has become known to a large group of military and civilian personnel, who will miss him when he leaves.

Major W.E. Kepner flew the Fokker Transport to Akron, March 10th, with Lt.-Commander R.P. McConnell, USN; Lt. H.H. Couch, J.N. Kelly, Paul Ackerman and Andrew Kedousius as passengers, to witness the dedication of the Navy airship "Macon" constructed at the Goodyear plant.

Lt. C.D. McAllister and W.T. Harding, Electrical Unit, took off for Barksdale, Hensley, Post, Bnnan, March, Rockwell, Crissy, Benton, Hamilton Fields, Forts Riley and Leavenworth, to inspect night lighting installations at these stations.

Former Captain Harry Sutton, now with the Curtiss Co., flew in March 10th to consult with Division engineers on airplanes under contract with his company. He always finds a warm welcome among his old friends at the field.

Capt. John Whitely flew to Bolling Field on March 14th, taking with him Capt. Wendell Brookley, who visited the field several days.

Capt. T.C. Rives, Lts. W.G. Smith and G.V. Hollman, and Mr. W.G. Eaton, radio engineer, took off for Bolling Field in the radio ship to assist in the aerial broadcasting of the Inaugural exercises.

Brig. Gen. H.C. Pratt, Capt. A.W. Vanaman and Maj. Hugh Knerr attended a meeting of the Procurement Planning Board in Washington Feb. 15th.

Major J.L. Hatcher, Capt. A.F. Hegenberger, Lts. L.F. Harman and W.G. Smith flew to Buffalo to inspect the mockup of a new airplane.

J.E. Gabler, Electrical Unit, left for Marshall Field, Ft. Riley, to prepare plans for night lighting installation at that station.

C.M. Collins, Field Service Section, left for San Antonio Air Depot, March and Crissy Fields, and Alameda Air Depot to consult with Commanding Officers of these posts regarding requirements of shop machinery, tools, etc.

Lt. B.W. Chidlaw flew to Langley Field to confer with the N.A.C.A. regarding the towing basin model of the YO-44 plane.

Lt. F.D. Klein took off for Buffalo on March 10th to ferry a P-3E plane to the plant of the manufacturer. He returned by rail.

think he is an out-of-town commuter. On his last trip to the Ohio Army post, flying one of the new low-wing Boeing ships, he left Selfridge at 9:00 a.m., attended a conference at Fort Hayes and returned by 5:00 p.m. Major Brett's trips to Fort Hayes were for the purpose of arranging details and attending conferences for the coming combined Air Corps-Anti-Aircraft Maneuvers.

We were glad to hear from Lt. D.D. Watson again. We are always glad to hear from our former instructors, and shall always cherish their friendship. From our observations we conclude that all Air Corps Instructors are a mighty fine collection of men, for it was indeed a privilege to know all those we have met.

After the epidemic of marriages, but which did not reach the thoroughly immunized Lieuts. Stout and Maschmeyer, the Squadron has settled down to regular routine.

The Squadron officers held their annual party recently. Due to the unusually good time, the party consumed a part of the next day. According to the calendar they ate and danced for two days. However, the flight records showed some flying on the second day.

With the coming nice weather, don't forget that we still have our quite nicely furnished visiting officers' quarters, and home-cooked food right at the field.

Major Robert Walsh took off Feb. 20th for Barksdale, Hatox and Chanute Fields and San Antonio for consultation with commanding officers concerning maintenance and supply matters. Lt. A.R. Crawford took off for Duluth recently to join the Cold Weather Air Corps Detachment to obtain engineering data on test equipment in use there.

Capt. A.W. Stevens, piloted by Lt. McAllister, flew to Washington to obtain aerial photographs of the Capitol during the Inaugural exercises, also of the parade.

C.A. Magnus left for Woodside, Long Island, to consult with the Fairchild Aerial Camera Co. regarding changes in aircraft cameras under contract.

Major George H. Brett arrived here enroute Louisville, Feb. 18th, taking off for Selfridge Field after a short visit.

Lieut. F.D. Klein flew to Boston Feb. 28th for conference with an air conditioning apparatus concern regarding equipment for the fuel test laboratory.

Mr. J.C. Yingling left Feb. 28th for Langley Field to direct tests on lighter-than-air equipment.

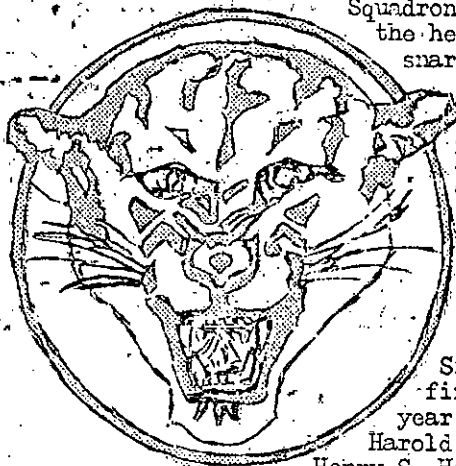
Final matches of the elimination Squash Tournament were played at the Wright Field gymnasium on Feb. 25th, with Lt. S.E. Prudhomme proving the winner and receiving as award the new Woodward Trophy. This Trophy was recently presented for Squash competition among Air Corps officers by Mrs. Fred Evans Woodward, in memory of her husband, Capt. Woodward, who died October 14, 1932, of pneumonia. Capt. Woodward was stationed at Wright Field at the time and was a highly popular officer. The Trophy is in silver, beautifully designed and worked, in the form of a large cup. Lieut. Prudhomme will hold it for a year, his name being engraved upon it, before it is passed to the next successful contestant.

Continued from page 69

our hope that you will use it often, and using it recall the many pleasant incidents of your association with the Air Corps.

"I shall always look back to my 7 years of office here in Washington as the most interesting, the most worthwhile, and the happiest years in my career," responded Mr. Davison. "My best wishes to all of you in the Air Corps and for a long and honored service in that branch which has been so near and so dear to me these past years."

Since the adoption and approval of our new Squadron Insignia, the head of a



snarling, vicious mountain lion, all airplanes have been re-decorated with the insignia painted on both sides of the fuselage. Since the first of the year, 2nd Lts.

Harold L. Baird, Henry S. Houghton and

Albert J. Boot, formerly of Brooks Field, were commissioned in the Squadron.

The extensive training program laid out by Major Carlos Reavis, Commanding Officer, has progressed at a rapid rate. Schedules were kept up to date thus far. It is estimated that by July 1, the end of the training year, everyone of the 21 officers will have become qualified in the various schedules and operations. This rapidity of progress was due to the many extra drills held in addition to the regular Sunday morning drill. Practically every Thursday night is devoted to some particular phase of the program, and these extra drills are almost 100% in attendance by the officers, and without extra pay. The last two regular drills were devoted to Field Exercises, employing all planes and personnel in problems.

The new tentative drill regulations caused considerable comment. However, we have accepted them and are progressing rapidly. Extra drills were required to accomplish the desired results.

The old fashioned flat iron, sponge and shoe polish were pressed into service among officers and men in preparation for our annual Armory Inspection, March 18, 19 and 20. At the same time, Technical Supervisor will look over our O-17, BT-1 and O2-H's.

Major Reavis and Lt. Wilson recently attended the Engineering conference at San Antonio, returned to Denver by way of the 45th Division Hqrs., Oklahoma City, and attended several conferences relative to the Squadron.

Tentative plans call for camp this year at Ft. Sill, Okla., for two weeks. Immediately after this, three planes will be flown to the camp at Flagstaff, Ariz., for cooperation in Infantry liaison missions.

#### Fort Sill, Oklahoma, February 27th.

Considerable excitement prevailed at Post Field on the afternoon of Feb. 9th, when Bldg. #28, the Post Gymnasium, burned to the ground. The old Air Corps supply building and Balloon Hangar were threatened with destruction until the fire was brought under control. The captive balloon was removed from the hangar and rushed to a place of safety. Fortunately, the wind was from the south, otherwise much greater loss of property might have resulted.

Four flights of students from Kelly Field recently stopped overnight here on their student aviation flights. On Feb. 16th, two flights were here, and a problem which had been the source of much speculation was solved. A total of 40 planes, consisting of 15 Pursuit and 25 Observation, were stored in the new hangar.

Orders were received for 1st Lt. Rowland Kiebertz to proceed to his home and await retirement. Lieut. Kiebertz had been sick at Fort Sam Houston Hospital since Sept. 19, 1932.

Rain and pea soup fog, covering the coastal plains with but a few days of clear weather since late November, curtailed flying activities somewhat. In the past two months over a dozen 3rd Attack Group planes from Ft. Crockett, Galveston, were forced down on the Guard section of the Houston Airport waiting for the fog to lift on the home station.

Lieut. John H. Eagle made an aviation flight to Murfreesboro, Tenn., and returned.

Lt. J.O. Edge, 11th Obs. Sqdn., departed for Chanute Field to take the photographic course.

Cpts. W.K. Ennis and Justin F. Aldrich just completed a 3-months' course in radio theory and operation and now hold amateur radio operators' licenses. Other officers in the Squadron are taking or preparing to take this course.

Lieut. B.L. Austin, a recent benedict, was presented with a silver set by the officers of the Squadron.

Major R.W. Coker, Assistant Air Officer, 8th Corps Area, with Lts. Kennedy and Redetzke, of Brooks Field, in two service planes, put in 3 days in rehearsing the 16 Reserve flying officers of Houston. Major Coker hangared his planes in the Guard hangars.

For the past two months the enlisted men of the Squadron have been active in the tentative new Infantry Drill Regulations and are now approaching veteran status in the new formations.

#### San Antonio Air Depot, Duncan Field, Feb. 27th.

The annual inspection of this Depot was made by Col. Wm. S. Browning, of the Inspector General's Office, Washington, Feb. 10th to 15th.

Major H.A. Strauss, Chief of the Procurement Section, Materiel Division, Wright Field, enjoying a few days' leave in this vicinity, was an informal visitor here as the guest of Capt. Warner B. Gates and family.

Officers from this station attending the dedication ceremonies at Barksdale Field, La., Feb. 2nd, were Col. A.G. Fisher, Capt. W.B. Gates and Lieuts. T.H. Chapman and D.F. Fritch.

Lieut. T.H. Chapman departed Feb. 11th for Wright Field, ferrying there for testing the Bellanca Y1C-27 plane assigned to this Depot. With him as passenger was Capt. T.J. Wagoner, our Quartermaster.

Lieut. A.Q. Mustoe ferried a C-9 Transport to Chanute Field on February 14th.

During January, the Engineering Department overhauled 41 airplanes and repaired 32 of various types. There were also 59 engines of various types overhauled and 29 repaired.

Major T.W. Blackburn, C.O., 36th Division Aviation, Texas National Guard, was a visitor at this Depot on February 23rd.

Among visitors here during the month was 1st Lt. H.M. Wittkop, ferrying a plane from Mather Field, Calif., to Barksdale Field, La. He remained at the Depot Feb. 17-21 for necessary repairs and engine change on his plane.

Mr. R.S. Jackson, Technical Assistant, A.C. Materiel Division, Wright Field, visited here Feb. 18 to 21, on a tour of temporary duty at various Air Corps activities from Wright Field to the West Coast, conferring on facilities for storage and issue of gasoline and oil and the operation of oil reclamation plants.

Mr. V.C. Miller, of the Department of Commerce, called at this Depot Feb. 24th in the course of a tour of various aeronautical establishments, checking up on landing field data in connection with the Airways Bulletins issued by the Aeronautics Branch of that Department.

Said the farmer to his son: "Now don't it beat all, how one of these here airplanes will go into a stall."

SERIAL NO. 327 LIST OF NEW MATERIAL ADDED TO INFORMATION DIVISION FILES

Jan. 27 to March 24, 1932 Incl.

Available for loan to Air Corps Organizations only upon request to the Air Corps Library, Munitions Bldg., Washington, D.C.

DOCUMENTS

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- D 00.12/4 PTL-141 Special Water Resistant Paints and Varnishes, by Physical Testing Laboratory, Engineering Dept., Naval Aircraft Factory, Navy Yard, Phila., Pa. 1/18/33. PTL-141
- D 00.12/4 PTL-144 Cotton Suspension Lines for Parachutes Substitute for Silk, by Physical Testing Laboratory, Engr. Dept., Naval Aircraft Factory, Navy Yard, Phila., Pa. 2/10/33. PTL-144.
- D 00.12/4 PTL-146 American Chemical Paint Co. No. 1 Special Paint Remover, by Physical Testing Laboratory, Engr. Dept., Naval Aircraft Factory, Navy Yard, Phila., Pa. 2/3/33 PTL-146.
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- D 00.12/103 No. 2-33 Allowable Wear of Engine Parts by Navy Dept., Bureau of Aero. Washington. 1/16/33. Tech. Order #2-33
- D 00.12/103 No. 5-33 Fuel Tank-Welded-Cleaning Procedure during Re-welding to Prevent Explosion by Navy Dept., Bureau of Aero., Washington. 1/24/33 Tech. Order #5-33.
- D 00.12/103 No. 6-33 Preservation of Engines for Storage- Elimination of Effects of Ethyl Fluid in, by Navy Dept., Bureau of Aero. Washington. 1/28/33 Technical Order #6-33.
- D 00.12/103 No. 8-33 Life Rafts - Replacement of hose connections on, by Navy Dept. Bureau of Aero. Washington. 2/7/33 Tech. Order #8-33.
- D 00.12/123 No. 2-33 Eclipse Slipping Clutch Generators-Storage of, by Navy Dept., Bureau of Aero. Washington 1/16/33. Tech. Note #2-33.
- D 00.12/123 No. 3-33 Operation, Overhaul and Test of Pratt & Whitney R-1690, R-1690A-1, R-1690A-2, R-1690C and Wright R-1750A, R-1750D, R-1820E, R-1820EM, R-1820E-1 & R-1820F Engines by Navy Dept., Bureau of Aero. Washington. 1/18/33 Tech. Note #3-33.
- D 00.12/123 No. 5-33 Maintenance of Cork Seated Fuel Valves in Airplanes by Navy Dept. Bureau of Aero. Washington. 1/27/33 Tech. Note #5-33.
- D 00.12/123 #6-33 Aluminum Alloy Fuel Vent and Drain Lines and Airspeed Meter Tubing by Navy Dept., Bureau of Aero. Washington 2/4/33 Tech. Note #6-33
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- D 11.32/14 Hydrocyanic-Acid-Gas Mask General and Technical Instructions. Prepared under the direction of the Chief of Chemical Warfare Service. Washington, Gov't Printing Office. 1932.
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- D 52.6/27 The Estimation of Maximum Load Capacity of Seaplanes and Flying Boats by Walter S. Diehl. Washington, Gov't Printing Office 1932. NACA Report #453.
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- 629.13/Un3teh Drag of Standard Wheel and Tire Assemblies by R.E. Ashley. Wright Field, Dayton, Ohio. 1/4/33. A.C. Tech. Report #3751.
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INSPECTION DIVISION NOTES

The following Technical Orders, Technical letters, Air Corps Circulars and Air Corps Circular Letters were distributed since the last issue of the Air Corps News Letter, Feb. 24, 1933:

Number & Date	Subject	Distribution
TL 32-142 2/13/33	Metallic Water Pump Packing - For V-1570 Series Engines. (This TL replaces TL No. 32-142, dated 10/25/32)	Aberdeen, Boeing, Boston, Bowman, Brooks, Candler, Chanute, Crissy, Ft. Crockett, Ft. Columbus, Edgewood, Kelly, Langley, Lawson, Logan, Lunken, Ft. Leavenworth, Marshall, Mitchel, Pittsburgh, Maxwell, Randolph, Richards, Schoen, Selfridge, Wright, 6th CA, MAD, FAD, RAD, SAAD, Hawaiian Dept.
TL 32-125 2/14/33	Installation of Propeller Hub Nut Cap, Part No. 25581, on R-1750-E and R-1820 Engines Equipped with Crankshaft Breather. (This TL replaces TL No. 32-125, dated 12/33/32)	Aberdeen, Barksdale, Bolling, Chanute, Crissy, Kelly, Langley, March, Maxwell, Selfridge, Wright, FAD, MAD, RAD, SAAD, Hawaiian Dept.
TL 31-100 2/25/33	Inspection of Roller Type Bearings in Tail and Landing Gear Wheels. (This TL replaces TL No. 31-100, dated 7/21/32)	General
TL 33-13 2/27/33	Information on the Operation of Airplanes Equipped with Wheel Fairings (This TL replaces TL No. 33-13, dated 2/3/33)	Brooks, Chanute, Ft. Crockett, Edgewood, Langley, Mitchel, Selfridge, Wright, FAD, MAD, RAD, SAAD.
TL 33-4 2/25/33	Replacement of Spring Type Drives in Leece-Neville Types E-3 and E-4 Generators. (This TL replaces TL No. 33-4, dated 1/25/33)	All depots, Chanute, Wright.
TL 33-23 2/25/33	Ramming Air Intake Installations	Aberdeen, Bolling, Brooks, Chanute, Crissy, Ft. Crockett, Edgewood, Ft. Leavenworth, Langley, Lawson, Kelly, Lunken, March, Maxwell, Mitchel, Ft. Riley, Selfridge, 6th CA, Wright, FAD, MAD, RAD, SAAD.
TO 00-0-2 3/1/33	Monthly Index of Technical Instructions	General
TO 02-1-29 3/1/33	Engines and Spare Parts - Procedure to be followed when Stopping Aircraft Engines (This TO replaces TO 02-1-29, dated 10/11/29)	General
TO 01-1-42A 3/1/33	Airplanes and Spare Parts - General - List of Propellers for Service Airplanes (This TO replaces TO 01-1-42A, dated 4/18/32)	General
TO 02-1-22 3/9/33	Engines and Spare Parts - General - Pumping Fuel by Operating Throttles. (This TO replaces TO 02-1-22, dated 11/20/30.)	General
TO 11-20-3 2/18/33	Aircraft Combat Material - Synchronizers - Type E-4 Machine-Gun Synchronizer (This TO replaces TO 11-20-3, dated 8/21/29, and TO 02-1-31, dated 1/4/27, and TL 31-140)	General
TO 11-20-3A 2/18/33	Aircraft Combat Material - Synchronizers - Position of Zero Shot.	General
TO 01-1-2 3/9/33	Airplanes and Spare Parts - General - Anti-corrosion Treatment for Airplanes Operating in Salt Water.	General

The following supplementary data to Technical Letter No. 32-100, dated May 18, 1932, subject: "Operation Instructions," have been distributed since the last issue of the Air Corps News Letter on February 24, 1933:

Date of Issue	Airplane	Distribution
March 8, 1933	P-6E	Langley, Selfridge, Wright, all Depots.
March 8, 1933	O-25C	Crissy, Langley, Mitchel, Wright, all Depots.
March 8, 1933	Y1P-16	Selfridge, Wright, all Depots.
March 8, 1933	Y1B-9A	Langley, Wright, all depots.
March 10, 1933	YA-8	Fort Crockett, Edgewood, Wright, all Depots.

The following Air Corps Circulars were distributed since the Feb. 24, 1933, issue of the Air Corps News Letter:

Number & Date	Subject
60-9 2/1/33	FLYING - Maneuvers Performed with Air Corps Airplanes.
15-97 2/17/33	BLANK FORMS AND REPORTS - Air Corps Form No. 97, Purchase Request.
15-101 2/23/33	BLANK FORMS AND REPORTS - A.G.O. Form No. 15, Report of Survey.

The Chief, Field Service Section, Materiel Division, Wright Field, Dayton, Ohio, made the following comment in replying to an Unsatisfactory Report on a Scintilla SC-1 Magneto:

"It has been found in investigation of a \* \* \* failure (of SC-1 Magneto) that personnel have polished the contact points with emery polishing paper, crocus cloth, and similar materials. A test was conducted with these materials and it was found that, if the contact points are considerably roughened when polishing with these materials, a small amount of the abrasive is rubbed off and becomes imbedded in the contact points. Under certain conditions of the contact points it was possible to cause complete failure by the use of polishing materials of this type. These materials are not considered satisfactory for this purpose, and where it is necessary to polish the points a fine, thin file is more satisfactory. It is suggested that No. 17 BF 310 File, Tungsten Point 5 1/2", Classification 17-B be used for this purpose."



# AIR CORPS NEWS LETTER

ISSUED BY THE  
OFFICE OF THE CHIEF OF THE AIR CORPS  
WAR DEPARTMENT  
WASHINGTON D.C.



050  
4231  
No. 4  
28



Information Division  
Air Corps

April 28, 1933

Munitions Building  
Washington, D.C.

The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation. Publishers are authorized to reprint material appearing herein, except that portion of the News Letter beginning with Notes from Air Corps Fields.

## THE NEW ARMY TC-13 AIRSHIP

The Army Air Corps is conducting preliminary tests on the largest non-rigid type airship thus far constructed in this country. The tests which are under way at Akron, Ohio, where the airship was also constructed, are for the purpose of determining the performance of the airship prior to its delivery to Langley Field, Va. which will be the operating base while extensive tests are conducted to determine its suitability for coast patrol operations. While the ship might be considered small when compared with the large rigid type airships, nevertheless this particular airship, known as the TC-13, is over 200 feet long and has a displacement of approximately 11 tons, of which  $4\frac{1}{2}$  tons are available for the useful load in the form of crew, equipment, fuel and armament.

Although this airship is a non-rigid type, which means that no internal structure contributes to the maintenance of its form, which in a non-rigid is obtained purely by the pressure of the helium gas contained in the envelope; it is of such size that it was possible to provide a large number of special features and accommodations that are usually only to be found in the larger rigid types. Facilities for the preparation of meals in flight have been made, along with sleeping quarters and all necessary accommodations for the crew of six men during extended flights of four or five days.

The car, which is over 40 feet long, is suspended directly beneath the envelope and all the wires which support the car are contained within the envelope. This arrangement differs from the usual Army practice of suspending the car several feet below the envelope and supporting it by a large number of external wires. The bottom of the car is constructed in the form of a boat to permit landing on water, and for this purpose a sea anchor, which in reality is a large inverted canvas umbrella, is being developed and will eventually be included as part of the airship's equipment for flights over water.

Perhaps the most interesting item of equipment on this airship is the small sub-cloud observation car, which may be lowered from the airship by a flexible cable that contains a telephone line which makes it possible for the observer in the sub-cloud car to communicate with the crew in the airship and even direct its maneuvers during certain weather conditions when this procedure is advisable. This car will also lend itself to a number of special forms of observation and photographic work and will be the object of experiments to be conducted at a later date. This small sub-cloud car is of wooden construction, streamlined, and painted in such a manner as to harmonize with the color condition to be expected in a dark cloudy sky, the intention being to render it practically invisible under these conditions. For raising and lowering the sub-cloud car, a small power-driven windlass is installed in the airship car, which is capable of raising the sub-cloud car with the observer at a rate of 200 feet per minute. The lowering of the car, of course, can be accomplished without the use of the engine; nevertheless, special automatic brakes have been installed to limit the rate of descent. It is also possible to raise the car by hand operation of the windlass in case of engine trouble or failure.

The airship is powered by two 375 hp geared air-cooled engines, mounted on outriggers extending out from the sides of the car. Walkways are provided on these outriggers to permit access to the engines for inspection or minor adjustments during flight. This particular feature is noteworthy because of the fact that an airship remains in the air due to the buoyancy of the helium gas rather than due to lift obtained by forward speed and it is, therefore, possible to actually stop the engines in order to conduct inspection or repair, as the engines are primarily used for propelling the airship forward instead of to obtain lift. The stopping of the engine in flight affects only the forward speed and does not necessarily mean that the airship has lost any of its lifting characteristics. Twelve-foot diameter propellers are installed on the engines, which are geared in such a manner that the propellers will turn at a comparatively slow speed; which feature, in combination with the special mufflers on the engines, results in a very quiet power plant installation and for tactical reasons was given special attention during the design of this ship. Besides the two engines used for propelling the airship, three small marine type outboard engines are utilized for driving various items of special equipment installed in the car. One of these small engines is used for driving an air blower to supply air to the ballonets in the envelope, by means of which the pressure and shape of the envelope is maintained. Under ordinary operations the air for maintaining pressure in the envelope is obtained from air scoops installed in the slipstream of the propellers, so that this small power-driven blower is only an auxiliary provision for supplying the air which is necessary to maintain the rigidity of non-rigid envelopes. Another small engine is used for driving an auxiliary radio generator installed in the car and can be used as a source of energy for radio communication when the airship is on the ground or water and the regular radio generator is inoperative. The third small engine is the one used on the windlass for raising and lowering the sub-cloud observation car.

The latest type long range two-way radio communication equipment is installed, as well as special direction finding equipment and all other navigational instruments required for operations over water. Provision has also been made for armament; both bomb racks and machine gun mounts having been built into the car.

Another feature which is of special interest is the fuel and water ballast tank installation, which in reality is only one installation, as the fuel tanks when empty may be filled with water ballast to maintain the ship in equilibrium at all times. This is usually accomplished on the larger rigid type airships by condensation of the engine exhaust, which condenses in the form of water that may be stored on board the ship and compensate for the fuel consumed. In the case of the Army's TC-13 airship, water is obtained by an apparatus that is dropped into the ocean while the airship is flying at a reduced speed and is then raised up into the car and pumped into the empty fuel tanks. The water is raised by the same windlass equipment used for the sub-cloud observation car. To insure that no water en-

ters the fuel system, special fuel and water segregators are used.

This airship was designed by the Air Corps Materiel Division at Dayton, Ohio, during the past year and represents the latest development and improvements in the materials of construction entering into the make-up of a non-rigid airship and has made it possible to include a number of features that heretofore have only been considered possible in the larger semi-rigid types.

A special portable type mooring mast, set on wheels and drawn by a tractor, similar in design to those employed for handling the large rigid type airships is also under development and will be used for maneuvering the TC-13 airship in and out of the hangar. Ordinarily, airships are moored at the extreme nose but in this case the mooring mast is attached to the bottom side of the envelope mid-way between the nose and the ear.

The ship was constructed by the Goodyear-Zeppelin Co. of Akron, under the supervision of Capt. Clarence B. Lober, Army Air Corps Inspector, stationed at that plant. The maiden flight will probably be made with him and Major Wm. E. Kepner, the lighter-than-air expert at Wright Field, as two members of the crew of six.

#### MICHEL FIELD GUNNERS TALLY HIGH SCORES ✓

Mitchel Field has just wound up her first gunnery season in the deep south with surprisingly good results, considering the handicap which work in the field usually imposes on the gunners. Once the camp was set up and functioning, the First Squadron went to work with a vengeance and rang up some scores which they considered good enough to keep their successors, the 99th, worried for a while. The 99th went them one better and boosted the high score for the field several dozen rungs up the ladder.

At this point the 5th Squadron took over Chapman Field to wind up the season. The 5th usually does come to bat in the clean up position and proceeded to do a very good job of it. Out on the range at sunup, they blasted away at every kind of a target we have and succeeded in ripping some man sized holes in most of them. Lieut. Cork was high man for the field on ground target with a score of 745, exclusive of tow target and bombing, and Lieuts. Gerhart and Merewether were second and third with 736 and 735, also exclusive of the above. Lt. Philip was high on the flexible sleeve with 890 out of a possible thousand. An extra curricular activity, consisting of ferretting out sharks with machine gun bullets was indulged in by many an enthusiastic gunner. An award of "Sharks'ooter" was given to Lieut. A.F. Merewether for his endeavors in this field.

#### IN MEMORY OF THE MEN LOST ON THE "AKRON" ✓

At the noon meal, on April 5th, of the Air Corps Technical School Detachment, which mess is attended by practically all enlisted men of Chamute Field, a service of brotherly sympathy was held for those comrades of the air, the Naval officers and sailors, lost in the crash of the U.S.S. AKRON on April 4th. The service, entirely spontaneous on the part of those participating, was held on the suggestion of Captain Edwin F. Carey, and was conducted by Major Milton O. Beebe, Post Chaplain. Each of the several hundred men present stood and faced the New Jersey coast, in silence for one minute, followed by Taps, after which they joined in the Lord's prayer, led by Major Beebe. Chamute Field and the Air Corps Technical School expressed by this noon hour gesture their deep respect for the airmen who lost their lives in the proud manner of Naval tradition, and in the

service of memory, extended their sincerest sympathy to the families of the lost Naval fliers.

#### S. A. E. DAY AT SELFRIDGE FIELD

April 11th was Engineers' Day at Selfridge Field, during which a large group of engineering students from Michigan engineering schools made an inspection of the equipment and facilities of this field. The tour was arranged and sponsored by the Detroit Section of the Society of Automotive Engineers, arrangements having been made with Major George H. Brett, Commanding the post, to receive the students and show them how a military aviation field is operated.

About a thousand students from six different colleges enjoyed and benefitted from the inspection tour. The schools represented included the University of Detroit, Detroit Tech., Michigan State, Cass Tech., Lawrence Tech. and the University of Michigan. They were divided into groups on their arrival at the field, and junior officers detailed to take the groups through the hangars, operations offices, meteorological offices and the utilities buildings. A demonstration formation flight was planned, but it was cancelled because of rain and fog. After the tour of the buildings, the students were conducted to the Post Theatre, where they witnessed films of flying activities.

#### ASSIGNMENT OF GRADUATES OF A.C. TACTICAL SCHOOL

Special Orders of the War Department were recently issued, assigning to duty at various stations, upon their graduation, Air Corps officers now attending as students the Air Corps Tactical School at Maxwell Field, Montgomery, Alabama. Seven of these officers are due to serve as Instructors, Air Corps; National Guard organizations. Captain Wendell B. McCay goes to Murfreesboro, Tenn.; Capt. Myron R. Wood to Denver, Colo., with the 45th Division; 1st Lieuts. Louis M. Merrick to Hartford, Conn. with the 43rd Division; Edwin B. Bobrien to Logan Field, Baltimore, Md., with the 29th Division; Julian B. Hadson to Birmingham, Ala. and John A. Kase to St. Paul, Minnesota; and George E. Beverley to Boston, Mass.

Captains Walcott P. Hayes and Samuel G. Frierson go to the Hawaiian Department; Charles W. Sullivan to Rockwell Field, Calif.; Younger A. Pitts to Air Corps Detachment, Ft. Leavenworth, Kans.; Floyd E. Galloway to Crissy Field, Calif.; 1st Lieuts. John D. Corkille to Fort Crockett, Texas; Frederick I. Patrick to Barksdale Field, La. and Samuel P. Mills, to Office of the Chief of the Air Corps, Washington.

#### ASSIGNMENT OF GRADUATES OF ENGINEERING SCHOOL

Of the Air Corps officers now on duty as students at the Engineering School, Air Corps, Wright Field, Dayton, Ohio, six are slated for duty at the Materiel Division following their graduation, viz: 1st Lieuts. James F.J. Early, James M. Gillespie, Mervin E. Gross, Clarence S. Irvine, Paul W. Wolf and 2nd Lieut. Robert F. Travis. Other prospective graduates are assigned to duty as follows: 1st Lieut. James E. Parker to the Office of the Chief of the Air Corps, Washington; 1st Lieut. Adolphus R. McConnell to Kelly Field, Texas.

Two field officers of the Air Corps, on duty as Instructors, are slated for other duties in the near future. Lieut.-Col. Wm. C. McChord, who served at the Command and General Staff School, Ft. Leavenworth, goes to Panama, and Major Earl Naiden from Army War College to Fort Crockett, Texas.

# FIELD ARTILLERY AND THE LOW-FLYING ATTACK. ✓

By Major Louis E. Hibbs, Field Artillery

- Concluded -

What are the means which we are going to employ to make it so dangerous to the enemy that he will accept the disadvantages of higher altitude rather than risk the casualties which will result from his low flying attack?

We know that danger of collision with obstacles is one of the things which would force him to abandon low altitude flight and if we could devise some means of presenting him with this possibility, such as towing small balloons over a column by means of steel wires, it would certainly be a deterrent to him. However, such a procedure might require very expensive equipment of a sort not now used, it would be very complicated in operation, and would be most troublesome during movement because of overhead obstacles such as trees and wires. This idea is mentioned here as a possibility - not a probability; while it might find a use in a war of stabilization for protection of fixed installations, in the same manner as it was used in the protection of areas during the World War, it, and other similar devices, do not seem to warrant serious consideration until we have exhausted the possibilities of attack of the plane by fire from the ground. It will be noted that this latter form of protection extends its danger space to an altitude only limited by the effective range of the ground weapons, while an obstacle form of protection, at best, is of limited range both in direction and altitude, and is dependent upon accidents of fortune for definite material results.

There are two methods of attacking a plane by fire: first, by continuously firing at it during the time it remains within view; second, by putting up a barrage of fire through which the plane must pass. The latter of these two methods, while it offers possibilities of course, has so many apparent disadvantages that it appears not worthy of development unless, after thorough investigation and trial, the former method proves itself of little value.

Before entering upon the discussion of the characteristics of the weapon which we need, let us develop the time and space factors of the situation under which it will be employed.

The attack plane will come into view of our guns at ranges between 100 and 500 yards. It will attack and immediately seek the nearest cover, which, we may say, will lie not over 500 yards away. If it is attacking a concentrated target, these assumptions give 1000 yards as the maximum length of travel of the plane while it is susceptible of being fired upon by our guns. This distance, in the case of a target having length and being enfiladed, will be increased by the length so attacked, about 400 yards as a maximum. A plane flying at 200 miles per hour moves at a rate very close to 100 yards every second, so that the maximum time (under our assumptions) that the attack plane may be taken under fire by our ground weapons will vary from ten to fourteen seconds. This time estimate is given as the maximum; in the average case, where cover close to the target exists, the time will be cut materially and will probably average from six to ten seconds.

The extremely short time during which the attack plane will be under fire arises from its high speed and its method of attack and is the governing factor which will control the design of the weapon for defense; its mount, its rate of fire and its system of fire control. Its caliber should be such as to assure effect upon vital parts of the plane when hits are obtained, and, since considerations of weight (of gun, mount, and ammunition), rate of fire, flexibility, and cost, are all adversely affected by large caliber, it should be kept to the minimum necessary for the purpose.

To digress a moment, this time element shows

how useless will be any attempt to scatter a column, or even personnel, after the attack is perceived, in order to reduce the effectiveness of enemy fire. Machine gun fire may be expected to come from the plane as soon as it appears, and, even if it does not, the bombs will be dropped not later than five seconds thereafter; small progress toward scattering could be made by vehicles in this time, even where terrain conditions were favorable. The seeking of cover by personnel of a battery in position, when pits are immediately available, is a different matter and good advantage could probably be taken of them in the time available.

We may now lay down our primary and basic requirement - that our weapon should be capable of going into action with the least possible delay and should be capable of tracking the plane continuously throughout its all-too-short visible flight. It will do us little good to have a weapon with so little flexibility that it cannot be trained upon the plane and begin to fire in, say, less than two seconds, for we may many times be attacked by a plane which will be over our heads and dropping its bombs in a matter of three or four seconds after its initial appearance. The placing of fire upon the plane as early as possible during these first few seconds is of vital importance. It should be borne in mind that while the plane is approaching our weapons it probably will be constrained to fly a more or less straight course in order to place the fire of its machine guns upon us. During this period it is a much easier target to hit since its angular speed is low. The morale of our gunners may be expected to be better during this period than it will be later when the plane has dropped its bombs; besides, the target which the plane later presents will be more difficult to hit since it will be free to change direction, or altitude, or both, during its departing flight. Achieving success in the requirement for flexibility in the weapon is more than a matter of its being possible to direct it at any point in the heavens: it is necessary that it be capable of being traversed and elevated rapidly to the direction of the plane from any position, without regard to the amount of movement necessary, and that it be capable of taking up the tracking of the plane at once and coincidentally with the opening of fire upon it; it must be capable of direct overhead fire; it must be capable of equally efficient performance regardless of any displacement from normal (by reason of slope of ground or unusual road conditions) of the base or carriage upon which it is mounted.

It will likewise do us little good to have a weapon which cannot track the plane continuously, for the time element makes it necessary for us to utilize the full time that the plane is within view in our endeavor to bring it down. This problem of continuous tracking which we will strike in these situations is one with which we are not generally familiar. Due to safety requirements for our peace time anti-aircraft machine gun training we have been accustomed, not to the type of target which we will encounter in the attack plane - with its high angular speed as viewed from the gun, its sudden appearance unheralded and at short range, and its passage directly overhead necessitating fire at continuously increasing elevations until the line of fire passes through the vertical with subsequently decreasing elevations - rather, we have been accustomed to fire at targets moving at slow speed across our front and at altitudes considerably greater than any we may look for in



time of war. It is essential that any weapon which we develop be capable of this overhead type of tracking, for it must be remembered that the enemy will place reliance for effect chiefly upon his bombs and that his overhead flight, or very nearly overhead flight, is necessary in order for him to drop them upon us. The second requirement of our weapon is that it be capable of extreme rapidity of fire for short bursts of, say fifteen seconds duration. The volume of fire delivered at a plane should be as great as practicable in order to secure a high rate of hits per minute; the rate of fire of our present water-cooled machine guns is considered to be well below that which is desirable in this respect.

The third requirement of the weapon is that it be given such a fire control system that its cone of fire can be placed upon the plane quickly and held upon it while it is in view. Here is a requirement which is going to give us lots of trouble before we arrive at a suitable solution.

It seems desirable to consider seriously the matter of providing some armor protection against machine gun fire for the crew of the weapon, provided it is adapted to such a measure; the moral effect of such armor offers probabilities of increased efficiency to such an extent as to make it of sufficient importance, almost, to limit armor as a requirement.

The requirements which we have laid down for flexibility and rate of fire, with the probability of a caliber in the nature of our small arms being sufficiently large, point to an automatic, or at least a semi-automatic weapon of rifle caliber or larger. The striking power of the weapon should be sufficient to be effective and must keep pace with such developments as take place in the armor carried by the plane. In any event, it seems highly improbable that plane armor capable of turning the armor piercing .30 caliber bullet will ever be employed due to weight considerations, though, of course, it is possible that we may be forced to larger calibers or higher velocities in order to secure greater effect from hits variant from the normal, which with the smaller caliber or lower velocity might not secure effect against such armor as is carried.

Fire recently conducted at aerial targets has demonstrated that the .30 caliber automatic rifle is capable of a higher percentage of hits against such targets than is the standard machine gun of the same caliber when the latter is fired from the many forms of tripod mounts which are in use at present. Data so far available on this subject should not be taken as conclusive as regards the comparative efficiency of the two weapons; for the capabilities of the machine gun have not been, by any means, exhausted and there is good reason to believe that developments now in progress in this field will result in far greater efficiency than we have hitherto had from it. A large increase in efficiency of fire from the automatic rifle may not be as confidently expected, for its fire is not as susceptible of improvement by means of mechanical devices as is the machine gun, but depends in great part for its successful delivery of fire upon its skillful handling by the individual. It is believed that lack of proper mounts has held down the efficiency of the machine gun in its adaptation to fire against targets of the attack plane type.

The automatic rifle, fired from the shoulder, is capable of a high order of flexibility for our purposes and answers in this respect one of our requirements by going into action quickly in any direction, speed in this regard being dependent only upon the skill of the individual handling the rifle. At first glance, when a single rifle is considered in comparison with the machine gun, it would appear that it is deficient in rate of fire; in using the automatic rifle however, a number of rifles are employed,

which increases the number of rounds fired by a group although the rate of fire of each individual is low. Considering the number of men who could be armed with the automatic rifle for protection against attack planes, it seems that this weapon could well be considered as capable also of satisfying the requirement of a high volume of fire.

The automatic rifle has one inherent characteristic which might ultimately force us to discard it; this characteristic is that, being fired from the shoulder, there is a limit as to the recoil energy which can be satisfactorily withstood by the firer. If, and when, we are required to increase either our caliber, or our velocity, we may run into a greater recoil energy than the individual can absorb, or, in the lesser case, so great a recoil energy as to reduce to an inefficient level, either his rate of fire, or his accuracy, or both. Thus the automatic rifle has limitations which, in the event of our needing more striking power, (and that is not by any means improbable) may result in its abandonment: until this eventuality becomes a fact however, the continued exploration of this weapon's capabilities is certainly desirable, even though, as was indicated above, the efficiency of the machine gun may be greatly enhanced by developments in the near future.

It has been indicated that for this special type of power with which we are confronted we must develop a suitable fire control system that will meet the situation. With regard to the automatic rifle this need is not so imperative, for its past success in all probability is due to the fact that it has been fired by the individual in much the same way as the duck hunter fires - with estimated leads learned from experience and with skill retained through practice; thus its basic fire control system exists in the individual. However, even for this weapon, mechanical aids might well be investigated; but if failure to increase its efficiency by that means results it still can function with promise. The need for a fire control system for the machine gun is a different matter and one which we should bend every effort toward solving.

The first solution which offers itself for the machine gun fire control system is the tracer bullet. Few of us have fired the tracer at a target which has been so flown as to simulate the flight of the attack plane, and, until this type of fire control is attempted at such a target, it is hard to understand the difficulties which are immediately encountered. These are due to certain characteristics of the tracer bullet and to certain conditions which arise in this particular firing problem; taken all together they cast serious doubt upon the suitability of tracer control for fire at this type of target.

Everyone who has seen tracers fired at a moving target is familiar with the optical illusion encountered, whereby it appears that the tracer, instead of keeping to its initial direction, curves off in a direction opposite to the direction of movement of the target. The reason for this optical illusion lies in the fact that the target, which is moving and which we are tracking with our eyes, is the object upon which we sense direction since our attention is focused upon it and it is generally silhouetted against a uniform background. The extent of the apparent curve of the tracer is thus dependent upon the angular rate of speed of the target as we view it. This curve of the tracer is familiar to us from firing at targets some 400 feet in the air and moving at about 100 miles per hour; even at this angular speed we have experienced the fire control difficulties which the illusion engenders. It seems extremely probable, when we increase the angular rate of speed to that which corresponds to a 200-mile

per hour attack plane flying at an elevation of 40 to 100 feet and at very short range, that the resultant optical illusion will become so exaggerated that the tracers will appear to shoot off at a very sharp angle, increasing greatly the difficulty of sensing the position of their trajectory with respect to the target. The tracer starts to burn in the bore of the gun and continues to do so for a much greater distance than any range at which we may fire at an attack plane; with the tracer appearing to move on a curve any sense of direction based upon viewing the tracer is extremely difficult due to the difficulty of sensing where the tracer was when at the range of the target; this difficulty is greatly increased by any increase in the extent of the apparent curve of the path of the tracer. It seems very probable that for this reason, if for none other, the tracer may prove entirely unsuitable.

During daylight the ease with which tracers may be seen depends greatly upon the character of the background against which they are fired. When the sun is shining, tracers fired into that half of the hemisphere which contains the sun are sometimes difficult to see, especially so when there is a mottled background of light clouds; the closer the line of fire approaches the direction of the sun the greater the difficulty becomes until, when still well away from firing directly at the sun, the tracers become totally invisible. When we recall that the enemy may be counted upon to take advantage of the sun when selecting the direction from which he will attack, we find in this an additional reason to look with suspicion upon the tracer for our purposes until we have proved it for such.

One more thing about the tracer and we will pass on: Granting that they can be seen, utilization of the tracers requires the firing of several rounds, the observing of their position with respect to the target, the appreciation of this observation, subsequently effecting change in the direction of the tracer stream. Here we are dependent for accuracy upon a mental operation based upon discerning with good judgment which of the visible tracers are those originating from the gun in question (in our situation there will probably always be more than one gun in operation), then the position of the tracers with respect to the target - both further complicated by the necessity for the gunner's keeping one step ahead of the target in regard to the matter of the ever-changing necessary lead. This places a heavy mental load upon any one man, especially when his mind is possibly already occupied with the confusion of the moment. The performance of these mental operations under pressure at high speed may reasonably fall far short of efficiency.

If future tests should demonstrate that we should abandon the tracer as a control we will have to go to sights and it is here that we may find a solution. Several things peculiar to the probable operation of attack planes lend themselves to the use of sights.

The ranges at which we may expect to fire at these planes are such that for practical purposes we may disregard the drop of the bullet, i.e., we may regard the trajectory as being a straight line; a companion assumption possible under these conditions is that the velocity of the bullet remains constant. These simplify the problem at the very start and the errors introduced are practically negligible.

The top speed of the enemy's attack planes is going to be known within certain limits and it seems probable that the human equation will result in his pilots flying their planes at top speed in order to keep down the length of time that the plane is exposed to fire. This, with the preceding assumptions, and for initial trial at least, enables us to determine fairly well the amount of the actual linear lead necessary for any given conditions of flight.

If the enemy is going to seek concealment by hedge-hopping flight he will necessarily come upon us at low altitude and it will be usual for him to fly a more or less horizontal course, at least until he is beyond his target.

These assumptions as to the velocity and trajectory of the bullet, speed, and the range, make it an easy matter to construct a sight, for any given plane speed, which will automatically apply the necessary lead within some 600 yards and for all horizontal flight. It seems promising to give the gunner such a sight, relying upon the dispersion of the cone of fire to take care of minor inaccuracies which develop by reason of conditions not being the same as those for which the sight is built. Certain allowances may be made in the judgment of the gunner, as are obviously indicated by special conditions of the plane's flight; although it is entirely feasible to apply corrections mechanically by some member of the gun crew.

whose duty that is. Such a sight control would give the gunners one thing upon which to focus their attention, instead of trying to think of several things at once and, in any event, it would insure at least that the cone of fire was somewhere near the target; an accidental hit is no less a hit by reason of its accidental nature.

This article might well go into a description and discussion of many mounts and methods but purposely refrains from doing so, its purpose being to present the general aspects of what is a subject having many ramifications, any one of which affords ample material for discussion (as witness our digression from the general into the specific in the case of the subjects of tracer control and sights).

In conclusion, our problem is to seek, by fire or other means, to drive the enemy up into the air where we not only reduce his effectiveness against us but we push him into the limelight where he is, or should be, attacked by our own planes and by our large caliber anti-aircraft guns. We must approach this problem with the realization that it is a serious one. Its solution will probably be found in equipment and methods which are a radical departure from those which have been used for the solution of other problems.

There should be no necessity to point out that this equipment and the methods of its employment probably will be unsuited to, and different from, those which are to be employed against higher altitude targets; emphasis must, however, be placed upon this fact for it is in danger of being constantly overlooked.

The effectiveness of such equipment and methods as are devised, should be proven by test and not by conjecture. These tests must embody the time element and the surprise element, for these are essentials in determining the requisite quality of flexibility. This matter of test is a problem of its own, for it will require the devising of a target which will simulate the action of the attack plane. It will do us no good to conduct firing tests against the type of target which we have been using habitually for training in the past, for outside of the fact that the target which we have been using is moving and in the air, it is totally dissimilar in speed, altitude, and course flown, to that which the attack plane will present.

It should be noted that this need for a target is stated to be for test purposes; not for training purposes. As for the latter it seems reasonable, and also desirable, to conduct the major portion of our training with blank ammunition, the target being a plane or planes actually simulating attack, thereby affording them also, certain desirable training opportunities, and affording ourselves the necessary training, in fire discipline, of our animals, drivers, and other personnel. This would pro-

vide us, in addition, the opportunity for developing, under actual conditions, measures for reducing the casualties which may be incident to the varying situations under which attacks may be made upon us.

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#### RANDOLPH OFFICERS HAVE NARROW ESCAPE

Lieut. J.W. McCauley, Instructor on the Basic Stage, Randolph Field, Texas, and Lieut. Reynold D. Smith, a student in the School of Aviation Medicine, had a narrow escape recently when a forced landing was made by the light of a flare 20 miles east of Fowlerton, and the ship wrecked. These officers were reported missing after they had failed to arrive at Randolph Field from Laredo, where they had gone on a night flying mission. The next morning ten planes were dispatched to search for them. At about noon, Lieut. McCauley telephoned in that he and Lieut. Smith were safe. He stated that his motor stopped when they were 20 miles east of Fowlerton, which is on the eastern edge of La Salle County, and were forced to make an emergency landing by the light of a flare in the mesquite. There was no landing field within landing radius. The ship was completely washed out and both occupants escaped injuries. They were forced to walk 20 miles to the nearest telephone before communicating with Randolph Field. A plane was sent to ferry them back to Randolph Field that afternoon.

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#### RESCUE MISSION BY SELFRIDGE FIELD PILOT

Another instance in which the Air Corps came to the aid of civilians in distress was that of a rescue mission performed near Selfridge Field recently by Capt. Fred C. Nelson of the 57th Squadron. A telephone call was received at Selfridge Field Operations Office one morning, stating that a Mr. Mulford of Detroit was marooned at the Old Club on an island in Lake St. Clair. Mr. Mulford was in no danger, but could not get to the mainland because of ice conditions on the lake, and he had an urgent business engagement which required his presence in Detroit.

Capt. Nelson offered to make an attempt to get Mr. Mulford ashore by plane. A golf course on the island afforded a safe landing place, the Captain found. He landed in an O-19 two-seater and within a few minutes had brought Mr. Mulford safely back to Selfridge Field.

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#### PIONEER PARACHUTE JUMPER REWARDED

The Distinguished Flying Cross was presented to Master Sergeant Ralph W. Bottrick, 68th Service Squadron, Kelly Field, Texas, on Saturday, March 18th. The presentation was made by Brig. General Charles K. Danforth, Commanding General of the Air Corps Training Center.

Sergeant Bottrick was awarded the Flying Cross (meritorious or heroic service) for having made the first parachute jump from an Army airplane with the "free type parachute" in May, 1919. Prior to his jump the only type parachute used by the Army was an attached type which opened as soon as the jumper left the plane, as at that time it was the common belief that a man would become unconscious and not have the power to use his arms if he were to drop into space or delay the opening of the chute. As a result of Sgt. Bottrick's jump, the Army developed the present type parachute, and the long list of the Caterpillar Club bears witness to the excellent work that the new parachute has done.

Sgt. Bottrick, in charge of the Kelly Field Parachute Dept., has made over 700 parachute jumps from airplanes and balloons.

#### MAJOR MILLING TO GO ON RETIRED LIST

The announcement of the publication of War Department orders recently, directing Major Thomas DeW. Milling to proceed to his home to await retirement, was received with genuine regret in aviation circles. Major Milling has been in ill health for some time, and his inability to remain further in active service is a distinct loss to the Air Corps.

This pioneer Army flyer was born in Louisiana, March 31, 1887. He graduated from the United States Military Academy in June, 1903, and was commissioned a 2nd Lieutenant of Cavalry.

Detailed to the Signal Corps as a 1st Lt. in 1911, Major Milling was ordered on April 21 of that year to proceed to Dayton, Ohio, to undergo a course of instruction in operating the Wright airplane. Upon the completion of his instruction under the Wright Brothers, he was ordered to the Aviation School, College Park, Md., for duty, the government having leased a thousand-acre tract at that place for aviation instruction purposes. The first airplane was received at College Park on June 16, 1911. Altogether four airplanes were received at the College Park Aviation Field - a Wright biplane, a Burgess-Wright, a Curtiss 4-cylinder and a Curtiss 8-cylinder plane. During his stay at College Park, Major Milling made a number of flights from that field to Washington Barracks, D.C., and return.

In the fall and winter months, the School was operated at Augusta, Ga., but in the Spring and Summer of 1912, operations were resumed at College Park. In August, 1912, Lieut. Milling with Lieuts. Arnold, Kirtland and Foulis participated in Regular Army and National Guard maneuvers in the States of New York and Connecticut and established several aeronautical records.

Following the transfer of the Aviation School from College Park to Texas City, Texas, in 1913, Lieut. Milling, on March 28th of that year, with Lieut. Wm. C. Sherman as passenger, made a cross-country flight of 240 miles from Texas City to San Antonio, Texas, in 3 hours and 50 minutes. Upon arriving over San Antonio, Lieut. Milling remained in the air for more than 30 minutes, thus establishing a new American duration record for pilot and passenger of 4 hours and 22 minutes. At that time this was considered a remarkable performance. The plane used was a Burgess Tractor, powered with a 70 h.p. Renault engine.

From 1915, when the Signal Corps Aviation School at San Diego, Calif., was established, up to the time of America's entry in the World War, military aviation was confined to only a few localities - in Texas and New Mexico along the Mexican border and at Fort Sill, Okla. Following the opening of the Flying School at San Diego, Lieut. Milling was placed on duty there as Officer in Charge of Flying. In the fall of 1913 and spring of 1914, he traveled in France, Germany, Austria and England, attended aviation schools in those countries and made a study of aeronautical conditions.

Returning to the United States in the latter part of 1914, he served with the 1st Aero Squadron at Galveston, Texas, and later commanded an aviation detachment on the Mexican border at Brownsville, Texas. During the latter part of 1915, he served with the 1st Aero Squadron at Fort Sill and San Antonio, and conducted tests on the first automatic camera used in an airplane.

In 1916 and 1917, Lieut. Milling served in the Office of the Chief Signal Officer of the Army in Washington, D.C., during the course of which duty he organized the first flying school for the instruction of Reserve Military Aviators. Upon America's entry into the

V-6415, A.C.

World War, he was ordered to duty overseas with the American Expeditionary Forces. He had been promoted through several grades, and in August, 1917, held the rank of Lieut.-Colonel, and that of Colonel from August of the following year. During his service with the A.E.F., he occupied such responsible positions as Chief of Air Service Training; member of the Training Section; General Staff; Commanding Officer, Air Service Units, Toul Sector; Chief of Staff, Air Service, 1st Army; and Chief of Air Service, 1st Army. Upon his return to the United States from overseas duty in March, 1919, he was placed on duty in the Office of Director of Air Service as Assistant Executive, Training and Operations Group. Later he was assigned as Assistant Chief of the Training and Operations Group. In the meantime he reverted to his Regular Army rank, that of Major.

In June, 1920, Major Milling was transferred to Langley Field, Va., for duty in connection with the organization of the Air Service School for Field Officers. Placed in charge of this School, which was later designated as the Air Corps Tactical School, he occupied the position of Assistant Commandant until June, 1925, when he was detailed as a student officer to attend the Air Corps Engineering School at Dayton, O. Upon his graduation in July of the following year, he was detailed as a student officer to the Command and General Staff School, Fort Leavenworth, Kansas, graduating in June, 1927.

Ordered to duty in the Office of the Chief of the Air Corps in Washington, Major Milling was assigned as Chief of the War Plans Section, Training and Operations Division. From July, 1930, to September, 1931, he was stationed at Denver, Colo., on duty as Instructor, Air Corps, Colorado National Guard, following which he was assigned to duty at the Rockwell Air Depot, Coronado, Calif.

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#### AIR CORPS AIDS REOPENING OF HAWAIIAN BANKS

That the airplane is the best medium of transportation for reaching places in a minimum amount of time, particularly in times of stress, has been proven on numerous occasions. According to a report just received by the Chief of the Air Corps from the Hawaiian Islands, it appears that the airplane is a very handy vehicle to have around, especially on banking holidays. When Governor Lawrence M. Judd issued a banking proclamation for the Hawaiian Islands that scrip money would be used in the place of bank notes during the banking holidays, a problem arose as to how the banks on the other islands of the group could procure the scrip to enable them to open their banks on the same day that banks on the Island of Oahu were opened. The report says that the Air Corps, as usual, handled the situation with ease. Carrying large packages of scrip, two Army Sikorsky planes took off from the John Rodgers Airport, Honolulu, before dawn and flew to the outside islands to supply the banking institutions there with the new type of money. One plane unloaded part of the scrip at Maalaea Airport, Maui, and Upolu Point, Hawaii, before proceeding to Hilo, Hawaii. The other plane flew to the Island of Kauai. Both planes returned the same day. The bank officials of the Territory, to say nothing of the people awaiting their pay rolls, were most enthusiastic in their appreciation of the assistance rendered.

Amphibian airplanes were used because the routes flown by the pilots of both planes were almost entirely over water. The distance from the John Rodgers Airport to the Maalaea Airport is 150 miles. Upolu Point is 50 miles further on and Hilo 50 miles still further. The distance from John Rodgers Airport to the Island of Kauai is 90 miles, this stretch of territory being entirely over water.

#### NEW SHIPS LAND AT BOLLING FIELD

"We had the opportunity of seeing some types of service ships that rarely come to our station," says the Bolling Field Correspondent, "likewise some crack commercial ships that we read about. Mr. Dickman, of the Vought Corporation, brought to our attention a Vought Observation plane, which he flew to the Materiel Division at Wright Field for service tests. Lt.-Col. Hickam flew a Curtiss A-10 from the Third Attack Group at Galveston, Tex. This is similar to the A-8 that comes here frequently from Wadsworth; the particular difference in the planes is in the power plant. The A-8 is equipped with a Curtiss 'in line' motor, and the A-10 flies with a radial motor. Commander Frank Hawks landed his 'Sky King' chariot at the Naval Air Station the other day and although we did not get an opportunity to inspect the plane, his excellent landing of the ship, on the short way of the field over Hangar #5, attests to the reports we read of the ship in the papers. With a top speed of over 200 miles per hour, the landing speed is no greater than that of our Observation planes.

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#### PILOT FLIES CRIPPLED BOMBER 60 MILES

The advantage of having airplanes in the Air Corps capable of flying on one motor was demonstrated recently, when Lieut. Laurel J. Gephart, 11th Bombardment Squadron, brought his Curtiss "Condor" into March Field from Fall Brook with one motor completely cut off. Motor trouble developed more than 60 miles from March Field and gradually became worse as the pilot and his co-pilot, Lieut. Henry Celik, attempted to locate the trouble. In order to save damage to the motor, the switch was cut - a fortunate accomplishment, for it was later found that bearings in the motor had burned out. Continued use of the motor might have resulted in irreparable damage. The altitude of the plane at the time the switch was cut was 1500 feet. The load of the plane included several thousand pounds of gas and three passengers. With the good motor working at less than maximum capacity, the altitude was increased to 2500 feet without difficulty. Lt. Gephart turned across the range of mountains to the east, and following Temecula Valley landed at March Field a short time later.

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#### FIRST FLIGHT OF STATE OFFICIAL IS AT NIGHT

On his first airplane ride, the Adjutant General of California was rushed to El Paso, enroute to Los Angeles, to assume charge of the earthquake relief work.

Adjutant General Howard was in New Orleans on business when news reached him of the earthquake. He came to San Antonio by train and was hurried to Randolph Field in an automobile and flown to El Paso by 2nd Lieut. W.F. Daly, flying instructor. His first flight included a night flight. They departed from Randolph Field at 3:15 o'clock in the afternoon and the ship was equipped with night flying equipment so they could land in El Paso after dark. At El Paso, Adjutant General Howard was met by a pilot from the California National Guard and returned to the West Coast.

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Barksdale Field is the proud parent, as of April 3rd, of a bouncing new squadron, the fighting 79th Pursuit. A flood of local recruits are being acquired, and Barksdale Field might almost be referred to as a Louisiana Parish. Captain Roy W. Camblin just arrived from Hattox Field, Muskogee, Okla., and will command this unit, which was reconstituted as of April 1, 1933.

V-6415, A.C.

## DUCKS AND DRAKES AT PATTERSON FIELD

**O**VER the course at Patterson Field where Uncle Sam's military airplanes are tested for high speed, a mythical sign was erected about the middle of March, reading - "Course Closed Until Further Notice." It had been erected by Ducks - 3000 strong, who flew in from the south, liked the puddles and little lakes set out over the speed course by heavy rains and decided to make them a temporary home.

That a community of 3000 has a powerful voice, especially if its members speak as one, even if those members are but ducks and drakes, was amply demonstrated. When an airplane flew over the speed course, they would rise in hot indignation that the peace of their homes should be disturbed. They would rise, then loyally return to their same puddles and to their seasonable occupations of mating and feeding. The speed course evidently offered a delectable feeding ground, for even the roar of motors did not frighten them away. The pilots flew over the field endeavoring to drive them out without success. Of course, with the first warm days they would be winging their way north. But in the meantime, speed course pilots had to bide their time in patience and do other test work. The high-powered military airplanes waiting for their touchiest test, high speed at ground, also had to be content to demonstrate their less spectacular qualities, fuming no doubt at being kept from the air by as poor flying rivals as ducks.

When testing over the speed course, however, all conditions must be right. The plane must fly at low altitude, the pilot must be steady at the controls, the air must be quiet for proper results, and at the terrific speed at which the airplane flies the small matter of a duck might cause a broken wing, a broken propeller or a lost life. Oh yes, the ducks, and their mythical sign, "Course Closed Until Further Notice," were in control at Patterson Field until the Spring days sent them flying farther north.

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## MARCH FIELD AIDS EARTHQUAKE STRICKEN AREA

Another chapter was added to the constructive peacetime work of March Field. In response to pleas from the vicinity of Long Beach, the resources and efforts of this station were furnished as needed. Two rolling kitchen outfits were sent by truck to South Gate and Seal Beach, respectively, for the purpose of boiling water for drinking purposes and preparing food furnished by the municipalities. A crew of Army cooks at each place served a total of approximately 2,000 persons per day. Numerous photographic missions were accomplished in order to ascertain the extent of damage done and the needs of the community.

Under the direction of Captain R.E. Self, 60 enlisted men in a caravan of 13 Army trucks, transported 104 cots, 900 blankets, 112 tents, and 201 mattresses to Long Beach. The truck train departed from March Field at 12:50 a.m., Tuesday, March 14th, arriving at Long Beach shortly after daylight. By 8:15 o'clock, temporary camp had been organized and breakfast served to the Army personnel. By 11:35, all the pyramidal tents had been set up in Recreation Park. The tent city was for use of people whose homes had been destroyed by the earthquake. The camp was policed and the truck train departed for home at 4:00 p.m., arriving at 10:45. Airplanes were utilized to the fullest extent in transporting needed supplies and personnel to the stricken area. Eighteen Sibley stoves were transported by air to Long Beach for loan to Lieut. W.R. Sweeley, who had constructed a tent city on the airport at the Army reserve base there.

South Gate were returned to March Field on March 16th. A telegram from the Mayor of South Gate expressed for the people of his city whole-hearted thanks for the relief sent there by the Army. He was delighted with the efficiency with which the unit performed its duties. At the time this was written, the equipment and supplies at Recreation Park, Long Beach, and the rolling kitchen and personnel located at Seal Beach had not been returned to March Field. They will remain where they are as long as needed.

No damage of any consequence was suffered at March Field, although shocks were felt for several days.

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## A DAY'S WORK AT BARKSDALE FIELD

Up at six thirty. Ablutions completed shortly and so to mess hall where did ply myself with tasty foods. On line at seven and off for gunnery range. Repeated charges upon target failed to accomplish desired results. Discouraged somewhat and back to hangar at nine where several manuscripts awaited my signature. Did minor duties - then again to mess hall for most pleasurable part of day. Back to the line at one and did dive upon ground target with bombs. Target most elusive. Over to gymnasium at 3:30 where did pound squash ball (and my head) most soundly. At six ate heartily, discoursed with fellow Pepys until nine - and so to bed.

### Another Day

Up at seven and remove hairy growth from face. To mess hall for doughnut and coffee. Then to hangar line and donned flying equipment. In the air at 8:15 on patrol mission. Enemy sighted and did attack him most vigorously (sans bullets). Landed at ten o'clock. Performed routine duties until noon when I did feel again the pangs of hunger. Appeased of hunger, again journeyed to line and flew from two unit three practicing formation work. Did go to gymnasium at four and abuse my aging body. Again j'ai faim. Again I ate and sometime later so to bed.

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## LIEUT. GODDARD LECTURES ON AERIAL PHOTOGRAPHY

Lieut. George W. Goddard, Air Corps, Director of Photography at the Air Corps Technical School, Chanute Field, Rantoul, Ill., recently delivered an interesting lecture at the University Club of Chicago on Modern Aerial Photography. The lecture, which was announced by a card bearing the inscription, "Bring Yourself Up To Date with The Army in the Air," was received enthusiastically throughout its two-hour length, by an audience of approximately 200 Chicago business and professional men, all graduates of the University of Chicago. With the use of lantern slides and motion pictures, Lieut. Goddard explained aerial photography as practiced and performed by the Air Corps, including in the lecture a history of aerial photography, its military uses, description of aerial photographic missions, equipment and methods, and showed motion pictures taken on aerial mapping missions in the Philippine Islands. Latest Air Corps aerial cameras and photographs were exhibited at the termination of the lecture.

Mr. Joseph L. Bache, District Superintendent, Department of Education, Chicago, Ill., in a letter to the Chief of the Air Corps, referred to Lieut. Goddard's effort as one of the best lectures of the season. "We cannot but feel," he stated, "that not sufficient number of your men undertake to impart to the public the work in which you are engaged. Too many citizens are unacquainted with the value and high qual-

ity of the men of the army, especially in the Air Corps. Members of General Parker's staff who were present commended Lieut. Goddard's work highly, and he has been invited to repeat the lecture and show the pictures to the Army and Navy Club at an early date.

If you have more men like Lieut. Goddard we should like to get in touch with them."

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#### NATIONAL GUNNERY CHAMPION HONORED

A Wing Review was conducted on Saturday, March 25th, in honor of 2nd Lieut. Winslow C. Morse, 95th Pursuit Squadron, National Gunnery Champion of 1932. Prior to the Review, Lieut. Morse was congratulated by Lieut.-Col. H.H. Arnold, who also presented him with the National Gunnery Championship medal.

Lieut. Morse won the National Gunnery Championship last September at the Langley Field matches. This is the second year that the 95th Pursuit Squadron has won the championship; Lt. D. D. Graves having won it for 1931.

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#### BROTHERS GALORE AT CHANUTE FIELD

An inspection of the roster of military personnel at Chanute Field, Rantoul, Ill., discloses interesting facts as to members who are related, as follows: Two brothers, Lieuts. Ralph O. and Leon R. Brownfield; three brothers, Pvts. Arnold, Ralph and William Webster; two brothers, Pvts. Lyle and Verba E. Botkin; three brothers, Pvts. William, James and Vincent Kavanaugh; two brothers, Tech. Sgt. Milton B. and Pvt. Jack O. Silver; two brothers, Pvts. Clyde H. and Fred N. Davis; father and son, Corporal Richard and Pvt. Norbert Danko.

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#### AIR CORPS OFFICERS DETAILED AS STUDENTS

The following Air Corps officers have been assigned by War Department orders to duty as students at the Air Corps Tactical School, Maxwell Field, Ala., for the 1933-34 course: Lieut.-Col. H.C. Kress Muhlenberg, from Hqrs. 5th Corps Area, Fort Hayes, Ohio; Captains Cornelius J. Kenney, Frederick W. Evans, Mitchel Field, N.Y.; Captains Arthur B. McDaniel, John Beveridge, Jr., 1st Lieuts. Roland Birn, Lyman P. Whitten, Office Chief of the Air Corps, Washington, D.C.; Captain Vincent J. Meloy, Militia Bureau, Washington; Captains Byron T. Burt and Walter R. Peck, Maxwell Field, Ala.; Captain Samuel C. Eaton, Rogers Field, Pittsburgh, Pa.; Captain Oliver P. Gothlin, Air Corps Representative, Boeing Aircraft Factory, Seattle, Wash.; Captains Robin A. Day, Air Corps Detachment, Ft. Leavenworth, Kans.; Arthur G. Hamilton, Chanute Field, Ill.; Clements McMullen, Wright Field, O.; Howard K. Ramey, Kelly Field, Texas; Lotha A. Smith, Fort Crockett, Texas; Joseph A. Wilson, Boston Airport, Mass.; 1st Lieuts. Ronald A. Zicks and David W. Goodrich, Bolling Field, D.C.; Robert B. Williams, Randolph Field, Texas; Gordon P. Saville, Barksdale Field, La. Also the following officers now on duty as instructors, Air Corps, National Guard units: Captains Charles Y. Barfill, Logan Field, Md.; John H. Gardner, Nashville, Tenn.; Guy L. McNeil, Birmingham, Ala.; George M. Palmer, Minneapolis, Minn.; 1st Lieuts. Lucas V. Beau, Jr., Denver, Colo.; Robert M. Webster, Hartford, Conn.; Carlton F. Bond, Pearson Field, Vancouver Bks., Wash.; William R. Sweeley, Long Beach, Calif.

Officers detailed as students at the Command and General Staff School, Fort Leavenworth, Kansas, 1933-35 course, are: Major Wm. O. Butler, Cpts. George P. Johnson and Robert Olds, from Langley Field, Va.; Major Hubert V. Hopkins, Office of the Chief of the Air Corps, Washington; Captains Earle H. DeFord, Kelly Field; Idwal H. Edwards, Office of the Assistant Secretary of War, Washington; Ralph H. Wooten, Military

Attache, Santiago, Chile; Majors Hubert R. Harmon, John C. McDonnell, Captains Sam L. Ellis, Harry A. Johnson, Frank M. Paul, Lowell H. Smith, 1st Lieut. John R. Morgan, now attending the Air Corps Tactical School, Maxwell Field, Ala.; and 1st Lieut. Kenneth N. Walker, Staff and Faculty, Air Corps Tactical School.

Officers to report about August 15, 1933, to the Army War College, Washington, D.C., for duty as students, 1933-34 course, are: Major Wm. E. Lynd and Capt. Clayton Bissell, upon completion of course at Command and General Staff School, Fort Leavenworth; Major Roy M. Jones and Capt. Arthur W. Brock upon completion of course of instruction at the Army Industrial College, Washington; Lieut.-Colonel John H. Pirie and Major Leslie MacDill from Office Chief of the Air Corps, Washington; and Major Ralph Royce, Office Chief of Staff, Washington, D.C.

Officers detailed for duty as students at the Air Corps Engineering School, Wright Field, Dayton, O., reporting not later than August 1, 1933, are: 1st Lieut. Alfred H. Johnson, 2d Lieut. Kenneth A. Rogers, from Randolph Field, Texas; Capt. James A. Woodruff, 2nd Lieut. Robert K. Giovamoli, Wright Field; 1st Lieut. Turner A. Sims, Jr., U.S. Military Academy, West Point, N.Y.; 1st Lieut. Patrick W. Timberlake, Patterson Field, Fairfield, O.

To Army Industrial College, Washington, for duty as students, 1933-34 course: Captain Walter F. Kraus, A.C. Tactical School, Maxwell Field; Major Walter G. Kilner, Office of Asst. Secretary of War, Washington; Lieut.-Col. A.W. Robins, Wright Field; 1st Lieut. Edw. H. White, upon completion of tour of duty in Hawaii.

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#### TACTICAL SCHOOL STUDENT BODY FULL STRENGTH

The Student Body Cadre of the Air Corps Technical School, Chanute Field, Rantoul, Ill., which is composed of specially qualified young men enlisted for entrance in the School, is now, since restriction of enlistments was removed in November, 1932, filled to the authorized strength of 200. At this time several reservations have been made in future vacancies for men returning from foreign service with approved applications for reenlistment for Air Corps, Chanute Field. The first increment of recruits received since the removal of restrictions, has completed recruit training and was entered in courses on February 6th last, while the second increment, completing recruit instruction on March 1st, was entered in class on March 6th. These new soldiers are of distinctly high calibre, having been chosen from an eligible list of several hundred high school graduates. All of this student group have a complete high school education, while a fair percentage have had one or two years of college, and a few are college graduates with degrees. For filling future vacancies, the files of the Air Corps Technical School disclose an eligible list of approximately 750 names of approved applicants with higher than prescribed minimum qualifications.

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Army Day, April 6th, was, under the supervision of Lieut.-Col. James A. Mars, Commanding Officer and Commandant of the Air Corps Technical School, observed at Chanute Field with aerial activities to which the public was invited. In the early morning, a flying echelon of 21 airplanes left Chanute Field on a 2-hour demonstration flight, visiting 36 Illinois cities and towns within a 40-mile radius of the field. This was followed by an aerial review, exhibitions of Air Corps tactics, smoke screen demonstrations, and parachute demonstrations by the graduating class of Parachute Riggers.

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Let us hear from Crissy and Langley Fields.

V-6415, A.C.

## THE MANEUVERS IN HAWAII

Again the 18th Composite Wing demonstrated the high degree of their training and readiness for war when once more within the year they locked horns, so to speak, with the fighting and bombing squadrons of the SARATOGA and LEXINGTON.

Outnumbered by more than two to one in the air, the Wing on Jan. 30th, took to the bushes literally and dispersed in concealed positions, from Hawaii to Niihau, where they awaited the enemy, reported en route to these Islands. The three squadrons of patrol planes from the Fleet Air Base at Pearl Harbor, commencing at 1:00 a.m., on the 30th, did a pretty piece of patrol work covering the entire sea area around the Islands. They were backed up by the 4th Observation Squadron, which operated from three outlying islands of the Hawaiian Group.

While not averse to tangling up in a dog fight with any number of enemy planes, the Blue Air Force realized that, with the preponderance of strength on the side of the Blacks, it was certain that any Umpires' decision would be unfavorable. It was therefore their policy to lay doggo awaiting a favorable opportunity to strike the enemy at a time most disadvantageous to him, and to make his attack on Hawaii as costly to him as possible. This opportunity came early on the morning of Feb. 1st, when an hour before dawn a Blue patrol plane sighted the LEXINGTON about 40 miles north of the Island of Molokai. Immediately sending in the information by radio, the patrol plane made a lone wolf attack, dropping two (theoretical) 100-lb. bombs on the Carrier, which at that time had sent off about half her complement of planes on their way to make an attack on Pearl Harbor.

The sudden appearance of these two 100-lb. babies on the crowded deck of the LEXINGTON would undoubtedly have created a mild confusion to say the least, as the remaining forty planes on deck had been warmed up and had their engines running. In the meantime, the entire 18th Wing had been assembled over Waimanalo and reinforced by 12 Navy Bombers from the Fleet Air Base proceeded out to sea on their way to make a real attack on the LEXINGTON. On their way to the rendezvous point, many units of the Wing proceeding towards Waimanalo passed the Black force in the air, but as they were on opposite sides of the Koolau Range on their way to attack Pearl Harbor, no dog fights ensued. About the time the Black Bombers were playing havoc with their diving attacks on Pearl Harbor, the lumbering Bombers of the 5th Composite Group were approaching their quarry - over which a very pretty dog fight was staged between the 18th Pursuit Group and the fighters of the Black carrier guard. Needless to say, the Bombers proceeded in their calm unhurried way thoroughly to demolish the LEXINGTON. Just as the units of the Wing were returning to their hidden nests another attack arrived at Pearl Harbor from the SARATOGA located about sixty miles South of Oahu, backed up by 24 catapult planes from the cruisers in that vicinity. Blue scouting planes followed them out to sea after their attack and reported their course back to the SARATOGA. This was verified by planes from the 4th Squadron operating from Molokai, and at 9:15 a.m. the Wing was again in the air over Koko Head, en route to the SARATOGA, which was known to be at that time south and west of the Island of Lanai.

At 9:15 a.m., the Wing was over Lanai preparing to attack the SARATOGA (only ten minutes away) when the maneuvers were brought to a sudden close and radios sent recalling the Blue attack. Recall was all that saved the SARATOGA from the fate of the LEXINGTON, as she had just completed taking her last planes on board and was a more or less defenseless target. Thus ended the first phase of the Winter Maneuvers - the Black enemy having destroyed Pearl Harbor and the Blue 18th Wing having sunk the LEXINGTON and scared the life out of the SARATOGA.

The second phase of the maneuvers consisted of Wing Exercises designed to test the maneuvering of the Wing by radio control and in aerial gunnery and bombing test against targets secretly placed on the Waimanalo Air Reservation. Due to the Kona gale which was blowing on the morning of the 4th, which resulted in the roughest weather in years, the number of hits was below average.

During the third phase of the Maneuvers from Feb. 7th to 9th, the entire Wing acted as an enemy air force operating from carriers and from land bases on outlying islands. The Black invading forces were represented on the ground by a battalion of the 27th Infantry bearing flags to denote the type of troops represented. With their thorough knowledge of the terrain and best methods of approach, the 18th Wing was able to assist the attacking ground troops by bombing artillery positions and concentrations, strafing enemy columns and truck trains, and attacking machine gun nests. As the weather was consistently terrible - rain, mist and wind, the conditions very nearly approached that of war time as far as the air force was concerned. During one attack by the 18th Pursuit Group on ground troops, the ceiling suddenly dropped from 800 feet to zero. Much relief was experienced when all units finally reported down safely.

The 26th Attack Squadron experienced a complete loss of visibility and was widely scattered - two planes landing on Molokai and one on Maui, with six others on various emergency fields on Oahu. That no casualties, nor crack ups occurred is in itself a high testimonial to the training and piloting ability of the individuals of the 18th Group. The condition of the equipment during the whole of the maneuvers pays a high tribute to the mechanics and crews of the 18th Wing, there being not a single forced landing or hitch of any kind. When one considers that practically all flying here is done in land planes over the sea, it can be readily understood how much a pilot appreciates the excellent maintenance and engineering work which is being accomplished here and at Wright Field.

All in all, the Maneuvers were most interesting and successful from our standpoint. It is believed they furnish the best possible test of the preparedness for war as we are able to determine from actual operations what we can do and what we cannot. An enemy attacking these Islands will find the air force quite unperturbed - almost nonchalant you might say.

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Fourteen National Guard and Air Reserve officers reported for duty at the Technical School Chanute Field, for duty as students in various courses for officers given thereat.

### RESERVE OFFICER KILLED AT CHAPMAN FIELD

It is with deep regret that Mitchel Field reports the death of Lieut. Charles W. Stouff at Chapman Field, Fla. The gunnery season with all its hazards had been very successfully completed and the 5th Observation Squadron was actually on its way home when the accident occurred. The Squadron took off from Chapman Field early in the morning and was forced to return because of bad weather at Miami. It was on this landing that Stouff was killed. All the ships landed singly with ample room in between. About a quarter of a mile from the field Stouff was seen to go into what looked like a half roll and head straight for the ground. No one could determine the cause of the strange dive into the ground.

"Charlie's loss," says the Mitchel Field Correspondent, "is deeply felt by the entire post, and particularly by the officers and men of the Fifth Squadron. He has always proved

himself to be an efficient officer, an excellent pilot and a warm friend.

### OCCUPATIONAL DISEASES OF FLYING PERSONNEL

What effect does continued flying have on the person so engaged? That is, barring crashes and other accidents, what out of the ordinary happens to the person who is engaged in flying over a number of years, whose life work is more or less in the air?

The following are those occupational diseases incident to flying which have been noted as occurring to an unusual degree among military flyers. Undoubtedly the casual flyer who flies when he wills, the person flying in closed cabin and soundproof planes or, in general, those whose flying is markedly different than that performed by military fliers, will not be affected in the manner described below. The military flyer, however, he who spends his working lifetime engaged in tactical flying, can look forward to certain "diseases," or, to term them more appropriately, "occupational ailments," for the layman invariably connects the word "disease" with contagious or infectious sickness.

While there is probably no disease which is peculiar to the flyer, there are certain diseases which are so frequent as to merit being considered occupational. His work is such that it requires constant attention and he is always under some nervous strain, this strain being intensified by bad weather conditions, extra hazardous flying, unusual flying, type of flying to which the pilot is not accustomed, and long periods of flying over difficult or dangerous terrain. The pilot, being constantly under a nervous strain, frequently develops an anxiety neurosis or more frequently a neuro-circulatory asthenia or staleness.

Other diseases or conditions to which the flyer is heir by reason of his work are the following:

Pterygia or growths on the eyes due to the wind blast.

Photophthalmia and snow blindness when flying over snow-covered terrain or over bodies of water.

Deafness and ringing in the ears are common conditions among flyers due to the constant roar of the engine, or blocking of the Eustachian tubes on account of changes in altitude.

Rupture of the ear drums is fairly common due to the inequality of air pressure in rapid dives made by Pursuit pilots.

The development of an hypertrophy or enlargement of the turbinate bones of the nose due to the change in temperature of the air inhaled is common.

Sinusitis is fairly common among pilots due to the sudden change in temperature inhaled, and the consequent interference with the circulation of the blood in the membranes lining these sinuses.

Various types of gastric neuroses are fairly common, also probably due to the nervous strain they are constantly under, and the more sedentary type of work.

Renal calculi or kidney stones are very common among flyers, the reason for which is not definitely determined, but it is thought to be due to the position the flyer is in when flying, the lack of fluid and the changes in temperature he encounters.

Constipation is also very common, due to the sedentary type of work or lack of fluid while on long flying missions.

The effects of the above diseases are cumulative and increase with the period of time spent on flying duty itself.

"This is a flying age," orated the orator, "time flies - man flies -"  
"Horse flies!" yelled the heckler.

### WAR DEPARTMENT ORDERS

CHANGES OF STATION: To Panama Canal Zone: Major R.L. Walsh, Wright Field; Major Junius H. Boughton from Middletown, Pa. Air Depot; Capt. Alonzo M. Drake, Wright Field.

To Hawaiian Dept.: 1st Lt. Morris R. Nelson from Randolph Field; 2d Lt. Delma T. Spivey from Langley Field; Capt. J.E. Duke, Randolph.

To Philippines: Capt. Martinus Stenseth from Militia Bureau, Washington, D.C.

To Hamilton Field, San Rafael, Calif.: Capt. Don L. Hutchins, Office Chief of the Air Corps.

To Maxwell Field, Ala.: Capt. Odas Moon, Kelly Field, for duty on Staff and Faculty of A.C. Tactical School.

To Randolph Field, Texas: 1st Lt. Norman D. Brophy from Graduate School of Business Administration, Harvard University; 1st Lt. F.A. Bacher, Langley Field.

To Rockwell Field, Calif.: Capt. Robert H. Finley, Hawaiian Dept.

To Fort Benning, Ga.: 1st Lt. John W. Warren from Hawaii.

To Chanute Field, Ill.: 2nd Lt. Milton M. Towner from Panama.

To Fort Crockett, Texas: Capt. Oliver S. Ferson from Philippines;

To Boston, Mass.: 1st Lt. David R. Stinson, Middletown Air Depot, to command Airport.

To Middletown, Pa. Air Depot: 1st Lt. Stanley Umstead, Bolling Field.

To Wright Field, O.: 1st Lt. Bennett E. Meyers from Babson Institute, Boston, Mass.; 2nd Lt. D.L. Pabst from Selfridge Field.

To Fort Leavenworth, Kans.: Capt. Ralph H. Wooten, for duty as student, from duty as Military Attache, Santiago, Chile; Major George H. Brett, Selfridge Field, for duty as Instr.

To Scott Field, Ill.: 1st Lt. Harold H. Carr from Wright Field.

To Mitchel Field, N.Y.: Capt. Leland W. Miller upon completion instruction at Graduate School of Business Administration, Harvard University.

To March Field, Calif.: 1st Lt. Paul H. Kemmer from Calif. Inst. Technology, Pasadena, Calif.

To Crissy Field, Calif.: 2nd Lt. Charles G. Williamson from Hawaii; 2nd Lt. Charles D. Fator from Hawaii.

To Brooks Field, Texas: Major Charles B. Oldfield from Command and General Staff School

To Selfridge Field, Mich.: Lt.-Col. Frank M. Andrews, from Army War College, to assume command.

To Seattle, Wash.: 1st Lt. Edward M. Robbins from Rockwell Field for duty at Plant of the Boeing Airplane Company.

To Washington, D.C.: Major Joseph T. McNarney from March Field, for duty as Instructor at Army War College.

To Panama: 2nd Lts. Stuart G. McLennan and Mex H. Warren from A.C. Technical School, Chanute Field.

To Hawaii: 2nd Lt. James L. Daniel, Jr., from A.C. Technical School, Chanute Field.

RELIEVED FROM DETAIL TO AIR CORPS: 2nd Lt. Walter A. Rude to 6th Coast Art., Fort Winfield Scott, Calif.; 2nd Lt. John G. Coughlin to 25th Inf., Fort Huachuca, Ariz.

ORDERS REVOKED: Assignment of 2nd Lt. S.V. Stephenson to Chanute Field from Panama; of 2d Lt. S.A. Ofsthun to Chanute Field from Hawaii; of 2d Lt. Thomas B. McDonald to Fort Crockett from Hawaii.

RETIREMENT: 1st Lt. Rowland Kieburtz, March 31, 1933, for disability incident to service; Major Thomas DeW. Milling from Fitzsimons General Hospital, Denver, Colo., to proceed to his home to await retirement.

DETAILED TO THE AIR CORPS: 2nd Lt. Orrin C. Krueger, Inf., and to proceed to Randolph Field, Texas, July 1, 1933, for flying training.

He: I'm going to try for an endurance flight.  
She: I thought you were practicing for something.



COLOR DETAILS OF ARMY AIR CORPS TACTICAL SQUADRON INSIGNIA

1st Observation Squadron: A brown cave man wearing a black breech clout, standing on a black mound, looking to dexter with right hand shielding his eyes, left hand holding a spear horizontally, in front of a rising sun against a blue background; all within a green bordered gold annulet bearing thirteen black crosses patee.

94th Pursuit Squadron: American Indian Head, face brown with black, blue and red markings. War bonnet white feathers tipped with blue, yellow and blue head bands, ribbons red and blue.

16th Observation Squadron: Binoculars, white with black shading.

95th Pursuit Squadron: Mule, brown on light blue circular background.

22d Observation Squadron: Blue disc, white stars, red to yellow tail.

9th Bombardment Squadron: Black disc, within an orle of silver another disc gray and black, Roman numeral IX in silver.

26th Attack Squadron: Shield - upper half orange; lower half, blue. Clinched fist, upper half blue; lower half, orange.

8th Attack Squadron: Eagle proper, white head. Bell, blue. Center circle white. Middle circle, green. Outer circle, yellow.

24th Pursuit Squadron: Tiger in proper colors.

44th Observation Squadron: Indian in blue silhouette on yellow disc piped with red.

27th Pursuit Squadron: Falcon, proper on a red disc.

2d Observation Squadron: A white disc within a black circle, rising out of green sea in the lower part of the disc Neptune riding a sea-horse and holding in his hand a trident in black silhouette.

19th Pursuit Squadron: Cock black and white, red comb, on yellow disc, black border, 19 rosettes consisting of six pointed star and six dots all white.

3rd Pursuit Squadron: On a blue triangle piped in black point down a fanciful creature with the head of a parrot, the winged trunk of a lion and the tail of a sea serpent. Black head and trunk, red and white eye, orange bill; red tongue, white wing and orange tail.

55th Pursuit Squadron: Yellow disc bordered in blue, blue annulet, arrow and sword black, portion on border yellow. Wings proper.

99th Observation Squadron: Buffalo, red lined with blue.

34th Pursuit Squadron: Black futuristic bird, red eyes, red and white striped breast, red lightning on white circular background piped in black.

73rd Pursuit Squadron: Golden bear with black shading, red eyes and tongue, on blue circular background piped in yellow.

11th Bombardment Squadron: Jiggs, black suit and hat, red vest, blue tie, white spats, light blue bomb, trimmed in orange, on circular white background with black piping.

91st Observation Squadron: Gray armor, green shield, black cross piped with white, yellow plume, brown spear, black horse, harness yellow, red devil, yellow background, brown fork superimposed on diamond; upper half, blue; lower half, green.

30th Bombardment Squadron: "Sergeant Branner", blue with black and yellow trimmings, and shoes in black border. Compass points green.

28th Bombardment Squadron: Indian Head, brown, yellow head band, yellow ribbon on hair, yellow beads. Black hair, ears and whiskers, white eye with black pupil, face markings red piped with yellow, red mouth, blue feather tipped with red - blue diamond.

35th Pursuit Squadron: Silver oval within a blue border, a black panther, tongue red.

72nd Bombardment Squadron: White clouds and lightning on circular background of black.

20th Bombardment Squadron: Pirate with tanned face, tan arms, black moustache, red cap with white stripes, yellow jacket, black cape and bomb; pants, shoes and stockings, brown. Alternate green and white stocks. Red bomb with two black bands, 11 black crosses on white field, all on rectangular white background piped in black.

96th Bombardment Squadron: Red devil, white aerial bomb. Black triangle with white edges.

23rd Bombardment Squadron: Black volcano, with red lava flow, black bombs, white clouds, futuristic rays, alternate orange crimson and yellow, piped with white, all superimposed on circular blue background.

13th Attack Squadron: Dark blue field, white skeleton, yellow scythe with bloody blade.

77th Pursuit Squadron: Natural.

5th Observation Squadron: On blue disc piped with yellow a yellow moon and 5 stars. Owl proper, silver telescope.

4th Observation Squadron: A cross estoille divided per saltire and per cross gold and blue.

49th Bombardment Squadron: Gray wolf's head, red tongue, against orange disc edged with gray.

17th Pursuit Squadron: Owl, white on black field.

7th Observation Squadron: Blue diamond piped with red, white sword, and shield outlined in black, black portcullis.

6th Pursuit Squadron: On a circular orange field, a gray skull outlined in black forming the hub of a shaded spinning propeller done in black.

25th Bombardment Squadron: Man, proper, dressed in black, black masked, nose tip and seal red; gray axe with bloody blade; on circular white background, piped in black.

36th Pursuit Squadron: Cloudlike background of golden orange, bordered in blue, blue helmet and white goggles with black rims. Figure brown with bloody tongue.

15th Observation Squadron: Pigeon, proper, telescope white trimmed in black, shield blue above, yellow below.

90th Attack Squadron: Red dice outlined in white with white spots.

86th Observation Squadron: Rider and horse in black silhouette on orange disc.

12th Observation Squadron: Orange disc, hawk in deep gray, white head, black projectile.

50th Observation Squadron: Square, red above, blue below.

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OUR COVER PAGE

The attractive cover page for this issue of the News Letter, showing the insignia of the various Air Corps tactical squadrons, was produced at the printing plant at Randolph Field, Texas, through the kindly offices of Captain James D. Givens, Air Corps, Secretary of the Air Corps Primary Flying School.

We extend our sincere thanks to Captain Givens for his interest in behalf of the News Letter. He has already furnished cover pages for several previous issues of the News Letter and to say that we appreciate his cooperation would be putting it mildly. Thanks again.

So you are in the Air Corps now! What do you do?  
I'm a fireman on an airplane.  
G'wan - they don't have such things.  
Sure - I fire the machine guns.

## PARACHUTE JUMPS FROM HIGH SPEED PLANES

QUERY was recently propounded to the Air Corps as to whether experience has already been gained in the United States as to the suitability of parachutes for leaps from the extra rapid mail and courier airplanes recently introduced into air traffic. Doubt was expressed as to whether the parachutes used thus far still come up to the requirements that must be made of their stability in cases of distress in view of the greatly increased speed of the airplanes.

Upon reference of this matter to the Materiel Division of the Air Corps, Wright Field, Dayton, Ohio, comment is made as follows, this on the assumption that the speed of the plane is about 200 miles per hour:

"First, that it is somewhat doubtful whether persons could get clear of an airplane traveling at this speed. As far as is known by the Materiel Division, this feat has never yet been performed. It seems a condition, therefore, that for successful jumping from such airplanes the pilot will have to reduce the speed. Of course, it is realized that there may be times, such as breakage of the wing or mal-functioning of the controls, in which the pilot might be unable to reduce the speed. What would happen in these cases is not exactly known and yet it would be advantageous to find out, if a practicable non-dangerous way of determining this could be found.

Drops have been made with dummy men on airplanes in dives at speeds which approached the one under consideration, i. e., 200 m.p.h. The dynamometer readings on these tests did not seem alarmingly high enough to endanger the strength of the parachute; however, recent experiments have led to the conclusions that a parachute dropped from an airplane in a steep dive is subjected to a higher shock than is one dropped at the same speed from an airplane in level flight. This is still in the conjectural stage and remains to be definitely proved. Our theory is that when a parachute is dropped from an airplane in level flight, it falls in a somewhat curved trajectory and as a consequence the lower side or edge of its mouth is blown inward somewhat, during the opening stage and this pressure of air from the outside is the principal reason for the reduction in shock loading when compared with the parachute which has been dropped more nearly vertical and has not had the cushioning effect of this air pressure from without.

If anything is known of this subject, either conclusions or theories, information would be appreciated.

It has been determined by dropping parachutes with compact lead weights that the ultimate breaking strength of both the Irving and the Triangle parachutes is of the order of 8300 pounds. It is believed that this is definitely a measure in pounds of the strength of these canopies, but it has been assumed that it makes no material difference whether this amount of shock load is applied rapidly or more rapidly. In other words, we test for strength by dropping 1000 pounds of lead from an airplane in level flight traveling 100 m.p.h. At one time our strength test required the parachute to withstand the shock of opening caused by dropping 200 pounds of lead with a time fuse mechanism allowing it to fall freely for ten seconds before opening. This was usually launched from level flight at about 85 m.p.h. Our calculations were that this ten second freely falling lead weight was traveling about 200 m.p.h. when the parachute opened. When this method was used, unfortunately, no dynamometers were available. However, from observations it was decided that the resulting destruction in both cases was about alike, for in either case it required a new parachute in good condition to withstand these tests.

Further, we have determined that, roughly, near sea level the terminal velocity of a man falling freely through the air is surprisingly low. Our figures vary from about 90 to 120 m.p.h. for a man weighing 180 pounds, and carrying on his body a parachute pack. Therefore, if a man leaves an airplane when it is traveling at speeds in excess of his terminal velocity, say 120 m.p.h., he will immediately decelerate, in fact he would appear to be blown backward. If he can get clear of the airplane, therefore, and he could by being thrown out, either accidentally or deliberately, which latter method is being carefully considered, it is thought that in the one or two seconds which are required for the parachute to deploy and open, a man's velocity could be reduced enormously. No instructions have been issued to the effect that it would probably be better to delay the opening of the parachute for two or three seconds when launched at extremely high speeds, but it is believed this is probably well understood.

Of course, it is not readily foreseen how one can have a parachute which will automatically open promptly at low speeds and yet successfully withstand the shock resulting from such rapid opening when subjected to high speeds. These two conditions appear contradictory and therefore a compromise seems the only solution."

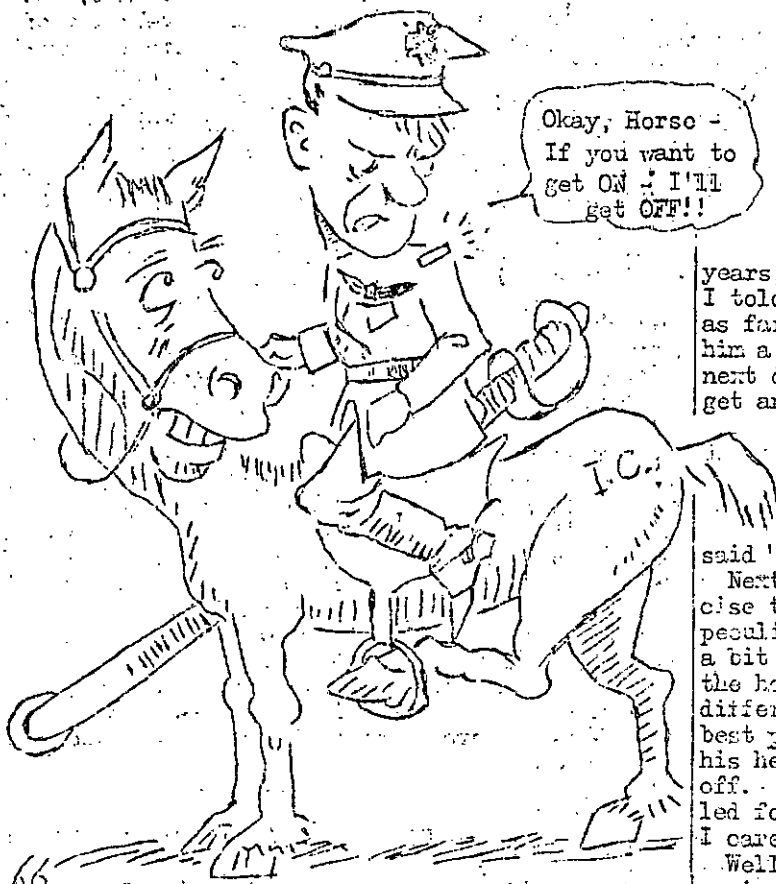
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## NEW ENGINEERING SHOPS AT SAN ANTONIO DEPOT

"Our immense new Engineering Shops Building," says the News Letter Correspondent, "was completed in March, under the direction of Capt. A. F. Dershimer, Constructing Quartermaster for San Antonio and vicinity, and under general contract with the A. J. Rife Construction Co., of Dallas, Texas. This structure, which is of fireproof, one-story construction, is approximately 458 by 572 feet over all, and covers 7 acres under one roof; which is said to be the largest single roof ever put on in the State of Texas. The construction is of brick, structural clay tile, structural steel, cast stone and reinforced concrete, with metal lath and plaster, steel windows, steel truss concrete, built-up steel deck and asbestos-protected metal roofing concrete floors and ramps, and comprises the Shops Building proper, the Dope House, and the Boiler & Utilities House, with two connecting bays, and the Paint, Oil, and Dope Storeroom. Six miles of water and gas mains were installed, besides the plumbing, heating and ventilating units, piping, etc. This building is the latest thing in shop construction and will add inestimably to the engineering service rendered by the Depot. It is one of which the Quartermaster Corps, which erected it, and the Air Corps, which will use it, may justifiably be proud. Work was also begun on the three new Quartermaster buildings at the Depot, the Warehouse and Maintenance Building, the Garage, and the Fire Station, which will fill a sorely felt need."

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In attempting to complete a training flight to Buffalo from Selfridge Field, Lieut. Jesse Neal, Air Reserve, was forced by fog to land in a field at London, Ontario. He remained there two days, due to the extremely bad weather, and was entertained by the local inhabitants. Lieut. Neal returned to Selfridge singing the praises of international friendship, but was received rather coldly by his friends on the Operations Staff at Selfridge, who had become entangled in the red tape which surrounds the landing of a plane in foreign territory. Scores of telegrams had to be sent to settle the customs details and to make the proper diplomatic notifications.



# TWO WEEKS

By Lt. Ebenezer Zilch

Under a recent War Department policy, a certain number of Army officers of branches other than the Air Corps are detailed by their Corps Area, or Department, Commanders to spend short periods of duty at Air Corps stations. While there on such duty they do not learn to pilot airplanes, but they do learn some of the other duties of Air Corps officers and, it is hoped, return to their organizations with an idea of what the Air Corps does at its daily toil. We can imagine their fearsome tales of their newly acquired prowess, once they are back with their fellows, in "Checking Forms 41," of "Going out on Mission O-45," of "wrestlin' with an SCR-134 in the rear seat of a B-6," of "Pulling a Motor," or "Etching a Prop." And then some.

But, it may be added, a few Air Corps officers are also sent for tours of duty with the Infantry, Artillery and other branches to learn what the ground troops do in the course of their daily grind. They, too, have fearsome tales to tell when they return to their proper Air Corps station. Here's one of them from the Hawaiian Department, reprinted from the clever sheet "AERO-VUE," of the 18th Pursuit Group at Wheeler Field. The author is purported to be Licut. Ebenezer Zilch. What a name! - But what a story!

There was once a time when undesirable Air Corps officers were issued on memorandum receipt to other branches to be disposed of as they saw fit.

One day the commanding officer called me into his office and announced that I had been assigned to the 15th Horse Caisson Army, which later turned out to be with F Battery of that organization. Now when I reported for duty the battery tested very high as to specific gravity, but at the end of my two weeks, the battery had hardly a spark left.

My course of instruction was turned over to a new officer who just arrived from the Point the

day before, and he told me how glad he was to teach me all about the Field Artillery. He related as how his old man was a general, Chief of Something, and how he rated in Washington, and he would be glad to use his influence for a friend like me. Well, the horses had eaten all the salt, but I swallowed the story as best I could without it, and then related that my pa had been milking and spreading fertilizer for thirty years, but that did not make me a dairyman, and I told him he was just a brand new shavetail as far as I was concerned (on account I ranked him a couple of files and a hammer) and the next day I marched in to the C.O. to try to get an instructor commensurate with my rank.

Well, the C.O. looked at me out of the corner of his fist and brought his eye down against the table with a bang and told me if I ever came into his office again it would be just too bad, so I said "Yes, Sir" and saluted.

Next day my instructor said we would exercise the horses and started telling about the peculiarities of the animal. Now I had quite a bit of experience with animals similar to the horse in my youth (the ears were slightly different), and I learned long ago that the best place to preach a male funeral was at his head, so we mounted a couple and started off. A dozen other privates rode behind and led four other horses, but one horse was all I cared to be bothered with.

Well, the first mile of ups and downs showed my instructor that my horsemanship was nothing to brag about. Once I nearly fell, and he yelled something about losing my stirrup, so I did a hundred and eighty and charged to the rear to look for it. Several of the led horses broke loose as I galloped among them, and my instructor was yelling to keep away from the led horses. Now all these horses locked alike to me until one stepped on my shoe later, and then I knew he was one of the lead horses. Finally I happened to glance down and saw my stirrup still attached to the saddle. Was I sore! He said I had lost it, and there it was all the time.

Next day I reported with my parachute as I was used to sitting on one, and the saddle soon got hard in spots. The C.O. wouldn't let me use it, and not only that, but they showed more consideration for the horse as he had a blanket, and I didn't even have that. Day after day the situation got worse, until I was so sore of mind and body that I don't remember all that happened.

However, on the last day before my duty was over, the C.O. called me in and told me that I had shown marked improvement (those marks lasted for weeks) and he would allow me to ride in the parade they were having for the General next day. My instructor took me aside and gave me some dual in horse saber drill, and then he showed me my new parade horse. I reported with my new saber for the parade which was about ready to start. Somebody blew a whistle and the parade was off - and I still off my horse. The watering trough where I usually mounted was not high enough for this horse, so I got a stable boy to help me on. But I forgot to get another boy to catch me when I went over the top. I finally mounted and reported to the head parade officer who had stopped the parade until I got there.

I shall try to relate the incidents that happened in logical order, but no doubt omissions will be made.

We first rode by the General's stand with the saber at the carry position and the horse at a walk. The next time was to be the trot, and then a gallop. Well, I got by O.K. the first time, and was commended by the battery commander. We then started to trot - all but me. My horse bucked at the rattling caissons

and went everyway but on. My hands were so full of reins and sabers that I was helpless, and decided to drop one of them. The saber cost me nine dollars, so I dropped the reins. This was obviously a mistake, so I picked up the reins and dropped the saber. It stuck in the ground, and the caissons on the right of me and the caissons on the left of me volleyed and thundered - and was I caught! Each caisson pilot tried to see how close he could come to my saber, until I dismounted and rescued it. I placed the scabbard in the saber which was strapped to the saddle and tried to mount without the watering trough. The horse did one thing right - wheeled to the right and I swung gracefully into the saddle.

By that time all that was left of the parade was the wagon company, so I joined that as it taxied rapidly by. My next task was to draw my saber from the scabbard and place it in the carry position. The horse wheeled and almost nosed over, so I replaced the scabbard in the

sword and righted the horse. I tried again and lost a stirrup and almost a horse. The General's stand loomed up ahead and I looked at my horse and saw he was galloping. We had already gone by at a trot while I was saber hunting and horse quieting, and this was the last time.

Something had to be done to make restitution so I grasped the saddle with the pommel of my hand, with my remaining hand quickly drew the horse from the scabbard, bringing it to the carry position just as the General's stand went by.

Everything would have been fine except for a horse blanket which did not escape the General's eye, and the Battery C.O. had to redore by implyment why his "F" Battery horse blanket passed in review the second time with the Wagon Company, with the saber still in the scabbard, and why not until the last time was the horse finally withdrawn from the saber and placed at the carry position.

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### OXYGEN CONSUMPTION AT HIGH ALTITUDES

Answering an inquiry as to the oxygen consumption of an aviator at altitudes of 15,000 feet or over, Lieut.-Col. A.P. Clark, Medical Corps, Commandant of the School of Aviation Medicine, Randolph Field, Texas, states:

"Owing to the technical difficulties involved, oxygen consumption cannot be accurately determined at altitude in airplanes by the Henderson Pierce rebreathing machine or by the various types of apparatus used in the closed or spirometric method of determining the respiratory quotient. These cannot be operated in the open type airplane capable of attaining and exceeding that altitude and the average closed cabin ship has only a ceiling of between 14,000 and 15,000 feet at the most. However, the open or gasometric method can be used where the subject breathes the atmospheric air of the altitude thru a specially constructed mouth-piece over a definite period of time, the expired air for the same period being collected in a Douglas bag. The total volume of expired air is ascertained by means of a gas meter and its oxygen and carbon dioxide contents are determined by gas analysis in a Haldane or Van Slyke apparatus. The difference between the oxygen and carbon dioxide contents of atmospheric and expired air represents the amount of oxygen utilized (consumed) and the amount of carbon dioxide eliminated. Corrections must be made for water vapor tension, barometric pressure, and temperature.

As the higher altitudes are attained with consequent lowering of the barometric pressure and the partial pressure of oxygen in the lungs, the deficiency in oxygen partial pressure must be compensated by breathing liquid oxygen vapor or gas oxygen from specially supplied containers. As the barometric pressure decreases the liquid oxygen vaporizing rate increases in an amount adequate to make up for the decreasing partial pressure of oxygen in the lungs. But the gas oxygen contained in cylinders at extremely high pressure must be metered through a regulator in a constantly varying amount depending upon the change in altitude. Of course, oxygen consumption varies with the individual, and according to his nervous and muscular activity. But the amount of oxygen consumed on the average by the aviator at high altitude under the condition of cold, lowered barometric pressure and exertion involved in piloting has been calculated and the following table showing the standard oxygen requirements in liters of oxygen per minute takes the above facts into consideration, the smaller value of flow being the average amount necessary for a pilot or observer during normal flying, while the greater value is the average amount needed for a pilot carrying out maneuvers or an observer swinging guns

or cameras.

#### Air Corps Oxygen Flow Standards

Altitude	O <sub>2</sub> Flow-liters per minute
15,000	3.9-7.7
20,000	5.4 - 11.0
25,000	7.4 - 15.1
30,000	10.1 - 20.2
35,000	13.0 - 26.0

The following table shows oxygen requirements in terms of liquid oxygen per man-hour:

	Liters of Liquid Oxygen	Pounds of Liquid Oxygen
20,000	0.75	1.8
25,000	1.0	2.5
30,000	1.5	3.75
35,000	2.0	5.00

With reference to the influence of the lower temperatures of high altitude upon oxygen consumption it is known that absorption of gas by a liquid varies directly with pressure and inversely with the temperature. It would seem that the lower the temperature the greater the absorption of oxygen by the blood in the lungs but this is not true for the intra-pulmonic (the alveolar) temperature remains the same on account of the warming effect of the nasal and pharyngeal passages upon the inspired air. The important point is that the alveolar partial pressure of the oxygen must be kept approximately the same as when at the lower levels (below 3000 feet). This is done by the gas or liquid oxygen supply.

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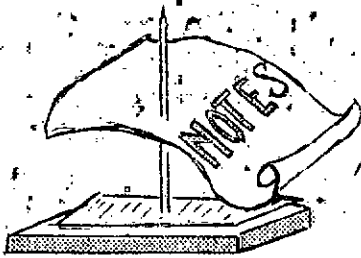
#### OFFICERS GRADUATE FROM ARMAMENT COURSE

On March 31st, the officers' class in Armament, Air Corps Technical School, Chanute Field, Rantoul, Ill., completed the course of instruction started on October 1, 1932, and were graduated on April 1st. This class of 18 Air Corps officers consisted of Capt. Wm. Turnbull, 1st Lts. Charles G. Percy, Bernard A. Bridget, John F. Guillett, Wm. H. Doelittle, 2nd Lieuts. George R. Acheson, James L. Daniel, Jr., Frank F. Everest, Jr., Charles G. Goedrich, Howard G. Bunker, Stuart G. McLennan, Fred O. Tally, Ralph O. Brownfield, Edward H. Alexander, Max H. Warren, Leon R. Brownfield, James P. Newberry, Douglas M. Kilpatrick, Jr.

The faculty of the Technical School was particularly gratified with the work of this class. The Director of Armament, Capt. Arthur G. Hamilton, under whose supervision the officer were trained, states that this class was of distinctly the highest calibre of the classes with which he has been concerned.

Diplomas were presented the graduates by Lt. Col. James A. Mars, Commandant, at a military review of all troops of the command.

V-6415, A.C.



# from Air Corps Fields

Randolph Field, Texas, April 1st.

Major-General B.D. Foulis, Chief of the Air Corps, landed at Randolph Field March 18th from Dallas, Texas, while on an inspection tour of a number of government fields. General Foulis was flying an Observation plane and was accompanied by a mechanic. Capt. A.B. McDaniel, on duty in the Chief's Office, was also flying with the General. They visited all government flying fields here and departed for Fort Crockett, Galveston, Texas.

Major F.L. Martin was the principal speaker at the meeting of the Army-Civilian Luncheon Club at the Officers' Club, March 20th. His subject was "Our Randolph Field." Mrs. Chas. H. Danforth, wife of Brig. General Danforth, Vice President of the Club, presided at the meeting. Mrs. H.C. Wisehart, wife of Lieut. Wisehart, sang two numbers - "The Blackbird Song" by Crystal Scott, and "The Piper of Love" by Mollie Carew. She was accompanied on the piano by Mrs. Joseph F. Taulbee.

Lieut. Carr, now on duty in Washington, and Harold Gatty, of globe circling fame, visited the field March 27th and were forced to stay over an extra day on account of bad weather. They were enroute to San Diego and from there to the Douglas Plant at Santa Monica. It is recalled that Gatty and Wiley Post set a new speed record in circling the globe by airplane in June, 1931.

Visiting the field during March were Lieut. St. John with Capt. Diggle; Lieut. Duckworth; Lt. Lee with 5 passengers; Lt. W.R. Carter; Lt. Gregory; Lt. Gogen with Lt. Gray; Lt. Harper with 3 passengers; Lt. McAllister with Mr. Harding; Lt. Davis; Lt. M.J. Lee with two passengers; Major Ryan; Capt. F.H. Pritchard with Capt. Hahn; Major S.W. FitzGerald.

Second Lieut. E.H. Bassett, following a recent assignment to the Air Corps Flying Schools, was detailed to the Flying Cadet Battalion. Graduating from the U.S. Military Academy in June, 1929, he subsequently entered the Air Corps Flying Schools as a student officer. Upon completing the primary and basic stage training, he was sent to Kelly Field and graduated in October, 1930. Assigned to foreign service, Lieut. Bassett took up his active flying career at Wheeler Field, Hawaii, and completed the prescribed three-year stretch in that far away outpost of America's flying force. Upon his arrival at Randolph early in March of this year, he became temporary tactical officer of B Company during the absence of Lieut. Rich, and at the same time directed the athletic program of the flying cadets. At the present moment, Lt. Bassett has taken up the problem of organizing and coaching a flying cadet baseball team which is to take part in the program of sports among the organizations of the local post and the other surrounding army centers. The Flying Cadet Battalion welcomes Lt. Bassett and expresses the respectful and sincere wish that he may find his work here pleasant.

Private 1st Cl. David C. Burt died March 6th at the Station Hospital, Ft. Sam Houston, from a tumor of the brain. He served as a 2nd Lieut. of Infantry in the 54th (Pioneer) Infantry in France during the World War, and held his commission from June, 1918, to July, 1919.

Jim Thorpe, idol of sport fans since 1912, in

which year he won the all around championship in the Olympic Games at Stockholm, spoke before the Flying Cadet Battalion on the afternoon of March 17th. Thorpe was educated at the Carlisle Indian Institute, where he first won fame as an athlete in the three sports then prominent in intercollegiate circles. As a phenomenal football star, he startled followers of the sport throughout the eastern states by his remarkable running and kicking. Later on he brought glory to the United States by giving an exhibition of all around track and field proficiency which was not equalled until the recent Olympic Games. In collegiate and professional baseball, Thorpe is said to have had the makings of a great player, but did not continue long in this line of sport.

Speaking before the entire battalion in the War Department Theatre, Thorpe decried the single standard of professionalism now in force. The tall Indian was himself caught in the web of technicalities which confronts the amateur who would like to be a professional in one sport and still retain his avocational status in another, and spoke from experience when he advocated a double standard by which a person might enjoy mixed interests. The Battalion was invited to ask questions and responded with a lively flow of interrogations concerning the old and the new in the world of athletics.

Thorpe was a visitor in San Antonio during a lull in production among the studios of Hollywood, where he is a player of character parts and has other varied interests.

## THOUGHTS AT TABLE

Among the things which we deary  
Are liver, yes, and rhubarb pie.  
The Brussel's sprouts are noxious fruit  
And make our sorrow absolute.  
While mashed potatoes must have lumps,  
It's spinach puts us in the dumps.  
Squash is just conglomerate mush,  
And kidneys simply make us blush.  
The cabbage and alleged corn beef  
Are so-and-so beyond belief.  
Though by these we are beset  
We're thankful still for what we get.

Rockwell Field, Coronado, Calif., March 17th.

A requirement that all officers complete their legislative furloughs prior to Spring training makes the field seem deserted and has considerably slowed up activities. However, there is still considerable competition among the embryo aviators and blind flyers. Captain Harvey H. Holland, carrying on a course of Avigation Training, about completed the classroom instruction and has laid out five courses for the officers to figure out and fly, acting as aviator. These missions are usually performed with the pilot flying "blind," and it is then that the aviator can easily gather gray hairs by the handful. For instance, Capt. W.T. Larson, acting as aviator, gave instructions concerning the course to Capt. C.W. Pyle, flying blind, and suddenly they were enveloped by one of those big, beautiful, billowy, etc., clouds. The windows became fogged up, the aviator got dizzy, and the pilot calmly flew on under the impression that the sun was shining

an brightly and the visibility and ceiling were unlimited. However, he held to his course and arrived at his objective probably in shape to pass a much better "Schneider" than his aviator.

One day last week the 19th Bombardment Group held a Field Day and a good time was enjoyed by all on that day but not the next few days which were devoted to mending broken bones, bruised skin and sore muscles.

Under the able supervision of Lt. Clifford Smith, Construction Quartermaster, new quarters are beginning to take shape, including ten sets of married officers' quarters, 16 bachelor sets and 30 married N.C.O. quarters. Another project under his control is the new parking and warming up apron for the planes of the 19th Bombardment Group. This apron is about completed and will be in use before very long, thereby saving considerable wear and tear on equipment pending the construction of new hangars.

The Rockwell Air Depot is continuing to do business at the old stand in the usual highly efficient manner. The personnel are not unduly excited as yet over the move to its new location at Alameda inasmuch as that project will probably require a year or so before being ready to accommodate the Depot.

Lt. Edward M. Robbins is back East getting instructions on how to act on his new job, that of Air Corps Representative at the Boeing plant. Lt. Robbins has been on duty with this Depot for nearly seven years, and his transfer will be keenly felt by all.

Not the least among newsy items is the announcement that the 4th Provisional Air Transport Squadron has appeared on the Post and although somewhat under strength, is functioning in a highly efficient manner with the personnel assigned, consisting of the Squadron Commander and one able assistant, Staff Sergeant Arthur Hanson, the pilot.

Fort Crockett, Galveston, Texas, March 21st.

Graduates of the last class from the Attack Section at Kelly Field who reported to this station for duty are: 2nd Lts. (Air Reserve) Berton Root, David M. Barkley, Allen L. Erickson, Ernest W. Gray, Robert F. Strickland, Herman A. Schmidt, Bob Arnold, Wm. P. Hooten, Edward W. Backus, William A. Coln, Jr., James McGoodbar, II, Wm. W. Schaerdel, Dallas B. Sherman, Wilcox B. Wild.

After serving a year of active duty with the 3rd Attack Group, 2d Lt. Loren Cornell, Air Reserve, reverted to inactive status on Feb. 28th and enlisted March 17th as a private and a member of 3rd Attack Group Hqrs. Detachment, Pvt. Cornell was ordered to and left for Chanute Field, Rantoul, Ill., the following day.

Noel F. Parrish, 2nd Lieut., Air Reserve, 13th Attack Squadron, pilot, with Major Glenn P. Anderson, Coast Artillery, passenger, left the post March 18th for Maxwell Field, Ala. Major Anderson stopped at Maxwell Field, his present station, while Lt. Parrish continued on to Edgewood, Md., in the A-3B plane which Lieut. Truly will use during his course of instruction at the Arsenal.

Second Lieut. Pearl H. Robey arrived here from Luke Field, T.H., March 15th, and left solo in an A-3B on the 18th for Edgewood, Md., to take a course of instruction at the Edgewood Arsenal.

Second Lieut. Merrick H. Truly reported for duty with the 3rd Attack Group, March 16th, coming from Kelly Field. He left by auto for Edgewood Arsenal, Md., where he will be a student until October 31st.

Recent visiting pilots to this station were: From Kelly Field; Capt. E.E. Glenn and ten Cadets; Lt. J.T. Flock and Capt. C.E. Hart (Ordnance); Lts. A.F. Shea, T.L. Bryan, J.M. Fitzmaurice and F.H. Smith - from Randolph Field; Lts. G.H. Macnair, H.L. Grills, Daly,

Brentnall, Parker, W.S. Lee, T.W. Inlay and Master Sgt. Wendell; - from Langley Field: Lts. H.B. Duckworth, A.Y. Smith; - from Duncan Field: Capt. B.F. Giles; Sgt. Henderson; from Brooks Field: Capt. A.I. Ennis with Lt.-Col. Ira Longenecker; - from Richards Field: Lieut. St. John; - from Chanute Field: Lieut. SJW. Anderson; - from March Field: Major Tinker; - from Randolph Field: Lt. T. Griffiss; - from Houston, Texas: R.F. Wisehart; Lt. Neely, Texas N.C.; Capt. Barton; - from Maxwell Field: Major W.O. Ryan with Major Glenn P. Anderson, C.A.

20th Pursuit Group, Barksdale Field, 3-23-33

Barksdale Field, having been officially dedicated as of February 2nd, all hands are absorbed in the program laid down to prepare the 20th Pursuit Group for active participation in any prospective Air Corps maneuvers.

March winds are not conducive to aerial marksmanship, but record ground gunnery was notable for excellent scores and a certain amount of unsolicited local publicity. The recipient of said publicity, however, blushinglly disclaims all credit, as he grimly contemplates a counter plot.

With the advent of half a dozen short wave sets, formation flights are assuming a much less impersonal aspect and their training value has been considerably enhanced.

55th Pursuit Squadron: Upon completion of the gunnery season, some excellent scores were noted. Lieut. Sory Smith was high point man with a score of 856 on ground gunnery and 170 on Bombing for a right formidable total. Eight other officers fractured the 700 mark on ground gunnery with four yet to complete firing. It is as yet undecided whether aerial gunnery will be held on the reservation or away from home.

Lieut. R.M. Lee has trotted out his baseballers on a temporary diamond, but as yet no reports on predictions have been put out.

Among the new Reserve officers recently graduated from the Advanced Flying School, assigned to the Squadron, are Lts. George Speaker, Rainey.

After judging the gadgets incident to operating the SCF-183, we're getting squared away a bit on maneuvering through radio communication.

Capt. and Mrs. H.L. Clark took off to San Antonio on a week's furlough. During the absence of Capt. Clark, Lt. Wittkop will guide the destinies of the organization.

77th Pursuit Squadron: Staff Sgt. Halstead J. (Doc) Rowen, flight inspector for the Squadron, took unto himself a life partner a few weeks ago.

Lt. Arthur R. Kerwin left for San Antonio with matrimony in view. Our ranks of stalwart bachelors are dwindling rapidly.

20th Pursuit Group, Barksdale Field, 4/5/33

The 20th Pursuit will shortly have acquired all of its long awaited P-12E's that have heretofore been scattered about the country undergoing overhaul. When this fair day arrives, we can boast of 28 planes.

On April 6th, Major Harmon was scheduled to lead the 55th and 77th Pursuit Squadrons, totalling 19 planes, to New Orleans to participate in Army Day Exercises; from there to fly to Fort Crockett, engaging in a problem with the Attack Group enroute; returning to this field on April 8th.

55th Pursuit Squadron: Employment and Tactics were the order of the day during the past week. After working within the squadron on methods of Pursuit Attacks or Bombardment, Attack, Observation, and Pursuit, we worked in Group problems against the "Reds," or "Blues," or maybe the "Blacks," - these color designations change so rapidly it's hard to keep track of them.

With the close of the basketball season, base V-6415, A.C.

ball is in full swing. Since the post diamonds are as yet unfinished, we are using a temporary field. The caliber of talent is as yet untested, as there are a number of new men on the team roster this year.

**77th Pursuit Squadron:** Five new officers reported to this squadron for duty the latter part of March - Capt. Camblin, Lieuts. McCray, Williams, Fly and Grebill. Capt. Camblin was on duty with the Reserves at Muskogee, Okla. The four other officers are recent graduates of the Advanced School at Kelly Field and are on their first lap of active duty.

At present the 77th Squadron is directing all its efforts toward work for the exercises which, if I am not mistaken, will be held at March Field. (Ed. note: - "Right - O"). Now that the weather here is so nice I fear California's famous sunshine will be wasted upon us. So open up the Golden Gate, ye Californios, and show us that we have seen nothing yet.

The flight system of training is working out most successfully in this squadron. All work except for formulating operations is conducted or at least supervised by the personnel of the flight. This system has a two-fold purpose: To train each pilot in the different phases of technical work and to lighten the burden on the squadron key officers. The cooperative efforts of the 77th officers made this system one of great benefit.

March Field, Calif. March 17-April 4, 1933.

The following named 2nd lieutenants, having completed their training at the Air Corps Advanced Flying School, Kelly Field, were ordered to report for duty at March Field: Thomas S. Algert, Wayne N. Allison, John H. Barry, William M. Brown, Frank E. Busch, Jean R. Byerly, Murray B. Dilley, Jr., Arthur A. Haid, Edward D. Kennedy, Charles M. McHenry, Wilton B. Miller, William F. Richmond, Osmond J. Ritland, Fred J. Stevens, Jr., Edwin D. White, Jr., Harry H. Bissell, Jr., Lloyd F. Hopwood, Clifford L. Huffman, Cleopas J. Messer, John O. Neal, James J. Roberts, Jr., Kenneth P. Gardner.

It is impossible to estimate the great value both to health and morale of March Field personnel brought by the new gymnasium. All groups officers, enlisted men, their wives and children are taking an active interest in athletics and the great demand for the use of the facilities has necessitated a complicated schedule.

The six bowling alleys have been continuously in use. An enlisted men's bowling league competed during March for various prizes, there being ten teams of five men each. Other prizes are offered for high alley scores outside of the tournament. Wednesday afternoons are reserved for family matches, where domestic troubles can be settled in an apparently peaceful manner. Each morning, under the supervision of Mrs. Paul E. Burrows, the March Field women get together for a program of calisthenics, volley ball and bowling. Saturday mornings are reserved for post children, and the response has been so great that it has been necessary to divide the youngsters into age groups which, under the supervision of Mrs. Burrows, are led by enlisted men through their paces in all the gymnasium contests known to modern boys and girls.

Tactical inspection by the Corps Area Commander took place here on March 23rd and 24th. A dispersion problem was conducted on the 23rd and a continuation of the same problem the next day, including a bombing and machine gun mission. Col. L.W. McIntosh, Corps Area Officer, was at this station during the inspection as representative of the Corps Area Commander.

Capt. Miles Kresge, Ordnance Department, and Mrs. Kresge announce the arrival of a son, Karl Moore Kresge, at 8:10 p.m., March 20th.

Plans were formulated for appropriate ceremonies at March Field on Army Day, April 6th, in

commemoration of the 16th anniversary of the formal entry of the United States into the World War. Arrangements were made for a broadcast over Station KFI (Los Angeles) from 9:45 to 10:00 p.m., on April 5th.

The Army realizes its responsibility in keeping the public informed as to its military activities, for it is only through education of the public that we can expect their support in our preparedness plans. Last year it is estimated that more than 10,000 persons visited March Field on Army Day, accepting the Army's invitation to attend open house there. It is impossible to estimate the number of people who were favorably impressed by the activities of the Wing during its flight over the Los Angeles metropolitan area and its maneuvers at the Los Angeles Municipal Airport. The public was again invited to attend the ceremonies this year at March Field and Los Angeles.

Richards Field, Kansas City, Mo., March 5th.

Capt. Wright, Commander of the Kansas City Air Corps Reserve, led a flight of three O-1E's and one BF to Shreveport, La., after making one stop for gas at Muskogee. Four Reserve officers and three enlisted men made the trip - Lieuts. Wm. A. Ong, J.P. Spake, J.S. McBeth, W.R. Hunt, Pvts. E.C. Bullard, Frank Mathey and Fagan. The group were guests at the Country Club Dance in Shreveport, sponsored by the Air Corps. The return trip was quite eventful, due to fogs and rain. Two night stops were made, first at Muskogee, and the second at Coffeyville, Kansas.

Lieut. W.A. Ong, a racing pilot by profession, seemed to forget he had two wing men while looking for the field at Coffeyville. His pylon turns with the ceiling only fifty feet caused the perspiration to blossom forth on the brows of Lieuts. Spake and Hunt. The group was royally entertained at dinner as guests of the Rotary Club, and in the evening the Airport Manager of Coffeyville entertained with a bridge party.

Bolling Field, Anacostia, D.C.

Adding color and interest to the picturesque parade on the afternoon of March 4th, the Air services of the Army, Navy and Marine Corps passed in colorful military formation over the line of parade and past the reviewing stand of the President. From the rendezvous point over Alexandria, Va., the formation of Keystone Bombers, under the direction of Col. C.C. Culver and the Pursuit Group, under the direction of Major B.Q. Jones, attached themselves to the leading element comprised of Major-General B.D. Foulis, Capt. A.E. McDaniel and W.H. Brookley. In sequence the squadrons of Boeing Fighters from the Navy and Marine Corps filed past. The presence, from the gray overcast sky, of the Navy dirigible Akron (now but a memory) and its passing over the city streets, lined with thousands of residents and visitors, climaxed the aerial demonstration.

An unusual feature, heretofore untried, was the interesting broadcast of the aerial demonstration from the non-rigid airship TC-70 of the 19th Airship Co., Langley Field, Va. To the thousands who listened to the Inaugural Ceremonies over the radio, this unique broadcast from overhead was most interesting, it being possible to hear the formations roar past the control point. After passing in review, the Squadrons departed for their respective stations, their missions completed without interference and without incident.

Old Man Weather, the bug-aboo of the Air Corps, made a sweeping reduction in our general average of flying for February. His most ironical trick, however, was the beautiful day for flying that he set down on February 24th, the day on which the troops of the post were

inspected by the Inspector General. With each end every department operating at almost less than a minimum number of men for proficiency, this field handled an unusual amount of air traffic. Records show that 20 visiting ships were accommodated for service; 11 Bolling Field planes dispatched and returned from aviation flights and 7 airdrome missions performed. This is a good day's flying in any man's country with all present and accounted for. "If you are skeptical, attach yourself to the emergency crew or other departments which have to do with this traffic and find out. As a well known newspaper correspondent would say - "A torchid to the emergency crew, radio operator and, last but not least, Operations personnel for the splendid cooperation in keeping the ships on the move."

Chanute Field, Pantoul, Ill., March 15.

On Feb. 25th, an aerial review was held at the field. An inspection of all airplanes and flying line vehicles was first held on the ground, followed by a review in the air past the reviewing officer, Lt.-Col. James A. Mars and his staff.

Capt. M.D. Mann, Air Corps, leading a flight of 5 O-38's of the 33rd Division Aviation, Ill. Nat'l Guard, Chicago, arrived here Feb. 18th, en route to Chicago, from Miami, Fla. While at Miami, Capt. Mann and his flying personnel visited Mayor Anthony J. Cermak, of Chicago, who was mortally wounded in the attempted assassination of President Roosevelt.

On Saturday, March 11th, Capt. W.C. Farnum and Lt. Dyke F. Meyer, of Chanute Field, acted as judges at a Fencing Meet held at the University of Illinois, between Illinois and Purdue. Two Mexican officers, Lieuts. Ricardo Castenada and Javier Gonzalez, who are attending the Communications course of the Air Corps Technical School, gave an exciting exhibition of saber combat which was packed with thrills and enthusiastically received by the spectators and participants of the meet.

Recent extended administrative flying missions by Chanute Field officers in transport planes, returning enlisted graduates of the Technical School to their home stations, were made as follows: By Lieut. Roscoe C. Wriston in C-19, with 8 passengers, to Mitchel Field, via Bolling Field, Feb. 23rd; Lieut. Herbert W. Anderson, with 6 passengers, in C-14, to Fort Crockett, Galveston, Texas, via Randolph and Brooks Fields, March 2nd; Lieut. Robert W. Harper, pilot, and Capt. W.C. Farnum, Observer, with 8 passengers, in C-9 to Randolph and Kelly Fields, March 13th.

Flying missions recently performed by Chanute Field pilots and officers of the field on flying status, to other points and return, include: To Madison, Wis.: Lt.-Col. James A. Mars, Lts. J.S. Stowell, R.H. Harper, R.V. Williams and H.G. Montgomery; To Chicago, Ill.: Capts. Walter Bender, S.M. Connell, Lts. C.D. Wheeler, M.E. Tillery, F.E. Cheatle, T.M. Bolen and J.L. Daniel; To Detroit, Mich.: Lts. T.M. Bolen and H.G. Montgomery; To Selfridge Field: Lts. L.D. Fator and T.M. Bolen; To Evansville, Ind.: Capt. D.C. Ogle and Lt. J.F. Guillett; To Kansas City, Mo.: Lts. R.O. Brownfield and L.R. Brownfield; To Nashville, Tenn.: Lt. C.G. Percy; To Terre Haute, Ind.: Lt. O.F. Carlson; To Kirksville, Ind.: Lt. D.F. Meyer; To Stout Field, Ind.: Capts. S.M. Connell, Walter Bender, Lts. H.W. Anderson, F.D. Wolfe, R.C. Wriston, L.D. Fator, Tech. Sgt. D.M. Swisher; To Schoen Field, Ind.: Capt. W.R. Turnbull, Lts. E.H. Alexander, O.F. Carlson, S.E. Anderson and C.D. Wheeler; To Scott Field, Ill.: Lts. B.A. Bridget, C. Percy, J.L. Daniel, S.E. Anderson and R.O. Brownfield; To Wright Field, O.: Capts. A.W. Harriner, W.T. Meyer, Lts. G.W. Goddard, W.K. Burgess, H.W. Anderson, F.E. Cheatle; To

Patterson Field, O.: Lts. W.K. Burgess and H. W. Anderson.

Officers visiting Chanute Field by air recently from other stations were - Major Wm. E. Lynd from Ft. Leavenworth; Capt. Guy H. Gale from Stout Field, Ind.; Lts. J.E. Parker, J.E. Gillespie and C.E. Irvine, Wright Field; Lts. C.H. Wood and C.L. Miller, Selfridge Field, and Lt. A.O. Mustoe, San Antonio Air Depot.

28th Div. Aviation, Penna. National Guard:

It is understood from authoritative sources that our O2-H's are to be gradually replaced by O-38's, the first of which is to be transferred from the 105th Obs. Squadron, Minnesota National Guard. Lieut. Richard H. Magee, our Instructor, is to ferry it to Middletown Air Depot for overhaul before delivery to us. The O-38's can't come too fast.

The Squadron is again using the Coast Guard base at Cape May for machine gun practice.

April first lived up to its reputation, inasmuch as on that day a 5-ship formation, with Major Dellin, Lieuts. DeCoursey, Scattergood, Humphries, Cox, Hawkins, Barringer, Merrill, Mr. Sgt. Kissinger and Corp. Trimmer, took off for machine gunnery at Cape May and arrived at the same time as a storm. After a fine lunch as guests of the Coast Guard, the formation returned to Philadelphia. The clouds were so low that practically the entire trip was made above them, affording an excellent opportunity for instrument flying. The following Saturday, however, the weather was perfect, and at ten o'clock in the morning Lieuts. Jablonski, Vickers, Cox, and Hawkins, with Tech. Sgt. Foe and Corp. Trimmer, went to Cape May for gunnery. At 11 o'clock, Lts. Semans and Merrill proceeded to Cape May, to be followed at intervals by Capt. Logan, Lts. Humphries, Calligan, Barringer, Miller and Quinn.

Through the cooperation of the 4th Naval District and Base #9, U.S. Coast Guard, we hope to have all flying personnel qualify on flexible and fixed guns this year.

A four-ship formation flew over the Capitol at Harrisburg during the ceremonies of the promotion of Brig. General Edward C. Shannon to the rank of Major-General and his assumption of command of the 28th Division.

Visitors to this station the past month included Lieuts. Kelly and Hillary, flying B-6A from Langley Field; a Deputy U.S. Marshall, flying a prisoner from Boston to the new Federal Penitentiary at Lewisburg, Pa.; Lt. Fanni from Mitchel Field in an O-1G; Lt.-Col. Arnold Comdg. Officer, March Field, Calif., flying a P-12C enroute to Washington, D.C.; Lt. "Wild" Bill McKiernan, Instructor of the 44th Division Aviation, New Jersey N.G., in an O-38.

Kelly Field, San Antonio, Texas, March 24th.

A class of 90 students were graduated on Feb. 24th, having completed training in the following specialized training sections: Attack, 1 Regular Army Officer and 14 Flying Cadets; Bombardment, 15 Flying Cadets and two noncommissioned officers; Observation, 15 Flying Cadets and 3 noncommissioned officers; Pursuit, one R.A. Officer and 39 Flying Cadets.

The Graduation Review was held at 8:00 a.m. and the Exercises at 10:00 a.m. in the War Department theatre. Major-General Edward L. King, Commanding General of the Fourth Corps Area, delivered the address, and Brig.-General Charles E. Danforth presented the diplomas.

Capt. John W. Monahan, Director of Bombardment at the Advanced Flying School since Oct. 1926, is under orders to report to the Chief of Staff, Washington, D.C., for temporary duty not to exceed ten days and then to proceed to London, Eng., for duty as Assistant Military Attache for Air.



Maj.-Gen. B.D. Foulis, accompanied by Capt. Geo. C. McDonald, were visitors at Kelly Field on March 19th.

Capt. L.A. Dayton, Adjutant, was on detached service at Washington since March 17th, attending a conference in the Chief's Office.

Flying Cadet Charles D. Rogers was killed in an airplane crash, March 23rd, while performing a night aviation mission. He became lost in a fog and crashed into a hillside. An extensive search was necessary before the wreckage was located.

Lt. Kenneth P. Gardner, who graduated Feb. 24th, was injured that evening in an automobile accident. Fortunately, his injuries were not such as to prevent his being ordered to active duty at the same time as his classmates.

First Lieut. Louie C. Mallory, Instructor, Attack Section, was recently promoted to Captain. Capt. Earl H. DeFord, Secretary and Operations Officer, was assigned to the General Service School, Ft. Leavenworth, as a student, and will say Adios to his circle of friends on August 1st.

The Elks Lodge of San Antonio, having become really air-minded, extended an invitation to all Cadets entering Kelly to visit their lodge at any time, and have placed the facilities of the entire 3-story building at their service, such as swimming pool, bowling alleys, billiard tables, dormitory rooms, and free admittance to the Elks Dances held each week.

Corp. Wm. E. Clark, Hqs. Sqdn., was recently discharged in order to reenlist as a Flying Cadet. He entered training at Randolph March first.

Lt. Orvil A. Anderson, 42d Sqdn. Engineering Officer, is on DS at Akron, Ohio, in connection with the assembly and test flying of airship TC-13 being constructed at the Goodyear-Zeppelin Co. As co-pilot with Capt. C.D. Lober, Lt. Anderson will ferry the airship to Langley Field.

Brooks Field, Texas, April 13th.

At about 3:45 p.m., Sunday, April 9th, a fire, originating in the quarters of Lt. Geer, A.C., (one of nine married officers and their families living in Building #59, a frame building of wartime construction) was extinguished with a minimum of damage due to the prompt action of the fire department and the officers and enlisted men of the post. Due to the construction of the building and its age, the fire could easily have destroyed the entire structure had it not been for the prompt action of all concerned.

The 22nd Obs. Sqdn. proceeded by air and truck transportation to Bayside Beach, Texas, for training in gunnery firing on April 1st.

The following-named personnel proceeded by air to Patterson Field, Ohio, April 3rd, in one YO-31A and two Y10-43 Douglas Observation planes for the purpose of participating in "Joint Anti-Aircraft Exercises": Captain A.I. Ennis, 2nd Lt. Wm. C. Sams, Philip D. Coates, Air Corps; 2d Lt. Wm. W. Anorous, Air Res., Staff Sgt. Henry W.L. Meider, Pvt. E.W. Gordon.

Fort Sill, Okla., March 27th.

Sgt. Albert L. Anthony, 1st Balloon Co., was severely burned about the hands and face when a hydrogen cylinder ignited on opening the valve. In order to prevent the fire spreading to adjacent cylinders, Sgt. Anthony endeavored to close the valve, and this commendable action resulted in his injury.

The gunnery season has begun for Flight "E," 16th Obs. Sqdn., and all pilots are doing preliminary firing on ground targets. Strong and gusty winds have contributed their share toward preventing any exceptional scores thus far.

Capt. Frank H. Pritchard, C.O. of Flight "E," has been confined to quarters for the past two

weeks with neuralgia. His many friends are looking forward to his reappearance about the hangar and golf course.

Second Lieut. Wm. E. Karnes reported for duty with Flight "E" Match 25th, from Luke Field, T.H.

Selfridge Field, Mich., March 28-April 13th.

A feud that has not yet become sanguinary but has had the curious effect of arousing murderous impulses in the hearts of the neutral neighbors is now raging between Captains Ross G. Hoyt and Ernest A. Kindervater. For no good reason, both officers recently decided that musical talent lay dormant in themselves. Being men of action, they carried their decision into immediate effect and have commenced operations on the pianos that repose in their respective quarters. It was hoped at first by their neighbors and former friends that the musical impulse would die the usual death of such sudden spurts of unusually directed energy. But, unfortunately for the Muse who is supposed to supervise and stimulate all musical art, a new factor entered the situation. The two Captains, learning of each other's budding ambitions, were bitten by the virus of competition and have since bent all their energies towards outdoing each other. The end is not yet in sight, and there is no telling how far the situation will develop. Musical experts who have ventured within earshot of the center of disturbance agree that Captain Hoyt is at present in the lead with his rendition of "The Song of the Armorer," that old favorite of five-year old prodigies and very new devotees at the altar of music. However, Capt. Kindervater is worrying his opponent from the rear with his increasing expertness in producing an unrecognizable performance of that old classic, "The Goblin."

On March 9th, Major Geo. H. Brett, Commanding Officer, Selfridge Field, made another one of his frequent air trips to Columbus, Ohio, for another conference at Fort Hayes relative to "Anti-Aircraft-Air Corps Exercises" to be held at Camp Knox. The plans for the Exercises are rapidly assuming very definite form, but it is hoped to commence active training soon at Selfridge in preparation for them. Grid maps of the Camp Knox area have already been issued to the squadrons for advance study by the pilots. Problems modeled on the missions to be executed during the maneuvers have been drawn up in the Group Operations Office, and the problems will be flown over the terrain near Selfridge Field as soon as sufficient planes return from overhaul at Fairfield. The squadrons are still very short on flying equipment, but expect to receive their overhauled planes in short order.

The first movement from Selfridge Field in connection with the Spring joint maneuvers to be held at Louisville took place on April 4th. A detachment of 62 men and 2 officers from the 94th Squadron took off by plane and automobile for Dayton, where they will assist in building the camp for the Bomber and Attack units which are to base there, and later to assist in the airplane maintenance work when the tactical units arrive there. Capt. A.B. Ballard is in command of the detachment, assisted by his engineering officer, Lieut. E.K. Warburton. A total of 45 men went by plane in Transport ships and 3 P-16's, while 17 elected to travel at their own expense in their cars. All are looking forward to nearly two months of intensive but interesting work.

Despite the fact that neither the 17th nor 27th Pursuit Squadrons received more than half their planes back from overhaul at Dayton, work has begun in earnest at Selfridge in preparation for the coming maneuvers. Radio is to play a big part in the mission of Pursuit in protecting Louisville from bombardment attack

so that part of the training is receiving particular attention.

Flight and element leaders are using the limited number of planes available to form skeleton units to work radio problems. This is affording valuable experience and practice in exchanging information and commands between air units and ground stations and between the several air units, by means of telephone and code radio communication. When the tactical units have their full complement of planes, the leaders will have become well acquainted with the methods, procedure, and limitations of radio communication in Pursuit problems, and more rapid progress with the full scale problems will therefore be made.

Major George H. Brett recently received a very gracious letter from Capt. Walter Ousterhout of the Mt. Clemens Salvation Army in appreciation for the part played by the officers and men of Selfridge Field in Mt. Clemens unemployment relief. The letter asked Major Brett to accept "heartfelt thanks for the generous support given to the work of the Salvation Army in this city by you, the officers and soldiers of Selfridge Field during this winter. This fund instituted by you has been the means of helping a great many worthy families."

It has been the custom during the last few years at Selfridge systematically to collect charity contributions and turn the entire amount over to one charity organization. Major Brett believes that under this system the money will do the greatest good, following the principle of "economy of forces." After due investigation it was determined that the Salvation Army was very efficiently operated in Mt. Clemens and could make good use of any funds turned over. During the past winter, officers and men have pledged a part of each month's pay to the charity fund. To date over \$625. went from Selfridge into the Salvation Army coffers, and all concerned have had the satisfaction of knowing their money was being used to good advantage in unemployment relief.

While his plane was being repaired at the Middletown Air Depot, Lieut. Clyde H. Wood, Air Reserve, 17th Pursuit Squadron, anticipated spending a quiet time with relatives in Harrisburg in rest and meditation, but his reputation developed at Selfridge soon brought him into the limelight. Between speaking engagements at High Schools, Boy Scout Meetings and Business Men's luncheons, Lieut. Wood, according to his own story, fought off a mob of admiring females who just wouldn't leave him a moment to himself. Being a generous soul, he has offered full access to his list of Harrisburg telephone numbers to anyone planning a trip via the Middletown Air Depot.

Hqrs. 36th Div. Aviation, Texas Nat'l Guard.

Tactical problems and artillery fire spotting by both radio and panels are engaging the attention of the 11th Obs. Sqdn. The 11th Photo Section is making a mosaic of the Houston Ship Channel and the bay shore line. Ten officers have taken, or are taking a 3 months' course in radio to perfect them for observation work. As each officer finishes the course he is licensed as an amateur radio operator.

During March, navigation and observation flights made by squadron personnel were as follows: To Tulsa, Okla.: Capt. W.K. Ennis; to Austin, Tex.: Lt. H.L. Borden in O-17; Lts. E. T. Showalter and B.L. Austin in O-38; Lts. E. G. Showalter, B.L. Austin, in O-38's; To Galveston, Tex: Lts. T.C. Castle, J.C. Neely; R.F. Wiseheart in O-38's, Capt. W.K. Ennis in BT-1; To San Antonio, Tex: Major T.W. Blackburn and Lt. N.E. Meador, Jr. in O-38B; Capt. J.F. Aldrich and Lt. J.H. Eagle in O-38's; To Palacios, Tex.: Major T.W. Blackburn in O-38; To Wharton, Tex.: Lt. R.F. Wiseheart in O-38; To Dallas, Texas: Capt. W.M. Pratt in BT-1; To Beaumont, Texas:

Lt. J.H. Eagle, BT-1; To Laredo, Tex: Lt. R.F. Wiseheart, in O-38.

The Houston Airport, home station of the 36th Div. Aviation, Texas Nat'l Guard, is becoming a much used port for visiting ships stopping for service. During March the following officers landed and took off from the Guard section of the Airport: Major Stine and Lt. Clark; Capt. Diggle and Lt. St. John; Capt. Conrow and Lt. Davies; Captain Bartron, Lieuts. Sanders; Rogers; Winn; Grills; Landon; Porter; Parker and Cassett from Randolph Field - Capt. Bartron and Lt. Rogers; Lt. Landon; Capt. Bartron from Fort Crockett, Texas - Lieuts. Kriloff, Cox from Brooks Field, Texas.

18th Composite Wing, Fort Shafter, T.H. 3/22.

Major Michael F. Davis, upon his arrival in Hawaii, was assigned to Hqrs. 18th Composite Wing and detailed as Wing Operations Officer. Lt. Lloyd H. Tull, acting as Asst. Operations Officer since the departure of Capt. Byron T. Burt, sailed for the mainland for duty at Chanute Field, Ill.

5th Composite Group, Luke Field, T.H.: The Group as part of the 18th Wing performed an Aerial Review for Hon. Newton D. Baker, the final event in the largest parade of military forces ever staged in the Hawaiian Department. All the troops in the Department except the heavy 155's passed before the reviewing stand in a driving rainstorm. Many of the artillery tractors bogged down in the soft ground and had to be man-handled. Despite a ceiling of 50 ft. and visibility of 200 yards, the 18th Wing took off from Wheeler Field and after skimming tree tops and telephone lines passed the reviewing stand in column of squadron "Veeps," eliciting much enthusiasm from the crowd of about 10,000 spectators. Ten minutes after passing in review, the ceiling dropped to the ground, but all planes landed safely at their home airdromes and called it a day. No mere bad weather can keep the 18th Wing on the ground.

Special classes for all Air Corps officers in photography and interpretation of aerial photographs were begun on February 27th. The course will include installation and operation of aerial cameras, laboratory processes and interpretation of aerial photographs. Lieut. K.P. McNaughton, C.O., 11th Photo Section, is the instructor.

Additional allotment of cal. .30 ammunition for training enlisted men in aerial machine gunnery, observers course, will permit the training of one gunner for each observation plane and two for each bombardment plane assigned to the Group, this training to include firing on both ground and tow targets.

A series of three lectures on chemical warfare, the scope of which included a discussion of various gases and their effect upon troops, defense against chemical warfare, including a practical drill in care and adjustment of the gas mask, together with a practical demonstration of smoke screens by planes from Wheeler Field, was recently presented by Lt. James M. McMillen, C.W.S., to all Air Corps officers and all noncommissioned officers of the first three grades.

Three Aloha flights were flown during the month, two of these marking the arrival and departure of the Hon. Newton D. Baker, former Secretary of War. In the third flight we paid our respects to the U.S. Navy as the fleet left Honolulu for the West Coast.

We bade aloha to 5 of our officers during the past month, 2nd Lts. Wm. E. Karnes, Howard Moore, Pearl H. Robey, Air Corps, Jephtha W. Fator and George A. Doole, Air Reserve. The latter two arrived here on the Nov. 4th transport but were shortly thereafter ordered to duty in the Panama Canal Dept., leaving on the Feb. 18th transport. They were with us just

V-6415, A.C.

long enough to make a host of friends, and it is with keen regret that we say "till we meet again." Lt. Karnes served as Operations Officer, 50th Obs. Sqdn. for the past year, while Lt. Moore served in a like capacity with the 23rd Bomb. Sqdn. Lt. Robey served only four months with us and was then assigned to the Hawaiian Air Depot as test pilot. He was given a rousing send off by the employees of the Depot, to which we add our very best wishes.

There is great cause for jubilation at the home of Lt. and Mrs. Otto P. Weyland. A daughter, Mary Catherine, was born Jan. 27th at the Tripler Gen. Hospital; weight - immaterial, as she will probably change it before you read this. Ople's friends would hardly know him, so completely has he assumed the role of fatherhood. -- The Luke Field Chapel was the scene of a beautiful wedding Feb. 14th, when Lt. Robert A. Stunkard and Miss Rosaly Hunter, of Ossining, N.Y., were married. A reception and dance were held at the newly enlarged officers' club immediately after the wedding.

With the departure of several officers and their families for the mainland in January and February, quarters on Luke Field were made available for and occupied by Lts. Ralph E. Holmes, John J. Morrow and Robert A. Stunkard and families.

4th Obs. Sqdn.: 1st Lt. O.P. Weyland, recently assigned to this squadron, was relieved from his duties as Station Engineering Officer, Station Air Corps Inspector and Group Armament Officer. 2nd Lieuts. R.H. Wise and R.E.L. Eaton were appointed asst. Squadron athletic officers.

23rd Bomb. Sqdn.: Capt. Raphael Baez, Jr., left on the Aircraft Carrier LEXINGTON for the war maneuvers on the Pacific Coast for duty as an umpire. Lt. R.E. Jarmon was transferred to the 65th Service Squadron, and Lt. G.E. Williams left for Cooks and Bakers School, Schofield Bks.

72d Bomb. Sqdn.: Operations for the past month consisted of participation in Department Maneuvers, avigation flights, formation flying and aerial review. Aloha flights were made in honor of the Scouting Force, U.S. Fleet, and former Sec. of War, Hon. Newton D. Baker.

11th Photo Section: Due to the bad weather which prevailed during the maneuvers, very few pictures of special interest were taken. However, several pictures of camouflaged gun positions were used to advantage by the Bombers to facilitate finding the targets. Views were taken of the Aloha flights for the Hon. Newton D. Baker and the review held in his honor at Schofield Barracks were very satisfactory.

50th Obs. Sqdn.: The Squadron established advanced operating bases on Kauai, Molokai, and Hawaii during the first phase of the maneuvers, keeping all the traffic lanes around the Island of Oahu under constant observation during daylight hours. All flights returned to Luke Field Feb. 1st and operated from the home air-drome during the remainder of the "War."

Second Lt. Hilbert F. Maenter was appointed operations officer, replacing Lt. Wm. E. Karnes, who was ordered to duty at Ft. Sill, Okla.

18th Pursuit Group, Wheeler Field: (6th Pursuit Squadron). The first of the month found us right in the thickest of the Annual Joint Maneuvers with the Navy. This squadron remained at Wheeler Field for the maneuvers. The maneuvers continued until Feb. 9th, during which time we changed from Blue Forces to Black Forces and attacked our neighbors, the doughboys and artillery from Schofield Barracks.

Oahu was honored by a visit from Hon. Newton D. Baker, and we participated in two Aloha flights and in the Department Review given in his honor. The 19th Pursuit and 26th Attack Squadrons also participated in these flights.

19th Pursuit Squadron: During February, all squadrons of the 18th Pursuit Group completed the full military equipment test for the third quarter of the Fiscal Year 1933.

26th Attack Squadron: Maneuvers and tactical exercises

exercises kept the squadron busier than usual during the past month.

The squadron had its first forced landing in over a year and a half when the A-3B flown by Lt. George McCoy, Jr., on a navigation mission developed an oil leak, and before he could reach Waimanalo Field his motor burned out several bearings. However, he made a safe landing on the small auxiliary field at Heiia.

75th Service Sqdn. During the past month the Squadron performed the usual duties of a service squadron. The Dolphin amphibian, the only squadron ship, was in the hangar undergoing overhaul of motor and a complete new paint job. All departments of the squadron completed moving into the new hangar with the exception of the line crew, the motor overhaul and the final assembly.

Patterson Field, Ohio, March 18-April 5th.

During February, a total of 19 planes and 42 engines were given major overhaul and 21 plane and 28 engines minor overhaul.

Lt.-Col. A.L. Sneed departed March 11th for Langley Field, Va., for duty. Major Fred H. Coleman assumed command on March 13th, and on the 15th gave the employees of Patterson Field a very interesting address in the Gymnasium.

Officers ferrying planes to this station for major overhaul were: From Maxwell Field, Ala.: Capt. Peck an O-19B, March 17th; Lt. Watson an O-19B, same date; Lt. Horton an O-19, March 15th; From Selfridge Field: Lt. Pettigrew a P-12, Mch. 3d; Lt. Castle a P-6E, Mch. 11th; From Chanute Field: Lt. Kraft and Capt. Wood, each an O-19C on Mch. 8th; From Roberts Field, Ala.: Captain McNeil a BT-1, Mch. 17th; From Chicago: Lt. Newhall a BT-1, Mch. 19th; From Scott Field: Lt. Schulgen an O-19C, Mch. 27th; From Stout Field: Lt. Carpenter an O-38B, March 8th.

The new Oil Reclamation Building, Disassembly Hangar "A," Final Assembly Hangar with annex, and the Administration Building constructed by the Newport Contracting & Engineering Co., Inc. Lee Hall, Va., were accepted by the government on March 11th. The new Strowger Automatic Dial Telephone System is now being installed in the new Administration Building.

Lt. G.V. McPike, granted a month's leave of absence, departed with Mrs. McPike on March 8th for Hollywood, Calif.

Lt. S.E. Prudhomme has assigned to the field for temporary duty as Camp Commander for the maneuvers, and established an office in Hangar No. 3.

Supplies were ferried by Lt. F.M. Zeigler to Selfridge Field, Mch. 8th; by Mr. Sgt. Cecil P. Guile to Selfridge Field, March 6th; to Chanute Field, March 15th; to Chanute Field and Fort Leavenworth, March 16th; to Bowman Field, Ky., March 22d; to Maxwell Field, Ala., and Fort Belling, Ga., March 24th; to Sky Harbor, Tenn., and Maxwell Field, Ala., March 27th; by Lt.-Col. A.L. Sneed to Scott Field, Ill. March 1st; Lt. Rogers, accompanied by Lt. Patrick, ferried a BT-2C plane here from Columbus, O., on March 29th, returning in a BT-2B.

Capt. Williams accompanied by Capt. White, from Columbus, O., ferried a BT-2B to this station on March 28th for minor repair.

Capt. White ferried an O-25B to this station from Chicago, March 23d, for minor repair.

Lt. F.M. Zeigler left March 22d for Miami, Fla., for purpose of ferrying Air Corps enlisted men to Mitchel Field, N.Y., returning 3/28.

Avigation flights were made by officers from this station, as follows: Capt. Flickinger, accompanied by Mr. C.O. Perry, to Selfridge Field on Mch. 16th; Capt. Flickinger to Columbus, O., Mch. 5th; Lt. G.V. McPike with Lt. K.S. Stice on Mch. 1st; Lt. F.M. Zeigler, Mch. 9th; Major Coleman, accompanied by Capt. White, to Columbus, Ohio, March 28th; Lts. F.M. Zeigler and K.S. Stice, Mch. 3rd; Major Coleman, Mch. 29th, to Bowman Field, Ky.; Major Coleman to Stout Field, Ind., March 26th; Capt. Lewis to

Detroit, Mich., March 28th; Lt.-Col. A.L. Sneed, accompanied by Cern. Houser, to Bolling Field, D.C., on March 9th.

Planes were ferried here for minor repair, as follows: Lieuts. Nickey, Mch. 5th; Trostel, Mch. 10th; O-1E's from Lunken Airport, Ohio; Lt. Landers, O-14 from Maxwell Field, Mch. 12th; Lt. Carpenter, O-38 from Stout Field, Mch. 15.

Lt. R.L. Williamson entered Walter Reed Hospital, March 13th, for observation and treatment.

San Antonio Air Depot, Duncan Field, Tex.

During February, the Engineering Department of the Depot overhauled 21 planes and 49 engines and repaired 13 planes and 16 engines of various types. In March, 36 planes and 69 engines were overhauled and 24 planes and 42 engines were repaired.

Capt. Warner B. Gates and Lt. D.F. Stace flew to Wright Field March 6th for a few days' conference with personnel of the Materiel Division on Air Corps supplies and reclassification of civilian personnel.

Capt. B.T. Burt, Jr. and Lt. C.E. Thomas, Jr. of Maxwell Field, Ala., ferrying Bombers to Kelly Field, visited the Depot early in March. Capt. Burt was Adjutant of the Air Corps Training Center when its headquarters was located at this station, and Lt. Thomas was on duty at the Depot up to October of last year.

Out of town visitors attending the regular monthly supply and engineering conference and luncheon at this Depot, March 7th, were Capts. J.P. Temple and E.V. Harbeck, Jr., Barksdale Field, La.; Capt. Alfred Lindeburg and Lt. N.F. Twining, Ft. Crockett, Texas, and Lts. Paul C. Wilkins and Claire Stroh of Ft. Sill, Okla. At the conference on April 4th, Capts. Temple, Harbeck and Lindeburg attended, also Capt. E.M. Morris of Ft. Crockett and Lt. Wm.L. Boyd of Biggs Field, Fort Bliss, Texas.

The Depot had the pleasure of greeting Major General B.D. Foulcis and Capt. George C. McDonald, who paid a brief visit here March 19, in the course of a tour of inspection of Air Corps stations.

Mr. R.E. White, representative of the Wright Aeronautical Corp., Paterson, N.J., arrived here March 27th for a few days visit to observe and confer on matters pertaining to the overhaul of V-1570 engines.

Mr. D.L. McClelland, unit chief clerk, Field Service Section, Materiel Division, was on temporary duty here March 17-25, conferring with personnel of the Depot and other Air Corps stations in this vicinity regarding methods of storage and issue of supplies.

Mr. C.M. Collins, Tech. Asst., Field Service Section, Materiel Division, visited here March 8 to 14 in the course of a tour of temporary duty at various Air Corps stations from here to the West Coast, conferring on shop machinery and tool requirements.

Staff Sgt. O.E. Henderson, pilot, 88th Observation Sqdn., Brooks Field, was placed on detached service here for duty as transport pilot in ferrying of supplies between the Depot and stations within this Control Area.

Lieut. H.A. Halverson, of the Office Chief of the Air Corps, on a flight to Randolph Field, brought his plane here for minor repair and servicing. He was on duty at the Depot some years ago, and his many friends here welcomed the opportunity of greeting him again.

Major S.W. Fitzgerald, Commanding Officer, and Capt. J.M. Giles, Chief Engineer Officer, Rockwell Air Depot, each piloting a P-12, landed here March 29th enroute to Barksdale Field, La., for purpose of having their planes serviced and given minor repairs, also conferring on various engineering matters.

Lt. L.V. Beau, Air Corps Instructor, 45th Div. Aviation, Colorado National Guard, Denver, ferried an O2-H plane here for overhaul.

Lt. C.D. McAllister and Mr. W.T. Harding, engine

er of the Engineering Sec., Materiel Division at Wright Field, were visitors here and at other Air Corps stations in the vicinity on March 17th, enroute to the West Coast, inspecting and obtaining information on night lighting equipment at various military and commercial air fields.

Capt. B.F. Giles, Technical Supervisor at San Antonio for this Supply Control Area, flew to Lowry Field, Denver, Colo., accompanied by Sgt. Earl Scott of his office.

Lts. D.J. Ellinger and C.K. Moore flew to Patterson Field, via Ft. Crockett, for the purpose of transporting personnel from the latter post for temporary duty in connection with Anti-Aircraft Exercises, 1933.

News of the untimely death of the wife of Lieut. David J. Ellinger, of this Depot, on Sunday, April 9th, at Torreon, Mexico, where she had been on a visit since February in an effort to recuperate after a long period of illness, came as a profound shock to us. She had been with us since last autumn, having joined her husband here after his transfer from Panama a year ago, and had become an esteemed member of our station and community circles. Mrs. Ellinger, writing under the name of Kathleen Tankersley Young, had won wide and admiring recognition as a poet, having published two collections of poems - "Ten Poems" and "The Dark Land," and numerous other short poems. The "Ten Poems" in particular had received favorable comment from critics of national note. Funeral services were conducted April 15th by Chaplain Edward R. Martin of Kelly Field, followed by interment in the Mission Burial Park at San Antonio. We join with their many other friends in sorrow, and extend our most heartfelt sympathies to Lieut. Ellinger in his bereavement.

Clark Field, Pampanga, P.I., March 17th.

The 3rd Pursuit Squadron is now completing the last stages of the War Department Training Directive. Pilots at this station will average 220 hours or the proportionate share of time according to arrival in the Department. During the latter part of February, Maj. Brower led a flight to the Southern Islands, where they participated in opening a new airport at Cebu. From there the flight proceeded to Zamboanga, Jolo, Malabong, Cotabato, Camp Keithley, Del Monte, Iloilo, and returned to Clark Field. Accompanying Major Brower were Lieuts. Old, Wasser, Henry, Fair and Sutton in P-12B's and Lieut. Persons and Major Peak in an O-19C. The trip proved exceedingly interesting.

Now folks back in the States, we come to some sad, sad news (for some of the boys) in the form of a 3-year tour over here for all officers and men. Capt. Hewitt, Lts. Taylor and DuBose were all set to depart these Islands in June, but Congress changed their minds and they will be with us for another year. On the boat sailing from Manila on March 11th, we lost three very excellent officers, - Major Peak, our flight Surgeon, Lieuts. Springer and Fisher. And, by the way, they got on the boat just in time.

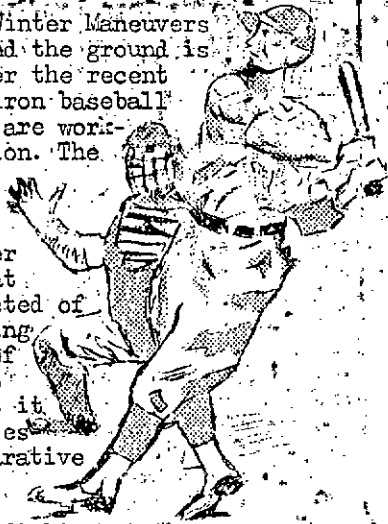
We are very happy to have with us three new officers - Major Brenn, our new Flight Surgeon, Lieuts. Steed and Straubel, and we know they will like their new station as well as we do.

Flying Cadet Lawrence S. Fulwider, a student in the Observation Section, Advanced Flying School, Kelly Field, Texas, was forced to jump from his airplane while on a night training flight to Fredericksburg, Texas, on March 23rd. His parachute functioned perfectly, but Cadet Fulwider was slightly injured and bruised in his descent in the thick mesquite.

He, proudly - "I fly."  
She, not so proudly, - "So do insects."

## KEEPING FIT

Now that the Winter Maneuvers are completed and the ground is again solid after the recent rains, the squadron baseball and track teams are working into condition. The Luke Field Champions of 1932 show more promise than ever before, and great things are expected of them in the coming season. Because of the great amount of new material, it is too early to estimate the comparative strength of our track team with the rest of the field, but the boys are working hard and expect to make a good showing in the coming track meet.



The Third Attack Group's baseball season promises to be the best in the history of the Group, but will not start until about June 1st.

At Barksdale Field, squadron baseball is in swing again, and the 77th Pursuit Squadron scribe says that their team should make a good showing in the Post League. Our motto is "Acquire more cups to adorn the day room." Lt. Arnold has been devoting a great deal of time and work to the squad and deserves an orchid or what have you.

The Chanute Field Basketball Team had a very successful season, winning the district championship for central Illinois. The team now goes to compete for the State Championship at Pana, Ill. The record for the season was 33 victories against 5 defeats. The last game was played with the Illini Barnstormers on March 10th, and won by Chanute Field. The game was followed by an Enlisted Men's Dance at the Post Gymnasium, which was well attended.

After successive victories over the 71st Squadron and Group Headquarters, Barksdale Field, the 55th Pursuit Squadron wound up its schedule in the Squadron Basketball League in second place. With the loss of Sgt. Berger in the middle of the season, our vaunted attack was somewhat weakened. However, we'll graciously and un begrudgingly congratulate the 77th on winning first place. With normal development, we should be able to trot a formidable aggregation on the floor next year. Ball and Blood were used on the Post Team formed from individuals from several squadrons.

On Feb. 15th, the 77th Squadron completed their basketball schedule by defeating the 55th Squadron, 23-5, and became the champions of Barksdale Field for 1932-33. Of the eight games played with the three other teams comprising the League, the 77th won seven and lost one. The 12 members of the squad were chiefly new men in the organization, and credit is due them for their remarkable showing. To Captain John M. Clark and Lieut. John Gebelin, Jr., goes a vote of thanks for their coaching, which was a big factor in the team's success.

The squad, composed of Lt. Gebelin, Healey, Shively, D.S. Smith, Morrin, Riley, Cheatwood, Osborne, Lester, Callamore, Scott and Price, carried the 77th colors to the top and won for us the Flourney-Harris Trophy. Next year should find us still in possession of this Trophy.

The 77th officers defeated the 55th officers basketball team in three straight closely contested games. Every 77th officer participated

in these games, and all made creditable showings, if we can overlook slight wheeziness and buckling at the knees on the part of all of us.

The March Field Enlisted Men's Basketball League is operating in full swing and is now in the last round of play. At present, the 64th Service Squadron leads with five wins and no defeats. The 34th and 95th Pursuit Squadrons are tied for second place with four wins and one defeat. The post team, having defeated some of the best teams in Southern California, added two more wins to its credit recently. Its first game in the new gymnasium was played on March 8th, at which time the Sherman Indian School Team was defeated 40-17. A return match with the same team resulted in a win by March Field - 33-25.

On March 11th the basketball team was the guest of the Boulder City Athletic Club. Here the team accepted the challenge of the strong club team and, after a hard fought contest, won by a score of 29-20. The March Field Dance Orchestra, made up entirely of Air Corps personnel, which accompanied the team, furnished music for a dance at the Boulder Athletic Club on the evening of the game. On the following day, March Field personnel were conducted on a tour of inspection of the Boulder Dam project, returning that afternoon to the Field.

Fort Crockett's inter-squadron basketball league closed Feb. 21st, with the 13th Attack Squadron quintet remaining champions, having won the post title for the past three years. The Ghost cagers won all 12 of their scheduled games this season. The 90th Attack Squadron was second, winning 9 games and losing 3. The 8th Attack, the 60th Service Squadron and the Special Troops' entries all tied for third place, winning 3 and losing 9 games.

Among the eight basketball teams entered in the San Antonio Army League, Kelly Field emerged with the championship. At the close of the schedule, Kelly Field defeated the strong 9th Infantry on March 22nd by a score of 41-25, while Randolph played the 23rd Infantry and won, thereby placing Kelly in first place and Randolph tied with 23d Infantry for second place. In the final standing, Kelly won 10, lost 2; Randolph and 23d Infantry each won 9, lost 3; 9th Infantry, won 7, lost 5; 2nd Medical Regiment, won 6, lost 7; Brooks Field won 2, lost 10; Normoyle lost 12.

The League started Feb. 20th and ended March 22nd. Kelly Field scored a total of 592 points against 401 by its opponents. Boyd was high point man among the players with 132; Griffin was second with 111. Roster of the team: Forwards, Copelin, Boyd, Cee, Dozier, and Detlefs; Centers, Pearson, Cundiff and Gage; Guards, Griffin, Mauer, Smith, R.D., Williams, Strock; Manager, Coach and Trainer: 1st Sgt. Thomas Danie.

The Luke Field basketball squad finished the Sector-Navy schedule without a defeat by winning their final game over the Itasca squad on Feb. 24th by the score of 87-15. The team entered the play-off series with the 3rd Engrs. of Schofield Barracks for the Hawaiian Department Championship on March 22nd and are favorites to carry off the honors. Lt. Zimmerman has brought his regulars along carefully, playing them usually not more than 20 minutes in each game, with the result that the reserves are now able to keep up the rapid pace set by the regulars.

Games were played with the leading teams of the Navy Scouting Force following maneuvers. The first game with the Fleet Champions from the AUGUSTA was won by the close score of 52 to 47 in one of the fastest games of the year. Next came the LEXINGTON, but this game was tame compared to the AUGUSTA affair, result in

in another victory for Luke Field. The Navy then organized an All-Star team in an effort to snatch at least one victory during their stay in the Islands, but fell just a few points shy of the goal, the game resulting in a 49 to 42 victory for Luke Field.

Luke Field will play the Meiji University of Japan during their series here and also the Henrys of Wichita, Kansas, three times National A.A.U. Champions, who began a series of games with the leading teams of the Islands on March 23rd. On the 1st of March, Luke Field was host to Bunny Chong's all Chinese Club of Honolulu, which, however, did not prevent us from winning the game by score of 45 to 35.

A post basketball team, organized at Selfridge Field at the completion of the inter-squadron series, recently completed a four-game series in which their successes just equalled their reverses. The team, coached by Capt. Guzak and Lieut. Pettigrew, was composed of the outstanding players of the squadron teams. Two games were played against Fort Brady and one each with Chanute Field and Scott Field.

The 2nd Infantry Fort Brady team came to Selfridge Field for a two-game series, both resulting in victories for Selfridge. The first game, played on the night of March 11th, looked like a cinch for the Bradyites until the last quarter, when the Selfridge team came out of its lethargy and reversed matters in a surprising fashion. The final score was 39-27. Reports of the exciting play in the first game drew a capacity crowd to the next one. An official note was lent to the occasion by the presence of Col. Landon, Commanding the 2nd Inf. and Major Brett, Commanding Selfridge Field. Major Dwan of the Inspector General's Department was also present. The game ended in a score of 32-25. As in the previous game, Freedlund, Beane and Skinner starred for the locals, and Lieut. Richardson and Pvt. Repucaeh for Fort Brady.

Following these two home games, the Selfridge team took to the road. At Chanute Field they took a trimming at the hands of the home team to the tune of 36-21, but not without giving that championship team a run for their money. Continuing on to Scott Field, Selfridge Field was barely nosed out of the lead in an exciting 40-37 game. On their return home, the Selfridge team was disbanded and the men are now thinking of baseball practice.

An enlisted men's tennis tournament opened at Fort Crockett, Texas, March 27th, with each squadron and Special Troops entering two singles and one double team. The entries will be selected after each organization sends their players through an elimination play-off.



The March Field Officers' Tennis Team, accepting the invitation of the University of California Tennis Team, recently met on the Berkeley courts. Although the University aggregation is considered one of the strongest college teams in the country and won over the March Fielders by a score of 6 to 2, the strength of the March Field Team was very much in evidence. Lieuts. Robinson and Muehleisen won in a doubles match and Muehleisen won his singles match by very definite scores.

In a close contest on March 4th between the Riverside Junior College Tennis Team and the March Field Enlisted Men's Tennis Team, March Field won the singles by 4-2, and Riverside won the doubles by 3-0, the combined score being 5-4 in favor of Riverside.

The officers and men of the 55th Pursuit Squadron, Barksdale Field, are getting their full share of use of the new squash courts in the Gym. Inter-squadron contests, in which many feathers are expected to fly, are in the offing.

"Squash," says the Correspondent of the 77th Pursuit Squadron, Barksdale Field, "has become the post's favorite indoor sport - one of them at least. This Squadron is blessed with five or six really 'hot' players who should have little trouble in remaining at the top of the ladder, unless, of course, some dark horse unseats them. Clark, Hopkins, Holtzen and Arnold seem to have the game well in hand.

A squash team composed of eight officers from Wright Field and eight from Selfridge Field played a selected team at the Detroit Athletic Club recently. Despite the fact that the Air Corps was defeated 13-3, an enjoyable time was had, and it is hoped that in a future match the Air Corps team will do much better.

### SLIPS AND SKIDS

By Flying Cadet H.A. Ellis, Jr.

"Some turns" he says, "a stall or two,"  
"As you strap your helmet tight.  
A throbbing surge, and "he" and you  
And plane and all, take flight.  
"I'll take it now -" (He shakes the stick)  
"Just notice how I do it."  
"Relax, and save your neck a crick  
See that? There's nothing to it."  
No longer now the L and D  
Engage your thought processes.  
You're wondering where they've put the T  
And how to do 8's and S's.  
"Now let me see you land this crate,"  
He says, and the shock-cords shudder--  
"Well, not so bad. At any rate  
She's right side up. More rudder."  
The coughing engine idles down,  
A student crawls out slowly.  
The instructor wears a touch of a frown  
He doesn't seem pleased? -Well, not wholly!

Says the Mitchel Field Correspondent: "The highly-touted Langley Field Basketball squad recently poked their noses a bit too far into the icy north and got them slightly frost bitten when they came out on a short end of a 45-44 score at the hands of the Mitchel Field aggregation. It was a great victory for Mitchel Field because of its championship status. Mitchel had just won the 2nd Corps Area title and Langley had just emerged victorious in the 3rd Corps Area. By winning, Mitchel Field clinched an inter-sectional or Coastal Championship were there such a title to claim. Moreover, say the boys, "We're glad we let Langley in on a little fancy ball tossing and a few pointers for next year's team."

"From a game standpoint this battle was one of the year's most exciting and brought out once more that dogged determination of the Mitchel squad to fight from behind which so characterized its play during the Harbor League tournament. Langley finished the half with a most comfortable margin of 14 points - 23-15. Mitchel came back with fangs bared and claws sharpened in the second half and literally ripped the pants off the Langley quintet. They shot 'em from all angles and positions and the leather swishing through the net resulted in

the sweet music of victory just as the gun barked out the finish of the game."

The Mitchel Field Basketball team, under Capt. Tiny Harmon and Lt. Payl Woolley, emerged victorious in the 2nd Corps Area Harbor League and conclusively proved that the Air Corps can sharp-shoot just a little better than the Coast Artillery, the Anti-Aircraft and the Infantry.

Their path was by no means a bed of roses, for it was a constant struggle to obtain the lead and then hold it. Once in the lead, the Orange and Black scrappers from Mitchel, under the leadership of Corp. Seberle (Capt.) seemed to gain that deciding ounce of confidence and flash needed to come through on top. They won the title in a thrilling last minute finish, defeating the Fort Slocum team 34-32.

The players - Lieut. C.F. Dreyer, Corp. H.J. Seberle, Sgts. E. Tindall, Peter Munch, St. Sgt. Charles Wilson, Corporals Dale O. Reynolds, Freddy Rees, Pvts. Tommy Thompson, W. Bridgen, F. Aertgeerts, Z. Krajniak and W.K. Sebaskey - were representative of every organization on the field. Statistics of the season do much to show the superiority of the Mitchel squad. They garnered 984 points to 680 of their opponents, and won 21 out of 27 games played. Capt. Leo F. Post has now issued a call for baseball players, and the enthusiastic gathering at the first practice seems to indicate that athletics are on the up grade as never before.

Major Geo. H. Brett, Selfridge Field Commander, led his squash team of 8 players in an invasion of Detroit Squash territory. Armed with racquets and rubber spheroids, they found lively opposition offered by their opponents, the Henry Ford Hospital Doctors, but emerged victors by 5 matches to 3. The Selfridge players not only enjoyed the fine sportsmanship and playing of their medical opponents but also the excellent squash courts and facilities available at the Henry Ford Hospital. The huge medical center is a self-contained unit with all kinds of entertainment and recreational means for its staff. It was a pleasure to play on the two well constructed squash courts, and after the matches to enjoy a swim in the fine pool. The following officers made the trip, besides Major Brett: 1st Lts. Kessler, Partridge, 2d Lts. Olds, Meehan, O'Donnell, Blanchard, Castle.

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Nichols Field, Rizal, P.I., Feb. 23rd.

28th Bomb. Squadron: The Squadron had no changes recently aside from the arrival of Lt. (Speedy) Rush. He was assigned as asst. to the Quartermaster for Post Transportation. We who knew him back in the States always considered him as the "Motorcycle Speed Demon." Although unable to bring his motorcycle with him, he nevertheless seems to be in his element here, as we see him occasionally "test hopping" the garage motorcycles.

Capt. E.C. (Red) Black, our C.O., was on detached service at Baguio prior to leaving for Langley Field. He tried to secure a fourth year without success; the present policy permits no extensions beyond a third year. We are very sorry to see him leave. He had an excellent organization with fine morale and was extremely popular with both officers and men.

Lt. John H. McCormick spent January in Baguio and left for China Feb. 10th to spend his leave before sailing on the GRANT for Langley Field.

First Sgt. Clarence Baird arrived on the Dec. transport and relieved 1st Sgt. B.D. White, who sailed for Langley Field.

Master Sgt. Samuel E. Lunday relieved Master Sgt. A.Y. Linard as line chief, the latter sailing for Langley Field.

We were quite busy keeping up with our training schedule. During December and January, camera obscura was carried on. Interphone com-

munication between ship and ground station was carried on to inform the pilot of the result of each approach on the target; in order to simulate actual bombing as much as possible. A number of live bombs were also dropped in demonstration flights at Stotsenberg for the Commanding General and his staff.

The annual gunnery season which started on Feb. 1st and finished at the end of that month was followed by the bombing practice.

From Jan. 16th to 28th the Squadron participated in combined maneuvers with the Group. Our encampment was at Iba, Zambales, and everyone enjoyed the trip. Lt. R.D. Reeve remained at Nichols Field in command of the Squadron and also as officer in charge of the Air Corps Exhibit at the Manila Carnival.

A party of hunters, including Lts. Engler, Eppright, A.V.P. Anderson, Andrews and Bryte spent several days in Mindoro. This is a closed season on Tamaraw, but the party was successful in bagging a number of deer and wild pig. Native Maryans were hired to act as beaters. The usual number of lies are circulated regarding the trip, especially at the mess at the Army & Navy Club. From all reports Lt. Eppright is the best hunter. His latest story concerned shooting two deer with one shot. He has one or two witnesses, but this Correspondent who eats at the same mess believes that these witnesses have either been hired or intimidated.

2nd Obs. Squadron: This squadron spent two weeks in the field at Del Carmen, Pampanga, and an enjoyable and profitable camp was had by all. A number of Squadron and Group missions were flown. Several of the officers, including Capt. E. Sorenson, Lts. J. Hammond, G. Eppright, L. Andrew, J. Hitchings and L. Johnson, made an interesting side trip several miles into the mountains and visited a Negrito village. A number of interesting photographs were taken.

A great many cooperative missions were flown for other branches recently, including machine gun and anti-aircraft gun target towing at Corregidor, Artillery Adjustment, both Coast and Field Artillery.

A demonstration was flown for the benefit of the visiting British officers from the air-plane carrier HERMES. Lieuts. J. Denniston, F.L. Anderson and A.V.P. Anderson demonstrated front gun firing; Lts. R. Gibson, R. Selway and G.C. Johnston fired rear guns. Lts. W. Bryte, G. Eppright and W. Ganey demonstrated bombing and Lts. L.W. Johnson and J. Hitchings demonstrated dropping and picking up messages.

Lt. Everett Davis and Sgt. George Thompson are in the Southern Islands checking landing fields. They were there for two weeks. This work is preparatory to Southern Island trips by the rest of the Group.

Cpts. W. Richards, E. Gaines, Lts. W. Ganey and F. Glantzberg made a week end trip to all flying fields in the north of Luzon.

Capt. Russell L. Maughan and Gov.-General Theodore Roosevelt spent three days hunting Tamaraw on the Island of Mindoro. Two of the animals were secured, one by each of the hunters. The skins and heads were sent to the States to be mounted for a museum.

The first airplane, a C-4A, leaving Bolling Field for the maneuvers to be held at March Field, Calif., departed April 12th, with Major Ralph Royce as pilot, Sgt. E.H. Gray and Pvt. L. Krause, crew chiefs, Corp. R. Magee, radio operator, and Signal Corps officers Cpts. W.H. Murphy, A.E. Theissen and Lt. V.A. Conrad, who are assigned to the Provisional Air Force to supply the necessary meteorological data.

Sgt. G.E. Whaley and Pvt. F.W. Smith of the Operations Office, Bolling Field, will assist in the Operations Office of the Maneuvers.

SERIAL NO. 528 LIST OF NEW MATERIAL ADDED TO INFORMATION DIVISION FILES

March 25 to April 28, 1933 Incl.

Available for loan to Air Corps Organizations only upon request to the Air Corps Library, Munitions Bldg., Washington, D.C.

DOCUMENTS

Reprinted from editorial columns of the NY American & Hearst papers. W.R.Hearst on the Foreign war debts by W.R.Hearst. 1931-33, n.d.  
W.R.Hearst gives his views to Senate on Depression Remedies by W.R.Hearst n.p. Feb.22,1933.

L'Aerophile Salon 1932 - Paris. Bureau de L'Aerophile,1932-

The Economics of National Defense. Compiled by the Public Relations Branch G-2 W.D.G.S., Washington, D.C. n.p. n.d.

Pan American Airways Corp. 1932. 1 vol. maps, etc.

Following published at Wright Field, Dayton, Ohio.

The Use of X-Ray in the Examination of Aircraft Materials by R.R. Kennedy.

Handbook of Instructions with parts catalog for the Aircraft Engine Starter & Starter Motors Manufactured by Eclipse Aviation Corp. Field Service Section March 1933.

Handbook of Instructions with Parts catalog for the P-12E & P-12F Pursuit Airplanes manufactured by Boeing Airplane Co. on Contract W-535 AC-3978 spec.98-1843-C; 2d Ed. Field Serv.Sec.Feb.1933

High Speed Engine Pressure Indicators, by F.L.Prescott 2/27/33 Tech.Report #3766

Problems of Blind Flight by Maj.W.C.Ocker & Lt.C.J.Crane. Kelly Field, Texas. 1931

Following published by Navy Yard, Washington, D.C.

Pre-Flight Trials of Aircraft Engines by Bu.of Aero.3/9/33 Tech.Note 9-33

Air Force and Moment for XF6B-1 Airplane by Aero.Lab.C&R Dept. Aero.Report #491

Air Force and Moment for Design No.120 Airplane by Aero.Lab.C&R Dept. 12/9/32. Aero.Report #489.

Investigation of Heat Resisting Paints (Kerla)-Baltimore Paint & Color Works, Inc., by Physical Testing Lab., Engr.Dept.Naval Air. Factory, Navy Yard, Phila., Penna. 3/30/33 PTL-180

Wasp & Hornet Engines, by Pratt & Whitney Air.Co., Hartford, Conn. R.S.Peck & Co.Inc. 1933.

The Clark GA-43 Commercial Transport Airplane by Gen.Aviation Mfg.Corp., Baltimore, Thomsen-Ellis Co. 1933.

The Flying Lifeboat of the Coast Guard, by Col.H.C.Reisinger, US Marine Corps, Annapolis, Md.Naval Institute. 1/1933.

Airflow About Aeroplanes Shown by Wool-tufts by B.Melville Jones. London H.M.Stationery Office. 1933. Aero.Research Com. R&M #1494

Published by U.S.National Advisory Committee for Aeronautics

Experiments with a Counter-Propeller by E.P.Lesley March 1933 Tech.Note #453

The Caudron P.V.200 Touring Airplane (French); An All-metal amphibian Monoplane, by NACA, April 1933. Airc.Circ.#176.

The NACA Combustion Chamber Gas-Sampling Valve and Some Preliminary Test Results by JA Spanogle & EC Buckley 3/1933 Note #454.

Comparison of Three Methods for Calculating the Compressive Strength of Flat and Slightly Curved Sheet and Stiffener Combinations by E.E.Lundquist March 1933 Note #455.

The Aerodynamic Effect of a Retractable Landing Gear, by S.J.DeFrance. March 1933. Note #456.

The Aerodynamic Characteristics of Airfoils as Affected by Surface Roughness by R.W.Hooker Apr.1933. Note #457.

The Effect of a Gap between Elevator and Stabilizer on the Static Stability and Maneuverability about the Lateral Axis in Flight by Walter Hubner March 1933. Memo.#701.

Determination of Inherent Stresses by Measuring Deformations of Drilled Holes, by J.Mathar. Mar.1933 Memo #702.

Take-off & Propeller Thrust by Martin Schrenk. Apr.1933 Memo.#703

Scale Effect of Model in Seaplane-float Investigations by W. Sottorf. Apr.1933. Memo.#704

Prepared by Information Division, A.C. Washington, D.C.

The U.S.Army Air Corps 2/13/30. Stencil U-938, A.C. The same-1/10/31. Same-2/5/32. Same-10/17/32. Same-3/22/33.

The World War and Now. Advance in Military Airplane Performance-1917 to the Present, by Lt.E.W.Dichman. Stencil U-823, AC 11/18/32

Color Details of Army Air Corps Tactical Squadron Insignia (Photo-#9873, A.C. 4/11/33 Stencil U-1060, A.C.

Acrobatic Flying, by Lieut. Lecarme, Dayton, Wright Field 3/17/33.

Translation from "Revue des Forces Aeriennes" Sept.1932.



[The page contains extremely faint and illegible text, likely a scan of a document with very low contrast or significant noise. No specific words or structures are discernible.]

INSPECTION DIVISION NOTES

The following Technical Orders, Technical Letters, Air Corps Circulars and Air Corps Circular Letters were distributed since the last issue of the News Letter on March 27, 1933.

<u>Number &amp; Date</u>	<u>Subject</u>	<u>Distribution</u>
TL 33-24 3/25/33	Oil Tank Vent Connection - Pratt and Whitney Engines	General
TL 33-25 3/25/33	Cleaning of Cuno Type Oil Filters	General
TL 33-26 3/31/33	Replacement of Tubing, Engine Nacelle Rear Brace... Strut - Sikorsky C-6A Airplane.	Brooks, Chanute, France, Langley, Wright, all depots.
TL 33-17 3/31/33	Removal of Cadmium Plating from Propeller Hub Rear Cones - R-1690, R-1340 and R-985 Engines. (This TL replaces TL 33-17, dated 2/3/33)	General
TO 02-1-32 3/31/33	Engines and Spare Parts - General - Handbook of Instructions - Eclipse Starters and Starter Motors. (This TO replaces TO No. 02-1-32 dated 10/5/27 and TL's 31-13, 31-38, 31-79, 31-81, 31-305 and 32-188)	General
TO 01-1-83 4/16/33	Airplanes and Spare Parts - General - Replacement of Springs in Oleo Units. (This TO replaces TO 01-1-83, dated 11/30/32)	General
TO 04-1-1 4/16/33	Aircraft Hardware & Rubber Material - General - Removal of Metal Tags from Tie Rods and Wires. (This TO replaces TO 01-1-53, dated 7/27/28)	General
TO 05-1-1 4/12/33	Instruments and Laboratory Equipment - General - Repair, Packing, Storage, Reinspection of Instruments. (This TO replaces TO 05-1-1, dated 12/7/28)	General
TO 00-0-3 4/1/33	Monthly Index of Technical Instructions.	General
TL 33-28 4/17/33	Marking of Propeller Blades on Lighter-than-aircraft	Chanute, Langley, Wright, Scott AD, FAD, MAD, RAD, SAAD.
TL 33-20 4/17/33	Replacement of Tube Assembly, Carburetor To Carburetor Balance, on V-1570 Series Engines. (This TL replaces TL No. 33-20 dated 2/8/33)	Ft. Crockett, Aberdeen, Boston, Bolling, Edgewood, Langley, Mitchel, Chanute, 6th CA, Lawson, Hensley, Hatbox, Kelly, Crissy, March, Ft. Leavenworth, Wright, Ft. Riley, Selfridge, Brooks, FAD, MAD, SAAD, RAD.

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The following supplementary data to Technical Letter No. 32-100, dated May 18, 1932, subject: "Operation Instructions," have been distributed since the last issue of the Air Corps News Letter on March 27, 1933.

<u>Date of Issue</u>	<u>Airplane</u>	<u>Distribution</u>
March 6, 1933	Y1C-26A	Bolling, Rockwell, France and all depots.
March 6, 1933	Y1C-21	Selfridge, Ft. Crockett, Albrook, France, Luke, Wheeler, Nichols, and all depots.
March 10, 1933	C-4A	Bolling, Langley, Rockwell, Selfridge, Wright, SAAD, RAD, FAD, MAD.
March 10, 1933	C-6A	Langley, Albrook, Brooks, France, Luke, Nichols, all depots.
March 10, 1933	C-7A	Brooks, March, Mitchel, Randolph, FAD, MAD, SAAD, RAD, Scott Field.
March 10, 1933	C-9	Ft. Crockett, Albrook, Barksdale, Chanute, Duncan, Selfridge, Wright, FAD, MAD, RAD, SAAD, PAD.
March 15, 1933	Y10-27	Bolling, Brooks, Rockwell, FAD, MAD, RAD, SAAD.
March 22, 1933	Y1B-7	March, Wright, FAD, MAD, RAD, SAAD, Scott AD.

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The following Air Corps Circular Letters were distributed since January 1, 1933:

<u>Number</u>	<u>Date</u>	<u>Subject</u>
33-1	1/9/33	1st Ind. to Memo from Administrative Assistant, WD, regarding request for list of employees under Civil Service who are beneficiaries of the Veterans Administration.
33-2	1/10/33	Invitations for Bids (This letter was listed in Jan. 31, 1933, issue of the Air Corps News Letter under stencil number.
33-3		Confidential.
33-4		Confidential.
33-5	2/3/33	1st Ind. to Memo from Administrative Assistant, WD, revoking orders 7/25/32 re submission of furloughed employees (6 mo. or more), etc.
33-6	2/3/33	Instructions for Attaching Headset, Type HS-18, to Standard Air Corps Helmet (This letter was listed in February 24, 1933, issue of the Air Corps News Letter under stencil number).
33-7	2/6/33	Restrictions on Flights on March 4, 1933.
33-8	3/2/33	Message from The Assistant Sec. of War (Mr. Davison).
33-9	3/7/33	Maps on hand
33-10	3/9/33	Letter cancelled prior to publication.
33-11	3/15/33	Report on Flying Pay (Replaced by AC Circular 15-122, dated 4/7/33)
33-12	3/20/33	Senate Resolution No. 351.
33-13	3/20/33	Sick Leave Regulations.
33-14	4/1/33	Aircraft Accidents due to Snow on Wings.

Number	Date	Subject
33-15	4/12/33	Fifteen Per Cent Reduction in Gov't. Salaries - War Department Circular.
33-16	4/15/33	Mailing copies Purchase Orders on Contractors to General Supply Committee, Washington, D.C.

The following Air Corps Circulars were distributed since the March 27, 1933, issue of the Air Corps News-Letter:

Number	Date	Subject
15-30A	3/10/33	BLANK FORMS AND REPORTS - Forced Landing Report.
15-4	3/14/33	BLANK FORMS AND REPORTS - Air Corps Form No. 4, Training and Operations Report.
5-12	4/10/33	PUBLICATIONS - Distribution of Air Corps Maintenance Publications.
15-41A	3/16/33	BLANK FORMS AND REPORTS - Air Corps Form No. 41, Airplane Maintenance Inspection Record.
50-1	4/1/33	TRAINING - Instrument Flying Training.
15-122	4/7/33	BLANK FORMS AND REPORTS - Report of Failure to Draw Flying Pay by Officers Detailed to Flying Duty.
15-125	4/7/33	BLANK FORMS AND REPORTS - Report of Expenditures of Funds for Pay and Allowances of Reserve Officers.
15-126	4/7/33	BLANK FORMS AND REPORTS - Report of Training of Reserve Officers, Arm and Service Assignment Group.
60-12	4/10/33	FLYING - Department of Commerce Intermediate Landing Fields.
0-2A	4/7/33	INDEXES - Numerical Index to Air Corps Circulars.

The following is extracted from a letter from Chief, Materiel Division, in reply to an Unsatisfactory Report:

"2. The following data provide the necessary information for setting oil pressure on V, CIV-1570-CM; V, CIV-1570-EM; and V, CIV-1570-F Engines at various temperatures:

Temperature °C	Grade 120 Oil				Grade 98 Oil			
	40	50	60	70	30	40	50	60
Pressure lb/sq. in.	100	95	90	85	100	95	90	85

At the present time experimental work is being accomplished with a view of developing an oil pressure pump and an oil pressure relief valve for new V-1570 series engines, which will maintain more nearly constant pressure than is now the case. This will obviate the difficulty being experienced with setting oil pressure to a corresponding oil temperature.

3. It will be noted that the oil pressure as given above for the V and CIV-1570-F engines has been reduced from 120 pounds to 85 pounds. This information will be included in the next revision of Technical Letter, Serial 32-63."

Recently several internal failure of Eclipse B-9 starters were reported and upon inspection it was found that the pinion gears were broken. The Chief, Field Service Section, Materiel Division, Wright Field, commented as follows:

"These failures were due to a severe strain placed on the pinion when two men attempt to crank the starter. If the starter is accelerated gradually, no damage will be done to the pinion, but the torsional effort of two men is too severe when the starter is at a standstill. It is requested that this condition be brought to the attention of all crew chiefs at your station in order that failures of this nature will be reduced to a minimum."

#### TECHNICAL FILES COMMUNICATIONS SECTION

The following publications which pertain to the Signal Corps equipment should be in the files of all communications activities:

Signal Corps Master Stock List (1932)  
Supply Vatalogue (1931)

Paragraph 2 of the Signal Corps Master Stock List reads as follows:

"Corps area and department signal officers are charged with the distribution of the Master Stock List and future amendments or additions thereto, to all post signal officers, signal property officers, Reserve Officers Training Corps property officers and organization supply officers under the jurisdiction of the commanding general of their respective corps areas or departments and to any others having legitimate need for this publication, except that National Guard requirements will be procured through the usual channels from the Chief, Militia Bureau, War Department, Washington, D.C."

Appendix "C" of Signal Corps Supply Catalogue (1931 Edition)

This is a mimeographed appendix to the Signal Corps Supply Catalogue.



# News Letter

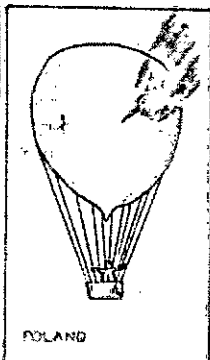
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WASHINGTON, D. C.

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## "Firsts" - Silk Sailors



1918  
SERG. RALPH W. BOTTRIELL, FIRST FREE-JUMP FROM AIRPLANE. (TEST)



1808  
R. JORDANKI KUPARANT  
FIRST LIFE SAVED IN EMERGENCY PARACHUTE JUMP FROM ANY AIRCRAFT.



U.S.A.  
LT. CHARLES A. LINDBERGH  
1925 - 1926  
FIRST AIRMAN TO MAKE 2ND, 3RD, AND 4TH EMERGENCY PARACHUTE JUMPS FROM AN AIRPLANE. ONLY 4TH TIME JUMPER AT PRESENT.



HENRY WACKER JOHN BOETTNER  
1919  
FIRST DOUBLE EMERGENCY PARACHUTE JUMP FROM NON-RIGID AIRSHIP.



U.S.A. 1924  
LT. JOHN A. MACREADY  
FIRST EMERGENCY PARACHUTE JUMP AT NIGHT.



LIEUT. L.L. ROONTZ  
1924  
FIRST DOUBLE EMERGENCY PARACHUTE JUMP FROM AN AIRPLANE.



PVT. W.E. GOGGIN  
U.S.A.



U.S.A.  
LT. HAROLD R. HARRIS  
1922  
FIRST EMERGENCY PARACHUTE JUMP FROM AN AIRPLANE.



U.S.A.  
MAJOR A.H. GILKE SON  
1927  
EMERGENCY PARACHUTE JUMPS FROM AIRPLANES AT LOWEST ALTITUDE 100 FEET.



1903  
CAPTAIN E.G.D. HUNTER  
AT PRESENT ONLY 3RD TIME JUMPER



LIEUT. THAD. JOHNSON  
1925  
EMERGENCY PARACHUTE JUMP FROM GREATEST ALTITUDE. 10,000 FEET.

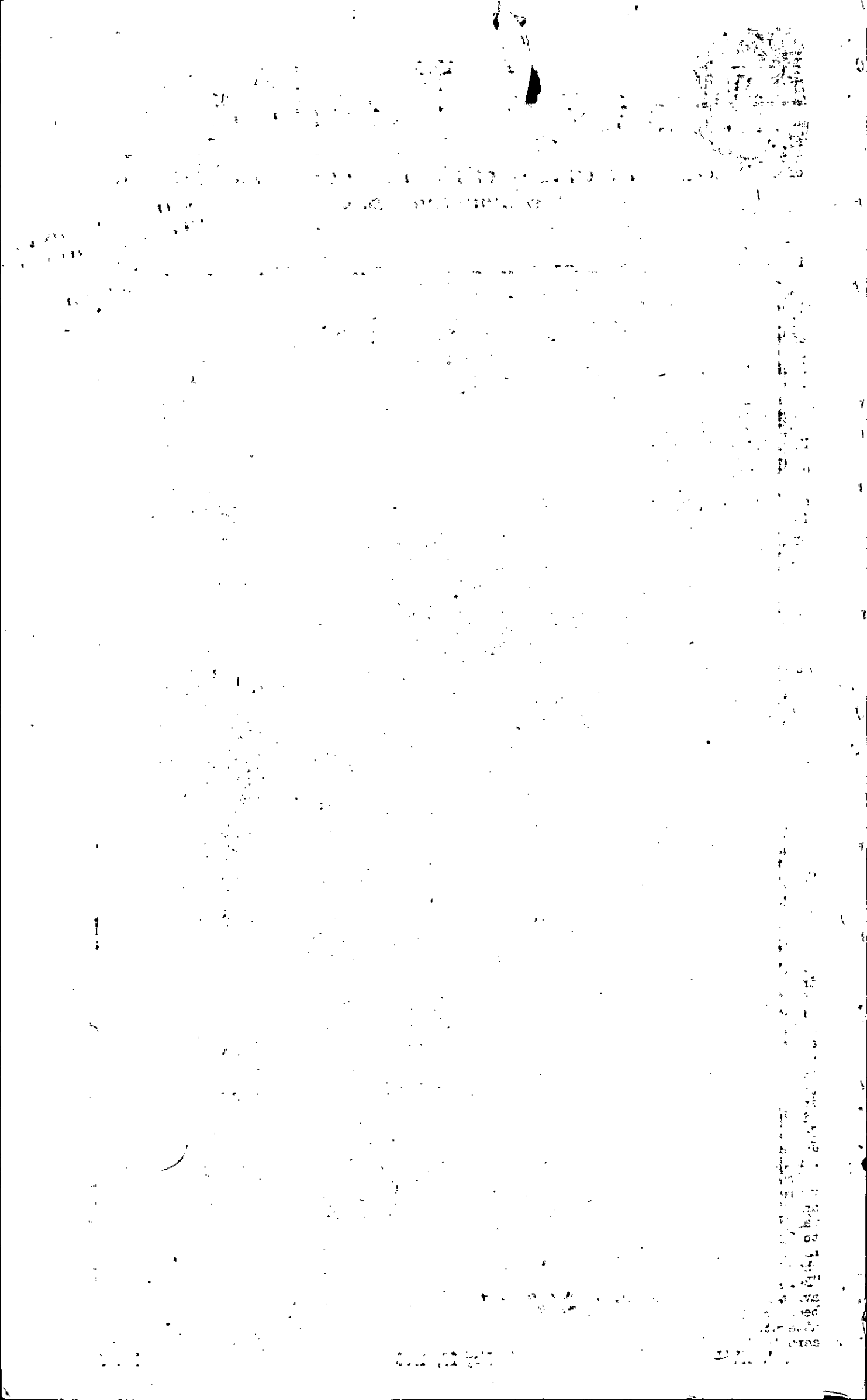


U.S.A.  
MISS FAY GILLIS  
1929  
FIRST WOMEN'S LIVES SAVED BY EMERGENCY PARACHUTE JUMPS FROM AIRPLANES.



U.S.A. 1925  
IRENE MAC FARLAND

OS  
1933  
66  
29



The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation. Publishers are authorized to reprint material appearing herein, except that portion of the News Letter beginning with Notes from Air Corps Fields.

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### "FIRSTS" AMONG THE PARACHUTE JUMPERS

The very attractive cover page featuring this issue of the News Letter conveys a very interesting story dealing mainly with a group of men who gained a further lease on life through the instrumentality of a canopy of silk and shroud lines - in other words, the parachute. The thanks of the News Letter are extended to the Technical Data Section of the Materiel Division, Wright Field, in charge of Captain Dache M. Reeves, for its kindness in publishing this cover. The photographic layout was prepared by Mr. "Bob" Fitzgerald, of that Section, who, it will be remembered, designed a number of covers for the News Letter on previous occasions.

Lest some may not quite understand the caption "FIRSTS" - SILK SAILORS, let it be said that this refers to the better known title of "The Caterpillar Club." Mr. Fitzgerald seems to prefer the title of "Silk Sailors" as applied to those making emergency parachute jumps and, not without good reason, for these persons did sail down to terra firma under a silken canopy. However, it is not the intention here to argue on the respective merits of these two titles, but to give a brief outline covering the circumstances of the life-saving jumps made by the men and women mentioned and pictured on the cover page.

Starting with the Polish aeronaut R. Jordaki Kuparent, there appears to be a discrepancy between the data here and in the Technical Data Section as to the spelling of the name and the date of the jump. Two books on aeronautics in the library of the Information Division give the name as Jordaki Kuparento and the date of the jump as July 24, 1804. Since it is known that historians often disagree, and as we are touching on an event which occurred nearly 130 years ago, it would be a hard matter to check the accuracy of the name and date. However, the book entitled "The Dominion of the Air," by Rev. J.M. Bacon, touching very briefly on this first successful emergency parachute jump, says that "Kuparento ascended from Warsaw in a hot air balloon on July 24, 1804, taking up, as was the custom, an attached furnace, which caused the balloon to take fire when at a great height. Kuparento, however, who was alone, had as a precaution provided himself with a parachute, and with this he seems to have found no difficulty in effecting a safe descent to earth." As an afterthought, the book entitled "Jump," by Don Glassman, was consulted to ascertain if he made any mention of Kuparento's jump. He did, and while he spelled the name precisely the same as Rev. Bacon, he gave the date as July 24, 1808." So take your choice. Touching on this jump, Glassman says that "That was the first instance of a man saving himself from a disabled aircraft with a parachute. And if the modern Caterpillar Club were an all-inclusive society Jordaki Kuparento would surely head the list of names."

And now, spanning a period of over a hundred years, we come to the first parachute jump from an airplane, a test jump, where the parachute was attached to the plane. This honor belongs to Captain Albert Berry. Quoting from the aeronautical publication AERONAUTICS, published at that time, it is stated that on March 1, 1912, "Bert Berry, parachute leaper, and Anthony Jannus, aviator, performed a feat that has heretofore been pronounced impossible or too foolhardy to attempt. Berry dropped in a parachute from an aeroplane while going at full speed. Jannus, in

this 1912 Benoist biplane with Roberts motor, flew from Kinloch Field with Berry eighteen miles to the Army Post, Jefferson Barracks, the other side of St. Louis. Berry made his drop to the parade ground and after a stop Jannus flew back to Kinloch."

Jannus was very much surprised that, after the thorough freezing they had, Berry was able properly to handle the rigging. The parachute was carried in a metal cone, fastened small end up to the foot rest of the airplane. After Berry had fastened himself securely in the rigging of the parachute and cut himself away from the airplane, the jerk of his fall tore loose the fastenings which held the parachute in the container. He fell about 300 feet with the parachute before it opened and eased him down safely to terra firma.

Since mention was made of the first test jump from an airplane where the parachute was attached thereto, it is proper to give the details of the first test jump from an airplane with a free type parachute. Credit for this goes to Master Sergeant Ralph W. Bottriell, premier parachute jumper of the Army Air Corps. Sergeant Bottriell was the first man in the Army Air Corps to conduct personal tests with a free type parachute. After serving in the Army for seven years in the Field Artillery and Cavalry branches, he applied for and received a transfer to the Aviation Section, Signal Corps, in December, 1917, with station at Kelly Field, Texas. He stated in his application that he had four years' experience as an aeronaut with hot air balloons and parachutes. Later he made it known that he had a device by which a pilot can get away from an airplane with a parachute, no matter in what position the plane is in when it is falling, and he desired to obtain permission to make experiment on this device and, if successful, offer it to the government. The necessary permission was granted. While stationed at Kelly Field, he made a number of practice jumps during 1918. Later he was transferred to McCook Field, where he made jumps from altitudes ranging from 1,000 to 20,000 feet. On May 19, 1919, he made the first jump to be performed by Army personnel with a manually operated free type parachute. At that time speculation was still rife as to whether a man falling at great speed could control his movements sufficiently to reach for the ripcord ring and pull it. Several fatalities had occurred with the type of parachute attached to the airplane. The idea of the parachute attached to the man alone and operated by him after he had leaped into the air was a radical departure from the conventional. Parachute jumping of any kind, in fact, was extremely hazardous. In spite of this, Sergeant Bottriell never hesitated in offering his services, thereby aiding through his fearlessness, disregard of personal risk, and untiring effort, in making the free type parachute not only possible but practical for airplane use. By January, 1920, he had made approximately 200 jumps from flying airplanes. For his pioneering work in connection with the parachute, Sergeant Bottriell, who is now in charge of the Parachute Department at Kelly Field, Texas, was awarded the Distinguished Flying Cross on March 18th last.

It was the emergency parachute jump from a disabled airplane in flight by former Lieut.

Harold R. Harris that was mainly responsible for the formation of the mythical, but world-wide known organization dubbed the "Caterpillar Club." Lieut. Harris saved his life through the use of his parachute on October 20, 1922, while flight testing at McCook Field an experimental type airplane. Something went wrong with the controls of this plane, and when it went into a dive, Lieut. Harris thought it was high time to take French leave and trust to chance with his parachute. What was then considered a miraculous escape from death caused much comment and speculation as to the future value of the parachute in connection with flying operations. Two Dayton newspapermen, in conjunction with several members of the Parachute Branch at McCook Field, got their heads together, foreseeing that there was a possibility of future accidents of this kind and believing that some recognition should be given to airmen saving their lives by means of their parachutes. As a result of their several conferences, the title "Caterpillar Club" began to be noticed in print now and then. The name of Lieut. Harris was the first to adorn the roster of this newly-founded organization. Then someone recalled that Mr. William O'Connor, who came to McCook Field on August 24, 1920, to make a demonstration jump with a privately manufactured parachute, and who was not permitted to do so until he also carried on his person an Army type chute for emergency use, saved his life with this Army chute when his own failed to function, deserved a place on the roster of the Club. It is true that he did not jump from a disabled airplane in flight, but it was considered that the fact that the parachute saved his life in an extreme emergency entitled him to a place on the roster of club members. Since his initiation there were quite a number of instances where men and women joined the club under almost similar circumstances.

By virtue of seniority, Mr. O'Connor was placed on the list ahead of Lieut. Harris, but he was not destined to remain long as Caterpillar No. 1. Several years later, when the Club had acquired quite a respectable membership and an enterprising feature writer wrote a story about it in a newspaper and enumerated the members by name, attention was called to two men who, it was said, deserved first and second places on the list, namely, Messrs. Henry Wacker and John Boettner, airship pilots. These two men miraculously escaped death when their airship, the "Wingfoot Express," flying over the business district of Chicago, late in the afternoon of July 21, 1919, burst into flames, fell and crashed through the skylight of the Illinois Trust and Savings Bank. Wacker, who jumped first, suffered a broken back while descending in a flaming parachute. Boettner landed on a roof, escaping with slight injuries. One passenger and a mechanic aboard the ill-fated airship failed to jump and died in the crash. The second passenger jumped but, due to the fact that his parachute had also caught fire, he was fatally injured in landing. The heaviest casualties in this unfortunate accident, however, occurred among the employees working in the bank at that time, thirteen losing their lives. And so the Caterpillar Club roster remains to this day with the two survivors of this disastrous airship accident occupying places Nos. 1 and 2. Theirs was the first instance on record of a double emergency parachute jump from an airship. Let it be known that the Caterpillar Club, the "Silk Sailors' Fraternity," or what have you, is strictly a peace-time organization; otherwise many more airmen would be eligible for a place on the roster, particularly the balloon jumpers of the World War. It is a well known fact that a number of war-time airplane pilots saved their lives through the use of the parachute, mostly Germans, but it is well nigh impossible to obtain accurate data on such jumps. The Balloon Jumpers of the World War, serving with the American Air Forces, are kept on a separate

roster, the record's showing 116 jumps from the baskets of observation balloons when occasion warranted same.

Captain John A. Macready's photograph adorns the cover page because he made the first emergency jump at night - June 13, 1924. Since that time, quite a number of jumps were made at night, mostly by Air Mail pilots. Captain Macready was making a night airways flight from McCook Field to Norton Field, Columbus, O. and on his return, when approaching Dayton, the engine died. There being no moonlight, he glided his plane towards an area showing the fewest number of lights. The two flares he released failed to ignite, and he decided to trust to his parachute. Shortly after he launched himself into space, the plane crashed and burst into flames. Captain Macready's parachute caught in the branches of a tree and he was hanging by the shroud lines over a ravine some 90 feet deep. His shouts brought several persons to his assistance and he was pulled up to safety by means of the parachute cords.

Captain L.L. Koontz and Private W.E. Goggin occupying places Nos. 12 and 13 on the roster figured in the first double emergency jump from an airplane. Taking off from Bolling Field, D.C., on the morning of August 29, 1924 and reaching an altitude of 3,500 feet, Capt. Koontz started several maneuvers calculated to lose altitude rapidly. Something went wrong with the controls and the plane refused to respond to the "Joy Stick." The plane started losing altitude very rapidly. Totally unaware of the situation at this moment, Private Goggin was calmly sitting in the front seat. He was due for a rude awakening. To Captain Koontz it no doubt seemed hours before he succeeded in making his passenger realize that it was necessary to jump with his parachute very pronto. To make a long story short, both managed to separate themselves from the rapidly descending plane and to pull their ripcords in time to land without injury.

And now Colonel Charles A. Lindbergh makes his bow as the one and only fourth degree member of the Caterpillar Club. The "Flying Colonel" can pin four decorations on his parachute for sparing him for the sensational flight to Paris which he made in the Spring of 1927, and which marked a momentous turning point in the history of aviation. The story covering these four jumps have been written and rewritten and are so familiar that repetition here would be superfluous.

Following on the heels of Colonel Lindbergh comes Captain Frank O'D. Hunter, the one and only third degree member of the Caterpillar Club. Captain Hunter made jumps on March 20, 1925; March 5, 1926, and January 13, 1933. Just prior to his first jump, Captain Hunter was flight-testing a Pursuit plane and during the course of some acrobatic maneuvers, the plane pitched over on its back and started an outside flat spin. "I fought the controls for about 1,000 feet, and they seemed to have no effect on plane," Captain Hunter stated, "and as I had picked up considerable speed by this time and the ground began coming up pretty fast, I decided my only chance was to get out."

When receiving his second degree, Captain Hunter, taking off from Selfridge Field to join a formation, found to his dismay, after reaching a thousand feet altitude, that his plane was on fire. The flames began to spread rapidly, scorching his face and burning off his good mustache. As he put it, "It was too hot for me! I undid belt, climbed up on the seat and dove over the side."

Captain Hunter, now at Walter Reed General Hospital recovering from injuries received when the third degree was conferred on him on Friday, the 13th of January, 1933 - and, we are glad to say, he is up and around - was flight-test observer in an experimental two-

seater Pursuit plane, piloted by the late Capt. Hugh M. Elmendorf. The plane started a fast dive earthward, apparently out of control. Capt. Hunter jumped just in the nick of time, but due to the low altitude from which he left the plane he was severely injured. Unfortunately, Captain Elmendorf did not resort to his parachute.

It appears from the records of the Caterpillar Club that Major A.H. Gilkeson, Air Corps, now commanding the First Pursuit Group, Selfridge Field, Mich., made an emergency parachute jump from the lowest altitude. On October 5, 1927, while testing a Pursuit plane at Edgewood Arsenal, Md., he was about 50 feet off the ground when the propeller broke and practically the entire motor fell out with a burst of oil and gas enveloping the ship. The plane shot up to about 150 feet, rolled over on its back and started down. Aided by the inverted position of the ship, Major Gilkeson left it the instant he released the safety belt and pulled the ripcord of his parachute which opened just before he touched the ground.

When, as luck would have it, the engine of the plane piloted by the late Lieut. J. Thad Johnson started acting up while flying over the mountains of Pennsylvania, he decided to play safe and allow plenty of altitude for his parachute to "do its stuff." Flying from Selfridge Field to Mitchel Field on April 10, 1925, and arriving at a point about 25 miles west of Rockhaven, Pa., he found himself with a ceiling of about 300 feet, and a rough and mountainous terrain, covered with heavy woods, deep gulches and high mountain peaks beneath him. Certainly this was no place for an airplane engine to become temperamental, and one can imagine the alarm of the pilot when he noticed the odor of hot oil and, upon looking down in the cockpit, saw a stream of oil coming back on the floor. Realizing that there was no chance of making a landing in that part of the country without a crash, he began climbing through the clouds as rapidly as the overheated engine would permit, and when the altimeter read 10,000 feet above sea level, he shut off the gas, cut the switch, stalled the plane until the propeller stopped, and launched himself into space. Lieut. Johnson did not see the earth until about 300 feet above it. He landed in an apple tree and received sundry bumps due to the breaking of rotten limbs.

Last, but not least, come two members of the Caterpillar Club among the fair sex. The first woman to join the Club is Mrs. Irene McFarland who, back in 1925, was a professional parachute jumper. She came to Cincinnati, Ohio, in June of that year to make an exhibition jump at Grissard Field, which was then in charge of Major E.L. Hoffman, Air Corps, the officer who was awarded the Collier Trophy for his untiring efforts in perfecting the Army parachute. Mrs. McFarland used a type of 'chute which was fastened to the airplane. It was packed in a con-

tainer which was sewed loosely at the mouth, so that when she jumped her weight would prove sufficient to cause the strands to break and permit the parachute to slip out.

After due inspection of Mrs. McFarland's parachute, Major Hoffman was, not particularly enthused over it, and he insisted that she also wear the Army parachute for emergency use. Mrs. McFarland objected but, like all persons in the profession, realizing that the show must go on, finally gave in, and later on had good reason to thank Major Hoffman for his unrelenting attitude. When Lieut. Watson, her pilot, reached the proper altitude, he signaled that everything was ready, and Mrs. McFarland proceeded to part company with the plane. Her drop was exceedingly short, however, for her 'chute failed to slip out of its container, and there she hung a few feet below the plane swinging back and forth - a veritable human pendulum! The unsuspecting spectators below thought this was all a part of the show. Even the newspaper boys slipped up on a good front page story with bold headlines. Lieut. Watson motioned to Mrs. McFarland to pull the rip cord of the Army parachute. She took the hint. The Army 'chute opened, yanked her own 'chute out of its container and eased her down to mother earth. Her own 'chute failed to open because of the slow rate of descent of the Army parachute.

The first woman to jump from a disabled airplane in flight is Miss Fay Gillis. At the time of her jump she was flying as a student in an airplane piloted by Lieut. John Trunk, Curtiss instructor. Climbing to an altitude of about 5,000 feet, the pilot started a power dive. The plane protested against the terrific strain imposed upon it in a manner quite emphatic, and proceeded to shed its tail and wings. There wasn't a chance of landing it in one piece. Lieut. Trunk motioned to Miss Gillis to "bail out," and that young lady acted with promptness and dispatch. He instantly followed her. Both landed safely, but in the case of Miss Gillis she had to call out for someone to bring her a ladder, as her parachute tangled up in a tree.

The Caterpillar Club, to use a pet expression, has grown by leaps and bounds. A total of 552 names is inscribed on its register, with the notation "Second Degree" opposite 18 names, viz: Lieuts. Eugene H. Barksdale, James T. Hutchison, Arthur Kingham, James A. Ronin, John G. Fowler, Ford L. Fair, Air Corps; Major James H. Doolittle and Lt. Amberse L. Banks, Air Reserve; Sergeant Fred P. Miller, Air Corps; James Rutledge, Harry Sievers, Samuel J. Samson, Verne E. Treat, Air mail pilots; Lt. Frederick M. Trappnell, U.S. Navy; Ernest E. Dryer, Al Wilson, Lester J. Holoubek and Edw. Winfield.

Unfortunately, Lt. Barksdale, Al Wilson and Verne E. Treat met death in later accidents.

Those who have made emergency parachute jumps since January 1, 1932, are listed in the tabulation below:

No.	Date	Name	Rank	Place of Jump
	1932			
442	January	1 Rudolph F. Lemcke	Civilian	Los Angeles, Calif.
443	January	1 Albert A. Lemcke	Civilian	Los Angeles, Calif.
444	January	4 Neal E. Ausman	2nd Lieut. Air Corps	Panama Canal Zone
445	January	7 L. L. Hunt	Lieut. U.S. Navy	Hampton Roads, Va.
446	January	7 Robert J. Potter	Flying Cadet, Air Corps	Kelly Field, Texas.
447	January	7 A.V.P. Anderson	2nd Lieut. Air Corps	Nichols Field, P.I.
448	January	28 W.B. Webb	Civilian	Lawrence, Kansas.
449	February	1 William A. Cocks, Jr.	2nd Lt. Air Corps Reserve	Sequoia Nat'l Park, Calif.
450	February	1 Edward D. Hoffman	2nd Lt. Air Corps Reserve	Sequoia Nat'l Park, Calif.
451	February	3 James M. Treweek	Flying Cadet, Air Corps	Sanderson, Texas.
452	February	15 Wilbur O. Riley	Flying Cadet, Air Corps	Kelly Field, Texas.
453	February	17 Albert G. Lary	Civilian	El Segundo, Calif.
454	February	21 James A. Ronin	2nd Lieut. Air Corps	Guadalupe Mts., Texas.
455	February	21 Everest F. Waid	Sergeant, Air Corps	Guadalupe Mts., Texas.
456	February	23 Phineas K. Morrill	2nd Lieut. Air Corps	March Field, Calif.
457	February	23 Richard W. French	2nd Lt. Air Corps Reserve	March Field, Calif.
458	February	24 L. T. Dutcher	Civilian	Oklahoma City, Okla.



No.	Date 1932	Name	Rank	Place of Jump
459	February 24	Walter L. Hawkins	Civilian	Oklahoma City, Okla.
203	February 25	Frederick M. Trapnell	Lieut. U.S. Navy	Oxon Hill, Md.
460	March 21	Roland O.S. Acre	2nd Lieut. Air Corps	Langley Field, Va.
461	March 28	Harold Krow	Civilian	Denver, Colorado.
462	March 28	George Taylor	Civilian	Denver, Colorado.
463	April 3	James Wedell	Civilian	New Orleans, La.
464	April 4	Ronald C. McLaughlin	2nd Lt. Air Corps Reserve	Utica, Mich.
465	April 8	Louis R. Black	2nd Lt. Air Corps Reserve	Selfridge Field, Mich.
466	April 8	Benton W. Davis	2nd Lt. Air Corps Reserve	Selfridge Field, Mich.
467	April 10	Frank T. Gill	Ensign, U.S. Navy	Oakland, Calif.
468	April 10	C. W. Dingman	Capt. Medical Corps Res.	Yorktown, Texas.
469	April 15	Wyatt H. Alexander, Jr.	2nd Lt. Air Corps Reserve	Hilton Village, Va.
470	April 30	John H. Patterson	2nd Lieut. Air Corps	Winthrop, Mass.
402	May 1	Edward Winfield	Civilian	Austin, Texas.
471	May 9	William E. Davis	Flying Cadet, Air Corps	Kelly Field, Texas.
472	May 13	William H. Porter	Civilian	Modesto, Calif.
473	May 13	J. W. Hunt	Captain, Air Corps Reserve	Yorkville, Ohio.
474	May 23	W. J. Wallace	Captain, Marine Corps	San Diego, Calif.
475	May 23	J. C. Munn	Lieut. Marine Corps	San Diego, Calif.
476	May 25	D. W. Pundley	C.A.P., U.S. Navy	Ocean, San Diego, Calif.
477	May 30	Nathan C. Browne	Civilian	Elliott Bay, Wash.
478	May 30	Frank Brooks	Civilian	Elliott Bay, Wash.
479	June 1	Charles W. Soule	Civilian	Cape May, New Jersey.
480	June 2	Howard H. McCoy	2nd Lieut. Air Corps	New Haven, Mich.
481	June 2	Joseph Muffat	2nd Lt. Air Corps Reserve	New Haven, Mich.
482	June 15	John C. Gordon	2nd Lieut. Air Corps	Cibola, Texas.
483	June 20	Robert S. Angle	2nd Lt. Air Corps Reserve	Arlington, Calif.
484	June 29	Squire D. Burich	Civilian	Charlottesville, Va.
485	July 3	Harry E. Campbell	Air Mail Pilot	Lambert Field, Mo.
486	July 6	Carl Lange	Civilian	Brownsville, Pa.
487	July 6	Joe Switcick	Civilian	Brownsville, Pa.
488	July 7	Ford L. Fair	2nd Lieut. Air Corps	Clark Field, P.I.
454	July 7	James A. Ronin	2nd Lieut. Air Corps	Clark Field, P.I.
489	July 8	John R. Merritt	2nd Lt. Air Corps Reserve	March Field, Calif.
490	July 12	Charles Haas	2nd Lt. Calif. Nat'l Guard	San Luis Obispo, Calif.
491	July 12	R. H. Hebnar	Private, Calif. Nat'l Guard	San Luis Obispo, Calif.
492	July 26	Malcolm S. Smith	Civilian	Lincoln, Nebraska.
493	August 1	Wallace L. Dillon	Lieut.-Commander, U.S.N.	San Diego, Calif.
494	August 7	Charles A. Lutz	Civilian	Bluefield, West Va.
495	August 12	W.K. Ebel	Civilian	Dahlgren, Va.
496	August 21	Clovis C. Coffman	1st Lieut. Marine Corps	LaFigue, Nicaragua.
497	August 21	Walter E. Schofield	Gunnery Sgt. Marine Corps	LaFigue, Nicaragua.
498	August 21	Raymond E. Townsend	Corporal, Marine Corps	LaFigue, Nicaragua.
499	August 22	Joseph J. Kelley	Flying Cadet, Air Corps	Kelly Field, Texas.
302	August 22	John G. Fowler	2nd Lieut. Air Corps	Randolph Field, Texas.
500	August 25	Dudley M. Outcalt	Major, Air Corps Reserve	Indianapolis, Ind.
501	Sept. 2	Joseph H. Hicks	1st Lieut. Air Corps	Fort Ringgold, Texas.
502	Sept. 2	Edwin S. Rawlings	2nd Lieut. Air Corps	Fort Ringgold, Texas.
503	Sept. 2	Lionel C. Edwards	Sergeant, Air Corps	Selfridge Field, Mich.
504	Sept. 15	George F. McDermott	Flying Cadet, Air Corps	Randolph Field, Texas.
505	Sept. 16	Frank Lipke	Civilian	Mishawaka, Ind.
506	Sept. 16	Roger J. Browne	Lieut. Marine Corps	Limon Bay, Canal Zone.
507	Sept. 16	Frank D. Sinclair	Lieut. Marine Corps	Limon Bay, Canal Zone.
508	Sept. 19	E. N. Hamilton	2nd Lt. Air Corps Reserve	Penonome, Canal Zone.
509	Sept. 24	Kenneth R. Unger	Civilian	New Brunswick, N.J.
510	Sept. 27	S. C. Ring	Lieut. U.S. Navy	San Diego, Calif.
511	October 2	A. N. Swinney	Civilian	Oceanside, Calif.
512	October 7	Ray W. Clifton	Sergeant, Air Corps	Belleville, Ill.
513	October 7	Vernon E. Pritchard	Major, Field Artillery	Belleville, Ill.
514	October 10	H. H. Sargent, Jr.	Civilian	Chaukmont, Mass.
515	October 10	Oscar P. Sutton	Civilian	Willoughby, Ohio.
516	October 21	Marl Estes	Air Mail Pilot	Somerset, Penna.
517	October 24	J. Wehle	2nd Lieut. Marine Corps	Pensacola, Fla.
518	October 27	Eugene H. Rice	1st Lieut. Air Corps	Ft. Leavenworth, Kansas.
519	October 31	Randle W. Alcorn, Jr.	Staff Sgt. Marine Corps	San Diego, Calif.
488	November 9	Ford L. Fair	2nd Lieut. Air Corps	Clark Field, P.I.
520	November 17	Albert D. Cooley	2nd Lt. Marine Corps	Lake Hodges, Calif.
521	November 17	John S. Holmberg	2nd Lt. Marine Corps	Lake Hodges, Calif.
522	November 17	Edward G. Dyer	2nd Lt. Marine Corps	Lake Hodges, Calif.
523	November 17	Edwin O. Billings	Staff Sgt. Marine Corps	Lake Hodges, Calif.
524	November 19	J. S. Buckman	Air Mail Pilot	Rock Hill, S.C.
525	November 29	Albert F. Hastings	2nd Lt. Air Corps Reserve	Lualualei, T.H.
526	December 3	Cecil Darnell	2nd Lt. Air Corps Reserve	Barksdale Field, La.
527	December 16	Clarence J. King	Staff Sgt. Air Corps	San Diego Bay, Calif.
528	December 18	Parker Abbott	2nd Lt. Marine Corps Res.	Long Beach, Calif.
1933				
529	January 6	Glenn M. Britt	1st Lieut. Marine Corps	Miami, Fla.
18	January 13	Frank O'D. Hunter	Captain, Air Corps	Osborn, Ohio.
530	January 17	Clarence Sartain	2nd Lt. Air Corps Reserve	Santa Maria, Calif.
531	January 20	Merrick H. Truly	2nd Lt. Air Corps	Kelly Field, Texas.
532	February 2	Frank M. Nichols	Lieut. U.S. Navy	Honolulu, T.H.
533	February 3	Harry A. Sutton	Major, Specialist Reserve	East Hamburg, N.Y.
534	February 19	Henry M. Tunis	Captain, Air Corps Reserve	New Baltimore, Mich.
535	February 19	Raymond D. Robison	2nd Lt. Air Corps Reserve	New Baltimore, Mich.

No.	Date	Name	Rank	Place of Jump
	1933			
536	February 26	Walter W. Seyerle	Air Mail Pilot	Crossforks, Penna.
537	February 26	Otto G. Glass	Private, Air Corps	March Field, Calif.
538	February 26	Hartley E. Roberts	Private, Air Corps	March Field, Calif.
539	March 2	William S. Green	Captain, Air Corps Reserve	Kansas City, Mo.
540	March 9	Roy H. Lynn	2nd Lieut. Air Corps	Cajon Pass, Calif.
541	March 16	Lawrence S. Fulwider	Flying Cadet, Air Corps	Near Fredericksburg, Texas.
542	March 21	Philip B. Klein	Flying Cadet, Air Corps	Kelly Field, Texas.
543	March 22	Ernie Basham	Air Mail Pilot	Conneaut, Ohio.
544	April 14	Vincent Ford	2nd Lt. Air Corps Reserve	March Field, Calif.
545	April 14	C. M. McHenry	2nd Lt. Air Corps Reserve	March Field, Calif.
546	April 17	Percy Hicks	Civilian	Raleigh, N.C.
547	April 20	Paul Waterman	2nd Lt. Air Corps Reserve	Paxton, Ill.
548	April 27	George L. Stead	Lieut. Air Corps Reserve	New Brunswick, N.J.
549	April 27	Amberse L. Banks	Lieut. Air Corps Reserve	New Brunswick, N.J.
549	April 28	T. W. Scott	2nd Lieut. Air Corps	Randolph Field, Texas.
550	May 4	Homer A. Boushey, Jr.	Flying Cadet, Air Corps	Kelly Field, Texas.
551	May 5	H. S. Williams	Flying Cadet, Air Corps	Randolph Field, Texas.
552	May 14	William Griffith	Air Mail Pilot	Bedford, Penna.

And so at this writing a total of 552 lives were saved in this country through the medium of the parachute, with 23 repeater jumps by the High Moguls of the Caterpillar Club - 2nd, 3rd and 4th Degree members - or a grand total of 575 emergency jumps. The year 1930 was the banner one in point of initiations into the Caterpillar Club, when a total of 134 life-saving jumps were made. In 1931 the number reached an even hundred; in 1929 and 1932 there were 92 each; in 1919, 2; 1920, 1; 1922, 2; 1924, 10; 1925, 13; 1926, 17; 1927, 40; 1928, 46; and 1933, up to and including May 14th, 26.

#### ATHLETES IN THE NEW FLYING CLASS

In every incoming class at Randolph Field there is a well-rounded group of men, coming from States all over this country and its possessions. The new class which came to the field in March is no exception. In an effort to obtain a cross section of the class, many Dodos were questioned as to their school, fraternity, State and college activity. Out of this group, not half of the class, it was found that 29 States were represented, 59 schools, 24 frats and 14 sports. This class brought forth a large per cent of athletes, and the following are a few of the ones which go to make up the A Company roster. Because football is one of the outstanding college sports, we will look over a few of the representatives of that sport first.

Dodos Yeckley, Von Weller, Hinton and Lincoln are some of our outstanding football players. Mr. Yeckley was captain of the Princeton team; Mr. Von Weller was on the Georgia Tech championship team of '28 as end; Mr. Hinton was first a college player at T.C.U. and later a professional player; Mr. Lincoln played with the Oregon State team which was Inter-Collegiate Champion in 1930.

Baseball has a large number of followers in the Company. Some of them are Mr. Donahue, Ohio State; Mr. Moser of U.S.C., and Mr. Carter of Citadel.

Polo is represented by Mr. Keese of Cornell and Mr. Evans of V.P.I.

Track is represented by Dodos Proper from Stanford; Mr. Crawford, University of Idaho, and Mr. McDermott from University of Illinois.

Speed skating has an exponent in Mr. Philbrick of the University of New Hampshire.

Mr. Hatcher is a rower from Michigan State.

Lacrosse is represented by Mr. McMahon of the University of Virginia.

Golf, the business man's sport, is played by Mr. Peterson, Worcester Tech.

Tennis is Mr. Cook's sport.

Swimming is represented by the inimitable Mr. Virgin of Georgia Tech and Auburn.

The Dodos of B Company seem to have been preparing for Randolph Field for some time previous to matriculation here. Most of the talent in baseball seems to run to catchers, and in football most all are ends or backs. Of course, the value of this early training is very apparent - the Dodo catches plenty.

Seriously speaking, we have the nucleus of a good ball club, and the important positions can be filled with some good men. The positions and men are as follows:

Pitchers - W.W. Pannis, F.C. Eberle.

Catchers - A.T. Bennett, N.M. Caldwell, J.S. Patten, A.L. Palmer, R.S. Beetle.

Fielders - J.E. McKinney, H.J. Sipsey, A.J. Evans, J.E. Nowak, H.W. Clark.

Infielders - V.C. Stafford, 3d base; E.P. Robinson, C.F. Foin, 2d base; S.H. Ecklund, shortstop; N.E. Clark, 1st base.

Some of these men have played on fast clubs and with a good coach to round out the team work they could give a good exhibition of baseball.

The football positions are not well enough represented to have a complete team, but here is some high class talent:

Backs - A.T. Bennett, F.M. Olmstead, V.C. Stafford, F. Schoellkopf, A. Rendle, J.E. McKinney, F.C. Gray.

Ends - A.L. Luedecke, N.M. Caldwell, W.T. Schaefer, W. Eades, H.J. Sipsey.

Guards - D.E. Altman.

Tackles - J.L. Norman, C.S. Bear.

A complete basketball team is represented with several fast men to alternate at the various positions: Forwards - A. Rendle, J.E. McKinney, F.C. Eberle, A.L. Luedecke, A.T. Bennett, W.C. Capp, C.A. Peterson; Center - N.E. Clark; Guards - H.J. Sipsey, R.S. Beetle, N.M. Caldwell, F.C. Gray, V.S. Stafford, W.H. Clark, V.S. Trygstad.

Track events are also well represented in the March, 1933, Class, viz: 100 yards - R. Whitehead, W.T. Schaefer; 220-yards - R. Whitehead, G.M. Dolezal; 440-yards - P.L. Zepp, G.M. Dolezal; 880-yards - V.C. Stafford; one-mile - F.C. Eberle; 2 miles - F.C. Eberle; Broad Jump - W.W. Pannis; Javelin - W.W. Pannis; Discus - W.W. Pannis.

Other sports represented are:

Wrestling - G.R. Shoemaker, 118 lbs.; S.H. Ecklund, 135 lbs.; J.L. Norman, heavyweight.

Polo - H.R. Spicer, A. Rendle, R.E. Bayless.

Driesslein has signified his willingness to furnish the music at all events with his one-men piccolo band.

The athletes of the March class will compare favorably with any of the previous class teams.

Seventeen enlisted radio mechanics and operators were graduated from the Wing Radio School at Luke Field on April 1st. The school commenced on Sept. 1, 1932, with a total enrollment of 29, but 12 of the students fell by the wayside for various reasons during the course of instruction. Corp. Charles J. Archer, Hqrs. Detachment, who did such excellent work with the class of last year, was again detailed as instructor. Wheeler Field was represented in the graduating class with five students.

Rogers Field with Organized Reserves, 3rd Corps Area.

To Kelly Field, Texas: 2nd Lts. Samuel E. Anderson and Charles Sommers from Chanute Field;

To Bolling Field, D.C.: 1st Lt. Rex McClellan from Tactical School, Maxwell Field, also Capt. Aubrey Hornsby.

To Langley Field, Va.: 2nd Lt. Edgar A. Simmyer from Tech. School, Chanute Field; Captain Albert B. Pitts from Wright Field.

To Chanute Field, Ill.: 2nd Lt. Daniel B. White from Sheffield Scientific School, Yale Univ.; 2d Lt. Fred O. Telly, student in Aircraft Armament Course to remain to pursue Airplane Maintenance Engineering Course; Major Percy E. VanNostrand from Army War College, Washington;

To Barksdale Field, La.: 1st Lts. Thurston H. Baxter, Manning E. Tillery, 2nd Lts. Theodore M. Bolen, Merlin I. Carter, Dyke F. Meyer, Douglas T. Mitchel from Technical School, Chanute Field.

To Wright Field, Ohio: Capt. Fred S. Borum from Chanute Field; 2nd Lt. George F. Smith from duty as student at Engineer School.

To Detroit, Mich.: 1st Lt. Warren A. Maxwell, Selfridge Field, to duty as Instructor, 32nd Div. Aviation, Mich. National Guard.

To Hawaiian Dept.: Capt. Early E.W. Duncan from Command and Gen. Staff School, Ft. L'worth; 1st Lts. Oscar F. Carlson, Elmer J. Rogers, Jr., 2nd Lt. Harry G. Montgomery, Jr., from Chanute Field.

To Panama Canal Zone: 2nd Lt. Joseph A. Bulger from Chanute Field.

To Philippines: 2nd Lt. John H. Bundy from March Field.

To Crissy Field, Calif.: 1st Lt. Wm. E. Baker from Philippines.

To Mitchell Field, N.Y.: Capt. Charles P. Prime from duty Technical School, Maxwell Field, to duty with Organized Reserves, 2nd Corps Area.

To Detroit, Mich.: 1st Lt. H.H. Mills, from Tech. School, Maxwell Field, as Instructor of Mich. National Guard.

To Maxwell Field, Ala.: Capt. Arthur Thomas from Randolph Field for duty as student, A.C. Tactical School, 1933-34 course.

To Ft. Monmouth, N.J.: 1st Lt. George W. McGregor, from Tech. School, Chanute Field, for duty at Signal School, 1933-34 Officers course.

To Pearson Field, Vancouver Bks., Wash.: 1st Lt. Paul E. Burrows, March Field, for duty with Organized Reserves, 9th Corps Area.

To Kelly Field, Tex.: 1st Lt. Glen C. Jamison from Bolling Field.

To Brooks Field, Texas: 1st Lt. Reuben Kyle, Jr., from Chanute Field.

To Scott Field, Ill.: 1st Lt. Wm. L. Ritchie from Chanute Field.

To Langley Field, Va.: 1st Lts. John T. Sprague and Clarence D. Wheeler from Chanute Field.

RELIEVED FROM DETAIL TO AIR CORPS: 2nd Lt. Kenneth F. Zitzman, to Signal Corps, 2nd Div., Ft. Sam Houston, Texas; 2nd Lts. Walter E. Kraus and Elwin H. Eddy to Field Artillery, 2nd Div., Ft. Sam Houston, Texas; 2nd Lt. Augustus W. Dannemiller, to Infantry, 2nd Div. Ft. S. Houston; 2nd Lt. Groves C. Teller, to Inf. 2nd Div.

RETIREMENT: Capt. George W. McEntire, April 30, 1933, for disability incident to service.

DETAILED TO AIR CORPS: 2nd Lt. Morris Goldberg, Q.M.C., to Randolph Field for flying training.

PROMOTIONS: To Captain: 1st Lt. LeRoy A. Walthal, rank April 1, 1933; 1st Lt. Lucas V. Beau, rank April 4, 1933; 1st Lt. N.R. Laughinghouse, rank April 26, 1933. To 1st Lieut.: 2nd Lieuts. John M. Sterling, Mark K. Lewis, Jr., rank March 20; Orrin L. Grover, rank April 10, 1933.

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Major Adlai H. Gilkeson, Executive Officer of Selfridge Field, recently returned from an extended aviation flight, during the course of which he traveled over 5,000 miles and visited both Army and civilian flying fields throughout the West, South and Northwest. Some valuable information was obtained relative to fields and their facilities for accommodating aircraft.

## LIEUT. CHAS. H. HOWARD RECEIVES MACKAY TROPHY

The presentation of the Mackay Trophy for the most meritorious flight in the Air Corps for the year 1932 was made to 1st Lieut. Chas. H. Howard, Commanding Officer of the 11th Bombardment Squadron, Air Corps, at Bolling Field on Friday morning, May 26th.

Major-General Benjamin D. Foulois, Chief of the Air Corps, recited the circumstances connected with the noteworthy flight of the 11th Bombardment Squadron, led by Lieut. Howard, to the Navajo Indian Reservation in January, 1932, to drop food supplies to a distressed band of native Americans suffering hunger and other privations through being isolated as a result of a severe snow storm.

Hon. Hiram Bingham, President of the National Aeronautic Association, in presenting the Trophy to Lieut. Howard, stated that this officer, in command of an organization whose war time mission is to destroy lives, is particularly deserving of praise for demonstrating that this same organization can perform a peace-time mission to alleviate distress and save lives.

Lieut. Howard won the Mackay Trophy, as before stated, for his leadership of the Navajo Relief Flight in January, 1932. The northern portions of Arizona and New Mexico, inhabited by the Navajos, had been isolated by a snow storm, severe in its intensity and most unusual for that section of the country. Totally unprepared to cope with rigorous weather of that sort, the Navajos suffered hunger and other privations. The prompt response of the Air Corps to the appeal of the Interior Department for aid in this emergency was the flight of the 11th Bombardment Squadron to the Indian Reservation.

Under Lieut. Howard's leadership, prompt measures were taken to distribute food to the sufferers. Sacks of rations, weighing 100 lbs. were packed in the Bombers, which were then flown over the various Indian villages and the food dropped in the center thereof. Each Bomber carried a food cargo approximating 1,000 pounds.

During a period of five days, Lieut. Howard's aerial commissary flew approximately 15,000 miles on their errand of mercy and covered an area of approximately 20,000 miles. The flying was of a hazardous character, being over dangerous mountains and canyon regions. The temperature at that time was extremely low, necessitating constant work on the part of the airplane crews to keep the motors in operating condition.

The Navajo Indian Reservation has been well named the last frontier of civilization. In no place in the United States can such rugged, mountainous wasteland be found in such vast proportions. A forced landing at almost any time after an airplane was out of sight of Winslow, Ariz., would have resulted in a severe crack-up. Each flight required approximately four hours. As the planes circled over their "objectives," the pilots found it necessary to decrease flying speed to an absolute minimum, stalling through the air at approximately 60 miles an hour, with the wheels barely off the ground, in order that the food sacks would not burst when they struck the ground. The deep snow also aided in breaking the fall of the food "bombs," and during the entire expedition only two sacks were believed to have broken open.

The Reservation superintendents said that most of the Indians in this great wasteland had never before seen an airplane, and the dropping of food from the air would enter their religion as an answer to their prayers. This was clearly demonstrated in the case of one Indian who was seen standing in the doorway of his hogan (abode) arms outstretched, as the strange new bird approached. The food was

Continued on Page 117

## AIR CORPS QUALIFIES "SIX" IN INSTRUMENT FLYING

**T**HE first class of aviators ever to be qualified as "instrument landing" pilots is composed of a group of Air Corps officers who recently demonstrated their expertness in this form of flying at Wright Field, Dayton, O. This group of Army flyers who sat in a covered cockpit which excluded all vision of outside surroundings and demonstrated their ability to take off, fly around, and land successfully is composed of Major F.H. Coleman, 1st Lieut. G.V. Holloman, S.E. Prudhomme, R.J. Minty, Charles D. McAllister and 2nd Lieut. L.F. Harman. The instrument flying class was conducted by Captain Albert F. Hegenberger, Chief Instructor, who is well known for the part he played as navigator in his famous Trans-Pacific flight with Captain Lester J. Maitland from Oakland, Calif., to Honolulu, Hawaii, in May, 1927.

The system followed in the instruction of this instrument flying class was one developed by the Materiel Division, Air Corps, the same, with minor improvements, by the aid of which the first solo instrument flights and landings in history were accomplished in May, 1932, at Wright Field.

In the development of this system, simplicity and practicability have been constant watchwords, ruggedness, low cost of production, and portability for emergency purposes emphasized military requirements. As a result, the airplane instrument flying equipment adds but little to the initial weight of the airplane fitted for standard use, while the ground equipment is so compact that it can be flown from place to place in an airplane or transported by motor cycle with side car. Although employing radio as its chief medium, no part of the equipment is so sensitive as to get out of adjustment easily, the portable ground items being unaffected by rough roads or bad weather. While these characteristics are of primary military importance, they are of peacetime value also, the aim of the development having been not to make an occasional landing by instruments possible but to make all such landings possible for all pilots, at all airdromes, even under the worst conditions of fog or storm.

The chief purpose in the organization of the instrument-landing class was to demonstrate the general adaptability of the pilot to the system and to learn the average number of hours necessary for him to become proficient in it. The system itself has been thoroughly tested throughout its development, both under conditions of actual fog and with the hooded cockpit, in hundreds of instrument flights and landings. For this reason, pilots with little previous instrument flying were selected. All practice was flown with hooded cockpit which prevented the slightest vision of earth, sky, or horizon. Count was kept of all practice hours flown under the project. An observer was carried to check results and also to prevent collisions with other flying craft, but to be credited, the flights and landings had to be strictly unassisted in all respects, and the student remained under the hood until he brought the airplane to a dead stop on the runway.

The final test which the student was compelled to meet before being pronounced an "instrument-landing" pilot was made rather exacting. Each pilot was required to make 5 flights by instruments alone, including take-off and landing, out of Wright Field a sufficient distance to make a return virtually impossible except by aid of the instrument flying system, to return to the field along a definite line of approach indicated by his instruments, to cross the field boundary at an altitude from which he would neither undershoot nor overshoot the landing area and, last but not least, to make five perfect demonstration landings, the last three to occur in succession. The purpose of the three final perfect instrument landings in succession was to establish a degree of experience with the system, reducing the chance element to a minimum.

An average of less than 12 practice hours each enabled all members of the class to meet the final test successfully. It was the experience of the students that the greatest step was taken in accomplishing the first landing by instruments. This involves a certain psychological adjustment in which he replaces his human senses completely with instrument senses. The adjustment once made, however, the whole system smoothed itself into a simple and reliable plan in which he quickly gained confidence. The shortest practice time flown with the system by a student before accomplishing the first landing was 1 hour and 20 minutes; the longest was 5 hours and 50 minutes. Even the longest total time, however, proved a remarkable short period to devote to a project promising such full assurance of safety in emergency.

The graduation of this class marks the second definite step of advancement for the Air Corps "instrument landing" system, the first step having been the first solo instrument flight and landing. Although many systems for instrument landings have been proposed and demonstrated in the past few years, the Air Corps system is the only one under which an instrument solo flight or the training and graduating of a number of pilots has been accomplished.

The officers who took this course, did so in addition to their other duties during the period from January to May of this year.

## ARMY DAY IN HAWAII

Army Day was celebrated very extensively in the Hawaiian Department, the Army Air Corps, as usual, playing one of the major parts. The celebration was officially started at 12:30 p.m. by a flight of a large number of airplanes over the city of Honolulu. The 5th Composite Group assumed a flying formation which spelled out a gigantic "A R M Y" in the sky as the ships soared over the business district of the city.

At approximately the same time that Honolulu residents were reading their morning papers and following the progress of events for Army Day on Oahu, readers on the other islands were doing the same through the efficiency of the Army Air Corps. At the break of dawn, April 6th, and before the sun had topped the mountain ranges, a Sikorsky airplane, loaded with morning papers, took off from John Rodgers airport across the blue of the Pacific for Kauai. A few minutes after the Kauai plane had cleared the airport, an Army Douglas took to the air with Army Day editions for the Islands of Molokai, Maui and Hawaii.

Under the direction of Major Michael F. Davis, the events of Army Day were broadcasted from the air in conjunction with radio station KGU in Honolulu.

## PROMINENT PILOTS VISIT WRIGHT FIELD

Two well known pilots, Wiley Post and Jimmie Mattern, arrived at Wright Field, Dayton, Ohio on April 9th. Post, of round-the-world fame, came with a group of engineers of the Sperry Gyroscope Company to demonstrate to Air Corps officers the latest type of automatic pilot, remaining about two days and making many flights. Mattern will be remembered for his attempt to beat the time of Post and Gatty around the world last year, when he crashed in Russia. If his plans hold good, he will make another attempt this year with the same aim in view. He came to Wright Field to consult the engineers there regarding aircraft routes over the world and to obtain advice on the best type of instruments with which to follow them. His status of former Cadet at the Air Corps Flying School and Reserve Officer earning hi

this courtesy. He also remained at the field a few days, his airplane, which is christened "Century of Progress," inviting many admiring glances for its unique decoration.

#### CAPTAIN STEWART'S EVENTFUL FLIGHT

An interesting flight was recently performed by Captain Malcolm N. Stewart, Air Corps Assistant Director of Communications of the Air Corps Technical School, Chanute Field, Ill. Captain Stewart, attended with made-to-order weather, departed from Chanute Field in a C-9 transport for Mitchell Field, via Bolling Field, returning enlisted graduates to their home stations. From Mitchell Field he returned to Bolling Field, from whence he was dispatched with a capacity load of passengers to Chapman Field, Miami, Fla. Elated over the prized and realized opportunity for the southern flight to the point of bragging aloud to himself, the carefree aviator, while flying along over wooded North Carolina, smelled smoke. Being an accomplished blind-folded cigarette tester, Captain Stewart decided it was not the smoke of a Chesterfield, a Camel or even a Lucky Strike. Nor did it have the odious odor of a Pittsburgh stogie. Consequently, realizing that something about his ship must be very hot, the pilot, somewhat concerned (according to him) set the ship down in a clearing, and found (again, according to him) a battery connection overheated from excessive current, and burning. It is suspected, however, by some of the officer's most intimate friends, as well as the Chanute Field Correspondent, that the flaming insulation had reached the flash point from the steady flow of hot air emanating from the pilot's cockpit. After a simple application of pyrene, the transport proceeded southward. Somewhere over Florida, the pilot's enthusiasm again reached the melting point, and with all three engines purring along, he began to sing "Shuffle Off to Buffalo." After several minutes of this the right engine, unable longer to stand the musical strain, quietly and without complaint gave up the struggle and peacefully died. Captain Stewart, deciding that something more tangible in the way of action than a song was indicated, again landed and, after a minor adjustment, again took off.

The remainder of the flight to the Coral Gables region and the return to Bolling Field was uneventful. On the day scheduled for departure from Bolling Field, however, a thoughtless and inconsiderate mechanic taxied the C-9 too close to an obstruction and tore several feet off one end of the metal wing. Captain Stewart quickly decided not to fly the ship that day. Instead, he was kindly invited, with customary Bolling Field courtesy, to step with his luggage into the cabin of a fast Fleetster in which, with a (according to him, for the third time) much deserved tail wind, he rode back to his home station in record time.

#### PURSUIT PLANE TRIPS UP OVER OWN BELLY TANK

Lieut. Karl G.E. (Pop) Gimpler, station inspector at Selfridge Field, started off on a sunny day recently for a pleasant flight to Milwaukee, but the flight finished practically at the same moment it started. "As Pop crawled out of the mud into which he dropped from his overturned P-16 airplane," says the Selfridge Field Correspondent, "he was uttering language not often heard from the lips of one so pure. The accident was unusual, and it afforded surprise to the onlookers, also to the participants. It was as artistically an enacted performance of the feat known as 'nosing over' as has been seen at Selfridge in years. With plenty of spectators to witness his take-off into the April breeze, Lieut. Gimpler had climbed into the pilot's cockpit of a two-seater Pursuit

P-16 airplane, with Staff Sgt. Kiernan as passenger in the rear cockpit. After getting into the take-off position, he gave the ship the gun, gained almost sufficient speed to take off, and then suddenly found himself sliding along on his back. His auxiliary belly tank had come loose, dropped to the ground, and was struck by the tail skirt of the plane. The tail was caused to travel in a graceful arc from rear to front. "Selah."

#### NIGHT FLYING AT LANGLEY FIELD

During the months of February and March, the 2nd Bombardment Group, Langley Field, Va., conducted numerous night exercises against the Anti-Aircraft batteries from Fortress Monroe, employing various methods of attacks. Three squadrons operating from the same and from separate airdromes made approaches at irregular altitudes and intervals, from a Group Initial Point, in converging attacks at five, three and two-minute intervals on an area target.

A recent innovation by the 2nd Bombardment Group has solved the night flying problem of flying tactical formations without running lights. Blue lights mounted on the top of the horizontal stabilizer and on the rear of the fuselage, form an inverted T, which is visible from above only. All group night problems through AAA areas have been flown very successfully and with a wide margin of safety through the use of these T lights.

A Traffic Control Beam, now employed by the Group, has made possible the landing of individual airplanes at night at minute intervals. The projector is very light and easy to operate. Tests also show that its use is practical during daylight operation.

#### SELFRIDGE FIELD PILOTS ON RESCUE MISSION

The Selfridge Field military again had the opportunity of going to the aid of civilians in distress when word was received at the post on April 13th that a 40-foot tug boat and its crew had been missing for several days on the cold waters of Lake Huron. It was feared that the boat might have been wrecked either on the shores of the lake or on one of its islands, and an airplane search of the lake shore was requested by the authorities of Rogers City.

Lieuts. Earle E. Partridge and Howard M. McCoy were the pilots who volunteered for the work. In two P-16 two-seater Pursuit planes they took off for the North. Basing their operations at Oscoda, where the Selfridge Field Gunnery Camp is situated, they flew for over 8 hours that day, covering the entire shore line of Lake Huron and several of its islands. They encountered snow and fog in places but were undeterred in their determination to search every likely place for the missing boat. The boat was not found by the pilots, but they were glad to hear next day that the tug finally came safely to port bringing its captain and crew. They had been adrift in the middle of the lake.

Continued from Page 115

dropped; he rushed out, stumbled through the snow, and tore open the bag. As the plane soared away, the pilot saw the Indian standing again, still as a statue, with his arms outstretched and facing the plane as if giving thanks to this mysterious god for bringing relief.

There were no forced landings and no damage or injury occurred, an enviable safety record when it is realized that these planes were flying many hours per day with a very short time for mechanical inspections and repairs, and that the weather encountered was almost arctic in its severity.



# Aerial Photography

USING A 16 MM. CAMERA IN THE AIR  
By Lieut. R.C. Wriston, Air Corps.

The article under the above heading, written by 1st Lieut. R.C. Wriston, Air Corps, Assistant Director of the Photographic School at Chanute Field, Rantoul, Ill., and which appeared in the March issue of "The American Cinematographer," is reprinted by special permission of the editor of this publication.

There are, of course, a few precautions which must be taken in aerial cinematography. There is, for instance, the question of vibration being transmitted to the camera. With the heavy equipment used by professional cinematographers, this problem is not quite the same as that which confronts the amateur cinematographer. The professional depends, I believe, largely on the weight and bulk of his equipment to absorb vibration. I personally believe he is wrong in this, but that is only my opinion as I have had no practical experience with the large cameras. However, I have had experience with heavy still aerial cameras and found that the best means of obtaining good sharp pictures with them is to either hold the camera against the body and away from all metal parts of the ship or rest it in some manner on sponge rubber which is excellent for absorbing ship vibration. In the case of the amateur camera, the very best method possible, in my opinion, is to hold it firmly against the head in the same way as pictures would be taken on the ground where a tripod is unavailable. Not only is the body the best absorber possible against the vibration of the motor, but the flexibility of the body makes it very much easier to follow an objective in the comparatively small field of the finder, than if an attempt is made to use a tripod in a plane. Care should be taken not to rest the elbows on any part of the ship, as this will transmit vibration straight through to the jaws or head, against which the camera is placed. Let your contact with the plane be through as much of your body as possible. Kneeling or squatting on the floor of the plane will give the greatest amount of absorption. However, if seated in the plane, the additional comfort and flexibility obtained will probably overbalance any loss through absorption of vibration.

The question of angle is as important in the air as on the ground. Pictures taken at right angles to the line of flight are more difficult to obtain without movement than are those taken to the front, to the rear or obliquely to the rear. The type of picture which can be taken depends largely on the type of aircraft which is available for flight. The most handy and easiest pictures to take are those directly to the front, where the aircraft has a cockpit forward of the motors, as is the case with some transports, amphibians or seaplanes. The angle preferred on the tractor single motor type is an angular view to the rear so taken as not to include the wing or tail surfaces.

As to the subjects for aerial photography, I must take sharp issue with the usual conception of motion pictures which I have seen so often repeated; that motion pictures must include motion. Although this axiom is doubtless true to a large extent on the ground, I do not believe that it holds particularly in the air. In the air, motion is supplied by the aircraft. The camera is traveling. The scenery that unfolds

below, if one is taking pictures of the ground, gives ample motion. As scene after scene unfolds, it will be found that the portrayal of scenic beauty by motion pictures from the air gives a new thrill never to be attained by the use of simple slides. One has a gorgeous and little explored world for cinematography here. With the facility with which aircraft can leave the beaten path and search out the hidden wonders of the wilderness, there lies before those who have the opportunity many pleasant hours of taking scenic shots and many more of exhibiting them.

In the taking of pictures of the ground, several considerations should be borne in mind. The angle from the ship I have touched upon. The angle toward the ground from the plane is equally important. Do not get your angle too steep. In general, the oblique view from the plane should be as flat as possible. From twenty to thirty degrees from the horizontal is best. This gives an angle to which people are more or less accustomed. A steeper angle will look unnatural to all those who have not had extensive experience in the air.

As to speed, it will be found that 16 frames a second is rather slow to adequately take ground scenery. This is not so much caused by the relative speed between the plane and the ground as it is by the erratic up-and-down movement of the plane in relation to its path of flight. These "bumps" are brought about by the rough air and various currents of different temperatures to be found near the surface of the ground. The only way to cure this is to shoot your pictures at better than normal speed; I have obtained some very good pictures of the ground at 24 frames a second; 32 frames is even better. If one is taking short shots of different scenes, such as particularly interesting sections of a city or waterfront, it is just as easy to take them at 64 frames a second if your equipment permits. The effect when shown gives the impression that the pictures were taken from a very slow aircraft. All "bumps" are ironed out and the picture is crystal clear. If there is a movement present on the ground, such as people walking, automobiles and the like, their slowness is not particularly noticeable. One must accustom oneself to the difference in speed so as not to waste the film. Pictures should be taken as close to the ground as possible, the same principle applying in the air as on the ground; that is, the closeup is more interesting than the long shot.

With reference to the photography of objects in the air from aircraft. Here your problem is even simpler than the photography of ground objects from the air. With the cooperation of the pilot you can place your camera wherever you like in relation to the object photographed. If it is a formation, you should be ahead and either below or above and to one side of the formation. Inasmuch as your speeds are relatively the same, such pictures can be easily shot at 16 frames a second if care is taken not to permit vibration in the camera. An effective shot of a formation flight can be obtained by flying up one side of the formation, getting a bit ahead of it and then swinging across the direction of flight and perhaps one hundred feet above it. This will bring all the ships under you and preserve their relative position. Pictures of this

kind naturally require the utmost cooperation from the pilot. In reality he is the photographer. All you do is hold the camera and push the button. The pilot can, where considerable speed is necessary to get into the proper position for photographing an aerial formation, reduce the chances of movement in the picture due to vibration to almost zero by idling his motor and gliding while the picture is actually being shot. This reduces vibration to the minimum and leaves the only problem the question of speed.

The photography of other objects in the air is a very interesting pastime. To take a picture of a transport plane, of an autogiro, of free balloons or dirigibles, is a simple matter, if one travels in the same direction and takes pictures from the angle previously mentioned. Some added effects can be had by using the higher speeds when available. I recently had the use for a while of a 16 mm. camera shooting at 128 frames per second. With this some highly interesting shots of an autogiro were obtained. The huge vanes practically stopped rotating. The propeller turned over very slowly and it was difficult to see what was sustaining the autogiro in flight. The field of aerial cinematography had scarcely been scratched. For instance, the photography of clouds is an absorbing subject and where can one better arrange cloud subjects than from the air? With the use of some good cloud material, exceedingly interesting 'trick' shots can be made by the rephotography of aircraft on the same film. If careful track is kept of the footage and composition of each shot, this type of work will not be found too difficult. If one is using the negative-positive method, and has the facilities of a printer, it is even easier to arrange.

I suppose I should touch briefly on the use of filters for aerial cinematography, although I hardly feel competent to touch this subject. In general, it might be stated that where you would use a filter on the ground, you would also use one in the air. If anything, the filter should be deeper in the air than on the ground as here its primary function is to cut thru haze. In the photography of ground scenery from above, I have used a K-2, K-3 and the Aero Minus Blue filters with excellent results. I have also obtained excellent results with no filter at all, using the Eastman super-sensitive panchromatic film. I am conscious of the fact, however, that I am not "up" on my filters. I was very interested in the article by Hal Mohr, A.S.C., on super-sensitive 16 for exteriors, in the August number of the 'American Cinematographer.' I have ordered all the filters recommended by him and am going to give them a thorough test with 16 mm. equipment in the air. I am sure that even better results can be obtained after one gets accustomed to these new filters.

When working from open-cockpit ships, things are rather more difficult than when you are in a closed or transport ship. There is, for instance, far less choice of position; but if possible, take the rear cockpit (if you can persuade the pilot to fly from in front). Your angle of unobstructed view is much better from this position; you are far less likely to find unwanted bits of the wings and tail of the machine bobbing into and out of your picture. In working from an open ship, one special caution is necessary: keep the camera as well shielded from the slip-stream (the blast from the propeller) as you possibly can. Otherwise, this powerful blast of wind is very likely to make it impossible to hold the camera steady.

It should not be thought that the aerial cinematographer is only available to those in the flying services. With the many aircraft in use commercially nowadays, it is possible to get the aerial pictures you want at a very small cost if they are in your vicinity. If you are traveling, try the air route. Arrange with the pilot in advance for a seat suitable for photography, where you can use a window. Ask him to approach other aircraft in flight and objects of photo-

graphic interest as closely as his instructions will permit. Although it is not so essential as on the ground, due to the angular view, it is still best to be on the sunward side of the object being photographed. Bear this in mind when reserving your seat in an air transport. In photography from air transports you can make effective use of long focus lenses. The use of the long focus lenses at least up to and including the 4 inch lens, is entirely feasible. I have used all these lenses from the air and have had very little difficulty in subduing movement.

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#### A NEW "RACKET."

A certain enterprising gentleman in Tampa, Fla., recently embarked on a new kind of a "racket" to enrich himself at the expense of gullible youths residing in that city and vicinity. Through a tempting advertisement in a Tampa newspaper, he contacted a number of young men to whom he confided the fact that he had been designated by the War Department to obtain applications from young men for enrollment as flying cadets; that he was an officer in the Reserve Corps, and he was sufficiently convincing to lead them to believe that, upon filing an application and paying him the sum of \$1.00, they would be sent to a field for training. The activities of this smooth individual were investigated by a Post Office inspector, who is making all efforts to apprehend him.

It is unfortunate that the fact that the United States government is affording free flying instruction to a certain number of qualified young men each year should be taken advantage of by unprincipled individuals to defraud young men eager to enter Uncle Sam's flying schools.

The News Letter desires to make it known to all concerned that male citizens of the United States, between the ages of 20 and 27, who are unmarried, who have completed at least two years of college work or are able to pass an examination which is the equivalent thereof, and who are of sound physique and of excellent health are eligible for appointment as Flying Cadet. Application blanks for such appointment, together with all necessary information pertaining to this training, can be obtained by writing to The Adjutant General, War Department, Washington, D.C.

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#### CIVILIAN CORPS AT MITCHEL FIELD

Preparations for the housing and the training of over a thousand members of the Civilian Conservation Corps were recently completed at Mitchel Field, N.Y., and the reception committee under the command of Captain Leo F. Post awaited the first invasion.

So short was the notice of arrival that feverish activity was necessary. In less than 48 hours a new double hangar full of ships was converted into a barracks; latrines and showers were erected, and a kitchen built ready for operation. Some 250 cots and mattresses were set up in either side of the hangar with ample reserve space to meet any overflow. Showers with hot and cold running water were erected on the concrete apron in the rear of the hangar.

The daily routine will consist of various forms of recreation and athletics in the morning and grading and policing work around the post in the afternoon. Their arrival is very opportune in that construction on the field is rapidly drawing to a close with all endeavor centered on the grading and landscaping of the field. It is hoped that the Corps will do much to smooth the shell torn lawns of the present.

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ARMY AIRMEN RESCUE LOST CIVILIAN FLYERS



Civilian flyers W.A. Flowers, of Dallas, Tex., and Harry Scott, of New Orleans, La., who were missing for three days following their take-

off from Managua, Nicaragua, to Puerto Cabezas, for the purpose of opening a new air route to Northern Nicaragua, were picked up on the morning of March 30th by an Army amphibian plane which landed on the Cuculaya River. This was the gist of a dispatch which appeared in the newspapers of March 31st. The story of the rescue of these two aviators is described by the News Letter Correspondent from Albrook Field, Panama Canal Zone, as follows:

"At dawn on March 28th, a flight of one amphibian and two O-19's from Albrook Field, and one O-19 from France Field, left the Panama Canal Department for Managua, Nicaragua, to search for an airplane which had been lost from that place since the 26th. The personnel of the flight consisted of Major R.C. Candee, Captain E.C. Whitehead, 1st Lt. C.J. Crane, 2d Lieuts. R.O.S. Akre, J.L. Nedwed, K.M. London, Sgts. Filkins, Antrim, Baird, Privates Adams, Irvin and Onuska.

"On arrival at Managua at 1:15 p.m., the problem presented was that of locating a civilian airplane and its two occupants which had departed from Managua for Puerto Cabezas on the Caribbean coast, 230 miles northeast of the Nicaraguan capital. The lost airplane had been heard from last about 50 miles from its starting point, directly on its course. Prior to take-off, the pilot had indicated his intention not to fly direct to Puerto Cabezas but to fly first to Bluefields, about 160 miles due east from Managua and thence up the coast line to Puerto Cabezas. The weather on the morning that the airplane was lost was partially cloudy and numerous local rains and storms were known to have existed on the Atlantic side of the Continental Divide. The country over which the flight was to take place is, for the most part, covered by rugged hills and mountains up to 3,000 feet in height and cut by numerous rivers and streams flowing into the ocean to the east. There is no settlement in most of the area and communications of any kind were nil. The ordinary overland journey from Managua to Puerto Cabezas is via Lake Managua and a river to Bluefields and thence by steamer northward along the coast to Puerto Cabezas, requiring a journey of from 10 to 15 days. It was not known whether the missing airplane was lost as a result of engine failure or trouble with the weather, and the situation at the beginning of the search, therefore, presented the possible requirement of locating the lost plane anywhere in an area upward of 10,000 square miles.

"From Managua, as a base, the first mission sent out was that of Captain Whitehead, Lieut. Akre and Sgt. Baird in a Douglas Y1C-21 amphibian. Captain Whitehead was ordered to proceed to Rama, approximately 40 miles west of Bluefields, for the purpose of investigating the rumor that the lost plane had been heard in that vicinity on the morning of the 26th. After investigation, Captain Whitehead was of the opinion that the rumor was without foundation and proceeded to Bluefields to spend the night.

"Early Wednesday morning, March 29th, the amphibian at Bluefields was ordered to Puerto Cabezas and reconnoitered the coast enroute. At the same time, Lieuts. Landon and Crane in two O-19's were ordered to follow the direct route from Managua to Puerto Cabezas and search for the missing plane. All arrived at Puerto Cabezas at 11:00 a.m. without having seen any trace of the lost flyers. Shortly before their arrival, two civilian planes from the Transporte Aereo Centro Americano, a Honduran Company, also arrived at Puerto Cabeza after having searched for four hours in vain.

"The large area of mountains and jungle in which it would have been possible for a plane to be lost and the lack of clues as to the probable route followed by Messrs. Scott and Flowers made the outlook to this time extremely pessimistic. Early afternoon of March 29th, the three Army planes were ordered back to Managua, the two Observations together to search the valley of the Prinzapolka River and the amphibian to cover the Rio Grande. Before these two planes took off, however, a civilian pilot, Mr. White, a war-time flyer, discovered the lost plane about 1:00 p.m., some 40 miles southwest of Puerto Cabezas, nosed up after rolling about 75 yards in a savanna covered with tall grass. Both doors of the airplane were open and the occupants were gone. This discovery turned despair to hope, and the three Army planes at Puerto Cabezas immediately set out to find the lost men. Lieut. Crane flew first to the missing airplane, knowing from his experience in connection with the finding of Lieut. Deerwester, three months before, that a marked trail is left by anyone walking through the savanna or swamp and was able to trace the path of Scott and Flowers to the Cuculaya River, five miles distant. In a few minutes Lieut. Crane had covered this distance which, it was subsequently learned, had taken two and one-half days for the men on the ground to do. Lieut. Crane then followed the river and in a few miles located the object of the search in a canoe about 40 miles up from the coast. Messages and food were dropped to the canoe and Scott and Flowers indicated by signals that they were unhurt. As the river was too narrow and crooked to land the amphibian, it was necessary to wait until the canoe reached the mouth of the river the following morning, where Capt. Whitehead rescued the pair and took them back to Puerto Cabezas. When rescued on Thursday, the men were thoroughly exhausted and, except for the food which had been dropped to them the night before, had nothing to eat except a cheese which they were carrying home from Managua. They were badly scratched and bruised by their difficult trek through the savanna and jungle without any means of cutting the dense vegetation which they encountered.

"An interesting feature of the expedition was the great necessity for and special service rendered by radio under the supervision of Lieut. Akre. The Douglas amphibian and one of the O-19's were able to keep in continuous touch with the commercial radio station at Managua or Puerto Cabezas or Bluefields throughout the entire search, and by means of this communication information from various sources could be relayed to the planes and the progress of their reconnaissances reported by them.

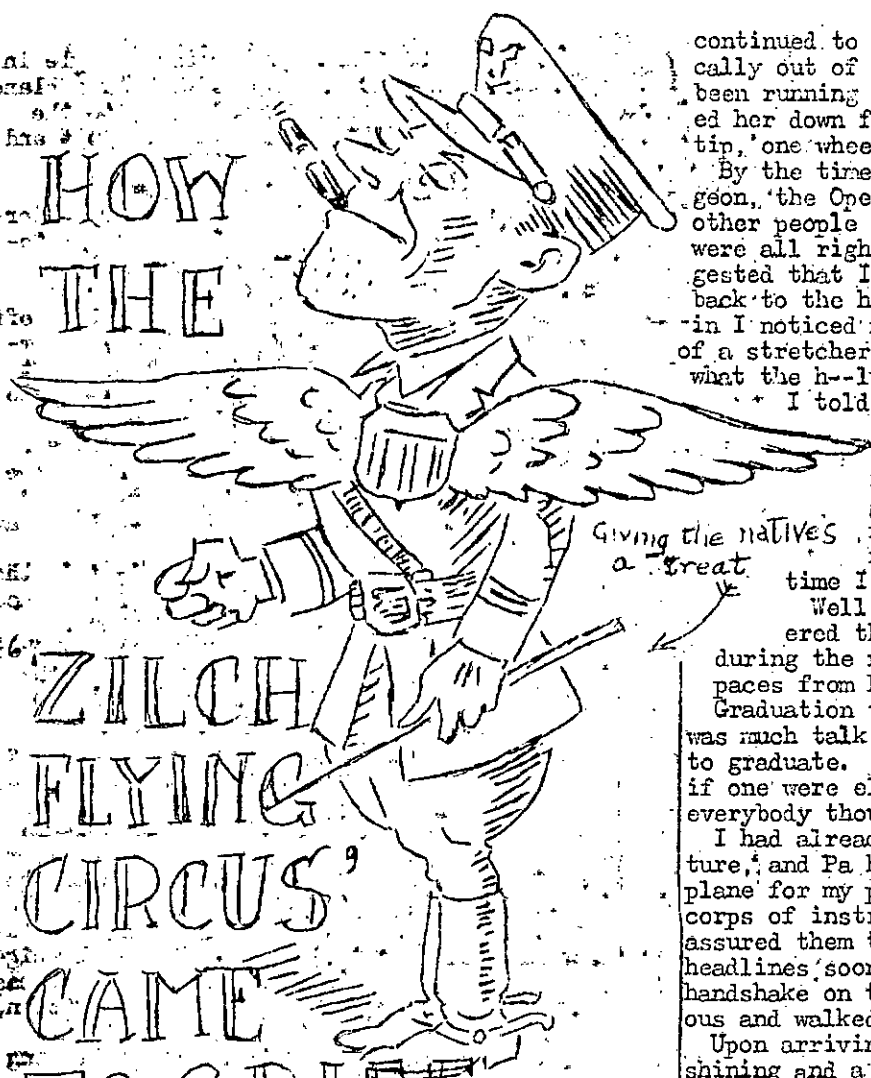
"The people in Nicaragua and San Jose, Costa Rica, where the flight stopped over night on the return trip, were extremely cordial toward the representatives of the American Army engaged on this mission, and treated them with the utmost courtesy and hospitality. Although luck played a large part in the finding of the lost flyers, the old adage 'Nothing succeeds like success,' is appropriate, and all concerned are entitled to the large measure of gratitude and praise which they received both in Nicaragua and after their return home."

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In accordance with a recent directive from the Chief of the Air Corps, providing that all pilots will receive a uniform ten-hour course of instrument flying, a rigorous program of such flight instruction was instituted at Chanute Field, Ill., by Lt.-Col. James A. Mars, Commanding Officer. The Field is fortunate in having as a student this year Lt. Elmer J. Rogers, former instructor in Instrument Flying



HOW  
THE  
ZILCH  
FLYING  
CIRCUS  
CAME  
TO GRIEF.



Here is another "Zilch" story which we are taking the liberty of reprinting from that exceedingly bright and interesting publication, THE AERO-VUE, published by Air Corps personnel at Wheeler Field, T.H. THE AERO-VUE is produced by the mimeograph process and we have yet to see its equal in an artistic sense, for every page has a different type of border design, which with the various sketches and clever cartoons mixed in with the reading matter makes the whole publication one reflecting considerable credit on those responsible for it. Readers of the News Letter greatly enjoyed the "Zilch" story in the last issue, which was also reprinted from THE AERO-VUE. The author of this series (we hope it will prove such) is traveling incog., but we have a faint suspicion as to his identity. But let the story go on --

When I was graduated from the U.S. Army Flying School, I was the hottest pilot ever turned out and admitted it. In fact, during my period of instruction, several of my instructors asked to be relieved because they couldn't teach me anything more -- I seemed to know it all. Another instructor was riling with me one morning and after a few landings he climbed out of the ship, stood there for a few minutes, and then I heard him say something that sounded like "O.K."...so I gave her the gun and took off. As I circled the field I saw several people running madly about, and my instructor was lying on the ground where I had left him. I tried to land close by to see what had happened, when the meat wagon came tearing across the field. Fearing I might run into it, I circled the field again and chose another spot to land, but saw the meat wagon heading in that direction also. After circling the field several times the waving on the ground grew more frantic, and the ambulance

continued to follow me around. I was practically out of gas and the ambulance must have been running low also, by this time, so I nosed her down for a three point landing (a wing tip, one wheel, and the tail skid).

By the time I had stopped, the Flight Surgeon, the Operations Officer, and several other people came rushing up and asked if I were all right. The Operations Officer suggested that I get out of the ship and ride back to the hangar in the ambulance. As I got in I noticed my instructor sitting on the edge of a stretcher, looking very pale. He asked me what the h--l I took off for when he got out.

I told him that he had said "O.K." and naturally thought he meant for me to solo. "Why, you blundering idiot, I said the landing gear was O.K.," he told me. I found out later that he had fainted and was out most of the time I was circling the field.

Well, my footprints practically covered the Commanding Officer's carpet during the next few weeks, and a spot three paces from his desk was worn smooth. Graduation time was approaching and there was much talk about the small number of Cadets to graduate. There were fourteen of us, and if one were eliminated it would be unlucky, everybody thought. So I got my wings.

I had already made great plans for the future, and Pa had agreed to purchase one airplane for my project. On saying goodbye to my corps of instructors, I related my plans and assured them that they would see my name in headlines soon. Some of them gave me an extra handshake on that, others were evidently jealous and walked away.

Upon arriving home with wings and buttons shining and a Elitz cloth hanging out of my pocket, I was greeted by all the home town folks including the County Fair Board. They had heard that I would buy a plane and they wanted me to fly at the Fair in a couple of months.

The advertising got under way in the home town paper, and my One Man Flying Circus was the talk of the town. Pa said that I could have the best plane that five hundred dollars could buy, so I prepared to leave to get my plane. A small concern in Ohio advertised some salvage war material, so I decided to go there. My train left at ten o'clock in the morning, so Pa said I could help drive the steers to town that morning, get the money and have plenty of time to get the train. Ma sent a coop of chickens to help pay for my ticket.

Well, after I got to Troy and looked over several planes and motors, I decided on a wartime ambulance plane. The tail skid still had the varnish on it and the motor I picked had only a few hours. So I then hired a mechanic and we bolted the motor in and took the stretcher out of the fuselage and put in two seats for passengers instead. I fixed the seats facing each other so the passengers could console each other if the ship got off the ground and they got a sample of my piloting.

The man who sold me the ship had a contract to fly on the Fourth of July at some resort close by, and offered me half the proceeds for the use of my ship, as his was out for overhaul at the time. That sounded like a good proposition and, after he had flight tested my ship, I was about to try it out...but he seemed to think I had better wait until after the Fourth of July.

Mr. Pearson did all the flying that day and I sold the tickets. One very sweet young thing was anxious to ride but her mother wouldn't give her the money, and anyway, she didn't want to ride alone. Well, as it was a plane, I decided to take a chance on the rem-

neration, and go along to keep her company by holding her hand or something. When that flight was over... it was too late for other passengers.

About this time Pa wrote to remind me that they couldn't hold the County Fair until I got there, so the next day, before sun-up, I took off with my mechanic who was going as far as Cincinnati, the first stop. We found the field after much difficulty and I cut the gun for a landing. On the fifth bounce the wheels struck some inanimate object, which I had not remembered seeing on the map.

The wings played "teeter-totter" for the next hundred feet and finally came to rest in a position parallel to the ground, but resting firmly upon same. It seemed that I was a little bit closer to the ground than my instructors back at the School had recommended. I couldn't figure it out but just then I noticed the mechanic holding one wheel in his lap, while the other one was spinning straight ahead with some momentum... about a hundred yards down the field.

The Bedford County Fair was held as usual that year, but I spent the three days there with Alvis, the hired hand, as valet to Pa's prize animal, whose picture may be seen on ad posters of a well known smoking tobacco.

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#### PARACHUTE JUMPS FROM HIGH SPEED AIRPLANES

An article under the above subject in the previous issue of the News Letter referred to a query as to whether parachutes now in use could withstand the strain incident to jumps from planes traveling at high speeds. In commenting on this subject, the Materiel Division, Wright Field, expressed doubt as to whether persons could get clear of airplanes traveling at a speed of about 200 miles per hour. It was stated that for successful jumping from such airplanes the pilot will have to reduce the speed. Further, "Of course, it is realized that there may be times, such as breakage of the wing or mal-functioning of the controls, in which the pilot might be unable to reduce the speed. What would happen in these cases is not exactly known, and yet it would be advantageous to find out if a practicable non-dangerous way of determining this could be found."

A communication was recently received from Mr. George Waite, President of the Irving Air Chute Co., Inc., Buffalo, N.Y., which reads as follows:

"The writer has read with interest the item 'Parachute Jumps from High Speed Planes' which appeared in the April 28, 1933, issue of the Air Corps News. Inasmuch as comments are invited, am taking the liberty of mentioning three successful emergency jumps at high speed which may be of interest.

The emergency jump made by Lieut. S.A. McClellan at Anacostia, D.C., on April 16, 1927, was from a high speed pursuit ship, in a vertical dive with the engine wide open. Although the exact speed is not known, experts who were in attendance at the tests which were being made, calculated approximately 300 m.p.h.

Another case is that of Lieut. Bjarkow of the Danish Naval Air Force, who was testing a fighting airplane under similar conditions to that in which Lieut. McClellan was forced to jump. Lieut. Bjarkow was diving his airplane with engine wide open, and a speed of 450 kilometers (279.6 mph) had been attained when he was forced to jump on account of structural failure.

Another case is that of Walter Hunter who was forced to jump from a racing plane at the Cleveland Air Races in 1932. He was flying over the speed course at an altitude of approximately 100 feet, and at a speed of approximately 200 m.p.h., He saved his life without serious personal injury, after jumping even at this low altitude, however, had no time to wait until his speed decreased before opening his parachute."

Looking over the reports on emergency para-

chute jumps, research work which suggested itself following the receipt of Mr. Wait's letter, several instances are noted of successful jumps from planes where the fabric started to rip off the wings. Two such instances may be mentioned. One is the jump of Seaman Harold G. Neumann on June 3, 1929, at San Diego, Calif., from a Navy plane which the pilot had placed in a power dive. Although no information is at hand as to the speed at which this plane traveled, it is assumed that it must have been considerable to have caused the fabric on the wings to rip. The other is the jump of Major James H. Doolittle, Air Reserve, at East St. Louis, June 23, 1931, from a plane of his own design with which he hoped to break the speed record for land planes. Reports stated that the fabric tore loose while the plane was traveling at an indicated speed of 235 miles an hour.

There are a number of instances of successful emergency parachute jumps from planes which were placed in a power dive, and which maneuver resulted in structural failure, mostly collapse or shearing off of wings. It may be assumed that during these dives the planes were traveling at a speed of at least 200 miles an hour if not more.

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#### NEW STUDENTS AT AIR CORPS TECHNICAL SCHOOL

Along about the second week in September, 40 Air Corps officers from various stations in the United States will wend their way to Chanute Field, Rantoul, Ill., to pursue courses of instruction at the Air Corps Technical School. Of these 40 officers, 13 are scheduled to take the Communications course; 12, Maintenance Engineering; 7, Aircraft Armament and 3 Photographic, viz:

##### COMMUNICATIONS COURSE

Second Lieuts. Joseph A. Miller, Frederick W. Ott, March Field, Calif.; 1st Lts. Harvey F. Dyer, Norme D. Frost, 2d Lts. George F. Kinzie, Robert E. L. Pirtle, Edward H. Porter, Randolph Field; 2d Lt. Donald H. Barter, Mitchel Field; 2d Lts. Albert Boyd, Kelly Field; Clarence F. Hegy, Richard C. Hutchinson, Joseph J. Ladd, Langley Field; John W. Kirby, Curtis E. Lemay, Thayer S. Olds, Selfridge Field; Louis E. Massie, Marshall Field, Kans.; William A. Schulgen, Scott Field; James McK. Thompson, Brooks Field, Texas.

##### AIRPLANE MAINTENANCE ENGINEERING

Second Lieuts. Mark E. Bradley, Jr., Frederick W. Castle, Llewellyn O. Ryan, Selfridge Field; Richard J. O'Keefe, Langley Field; Ronald R. Walker, Randolph Field; 1st Lieuts. F. Edgar Cneatle, David M. Ramsay, 2nd Lts. Robert M. Kraft, Allen R. Springer, Milton M. Tomer, Chanute Field; Edward W. Anderson, David D. Graves, March Field, Calif.

##### AIRCRAFT ARMAMENT

Second Lieut. Lloyd H. Tull, Chanute Field; 1st Lt. Burton M. Hovey, Kelly Field; 2nd Lts. Donald W. Benner, Aubrey L. Moore, Frank K. Park, Elmer P. Rose, Randolph Field; Roy D. Butler, Langley Field.

##### PHOTOGRAPHIC

Second Lieuts. William J. Clinch, Jr., Crissy Field; Robert O. Cork, Mitchel Field; Elvin F. Maughan, Bolling Field.

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Every officer in the 120th Observation Squadron, Colorado National Guard, Denver, is taking a course in military photography, which will include the operation of both K-11 and K-5 cameras in taking obliques, pin-points and mosaics. According to 1st Lieut. Cecil Braddick, who commands the Photo Section, work is very satisfactory. The Photographic Section is the most popular one at Lowry Field, as there is always a long waiting list for enlistment. An extra drill is conducted every

Wednesday night which is enthusiastically attended without extra pay.

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#### NATIONAL GUARD AND RESERVE OFFICERS ATTEND THE AIR CORPS TECHNICAL SCHOOL

Fourteen National Guard and Air Reserve officers reported on April 1st to Chanute Field, Ill. for duty, and were entered in the three months' courses of the Air Corps Technical School, as follows: Maintenance Engineering - 10; Communications, 2; Armament, 2. These, together with eight National Guard and Reserve Officers who were entered in the Photographic course on March 1st, make a total of 22 now attending classes in this school. These officers are Captains Harry W. Generous, Conn. N.G.; John K. Gill, Ohio N.G.; Gerald V. Kelley, Milton J. Jakowsky, Vincent B. Moore, Air Res.; 1st Lieuts. Theodore E. Baker, Mass. N.G.; Matt C. Carpenter, Ind. N.G.; Joe O. Edge, Texas N.G.; Frank A. Low, Minn. N.G.; 2 Lts. Paul N. Flanary, Tenn. N.G.; Einar Malmstrom, Wash. N.G.; 1st Lts. Charles W. Alverson, Robert D. Cassell, Reed E. Davis, Clayton Stiles, 2nd Lts. Clinton B. Gaty, Ralph S. Johnson, John J. Mulvey, John E. Sandow, Paul Waterman, C.K. Dunbar and Paul S. Frederickson, Air Reserve. The two last named officers and Captain Jakowsky are on inactive status.

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#### BIRMINGHAM BOY SCOUTS VISIT SELFRIDGE FIELD

Saturday morning, April 15th, the Boy Scouts of Birmingham, Mich., visited Selfridge Field and were conducted about the post by several of the younger officers. This tour of inspection was followed by a visit to the Post Theatre, where some instructive aviation moving pictures were shown to the enthusiastic guests. That they enjoyed their stay was manifested by the letter received by Major George H. Brett, Commanding Officer of the Post, from Mr. Shelton Wright, Chairman of the Birmingham District Committee, which reads in part: "Each Boy Scout and Scout Leader that spent last Saturday morning at Selfridge Field has reported that they had a perfectly marvelous time. Your carefully laid plans for their interest gave them a morning that they will remember for many years to come." And further: "We wish to extend a very deep appreciation to yourself and your men for the kindness and courtesy extended to the Boy Scouts of Birmingham. At the present writing it appears as though their future professions would be aviation almost 100%."

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#### NEW RECREATION BUILDINGS FOR LANGLEY FIELD

Langley Field now possesses a Post Theatre and Gymnasium to compare favorably with the best on any military reservation. The new "Amusement Palace," housing 660, replaces the war-time building heretofore used before the completion of the new theatre. New leather upholstered seats and mohair plush backs take the place of the wooden seats formerly used. All modern conveniences and necessities, as well as equipment, go to make up the Air Corps "House of Hits" at Langley Field. The theatre has been open approximately two weeks, having been turned over to the Post while the gymnasium was receiving its finishing touches. Two shows nightly in place of one, as was the former custom, adds to the convenience and enjoyment of the entire command. The new gymnasium measures 183 feet by 113 feet, the width of the new athletic auditorium being equivalent to the length of the former gymnasium. Two basketball courts, a boxing arena, locker rooms and showers for both the home club and visiting teams, go to make up the contents of the new gymnasium, as well as a trophy room and the offices of the E. and R.

Department of the Field. Space has been set aside for the bowling alleys now in use at the old gymnasium as the Inter-Organization ten-pin tournament swings down toward the home stretch after active competition since January 25th, with a field of 14 select teams participating.

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#### COMBAT TRAINING BY WHEELER FIELD PURSUITERS

The 6th and 19th Pursuit Squadrons, Wheeler Field, T.H., recently concerned themselves chiefly with combat training exercises. "On each Friday," says the News Letter Correspondent, "we have participated in group attacks upon various objectives which we would most likely encounter in time of war."

The first of these objectives were landing parties represented by silhouette targets on the beach at Waimanalo. Actual machine gun fire and dummy bombs were used in the attacks. In making our attacks we broke up into flights, flying in column, made simultaneous attacks upon the units of the simulated landing party.

"Another type of objectives was a single bombing plane represented by a sleeve towed at 5,000 feet by an attack plane. The squadron, flying a column of elements, made three attacks upon the targets. The wing airplanes of each element attacked from the side while leader made his attack head on. All three started their attacks from above. This type of target not only proved to be very difficult to hit but required perfect timing on the approach.

"The most interesting type of target presented was a squadron of bombers which was represented on the ground by paper outlines. The squadrons used nine plane flights, thus allotting to each pilot of the flight a bombing airplane as a target. Dummy bombs were dropped from 800 feet and three attacks were made using machine gun fire. The results were very satisfactory. As a means of identifying the hits scored, the tips of the machine gun bullets were painted and the airplanes were marked with chalk upon the fins of the bombs.

"In addition to our combat exercises in units, a good deal of individual combat has been flown. This phase of flying has been very interesting and instructive, and the pilots have enjoyed it thoroughly."

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#### LANGLEY FIELD PLANES HEAD WESTWARD

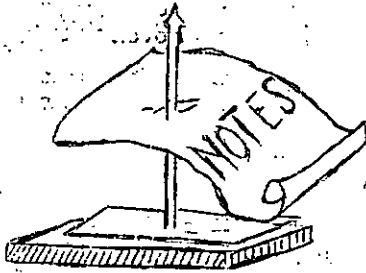
On the morning of May 4th, the second contingent of Langley Field planes left for March Field, Riverside, Calif., for the annual Air Corps Exercises. On the previous afternoon the Eighth Pursuit planes departed, under the command of Major B.Q. Jones, accompanied by Col. C.C. Culver, who is in command of the entire 2nd Bombardment Wing.

A total of 72 planes, including 39 Pursuit, 32 Keystone Bombers, 1 Observation plane and 8 Transports constituted Langley Field's part in the Exercises to be based at March Field. The personnel included 87 officers and 156 enlisted mechanics and crew chiefs.

Pope Field, N.C., was the first stop for the Pursuit Group. Enroute to the West Coast, stops were slated at Atlanta, Ga.; Jackson, Miss.; Barksdale Field, La.; Dallas, Texas; El Paso, Texas; Tucson, Ariz.; Yuma, Ariz.; then to March Field; their final destination.

In the meantime, 17 officers and 45 enlisted mechanics, were undergoing anti-aircraft exercises since April 5th, with the aircraft based at Patterson Field, O., the scene of the exercises being at Fort Knox, Ky. Major H.A. Dargue, C.O., of the 2nd Bombardment Group, is in command of the contingent. In his absence, Capt. G.P. Johnson assumed command of the Group on the flight westward.

Material on this and subsequent pages are not for publication.



# from Air Corps Fields

Selfridge Field, Mt. Clemens, Mich., May 5th.

Major George H. Brett, Commanding Officer, conducted the quarterly inspection and test of aircraft with full military load on the afternoon of April 20th. With the ships, pilots and mechanics in complete readiness for participation in the Joint Anti-Aircraft-Air Corps Exercises at Bowman Field, Louisville, Ky.; the afternoon's activity proved to be an event at Selfridge Field, after a long interval during which most of the post aircraft were at the Depot for overhaul.

Following the line inspection, the 17th and 27th Pursuit Squadrons flew over the field and past the reviewing stand in squadron formation. The squadrons were controlled by means of radio in the review by Capt. Ross G. Hoyt, Operations Officer of the First Pursuit Group. Some successful tests were made during the afternoon, and Major Brett expressed himself as being well-pleased with the work that has been done.

The First Pursuit Group took off from its home station by elements on Sunday morning, April 23, at 9:30 for Bowman Field, Louisville, Ky., for participation in the Joint Anti-Aircraft-Air Corps Exercises held there from April 24 to May 27. Carefully laid plans which were executed to the letter permitted the officers, ships, men and impedimenta to leave the post with commendable facility, and the entire contingent was looking forward to an intensely interesting five weeks. The Group had been compacted into a two-squadron organization, the 94th personnel being split up between the 17th and 27th Squadrons and a maintenance detachment at Patterson Field. The 57th Service Squadron remained at Selfridge.

At five minute intervals, flights left Selfridge and set compass course for Louisville, where a camp had already been built at Bowman Field as a base for field operations of the Group. On arrival at Bowman Field, all proceeded to make themselves comfortable. The enlisted personnel had arrived by truck and transport and were already at home in their assigned tents. All assignments to tents had been made at Selfridge, so it took little time to get settled. A mess had been all set up in a nearby hangar, complete with all victuals and fixings. It was the first place visited when the squadrons landed at noon.

The first day in camp was devoted to settling down and arranging the tents as comfortable living quarters. Each tent vied with the others in devising shelves and furniture out of odd pieces of lumber. Aviator carpenters had their day, and regretted the arrival of professional carpenters to take over the work of building camp furniture.

To date, May 5th; flying operations mainly consisted of familiarization and airport night flying. A radio station was installed in camp and is undergoing extensive tests in communicating with the tactical airplanes. Radio will play a big part when the "war" begins, so it must play a big part in the training program.

The golf addicts, under the leadership of Maj. Brett and Capt. Nelson, have already investigated local possibilities. Arrangement was made with a Louisville club whereby the facilities of the club will be available for officers of the camp. Lieut. Arthur Meehan has aroused interest in soft ball baseball by exercising his own en-

thusiasm. As a result, there are daily games among pilots and enlisted men. With all his enthusiasm, Meehan has yet to learn how to hit the ball. His striking-out average so far has been nearly a thousand.

Barksdale Field, Shreveport, La., April 21.

Over the past week-end, the post buzzed with activity, for not only did Major King, the Corps Area Inspector, drop in upon us, but over Saturday and Sunday, April 15th and 16th, several hundred reserve officers held their contact camp at Barksdale Field. A large number of Shreveport people also gathered to see the demonstrations put on by the 20th Pursuit Group and by two squadrons of the Third Attack Group which flew up from Fort Crockett to assist in the bombing and machine gun firing. Threatening weather almost spoiled the show, but Easter Sunday brought clearing skies and made possible the scheduled public celebration of Mass in front of Wing Operations, largely attended by visiting dignitaries, and marking the official close of the Contact Camp. However, at high noon, before the Camp had closed, Captain Giles, Air Corps Inspector, dropped in for his genial but thorough quarterly inspection.

55th Pursuit Sqdn.: With a view toward preparing for the still rumored Maneuvers, we have been practicing the contemplated formations. After our short experience with the two ship element, most of the pilots are much "For It." The increased maneuverability is the attraction, yet old "Three Ship" men dolefully shake their heads.

April 14th the Attack Group from Ft. Crockett came to Barksdale for a problem, using Pursuit support. Despite the adverse weather conditions, the problem was run off in a satisfactory manner. The attackers returned to their station next day. We contemplate a return problem at Crockett in the near future.

77th Pursuit Squadron: The 55th Officers and the 77th Officers are engaging in a series of games in as many different sports as we have facilities for. The basketball series has been completed and volley ball is now in progress. In the first volley ball game, the 77th won by a narrow margin. One more win and the series is "In the Bag." After volley ball we propose to go in for squash, and undoubtedly a cup will be awarded to the Squadron which rules the roost in squash.

With 12 P-12E's on hand in the squadron, work for maneuvers is progressing nicely. Two or three hours drill formation is conducted each day, and results to date have been most satisfactory. We hope to make a creditable showing at maneuvers, and we are devoting much work toward that end.

On April 15th and 16th, a Contact Camp for Reserve officers was held at Barksdale Field. Unfortunately, weather conditions precluded an elaborate demonstration for these men. However, the Attack Group staged an attack on ground targets and the 77th Squadron conducted a bombing demonstration on a simulated wagon train. Also, the 55th Squadron presented a formation drill, and individual pilots staged dog fights. All in all, the camp was a suc-

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cess, and we were very glad to have these officers among us.

Our married stock rose a few points when Lt. Robert Losey journeyed to Hot Springs, Ark., and brought therefrom the charming girl whom we have been expecting for some months. Congratulations and don't forget that if the first 100 years are the hardest, the next 100 are well worth waiting for.

**71st Service Squadron:** One of the outstanding events of the past period was the formation of the 20th Pursuit Group, A.C., at the retirement of Tech. Sgt. Albert Teegarden. At the time of his retirement he was 1st Sergeant of the 71st Service Squadron and had held that position since the squadron was formed. Major Harmon, the Commanding Officer of the Post, made a few remarks pertaining to his record and complimented him highly on his successful career in the Army. He has been in the Army a little over 26 years, during which time he has set an excellent record of achievement. The entire squadron, from the Commanding Officer down to the newest recruit, were sorry to see him leave, but we're glad that he has reached his goal.

Quite a few of the men of the original 71st Service Squadron were transferred in the forming of the new 79th Pursuit Squadron here on the field. In their places recruits and transfers are putting in appearance and are rapidly acquiring the spirit of the outfit. With a lot of extra activities the men are more than busy, but they all look forward to the success of the ball team.

**79th Pursuit Squadron:** On April 1st, the 79th Pursuit Squadron, Air Corps, was reconstituted at Barksdale Field, with Capt. Roy W. Camblin, A.C., as Commanding Officer, and 2nd Lts. John Gebelin, Jr., William J. McCray and Norman W. Speaker, Air Reserve, to assist him. Our growth was almost of the mushroom variety, as practically overnight our strength totalled 114 enlisted men, obtained in the following manner: By transfer from Brooks and Randolph Fields, 45; by local transfer, 35; by local enlistment, 40. The local enlistments include 28 recruits without prior service, so the next few weeks will be spent in recruit instruction. It is not contemplated at the present time that we will function on the line as a unit until at least after the Spring Maneuvers, but the same cannot be said of athletics. We intend to start right from scratch and the championship of this Post will only be a matter of time from then on.

Tech. Sgts. George W. Perkins and J.R.D. Wallace recently arrived from Randolph Field together with others of the first three grades, which include Staff Sgts. Adcock, Bubin, Cloutier, Colby, Duncan, Pulford and Taylor. Staff Sgt. Wm. E. Gerton was transferred from the 20th Pursuit Group Hqrs. and appointed 1st Sergeant, and what happened to be the 20th Pursuit Group Hqrs. loss was the 79th's gain. The mess operation duties fell to the lot of Staff Sgt. Orion E. Downey, ex-mess sergeant of the 55th Pursuit Squadron. With a nucleus of noncommissioned material such as the organization possesses to build around and with the leadership of such an able Squadron Commander, it is felt that ere many months have passed the 79th Squadron will have taken its place as one of the crack fighting units of Uncle Sam's Air Force.

**Materiel Division, Wright Field, Ohio, May 2nd.**

Major W.E. Kepner, who spent much time at Akron during the construction of the TC-13 airship, was for the past several weeks stationed there on temporary duty pending its completion. He was assigned as test pilot to take it aloft on its maiden voyage. Capt. A.F. Hegenberger, Lts. J.A. Woodruff and B.W. Chidlaw took off for California on April 1st for the purpose of checking the mockup of the YO-44 airplane at the plant of the Douglas Co. at Santa Monica. From there they flew to

Rockwell Field for conference with the Commanding Officer.

As in former years, Wright Field kept open house on Army Day, supplying guides to show all visitors through the laboratories and hangars. Three hundred visitors from Dayton and the surrounding country expressed their interest in Air Corps developments to the extent of coming out in very wet weather to learn something of the field and its activities.

Wright Field Reserve officers' Luncheon Club held a meeting on April 13th at noon at Wright Field. Major C.J. Bond, Chemical Officer, 5th Corps Area, Ft. Hayes, Ohio, the speaker of the occasion, discussed "The Chemical Warfare Participation in the Anti-Aircraft - Air Corps Exercises."

Capt. J.W. Monahan, the new assistant military attache for air to England, was a welcome visitor at Wright Field. He spent several days at the Materiel Division, studying requirements from the point of view of officers and engineers in engineering matters in connection with his new post. He left for Washington April 11th to receive final instructions before sailing. He replaces Major M.F. Scanlon who served for the past four years in like capacity. This is Capt. Monahan's second journey to Europe, the first having taken place on his return to the United States at the expiration of his tour of duty in the Philippine Islands. At that time he spent considerable time at the various foreign legations, especially those of France and Italy.

Lieut. Bennett Meyers, who has been a student at Babson Institute, Boston, for two years, will return to Wright Field the latter part of June. He served in the Industrial War Plans Section during his former assignment.

Cpts. J.G. Taylor, John Waiteley, Major J.L. Hatcher, Lts. W.G. Smith and D.W. Watkins flew to Buffalo on April 11th to inspect the mockup of the A-11 and A-12 airplanes at the plant of the Consolidated and Curtiss Companies.

Lt. W.T. Guest, Signal Corps, of the Office of the Chief Signal Officer, Washington, is expected at Wright Field about June 30th. He will serve as Signal and Meteorological Officer. Capt. C.W. Dingman, Medical Corps, of the General Army Dispensary, Chicago, will also report about June 30th for duty.

Messrs. N.L. Pike, B.E. Braun and George W. Vest, of the Department of Commerce, spent a week at Wright Field early in April, receiving instructions in the Materiel Division method of engine inspection.

Lieut. D.G. Eingle and J.B. Johnson, Chief of Materials Branch, flew to Butler, Pa., for the purpose of inspecting spot welding equipment now in operation at the plant of the Aluminum Company of America.

Brig. General Oscar Westover and Lieut. Ray Owens arrived from Bolling Field on Apr. 29th.

Major C.E. Burdick, Specialist Reserve, of the National Military Home, Dayton, reported for active duty for a period of 15 days and was assigned to the Finance Office. Capt. R.W. Kuhns, Specialist Reserve, also reported for two weeks' active duty on May 1st and was assigned to the Procurement Section.

Capt. A.W. Vanaman and Lt. J.E. Parker flew to Bolling Field on April 21st. Capt. A.E. Simonin, who had been at the Division for a day or two, returned to Washington the same day.

General Pratt flew to Akron on April 25th to inspect the TC-13 Army dirigible and to view also the great new Macon.

Capt. R.C. Moffat piloted a new P-6 airplane from the plant of the Curtiss Company to Wright Field on April 20th.

Lt. G.V. Holloman took off April 5th for Baltimore, Bolling and Mitchel Fields, ferrying on his return to Wright Field personnel who were to take part in the Air Corps Exercises

being prepared for at Patterson Field.

Capt. A.W. Stevens flew to Philadelphia, New York City and Rochester recently on matters connected with aerial photography.

Oliver E. Simmonds, a member of the British Parliament, who is closely connected with the British Air Ministry, visited the Materiel Division recently and expressed great interest in the developments shown him here.

Students of the Engineering School flew to Akron on April 1st to observe the construction of the Macon and the TC-13 airships.

Lieut. H.H. Couch departed for Scott Field recently as one of a Board of Officers to witness demonstration tests of motorized observation balloons.

Capt. A.W. Vanaman left by air the latter part of March for Bolling Field, Baltimore, Williamsport, Pa., and Buffalo, on business with the Office of the Chief of the Air Corps and various contractors regarding Air Corps contracts.

Capt. Victor Strahm ferried the XP-6F plane from the plant of the Curtiss Company to Wright Field. This is a standard P-6E with side type supercharger.

Lieut. B.W. Chidlaw spent ten days at Langley Field the latter part of March to witness tests on the towing basin model of the YO-44 airplane.

Major H.A. Strauss spent ten days in April at Ft. Crockett, Galveston, Texas, and at Duncan Field, San Antonio, Texas.

J.B. Johnson recently attended the meeting of the National Advisory Committee for Aeronautics and visited the Bureau of Standards for consultation regarding the anodic treatment and magnetic analysis of steel on his trip to Washington. He also visited Langley Field, Va.

#### 120th Obs. Sqdn., Colo. Nat'l Guard, Denver, Colo.

Lieut. L.V. Beau, Jr., Air Corps Instructor, received orders to report to the Tactical School, Montgomery, Ala., by Sept. 1st. He has been Instructor for the 120th Sqdn. since July, 1928, and was untiring in his efforts to produce efficiency in every department and to make the squadron a real tactical unit. We regret losing Lieut. Beau, but feel that his standards will be carried out by the next instructor assigned to us.

Training will be hampered somewhat this month by having three planes at the depot for overhaul. The Engineering Officer, Lieut. Ray Wilson, expects all planes to be returned to the field by June 1st. March usually is the poorest month of the year for training, yet we managed to get in the normal number of hours. Unusual storms visit the Rocky Mountains during March and the first half of April. We have had ten inches of snow within the last 15 days, accompanied by high winds and dust storms.

We have not heard definitely when or where Camp will be held this year. If Camp is held we will either go to Fort Sill or remain with our own Colorado troops.

Capt. Nolie Mamey, Flight Surgeon, who was just appointed a member of the State Medical Board by Governor Johnson, appeared before the Board for an A.P. Rating. We hope he has successfully passed all the requirements. Captain Mamey has had several hundred hours in our O2-Hs and is a fully qualified pilot. He piloted a "ship" while on the maneuvers and is well known in the Air Corps.

We have approached within 200 hours of the allotted number of hours for the Fiscal Year and feel that any curtailment in future allotments would greatly curtail our training objectives. We have now 21 officers and only 1,334 hours allotted to us, which is insufficient to carry out the training program outlined for the squadron.

Major Carlos Reavis, Commanding Officer, delivered a lecture last week on "Aviation and Aerial Equipment" before the Reserve Officers' Assn.

First Lieut. Cecil Braddick, C.O. of the 120th Photo Section, just completed a successful trip

to Memphis, Tenn. His mission was aerial photography and mapping.

Lieut. Weisenholder, of Fort Crockett, landed here at the Municipal Airport with a Y1C-21 Douglas Amphibian. Our hangars are not large enough to accommodate that type of plane. This is the third Amphibian ever to visit Denver, and it has been attracting large crowds.

According to the newspapers, further reductions are contemplated for the National Guard. While we desire to cooperate in every respect with the economy program, we feel that any further reduction in the number of flying hours will seriously interfere with the training of both officers and enlisted personnel. We desire to have the opinions of other squadrons regarding the contemplated move to cut the drill periods from 48 to 24 per year.

Capt. B.F. Giles, Air Corps Supervisor for Tactical Equipment, recently inspected our equipment and his report was highly satisfactory. The Engineering Officer has been keeping our old O-2H's in excellent condition. We have been using the above equipment for a long time. Two of the "ships" are of the 1928 series. However, we have been getting along nicely out here where our take-off from Lowry Field is 5,280 feet above sea level. The efficient operating temperature of the Liberty motor is ideal at this altitude.

We have not received a report on the tactical inspection made by Col. Reynolds, Fort Sill, but feel that it will be satisfactory, although the inspection was made at the height of a severe snow-storm, which is not new to us.

Recent visitors at Lowry Field included 1st Lt. Graham M. St. John and Capt. B.W. Diggle from Kansas City; Lieut. C.D. McAllister and mechanic from Wright Field; Lieuts. D.W. Hauman and V. Poopitch from Scott Field; Lt. Robt. D. Johnson with Col. Harwood from Randolph Field. We expect to receive many visitors later on in the season when the cool Rockies will extend the natural invitation. Flyers on long trips usually find Denver a convenient spot on the map to stop for gas and a cool night's sleep during the hot summer months. You are always welcome at Lowry Field. Let's hear from you.

#### 450th Pursuit Squadron, Reserve, Kansas City.

The usual flying missions were augmented by the appearance on the field of a P-12C, and the Reserve flyers from near and far flocked in to try their hand. Much fun and noise ensued, and many townspeople appeared as spectators. Lt. Allernage, late of the Pursuit Group at Selfridge Field and now with the TWA, took the honors in putting the P-12 through its maneuvers.

Lt. Graham M. St. John, A.C. and Capt. B.W. Diggle, Air Res., departed on a 25-day extended aviation flight, touching Shreveport, Galveston, Corpus Christi, Brownsville, San Antonio, El Paso, San Diego, San Francisco, Vancouver and Salt Lake City to Kansas City. Graham had little to say about his trip, but was his face red?

March 14th, Capt. Wright, A.C., with Pvt. Robert Thomas as passenger, led a formation with Lts. E.A. Sweeney and C.D. Daily as wing men with Capt. W.S. Green and Pvt. Frank Kathy as passengers, as a military courtesy at the funeral of Major Emil Wolbach, a foremost citizen of Grand Island, Nebraska. Fog and darkness caught the party on the return trip. Capt. Wright found and landed at Ft. Leavenworth, but the other two ships flew over without being able to see it, so followed light beacons to St. Joseph where again they could not locate the field, the beacon there being out of commission. Sweeney was turned around on his knees holding conference with Green when the motor died from no gas. Flying from

the rear cockpit, Green kept the ship right side up during its subsequent passage thru some power lines and stopped with a jolt 5 feet from a galena. Daily followed in and snapped off a telephone pole with his wing. The cut on Capt. Green's head was the only damage to personnel. The accident marks the first for the 430th Pursuit Squadron in 2 years' flying on service type planes.

March 26-27-28, Capt. Wright flew Lt. A.G. Hunter to Dayton to bring back a PT-3 for the Reserve camp to be held here Apr. 2. Chanute Field was an overnight stop on return trip.

April 2. Ten officers of the Air Reserve and one Flight Surgeon reported for a 14-day duty period. The physical examination did not succeed in throwing anyone. On the line were 3 PT-3, 3 BT, 2 Ol-E, and later from Scott Field 3 O-19B. While at Fort Riley, 3 O-25 planes were used for gunnery, bombing, photography and air-ground communication. The list of those reporting and their assignments follow: Major A.V. Wortman, Commanding Officer; Capt. W.B. Warde, Adjutant; 1st Lts. F.J. Bassing, Engineering Officer; H.L. Bredow, Supply Officer; B.D. Morley, Operations Officer; J.F. Gardiner, Flight Surgeon; R.A. Morehouse, Asst. Adjutant; 2nd Lts. W.J. Chapman, Asst. Engr. Officer; C.W. Bunch, Asst. Supply Officer; W.A. Ong, Asst. Operations Officer; R.E. Purcell, Athletic Instr.

April 4. After arriving from Ft. Riley where check-offs were made on all types, all officers had pistol practice at the Armory. A tournament match followed between the Kansas City Air Corps Reserve Officers team and the Cavalry Reserve Officer team, the flyers losing by 6 points with a score of 864.

April 8. Nine Curtiss-Condor bombing planes of the 11th Bombardment Squadron, March Field, stopped here overnight on their way to Dayton to get their camouflage war paint on in preparation for the Anti-Aircraft Maneuvers to be held in May at Camp Knox. (All Reservists are cordially invited to attend - at their own expense!). The big ships put on a good formation over the city and in no time at all the airport was crowded with people. The airport is only one mile from the center of the business district. Disbelievers will kindly take off toward the big buildings and see for themselves. The Post Office is to be moved two miles south to make it more fair to competing cities in the use of air mail.

The Betsy Ross Corps held their reception in honor of Major-General Johnson Hagood at the Hotel Biltmore and next afternoon for Tea, several hundred guests were present at the formal opening of their Headquarters. Miss Dorothy Lyons, of Kansas City, is the National Commander of this organization.

April 10. A Get-Together in the Air Reserve Officers rooms at the Hotel President. Lt. James Going furnished some of the refreshments for this party because of the good behavior of the Reserve Officers who were present at his wedding on April 2nd.

Thirteen Army planes flew to St. Joseph for their "Aviation Day." They promised a new beacon for their field there.

April 14. Sketching of airports, formation flying and instrument flying completed. Inventories, lectures, map problems, and night sessions finished the last two days when snow covered the ground.

April 15. Capt. Wright, Capt. Long, Lts. Bassing, Morehouse, Bunch, Chapman and Purcell arrived at Lambert Field, St. Louis, and stopped overnight because fog and smoke covered Scott Field, but the next day delivery of their three O-19's was completed, and the trip back to Richards Field was made in four ships, with Captain Wright and Sgt. Maidel leading.

35th Div. Aviation, Missouri Nat'l Guard, 5/9/33

The Squadron has as guests during the past month, Capt. Wm. B. Wright, Jr., of Kansas City, who led a formation of Reservists here for an

overnight stay.

The first of May, a 7-ship formation from this Squadron made an afternoon flight to Indianapolis to attend the Monday evening drill of the 38th Div. Aviation, Ind. Nat'l Guard.

Three radio ships were included in this flight. Radio contact was established with Stout Field, Hqrs. of the 38th Division Aviation, from Effingham, Ill., 130 miles distant. Constant communication was maintained until Stout Field was reached.

A warm reception was given our men by the Indiana Squadron. An elaborate and tasty dinner was served to a joint assemblage of Indiana officers and our men shortly after their arrival at the airport. The Indiana Squadron is highly recommended for their hearty hospitality.

After observing this unit's drill, classes and general facilities, our squadron departed for St. Louis and arrived home about 1:00 a.m. Tuesday morning. Personnel making the trip were Captains E.H. Kaepfel, Supply Officer; W.B. Wimer, Communications Officer; Lts. F.T. Dunn; W.B. Whitacre, Operations Officer; R.H. Kutterer, Engineering Officer; E.J. Burkhardt, Commanding 110th Photo Sec.; E.D. Zadontseff; E.M. Kruse; W.W. Kratz; W.A. Miller, Armament Officer; C.E. Freeman, Transportation Officer; 1st Sgt. J.A. Hunt; Tech. Sgt. J.J. Fischer, Armament; Pvt. W.G. Robinson, Radio. We are quite anxious to reciprocate the Indiana

Unit's warm reception and hope that they will see fit to pay us a visit in the near future.

The attention of all Air Corps personnel is again called to our facilities, which include plenty of hangar space (enough to house as many as seven visiting ships, in addition to our own), expert mechanical service, cheap gasoline and oil. We are now servicing our ship with 87 octane gas, which is also available for all visitors. In addition, our squadron Packard Sedan is available for visitors' use, with or without chauffeur. Pay us a visit when passing through St. Louis.

36th Div. Aviation, Texas Nat'l Guard, Houston.

The annual Federal armory inspection of this unit was successfully carried out on Sunday, April 9th. Capt. Thomas W. Blackburn, U.S. Air Corps, was the inspecting officer, being the inspector assigned to the 36th Division Aviation, Texas National Guard. He also holds rank as Major in the Guard as Commanding Officer. The attendance for inspection was 98 per cent, the best record in the ten years' history of the unit.

On April 10th, Capt. Benj. F. Giles, Air Corps, technical supervisor of the San Antonio Air Depot, made the semi-annual technical inspection.

The aviation and military affairs committee of the Houston Chamber of Commerce attended the annual armory inspection, following which a letter was received, April 15th, by Major Blackburn from Mr. Ronald A. Laird, Secretary of the Military Affairs Committee, reading as follows:

"I am directed by Mr. O.C. Castle, Chairman of the military affairs committee which witnessed your federal inspection on the 9th inst. to convey to you a sincere expression of congratulations on the fine showing made by your command."

It was the consensus of opinion of the committee members present at inspection that the troops comported themselves admirably in the close order drill and that the command is especially to be commended on the splendid condition in which ships and material was presented for inspection.

Mr. Castle wishes me to express his personal esteem and good wishes.

During April, the following officers were visitors: From Randolph Field: Lts. Sanders, Lawrence, Palmer, Alkire, Griffiss, Porter and Rogers - From Duncan Field: Col. Fisher and

Capt. Giles - from Brooks Field; Col. Coker and Lt. Foster.

Avigation flights made by the 111th Observation Squadron during April included the following: To Galveston, Capt. Ennis, Lts. Thompson, Jost; to Shreveport, Major Blackburn, Capt. Aldrich, Lts. Thompson, Jost, Meador, Showalter, Wiseheart, Gifford, Austin and Schnapp; to Wharton, Capt. Pratt; to San Antonio, Major Blackburn, Capt. Aldrich, Lts. Meador, Neely and Wiseheart; to Corpus Christi, Lt. Eagles; to Palacios, Major Blackburn, Lts. Borden and Showalter; to Orange, Lt. Borden; to Brookshire, Lt. Greig.

112th Obs. Sqdn., Ohio National Guard, Cleveland.

Now that our annual Army Inspection, as well as the Technical Inspection is over, the entire squadron is busy preparing for camp period. We are very hopeful that all National Guard units will attend camp and that the new economy program will not tend to eliminate the field training as has been proposed.

Major Zistel, our Commanding Officer, has formed all officers in the Squadron into six tactical teams. Each pilot and observer assigned to each team will operate through the entire field training period on tactical missions in cooperation with ground troops. It is believed this assignment of teams will generate untold interest and create keen competition amongst the various teams, which will bring forth a high degree of efficiency for the entire squadron working with the ground troops and Division Staff.

Since the first of the year, two new officers, both graduates from Randolph Field, 2nd Lieuts. Alfred E. Tucker and Clyde A. Parlette, were commissioned in the squadron. Lieut. Tucker was stationed with the Bombardment Group at Langley Field, Va., and Lieut. Parlette with the Pursuit Group at Selfridge Field, Mich. First Sgt. Rudolph W. Dean and Tech. Sgt. Raymond C. Kissack completed their examinations for commissions as 2nd Lieutenants, as well as their JAO ratings, so in a few more days we will have two more capable officer observers.

New changes in the squadron were the recent appointment of 1st Lt. Erle S. Ross as Operations Officer and 2nd Lt. James C. Barr as Communications Officer. Capt. John K. Gill, our Engineering Officer, left April 1st for Chanute Field to pursue an Engineering course.

All the officers of the Squadron are anxious to see our first new O-38E, which we expect will be delivered to us sometime in May.

To any Regular Army or National Guard officers flying through Cleveland, make it a point to stop off at our hangar, get gas, and a bite to eat. We have a Pierce-Arrow squadron car here at the hangar that will take you any place in town. Remember, we are always glad to see you.

Fort Sill, Okla., April 26, 1933.

The 13th Attack Squadron, under the command of Lieut. Ralph Stearley, arrived at Ft. Sill on April 3rd and put on an attack demonstration on the afternoon of April 4th, for the students and faculty of the Field Artillery School. The demonstration consisted of a machine gun attack on silhouette targets, low altitude bombing, and a smoke screen. In spite of adverse weather conditions, in the nature of strong winds and sandstorms, it was a very successful and impressive demonstration.

Capt. Frank H. Pritchard, Commanding Officer of Flight "E," 16th Obs. Sqdn., reported back to duty from sick in hospital on April 20th.

On Saturday, April 22nd, Air Corps Troops at this station were inspected by Col. Arrowsmith, Inspector General of the Eighth Corps Area. Flight "E" was inspected in ranks, while most of the personnel of the 1st Balloon Company were in the field on a mission for the Field Artillery

School.

Capt. Neal Creighton returned from ten days' detached service at Scott Field, Ill., where he witnessed and participated in tests of a proposed motorized observation balloon.

The 1st Balloon Company received four F.W.D. chassis, which were driven down from Scott Field to this station by Scott Field personnel for use in the Transportation Section.

Albrook Field, C.Z., April 1, 1933.

On the morning of March 14th, the Air Corps lost an able and promising officer and Albrook Field mourned the death of a comrade and gent man. Second Lieut. Edward N. Hamilton met his death as a result of a collision in the air. While engaged in tactical training, Lt. Hamilton was flying No. 2 in a 3-ship formation which Lt. E.H. Lawson was leading and in which Lieut. C.H. Lesesne, Jr., was flying No. 3. While making a 180° level turn to the right, Lt. Hamilton's airplane collided with the tail section of Lieut. Lawson's plane. Lieut. Lawson used his parachute and escaped with minor bruises. It is not known whether Lieut. Hamilton attempted to jump, but he was neither in his plane when it struck the ground nor was his parachute opened, and he was instantly killed. Lieut. Hamilton had made a successful jump from a damaged plane in September, 1932.

Memorial services, held at St. Paul's Episcopal Cathedral in Ancon, were attended by a host of Lieut. Hamilton's friends of all branches of the service on this side of the Isthmus. The remains were sent home to Athens, Ga., for interment.

Lieut. and Mrs. M.J. Coutlee are the proud parents of twins, both boys, born Feb. 15, 1933. Albrook Field offers its heartiest congratulations and welcomes these potential pursuers, Paul Russell and John Gordon, to the increasing members of junior pilots on the field. They have been given the usual assignment for quarters, rations and training and are progressing favorably.

Lieut. and Mrs. R.J. Browne are rejoicing in the birth of a baby girl. The latest addition to the post, arriving the latter part of March. Both mother and daughter are doing splendidly.

San Antonio Air Depot, Duncan Field, Tex. 4/28/33

Lieut. D.F. Stace, of this Depot, left April 17th by air for Bowman Field, Ky., for temporary duty with the 1st Provisional Wing (Blue) as Supply Officer during the Anti-Aircraft-Air Corps Exercises, 1933.

Mr. Wm. G. Chamberlain, service representative of the Pratt & Whitney Aircraft Corporation, Hartford, Conn., was a visitor at this Depot during the week of April 17-22, conferring on matters in connection with the operation and maintenance of Pratt & Whitney engines.

Lieut. C.E. Emyart, A.C., of Langley Field, Va., returning to that station in an C-25 from the West Coast, visited this Depot en route, April 23-24, for repairs to his engine.

Capt. R.E. Self, of March Field, Calif., en route to Langley Field, Va., in a Y1C-24, stopped over at the Depot April 26-27 for minor repairs to his plane.

Capt. I.J. Williams, en route in a C-14 transport from Crissy Field, Calif., to Bowman Field, Ky., landed at this Depot April 27th for check-up of his plane.

Major T.W. Blackburn, commanding the 36th Division Aviation, Texas National Guard, Houston, accompanied by Lieut. Meador, of that organization, paid us a visit on April 27th during the course of ferrying back to Houston an O-38 airplane of the National Guard. Major Blackburn was also a visitor at this Depot on May 2nd.



Capt. H.W. Beaton, of the Rockwell Air Depot, Calif., was a visitor at this Depot the first part of May, in a C-27 plane, enroute to Fort Crockett, to transport personnel from there to March Field, Calif., for the West Coast Maneuvers.

Lieut. L.V. Beau, Jr., Air Corps Instructor with the Colorado National Guard, Denver, was here May 11th to secure and ferry back an O2-B plane for that activity.

Lieut. C.K. Moore took off May 13th, ferrying a B-5A Bomber from this Depot to Wright Field, O. Pvts. J.R. Freeland and R.A. Chauncy, of the 71st Service Squadron, Barksdale Field, La., are taking a course in aircraft welding in the Engineering Shops of this Depot.

During April, the Engineering Department of the Depot overhauled 2 A-3B, 1 A-8, 1 B-3A, 3 O-19, 1 O-38, 2 P-1C, 7 P-12, 2 BT-1, 10 BT-2, 8 PT-3 and repaired 3 A-3B, 1 LB-7, 3 O-19, 2 O-25, 4 P-12, 1 C-7, 1 C-9, 2 C-14, 1 C-15, 1 Y1C-24 and 1 Y1C-27, total 20 airplanes. During the same period 79 engines were overhauled and 28 repaired.

Lieut. T.H. Chapman and family departed May 15 on a 16-day leave, visiting in Beaumont, Tex.

#### Fort Crockett, Galveston, Texas, April 20th.

Major-General Benj. D. Foulis, Chief of the Air Corps, visited Ft. Crockett March 21st on a tour of inspection. He was accompanied by Capt. George McDonald, of his office. The two officers arrived from Kelly Field in two O-38's and departed for Barksdale Field the following day.

The following officers and enlisted men departed from this station April 3rd for Patterson Field, Ohio, where they were to be based for participation in the Anti-Aircraft-Air Corps Exercises at Fort Knox, Ky.: Lt.-Col. H.M. Hickman,

Cpts. L.A. Smith, C.C. Chauncey, 1st Lt. N.F. Twining, H.J. Conway, D.W. Mayhue, W.L. Wheeler, 2nd Lts. G.W. Lundy, R.F. Tate, L.S. Savage, T.L. Thurlow, W.C. Mills, F.E. Calhoun, L.C.

Westley, G.M. Marchison, G.L. Govoni, H.G. Richardson, C.C. Harris, D.L. Hurst, L.I. Belden, W.L. Bogen and B.D. Sherman, Tech. Sgt. Bruce Ferrell, Staff Sgts. J.A. Caris, L. Miramontes, J.J. Licheay, J.L. Gilinsky, C.T. Strohan, John Opronchak, E.S. Young, Sgts. O.E. Johnson, C.F. Jackson, W.E. Hartman, A. Girouard, J.S. Wilson,

A.B. Hill, Corporals C.E. Herzberger and A.W. Adams; Pvts. H.H. Scales, T.A. Knauf, F.G. Dunsmoor, H.B. Rardin, G.F. Donohue, H.J. Gere, and J.V. Friedley. Nine YA-8's, one A-10 and three transports were used in the flight. 2d Lt. F.R. Freyer and Sgt. John Belechak left Fort

Crockett March 22nd to join the organization at Fairfield, O. Led by 1st Lt. R.F. Stearly, 12 pilots of the 13th Attack Squadron departed April 3rd in A-3B's for an attack mission in cooperation with the Field Artillery School at Fort Sill, Okla. They were Lts. T.L. Mosley, J.H. Davies, R.P. Ward, N.F. Parrish, C.B. Claassen, H.F. Renshaw, M.B. Cahill, J.M. Goodbar, E.H. Backus, W.A. Cain and W.B. Hooton.

Visiting officers and pilots at this station during the past month included Lt.-Col. Clark, Flight Surgeon, and Lt. Lawrence of Randolph Field; Capt. Giles, Duncan Field; Col. Fisher, Comdg. Officer, San Antonio Air Depot, accompanied by Capt. Ignico and Lt. Chapman; Cpts. DeFord and Ramey, Kelly Field, and Lt. Cox on extended flight from Langley Field.

Notice was received of the assignment to this station of Capt. Oliver S. Ferson from the Philippines and of 1st Lt. John D. Corkille from Maxwell Field, Ala. Notice was also received of the transfer of Lotha A. Smith from this station to Maxwell Field, effective in September.

#### Chanute Field, Rantoul, Ill., Apr. 17th.

During the last week of March, 1933, transport airplanes from various Air Corps stations arrived at Chanute Field, bringing new students to

the Air Corps Technical School, and returned graduates to their home stations. Those stations from which transports were sent to Chanute Field were Fort Crockett, Bolling, Selfridge, Langley and Barksdale Fields.

With Spring coming on, Chanute Field freshened its appearance in many ways. One of the changes to be most easily noted is the installation of a 3-inch field piece as a saluting and reveille gun, replacing the old antiquated saluting piece, which has been turned over to the Rantoul Post of the American Legion for use as a municipal park decoration in the village of Rantoul.

Recent extended aviation flights performed by Chanute Field officers include: Captain M. N. Stewart to Chapman Field, Miami, Fla., via Mitchel and Bolling Fields, and return the same route; in the Ford C-9 transport; Lieut. L.D. Fator in a C-14 transport to Mitchel, via Bolling Field, and return over same route. These flights serve a dual purpose of providing aviation flying experience for pilots as well as furnishing air transportation to home stations for graduates of the Air Corps Technical School.

Upon his graduation from the course in armament, the Air Corps Technical School, Capr. Wm. R. Turnbull departed for a short period of temporary duty at Scott Field, where he acted as a member of a Board of Officers appointed to investigate the possibilities of a new type of motorized balloon.

Capt. Hugh A. Bivins, the Technical Supervisor of the Fairfield Air Depot Control Area, spent three days the latter part of March at Chanute Field on his scheduled inspection which, it is understood, was completed with most satisfactory results.

Aviation flights and other flying missions to other points and return, recently performed by Chanute Field personnel, include: To La Salle, Ind.: Lt.-Col. James A. Mars and Lt. W.K. Burgess; to Chicago, Ill.: Lts. J.F. Sprague, L.H. Watnee, H.W. Anderson, G.W. Goddard, J.P. Newberry, L.H. Baxter, Ricardo Castenada, R.V. Williams, W.L. Ritchie, E.A. Simeyer, B.A. Bridge; to Scott Field, Ill.: Cpts. S.M. Connell, W.R. Turnbull, Lts. S.G. McClellan, R.O. and L.R. Brownfield; to Sturtevant, Wis.: Lt. H.W. Anderson; to Aurora, Ill.: Capt. F.S. Borum; to Kokomo, Ind.: Lt. H.L. Bunker; to Schoen Field, Indianapolis, Ind.: Capt. A.W. Marriner, Lt. W.H. Doolittle; to Milwaukee, Wis.: Lt. F.E. Cheatle; to Stout Field, Indianapolis, Ind.: Lts. O.F. Carlson, R. Kyle, F.C. Wolfe; to Greencastle, Ind.: Lt. H.W. Anderson; to Terre Haute, Ind.: Lts. E.G. Bunker and J.A. Bulger; to Indianapolis, Ind.: Cpts. E.G. Harper and W.T. Meyer.

Air Corps officers of other stations who visited this field recently by air include: Brig. Gen. E.C. Pratt and Capt. A.E. Jones of Wright Field; Capt. A.F. Herold, St. Louis; Capt. F.C. Nelson, Lts. E.E. Partridge, D.C. Doubleday, Selfridge Field; Capt. H.A. Bivins, Patterson Field; Lt. M.G. Carpenter, Stout Field, Ind.; B.S. Kelly, Barksdale Field, La.; Lt. D.H. Jenkins, Ft. Crockett; Lt. L.P. Holcomb, Scott Field; Lt. W.R. Newhall, Chicago, Ill.; Lts. F.W. Irvin, J.M. Fitzmaurice, Kelly Field; Lts. R.L. Oppenheimer and G.S. Cassidy, Langley Field; Lt. F.D. White, Bolling Field; Capt. W.B. Wright and Lt. A.G. Hunter, Richards Field, Kansas City, Mo.

#### Chanute Field, Rantoul, Ill., May 4th.

Orders were received transferring Capt. Fred S. Borum to the Materiel Division, Wright Field. Capt. Borum reported at Chanute Field in October, 1929, and for the greater part of his period of duty at the station he had the major duty of Air Corps Supply Officer. He will be relieved in this assignment by Captain Wm. R. Turnbull, recently assigned here after graduation from the Armament course of the Air Corps Technical School.

Lt. Robert W. Harper, Personnel Adjutant of the Field, departed April 15th on an extended avigation flight to the Pacific Coast, with Boeing Field, Seattle, Wash., as his destination. His itinerary on the outward flight included Scott Field, Maxwell, Barksdale, Randolph Fields, El Paso, Marfa, Lordsburg, Tucson, Rockwell, Crissy and Pearson Fields. His return flight was over the same route to El Paso, then via Ft. Sill, Midland and Richards Field.

With Lt. James L. Whelchel, QMC, of Chanute Field, as passenger, Lieut. Bernard A. Bridget, A.C., a recent graduate from the Armament course of the Air Corps Technical School, departed on April 6th on an extended avigation flight to Bolling Field, via Selfridge Field, Buffalo, N.Y. Newark, N.J. and Mitchel Field, and returned via Fort Bragg, Maxwell Field, Birmingham, Ala., and Louisville, Ky.

Lt. James L. Daniel, Jr., A.C., with Capt. Thos. M. Jervey, Ord. Dept., of the Dept. of Armament, Air Corps Technical School, as passenger, recently performed an extended avigation flight to Kelly Field via Scott and Barksdale Fields, and returned over the same route.

On April 15th, Lt.-Col. James A. Mars, Commanding Officer of Chanute Field, with his staff, inspected the airplanes and flying line equipment in ground formation, followed by an aerial review of 21 airplanes.

Capt. Hartwell W. Williams, QMC, who reported to Chanute Field in October, 1932, as Construction Quartermaster, received orders transferring him to Mitchel Field, N.Y.

Capt. Wm. R. Turnbull, A.C., recently assigned to Chanute Field, was appointed Post Exchange Officer, relieving Capt. Russell M. Greenslade, who was detailed to duty as one of the Section Commanders of the A.C. Technical School Detachment.

Lt. Walter K. Burgess, Assist. Director of the Dept. of Mechanics, A.C. Technical School, noted for his intellectual standard and his high heeled cowboy boots, recently developed with fastidious care and grooming a long heavy, bushy black mustache which, aside from having the admiration of the entire command, would be a source of envy on the part of the officer's forerunners of the Buffalo Bill Shows. Not long ago, Lt. Burgess drove his car up to the curb in Rantoul and dismounted. A small boy, seeing him step out of the big bright red Cadillac sport phaeton, with his campaign hat, high heels, and wide expanse of dark facial foliage, tugged at his mother's sleeve, and shouted: "Look, Mamma, Pawnee Bill just came to town in a fire engine!"

Patterson field, Fairfield, Ohio, 4-18 - 5-5.

The installation of the new Strowger Automatic Telephone system, manufactured by the Automatic Electric Co., of Chicago, was recently completed and is located in the new Headquarters Building. The cut-over to the new system was made April 15th with only a short duration of telephone service interruption. The new system provides Patterson Field with the latest automatic telephone equipment, whereby subscribers can dial parties in Dayton and Wright Field without assistance of telephone operators. A 25-pair armored cable was laid which connects the telephone systems of Patterson and Wright Fields, with the attendant's cabinet located at Wright Field and giving 24-hour service in connection with long distance service and incoming trunk calls for subscribers at both fields. This equipment was installed by the Signal Corps.

A total of 109 officers and 230 enlisted men are now attached to this station for duty with the 1st Provisional Wing, participating in the Anti-Aircraft-Air Corps Exercises.

Brig. Gen. H.C. Pratt made an inspection of Patterson Field on April 3rd in connection with the arrangements made for the Anti-Aircraft -Air Corps Exercises.

During March, 20 planes and 50 engines were given major overhaul and 25 planes and 16 engines minor overhaul.

Changes in personnel at this Depot were as follows: Lt. Howard G. Bunker, who recently completed the course in Aircraft Armament at the Air Corps Technical School, Chanute Field, was transferred here from Wright Field, April 5th. Lt. and Mrs. G.V. McPike returned April 3rd after a month's leave spent in California. Lt. Russell L. Williamson returned April 2nd from the Walter Reed Hospital, Washington. Capt. Edmund G. West, QMC, reported at this station April 24th for duty, and was granted leave for one month.

A lecture on "Silencing of Aircraft" was given by 1st Lt. H.E. Couch, from Wright Field at the Officers' Club on May 3rd.

During April, 21 airplanes and 40 engines were given major overhaul, and 27 planes and 30 engines minor overhaul.

Officers ferrying planes to this station for major overhaul were: From Wright Field, Lt. Hill in a C-4A, Apr. 3d; Capt. Moffat in BT-2B on April 10th - From Chanute Field, Lts. Stiles and Cassell in two BT-2B planes, April 15th; Capt. Harper in B-5A, May 2d; Lt. Fenander in O-19, May 12th - From Detroit, Mich.: Lt. McFerren in O-38, April 13th - from Ft. Leavenworth, Texas: Capt. Day in BT-2B, May 2nd - from Maxwell Field, Ala.: Lt. McGregor in O-19B, May 4th; Lts. Rich and Vance, in two O-19B, April 30th - from Stout Field, Ind.: Sgt. Long in O-38B, May 6th - from Little Rock Ark.: Lt. Bell in O2-H, May 8th - from Candler Field, Ga.: Lt. Brown in BT-2B, May 8th.

Lt. Kenneth S. Stice, Post Signal Officer, was transferred to Wright Field on Apr. 6th.

Planes ferried to Depot for minor repair: Lt. Rogers in BT-2C from Columbus, April 4th; Capt. Gardner, accompanied by Sgt. Stewart in O-38B from Sky Harbor, Tenn., April 18th; Lt. McCoy in P-16 from Selfridge Field, Apr. 21st; Capt. Connell in O-25B from Chicago, Apr. 25th; Lt. Nicol from Detroit, Mich., in BT-1 on Apr. 26th; Pvt. Treweek in C-14 from Chanute Field, April 26th.

Lt.-Col. J.E. Pirie, Major W.E. Frank, Capt. G.C. McDonald, from Office of the Chief of the Air Corps, arrived here April 5th for duty in connection with the Anti-Aircraft-Air Corps Exercises.

Ferrying planes to the Depot for overhaul: Lt. Waldren and Capt. Melvin two O1-E's from Columbus, Ohio, April 20th; Capt. Hamilton a C-14 from Chanute Field, April 21st.

Ferrying planes to the Depot for inspection: Capt. Gardner an O2-H from Sky Harbor, Tenn., May 8th; Capt. Robinson and Lieut. Nicol an O-38B from Detroit, April 26th.

Major H.A. Dargue and Capt. Harold L. George departed for Bolling Field, D.C., April 27th for conference with the Chief of the Air Corps in connection with Anti-Aircraft-Air Corps Exercises.

Lt. R.L. Williamson ferried Air Corps supplies to Maxwell Field, Ala., April 25th in C-9 plane, returning April 27th.

Lts. McCoy, Corley and Miller ferried three P-16 planes here from Selfridge Field, April 4 for radio installation.

Avigation flights made by Depot personnel, April 18th-May 13th, were as follows: To Langley Field, Va.: Lt. F.M. Zeigler in C-14, April 3d; Lt. P.W. Timberlake, accompanied by Corp. Houser, Apr. 5th; Mr. Sgt. Cecil Guile accompanied by Corp. Houser, April 10th; To Columbus, O.: Mr. Sgt. Cecil B. Guile, Apr. 6th and 7th; Lt. F.M. Zeigler, Apr. 8th in C-9; Lt. Williamson in BT-2B, May 6th; Lieut. Zeigler in O-25A, May 8th; Lt. Zeigler, accompanied by Major Sherman, in C-14, April 22nd To Cleveland, O.: Mr. Sgt. Cecil B. Guile in C-9, April 8th; To Logan Field, Md.: Lt. D.F. Goodrich in O-25, April 9th - to Chicago, Ill.: V-6449, A.C.

Capt. H.A. Bivins, accompanied by Staff Sgt. Frank D. Blair, April 13th, - to Lunken Airport, Ohio; Lt. F.M. Zeigler in C-14, April 7th - to Selfridge Field; Lt. Zeigler in C-27, April 18; Capt. Bivins, accompanied by Sgt. Blair, in BT-2B, May 6th - to Chanute Field, Ill.; Lt. E.G. Bunker in BT-2B, April 21st; Sgt. Guile in C-9, May 12th - to Bowman Field, Ky.; Capt. H.W. Flickinger, accompanied by Major M.C. Crow, M.C., in C-25A, April 27th; Lt. Zeigler on May 1st in C-4A; Capt. Bivins, accompanied by Sgt. Blair in BT-2B, May 8th; Capt. Flickinger in BT-2B, May 8th; Lt. Zeigler and Cpl. Buckley in C-4A, May 8th; Sgt. Guile in C-7A, May 11th; Lt. Zeigler in C-7A, May 12th; Lt. Williamson in C-7A, May 13th - to Bay City, Mich.; Lt. D.R. Goodrich in C-25, April 29th; to Miami, Fla.: Lt. P.W. Timberlake, accompanied by Corp. Houser in C-27, April 19th, returning April 29th; - to Edgewood Arsenal, Md.: Lt. Zeigler, accompanied by Corp. Buckley in C-4A, April 24th - To St. Paul, Minn.: Capt. Burton F. Lewis in BT-2B, April 25th - to Fort Bliss, Tex.: Lt. McPike in C-25A, May 8th - to Bolling Field; Lt. Goodrich, accompanied by Major Grow, May 12th - to Detroit, Lt. Zeigler in C-4A, May 15th.

Following officers ferried planes to this station for minor repair: Lt. Piper in C-14, May 1st; Lt. Corley in P-6E, May 8th; Lt. Stewart in P-12F, May 10th; Capt. Hoyt in P-16, May 10th; Lt. Aring in P-6E, May 14th, from Selfridge Field, Mich. - Lt. Jackson in B-4A from Ft. Leavenworth, May 10th.

Luke Field, T.H., April 13th.

5th Composite Group: Majors Michael F. Davis, Lawrence P. Stone, Capt. Douglas Johnston, Frank Cook, 1st Lts. Harold G. Peterson, Russell Scott, 2nd Lieuts. A.J. Bird and James W. Furlow were welcomed to our midst upon arrival of the USAT REPUBLIC. Major Davis was assigned to Wing Hqs. and assumed the duties of Wing Operations and Training Officer, while Major Stone will guide the destinies of the Hawaiian Air Depot. Capt. James B. Carroll, Operations Officer, recently returned from Kilauea Military Camp where he spent two weeks convalescing from an attack of the "Flu" contracted during the Maneuvers. Lt. Leroy Hudson was detailed as Station Engineering and Inspection Officer, relieving Lt. O.P. Weyland, who now commands the 4th Obs. Sqdn. Lt. Hudson was also appointed representative for the Dept. of Commerce, Aeronautics Branch, for the territory of Hawaii by orders of the War Dept., relieving Lt. G.P. Tourtellot of Wheeler Field. He previously assumed the duties of Post and Group Armament Officer and Post Air Corps Maintenance Officer, and Operations and Engineering Officer of the 65th Service Sqdn. During the two other hours of the day we don't care what he does.

At the present time the Observation Squadrons are concentrating the greater part of their training on formation flying, gunnery and communications, while the Bombardment Squadrons are making a special effort to improve their efficiency in bombing, formation and communications. The entire Group, as a part of the 18th Wing, took part in an Aloha mission to welcome the USAT REPUBLIC upon her arrival in Honolulu on March 30th.

72d Bomb. Sqdn.: There were no changes in personnel during the month, but on the sailing of the REPUBLIC on April 4th we will lose several members of the organization, among them Lieut. Northrup, whose tour of active duty is up. The best wishes of the organization are extended him for success in civilian life. First Sgt. Hill goes to Rockwell Field; Staff Sgt. Collins returns for medical treatment; Pvts. McConvery and Lowery return for reassignment and Pvt. Marro is returning on furlough.

23d Bomb. Sqdn.: During the past month the squadron has been flying aerial bombing, formation, employment in tactics, and night camera

obscura missions. Night camera obscura was found to be possible, using a small searchlight, with the beam thrown on the Camera Obscura Hut, and tracking the plane by means of its landing lights. The mission was quite successful in view of the fact that this was the first time we had tried Camera Obscura at night.

4th Obs. Sqdn.: During March, this squadron participated in Tactical Training Missions consisting of individual and flight aviation, aerial photography, instrument flying, visual and radio communications, aerial reconnaissance and aerial gunnery on towed targets. Eight cooperative missions were flown during this period, five with the 11th Field Artillery and three with the Harbor Defenses of Honolulu.

50th Obs. Sqdn.: Captain Cook, a recent arrival, was attached to the 50th for training. Lieut. Combest departed on the REPUBLIC for station at Crissy Field; Lt. Carroll completed the course of instruction at the Cooks and Bakers School, Schofield Bks., and returned to the Squadron for duty.

11th Photo Sec.: In cooperation with the Signal Corps, the Section filmed about 2,000 feet of movies of the training of the 26th Attack Sqdn. Although the negative film has not been printed to date, it gives promise of being very interesting, tactically as well as spectacular.

Hawaiian Air Depot, Luke Field: Major L. F. Stone assumed command of the Depot, March 30. The Depot feels that the assignment of a field officer will be a big step in the direction of placing the Depot more nearly on a par with the main tactical organizations of the Air Corps in the Hawaiian Department.

From Feb. 21st to March 20, inclusive, the Depot Engineering overhauled one LB-6 and assembled one Y1C-26A. Repairs were completed on two O-19C, one P-12B, one C-6A and one Y1C-21. Seven engines were overhauled during the above period, including one V-1150, two R-975-E's and four R-1750E's. Five engines were repaired. There are 106 engines undergoing or awaiting major overhaul at the Depot.

Scott Field, Belleville, Ill., May 10th.

Twelve officers and 64 enlisted men, 15th Sqdn., accompanied by Major L.C. White, M.C., Flight Surgeon, left by air April 27th for Camp Skeel, Oscoda, Mich., for the annual machine gun practice.

"Air Queen," one of the U.S. Army Signal Corps homing pigeons from the loft at Scott Field, came in first in the race conducted by the St. Louis Championship Club on May 6th. Over 200 birds were entered from 16 competing lofts and were released at Piedmont, Mo., 106 miles south of Scott Field. The winner, Air Queen, flew this distance in about 2 1/2 hours, with an average flying speed of 1240 yards per minute. This is a signal victory under the circumstances because most of the entries were from St. Louis lofts, and it was necessary for the Scott Field pigeons to break away from the majority and fly alone.

Pvt. 1st Cl. Harry Myer, the Scott Field Pigeonier, was very active in pigeon shows held in Illinois and Missouri during the past year and has taken many first prizes with the birds in his care against very stiff competition. Notable among these victories was the honor of showing the best bird in the 1932 homing pigeon show held in Kewanee, Ill. He is also a member of the Belleville Racing Pigeon Club.

Orders were received at Chanute Field, placing Capt. Edwin F. Carey, Russell M. Greenslade, Lts. Samuel O. Carter and George R. Bienfang, together with ten noncommissioned officers, on temporary duty with the Civilian Conservation Corps in the Pacific Northwest.

## KEEPING FIT

Athletic activities at Langley Field continue to hum at full speed in connection with Squadron baseball competition. The 19th Airship Co. team, 1932 Champs, leads a field of 8 teams, with the 96th Bombardment Squadron its nearest rival. Lieut. U.C. Ent was designated as 1933 baseball mentor of Langley's Gold and Blue Airmen. They opened the season recently, engaging the strong Newport News Baseball Club in two games, the first at the High School Stadium and the second at Langley Field, where a large crowd was on hand to cheer their boys to victory. It will be remembered that Langley won the Southern District Championship of the Third Corps Area last year, dropping the deciding game of the Corps Area play-off to Fort Meade, following a nip and tuck three-game series. A total of 21 games have already been booked, including 11 games with the Fortress Monroe Coast Artillerymen for Southern District baseball honors. Other contests include picked Service and semi-pro teams of Newport News and Norfolk, as well as the Craddock-Terry club of Lynchburg, Va.

Post League baseball at Barksdale Field is under way, and the initial game resulted in a victory for the 77th Squadron over the 71st. Cook pitched the winning game for the 77th and held the 71st to 6 runs while his team mates were amassing 25. DeFord caught; Woodman was at first base; Clements at second; Graham at third; Gramer; shortstop; Brewer, Jordan and Worthington in the field - that is the line-up of the 77th, and it promises to be a successful one.

The 71st Service Squadron, Barksdale Field, is hard at work shaping up a baseball team to give the Pursuit Squadrons some stiff competition in the Post League, which has just opened. A squad of 30 reported for the first practice, and from the original number a fairly good team is rounding into shape. At present the squad is composed of Allgood; Meyers; Hugill; Reese; Bannerman, a recent enlistment from Rockwell Field; Milner; Potter; Reese, C.A.; Wolfe, a recruit from a nearby college; Williams, Goodner; McHaffey, Chauncey and Joe Meyers. Several more promising candidates have put in an appearance at practice, who, to quote Tom Potter, will make the regulars' look to their breaches." Tom considers himself one of them and is gazing longingly at the "hot corner" now held by Milner. The team as a whole looks promising from the several practice games played with the local civilian teams. The loss of outfielder Carpenter by transfer is deeply felt by the team.

The 55th Squadron, Barksdale Field, opened their baseball schedule with a 4 to 1 victory over the touted 77th team. Christian, new pitcher, aided by the fine coaching of catcher Denning, did excellent work. Mention should also be made of the stellar work of P. Smith on the second bag. Indications point to a smooth working aggregation before many weeks pass.

The baseball training season at Fort Crockett, Galveston, Texas, is well under way, although the Post League does not start until Maneuvers are completed, which will be about June 1st. The Fort Crockett diamond loop this year will consist of five clubs - the 8th, 13th, 60th and 90th Squadrons all contesting, as well as a Special Troops team under the management of 2nd Lieut. H.N. Renshaw.

At the present writing the 72nd Bombardment Squadron, Luke Field, T.H., is leading the Inter-Squadron Baseball League with two wins and no losses, closely pressed by the 4th Observation Squadron with two victories and one defeat. The 23rd Bombardment Squadron is in the cellar, having been able to put nothing in the win column but "horse collars."

The 72nd Squadron baseball team became active in the Inter-Squadron League after strenuous pre-season workouts, under the Squadron Athletic Officer, Lieut. Kristofferson. At the present time the team looks good and should finish on top in the League and furnish a large number of players for the Post Team.

Though our baseball team (23rd Bombardment, Luke Field) has failed to win a game in its first two starts in the Inter-Squadron League, the boys are hustling and we expect to have a different story to tell next month.

The Squadron team (4th Observation, Luke Field) is in fine form and has won all its games played in the Inter-Squadron League. We are confident the team will add more laurels to the athletic prowess of the organization.

The baseball season has started, and our team (50th Observation, Luke Field) compares favorably with other squadron teams on the field. To date, two games were won and one lost. The team should be a strong contender for the post championship.

The basketball season closed March 25th, when the 3rd Engineers of Schofield licked the Luke Field team, 50 to 37. Previous to this the Engineers had routed the fliers at Luke Field 53 to 29, this despite the fact that Luke Field was overwhelming favorites to repeat this year and entered the game confident of carrying off the honors. We are still wondering just how it happened and we still think we have the better team, but the score of the games say otherwise. We had a wonderful team which played through the Sector-Navy schedule, took on the leading quintets of the Senior League of Honolulu and the best of the Navy teams with the Scouting Force, winning all games. The loss of Finkelstein, All-Sector-Navy Guard, though crippling the team to an extent, did not seem to slow the play of the fliers a great deal, as Baddour and Anderson, reserve guards, played great ball. "Ted" Sandler and "Barney" Finkelstein at guard, and R.D. Johnson at forward were named on the All-Sector-Navy team by a popular vote of the coaches.

In post season games with the "Wishita Henry's," three times National AAU champions, Luke Field showed its old form by playing the Champs to a 54-42 score in the first game, but in the second game they proved entirely too much for Luke Field and carried off the honors 62 to 31. In a game played at Schofield Bks. April 2d, the Henry's overwhelmed the 3rd Engineers by a 77 to 35 score.

In the Hawaiian Indoor Swimming Championship Meet at the Punchou Pool, Luke Field, coached by Lt. E.J. Timberlake, took three first places in the 100-yd. back stroke, second in the 100-yd. free style swim, second in the 100-yd. breast stroke, third in the 220-yd. free style and third in the 150-yd. medley. Jack Hall, 65th Service Sqdn., in the 100-yd. back stroke led the pack to score Luke's only first place in the Meet.

Langley Field's new Theatre and Gymnasium were officially inaugurated on the evenings of April 26th and 27th, as capacity crowds thronged to the "amusement palace" and to the modern athletic auditorium to take part in special features sponsored by the Langley Field Athletic Association, in conjunction with the opening of the post's two newest

structures. At 6:15 p.m., April 26th, festivities were under way with the showing of "Silver Dollar." The theatre was jammed to capacity (660) seats with the SMO sign in evidence all throughout the opening entertainment. Following the movie, Arthur Hauck's All-American Revue gave a snappy performance for an hour. From the post theatre, the crowd milled their way to the gymnasium where the new athletic auditorium was open for the first time. The permanent balcony of 500 seats were filled, as were 1000 more additional seats installed for the wrestling and boxing card which followed.

Langley's Inter-Organization Ten Pin Bowling Tournament was concluded May 15th, following active competition between a field of 14 teams since Jan. 25th. Second Bomb. Group Hqrs., 1933 champs, had to be content with third place this year, but gave the 59th Service Sqdn. and 20th Bomb. Sqdn., who placed first and second, respectively, a hard fight throughout. The 1st Bomb. Brigade Hqrs., with a personnel of but 18 men, was truly the surprise team of the year, always a menace to the league-leaders and always ready to upset their rivals. Through the lengthy tournament the Brigaders managed to hold their own, placing 4th at the close of the tourney. High individual averages and scores set this year surpass all records of past seasons. Numerous awards in recognition for the excellent bowling during the recent tournament will be made at an early date by the Athletic Assn. The personnel of the Champion 59th Service Sqdn., which won 63 games and lost 15, and took high match pinfall laurels for a record score of 3271, will all receive individual trophies for their splendid work. They are Tech. Sgt. Otto Cattarius, Capt., Staff Sgt. "Derby" Sommers, Sgts. Ash, Laskey, Pvts. Cox and Stora. Sommers, Ash and Stora all finished with an average of better than 200. Individual awards will also be made to Howieson, champion bowler and high single man; to Staff Sgt. Eberley, second high average, and to Dave Hardy for high match score.

The Langley baseball team, playing the Fox Hill aggregation, found the going easy and circled the bases 13 times to two for their opponents. Lieut. Ent, baseball mentor for the Gold and Blue Airmen, gave most of his regulars a rest, sending out a few of his young promising material to show their wares.

The 19th Airship Company, Langley Field, added more laurels to their brilliant baseball record, capturing the post championship for 1933, and making a unique record of seven consecutive years the east two finding them undefeated in the Inter-Squadron diamond competition. The record was inaugurated way back in 1924, when the airship nine finished the season undefeated, chalking up ten victories. After finishing in second place in 1926-26, the 19th again started on their championship spree in 1927, and from that time until the present they won 60 games and dropped but 10. The team-work among the players compares favorably with any Army baseball nine, for the 19th is truly an athletic organization, always a dangerous contender in any sport.

The Selfridge Field Basketball team, enroute to Scott Field, for a scheduled game, stopped overnight at Chanute Field, and with two of the Army's most excellent teams on the same post for the evening, it was only natural that Greek should meet Greek. Upon a challenge from Chanute Field, a fast and furious game resulted in a win for the home team - 36 to 31.

Langley Field, Va., May 16th.

With approximately 100 of the commissioned personnel either at March Field, Calif., participating in the annual Air Corps Command and Staff

Exercises, or at Patterson Field, Ohio, engaged in the Anti-Aircraft Exercises, as well as over 225 of the enlisted personnel, flying activities have been almost at a standstill with the exception of daily machine gun practice being participated in by the Post staff, including Lt.-Col. A.L. Sneed, Post Commander and Executive Officer; Capt. G.L. Usher, Post Adjutant; Capt. W.B. Souza, Post Signal Officer; Lieuts. W.C. Wimsatt, Post Operations Officer; and H.A. McGinnis, Post Supply Officer; and tow target missions being participated in by Flight "A" of the 16th Observation Squadron, the latter being in conjunction with the Coast Artillery of Fort Monroe, Va.

The "stillness of the line" is very much in evidence, but the dust continues to fly as the many tractors and farm implements can be seen from 7:45 a.m. to 3:30 p.m. daily, except Saturday and Sundays, as all the available commissioned and enlisted personnel try their hands in the beautification of the home of the 2nd Bombardment Group and 8th Pursuit Group of the Air Corps.

Lt.-Col. Sneed, Commanding Officer of Langley Field, in the absence of Col. C.C. Culver, at present commanding the contingent of planes from Langley at March Field, appointed Capt. Paul J. Mathis as Provost Marshall of the Post and that officer, a veteran at Police work, with a capable staff of assistants, has changed the appearance of this large Air Corps station so that it is beginning to look like a "palace." A grand total of 51 projects were drafted out, which takes care of beautifying the entire area of the post. Construction of roads, small buildings, tearing down of old structures, repairs over the reservation, removal of electric wires and poles for a new lighting system, and general filling in and grading of all areas, constitute the general scope of work to be accomplished in connection with the beautification. What available commissioned and enlisted personnel at the field have all entered into this massive job with a whole-hearted spirit, and at the present rate it is a matter of a few weeks before this large achievement can be accomplished.

All tools on the field have been put into good use as the large Air Corps post receives its first "big cleaning" since the reconstruction of the field. There is no definite date set when regular duties will be resumed by the command, and in the meantime everyone from the Post Sergeant Major down to the lowest "Buck" will get their crack at fatigue. There's no doubt about it - it's a big job and all that, but think of the great story it will make to tell the kids in years to come - "I helped in the beautification of Langley Field," reminiscence of past days.

28th Div. Aviation, Penna. Nat'l Guard.

We're waiting patiently for the O-38's that we are to receive as replacements for our O2-H's. We're really hoping to have these new airplanes in time for our annual field training the last two weeks in July.

On May 7th, two airplanes with Lieuts. Cox, Jablonski, Brenner and Mr. Sgt. Cooper proceeded to Scranton, Pa., where they conducted a tactical problem with the 109th Infantry, Pa. N.G. The problem consisted of two-way radio, radio and panels, and panels and pick-up messages, and afforded excellent training for our own personnel as well as the Infantry. Approximately 50,000 spectators were around the Scranton Airport while this problem was being carried out. On the same day, 3 additional planes, with Major Dallin, Capt. Logan, Lieuts. Miller, Barringer, Calligan and Merrill proceeded in formation to Wilkes-Barre. There contact was established with the 109th F.A. Pa. N.G. and the same type of tactical problem was carried out, after which all five planes rendezvoused over Scranton and made a simulated attack on the Scranton Airport.

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SERIAL NO. 329 LIST OF NEW MATERIAL ADDED TO INFORMATION DIVISION FILES

April 29th to May 29th, 1933 Incl.

Available for loan to Air Corps Organizations only upon request to the Air Corps Library, Munitions Bldg., Washington, D.C.

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- 629.13/G81t The Influence of Wing Density upon Wing Flutter by A.G.Pagsley.  
No. 1497 1933. Report & Memo. #1497.
- 629.13/G81t Reversal of Aileron Control due to Wing Twist by W.J.Duncan & G.A.  
No. 1499 McMillan. 1933. Report & Memo. #1499
- 629.13/G81t Tests of Floating Ailerons on a Bristol Fighter Aeroplane, by F.B.  
No. 1501 Bradfield, G.F.Midwood & A.V.Stephens. 1933 Report & Memo. #1501
- B 30.9/7 Civil Service Examinations; Subjects of Examinations and Limits of Age for Situations in the Home Civil Service, for Navy, Army, and Air Force, the Indian Civil Service and Other Services. Corrected to 31st Oct. 1931, by Civil Service Commission, Great Britain. London. H.M.Stationery Office. 1931. Corrected to 3/1/33.
- A 00.51/13 Convention between His Majesty, in Respect of the United Kingdom and of India, and the King of Italy respecting Air Transport Services, Rome, May 16, 1931. Presented by the Secretary of State for Foreign Affairs to Parliament. London. H.M.Stationery Office, 1933. Treaty Series No. 8, 1933, Italy.
- D 00.12/4 Preliminary Report on Extra Flexible Non-magnetic Corrosion-Resistant Steel Cable for Aircraft, by Physical Testing Laboratory, Engr. Dept. Naval Aircraft Factory, Navy Yard, Phila, Pa. Nov. 3, 1932. PTL-115  
Navy Dept., Washington, D.C.
- D 00.12/103 Specifications for Bendix-Stromberg Aircraft Carburetors, by Navy  
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- D 00.12/123 Service Information about Scintilla Magnetos, by Bureau of Aero.  
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- D 13.41/25 Distance Ranges of Radio Waves, by Dept. of Commerce, Bu. of Standards  
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- D 13.51/Fair- Handbook of Instructions with Parts Catalog for K3-Aerial Camera  
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- D 13.51/Fair- Handbook of Instructions with Parts Catalog for K3B-Aerial Camera  
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- D 13.51/Fair- Handbook of Instructions with Parts Catalog for K4-Aerial Camera  
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- D 13.51/Fair- Handbook of Instructions with Parts Catalog for K11-Aerial Camera  
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- D 13.513/23 Handbook of Instructions with Parts Catalog for Filters Manufactured  
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- D 52.73/2 Army's TC-13 Airship, by U.S. Air Corps, Materiel Div., Wright Field,  
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- 629.13/Un3teh Electrostatic Potential Measurements of an Airship by G.E.Weidner.  
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- 629.13/Un3ac The Boulton & Paul P.64 Mail-Carrier; a Two-engine All-metal Biplan-  
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- 629.13/Un3ten Wind-tunnel Tests on Model Wing with Fowler Flap and Specially  
#459 Developed Leading-Edge Slot, by F.E.Weick & R.C.Platt. Tech. Note  
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- 629.13/Un3ten Full-scale Wind-tunnel Research on Tail Buffeting and Wing-fuse-  
#460 lage Interference of a Low-wing Monoplane by M.J.Hood & J.A.White.  
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Serial No. 329 (Cont'd)

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#707 1933. Tech. Memo. #707
- 629.13/Un3tm Flight-test Data on the Static Fore-and-aft Stability of Various  
#708 German Airplanes by Walter Eubner. N.A.C.A. May, 1933 Tech. Memo. #708
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INSPECTION DIVISION NOTES

The following Technical Orders, Technical Letters, Air Corps Circulars and Air Corps Circular Letters have been distributed since the last issue of the Air Corps News Letter on April 28, 1933:

Number & Date	Subject	Distribution
TO 06-10-3 4/20/33	Fuels and Lubricants - Lubricants-Prevention of Thread Seizures.	General
TL 33-19 4/25/33	Replacement of Brass Carburetor Floats No. P-14549 in Stronberg Types NA-38A, NA-Y8C, and NA-Y8E Carburetors.	All depots, Chanute, and Wright
TL 33-21 4/25/33	Primer System on Pratt & Whitney R-1340, R-1690 and R-1860 Series Engines	General
TL 33-23 4/25/33	Airplanes Equipped with Ramming Air Intake Installations (This TL replaces TL 33-23, dated 2/25/33.)	Aberdeen, Bolling, Brooks, Chanute, Crissy, Edgewood, Ft. Crockett, Ft. Leavenworth, Ft. Riley, Kelly, Langley, Lawson, Lunken, March, Maxwell, Mitchel, Selfridge, 6th CA., Wright, FAD, MAD, RAD, SAAD.
TL 33-27 4/25/33	Treatment of Starter Extensions for Rust	All depots, Chanute, Wright
TL 33-29 4/25/33	Repair of all plywood constructed Wings, and Change on lower wings of Boeing P-12 models	General except National Guards.
TL 33-31 5/1/33	Replacement of Ball Joint, Landing Gear Rear Brace Strut-Keystone LB-6, LB-7, B-3A, B-4A, B-5A, B-6A, YLB-4, and YLB-6 Airplanes	Aberdeen, Chanute, France, Kelly, Langley, Leavenworth, March, Maxwell, Wright, all depots.
TL 33-32 5/4/33	Reworking of Splined Propeller Hubs	General
TR 33-33 4/21/33	Reworking of #32G1585 Rack Assemb. Parachute Flare External	Barksdale, Bolling, Chanute, Kelly, Langley, March, Maxwell, Selfridge, Wright, Panama Canal Dept., all depots.
TL 33-17A 5/6/33	Removal of Cadmium Plating from Propeller Hub Rear Cones-R-1690, R-1340, & R-985 Engines (This TL replaces TL No. 33-17, dated 3/31/33)	General
TO 00-0-4 5/1/33	Monthly Index of Technical Instructions	General
TL 33-33 5/15/33	Reworking of #32G1585 Rack Assembly, Parachute Flare, External. (This TL replaces Tech. Radiogram #33-33, 4/21/33.)	Barksdale, Bolling, Chanute, Kelly, Langley, March, Maxwell, Selfridge, Wright all depots except Hawaiian Dept.
TL 33-34 5/15/33	Installation of Oil Temperature Regulator-Keystone B-3A Airplanes	Chanute, France, Kelly, Wright, all depots.
TL 33-36 5/18/33	O-19 Airplanes, Fouling of Controls	Boeing, Brooks, AO-6th CA, Crissy, Ft. Sill, Hatbox, Honsley, Kelly, Long Beach, Maxwell, Pearson, Rockwell, Salt Lake City, Scott, Selfridge, Wright, all depots.
TL 33-37 5/19/33	Preliminary Information on Boeing P-26A Airplanes	Bolling, Chanute, Barksdale, Langley, March, Maxwell, Selfridge, Wright.
TL 33-38 5/19/33	Inspection of Tie Rods, Main Gasoline Tank Sling-Boeing P-12B, P-12C, P-12D, P-12E, & P-12F Airplanes	Albrook, Barksdale, Bolling, Chanute, France, Kelly, Langley, March, Maxwell, Randolph, Selfridge, Wright, all depots.

The following Air Corps Circulars and Air Corps Circular Letters have been distributed since the April issue of the Air Corps News Letter:

Number & Date	Subject
30-6 4/29/33	FINANCE- Impounding of Savings Effecting Allotments of Flying Pay and Air Mechanics Pay under Economy Act approved 3/20/33.
15-30B 4/26/33	BLANK FORMS AND REPORTS - Forced Landing Report
15-32A 4/17/33	" " " " Activity Report
15-103A 4/28/33	" " " " Receiving Reports and Shipping Tickets
30-2 5/ 3/33	FINANCE -Requisitions for Funds for Local Purchase.
65-6A 4/22/33	SUPPLY -Supplies & Services Furnished the National Guard.
65-34 5/13/33	" -Bills of Lading & Certificate of Origin.
5-9A 5/16/33	PUBLICATIONS - Distribution of Air Corps Circulars

<u>Number</u>	<u>Date</u>	<u>Subject</u>
33-17	4/23/33	Withdrawals Fiscal Year 1934.
33-18	5/9/33	Compensation for Dependents of Deceased AC Personnel.
33-19	5/4/33	Service Test of Revised System of Airplane Inspection & Maintenance.
33-20	5/16/33	Data for Annual Report.

The following is extracted from a letter from Chief, Materiel Division to an Air Corps station relative to Bendix wheel bushings:

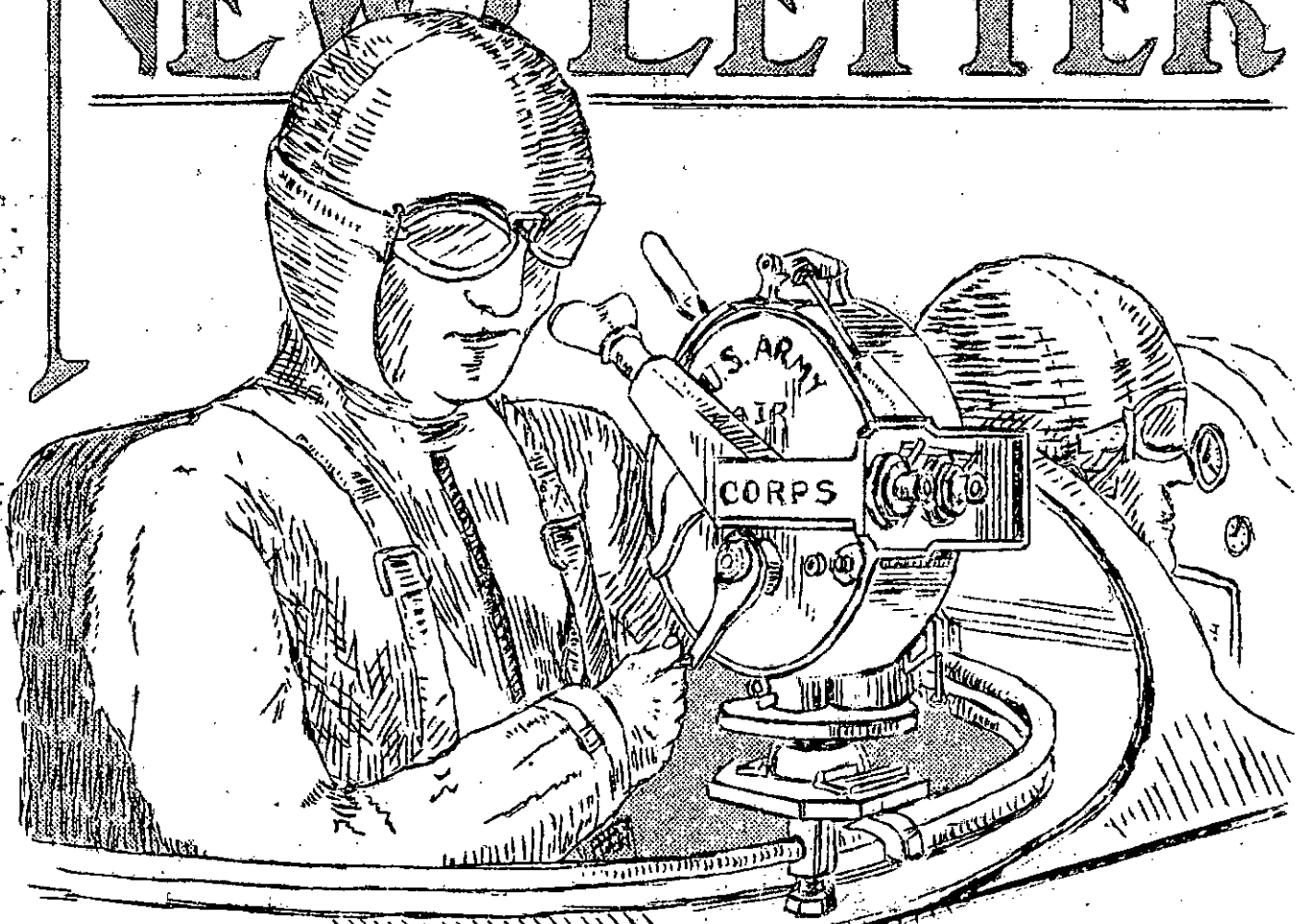
"2. In order to maintain a good brake adjustment on Bendix wheels equipped with this bushing, they should be checked frequently and when found to be worn to dimensions given in the Handbook of Instructions for the Assembly and Maintenance of Bendix Wheel and Brake Assemblies, they should be returned to the depot for installing of new bushings, obtaining replacement wheels on requisition prior to their return.

3. The application of graphite to the wheel and the bushing is beneficial where a bushing has been given an exceptionally tight fit. However, under no circumstances should graphite grease be used as it will dissolve or cause the impregnated graphite to loosen in the holes or spiral groove, eventually loosening the bushing."

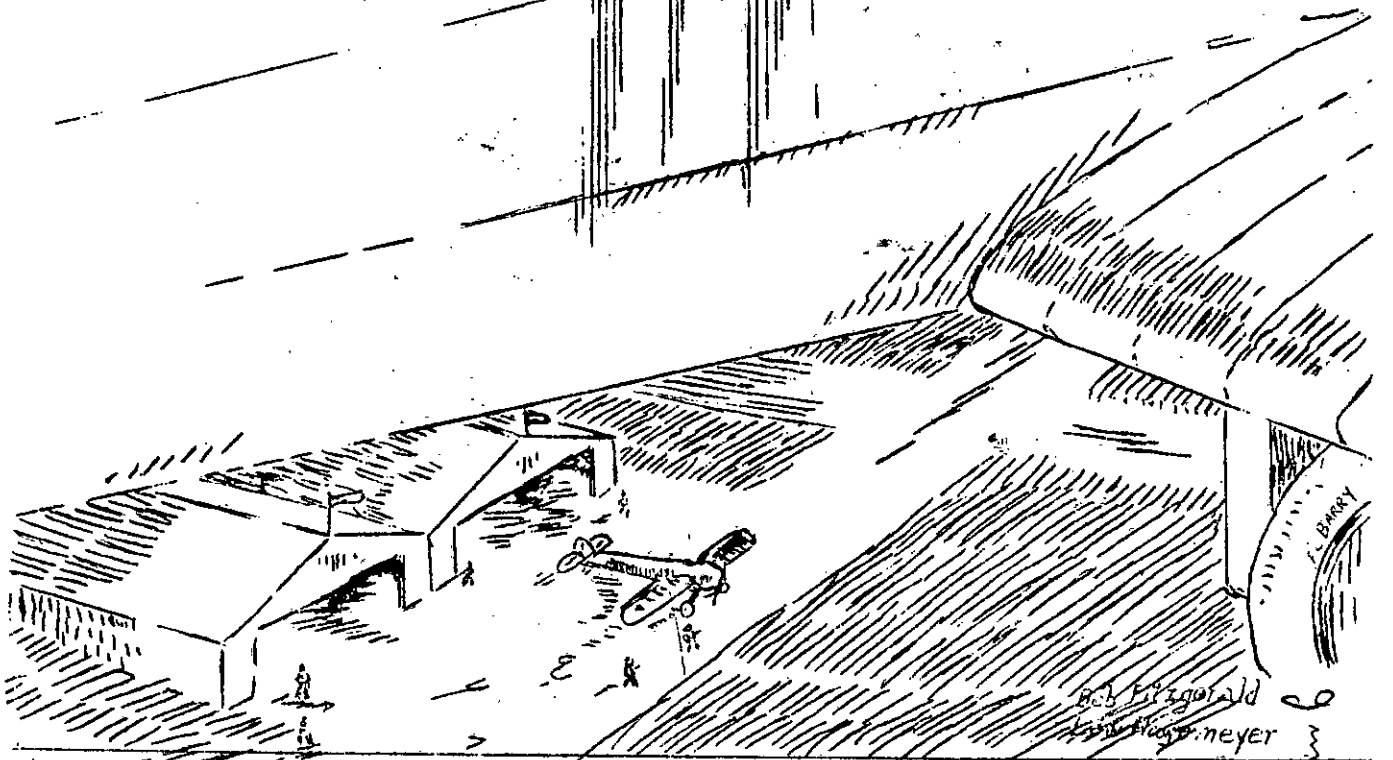
The Materiel Division made the following comment to one of the Depots in reply to Unsatisfactory Report submitted by the Depot regarding reconditioning of spark plugs:

"2. Reconditioned spark plugs should be pressure tested to 150 pounds. Technical Letter, Serial #31-269, was not furnished the Depots due to the fact that the letter was written around the single spark plug tester that was only furnished to service activities."

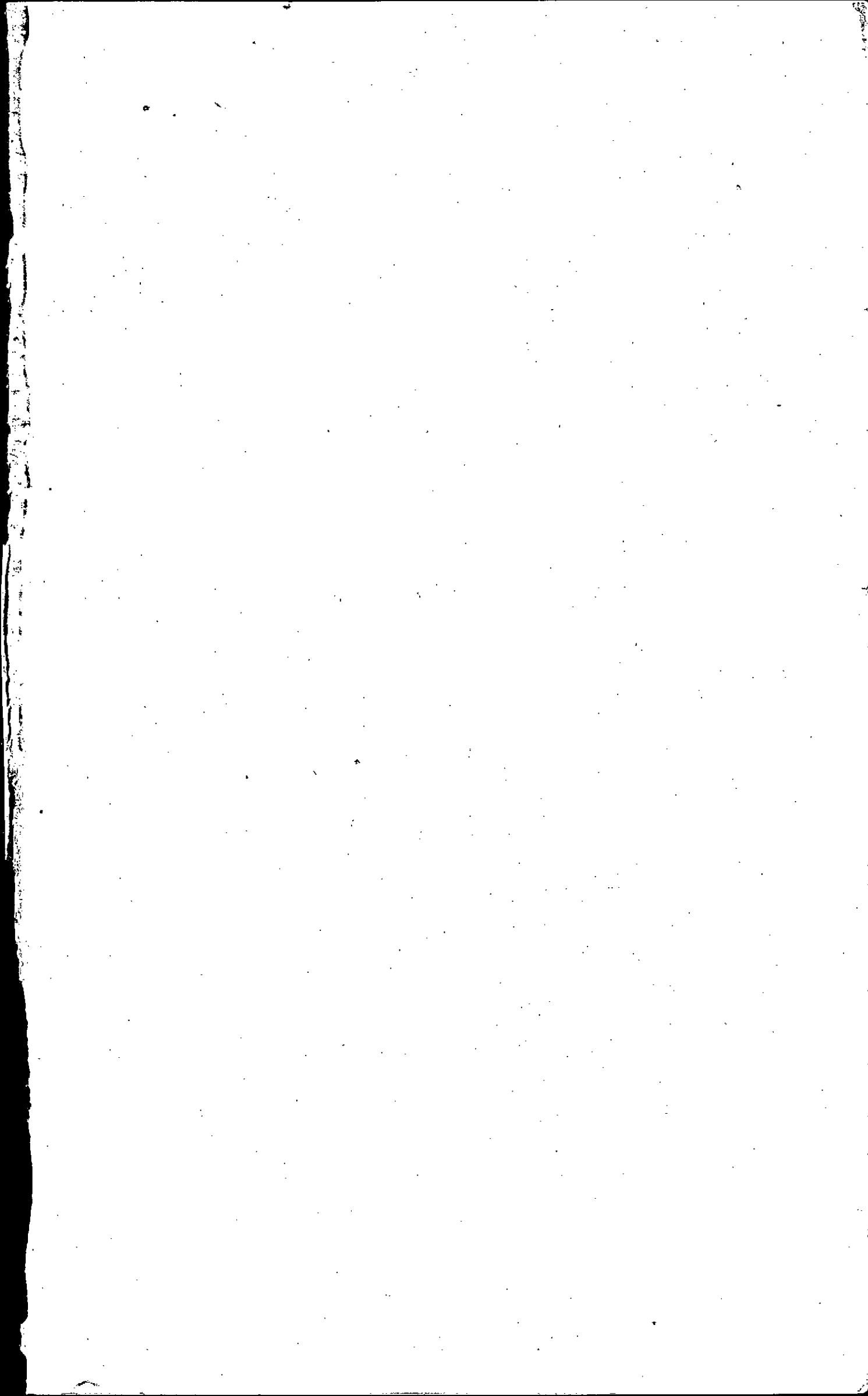
# NEWSLETTER



ISSUED BY THE  
OFFICE OF THE CHIEF OF THE AIR CORPS  
WAR DEPARTMENT  
WASHINGTON, D. C.



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The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation. Publishers are authorized to reprint material appearing herein, except that portion of the News Letter beginning with Notes from Air Corps Fields.

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### THE AIR CORPS' WEST COAST EXERCISES - 1933

THE Spring of 1933 has seen considerable activity in several localities on the part of the Army Air Corps. "Home stations" in most cases showed a corresponding lack of life in the air or in and around the hangars. Those groups and squadrons which had not flown to Ohio and Kentucky for the Air Corps - Anti-Aircraft Exercises between Patterson Field and Fort Knox, were getting ready for flights elsewhere; to some place where these same Air Corps units would be temporarily consolidated and in a body go through the training peculiar to the provisional organization of which they were a part. Supplies of fuel and oil were being diverted to those places where the Army planes were to be active. The organization of all these units was to be provisional GHQ Air Force; the air force which, in time of war, would be placed at the immediate disposal of the commander of our Armies in the field.

#### Commander and Staff

The commander of this Air Force, appointed by the War Department upon recommendation of the Chief of the Air Corps, was Brigadier-General Oscar Westover, Assistant Chief of the Air Corps with station in Washington, D.C. His staff, appointed by him were the following (also from Washington, unless otherwise noted):

Aide	- Lieut. Ray L. Owens
Chief of Staff	- Lt.-Col. H.H. Arnold, C.O., March Field, Calif.
Asst. Chief of Staff	- Capt. John I. Moore, Maxwell Field, Ala.
G - 1	- Major Arnold N. Krogstad
Asst. G-1	- Capt. Richard H. Ballard, Hqrs. 3rd Corps Area.
Adjutant General	- Capt. Lewis A. Dayton, Kelly Field, Texas.
G-2	- Major Clarence L. Tinker, March Field, Calif.
Asst. G-2	- Capt. Howard K. Ramey, Kelly Field, Texas.
Asst. G-2	- Lieut. Roland Birman
G-3	- Major Ralph Royce
Asst. G-3	- Capt. Arthur B. McDaniel
Asst. G-3	- Capt. Harlan W. Holden
Asst. G-3	- Capt. Odas Moon, Kelly Field, Texas.
G-4	- Major Jacob H. Rudolph
Asst. G-4	- Capt. Claude E. Duncan, March Field, Calif.
Asst. G-4	- Lt. Wm. J. Hanlon, Wright Field, Ohio.
Signal Officer	- Capt. Wm. H. Murphy, S.C.
Asst. Signal Officer	- Capt. Alfred H. Thiessen, S.C.
Asst. Signal Officer	- Lt. Victor A. Conrad, S.C.
Asst. Signal Officer	- Lt. Wiley Y. Carter, S.C., March Field, Calif.
Asst. Signal Officer	- Capt. Charles H. Downman, AC March Field, Calif.
Surgeon	- Lt. Col. Glenn I. Jones, M.C.
Technical Inspector	- Major Junius W. Jones

This staff was later augmented by officers from the Air Corps Tactical School, Maxwell Field, Alabama.

#### Choice of Locality

It had been desired to hold the Exercises in that most important strategic area which surrounds Puget Sound in the Northwest, thus varying the terrain with which the "veterans" of the 1929, 1930 and 1931 exercises in Ohio, Central California and the Northeast, respectively, were

familiar. While the desirability of varying the locale called for some place in the Southwest or Northwest, the need for economy dictated the choice of a West Coast locality where government housing, a single base for the entire air force and ready supply facilities were available. March Field, near Riverside, Calif., about 50 air miles inland from Los Angeles, was the logical site under those conditions. The field was large enough to accommodate many more than the 330 airplanes eventually parked around its borders; there was barrack space already available to house the incoming enlisted men, tentage for the officers and established messing facilities for both; and the Rockwell Field Air Depot with its supply of parts and accessories was less than 100 miles away, by air. Then, too, the proximity of March Field to the coast offered opportunity for working out problems of coast defense, while the numerous airports available in the Los Angeles area permitted their actual occupancy as "dispersed airdromes." This latter consideration is an important one in peace time operations where funds are not available for converting possibilities into actualities and where the commandeering of private property, such as pasture-lands, etc., is not only legally impossible but unthinkable.

#### Problems of Preparation

Once the locality of the Exercises was chosen, the problem of flying there came under consideration. Two tests were made in this respect, - 1. The mobility of the Air Corps' tactical units, or other ability to mobilize on short notice, and 2. The ability of groups and squadrons to move as, when and where directed, assuming some larger scheme of movement of which the GHQ Air Force was but one element or assuming a geographically narrow air route with no servicing or emergency landing facilities on either side.

Test No. 1 was carried out by means of sealed orders delivered to the Commanders of the units concerned, these orders being opened but a day or so before the actual take-off for March Field. Preliminary instructions were quite general, - the officers at the various Air Corps stations knowing only that some time early in May a certain number of squadrons from that station would fly to the West Coast, the exact time, the route to be flown and other important details being inside the sealed envelope. The situation at this point was somewhat akin to that in which a declaration of war was imminent, with tactical air force units throughout the country being held in readiness for the first combat order; but with no exact knowledge of what that order would contain. With the air force components of the Army Air Corps representing the first line of defense, of this country's land-based forces, the test of their readiness for such action is an important one.

As to Test No. 2 in this concentration, let us consider the effect of war on our national airways. The flying of mail, valuable supplies, and high military and civilian officials by commercial airways, and the fer-

rying of other military aircraft would tax the commercial airways to such an extent that would allow no divergence from their regulating schedules to accommodate suddenly a squadron or group of military aircraft which had been forced by bad weather off its scheduled route along some other airways. A geographical "bottleneck" made by a long narrow valley, or series of valleys, between two mountain ranges would impose the same necessity, in peace as in war, of the air units using such airway keeping to the "straight and narrow path." Such a "bottleneck" was the one from El Paso through Tucson, past Yuma and up the Imperial Valley to March Field, and practically all west-bound air units were routed through that passage. The servicing stops were barely adequate for one group at one time; with a noticeable lack of emergency fields off the designated air route. Aerial "march tables" were, therefore, written whereby the air units were regulated through the bottleneck in the same general manner as an infantry division is moved along a series of highways to its goal. Should impassable weather around Phoenix hold a group on the ground at Tucson, there could be no crowding ahead by other units to the east. If the low ceiling and visibility had shifted eastward and a group were dispatched from El Paso to Tucson with the probability of their being forced to turn back to El Paso, there could be no take-offs from the eastern portal of the "bottleneck" until the first unit had "cleared the air" by landing at Tucson or returning to El Paso. In other words, neither the air nor the servicing fields could be cluttered up with more airplanes than could be efficiently accommodated therein or thereon.

#### March Field Prepared.

While plans to move the various units were being laid, Lt.-Col. H.H. Arnold, the Commanding Officer of March Field and Chief of Staff of the Provisional GHQ Air Force was preparing his field for the visitors. A parking area for each unit was laid out in front of the hangar line or along the West border of the field and a system of aerial transportation of supplies from the Rockwell Air Depot was instituted.

#### Participating Units.

In addition to the 1st Bombardment Wing at March Field, the visitors were to be the 2nd Bombardment Wing from Langley Field, Va.; 3rd Attack Wing from Barksdale Field, La. and Fort Crockett, Texas; 19th Bombardment Group from Rockwell Field, Calif.; 12th Observation Group Hqrs. and one Observation Squadron from Brooks Field, Texas; Hqrs. of 9th Observation Group from Mitchel Field, N.Y.; officers and airplanes from the Air Corps Tactical School, Maxwell Field, Ala., transports and pilots from all Army fields in the United States.

#### The Flight to March Field

May 3rd, the day of the first take-off for March Field, was one of rain, fog and that kind of weather in the East and South that made flying in large formations too dangerous for peace time operations, and a few of the units involved attempted a start. The following day was slightly

#### The Air Force Organization

The Air Force staff organization has been previously described. The Air Force body was organized as follows upon the arrival of all units at the concentration point:

Unit	Home Station	Commander and Staffs.
1st Bombardment Wing	March Field, Calif.	Major Carl Spatz. *S-1 and S-4 Lt. M.M. Murphy; S-2, Capt. G.F. Collar; S-3, Capt. W.C. Morris
7th Bombardment Group		Major J.T. McNarney. S-1 and S-4, Lieut. E.S. Wetzel; S-2, Lt. E.H. Beebe; S-3, Lt. E.T. Noyes; Capt. H.D. Smith; S-3, Lieut. W.A. Matheny. Lt. J.G. Moore; S-3, Lieut. W. Erickson. Capt. Lowell H. Smith; S-3, Capt. Y.A. Pitts.
9th Bomb. Squadron		
31st Bomb. Squadron		
11th Bomb. Squadron (Provisional)**		
*S-1, Administration, Personnel, Communications; S-2, Intelligence, Press and Public Relations Maps; S-3, Operations and Training; S-4, Supply and Transportation.		
** Organized from Bombers and their personnel from the Tactical School, to take the place of the regular 11th Squadron absent on the Exercises in Ohio.		

better and some real progress was made toward the goal. Sandstorms through West Texas the following two days put further crimps in the "march tables." However, such weather was not responsible for the unaccountable but fatal crash of Lieut. Wayne Gardner and his passenger, Staff Sgt. Arthur I. Huntley, of the 3rd Attack Group, near Alpine, Texas, as far as has been determined. At Fort Clark, Texas, a Transport crashed and burned upon landing without serious injury to its occupants, but this, too, was not caused by weather conditions. At Midland another Transport landed safely in the sandstorm in a 47 mph wind, and then went through all the motions of tail-spinning at zero altitude.

The Air Force Commander, leading a formation of several of his staff officers, flew into Amarillo through one such storm, continuing next day to El Paso, where at Biggs Field he established the first Command Post at the portal to the El Paso-March Field "bottleneck." From this C.P. the movement of aerial troops through the narrow air lanes was regulated. Telegraph, telephone and radio played a part in such regulation, which became necessary whenever there was any deviation from the previously published march tables. In one instance the Commander of the 8th Pursuit Group at Midland was warned of bad weather portending at El Paso and instructed to make no attempt at getting in to the latter place after a certain hour. Spurred by these instructions the fueling at Midland was hastened, the flight over the pipe-line route was made at an increased speed and a safe landing effected at El Paso just before the storm broke.

Tired as the pilots and mechanics were, on several occasions after a hard flight, it was sometimes necessary for them to stand by their ships after they were staked down and keep watch that the sand flinging gales did no damage. Several times the smaller formations, such as Wing Hqrs. flight, were able to get through on schedule in weather that would have endangered a larger formation such as a group.

Except for the 9th Observation Group Headquarters flight of 5 planes, the last unit came into March Field on Sunday, May 7th, averaging one day behind schedule for this first phase of the Exercises. That day the Command Post shifted from Biggs Field, El Paso, to Hangar 4 at March Field, where the temporary offices of the GHQ Air Force had been installed. By dint of hard work on every one's part, especially the mechanics and engineer officers, the first day of the Exercises at March Field, May 8th, was only one-half day behind, but May 9th saw everything up to schedule and moving smoothly along. Serious as the fog and rain, and the sandstorms had been their handicaps had been overcome by all but a very few of the 227 airplanes flying in from the East and South.

Unit	Home Station	Commander and Staffs
17th Pursuit Group	March Field, Calif.	Capt. Charles Douglas S-1 and S-4, Lieut. N.H. Ives. S-2, Lt. O.R. Deering; S-3, Lt. Joe Loutzenheiser
34th Pursuit Squadron		Lt. J.C. Crosthwaite; S-3, Lt. J.E. Mallory
473rd Pursuit Squadron		Lt. J.H. Dulligan; S-3, Lt. R.S. Israel
95th Pursuit Squadron		Lt. S.W. Towle; S-3, Lt. W.C. Morse
2nd Bombardment Wing	Langley Field, Va.	Col. C. C. Culver - S-1, S-2, S-4, Capt. W.H. Reid. S-3, Major Maxwell Kirby.
2nd Bombardment Group		Capt. George P. Johnson S-1, Lt. E.R. Todd; S-2, Capt. M. S. Lawton; S-3, Lt. R.S. Freeman;
20th Bomb. Squadron		Capt. R.T. Cronau; S-3, Capt. L. Dunlap; S-3, Lieut. Ladd.
49th Bomb. Squadron		Lt. E.E. Hillery; S-3, Lt. J.W. Wood.
96th Bomb. Squadron		Capt. J.P. Richter; S-3, Lt. L.G. Saunders.
8th Pursuit Group		Major B.Q. Jones S-1, S-4, Capt. Newton Longfellow. S-2, S-3, Capt. J.T. Hutchison.
33rd Pursuit Squadron		Capt. H.H. George; S-3, Lt. W.A. Schulgen.
35th Pursuit Squadron		Capt. A.E. Waller; S-3, Lt. O.S. Picher.
36th Pursuit Squadron		Capt. M.L. Elliott; S-3, Lt. J. Hodgson.
3rd Attack Wing	Barksdale Field, La.	Major Millard F. Harmon. S-1, S-4, Major G.P. Anderson, CAC. S-2, Lt. L. Merrick; S-3, Maj. H.R. Harmon.
3rd Attack Group	Ft. Crockett, Texas	Major Harry H. Young. S-1, S-4, Lieut. A.H. Foster. S-2, Lt. F.I. Patrick; S-3, Capt. L. Harvey.
13th Attack Squadron		Lt. R. Stearley; S-3, Lt. T.L. Moseley.
90th Attack Squadron		Capt. J. Davidson; S-3, Lt. D.W. Jenkins.
20th Pursuit Group	Barksdale Field, La.	Capt. John M. Clark. S-1, S-4, Major T. Barnes, C.W.S. S-2, Capt. W.P. Hayes; S-3, Lt. W.R. Carter
55th Pursuit Squadron		Capt. H.L. Clark; S-3, Lt. J.A. Ellison.
77th Pursuit Squadron		Lt. H.M. Wittkop; S-3, Lt. E.E. Holtzen.
12th Observation Group	Brooks Field, Texas.	Major Frank D. Lackland. S-1, Lt. A.L. Bump; S-2, Lt. G. Geer; S-3, Capt. W.S. Cravely; S-4, Lt. J.J.O. Hara
22nd Obs. Squadron		Capt. R. Kauch; S-3, Lt. J.H. Hicks.
19th Bombardment Group	Rockwell Field, Calif.	Capt. Harold M. McClelland. S-1, S-2, Lt. G. Kirksey; S-3, Capt. Westsid T. Larson; S-4, Capt. C.W. Pyle.
(attached to 12th Obs. Group for long distance and off shore reconnaissance.)		Capt. J. Grisham; S-3, Lt. W.W. Gross. Lt. Don FitzGerald; S-3, Lt. M.H. McKinnon.
30th Bombardment Sqdn.		Col. John H. Howard.
32d Bombardment Sqdn.		Captain E. Page S-3 (Airdrome Officer) Capt. J.K. Cannon
9th Observation Group Hqrs.	Mitchel Field, N.Y.	Asst. S-3, Capt. A. Strickland.
G.H.Q. A.F. Hq. Flight		Asst. S-3, Capt. L.J. Maitland. Captain Thomas Haste; S-3, Lt. W. Davies
** 1st Provisional Transport Squadron		

\*\* Organized from transports and their pilots and crew chiefs from the various fields in the U.S., practically every station contributing at least one transport airplane to this transport pool.

#### Personnel and Equipment.

There were 390 officers and 1822 enlisted men concerned (including the regular garrison at March Field). The officers were billeted in individual and pyramidal tents and messed at a temporary mess set up outside the Officers' Club. The enlisted men were billeted and messed in the various squadron barracks at March Field. Unusually inclement weather for Southern California during the first ten days of the concentration gave the enlisted men the advantage in comfort.

The total number of airplanes used in the concentration was 322, divided as follows:

59 Observation. Mostly those planes flown by members of the G.H.Q. Staff; Douglas O-38B's, and a few O2-H's. Few of these participated actively in the flying missions of the Exercises. The 12th Observation Group had 15 Thomas Morse O-19's. The 9th Observation Group Hqrs. had 3 Curtiss O-39's and 2 Douglas bi-motored gull-winged O-35's. Several Douglas O-25's, with Curtiss "Conquerors" were also present.

5 Amphibians - Douglas bi-motored, from 19th Bomb. Group, attached to the 12th Observation Group, these amphibians being used on recon-

naissance missions out to sea.

52 Bombardment - Mostly Keystone B-3a's or B-6A's, the former with two Pratt & Whitney "Hornets" of 525 h.p. and the latter with two Wright "Cyclones" of 575 h.p. each. Units so equipped were the 2nd and 7th Bombardment Groups, including the 11th Provisional Bombardment Squadron organized from Bombers of the Tactical School and assigned to the 7th Group.

37 Attack - Curtiss Falcon A-3B's, with 425 h.p. water-cooled engines, used by the 3rd Attack Group, plus a number of such planes from the Tactical School.

140 Pursuit - Mostly Boeing P-12C's, D and E, single-seater biplanes with supercharged Pratt & Whitney "Wasps." Eight Curtiss P-6E's, single seater biplanes with 600 hp. Prestone-cooled "Conqueror" engines were used by the 8th Pursuit Group.

28 Transports - The majority of these were the Fokker C-14's, single engined, with the pilot's cockpit open and aft of the cabin. Several Ford tri-motors, one of which was the radio-equipped command plane. Others were single-engined American "Pilgrims,"

and tri-motored Fokkers.

#### Air Traffic Rules

Of interest to commercial operators, as well as to those in the service, are the air traffic rules drawn up by the Airdrome Officer of the Air Force to handle such a large number of airplanes in and around the March Field airdrome, or airdromes where special rules might be applicable.

1. All take-offs and landings at March Field were made in accordance with the manually operated "tee", located on the ground in front of the Administration Building.
2. After taking off from and in approaching March Field for a landing, turns were made to the left. This followed the normal procedure in commercial and military aviation.
3. In landing at March Field, airplanes cleared straight ahead to the boundary of the field, thence in column along the boundary of the field to designated parking area, except when a unit commander had the exclusive use of the airdrome; at which time he would taxi direct to his parking area.
4. Landings by units were not made on the apron, - an asphalted (Amiesite) mat, due to its hard surface, which was excellent for take-offs but rather conducive to "ground-loops" in landing.
5. Units approaching March Field for a landing checked in by radio with AFI.
6. Individual planes did not land while any unit was effecting a landing.
7. All airplanes, other than formations ordered on regularly scheduled missions in connection with the maneuvers, obtained clearance from the airdrome officer. In case the pilot did not clear at the time designated, the authority for the flight was automatically cancelled. Pilots returning from these flights immediately checked in with the airdrome officer.
8. Commercial aircraft operating on regular schedule had the right of way over all military aircraft at all airdromes other than at March Field.
9. Aircraft in all cases were required to observe the local traffic rules of the field in question.
10. Department of Commerce air traffic rules applied.
11. Special traffic regulations were issued covering each night problem. The "light-beam" gun was extensively used in signaling, landing or "stand-bys."
12. Signals: In case the landing "tee" was removed from its place in front of the Administration Building, no landings were to be made on March Field until "tee" was replaced. Other than this, no special visual signals were employed for either take-off or landings during daylight hours.

#### Problems and Objectives.

Phase I of the Exercises had been satisfactorily completed. The leadership of the commanders of the migrating units and the piloting technique of the several hundred pilots concerned gave proof of the efficacy of the unit training and individual training of the Air Corps during the past year and years. There was no question of probable failure of any of the contemplated missions through inability of any class or group of pilots to perform their allotted tasks, or through the inexperience of the commanders in the guidance of their commands.

The general tasks of the provisional Air Force for the next few weeks would be the following:

Phase II: Dispersion of Air Force units to airdromes approximating war conditions, radio control of these units, rendezvousing of units from dispersed areas, control of the large units during flight and exercises developing the tactical defense of a coastal area. The objectives would be:

- Reconnaissance and patrol of a coastal area.
- Coordinated attacks against both land and water targets.

Cooperation with anti-aircraft units.  
Test of bombing efficiency of Air Force units.

Airdrome reconnaissance by unit commanders.  
Movement of units to dispersed airdromes.  
Control of units on dispersed airdromes.  
Camouflage and defense of dispersed airdromes.

Rendezvous of dispersed units.  
Control of large units while in air.  
Test of present radio communications.  
Test of Staff's efficiency in supply and timing.

This phase was to take place during the three weeks' stay at March Field, during which time 15 separate days' problems would be assigned the units as outlined below, Saturdays and Sundays being reserved for maintenance and recreation.

1. Reconnaissance of dispersion areas by wing, group and squadron staffs and recommendations by them for dispersion of their units.
  2. Actual dispersion of units.
  3. Rendezvous of G.H.Q. Air Force from dispersed locations (prearranged).
  4. Rendezvous of alerted G.H.Q. Air Force from dispersed locations (by radio).
  5. Same as above, followed by trailing enemy force to base and attacking same after planes have landed.
- During this Phase, Observation airplanes would reconnoiter to sea - day and night to locate enemy fleet (Mine Planter to simulate enemy fleet). Radio communications to be maintained throughout all problems.
6. Interception of an enemy bombardment group.

7. A meeting engagement of two opposing Air Forces with a situation which calls for decision on the part of each commander to change objective.
8. The attack of an enemy aircraft carrier by bombardment after dark, with Pursuit protection until dark.
9. The attack of an enemy aircraft carrier just before daybreak, with Pursuit protection after daybreak.
10. The defense and attack of a newly occupied airdrome.
11. Assembly in attack of enemy Air Forces immediately following an enemy raid.
12. Same problem with jamming of all possible radio lanes.
13. Attack by enemy on friendly bombardment when the friendly pursuit has already taken the air.
14. Attack in force on distant enemy base.
15. Movement of Air Force to an advanced base on short notice.

The following is a narrative of daily missions flown during this phase of the Exercises:

Monday, May 8th. Wing, group and squadron commanders, accompanied by such members of their staff as they deemed desirable, reconnoitered certain areas assigned their units for dispersion and selected the airdromes to be used. The various airdromes were considered from a logistical as well as a tactical point of view. The Pursuit planes had a shorter cruising range than the Bombers or Attack planes, and the Pursuit units were therefore placed, where possible, in fields closer to the coast line. In some instances, however, airdromes nearer the coast were better for Bombardment or Attack fields, and those inland more suitable for the Pursuit squadrons. In general, there was but one squadron allowed to an airdrome. Such dispersion was to spread the air force out so that too many eggs were not to be placed in one basket; the concentration of a large number of aircraft on the ground offering an excellent objective to possible enemy Bombers in time of war.



Tuesday, May 9th: The various units flew to their chosen and assigned airdromes in the dispersion areas and later assembled in the air by radio command for a short period of training by groups and wings. The airdromes were:

CHQ Air Force Hqrs.	March Field
1st Bomb. Wing Hqrs.	San Gabriel
7th Bomb. Group Hqrs.	" "
9th Bomb. Squadron	" "
11th " "	Fontana
31st " "	San Bernardino
17th Pursuit Group Hqrs.	Griffith Park
73rd Pursuit Squadron	" "
34th " "	Glendale
95th " "	Burbank
2nd Bomb. Wing Headquarters	Long Beach
2nd Bomb. Group	Arlington
49th Bomb. Squadron	" "
20th " "	Santa Ana
96th " "	Elsinore
8th Pursuit Group	Long Beach
36th Pursuit Squadron	Long Beach
33rd Pursuit Squadron	Fullerton
35th Pursuit Squadron	Seal Beach
3rd Attack Wing Hqrs.	Mines Field
3rd Attack Group Hqrs.	Compton
90th Attack Squadron	Compton
13th Attack Squadron	Los Angeles
20th Pursuit Group Hqrs.	Los Angeles
55th Pursuit Squadron	Los Angeles
77th Pursuit Squadron	Dycer Airport
12th Observation Group	March Field
9th Observation Group Hqrs.	Van Nuys

Wednesday, May 10th. Rain during the morning resulted in the day's exercises being called off. This was to be a rendezvous at a prearranged time of the entire air force from the dispersed locations.

Thursday, May 11th. The rendezvous of the air force from the dispersed airdromes was directed by radio from the Commanding General, and from rendezvous with the 2nd Bombardment Wing as the guide unit, General Westover by means of radio from his airplane further directed the air force in subsequent movements which simulated an attack against enemy vessels off Long Beach. This rendezvous took about 15 minutes, and was effected in the following manner:

The 2nd Wing rendezvoused over Long Beach, its Bombardment Group at 3,000 feet altitude, and its Pursuit Group a bit higher but always available to afford protection for the Bombers. From this Wing rendezvous point at Long Beach, the Wing proceeded to Mines Field, the Air Force rendezvous point, the 2nd Wing climbing to 7,000 feet altitude for the Bombers and 10,000 feet for Pursuit. Meanwhile, the 1st Bombardment and 3rd Attack Wings had rendezvoused over their respective Wing points and then proceeded to Mines Field, where their Pursuit Groups formed on the 2nd Wing's 8th Pursuit Group at 10,000 feet and the 7th Bombardment Group of the 1st Wing formed on the 2nd Wing Bombers at 7,000 feet. The 3rd Attack Group of the 3rd Wing formed under the bombing formations but at 2000 feet altitude. The combat elements of the Air Force then moved in a body to their objective.

Friday, May 12th. All units, except the 7th Bombardment Group, occupied their dispersed airdromes and went on the radio alert at 10:15 a.m. Starting at 9:30 a.m., the 12th Observation Group covered the nearby coastal area, seeking to locate the 7th Bombardment Group which represented an invading air force. After the "enemy" which flew in from Catalina Island had delivered their bombing raid on our coast, they were to proceed to a certain secret airdrome which represented their own aircraft carrier out to sea.

Two of the six patrolling Observation crews located the incoming Bombers at 11:00 a.m. and radioed their location and course as they trailed them. The enemy landed at the Fillmore Airport. Our Air Force units (less the 7th Bom-

bardment Group) rendezvoused and proceeded toward Fillmore, directed thereto by radio from the Commanding General.

Monday, May 15th. The problem was one in which Pursuit aviation was to intercept and attack enemy Bombardment aviation. The Wing organizations were broken up as such; the three Pursuit Groups being placed under Major B.Q. Jones and the two Bombardment Groups under Major Joseph T. McNarney. The 3rd Attack Group was given a day off. The 12th Observation Group patrolled the area, Oceanside - Escondido, Ramona, Henshaw Lake. The Pursuit units occupied their respective dispersed airdromes, but the Bombers proceeded to Rockwell Field, opened sealed orders directing them to attack Riverside and March Field, and took off again for such attack.

Spotted by several observation crews, who promptly radioed in their reports, the Bombers nevertheless proceeded toward their objective, reaching there just before being intercepted by the Pursuiters. The Observation planes being equipped with long wave radio sets, it was necessary for them to radio in their reports to the ground command set at March Field from whence the reports were relayed on the proper wave length to the Pursuit commander. This radio delay took in excess of four minutes, which was the length of time the Pursuiters were late in contacting the invading Bombers.

Tuesday, May 16th. A meeting engagement of two Bombardment Wings was carried out this day. The 1st Wing (7th Bombardment and 17th Pursuit Groups) plus 20th Pursuit Group and an Observation flight proceeded to Bakersfield where they landed, opening sealed orders there. The 2nd Wing (2nd Bombardment and 8th Pursuit Groups) plus the 3rd Attack Group and an Observation flight opened sealed orders at March Field at the same hour as at Bakersfield. Each order disclosed the whereabouts of the other force and ordered an attack thereon, which was called off just as the meeting was to be consummated.

Wednesday, May 17th. A morning and another night mission were flown this date. In the morning the 3rd Attack Wing less the 3rd Attack Group was dispersed in the area: Clairmont, Highlands, Lake View and Corona. The 12th Observation Group patrolled the line - Cardiff-Mesa Grande. The 8th Pursuit Group left March Field and proceeded to Ocean Beach where they were given instructions to attack a simulated Group on the ground at the Riverside Airport. The attacking force was located by the Observation, but due to faulty radio their reports were not received in time to allow the defending Pursuit to get in the air and intercept them. That night the 2nd Bombardment Group with one squadron from the 3rd Attack Group and one squadron from the 17th Pursuit Group attached, were on the alert at 6:30 p.m. The Army mine planter was sent off Catalina Island to represent an enemy fleet. The 12th Observation Group patrolled the area around Catalina Island from 5:30-9:30 p.m. Immediately upon arrival in the area, they reported the presence of the Army fleet and the 2d Bombardment Group with attached troops were directed to attack it. Pursuit protection was used until dark and then the Pursuit returned. The attack was well carried out. Bombardment returned about 9:00 p.m.

Thursday, May 18th. The mine planter was sent to an area north of Catalina Island and the 12th Observation Group directed to patrol that area, beginning at 3:30 a.m. At about 4:00 they reported the presence of the enemy fleet and the 7th Bombardment Group with one squadron of the 3rd Attack Group and one squadron of the 17th Pursuit Group attached were directed to attack this fleet. The attack was carried off successfully. The critique following the operations brought out

the need of more direct cooperation between the Bombardment and Observation components, and the difficulty of spotting vessels on the water at night even when their approximate location was known.

Friday, May 19th. The 3rd Attack Wing was sent to Rockwell Field and there given instructions to attack an enemy air force dispersed in the Riverside area. The 8th and 17th Pursuit Groups were organized as a provisional wing and dispersed in the Riverside area. The 8th remaining at March Field and the 17th placing six camouflaged ships at Riverside and uncamouflaged ships in various other airdromes. The movement of the Attack Wing was reported by the defending Observation. The Attack Wing sent out a screen of scouts before it to locate and report all enemy airplanes on the airdromes in the given area. All planes were located and attacked except the six camouflaged planes on the Riverside Airdrome. Although various scouts inspected this airdrome, none of them located the camouflaged planes. All airdromes having uncamouflaged planes on them were located and attacked, showing plainly the value of camouflage. It was even difficult to locate the camouflaged planes in photographs taken of the field.

Due to the demands made on March Field by the Civilian Conservation Corps, it was necessary to relieve the 17th Pursuit Group from the Exercises, and they took no part in the last week's problems.

Monday, May 22nd. A demonstration was held this day, consisting of an attack on March Field, in which 3 Attack planes laid a smoke screen over the field. This was followed by an aerial review. A number of distinguished visitors were present to observe the work of the Air Force and these were later shown about the field.

Tuesday, May 23rd. This day's mission was the bombardment of an "enemy aircraft carrier," the latter being represented by two rafts towed by an Army Mine Planter. The "carrier" was located by our observation patrol, whereupon the consolidated Bombardment units and the Attack Group, convoyed by the 8th and 20th Pursuit Groups, took off from March Field to launch an attack. Two of the six Observation planes had located this "enemy" out of an area of 2,000 square miles to which the six planes had been assigned.

Each Bomber carried two 100-lb. practice bombs and each Attack plane two 50-pounders. The Attack Group, down almost on the water, attacked from the southeast to northwest; the Bombers at about 5,000 feet in the opposite direction. An unusual incident marked this attack. Although the Attack and Bombardment movements had been carefully synchronized in advance, the former encountered a severe head wind near the sea-level, from the coast line to the position 15 miles away where the "enemy" was in motion. The Attack Group, therefore, were a bit late in finishing their part of the mission and the Bombers were forced to circle out and make their attack headed toward home.

Due to the shortage of Bombing personnel (many of them on necessary duties at March Field, or absent on the Exercises at Fort Knox) to man the bomb sights on all the planes, no attempt was made at bombing accuracy; correct bombing procedure being the problem involved.

Wednesday, May 24th. Simulating conditions in which an intelligence net would scan the skies for invading Bombers and report their presence and route over certain points, the area - Pomona, San Bernardino, Ferris and Fullerton was given as the objective of two Bombardment Groups, each with an Attack squadron, and the two Pursuit Groups were consolidated to defend this same area from such attack.

From March Field the two invading forces (each force of one Bombardment Group, one At-

tack squadron and two Observation planes) proceeded to Oceanside where they separated, one force flying to "bombard" Pomona, the other toward San Bernardino.

Although confronted with a situation which forced him to disperse his own defending Pursuit Groups, the Pursuit Commander was able to intercept one Bombardment force well before it reached its objective and the other as it prepared to bomb its particular target.

Thursday, May 25th. The 3rd Attack Wing with the 8th Pursuit and 12th Observation Groups attached, proceeded to Rockwell Field and serviced. Just as servicing was completed, they were attacked by the 7th and 2nd Bombardment Groups, acting as a provisional bombardment wing. Upon completion of the attack, the provisional bombardment wing dispersed; first as two groups, then the groups into separate squadrons and the squadrons into flights, returned to dispersed airdromes in the area east of March Field. The Attack Group Commander used the Observation and the 20th Pursuit Group as scouts to trail the Bombardment to their various airdromes and report the location to him. Upon receipt of information as to the location of the various Bombardment units, he dispatched the Attack Group, under protection of the 8th Pursuit Group, to attack and destroy these planes on the ground. The problem was very successfully carried out, the Attack locating and destroying all but two of the two Bombardment flights. This problem showed plainly the necessity for high speed Observation with excellent radio communication. The success of the mission from the Attack standpoint was due to the excellent work of the Pursuit used as radio scouts.

Friday, May 26th. The 7th Bombardment Group with the 2nd Bombardment attached, organized into one group of four squadrons of war strength. The 8th Pursuit Group and the 20th Pursuit Group attached were organized into one group of four squadrons of war strength. The 3rd Attack Group was used to simulate the new idea of "Fighter" airplanes and was sent to accompany and protect the Bombardment which was attacked by Pursuit. Some valuable lessons were learned regarding the operation of 4-squadron groups and a certain amount of information regarding the value of "Fighters" for use in protection of Bombardment and attack by Pursuit.

The finale of the three weeks' exercises at March Field was an aerial review of the whole force, directed by the Air Commander from the air by radio.

Throughout the entire exercises, radio control was used in so far as possible. At first the Ford command plane was used as such, the Air Commander flying therein and watching the course of events, giving such orders as were necessary to the Wing Commanders. Lack of visibility from the Transport, however, made the use of his Observation plane necessary as a command plane, again proving the contention that the airplane of commerce, while satisfactory as such, is not suited for tactical purposes in the military establishment. The Transport, however, with its more powerful and varied radio equipment, was used as a relay; the Air Commander's orders for his subordinates being transmitted by him to the Transport, from whence they were re-transmitted to the commanders concerned.

There were two objectives which now lay ahead of the participants in the exercises at March Field:

1. The locale of the exercises would be shifted to the Puget Sound area in the Northwest. Lack of facilities, previously described, and a lack of funds for the purpose, however, prevented the entire Air Force organization continuing on to Seattle, and only the general staff, the unit commanders and cer-

tain members of their staff made this move.

2. The remainder of the Air Force, not going onto Seattle, would of necessity return to their home bases, under the seconds-in-command. This simulated the conditions of war time operations in the flying units where the many battle casualties, transfers, etc., give the junior officers an accession to command which is not often experienced in time of peace. In this instance with the wing, group and squadron commanders and their staff detached from the body of their units to go to Seattle, these same units were commanded by junior officers who were next in rank, thus giving the latter that valuable experience which only actual command and its attendant responsibilities can bring.

#### THE RETURN HOME AND THE SEATTLE AREA

THE return home, it might be well to add here, was made with few untoward incidents, although several Groups encountered bad weather. The majority of temporary squadron commanders were second lieutenants, with first lieutenants or captains commanding groups or wings - a grave responsibility for officers of that rank to lead their units across the continent. Reference to the Air Force organization (pages 139 and 140) shows, however, that four Groups had been commanded by captains and eight of the squadrons by 1st lieutenants throughout the aerial trek westward and the three weeks' operations at March Field, although a group should normally be commanded by a lieutenant-colonel and a squadron by a major.

The departure of the units from March Field to their home stations took place on May 27th, 28th and 29th. On the latter day the majority of the remaining personnel and airplanes (67 officers, 86 enlisted men, 57 airplanes) left March Field for the Northwest. Stops were made at Fresno, San Francisco or Oakland, Sacramento, Medford, Portland or Vancouver, to a destination at Tacoma or Seattle.

A typical schedule was that of the Air Force Headquarters, which left March Field in the morning, stopped at Fresno for lunch and at the San Francisco Bay Airport at Oakland for the night; starting the next morning for Medford, Oregon (with a brief stop at Hamilton Field on the Bay for the purpose of inspecting this new station) and after luncheon at Medford, continuing the flight to Seattle.

The 2nd Bombardment Wing contingent of 19 officers, 27 enlisted men and 14 airplanes, based at the Municipal Airport at Tacoma, with the remaining 48 officers, 59 enlisted men and 43 airplanes basing at the Boeing Airport in Seattle. Personnel at both places were billeted in local hotels.

#### Operations at Seattle.

The first mission in the Puget Sound area took place on May 31st. Wing, Group and Squadron Commanders and their staff officers reconnoitered the areas assigned to their units with a view to dispersed occupation of those areas during extended operations. Roughly, these areas bounded Puget Sound. The reconnaissance embraced both tactical and logistical considerations, as in the Los Angeles area during the operations at March Field.

Data concerning such landing fields had not been previously prepared for the commanders concerned, and it was a case of starting from scratch. Aerial reconnaissance only was undertaken, and it was understood that the conclusive choice of airdromes could only be made after a reconnaissance had been made on the ground of the possible areas discovered from the air. In a number of cases excellent potential airdromes were seen which needed from three days to a week's work to render them usable.

There was a vast difference in the terrain in the Northwest, as far as affording such airdromes, and the well populated area near Los Angeles where adequate airdromes are most numerous.

The following day, June 1st, certain airdromes selected by the Air Force Commander were occupied by the individual officers or small groups of individuals representing their particular units. From such occupation a rendezvous was made over Olympia upon radioed order of General Westover from his Observation airplane. A total of 46 airplanes participated in this rendezvous. The formation flew to Centralia and Chehalis, then turned and flew north to Tacoma, where several turns were made over the city, continuing on to Seattle, after which all airplanes landed at Boeing Field.

On June 2nd, a situation was assumed which necessitated a change of front towards Grays Harbor (on the Pacific Coast). The previous situation had assumed an enemy to the north, but in this one the "enemy" was approaching the coast with a view to effecting a landing at Grays Harbor. The units reconnoitered the new areas assigned them, and detailed reports were made on possible dispersed airdromes.

This was the first time that exercises of this character had been held in the Northwest. Those Air Corps officers taking part in the Exercises were impressed by several things.

1. The difference in terrain and the possibility of dispersing in that area and in other areas with which they were familiar;
2. The strategic importance of the Northwest with its natural resources and its many harbors, and
3. The vulnerability of this highly important area to enemy attack, and the present lack of adequate air units in the area.

#### Return of the Staff and Unit Commanders

On Sunday, June 4th, the return home from the Northwest was begun. The majority of participants flew via Vancouver, or Portland, then up the Columbia River gorge to Pasco, thence to Boise, Salt Lake City and Cheyenne, through a "bottleneck" which offered even more difficulties than that from El Paso to March Field.

At Cheyenne, the skeleton units dispersed and returned as directly as possible to their home stations. There was no spectacular finale, or "flourish and fanfare of trumpets." A hard job was over - but an interesting job, nevertheless.

The hospitality of interested civilian organizations near March Field, at Riverside, Los Angeles, Hollywood, Fresno, Medford, Seattle and Tacoma, and at many other places en route was all that could be desired. In addition, seldom has a more intelligent interest been shown in the work of the Air Corps than by the civilians with whom members of the G.H.Q. Air Force, singly, in small groups, or as a body came into contact.

Looking back on these facts helped, in no small measure, to compensate for a return home from the cool northwest and the still cooler atmosphere over the Rockies to atmospheric conditions exactly the opposite - a hot spell which, perhaps jealous of the Air Force, was seeking to make a record of its own not at all to the liking of perspiring humanity.

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#### FLYING HIGH IN PURSUIT OF ELUSIVE COSMIC RAY

A final flight for the purpose of determining cosmic ray activity was completed on June 7th, when 2nd Lieut. John M. Stone, of the 95th Pursuit Squadron, March Field, Calif., went up 30,000 feet in a P-12E plane. He carried supersensitive, self-recording instruments with which Dr. Robert Millikan and his assistant, Dr. Victor Neher, of the California Institute of Technology, obtained valuable recordings.

Sergeant majors in the British Royal Air Force have been raised in rating to warrant officers.

V-6464, A.C.

## KELLY FIELD TO GRADUATE ANOTHER FLYING CLASS

June 29th will be Graduation Day at Kelly Field, San Antonio, Texas; when a total of 91 students, who had undergone the year's intensive course of flying training (eight months at the Primary Flying School at Randolph Field and four months at the Advanced Flying School at Kelly Field) will receive their wings and the rating of "Airplane Pilot." Of these 91 graduating students, three are officers of the Regular Army, two are Air Corps noncommissioned officers, and 86 are civilians who pursued their training under the status of Flying Cadet.

Two of the student officer graduates, who hold commissions in the Field Artillery, will ultimately be transferred to the Air Corps. The third, 1st Lieut. Randolph P. Williams, who has been affiliated with the Lighter-than-Air branch of the Air Corps, holding the ratings of Airship Pilot and Balloon Observer, and he will join the select few among the officers in the Air Corps who hold both the ratings of Airship Pilot and Airplane Pilot.

The two Air Corps noncommissioned officers, Master Sergeant Carlton P. Smith and Technical Sergeant Frank J. Siebenaler, already hold commissions in the Reserve Corps, and they will be sent back to duty under their noncommissioned status with the organizations with which they served prior to their assignment as flying students. The civilians who trained under Flying Cadet status will be commissioned in the Air Reserve as 2nd Lieutenants and, in all likelihood, will be placed on extended active duty with Air Corps organizations.

Seven members of this graduating class have been initiated into the mythical but well known society among airmen who used their parachute in the extreme emergency and which is known as the "Caterpillar Club," namely: Flying Cadets William M. Altenburg, Edwin D. Avary, Homer A. Boushey, Jr., Lawrence S. Fulwider, Philip B. Klein, George F. McDermott and Tech. Sgt. Siebenaler. The latter made an emergency parachute jump on November 14, 1928, while the Cadets went through that initiation while undergoing their flying training.

Lieut. Williams is graduating as an Observation Pilot, 2nd Lieuts: John E. Barr and Joseph B. Zimmerman as Pursuit Pilots, Master Sergeant Smith and Tech. Sergeant Siebenaler as Bombardment Pilots.

The Flying Cadet graduates are listed below, as follows:

### Attack Pilots

James Thomas Connally	Waco, Texas
William Silver Edgar	Waco, Texas
Jean Donat Grenier	Manchester, N.H.
Andrew Monroe Wynne, Jr.	Merigold, Miss.

### Bombardment Pilots

Howard Owen Aigelfinger	York, Pa.
Joe Earle Barton	Greenville, S. C.
Henry Stoner Bear	Carlisle, Pa.
Richard C.W. Booker	Phoebus, Va.
George Kenneth Crain	Birmingham, Ala.
Joel Lee Crouch	Moorhead, Minn.
Harold Lucas Dietz	Bangor, Pa.
James Young Eastham	Huntsville, Texas
Ladson Green Eskridge, Jr.	Newberry, S.C.
Elwyn Herbert Gibbon	Seattle, Wash.
Charles Lee Hamilton	Fison, Ark.
Stanley C. Hoyt	Plaistow, N.H.
John Sioussa Lambie, Jr.	Birmingham, Mich.
Beirne Lay, Jr.	Charlottesville, Va.
Sterling Talley Love	Lubbock, Texas
Millard Ray Newland	Cedar Springs, Va.
Franklin Kendall Paul	Marriottsville, Md.
Francis Pope	New York City
Bernard Adolf Schriever	San Antonio, Texas
Elmer Patrick Schwarz	Little Rock, Ark.
John Dodds Treher	Hueneme, Calif.

### Observation Pilots

Martin Ansel Bateman	Camden, S.C.
Clyde Paul Brandenberger	Cornell, Calif.
Howard Alton Cheney	Springfield, Mass.

Dross Ellis	Stillwater, Okla.
Albert Vandenburg Endress	Austin, Texas
Charles Edward Flaherty	Barrowsville, Mass.
Lawrence Scott Fulwider	Bloomington, Ind.
Cyril Adrian Goyette	Mystic, Conn.
Harold Austin Gunn	Nunn, Colo.
Elkins Hamilton Hale	Washington, D.C.
Kermit Arpad Harcos	Los Angeles, Calif.
Eyvind Holtermann	San Francisco, Calif.
Daniel Edwin Hooks	Iowa Park, Texas
Harold Lewis Jones	Bath, Pa.
George Henry Macintyre	Berkeley, Calif.
George Francis McDermott	Pittsburgh, Pa.
Joseph Caruthers Moore	Scobba, Miss.
William Stephen Pocock, Jr.	New York City
Raymond Walter Wells	New York City
Raymond Alfred Young, Jr.	Charlotte, N.C.

### Pursuit Pilots

Edward Schwartz Allee	Boston, Mass.
Wm. Montgomery Altenburg	Cape Cottage, Maine
William Thomas Arthur	Omaha, Neb.
Edwin Davis Avary	Oakland, Calif.
Lloyd Herbert Bidwell	Stevens Point, Wis.
Homer Astley Boushey, Jr.	New York City
Willard Van Deman Brown	Atlanta, Ga.
Newton Hunt Crumley	Elko, Nevada
Don Orville Darrow	Bremerton, Wash.
John Francis Davidson	Atlanta, Ga.
Walter Edward Davis	Fort Worth, Texas
Donald Bream Diehl	Norfolk, Va.
John Patrick Donlin	San Francisco, Calif.
Edward Rowe Dorsey, Jr.	San Francisco, Calif.
Samuel Cleveland Dunlap	Gainesville, Ga.
Frank Howard Evans	Tucson, Ariz.
Thomas James Caughen, Jr.	North Bend, Neb.
Jay Lenham Gentry	Decatur, Texas
John Holden Gibson	Olney, Ill.
Hal Willoughby Gregory, Jr.	Atlanta, Ga.
Lowell Everett Heacock	Canoga Park, Calif.
Charles Phillip Hollstein	Jacksonville, Fla.
James H.C. Houston	Baltimore, Md.
Wm. Thomas Hudnell, Jr.	Washington, N.C.
Philip Beeton Klein	Oklahoma City, Okla.
Roger Herman Kruse	St. Louis, Mo.
James Britt League, Jr.	Greenville, S.C.
Charles Dean Manhart	Evansville, Ind.
Jeff Coleman Mock	Hillsboro, Texas
Ray Albert Noland	Walla Walla, Wash.
Herman Gustave Portman, Jr.	Amherst, Ohio
Thomas Jones Schofield	Pittsburgh, Pa.
Everett Greeley Senter	Denver, Colo.
Hamilton Smith, IV.	Detroit, Mich.
John Franklin Strickler, Jr.	Detroit, Mich.
James Edwin Stroud	Washington, D.C.
Edwin Ayerell Warren	Detroit, Mich.
Daniel William Wickland	Glendale, Calif.
James Winfield Williams	Hillsville, Pa.
Edgar Milton Wittan	Portage, Pa.
George Wm. Youngerman, III	East Haven, Conn.

### LIEUT. HARRIS VISITS WRIGHT FIELD, OH.

An exceedingly welcome visitor at Wright Field, Dayton, Ohio, recently, was Harold R. Harris, of the Pan-American Grace Airways, Lima, Peru. Some years ago Lieut. Harris was Chief Test Pilot at McCook Field, Dayton.

Lieut. Harris bears the distinction of being the first flier in the United States to make an emergency parachute jump from a disabled airplane in flight. He made this life-saving jump on October 20, 1922, nearly 11 years ago, near McCook Field, due to structural failure of the aileron of the plane he was flight testing.

It was shortly following his jump that the so called "Caterpillar Club" was organized.

Major Robert L. Walsh left Wright Field for Washington on May 26th for conference with the Chief of the Air Corps. His duty at the field ended June 5th when, to the regret of his many friends, he left for his new duties in the Canal Zone. He sailed on June 16th.

## MARCH CLASS PROGRESSES RAPIDLY

By the News Letter Correspondent

The March class of 1933 is rapidly nearing the completion of its primary training period, consisting of approximately four months of ground school and flying training on the line. I am sure that not one of the class regrets in the least having been given the opportunity of attending the greatest flying school in the world here at Randolph Field.

There have been many weary hours of pondering over some of the complicated and seemingly impossible problems in Theory of Flight, or perhaps over how many "Dits" make a "Dah," but all in all the instruction in ground school and on the flying line has already proven itself absolutely essential in every respect to the prospective military pilot.

The second week in March found the class working hard at Theory of Flight, Personal Equipment of the Military Pilot, and Buzzer. Briefly, Theory of Flight deals with the more technical and theoretical phases of flying, for instance, why a plane will fly, what keeps it up, and methods of construction and design which will make the plane stable and efficient for the task it has to do. Personal Equipment of the Pilot deals with the history of development, construction, methods of folding and practice of handling and using the flyer's real friend in case of emergency, the parachute. The class in Buzzer which runs practically thruout the primary and basic course ground school training has been the bane of a cadet's existence to many, but with time each little "Dit" and each little "Dah" finds itself meaning more than just that to the average cadet.

Following the short Personal Equipment course, the Engines course was started and took up the theory of why our airplanes run, what conditions best suit efficient and reliable operation of motors in military ships, and a study of the accessory parts of the airplane motor. Following a theoretical study of engines, the class went to the engines laboratory and found out, by actually tearing down and putting together of the component parts of the motor, just how it worked, what could go wrong with it and what to do after the trouble had developed. The final three weeks of this course is being spent in actual trouble shooting in the engine block laboratory.

The last of the ground school courses to be taken up is that of Ground Gunnery, which deals with the airplane armament, or as it is better referred to, as "The teeth of the military pilot." In this course the class has learned what kind of guns are mounted on our fighting ships and how they are constructed, and how to take apart and put together these rapid fire guns, so that in case of emergency the pilot will be able to fix minor troubles so that the gun may be kept in operation.

Over on the flying line where the attention of every flying cadet is centered thruout the entire course and where there is no end to new things to be learned and thrilling moments in learning how to fly, things are beginning to take on the appearance of a group of circus performers practicing their acts.

Back in the early flying days of the present March class, at the end of five and one-half or six hours dual flying instruction, the first proud cadets came back to the barracks wearing a broad smile, which told in itself of a solo flight that morning. Every day more joined the ranks of the soloist and by the end of twelve hours dual flight, most of the class had achieved that first little success in the life of a flying cadet. It was from this time on that the real work began. The following time in the air was not to be spent in learning very fundamental maneuvering with the instructor always there to help in case something went radically

wrong, but the test of taking the ship aloft alone and practicing maneuvers, picking out the mistakes alone and correcting for them had come. So much progress had to be made in a given time and if it were not done, a check ride or two and the big opportunity no longer presented itself.

With the exception of a few minor mishaps due to bad taxiing near the hangars, the March class has been free from accidents of any kind, but so far has waged the customary war on shock cords by breaking its share. There have been three forced landings on "A" stage so far, two due to gasoline shortage and one due to a broken propeller, in which cases all ships were brought to a good landing.

A resume of the flying training as it has progressed on the line since the first day is as follows: Familiarizing oneself with the controls and instructions in how to use the controls and the instruments that are provided, the first flight with the instructor and instruction in taxiing the ship about the field, a demonstration of how traffic around the field runs and how it should be left and entered, and an explanation of the wind direction or traffic "T" and how the different rectangles of traffic lie about the field at different settings of the "T."

After fundamental instructions on how to get into and out of the landing field, the first big thrill came with a chance at the controls during level flight to see just how the movement of each effects the flight of the plane. From this time on the new things were given fast and level flight, turns and banks, climbing turns, forced landings and take-offs, gliding turns and stalls followed. After this came elementary eights on cross roads, around points and pylon eights for accuracy work, followed by spins, spirals, chandelles, 360 degree and 180 degree landings, 360 degree steep banks and lazy eights.

At present the majority of the class are on the acrobatic stage and are working hard to perfect loops, half rolls, reversements, slow and snap rolls and Immelman turns. During the past week each flight has had a half or three-quarters of an hour dual instruction transition work per student. Those who have been flying PT-3's have been given some time on the PT-11 ship, and vice-versa. This transition work has served to make a pleasant variation and change in the regular grind as well as to give each student a chance to get acquainted with and fly another type of ship than that in which he has been accustomed to. Up to the present writing, the stage average per man total time in the air is 48:12, the average dual time is 25:42 and the average solo time 22:30.

### DODO PEP SONG

By P.E. Wilson

(Tune: Mr. Gallagher and Mr. Shean)

Oh Mr. Gallagher!  
Oh Mr. Gallagher!  
Have you seen this classy bunch of Dodos here, here, here?  
In their uniform so neat,  
Just to see them is a treat,  
And they're always bubbling over with good cheer -

Oh Mr. Shean!  
Oh Mr. Shean!  
They're the keenest bunch of boys I've ever seen,  
If you think these boys are lazy,  
You're half nutty if not crazy,  
Are they eager Mr. Gallagher?  
Absolutely Mr. Shean.

ANNOUNCEMENT was made by the War Department recently of the award of the Distinguished Flying Cross to Captain Donald L. Bruner, Air Corps, the citation being as follows:

"Donald L. Bruner, Captain, Air Corps, United States Army. For extraordinary achievement while participating in aerial flights. By his vision, initiative, courage and perseverance, Captain Bruner rendered exceptionally valuable service to the Government of the United States by developing and perfecting night-flying equipment, thus making it possible for military and commercial airplanes to traverse the length and breadth of the United States during the hours of darkness."

Under date of April 4, 1933, the Chief of the Air Corps sent the following letter of commendation to Captain Bruner:

"1. The Chief of the Materiel Division, Wright Field, Ohio, has brought to my attention your achievements in connection with the development of night flying equipment while you were on duty at that station and at McCook Field, Ohio.

"2. The records show that from 1919 to 1926 you flew for 500 hours at night, in the course of testing and developing night flying equipment on airplanes and on the ground. Your night flying during that period was extremely hazardous, due to the fact that the equipment had not been developed to the point wherein the requirements for reasonable safety had been met.

"3. The records further show that you invented the first revolving beacon and that your experiments led to the development of the present revolving beacons used by the Department of Commerce, that you also invented the first airplane-carried electric landing lights and were directly responsible for the development of the present standard units which are built into the leading edge of airplanes.

"4. The establishment, in 1922, of the first night operated Army airway, called the "Night Flying Laboratory," between Dayton and Columbus, Ohio, is credited to you. The night air mail service was a direct result of this work. Between the dates July 2, 1923 and August 13, 1933, you conducted and personally participated in the first airway actually operated for a considerable length of time, on schedule in the world.

"5. The following extract from the report of those associated with you in your work at Wright Field is worthy of quotation:

... in 1931 Lieutenant Bruner performed probably the most hazardous flight missions of the whole series of tests of night flying equipment. A flashing arc beacon \* \* \* was believed to be capable of illuminating clouds and fog intermittently by momentary flashes of extremely high candle power so that the light could be seen through fog by a pilot flying in or above it. \* \* \* Obviously, this beacon could not be tested under any conditions except the storm conditions for which it was designed. Lieutenant Bruner voluntarily flew on selected nights when there were fog, low-hanging clouds and heavy rain. He even flew blind in the clouds in his efforts to determine the fog penetration of this special beacon.

Having developed night flying equipment or ordinary peace-time operations to a quite satisfactory point, Lieutenant Bruner culminated his work by devising and testing secret portable lighting equipment for unprepared airplanes such as would be needed in war-time operations.

It gives me great personal and official pleasure to commend you herewith for these signal achievements, and to express, on behalf of the entire Air Corps, our sincere appreciation of all that you have done to develop and make safe the flying of airplanes by night."

The town of Bastrop in the Lone Star State is probably very little known to the citizens of this country, but two Army flyers will have occasion to remember it for the remainder of their days. The motorists of that town certainly displayed rare judgment on the night of May 13th and utilized the headlights of their motor cars to very good advantage when these two airmen, during a night flying mission from Barksdale Field, Shreveport, La., to Randolph Field, Texas, found it necessary to make a forced landing due to very poor visibility.

These two officers, Lieuts. J.T. Meyer, pilot, and L.M. Goldberg, Observer, reported the following story:

Due to the poor visibility that night, they had been driven down to a low altitude, with practically no visibility in a horizontal direction, making it necessary to fly by instruments, which is a dangerous practice at a low altitude. They had attempted to make a landing by using the two flares with which their airplane was equipped for night flying. Due to the low altitude, these flares struck the ground and went out before they could make a landing in the field selected. They were rendered helpless by this circumstance so far as illuminating a field for effecting an emergency landing was concerned and their lives were endangered, as it was very difficult for them to prevent a crash if they continued in this poor visibility. They circled Bastrop three times, trying to decide whether they would be forced to use their parachutes, when they noticed automobiles lining up in a field in which they could effect a landing. This made it possible for them to land safely, saving their airplane and possible injury to themselves.

#### INSTRUMENT FLYING AT CHANUTE FIELD

In accordance with a recent directive from the Chief of the Air Corps, providing that all pilots will receive a uniform ten-hour course of instrument flying, a rigorous program of instrument flight instruction was instituted at Chanute Field, Rantoul, Ill., by Lieut-Col. James A. Mars, Commanding Officer of the station. Chanute Field has been fortunate in having this year, as a student, Lieut. Elmer J. Rogers, Air Corps, a former instructor in instrument flying at Randolph Field, Texas. Shortly after the new directive was received, all pilots of Chanute Field were assembled and were addressed by Lieut. Rogers in an interesting two-hour lecture on the intricacies of the subject. At once, a school for instrument flying was established, with Lieut. Rogers as Instructor and Lieuts. R.V. Williams, F.E. Cheatle and R.M. Kraft as students. On May 22nd, these three officers completed the course of instruction and were graduated as Instrument Flying Instructors. They will, beginning at once, engage in an intensive program of instruction for other pilots of Chanute Field.

Testifying to the fact that Lieut. Rogers practices what he preaches, our Correspondent from the 113th Obs. Squadron, Indiana National Guard, writes us as follows:

"It was also our privilege to hear another splendid lecture by Lt. Rogers from Chanute on Instrument Flying. He gave us a very complete demonstration and talk on the use of the instruments in this type of flying, which has been very helpful to us in our flying since then. After the lecture, Lt. Rogers and Lt. Carpenter of our Squadron took off for a night trip back to Chanute Field. They received a favorable weather report between Stout and Chanute fields, but after flying for some

time they encountered low ceiling and Lt. Rogers was forced to pull up into the soup. After flying totally blind in a dense mist and rain for 45 minutes, they came out with a ceiling of 800 feet and were still exactly on their course. Lt. Rogers, according to Lt. Carpenter, certainly practices what he preaches and knows what he is talking about when relying only upon his instruments. Thanks also to Lt. Rogers; we were indeed fortunate to listen to such an instructive lecture by such a well informed officer.

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#### AERIAL GUNNERY BY 91st OBSERVATION SQUADRON

The gunnery exercises recently held by the 91st Observation Squadron, Air Corps, Crissy Field, Calif. proved highly successful despite the lack of facilities for all-year practice. The ground firing and bombing was done across the Bay at the new Hamilton Field. Tow target firing was conducted over the ocean off the Golden Gate. All personnel were ferried to and from Hamilton Field by air daily. Qualifications attained by the 13 pilots who completed the course were as follows:

Expert Aerial Gunner: Major Donald P. Muse, Captain John E. Upston, 2nd Lieuts. Smith, Titus, Northrup, Lindsay, Ball and Beck.

Aerial Sharpshooter: Captain H.W. Prosser, 2nd Lieuts. Clinch, Moody, Bell and Master Sgt. Stockwell.

An average score of 806 was obtained.

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#### AIRPLANE RESCUE DRILL IN HAWAII

The Air Corps recently held an airplane rescue drill for the civilian population of the Hawaiian Islands, when a "hot tip" was received in the office of the Air Officer of the Hawaiian Department that an airplane had suddenly burst into flames and dropped into the sea off Koko Head. At the time all airplanes assigned to Luke Field were in the air on a mission being conducted by the Commanding Officer of the 18th Composite Wing. The U.S. Coast Guard Cutter ITASCA, the Young Brothers tug, MAHO, a speedboat owned by Mr. K. Sumida and rescue planes from Luke and Wheeler Fields were immediately dispatched to the spot where the accident was reported to have taken place. In the meantime, all means of communications were being utilized to check up on all Army, Navy and commercial planes in the Islands to ascertain if any were missing. After all planes on the Islands had been "checked in" and found intact, rescue craft were informed by radio that there was no need for further search. It was believed that the alarm was caused by the accidental release of a flare from a plane which was among those of the Group on the mission above referred to.

Had there really been an accident, the prompt work of the surface craft would have been invaluable as the seas were too rough to permit the landing of amphibian airplanes. The prompt action of all rescue agencies was most gratifying, and the knowledge that efficient service is available is of great value to the morale of our seagoing pilots of the 18th Composite Wing.

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#### HEAVY RAINSTORM FLOODS CHANUTE FIELD

On the night of May 10th, Chanute Field and its environs were visited by a rainstorm of cloudburst proportions, which resulted in a great amount of damage to personal property of military personnel, as well as causing much discomfort.

Meteorological reports show that 4.40 inches of rain fell within a few hours in the night, accompanied by high winds. Due to the lack of natural drainage and to inadequate central drainage systems, practically all basement storage spaces of officers and noncommissioned

officers in the village of Rantoul were flooded with water varying in height from 3 to 4 feet, ruining property such as trunks of summer clothing, spare furniture, bedding, equipment, and other articles stored in basements. Individuals have reported damage varying from \$25.00 to as much as \$300.00 which, when collectively considered, reaches a figure of several thousand dollars.

Added to the actual property damage were the inconveniences and discomforts of finding plumbing appliances unusable, furnaces entirely out of commission, leaving families exposed to the raw cold moisture saturated air, with a resultant increasing sick rate. Bathroom fixtures at Chanute Field, because of insufficient drainage of the location, could not be used for two days.

Those members of the command living in other communities were temporarily cut off from Chanute Field by sizable lakes which submerged the main highways, both north and south, to a depth of over two feet. These lakes were finally forded successfully, after fan belts had been removed, batteries raised beyond the danger level, and oil filler caps plugged against the entrance of water, automobile pilots using dead reckoning, "feel," and even the dictates of blind flying, to remain on the strip of concrete highway two feet below the surface. This transportation condition continued for five days.

The flying field was temporarily a lake, the surface of which, when whipped by the wind, actually showed whitecaps. In spite of the continual and strenuous efforts to keep the worn out war-time buildings of Chanute Field water tight, officers and men found barracks, offices and laboratories liberally scattered with pools of water.

This is the third flood of serious and damaging proportions at Chanute Field in the last three years, as two previous inundations occurred in 1931.

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#### DISASTROUS CONSEQUENCES OF SMALL FIRE

Crissy Field, Presidio of San Francisco, Calif. was recently visited by misfortune in the form of a fire. An electric gasoline pump apparently developed a small leak while in operation and ignited. The material damage was confined to the pumphouse itself, but five men were burned about the face and hands when the blaze, apparently subdued, flared up and caught those nearby. All suffered very painful burns but none will be permanently disabled.

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#### ARMY PAIR WIN IN PIGEON RACE

Two Scott Field homers, Miss Erhardt and Mrs. Roosevelt, representing the Belleville Racing Pigeon Club, turned in a third consecutive victory for the local club over the St. Louis Championship Club in a 200-mile race flown recently from Newport, Ark.

The two birds, trained by Harry Meyer, pigeonier at the Army post, flew together to win first and second in a wonderfully flown race. The average speed of the two birds was 1211.87 yards per minute. Third place went to B. Boatman, of St. Louis, 1118.91 yards per minute, and fourth to the Huegler & Gotch loft, of St. Louis, 1113.24 yards per minute. Scott Field birds have flown to 3 victories over distances of 100, 150 and 200 miles, and are believed to have set an Army record in winning three consecutive flights over these distances. The birds are descended from World War birds, such as Spike, which carried 50 messages in the war; Pres. Wilson, whose leg and breast was shot away, and Wocker, a bird that lost an eye in the war.

V-6464, A.C.

## COMPARISON OF RECENT FOREIGN AND AMERICAN MILITARY AIRCRAFT ENGINES



FOREIGN countries have produced remarkable results in the development of racing type liquid-cooled engines, while in the United States manufacturers have succeeded in developing air-cooled engines of higher horsepower and greater variety than those of

foreign countries, states an Air Corps Technical Report, recently issued by the Materiel Division, Wright Field, Ohio. In elaboration of this interesting comparison, the report goes on to say:

As a result of this intensive work on large liquid-cooled engines in Europe, the larger foreign powers all have liquid-cooled engines which exceed those of the United States in horsepower. In other characteristics, American liquid-cooled engines compare favorably with foreign engines. Only American liquid-cooled engines are using high temperature coolants, although other countries, particularly England, are developing evaporative cooling systems.

A study of the characteristics of air-cooled engines shows a greater variety of these engines in the United States, with lower specific weights, smaller specific displacements, higher B.M.E.P. and higher compression ratios than those of comparative horsepower developed in foreign countries. At the same time, manufacturers in the United States have succeeded in developing air-cooled engines which deliver higher horsepowers than engines developed in foreign countries.

The engines under discussion in this report were chosen as those representative of the latest development in foreign countries. Only engines of sufficient power for military use were considered, which eliminated most of the engines developing less than 500 h.p. All the foreign engines taken under consideration were not known to have passed the type tests required by the various countries in which they were developed, but most of those from the United States had passed these tests.

A certain variation in these type tests is interesting. Former type tests in the United States called for 56 hours of operation at rated power and speed and 44 hours of operation at part throttle. Several of the American engines discussed have completed the present type test which requires 67½ hours of full operation and 81½ hours of part throttle operation. The French type test calls for 4 hours of full power operation at rated speed and 100½ hours of operation at part throttle. The British type test calls for 56 hours of full power operation at rated speed and 44 hours' operation at part throttle. The Italian type test requires 1 hour and 35 minutes full power operation at rated speed and 152 hours of operation at part throttle.

There is at the present time no known practical service type of engines operating at 1000 h.p. or more anywhere in the world, with the possible exception of the British Rolls-Royce and Italian Hispano-Suiza 18 Sb, of which a few have been constructed, but extensive development work is being done on this type of engine. The chief racing engines listed for comparison in this report are the Rolls-Royce 1931 Racer (British) with a maximum rating of 2300 b.h.p. at 3200 r.p.m. at sea level; Napier "Lion" VII B Racer (British) with maximum rating of 875 b.h.p. at 3300 r.p.m. at sea level; Renault 12 Ncr 1931 Racer (French) with a maximum rating of 1972 b.h.p. at 4000 r.p.m.; the Farman 1931 Racer 18 T (French) with maximum rating of 1460 b.h.p. at 3700 r.p.m. at an altitude of 3610 feet; Fiat 1931 Schneider Cup A-8-6 (Italian) with maximum rating of 2800 b.h.p. at 3200 r.p.m. at sea level.

In making a comparison of service engines, the racing type engines, because they were developed expressly for racing purposes and are lacking

in endurance characteristics essential to service use, were not considered. These engines were included only because they represent the ultimate in design with the present knowledge of design and the materials in use for engine construction. Safety factors are cut to a minimum to produce these results, and the materials will not long stand the stresses to which they are subjected.

### Comparison of Liquid-Cooled Engines

One of the most important factors to be considered in the design of aviation engines is the specific weight or weight per brake horsepower. This value should be as low as it is possible to make it and is dependent upon the excellence of engine design and the materials used in construction.

The brake mean effective pressure is that average pressure on the piston which would produce the work equivalent of the brake horsepower and is primarily dependent upon the amount of supercharging to which the engine is subjected, upon the design of the engine and upon the quality of the fuel used. A determining factor lies in the anti-knock value of the fuel available, since, other factors being equal, a high B.M.E.P. is possible only with high anti-knock fuels.

Specific displacement is obtained by dividing the volume in cubic inches swept in the working stroke of the pistons of the engine by the horsepower developed. A small specific displacement is indicative of high horsepower in a small bulk. Investigations indicate that the American engines are equal to or superior to other engines in this respect. An exception to this is the Curtiss-Wright V-1750-F, which has a greater specific displacement than the Fiat A-30-R.

A small stroke-bore ratio usually indicates a low engine and, therefore, a small crankcase. This is a valuable characteristic, since it tends to decrease the drag of the airplane. The Curtiss-Wright V-1570-F engine is exceeded in this respect by the Isotta-Fraschini "Asso" 500-R, the Fiat A-30-R, and the Hispano-Suiza 12 Nb. Other American engines are equal to or superior to foreign engines in the same horsepower class.

The compression ratio of the Curtiss-Wright V-1570-F engine is less than that of the Isotta-Fraschini "Asso" 500-R and the Fiat A-30-R, but other American engines have higher compression ratios than comparable foreign engines. Compression ratios are usually limited by the fuels available and also by the supercharging used. Higher compression ratios tend to increase fuel economy and to promote better cooling, provided detonation is suppressed.

A comparison of the crankshaft speeds and propeller speeds of the various engines shows that there is a decided tendency toward higher engine speeds and the use of gears to reduce the propeller speed. Higher engine speeds give greater power without increasing the bore or stroke of the engine if the brake mean effective pressure does not fall off faster than the speed increases. In general, the American engines are being run at the higher speeds. However, the speed of the Curtiss-Wright V-1570-F engine is lower than that of either the Fiat A-30 R, the Rolls-Royce "Kestrel" IIS, or the Hispano-Suiza Xbrs.

The weights generally given for the liquid cooled engines do not include the weight of the radiators or coolant which must be used. This weight is considerable and usually increases the specific weight of liquid-cooled engines above the values usually found for air-cooled engines.

High temperature cooling has been subjected to much investigation in the United States, and by the use of Prestone circulating at 250° F. to 300° F. the radiator area has been reduced to approximately 60 percent



is of that necessary for water cooling. This not only decreases the total weight of the installed engine, but also effects an increase in fuel economy and substantially reduces the drag of the airplane. High temperature cooling has been neglected in Europe, with the exception of some rather extensive investigation in evaporative cooling in Great Britain and Germany.

The development of liquid-cooled engines in the United States has been delayed, because of the lack of demand for this type of engine in commercial fields.

#### Comparison of Air-Cooled Engines

Air-cooled engines found early approval from commercial concerns in the United States, and the development of this type engine has reached limits in America beyond anything developed in foreign countries, the Americans excelling in the horsepower developed and in specific weight. The Italian "Asso Caccia" engine has a higher B.M.E.P. and a lower specific displacement than have the higher powered American engines. However, the relative performance of this engine is not particularly remarkable when it is considered that it is low powered, has a high specific weight, and has a smaller total displacement than any other air-cooled engine listed. American engines operate at higher speeds and have lower stroke-bore ratios and higher compression ratios than engines of other countries.

#### SIDE LIGHTS ON THE WEST COAST MANEUVERS

The 77th Pursuit Squadron, Barksdale Field, Shreveport, La., recently returned from the West Coast Maneuvers. Here is what the News Letter Correspondent of that organization has to say regarding this get-together of Air Corps tactical organizations:

"Home again; and what a good feeling to 'dismount' after a trip from Tucson to Barksdale in one day. The personnel of the post turned out a welcoming reception for us at the line, and the embracing, etc., was simply 'scandalous' at least to a staid old bachelor like me.

All in all, the maneuvers were very successful. No accidents occurred during the period of actual maneuvers, although we were not so fortunate enroute. Daily critiques were held, at which all officers were welcome. Hence, the lowest ranking lieutenant was afforded the opportunity to hear a decision of the results each day. No definite decisions as to 'who won' were given out, so each man could form his own opinion.

Thanks to Major Tinker, our living conditions at March Field were made as pleasant as possible. With more than 300 officers to house and care for, one can imagine the difficulties encountered. However, all pilots were appreciative of the situation, and there was a minimum of gripes.

Prejudiced as I am, I would laud California to the skies - but, of course, there are always two sides to every question. The first week there we encountered some pretty chilly weather - so chilly, in fact, that California stock fell off several points on our exchange. The next two weeks were much more typical, and I believe no one could object a great deal to such weather conditions. Then, too, we were gradually becoming acclimated and acquainted - two factors which make for satisfaction anywhere.

So again we say 'thanks' to March Field for its excellent work as host. And may I say that the site for maneuvers was well chosen.

A vote of thanks is also due to the people of Tucson, who gave us a splendid reception. Particular thanks to Major Foye and Mr. Proctor, of the Pioneer Hotel, who did much to make our stay there most pleasant.

And so, back again in our old haunts, we resume the routine of duty. The sweat of the day

is compensated for by the beauties of the night (ramblings of a feeble mind). Adios, buenos dias, hasta la vista, mucho dinero to you. (Just to prove we've been to the border).

#### LIEUT. JACKSON LOSES HIS LIFE IN CRASH

Second Lieut. Edmund Lybrand Jackson's brief career in the U.S. Army Air Corps was brought to an abrupt halt as death claimed the youthful 22-year old Reserve officer of Langley Field, Va.

While participating in machine gun practice about nine o'clock, June 20th, the P-12 ship which he was piloting dove into the ground on Plum Tree Island. Death was instantaneous as his mates rushed to the scene of the fatal accident.

Lieut. Jackson was born in Wagener, S.C. He graduated from Citadel College in Charleston, S.C., completing four years' training with the R.O.T.C. Entering the Primary Flying School at Brooks Field, Texas, June 1, 1931, he was captain of his class. He graduated with high honors from the Advanced Flying School, Kelly Field, Texas, in the June, 1932, class, where he was awarded his "Wings." Reporting to Langley Field on June 29th, he was assigned to the 33rd Pursuit Squadron for duty, and was designated as Asst. Supply Officer. Lieut. Jackson had but ten more days to serve on active duty before returning to civil life.

He is survived by his widow, a bride of a few months, and his father and mother. The remains were sent to his home in Wagener, S.C., following funeral services which were held in the St. John's Church, Hampton, Va., June 21st.

Congressman Hampton P. Fulmer, of South Carolina, an uncle of the deceased, came to Langley Field from Washington upon being notified of the accident.

#### THE TC-13 AIRSHIP

The Army's new non-rigid airship, the TC-13, was recently delivered to Langley Field, where extensive tests are under way to determine its performance, which will become the basis for still further service testing in connection with coastal patrol duty for which it is primarily intended. The general performance thus far has been highly satisfactory, and the high speed has exceeded the design requirement by about 10 percent. A portable type mooring mast has also been delivered to Langley Field for use in connection with the operations of the ship. The sub-cloud car, which can be lowered below the airship proper for special forms of observation work, is now available but will not be used until ground tests on the windlass equipment for raising and lowering this car have been completed. Development of a water ballast pick-up device, by means of which water can be picked up from the ocean to compensate for the weight of fuel consumed, is now under way.

#### DRAMATIC CLUB ORGANIZED AT BARKSDALE FIELD

On June 8th an organization was born with the name of Barksdale Dramatic Club. Lieut. Caldara has agreed to act as adviser and the Club promises to be a great success. Pvt. J.A. Williams, Hq. 20th Pursuit Group, was elected President, and O.M. Myers, 79th Pursuit Sqdn., Vice President. The Secretary and Treasurer's office is held by R.B. Bannerman, 71st Service Sqdn., who is assist-

ed by L.D. Reese, also of the 71st. There are about 25 charter members, and work on a three-act comedy will begin shortly. At a later date the formation of the Barksdale Field Enlisted Men's Club will get under way, and it is believed that the two clubs will consolidate.

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#### REFORESTATION CONDITIONS AT MARCH FIELD ENDS

With the passing of about 7,000 enrollees in the Civilian Conservation Corps through March Field, the first phase of the work of Army personnel at the field cooperating in the President's Reforestation program has been completed. Flying has been at a low ebb while the intensive work of conditioning the youths in the forest army has been in progress.

The job of supplying all these men in the 25 scattered camps has only begun. Already unprecedented problems have been encountered. In the fitting of shoes, for instance, the requirements of C.C.C. members exceeded the regular issue of the army at both extremes. Sgt. Killingsworth, in charge of issuing supplies, says this about the shoe situation: "Imagine our embarrassment when we had ten calls for size 14 and numerous calls for size 4. All we could do was insist on each boy wearing his own shoes until special requisition could be sent forward, filled and returned. For the most part we were able to fit all comers, but I was completely stumped when a young man, 6'11" tall, came through the line for clothes." Normally, most of the shoes issued in the past have been sizes D and E. With the young men of the C.C.C., however, the average foot was width EE, probably due to the extensive use of tennis shoes."

Thirty day supplies of food are handled at the March Field Commissary for the army of forest workers. There are 25 camps and approximately 7,000 C.C.C.'s in the March Field District. An idea of the enormous supply of food stuffs can be obtained by a glance at a few items found on one requisition pad of Lieut. James E. Briggs and Warrant Officer Clarence Ulrey. Here is the thirty day supply: (amount in tons) 40 sugar, 21 beans, 10 bacon, 6 fresh beef, 90 potatoes, 16 coffee, 60 flour, 20 hams, 6 lard, 6 salt; also, 12,000 6-lb. cans of tomatoes and 36,000 1-lb. cans of milk.

The Photo Section of March Field is making a series of pictures depicting life with the Civilian Conservation Corps. A series were taken at March Field while the conditioning camp was going full blast, and the work will continue with pictures taken at the various mountain camps. The series will cover every phase of work, such as K.P., bunk fatigue, sports, working with brush hooks and medical inspection.

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#### RADIOING BY THE INDIANA NATIONAL GUARD SQDN.

The Squadron officers' class, 113th Observation Squadron, Indiana National Guard, has a rather unique piece of equipment in its buzzer training table, which consists of twelve individual stalls containing a key and headphones, and a central control station which, by virtue of its system of switches, can establish one large radio net or several smaller ones. Any stall or key may be connected up with any other, so that practice may be had between any two stations, or several stations, or they all may work together as a large controlled net. It is a splendid device for practice and training in radio net procedure as well as regular code practice. The Communications Section under Lt. Zartman and Lt. Brown built and installed the table.

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Lady Grace Drummond Hay was an interested visitor at the Materiel Division, Wright Field, on May 16th.

#### WEST POINTERS IN TRAINING AT LANGLEY FIELD

Two hundred and seventy Cadets of the Class of 1934 of the United States Military Academy, under the direct command of Lieut.-Col. Sandeford Jarman, C.A.C., arrived by Army Transport CHATEAU THIERRY from West Point, N.Y., on June 15th. Upon their arrival at Fortress Monroe, Va., at 8:00 a.m., the Cadets were divided into three detachments, the first to remain at the Coast Artillery School for instruction in theoretical and practical Anti-Aircraft and Railway gun-fire; the second to be transported to Langley Field via motor, where instruction in aviation and Air Corps tactics was given, and the third group to Fort Bragg, N.C., where the annual firing of Field Artillery weapons was conducted. Each Thursday the groups rotated, so as to give each of the 270 students a week at each of the three Army Posts.

Major Wm. O. Butler was designated by the Post Commander as the officer-in-charge, with Lieut. R.E. Nugent as Assistant. Other officers appointed on temporary duty during the stay of the Cadets included Lieuts. W.J. Paul, Supply, Transportation and Mess Officer; L.S. Kuter, Operations Officer, with Lt. H.P. Dellinger, Assistant; W.G. Bowyer, Officer-in-Charge of Entertainment.

Capt. P.R. Goode, Infantry, together with his staff of three Air Corps officers, Lieuts. J.M. Weikert, T.A. Sims and C.A. Harrington, were placed on duty at Langley Field from West Point to supervise the training of the West Pointers, cooperating with the staff appointed by the Post Commander.

The Cadets who arrived at Langley Field on the morning of June 15th were quartered at the barracks formerly occupied by the Air Corps Tactical School. Flights were given each Cadet following safety precautions - general instruction talk by Lt. Kuter. Classes were held during the three weeks' training period in Air Corps tactics and equipment. Optional flights in the airships of the Lighter-than-Air Company, 19th Airship, were given by Captain L.A. Lawson, Commanding Officer of the Company.

The lectures given the Cadets during their training period at Langley Field included: Machine Guns, Bombs and Bombing, by Capt. J.A. Wheeler, O.D., and Lt. J.H. Ives, A.C.; Aerial Photography, Capt. W.D. Wheeler, A.C.; Air Force, by Capt. Robert Olds, A.C.; Radio Equipment, Lieut. J.H. McCormick; Night Flying Equipment, Lieut. W.R. Wolfenbarger; Road Sketching, Lieut. W.G. Bowyer, and Navigation by Lieut. L.S. Kuter. A tour of the large N.A.C.A. laboratories was conducted by Lieut. Weikert, the wind tunnel claiming unusual interest among the Cadets.

The mornings were devoted to Air Corps instruction, and the afternoons and evenings were given over for recreational and social activities. Numerous features were planned for the Cadets; a reception and hop for each group, athletics, beach parties, picnics, boat rides, sight-seeing tours, etc., all conducted to make the stay of the Military Academy students enjoyable.

On July 7th, the First Class of the U.S. M.A. will have completed their tour of instruction at Langley Field, Fortress Monroe and Fort Bragg. The entire class will be at Langley Field on this date for a final demonstration, including parachute jumps, smoke-screen laying, formation flying, acrobatics, and a combined maneuver of Bombardment, Attack and Pursuit Aviation.

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MAJOR George H. Brett, Commanding Officer of Selfridge Field, Mich., on his recent tour of midwestern flying fields, made several talks before local business men's associations and presented to the attention of the public some interesting facts and statistics of the U.S. Army Air Corps. One of the talks, given before the Junior Board of Trade of Louisville, Ky., was of such a nature as to attract the particular attention of insurance men in that city, and elicited an editorial in the Louisville insurance organ, "The Insurance Field."

Major Brett, in his experience as Commanding Officer of the 1st Pursuit Group, has had ample opportunity to learn the importance of insurance to the pilots under his command, not only for the sake of the protection of the dependents of the officers, but for the sake of the efficiency, discipline and safety record of his organization. Major Brett told the Louisville Board of Trade that during the first year of his tenure at Selfridge Field he was much worried by what he considered a very high accident and death rate among his pilots. When he went into a study of the statistics he thought he saw a relation between the accident rate and the degree of insurance coverage of his pilots. It appeared to him that the better insured pilots had the best flying and safety records. Taking this as a basis, he used his influence to have all his officers adequately insured, and the subsequent record of the 1st Pursuit Group has substantiated his theory. It indicates that insured pilots, relieved of worrying over the fate of their dependents in case of accident, make more efficient and safe flyers, for the accident death rate at Selfridge Field has declined until the 1st Pursuit Group has one of the lowest rates as compared with other Air Corps organizations. The Group death rate in air accidents in 1932 was only 3.7 percent.

Major Brett pointed out, however, that this rate of 3.7 percent only included deaths which resulted from actual air accidents incurred in ordered training and administrative flights (not including deaths from natural causes or not in line of duty), and that the rate was much higher than the accident death rate among ground troops. He has calculated that the rate for his organization, although fairly low as compared with other Air Corps units, is about one thousand times higher than the rate for the average ground troops unit. It is this difference in rates that places the Air Corps pilot in a substandard insurance category and forces him to pay much higher rates for his insurance. Major Brett drew the conclusion that the extra flying pay for Air Corps pilots was therefore very important. The extra pay enabled each pilot to carry adequate insurance and relieve him of worry over his dependents. Lack of the extra pay, or its reduction, would lower the efficiency of the Air Corps a great deal, and probably increase the death rate, for pilots would be constantly worried over the knowledge that they could not carry sufficient insurance to protect their dependents.

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A recent flight of three O-19C's from Nichols Field on a training mission to the Southern Islands included Mindoro, Negros, Cebu, Mindanao and Deyte. The pilots were Major W.B. Duty, Lts. N.L. Cote, J.C.A. Denniston, with Staff Sgts. Peterson, Francisco and Sgt. Terry as passengers. Stops were made at Iloilo, Cebu, Zamboanga, Danselau and the Del Monte Pineapple Plantation, Tacloban. The trip was particularly interesting in that each port of call held some scene or point of interest for all personnel.

Similarly, a flight of six O-19C's left a week later for a training mission to Northern Luzon. The pilots were Lts. J.J.O'Connell, J.W. Andrew, A.V.P. Anderson, Jr., F.L. Anderson, A.W. Kissner and L.O. Peterson, with Captain

CHANGES OF STATION: To Office Chief of the Air Corps: Capt. Harold L. Clark from Barksdale Field, La.

To March Field, Calif.: Capt. Virgil Hine, from A.C. Tactical School, Maxwell Field; 1st Lt. A.J.K. Malone, 2d Lt. Lloyd H. Watnee, from A.C. Technical School, Chanute Field. To Crissy Field, Calif.: 1st Lt. Everett Davis from Philippines.

To Langley Field, Va.: Capt. Clarence B. Lober from duty as A.C. representative at plant of Goodyear Zeppelin Co., Akron, Ohio; 1st Lt. Randolph P. Williams from Advanced Flying School, Kelly Field, upon completing course.

To Hawaiian Dept.: 1st Lt. George H. Sparhawk from Sheffield Scientific School, Yale Univ. To Randolph Field, Texas: Capt. Orin J. Bushey from Scott Field; Capt. John Y. York, Jr. from Wright Field, for flying training.

To Rockwell Field, Calif.: 2nd Lts. John T. Murtha, Jr., from Engineering School, Wright Field; Wm. B. Blaufuss and Franklin C. Wolfe from A.C. Technical School, Chanute Field. To Wright Field, O.: 1st Lt. John S. Gullet from Mitchel Field; 2nd Lt. Roscoe C. Wilson, from A.C. Engineering School.

To Mitchel Field, N.Y.: Capt. S.G. Frierson. Assignment to Hawaiian Dept. revoked. DETAILED TO AIR CORPS, and to Randolph Field for flying training: 2nd Lieuts. Everett W. Barlow, Hugh T. Cary, Harold R. Everman, Alexander J. Sutherland, Henry M. Bailey, Infantry; John L. Inskeep, Cavalry.

PROMOTIONS: Lt.-Col. Benjamin D. Foullois to Colonel; Major Robert M. Goolrick to Lieut.-Colonel; 2d Lt. Milton M. Towner to 1st Lt., all ranking from May 24, 1933; 2d Lt. Fay R. Upthegrove to 1st Lt. rank June 1, 1933.

ORDERS REVOKED: Assignment of Major Rosenham Beam as Instructor, Cavalry School, Ft. Riley.

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#### MAJOR KIRBY JOINS CATERPILLAR CLUB

It is gratifying to learn that Major Maxwell Kirby is well on the road to recovery from injuries received June 19th, when he leaped from his plane in the vicinity of Great Mills, a settlement 8 miles south of Leonardtown, Md. Major Kirby was enroute from Langley Field to Bolling Field when his plane caught fire. Due to its low altitude at that time, Major Kirby's parachute did not check his fall sufficiently, and he was rendered unconscious upon striking the ground. An ambulance from Bolling Field brought him to Walter Reed General Hospital. It was feared that his skull was fractured, but examination at the hospital disclosed that his injuries were not so serious as at first reported.

Major Kirby, who is Post Operations Officer at Langley Field, was assigned to this duty following a tour of service in Hawaii. Prior to that time he was in charge of the Air Corps ROTC Unit at the University of Illinois, Champaign. He served overseas during the World War as a member of the 94th Aero Squadron, and is officially credited with the destruction of one enemy aircraft in combat. He was cited in Army Orders for gallantry in action during the Meuse-Argonne offensive.

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Pistol firing was recently completed by 12 officers of the 91st Observation Squadron. All qualified, and the new Commanding Officer, Major Donald P. Muse, led the list with a score of 91.6.

E.P. Sorensen, Lieut. G.G. Johnston, Staff Sergeants Buckmaster and Ricks, Sergeant Elliott and Private Wells as passengers.

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## RESUME OF AIR CORPS - ANTI-AIRCRAFT EXERCISES

By the News Letter Correspondent

With the return of the 2nd Provisional Bombardment Group Headquarters and the 49th Provisional Bombardment Squadron to Langley Field on May 25th, and the return of the 11th and 31st Provisional Bombardment Squadrons to March Field from Patterson Field, Ohio, the 2nd Provisional Bombardment Group and the Air Corps - Anti-Aircraft Exercises, Fiscal Year 1933, became a matter of history. Since April 5th, the Langley Field contingent was based at Patterson Field. They were joined by the 11th and 31st Squadrons a few days later, at which time an intensive campaign of preliminary training and equipment conditioning was launched.

Following the Fort Humphreys Exercises held during the preceding year, it became quite apparent to Bombardment Aviation that there was work to be done in the development of new tactics and the perfection of technique. The efforts of a year put forth in this direction were not wasted. The 11th and 31st Squadrons coming from the West Coast to form an integral part of the 2nd Provisional Bombardment Group, of which the Group Headquarters personnel and the 49th Provisional Bombardment Squadron were from Langley Field, fitted into the scheme of things without the slightest difficulty or loss of time. The fact that a composite group containing squadrons whose normal peace time stations are separated by more than 2,000 miles, could start functioning smoothly and efficiently from its inception is a high and tangible tribute to the coordination of training throughout the Air Corps being accomplished by the Office of the Chief of the Air Corps. The task confronting this Provisional Bombardment Group was by no means simple. In the first place, there were three distinctly different types of airplanes to coordinate an exacting time schedule with one squadron of B-2's, one of B-7's and the third of B-9's. Many of the first attempts to conduct group day attacks on the split second closely resembled a jig-saw puzzle on a map. In the second place, a large amount of special equipment had to be installed at Patterson Field subsequent to the arrival of units. It was difficult to install and difficult to maintain. In the third place, certain developments had been made in the technique of delivering night attacks with which all units were not thoroughly familiar. This necessitated the installation and use of special lights on aircraft in the group.

Although extremely unfavorable weather conditions were encountered during the major portion of the preliminary training period, the final phases of the exercises from May 15th to May 24th were conducted without bad weather.

Although there has been no publication to date of higher staff conclusions or umpires' reports, we of the extinct 2nd Provisional Bombardment Group feel confidently down to the last man, whether he be from Langley or March Field, that a unit of the Air Corps has seldom, if ever, been confronted with a more exacting task - a mission requiring a day to day series of most exacting time schedules for both day and night operations, an extended period during which rest and sleep were to be had only by chance and not by schedule and last, but not least, a job where the slightest breakdown in 100% teamwork would have spelled failure or disaster.

The personnel of the composite group returned to their respective stations with letters of commendation from the Commanding General, 1st Provisional Wing, and immeasurable satisfaction of knowing that each had contributed his utmost to a job well accomplished.

## COMBAT EXERCISES BY 26TH ATTACK SQUADRON

The 26th Attack Squadron, stationed at Wheeler Field, T.H., recently conducted a series of interesting combat exercises on the Waimanalo Gunnery Range. In the first exercise held in conjunction with the quarterly test, 9 airplanes participated. In addition to the regular service load, including all guns, over-water equipment, etc., each airplane carried 200 pounds of .30 caliber machine gun ammunition, five 25-pound fragmentation bombs, and five 25-pound dummy bombs. The machine guns and live bombs were directed against a target consisting of 400 silhouette targets scattered over an area 70 yards by 300 yards, representing an Infantry battalion on the march. The dummy bombs were dropped in salvo on a 50-foot circle representing an enemy transport. The results were excellent, 1529 hits being scored by both machine gun firing and bomb fragments. Only 16 of the 400 targets escaped being hit. All of the dummy bombs were dropped within the circle representing the transport.

A week later the Squadron fired on and bombed three groups of silhouette targets. Each group consisted of 25 targets and represented a landing party in a boat. Each element of three airplanes made one attack on one target. The total number of targets was 75; number of hits, 67; total number of hits, 237.

Other combination gunnery and bombing missions were conducted at the rate of one or two every week for six weeks. The results of these missions were as satisfactory as the first one.

Experiments on simulated dropping of delayed fuse bombs from low altitude provided some interesting results. Dropping these bombs singly from about 20 feet and while flying in 3-ship "V" formation, the following results were obtained: Out of 90 bombs dropped; 86 were in the target representing the battalion of Infantry. Two were 35 feet over. Out of 80 bombs dropped on the same target and in the same manner, 79 were in the target.

These exercises have demonstrated the strong fire power of attack aviation employed against ground troops. It has also shown the desirability of delayed fuse bombs for more accurate work and to afford more protection for the airplanes from anti-aircraft activity by allowing extremely low flying. The 11th Photo Section of Luke Field took motion pictures of these activities under the direction of the Division Signal Officer. These pictures show the loading of the bombs and machine guns, the approaches to the targets, the attacks, and the result:

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## AIR CORPS SOON TO GET NEW ATTACK PLANES

Work is progressing satisfactorily on the 46 new fast two-seater Attack airplanes, known as the Curtiss A-12, which are now being built for the U.S. Army Air Corps by the Curtiss Aeroplane and Motor Company of Buffalo, N.Y.

The Curtiss A-12, which is somewhat similar in outward appearance to the Curtiss A-8, is a low wing monoplane of all-metal construction and is equipped with slots and flaps. The slots are built in the leading edge and the flaps on the trailing edge of the wing to provide a relatively low landing speed. The Curtiss A-12 is powered with one Wright "Cyclone," 700 horsepower engine.

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The 44th Obs. Squadron, Albrook Field, Canal Zone, has been conducting a Reconnaissance School for officers of other branches of the service. The course consists mainly of aerial reconnaissance and observation, and is of one month's duration. Three officers are being trained during this period.

# Notes from Air Corps Fields

Chanute Field, Rantoul, Ill., May 23d.

Crissy Field, Calif., June 2nd.

It is with much pleasure that his many friends at Chanute Field learn of the assignment of Major Percy E. Van Nostrand to this station, and his arrival by June 30, 1933, will be looked forward to with much enthusiasm.

Lieut. Robert W. Harper, Personnel Adjutant of Chanute Field, was detailed to additional duties in contact work in the Central Illinois district, acting with various welfare agencies and representatives in the choosing of selectees for the Civilian Conservation Corps. In this work Lieut. Harper will cover six or seven counties.

The drain upon Chanute Field by initial details of officers and noncommissioned officers to duty with the Civilian Conservation Corps has already been felt. Those on duty with both the post proper and the Air Corps Technical School, many of whom have been normally performing duties in several capacities, now are necessarily daily receiving additional duties as members of the command are ordered away on conservation details.

Lieut.-Col. James A. Mars, Commanding Officer of the Field and Commandant of the Technical School, with Mrs. Mars, departed May 17th on a month's leave, during the course of which they will motor to Denver to visit their son. During Col. Mars' absence the post is commanded by Capt. Samuel C. Skemp.

Chanute Field is suffering with a shortage of engines, which seriously interferes with flying operations and the flying time of pilots. All pilots of the station who have completed their War Department Training Directive program are now, due to the shortage of engines, limited to five hours' flying per month. This is the most acute shortage in flying airplanes experienced by this station in many years.

Flying missions to other points and return, recently performed by Chanute Field officers, include: Lieut.-Col. James A. Mars, Lts. R.W. Harper, G.W. McGregor, J.T. Sprague and F.E. Cheatle to Chicago, Ill.; Capt. Walter Bender, S.C. Skemp, D.C. Ogle, F.S. Borum, A.G. Hamilton, Lts. W.K. Burgess, G.W. Goddard, J.L. Davidson, F.E. Cheatle and E.W. Anderson to Wright Field, Ohio; Capt. E.G. Harper, Lt. R.M. Kraft to Patterson Field, O.; Capt. A.G. Hamilton, Lts. E.W. Anderson, J.L. Davidson, L.H. Watnee, J.A. Bulger, A.J.K. Malone, W.B. Blaufuss to Scott Field, Ill.; Lt. R.M. Kraft to Lebanon, Ind.; Capt. E.G. Harper, Walter Bender, Lts. F.C. Wolfe, C.D. Wheeler, O.F. Carlson to Stout Field, Ind.; Capt. D.C. Ogle, Lts. F.E. Cheatle, R.M. Kraft, C.W. Alverson to Schoen Field, Ind.; Lts. C. Stile and P. Frederickson to Kansas City, Mo.; Lts. J.J. Mulvey, F.A. Low to Detroit, Mich.; Capt. S.M. Connell, Lts. J.J. Mulvey and F.A. Low to Danville, Ill.; Lt. M.E. Tillery to Joliet, Ill.; Lts. R.V. Williams and L.D. Fater to Springfield, Ill.; Capt. E.G. Harper and W.T. Meyer to Peoria, Ill.

Air Corps officers from other stations visiting Chanute Field by air, recently, include: Capt. E.G. Ennis, T.N.G. from Houston, Texas; Capt. E.M. Powers, Lts. G.V. Holloman, P. Wolfe, W.G. Smith and C.H. Caldwell from Wright Field, O.; Lt. R.M. Ramsey from Selfridge Field; Capt. G.H. Gale from Stout Field, Ind.; Capt. Clayton Bissell and Lt. J.L. Jackson from Ft. L'worth, Kans.; Lt. F.F. Everest from Maxwell Field, Ala.; Capt. W.C. Goldsborough, A.F. Herold, Lts. M.B. Skinner, R.R. Burley, H. MacCloskey from Scott Field; Col. J.H. Howard, Capt. J.W. Colgay, C.A. Pursley, E.R. Raley, Lt. L.M. Bawsel from Mitchel Field, N.Y.

With the assistance of funds supplied by some of our good friends from San Francisco and the elbow grease of our own men, a brand new skeet field has appeared on the bay side of the flying field. This new sport, which seems to be supplanting the old G.I. trap-shooting, is expected to be more and more popular as the 1933 duck season approaches.

The Civilian Conservation Corps is beginning to require more and more cooperative work from the unit. In order to provide fast transportation for inspecting and administrative officers, ships and pilots are being detailed to daily alert duty prepared to go to any point within the 9th Corps Area upon 15 minutes' notice. It is anticipated that the unit may also be used for ferrying emergency supplies to inaccessible camps.

In order to be prepared for any contingency in connection with Civilian Conservation Corps flights, all pilots are being dispatched on circuitous aviation flights of about 400 miles each. Instructions require landings to be made at all available fields and a report on field facilities to be made upon return to Crissy Field. These flights will not only serve to freshen up personnel on aviation and strange field landings, but will provide up-to-date information on many of the smaller fields which might be useful in conjunction with emergency flights for the Civilian Conservation Corps.

The officers of Crissy Field had the privilege of entertaining a number of distinguished visitors on May 29th, when some 18 members of the staffs of the 30th Pursuit Group, 12th Observation Group and 9th Observation Group stopped overnight enroute to Seattle.

The "Brethren" were gathered together at the Bellevue Hotel, where an informal dinner was provided. Lieut.-Col. John H. Howard, C.O., Mitchel Field; Lt.-Col. L.W. McIntosh, Air Officer, 9th Corps Area; Major Frank D. Lackland, C.O., Brooks Field, were among those present who contributed verbally to the success of the evening.

3rd Attack Group, Ft. Crockett, June 12th.

Ten A-8 Attack airplanes and one C-9 Transport, the former still wearing the camouflage coating which was used in the Anti-aircraft-Air Corps Exercises at Fort Knox, returned to Fort Crockett on May 26th after an absence of two months. Capt. Lotha A. Smith led the flight from Patterson Field, O., where the Attack unit was based for the Exercises, and the following officers returned with him: 1st Lts. N.F. Twining, H.J. Conway, D.W. Mayhue, W.L. Wheeler, 2nd Lts. G.W. Mundy, R.F. Tate, M.S. Savage, T.L. Thurlow, W.C. Mills, F.E. Calhoun, L.C. Westley, G.M. Marchison, G.L. Govoni, F.R. Freyer, H.G. Richardson, C.C. Harris, D.L. Hurst, L.I. Belden and D.B. Sherman. Lt.-Col. H. M. Hickam and Capt. C.C. Chauncey remained at Patterson Field until June 1st, for a conference on the results of the Exercises, on which date they returned to Fort Crockett.

All personnel from the Third Attack Group, who participated in the Command and General Staff Exercises at March Field, returned to Fort Crockett June 3rd, with the exception of Major H.H. Young, Capt. L.L. Harvey, J. H. Davidson, Lts. A.H. Foster and R.F. Stearley, who went from March Field to Seattle, Wash., prolonging their stay on

the West Coast about ten days. Officers returning at this time were: Major Alexander Mileau, Lts. T.L. Mosley, P.G. Meisenholder, D.W. Jenkins, K.R. Crosher, W.F. Bonnell, S.V. Payne, N.F. Parrish, M.B. Cahill, H.H. Culler, C.B. Claassen, H.N. Renshaw, Bob Arnold, W.A. Coln, Jr., J.M. Goodbar II, Berton Root, R.F. Strickland, E.W. Gray and H.A. Schmid.

Seven officers and twelve enlisted men from this station were ordered to duty with the Civilian Conservation Corps on May 28th and departed immediately. The officers were: 2nd. Lts. G.W. Mundy, E.S. Savage, K.R. Crosher, W.C. Mills, D.W. Jenkins, L.C. Westley and F.E. Calhoun. The enlisted men were: Tech. Sgt. Louis Kohn, Staff Sgts. L. Braungardt, H.W. Spiller, John Wesolawski; Sgts. F.H. Renke, C.J. Simmons, J.E. Moore, C.W. Solomon; Corporals L. Morehouse, E.L. Lewis, C.M. Swenson and James Veitch.

#### 113th Obs. Sqdn., Indiana National Guard.

Capt. Marriner and Lt. Allen flew to our station from the radio school at Chanute Field to give the officers' class a very modern and educational lecture on aircraft radio, and demonstrated the new A.C. Command Set. These sets are certainly a marvelous development, and we are looking forward to the time when we can have this equipment in our planes. Many thanks to Capt. Marriner and Lt. Allen for their very interesting and educational evening.

Several weeks ago we were pleased to have seven ships from the Missouri squadron at St. Louis drop in for our Monday night drill period. After the drill period they all took off for a night trip back to their home station. We are always pleased to have company, and shall look forward to more visits from them and other squadrons.

Sgt. Vickery, who was in the crash with the late Major Taylor, is back on the job as permanent duty man, and looking fine after his narrow escape. It is indeed gratifying to all of us to have him back and in good shape again.

#### Fort Sill, Okla., May 26th.

All classes at the Field Artillery School closed for the year on May 22nd. From the Air Corps point of view this was a great disappointment, as we had expected some very interesting work during the four-day problem in the field. At any rate, the school season was completed without a single failure in air observation. The Communications Section in particular is justly proud of its 100% record.

Gunnery and bombing practice to complete the 1932-1933 season will take a prominent place in the training program for the next few weeks.

Tech. Sgt. Neil B. Stimmel and Corp. Emory F. Kelly, both of the 1st Balloon Company, were detailed on special duty with the Civilian Conservation Corps Camp stationed at this post.

Capt. R.E. O'Neill was on leave for ten days during the current month visiting friends at Randolph Field, Texas.

#### 112th Obs. Sqdn., Ohio National Guard, June 15.

It is contemplated that our field training period will be held at Camp Perry, Ohio, July 23rd to August 6th, and the entire unit is busy preparing for same. The program calls for extensive work with the Division Staff this year, in Command Post Problems and Artillery Fire Adjustment problems. A new landing field has been built at Camp Perry for our exclusive use which eliminates holding daily operations on the parade grounds, as we have done in past years. This will be a decided improvement, as we have been seriously hampered in the last few years by having ground troops on the same parade grounds we were using for landings.

Lieut. Charles Backes, Air Corps Instructor with our Squadron, received orders to proceed to the Douglas factory at Santa Monica, Calif., to ferry back the first new C-38E airplane to be delivered to this squadron. We are all anxious to see the new ship.

June 4th, we sent six ships to Camp Perry, Ohio, to participate in making a "Movietone News Reel." This included taking pictures of our ships bombing a small house and destroying same, as well as formation flying. We understand the pictures turned out very nicely, even though the photographers sent by "Movietone" did get awfully sick.

During some of this nice weather, several of the officers have been doing some night flying. Our new operations schedule which starts next month will be welcomed, as we will be on a nine-hour per month flying schedule for each pilot. During the past few months we have been operating on a four-hour per month per pilot schedule.

Some of the visiting pilots stopping off at Cleveland during the past month were as follows: From Selfridge Field - Major A.H. Gilkeson, Capt. Hoyt, Lts. LeMay, Sanders, Stewart, Yeager, Henry; from Wright Field - Major Junius W. Jones, Lts. Hurd, McConnell, Nichols, Irving, Hoffman. Capt. Cummings, our former instructor, stopped in the other day.

He is now down in Washington in the Office of the Chief of the Air Corps. Capt. Stenseth, pilot, flying General Leach, Chief of the Militia Bureau, stopped in on their way to Minneapolis, Minn. The General was met by Major Zistel, our Commanding Officer, and went into a huddle for a few minutes chat on the Field Training situation.

#### Clark Field, Pampanga, P.I., May 18th.

The 3rd Pursuit Squadron, during the last month, has been completing the War Department Training Directive, and by the time this goes to press, we will have it completed 100%. Of the 19 pilots at the station, 18 have qualified as expert gunners. Lieut. James B. Burwell was high with a score of 1244.

Lieuts. T.W. Steed and J.W. Persons made a 3-day trip to Zamboanga and return.

Due to the granting of accrued leave, many officers are taking advantage of the nearness of China and Japan and making interesting trips there. Major G.E. Brover and family, and Lt. G.E. Henry just returned. Capt. L.R. Hewitt and family sailed May 11th for a month and a half. Master Sgt. George P. Klingler and family are also in China at the present time. Now that the 3-year tour is in effect (absolutely) all officers may be able to see some of the Orient.

On May 13th the Squadron held its 14th Organization Day. In the morning the men participated in golf, tennis, swimming and bowling. Not bad for a one-squadron post. At night the Squadron put on a real feed and had some "hot" entertainers from Manila. A good time was had by all.

Langley Field was honored by two distinguished visitors on May 24th in the persons of Major Francisco Leon and Captain Jose Pazo of the Spanish Air Corps. Captain John A. Wheeler, Ordnance Dept., escorted the Spanish airmen over the reservation and through the laboratories of the National Advisory Committee for Aeronautics.

They departed in the afternoon for Dayton to visit Wright Field, after which they will pay visits to numerous aeronautical manufacturing establishments throughout the United States.

Wheeler Field, T.H., May 15th.

6th Pursuit Sqdn.: The arrival and departure of the USAT REPUBLIC effected a change in personnel of the Squadron. Lt. John W. Egan came to us from Selfridge Field, while Lts. Swyter, Gee and Havelick returned to civil life, having completed their tour of active duty. All three were capable, efficient, and well liked officers.

On April 12th and 13th we completed our quarterly service tests as part of a combat exercise conducted at Waimanalo. Using 12 planes, a frontal attack in a column of elements was made upon a Bombing plane represented by a sleeve target towed from an A-32. Of a total of 380, .30 caliber, and 28 .50 caliber rounds used, 14 hits were registered. Considering the momentary target presented and that one attack was made, the results were highly gratifying. These exercises serve to increase the morale of the personnel and the effectiveness in gunnery and bombing by the squadron as a whole.

19th Pursuit Sqdn.: On April 4th we bid "Aloha" to Lts. Thomas J. Searcy and Charles A. Miller, who completed their tour of active duty and returned to the mainland. Lt. Glenn O. Barcus came to us from Randolph Field. His former students are zestfully looking forward to the pleasure of "breaking" him in on Pursuit again.

The second quarterly test of planes with full military equipment was conducted at Waimanalo Gunnery Range while participating in a Group tactical exercise.

26th Attack Sqdn.: On April 4th, Lts. McCoy, Rotherham and Nuhn left for the mainland; Lt. McCoy going to Ft. Crockett and Lts. Rotherham and Nuhn returning to civil life.

Luke Field, T.H. - 5th Composite Group.

We miss quite a few familiar faces since the REPUBLIC sailed on April 4th. Capt. James F. Powell, our former Executive Officer; 1st Lt. Donald D. FitzGerald, formerly in command of 4th Obs. Sqdn.; 1st Lt. David M. Ramsay and 2d Lts. Charles G. Williamson, Herbert C. Chambers and Claude B. Northrup having completed their tour of service in Hawaii, left for their new stations on the mainland. Lts. Jephtha W. Fator and Wm. L. Combest, Air Res., left April 4th, the former being transferred to the Canal Zone for the remainder of his tour of service, while the latter will enter the Letterman General Hospital for treatment.

Lt. Charles F. Densford, from Wheeler Field, joined the Group on April 25th.

On May 5th the Post Chapel was the scene of a very beautiful wedding, when Miss Mary Ashbrook, daughter of Lt.-Col. and Mrs. Roy W. Ashbrook, of Riverside, Calif., became the bride of Lieut. Henry C. Kristofferson.

Lt. Gerald E. Williams, Luke Field, and Miss Marjorie Parker, of San Antonio, Texas, were married in the famous old Kawaiahae Church. Bert Wheeler, of the famous Wheeler-Roolsey Comedy team, gave the bride away. Mrs. Edward J. Timberlake was bridesmaid and Lt. Timberlake the best man.

Miss Donna Marion, weight 6 pounds, 10 ounces, arrived April 18th to add joy to the household of Lt. and Mrs. Don Z. Zimmerman. The happy pair are still receiving messages of congratulations from their host of friends. Incidentally, Lt. Zimmerman is a very busy man these days.

Another set back for old man depression was registered on April 22nd, when Lt. and Mrs. Joseph W. Baylor announced the birth of a daughter, Mary Belle, weight 6 pounds, 10 ounces.

Special stress was placed in aerial gunnery and bombing, communications and formation flying during the past month, though the Observation units also received training in smoke puff, adjustment and liaison.

Only two Group tactical training missions were accomplished during the month. On the 4th, the Group, after a rendezvous over Barbers Point,

flew in formation around the USAT REPUBLIC, departing for the mainland. April 29th was the quarterly test of planes with full military equipment, immediately following which the Wing Commander, Lt.-Col. Gerald C. Brant, conducted the annual tactical inspection of the command. The inspection consisted of actual training and tactical missions in formation flying, aerial gunnery and bombing, communications and photography.

Two airways flights to other Islands of the Groups were made during the month, the first on the 18th, consisting of two bombers of the 72nd Sqdn. and a Sikorsky Amphibian, to Upolu Point, Hawaii. The flight remained over night and returned the following day via Homestead Field, Molokai. On the 29th, Lt. R.E. Jarmon flew to Port Allen, Kauai, and return. Both of these flights were made for purpose of transporting personnel and equipment and inspecting and repairing Air Corps installations.

A number of the officers are busy these days trying to make up for lost time in the Army Extension School in order to get credit for the 100 hours work required by the Training Directive. The schools close May 5th, and just what will happen, in case there should be a few delinquents is a matter of conjecture. But nobody seems to be willing to tempt fate.

Nineteen students were enrolled in the Wing Telegraphers School now under way at Luke Field. If this school maintains the high standard established by the Wing Radio School recently completed, we will have a dozen or more well trained operators ready for work with the communications net within a few months.

The May Dance for the enlisted personnel was held in the Post Gymnasium on April 29th with the greatest crowd of the year attending.

Quite a number of the men are becoming interested in Chess since the tournament sponsored by Major Ballentine, Chaplain. On the 26th, Mr. Willet, of Fort Shafter, who claims to have been at one time the Chess Champion of Germany, appeared at Luke Field and took on ten of our best players simultaneously. Now, everybody around here believes Willet is still the Chess Champion of Germany, for he had no trouble winning all games.

Chaplain Ballentine gave a large dinner in honor of the Blue Division of Luke Field's Bible Class, at the YMCA, on the evening of April 10th. Approximately, 85 guests assembled at the dinner, among the notables being Brig. Gen. R.S. Abernethy, C.O. Hawaiian Separate Coast Artillery Brigade; his aid, 1st Lt. Joseph Dillon; Maj. V.B. Dixon, C.O. of Luke Field, and his Adjutant, John W. Warren.

65th Service Sqdn.: Capt. Douglas Johnston assumed command of the 65th on Apr. 1st. Second Lt. Herbert C. Chambers, Res., returned to the mainland on April 4th.

4th Obs. Sqdn.: First Lt. O.P. Weyland was relieved as Sqdn. Adjutant and Engineering Officer and assumed the duties of Squadron Commander. First Lt. Russell Scott was assigned to the Squadron and appointed Adjt. and Armament Officer.

72d Bomb. Sqdn.: 2nd Lt. A.J. Bird, Air Reserve, who was on extended active duty in Panama since his graduation from the Training Center on Oct. 30, 1932, arrived on the last Transport and was assigned to the Squadron. First Lt. B.T. Starkey, Depot Supply Officer, and 2d Lt. Joseph W. Baylor, test pilot for the Hawaiian Air Depot, were attached to the Squadron for training and at the present time are busily engaged in bombing and gunnery practice.

23d Bomb. Sqdn.: Our Squadron Commander, Capt. Raphael Baez, Jr., returned after almost two months absence, during which time he was on detached service with the Navy, accompanying the scouting force as observer on fleet maneuvers held off the Pacific Coast. On April 13th, he was admitted to Tripler General Hospital for treatment of injuries sustained as result of accident while playing polo.

11th Photo Sec. The Tactical Training Film of the 26th Attack Squadron was completed. It is a 1500-ft. reel, covering all of the tactical activities of an Attack Squadron, and should prove valuable as a training film.

Hawaiian Air Depot: From March 21st to April 20th, the Depot Engineering completed the overhaul of four planes and made repairs on five. Ten engines were also overhauled in this period.

Patterson Field, Fairfield, O., June 5-16th.

Brig. General B.D. Foulis visited here May 19th in connection with the Anti-aircraft-Air Corps Exercises, departing for Washington on May 21st.

Lt. F.M. Zeigler departed June 8th for Denmark, S.C., on a month's leave.

Major F.R. Coleman made a training flight to Selma, Ala., June 2nd, returning next day.

Col. Wm. S. Browning, Inspector General, arrived here June 8th for annual inspection of Depot.

Capt. J.L. Corbett, QMC, was assigned to duty at Ft. Huachuca, Ariz. and departed June 1st.

Capt. Edmund G. West, Q.M.C. assumed the duties of Post Quartermaster on this date.

Second Lt. Edward A. Griffith, Signal Reserve, reported May 10th for two weeks active duty.

Avigation flights by officers of this station were made, as follows: To Maxwell Field, Ala.:

Lt. Zeigler in a C-4A; To Bowman Field, Ky.: Lt. McPike, accompanied by Mr. Orville Myers, in a BT-2A; Major Coleman in BT-2B; Lt. Zeigler and 8 passengers, in C-27; Lt. McPike, accompanied by Mr. L.M. Hill, in O-25A; Lt. Zeigler, June 6th; To Chanute Field: Major Coleman in BT-2B; To Bolling Field, D.C.: Lt. Williamson in a C-4A; Major Coleman, June 9th; To Columbus, O.: Capt. Flickinger; Lt. Timberlake; To Selfridge Field: Capt. Lewis; Mr. Sgt. Guile in C-9; Lt. Zeigler in C-27; Lt. Zeigler and two passengers; To Schoen Field, Ind.: Lt. Goodrich; To Logan Field, Md.: Lt. Goodrich, accompanied by Major Grow; To Harrisburg, Pa.: Capt. Flickinger; To Middletown, Pa.: Mr. Sgt. Guile; To Bay City, Mich.: Lt. Goodrich; To Chicago: Lt. Timberlake in BT-2B; To Lambert Field, Mo.: Major Coleman in BT-2A; To Mitchel Field, N.Y.: Lt. Zeigler in C-27; To Scott Field, Ill.: Lt. Timberlake; To Cleveland: Lt. Goodrich; To Chanute Field: Capt. Lewis; To Columbus, O. and Bowman Field, Ky.: Mr. Sgt. Guile.

During May, 14 airplanes and 39 engines were given major overhaul, and 21 planes and 19 engines minor overhaul.

Granted sick leave for 21 days, Capt. Burton F. Lewis departed June 9th for Kenora, Canada.

Lt. G.V. McPike ferried Air Corps supplies to Scott Field, Ill. and Little Rock, Ark. June 9th.

Capt. Connell from Chicago ferried an O-25B to this station June 8th for engine change.

Capt. Melvin B. Asp, Maxwell Field, visited here June 8th, departing for Bowman Field on June 10th.

Capt. Webster from Chicago ferried an O-25B to this station June 6th for engine change.

Lts. P.W. Timberlake and R.L. Williamson were recently granted several days furlough leave.

Pvt. Joseph Szymkiewicz, 18th Signal Service, Co., was transferred to Ft. Thomas, Ky. June 1st.

The following officers ferried planes to this station for overhaul: From Bowman Field: Lt. Moran, a BT-2B; Lt. Keim, a BT-2B. From Scott Field: Lt. Halverson, an O-19. From Roberts Field, Ala.: Capt. McNeil, an O-2H. From Fort Leavenworth, Lt. Jackson, an O-25B. From Little Rock, Ark.: Lt. Horn, an O-2E. From Selfridge

Field, Lt. Thompson, a P-12E; From Lambert Field, Mo., Capt. Herold; a BT-1. From Lunken Field, Capt. Hoppin, a BT-2B; Lt. Trostel an O-1E. From Candler Field, Ga., Major Air Rader an O-1E.

Commanders Morgan and Radford from Anacostia, D.C., visited here on May 22nd.

Major Fred H. Colman ferried an O-25A to Fort Riley, returning in an O-25A.

Lt. and Mrs. Howard G. Bunker departed for Blue Springs, Kansas City, Mo. May 25th; Lt. Bunker having been granted 16 days' leave.

Col. Pirie and Major Frank flew to Fort Knox, Ky., May 27th in two O-38 planes.

Capt. Eugene M. Riel, Dental Res.; 1st Lt. W.W. Wood, Air Res. and 1st Lt. Samuel I. Thackrey, M.I. Res. reported here May 14th for two weeks' active duty training.

Wright Field, Dayton, Ohio.

Lt. Nelson Wanderely and Senor Jose Ribeiro, members of a commission of seven from Brazil touring the United States, visiting various military flying fields and manufacturing concerns dealing with aeronautical equipment, spent June 13th at the field. Lt. F.D. Klein conducted the visitors through the field and laboratories.

Lt. D.M. Borden, Air Res., of Franklin, O., reported June 12th for two weeks active duty and was assigned to the Aircraft Branch.

A 6-plane formation piloted by Capt. A.J. Lyon, Lts. E.M. Powers, D.G. Lingle, K.B. Wolfe, B.W. Chidlaw, A.R. Crawford, flew to Milwaukee June 12th, making a night return flight.

Capt. F.D. Hackett took off for the West Coast June 13th on about a month's tour of inspection regarding maintenance of airplanes and engines, which will include Rockwell, March and Crissy Fields, and Seattle, Wash. Assistant Secretary of War H.H. Woodring and party, piloted by Lt. Frederick Kimble, arrived at the field May 5th, taking off shortly afterwards for Bowman Field.

Flights by personnel of the field for various purposes, were made as follows: Lts. O.R. Cook and H.H. Couch to Akron, May 9th, to investigate propeller installations on the TC-13 airship. Lt. E.M. Powers, May 15, for Rockwell and March Fields, San Antonio, Santa Monica and Barksdale Field, to confer with officials on procurement and overhaul of engines, being absent about a month. Lts. J.T. Martha and F.M. Hopkins an avigation flight to Newark, N.J., May 12th, making a night return flight. Lt. H.G. Crocker to Memphis, May 13, making a night return flight. Capt. A.W. Vanaman, C.L. Blackford, of the Operations Office, and J.W. Schwinn of the Contract Branch for San Antonio, Santa Monica, and Seattle, to confer on contracts with officials at the various places where they stopped, being absent about 20 days.

Lt. B.W. Chidlaw to Santa Monica May 16th for 18 days' absence to assist in the arrangement of the mock-up of a new plane (YO-44) at the plant of the Douglas Co. - Capt. R.C. Moffatt to Robertson, Mo. May 17 to ferry a Curtiss YC-30 from there to Washington, D.C. - Capt. R.C. Moffatt, May 27th, for Richmond, Va., via Pittsburgh, Bolling Field - Major H.A. Strauss on May 23rd to Washington for conference with the Chief of the Air Corps regarding procurement, then to Baltimore for conference with Glenn L. Martin Co. regarding Air Corps contracts - Lt. C.A. Ross from Middletown, Pa., May 23rd, returning same day - Lt. P.P. Hill to Robertson, Mo. May 24th to ferry the second YC-30 to Bolling Field - Brig. General E.C. Pratt, Major H.A. Dargue, Capt. Victor Strahm, H.H. George, E.C. Kiel to Fort Knox, Ky., May 29th - Capt. A.F. Hegenberger and C.D. Barbulesco of the Radio Branch to Newark, N.J., June 1st, to inspect the instrument landing system being tested there.



Lt. O.R. Cook and D.A. Dickey, Chief of the Propeller Unit, to Pittsburgh, June 2d, on business with the Pittsburgh Screw and Bolt Corp. regarding propellers - Capt. Bruce Hill, C.E. for an extended stay at Crissy Field, which he will make his base for a mapping project which is to include the Northwest Pacific Coast - Lts. B.W. Chidlaw and A.R. Crawford in two airplanes, June 8th, for Buffalo, making a night return flight - Capt. A.W. Stevens, piloted by Lt. J.F. Phillips, C.E., for Bolling Field, Aberdeen, Md., Mitchell Field and Rochester, N.Y. - Col. A.W. Robins and Capt. V. Strahn to San Antonio - Lt. L.F. Harman to Baltimore on temporary duty at the plant of the Glenn L. Martin Co. to confer with the contractors concerning the YB-10, 12 and 13 planes and to conduct the acceptance test and ferry the YB-10 from the plant to Wright Field for performance testing.

Wiley Post, Round-the-World pilot, visited the Field May 24th on his way from New York to Okla.

Capt. St. Clair Streett looked in upon his friends at Wright Field on his way from Fort Leavenworth to Bolling Field.

Lt. V.A. Conrad, Signal Corps, originally ordered to report at Wright Field, received orders to report to Patterson Field instead.

Lt.-Col. B.K. Yount and Lt. S.M. Umstead came in from the Pacific Coast May 19th on their way to Washington. Capt. Vincent Meloy, of the Office of the Chief, Militia Bureau, arrived from Murfreesboro, Tenn.

Mr. W.S. Farren, member of the British Aero Research Commission, London, Eng., and Group Commander Capt. Reid, Asst. Military Attache, Washington, were visitors at Wright Field, May 5th. Capt. John Whiteley acted as escort to the guests in their tour of inspection through the Division.

Mr. G. Hall Roosevelt, brother-in-law of the President, and Civilian Supervisor of the Detroit Air Corps Procurement District since Feb. 3rd, 1933, arrived from Detroit with a party on May 13th and spent the day on a tour of inspection of Wright and Patterson Fields.

Col. Alvin C. Voorhees, Signal Corps, Chief of Plans Div. in the Office of the Assistant Secretary of War, arrived May 13th from Chicago. After making a tour of the field, he took off for Washington. Major Wm. H. Crom, formerly Chief of the Industrial War Plans Sec. Material Div. and at present in the Office of the Assistant Sec. of War, also arrived at Wright Field, May 13th, for conference with officers of the Industrial War Plans Section regarding Procurement Planning.

Lt. E.L. Hall, Spec. Res., Akron, O., reported May 15th for two weeks' active duty.

G.E.A. Hallett, General Motors, Detroit, former Chief of the Power Plant Branch at McCook Field, came to Wright Field for consultation with Engineers on May 26th.

Col. W.S. Browning, I.G.D., Washington, was at the Material Division for several days.

Maj. J.H. Rudolph and Capt. A.B. McDaniel flew in from the west coast and took off for Washington on June 9th. Capt. S.C. Skemp, Lts. George Goddard and M.H. Stewart flew in from Chanute Field and departed for Louisville. Lt. J.R. Hawkins, Randolph Field, flew in from Bolling Field, remaining until following day. Capt. E.H. Wood flew in from Chanute Field, June 5th, returning same day. Major E.B. Lyon arrived from the West Coast, departing for Bolling Field. He is a student at the Army War College, Washington.

Mr. Philippe Level, of the Hanriot Aircraft Co., Paris, France, was a visitor at Wright Field on June 1st. He is on a tour visiting various aircraft fields throughout the United States. Lt. Harman acted as escort to Mr. Level on his journey through the field and laboratories.

Capt. F.S. Borum of the Chanute Field Technical School staff for the past four years, reported for duty here May 31st, replacing Capt. A.M. Drake, who leaves about the middle of July for Panama, and who served as Supply Officer.

Langley Field, Va., June 12th.

After three weeks' steady work by the commissioned and enlisted personnel, the beautification projects started here May 8th are nearing completion. Under the capable supervision of Capt. Paul J. Mathis, Post Provost Marshall and his staff of assistants, the beautification work of this station is becoming a reality. It's a big job and everyone at the field has shown hearty cooperation.

Establishment of a Post Nursery, construction of a new sentry box at the entrance of the reservation, installation of a new lighting system, comparing favorably with that of a large city, and construction of a new concrete structure to be used as a garbage cleaning stand, constitute the outstanding projects completed in rapid time by the enlisted personnel, under the supervision of an experienced officer. Many large jobs are among the 51 projects which are to be completed in the near future. Repair of the railroad lines on the reservation; installation of wye at Lighter-than-Air area for turning locomotives, removal of old concrete floors and foundations, grading of barracks, theatre, gymnasium and guard house areas; complete destruction of old incinerator and magazine and cleaning up of site of old post dump; completion of road to swimming pool and sodding in that area; and the completion and cleaning of emergency field involving the removal of timber and brush, filling ditches and laying tile drain and leveling of flying field, make up the larger projects planned by the Commanding Officer.

Lieut.-Commander Ginjiro Akaba, Ordnance Inspector, Imperial Japanese Navy, was a distinguished visitor at Langley Field a few days ago. Capt. John A. Wheeler, Ord. Dept., escorted the Japanese officer in his tour of the laboratories of the N.A.C.A.

The Langley Field contingent were back at their home station following the completion of the Air Corps-Antiaircraft Exercises, based at Patterson Field, O.; during the past month Major H.A. Darguo, C.O., 2nd Bomb. Group, was in charge of the Langley ships and personnel.

The 49th Bomb. Sqdn., commanded by Capt. E.L. Eubank, received the following letter from Brig. General H.C. Pratt, Air Corps, as the Langley Field contingent prepared to leave Patterson Field, O., upon completion of the recent Antiaircraft-Air Corps Exercises:

"1. I wish to express my deep appreciation to you and your officers and enlisted men of the 49th Bombardment Squadron for your very excellent performance of the duties of your squadron, connected with the activities of this Wing during the Anti-aircraft-Air Corps Exercises. All missions were executed with precision and intelligence, in spite of the numerous unfavorable conditions caused by weather and difficulties with equipment.

"2. It is desired particularly to congratulate your enlisted men for the excellent way in which they carried on the very difficult work of maintenance of the equipment.

"3. I hope that I may again have the pleasure of serving with you and your command."

Langley Field's Noncommissioned Officers' Club recently received its first big cleaning, the surrounding area having been beautified, and additional work planned during the coming months. Under the direction of Tech. Sgt. Chas. W. Draper, Club President, the modern club house has been the scene of many happy hours spent by Langley Field members, their ladies and guests. A beach has already been completed, with excellent swimming facilities within 50 yards from the Club. An open-air shower bath is another novelty.



26th Div. Aviation, Penna. National Guard.

The Squadron is doing more cooperative missions every month. Lts. Calligan and Hawkins carried out a three phase communications mission with the 176th Field Artillery in Pittsburgh, Pa.; Lieut. Vickers and Lieut. Craven the same type of mission with the 110th Inf. at Altoona, Pa.; Lts. Cox and Miller with the 109th Field Artillery at Wilkes-Barre, Pa.; Lts. Scattergood and Brenner with the 104th Cavalry at Harrisburg, Pa., and Lts. Calligan and Merrill with the 103rd Cavalry at Philadelphia, Pa. This last mission was carried out after dark, and the airplane was in communication with both the Cavalry and the Squadron ground station.

On June 3rd and 4th, the Squadron took part in combined maneuvers with Headquarters Troop, 103d Cavalry, and Batteries A and C, 213th Coast Artillery (AA) at Wings Field, near Norristown, Pa. Beginning at 6:00 p.m., the Cavalry, using one plane as Observation, attacked the Field, and were in turn attacked by enemy aircraft, also supplied by the Squadron. The battle raged until after dark when the 213th Coast Artillery joined in the problem with searchlights and guns using blank ammunition. The following day cooperative communications and tracking missions were performed with both the Cavalry and the "Archies." The entire maneuver was performed to the satisfaction of the referees, of whom Lieut. Magee, our instructor, was one, and afforded valuable training for all arms engaged.

Capt. Stenseth, of the Militia Bureau, ferried our first O-38 in from the 109th Observation Squadron, Minn. National Guard, and this was quickly followed by the second from the 104th Obs. Sqdn., Conn. National Guard, which was flown in by Capt. Salisbury. Our pilots like them very much, and what the observers think of them after working in O-2's is easily imagined.

Through the help of the Curtiss-Wright Corp., Mr. Brubacker of that Company gave a very interesting lecture to the officers and men of the Squadron on one of the class nights. The Pioneer Instrument Co. also cooperated with the Squadron by having Mr. Binney give a lecture on instruments on another class night.

Lieut. Magee and his able assistant, Sgt. Ray, were kept more than busy with everyone trying to finish up their correspondence courses by the end of the school year, but they certainly do a good job.

Recent visitors to this station included: Lt. Wright, Conn. Nat'l Guard, in an O-38; Lt. Martin, Bolling Field, in O-38; Lt. Robbins, Bolling Field, in O-38; Pvt. Moler, of MAD, in an O-1C; Capt. Stenseth of the Militia Bureau,

and Capt. Salisbury, of the Conn. Nat'l Guard, who delivered O-38's to the Squadron; Lieut. Boswell of the Naval Reserve in a Pitcairn; Lt. M. Smith and Capt. Wainer, of Kelly Field, in a BT-2B.

Richards Field, Kansas City, Mo., June 6th.

During May, the flying activities of the Kansas City Air Corps Reserve Station were of a constant and consistent nature. To start the month, Capt. Wm. B. Wright with our Chief Mechanic, Mr. Francis T. Nolan, made an extended trip through the East and South, covering a course over 6,000 miles long. In the meantime, Lt. G.M. St. John with Lt. H.L. Bredow made a trip to Longview, Texas, by way of Memphis, Tenn.

Two formations were flown during the month, one to help the American Legion Parade in Kansas City, Kans., and the other as a funeral escort for Lt. Edmond C. Wolf, who was killed in an airplane crash at Devine, Texas.

On May 19th, the 430th Pursuit Squadron attended a Reserve Officers' Contact Camp at Columbia, Mo., where a series of formations, dog fights and acrobatics were staged for the further education of Reserve Officers of other branches of the Service. The officers who flew to Columbia were: Capt. Wm. B. Wright, who was in command of the Squadron, Capt. Wilton M. Briney, 1st Lts. E.A. Sweeney, Roy C. Farrell, R.A. Morehouse, 2nd Lts. W.R. Hunt, J.P. Spake, K.H. Gresson, T.S. Poquette, E.P. Curry, W.A. Ong, A.G. Hunter, M.H. Mullins and Larry Dail.

Ferry trips for the month were made by Lt. A.G. Hunter in a PT-3 to Omaha with Capt. Green in a BT-2B; Capt. Wm. B. Wright with Major S.M. Montesinos as passenger in a BT-2B to Omaha. The members of the Omaha trip spent the afternoon with Major Houghland getting enlightenment on what is to happen to the Air Corps. Lt. G.M. St. John was ferried to Jefferson Barracks, St. Louis, by Lt. M.H. Mullins in a BT-2A, so that Lt. St. John could take up his duties in the G.C.C. Camp.

Capt. Wm. B. Wright flew to Chicago with Lt. Cameron K. Reed as passenger in a BT-2A, to take in the Chicago Reserve Officers' Meeting. During this trip the World's Fair was visited.

Fifty-four postal trucks are being reconditioned and are to be put in service with the Civilian Conservation Corps. Personnel making repairs consists of five Air Corps officers and five mechanics.

The 11th Bombardment Squadron, enroute to March Field from the Maneuvers at Camp Knox, Ky., made an overnight stop at Kansas City, and were entertained by officers of the Reserve Corps.

Enroute to the West Coast Maneuvers, Brig. General Oscar Westover, Col. J.D. Reardan, Majors Ralph Royce, J.E. Rudolph, Capt. A.B. McDaniel, Moore and Major A.W. Krogstad, who led a flight of four O-38's, all of Bolling Field, made an overnight stop at Kansas City.

Nichols Field, Rizal, P.I., April 20th.

66th Service Squadron: First Lt. Ivan L. Proctor, a recent arrival in the Philippine Department, coming from Randolph Field, Tex., assumed command of the 66th Service Squadron for and in the absence of Capt. John G. Whitesides, who was on leave of absence for 30 days from April 15th.

First Lt. Everett S. Davis is at present on detached service in the mountains at Camp John Hay, after which it is believed he will leave for China and return to the United States on the July 2nd transport. The Squadron wishes to Lt. Davis a happy voyage and good fortune at his new station. At this

time it is not known where Lt. Davis is going to be stationed.

Lt. Wm. E. Davis, for the last three weeks a patient at Sternberg General Hospital, is back with us again. We missed him and we are now pleased he is in our midst once more. However, we understand that Lt. Baker will in all probability return to the United States on the July transport to enter the Lettermen General Hospital in San Francisco. Good luck, Lieutenant, and a speedy recovery.

Recently the order issued by the Commanding General of the Department pertaining to the purchase of Sun Tan Khaki by enlisted men who considered getting more uniforms made has put our Supply Sergeant to no little work. Incidentally, with his retiring from the service within the next year and making him measure those thousands of yards of cloth looks as if somebody is getting even for the many days or years that he has been playing around in the Islands.

The recent 3-year bill put into effect after the sailing of the USAT GRANT on March 11th has sort of knocked the pins from under a number of men of the Squadron, those who had been making plans to meet that certain person "not long from now," but the 3-year bill has put a stop to a lot of plans already made and the men are now looking forward to that extra year in the Philippines. Of the twenty some odd men scheduled to return to the United States on the July boat, about fifteen of them will have to remain.

28th Bomb. Sqdn. Unfortunately, the Squadron has not had the opportunity of demonstrating proficiency in the several extraneous functions of Bombardment, reported recently in the Air Corps News Letter by its Panamanian and Hawaiian contemporaries. However, while anxiously awaiting call to spray mosquitoes, relieve starving or destitute humanity or deliver building materials, a no slight attention has been paid to tactical training and some slight pride is taken in the fact that 100 percent Expert qualification in Gunnery and Bombing was attained; one bombardier missing national championship by two points.

Despite the enactment of the 3-year tour, the Squadron will lose three pilots on the June boat. Major John B. Brooks, Capt. Oliver S. Person and 1st Lt. Everett S. Davis are all scheduled for station in continental United States. It is with a great deal of regret that all ranks see these officers depart.

As a result of personnel changes in the Group 1st Lt. Levi L. Beery, who has functioned as Operations Officer, was transferred to Group Headquarters, where he will now sign Form Fives. Command still remains with Lieut. Jack Greer, who took over the Squadron with the departure of Capt. E.C. Black last March.

2nd Obs. Squadron: The Squadron has been training in instrument flying, aviation, day and night, photography, puff target range, radio procedure and cooperation with other branches of the service, particularly with organizations stationed at Corregidor.

Lieut. J.C.A. Denniston was a guest on the U.S. Navy Destroyer 227 (Pillsbury) for the purpose of witnessing the performance of the Destroyer at full speed. The Destroyer left Manila at 5:00 a.m. and returned at 7:30 p.m. The cruise was made off Manila at a distance of approximately 30 miles from Corregidor.

There has been great activity among several enlisted men of the Squadron during the past month. Canoe building seems to be the hobby now, and three have already been launched with more on the way. It looks as if the men of this organization will take to the water instead of the air, which would be only right, as Neptune is part of the Squadron insignia.

6th Photo Section: This organization put aside serious thoughts on April 15th and departed en masse for Montalbon to celebrate Organization Day. Three truck loads of men and refreshments left the barracks about 7:00 a.m. and after about two hours' driving over dusty

roads reached their objective and then began the festivities.

Many of the members of this Section journeyed to outlying districts to view and secure pictures of the Ceremony of the Flagellantes on Good Friday. This very interesting ceremony is held once each year and is always of interest to those who have heard of it and never before seen it.

During the "Hot" season, many of the members of this organization are heading for the mountains at Baguio for a few days relief from the heat. The following have been on D.S. at Baguio or will depart shortly: Lt. Hammond, Master Sgt. Leiby, Staff Sgt. Lefevere, Pvts. Reed, Keehnen, Muldoon, Burrell and Wyman.

Barksdale Field, Shreveport, La., June 15th.

All personnel and planes of the 20th Pursuit Group arrived home intact from the West Coast maneuvers, Major Harmon with his staff and unit commanders arriving June 7th from Seattle. Barksdale Field was a welcome sight after the dusty flight from Denver, the greenness giving a convincing impression of coolness --- from nine thousand feet.

With a large number of P-12's undergoing immediate overhaul after the maneuvers, "the line" is necessarily a bit quiet but, barring interruption by C.C. duty, the Group, with its latest addition, the 79th Pursuit Squadron, will shortly swing back into the harness.

55th Pursuit Squadron: We arrived home on May 30th after a month's maneuvering on the West Coast. The trip home was made in two hops. On the 29th, we made Tucson. The welcome sight of home greeted us the next day after stops at El Paso, Midland and Dallas. Members of the Group Staff arrived at Barksdale on June 7th, after completion of the Staff Maneuvers, at Seattle. The 55th was represented by Capt. H.L. Clark, Lts. H.M. Wittkop and Earl Barnes. Lieut. Jimmie Ellison led the Group home from March Field, hitting all check points with monotonous regularity.

The younger officers of the Squadron got some idea of the functioning of Air Force. We hope the maneuvers are repeated next year.

Capt. H.L. Clark received orders transferring him to the Office of the Chief of the Air Corps. The entire Group, and especially the 55th Squadron, hate to see him leave. We all join in wishing him the best of luck. Aerial Gunnery will be the next phase of training to be completed. The officers hope to add good scores to the creditable totals already hung up in Ground Gunnery and dive bombing.

79th Pursuit Squadron: After two months of conditioning on active duty status and the assignment of additional commissioned and noncommissioned personnel, the 79th is about ready to step up and take its place with the other tactical units of Uncle Sam's Air Force. During the past month we had a very valuable addition to the Squadron in the person of 1st Lieut. Charles G. Percy, who is at the present time on an aviation mission to Buffalo, N.Y.

The assignment of Tech. Sgt. Ira A. Goff, from Randolph Field, Texas, brought the strength of the noncommissioned personnel of the Second Grade up to its full quota. We are very glad to have Sgt. Goff and feel sure that he will enjoy his stay at Barksdale Field as well as being a member of the 79th Pursuit Squadron, which is destined to be Uncle Sam's finest in the very near future.

The assignment of six P-12E Pursuit planes to the Squadron on June 12th caused a great deal of furor in the ranks, as every one was anxious to show just what he knew about the maintenance and servicing of our fastest and

most effective combat ships.

71st Service Squadron: The 71st mourns the loss this month of Capt. Thomas Boland, Commander of the outfit since the date of organization, which was Nov. 1, 1932. Capt. Boland was ordered to the Civilian Conservation Camp at Anderson, Ala., June 1st. His duties as Squadron Commander have fallen upon the able shoulders of Capt. John P. Temple. Although the personnel of the Squadron are sorry to see Capt. Boland relieved, they are elated to have Capt. Temple as the new leader. At the time of this writing Capt. Temple is on leave, and 2nd Lieut. G.W. Carlson is in command.

Randolph Field, Texas, June 8th.

The following named Randolph Field officers participated in the Air Corps Maneuvers which were held on the West Coast: Capts. E.D. Jones, James D. Givens and Lieut. W.D. Davies flew transports to Barksdale Field from where they accompanied the Pursuit Group to the Maneuvers. Capt. T.W. Hestey also flew a Transport to the Maneuvers. He accompanied the 12th Observation Squadron from Brooks Field. Capts. J.K. Cannon and Aubrey C. Strickland went direct to March Field and were assigned as airdrome officers.

Lt.-Col. Albert P. Clark, Majors Eugene G. Reinartz, Frank R. Borden and Capt. Walter S. Jensen, Medical Corps, members of the School of Aviation Medicine, were ordered for temporary duty with the Civilian Conservation Corps.

#### SLIPS AND SKIDS

There's one spot on this earth, men;  
No other one will do.  
There is no place but Kelly, men,  
It's Kelly Field for you.

There's one hope in this life, men,  
No other stands a show.  
There's but the wish for Kelly, men,  
That's where we want to go.

We follow down the path, men,  
Of heroes gone before,  
Who rattled through the sky, men,  
In a bouncing J. N. 4.

We'll take the stick at Kelly, men,  
And find out how it's done.  
For when we get to Kelly, men,  
The trouble's just begun.

Captains Jesse B. Helfrich and John E. Pluenneke, Medical Corps, from the Station Hospital at Randolph Field, were ordered on temporary duty with the tree army.

Brooks Field, Texas, May 26th.

On May 4th, the 12th Observation Group, with Major Frank D. Lackland leading a flight of 15 C-19E Observation and 3 C-7A Transport airplanes, departed for March Field, Calif., via Marfa, Texas, and Tucson, Ariz., for the purpose of participating in the Air Corps Command and Staff Exercises held on the West Coast in the vicinity of March Field. Upon the completion of this duty, all planes except 4 Observation planes, returned to Brooks Field, the four remaining planes proceeding to Seattle, Wash., for the continuation of the above exercises via San Francisco, Calif.; Medford, Oregon; thence via Baker, Oregon; Salt Lake City, Utah; Parco, Wyoming; Denver, Colo.; Amarillo, Abilene, Tex. to their proper station, Brooks Field.

On May 5th, 2d Lt. E.C. Wolf, Air Reserve, pilot, and Staff Sgt. Meredith, of the 12th Observation Squadron, while flying a scheduled training mission in the vicinity of Big Foot, Texas, were killed when their plane crashed. The crash was followed immediately by fire.

San Antonio Air Depot, Duncan Field, Texas.

During May, the Engineering Dept. of this Depot overhauled 28 airplanes; 80 engines; repaired 21 planes and 32 engines of various types.

On June 9th, Lieut. (S.G.) J.P. Whitney and Lieut. (J.G.) A.R. Truslow, USN, of the Pensacola Station, in an Observation land plane, and Lieuts. (G.S.) Champion and Claxton, USN, of the Naval Aircraft Factory, Philadelphia, in a Navy BN-2, and on June 13th Lieut.-Commander H.R. Oster, USN, of the Naval Air Station, Pensacola, in an Observation land plane, visited this Depot in the course of a flying tour, inspecting and obtaining information on aeronautical operations and engineering shop methods at various stations.

Mr. G. Sheppard, Deputy Commissioner of the U.S. Employees Compensation Commission for the 8th Compensation District, Galveston, Texas, visited this Depot June 6th while in the vicinity in connection with various compensation matters.

Lieut.-Col. A.W. Robins, Executive of the Air Corps Materiel Division, Wright Field, and Capt. V.H. Strahm, of the Division, on an aviation flight, arrived June 9th for an inspection of new construction and developments at this Depot, leaving the 13th on their return trip. They were busy greeting old friends while here, Col. Robins having formerly commanded this Depot.

Major G.E. Lovell, Jr., of Barksdale Field, La., while on leave in this vicinity, paid a visit to the Depot on June 6th.

Out-of-town officers attending the regular monthly area supply and engineering conference and luncheon at this Depot, June 6th, were Capt. Alfred Lindeburg and Lieut. N.F. Twining, of Fort Crockett, and Capt. R.W. Camblin of Barksdale Field, La.

Lieut.-Col. J.E. Fickel, of the Office Chief of the Air Corps, on a visit to this vicinity returning from the West Coast in a new C-38F plane, called at the Depot May 18-19 for a conference on various Air Corps matters.

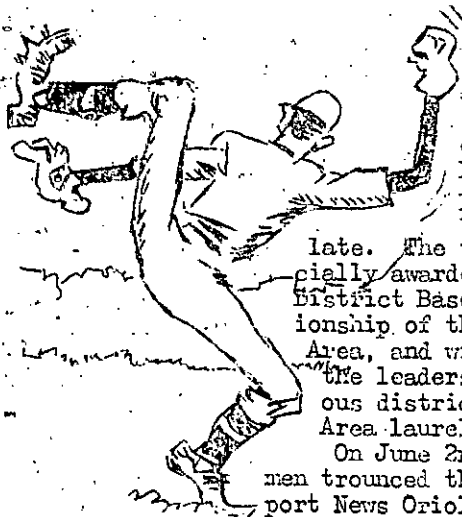
Capt. A.W. Vanaman, Procurement Section, Air Corps Materiel Division, Wright Field, en route to the West Coast in an XO-35 plane, stopped over at this Depot May 17-19. He was accompanied by Mr. John Schwin, of the Procurement Section, Materiel Division, and Mr. Blackford, of the Operations Office, Wright Field.

Mr. E.D. Johnson, representative of the U.S. Bureau of Public Roads, Austin, Texas, called on the Commanding Officer of the Depot May 26th, while in this vicinity in connection with matters pertaining to Federally aided public highways.

Major George R. Gaenslen, Air Res., began a two weeks' active duty training period at the Depot on May 22nd. Major Gaenslen is a constructing and sanitary engineer of San Antonio, and this is his seventh active duty tour with us.

Among visitors here recently were Capt. L.V. Beau, Jr., A.C. Instructor with the Colo. Nat'l Guard, Denver, ferrying in a BT-1 and taking back an O2-H, with Capt. F.F. Duggan, Cavalry Instr. with the Colo. N.G., as passenger; Major G.E. Lovell, Jr. in a BT-25 and Capt. J.P. Temple and Lieut. Doolittle in a BT-1 from Barksdale Field, La., and Lieut. W.T. Lovelace, Air Res., of Langley Field, Va., who was here for several days before returning to Langley Field, for repairs to the Bomber in which he was forced down near Gibsland, La., while enroute to the West Coast.

Lt. D.F. Stace returned May 26th from Bowman Field, where he participated in the Antiaircraft-Air Corps Exercises.



The Gold and Blue Airmen of Langley Field, under the leadership of Lieut. U.G. Ent, have been playing bang up baseball of late. The team was officially awarded the Southern District Baseball championship of the 3rd Corps Area, and will clash with the leaders of the various districts for Corps Area laurels.

On June 2nd, the Langley men trounced the strong Newport News Orioles, 10 to 5, with Thomas, of the Birdmen,

holding down his opponents to four hits, two of them scratches. Errors by his team mates permitted the Orioles to score four runs.

On June 4th, the Langley Airmen broke the consecutive winning streak of 7 games accumulated by the crack Franks Athletic Club, and took the long end of a 9 to 5 score. The hitting of "Red" Tyrell and "Lud" Leary and the fine hurling of "Ace" Thomas, who relieved "Hoot" Hohens, for the Birdmen, and the spectacular fielding of left fielder Markham for the Franks featured the contest.

In a return engagement with the Newport News Orioles, Langley lost a 3 to 2 contest. Just prior to the game, Langley met with a series of misfortunes during the practice session, when three of their players were injured. Pitcher "Ace" Thomas, while in the act of handing the ball to Pitcher Clark during batting practice, was struck in the face by a line drive, breaking his nose and badly bruising his eye and cheek. It was necessary for him to undergo an operation, and he is now on the way to a speedy recovery. Another Langley pitcher, the youthful Nocht, sustained a broken arm, and Berry, warming up on the sidelines, was hit by a thrown ball and momentarily knocked out.

Jupiter Pluvius put in an appearance at a most opportune time on the afternoon of June 10th, as the Gold and Blue Airmen of Langley were ahead, 3 to 2, over the Gobs of the USS IDAHO. Tyler, for Langley, who had just returned from an absence of six weeks on the West Coast, limited the sailors to 3 hits, and both of their scores were made on errors. "Red" Tyrell's hitting featured, the Langley flashy outfielder connecting for a homer, double and single.

Despite the loss of two of their star hurlers, the Langley team rolled over the Mitchel Field aggregation on June 11th and 12th, scores to to 4 and 5 to 2. Wood and Hohens performed nobly on the mound to score over pitchers John Galvin, Delzoo and Marvin Nix of Mitchel Field.

The end of the first week of the Fort Crockett baseball league finds the 90th and 60th Squadrons tied for first place. These two clubs have won between them all four of games played, having yet to meet each other. The 60th Squadron team has broken some sort of a record in scoring 36 runs in two consecutive games.

The newly organized Crissy Field baseball team is rounding into shape and showing the result of hard work under the coaching of Major Muse who, by the way, handles the first sack like a big leaguer. The team is receiving support from all the officers and men and is expected to carve itself a nice niche among the other service teams in this vicinity.

Things are certainly humming in the Inter-Squadron Baseball League at Luke Field, T.H. The 4th Obs. Sqdn. is leading at the present time, but is facing two postponed games with the 50th Obs., and with "Hub" Farris twirling for the 50th, the situation is anything but serene for the 4th. The best game played to date was a ten-inning affair between the 4th and the 65th Service Sqdn, resulting in a 4 to 3 victory for the 4th. The 65th went into the 9th inning with a 3 to 0 lead, but the 4th came through to tie the score and squeezed over the winning run in the tenth. Johnny Hall, pitching for the 65th, held the 4th to 3 hits, of which two were made by Ted Sadler, slab artist for the 4th. In the standing of the teams, the 4th leads with 5 wins, one loss; Hawaiian Air Depot, won 6, lost 2; 50th Obs. won 4, lost 3; 65th Service, won 4, lost 3; 72d Bombardment, won 2, lost 4; 23rd Bombardment, won 0, lost 7.

To date, the 65th Service Sqdn. played 5 games of Inter-Squadron baseball, winning 3 and losing 2. On April 16th a practice game was played with the Fleet Air Base, the Navy men winning, 8 to 7.

The 4th Obs. Sqdn. is retaining its hold on first place in the Inter-Squadron Baseball League, having defeated all the other teams in the League. With such an excellent start, the Squadron is confident of carrying off the honors in this sport.

The 72nd baseball team has played four games this month but, due to the breaks of the game, have only been able to win one of them. However, we expect to finish very close to the top, as the team looks better every day. It is contemplated starting a swimming class for all members of the Squadron who are unable to swim.

The 23rd Bomb. Sqdn. is still holding down the cellar position in the Inter-Squadron baseball league, but the men are practicing daily and have not given up hopes of entering the win column.

The Hawaiian Air Depot baseball team has joined the Inter-Squadron League at Luke Field and is making an impressive showing to date. The team at present occupies second place in the League, having won 6 and lost 2 of the 8 games played.

Our baseballers (55th Pursuit Sqdn., Barksdale Field) have made a good start on the second half of the Post League, winning two and dropping one. Our present plans are to cop this half of the schedule, then trounce the 77th, first half winners, in the "World Series." There are now four squadrons in the League, the newly formed 79th having entered the last half of the schedule.

After suffering three straight reverses without a win on the diamond, the 79th Pursuit Sqdn. (Barksdale Field) came back on June 7th to hand the league leading 77th its first taste of defeat in the second half of the Post League race to the tune of 8 to 4. With a change in managers and with more time to develop team play and coordination, the 79th is expected to accomplish more and bigger things in the athletic activities of the field.

Second Lieut. J.D. Caldara, Air Res., returned to Barksdale Field from the West Coast maneuvers and has resumed his duties as Squadron Adjutant and Athletic Officer. The reins of the ball team are again in capable hands and,

to quote the Lieutenant, "there will be a big change right now." At present the 71st team is "cutting the cards" with the 79th for the cellar position in the Post League. The 55th is a half game in the lead with the 77th, first half champions, in second place. The combined forces of the 71st, 77th and 55th teams journeyed to Palestine, Texas, June 10th and 11th; and though Saturday's game was rained out, the All Stars took Sunday's game, 13-7. The game was played at the Municipal Airport as a part of the dedication program. This game proved that a strong Post Team is assured with the following members: DeFord, Woodman, Graham, 77th; Bannerman, Reese, Wolfe, 71st; Christian, Smith, Bell, 55th. Each player has hit over .300 for the season and boasts a high fielding average. There are several men in the 79th Pursuit who have shown up well in the few games played. The team is assured of an able leader in Catcher DeFord. The infield is well taken care of with Christian at 1st, Smith at 2nd, Bannerman at short and Graham on the "hot corner." In the outfield are Reese, Wolfe and Bell, all of whom are sure "fly hawks" with good arms and a batting average of over .350. Woodman takes care of the round duties with Bell and Christian ready to step in at any time.

#### SQUASH:

After one of the most exciting finals ever staged at Randolph Field by the Cadets, Mitchell finally won over Capp.

As the first round started, there seemed to be little difference in the play of all the contestants and the outcome was still a big question in the minds of those entered. Spicer defeated Gray in a very close and hard fought match 21-21 and 21-18. Capp and Saibara furnished the fireworks in the first round as first one and then the other took the lead. Capp took the first set 21-14 and seemed well on the road to victory, but Saibara by stellar playing evened the count at one all by taking the second set by the close margin of 21-20. Saibara, however, shot the works in that set and had little left as Capp ran out the set 21-9. Mitchell and Barnes, playing under different rules gave a fast exhibition as Mitchell took him into camp by the scores of 15-5 and 15-12. Griggs drew a bye in the first round.

In the second round Capp almost ran into difficulties again as he and Spicer took the court. As usual, Capp made a strong start and won the first set, 21-14; but almost lost the second as Spicer made a determined bid to even things up. The score, 21-20. Mitchell also had trouble in the second as he and Griggs displayed fine form with the former nosing out the latter, 15-9 and 15-12.

The final round between Capp and Mitchell was all that a Squash enthusiast could hope for in the way of excitement. Capp started out as if to make the final match a run away and had little trouble taking the first 15-8. The second set was full of rallies and really intelligent play, but again Capp came thru with the winning points to carry the set 15-12. Capp seemed to be well on the way to victory, but just couldn't stand prosperity, and Mitchell took the third set after a real battle to the count of 15-12. Mitchell improved as the fourth set advanced and had little trouble winning 15-7, as Capp seemed to be holding back for the final. The fifth and final set started fast as both players gave everything in an effort to win. The lead changed back and forth until Mitchell put over a desperate finish to run out the set, match, and tournament, 15-12.

All in all it was a great tournament and too much credit cannot be given those who did their bit in making it such a success.

#### HAND BALL:

Cadet H.G. Moore, former University of Texas handball star, established his supremacy in this particular sport by going thru the entire tournament without the loss of a single set. Cadet Moore's achievement is outstanding in view of the fact that this was the fastest tournament ever staged at Randolph Field by the Cadets.

From the first round the tournament gave promise of being a fast one as the handball artists took the courts and displayed excellent form. First round results: Moore defeated Griggs 21-3 and 21-5, Hoxie was downed by Elliot 21-7 and 21-4; Altman, H. disposed of Walker, 21-1 and 21-1; Hayden eliminated Hilger to the tune of 21-5 and 21-12; and in the closest match of the first round, Spicer finally overcame Mitchell, 21-18 and 21-19.

Moore continued his championship march in the second round by defeating Altman, 21-8 and 21-5. Hayden forfeited to Spicer, thus pitting the cadet from B Company against Moore. In the finals, Moore and Spicer gave one of the best exhibitions of fast clever play that has been displayed on the courts in many a year. Moore with his all round ability was too much for Spicer and defeated him convincingly by the scores of 21-8, 21-5, and 21-6. The tournament was an overwhelming success, the playing exceptionally good, and the rivalry keen. Such tournaments will no doubt create a great deal of enthusiasm among the cadets and in the future there should be many more entries in this type of indoor sport.

In the Inter-Squadron track meet, held on April 1st, the 23d Bomb. Sqdn. took everything in sight, even the water buckets being missed by the Athletic Officer. Corp. George R. Baddour was the high point man in the meet, garnering 18 points as his share of the spoils. In the track meets between the various Sector Posts, Luke Field was off to a good start by swamping Honolulu 70 $\frac{1}{2}$  to 50 $\frac{1}{2}$ , while Shafter was taking the measure of Fort Kamehameha by an identical score. However, in our next meet, with Shafter, the downtown Posters eked out a win over us by a scant three point margin and in the third and deciding meet, Fort Kamehameha upset the pay wagon by giving us a neat lacing. However, we are improving in track, and the increased interest shown this year indicates a banner year for the Air Corps colors next Spring.

The Luke Field Tennis Tournament is over, and Sgt. Vickery, 23d Bomb. Squadron, romped away with the honors.

The 66th Service Squadron, Nichols Field, P.I., has sort of been knocking them over of late in bowling. At the present time the standing within the Inter-Post League is 22 won and one lost. The Squadron has had a very successful year as far as athletics are concerned. At the present writing the basketball team is trying to get into shape. What with a lot of new stock on hand to be shipped into shape, it is hard to make predictions at this time regarding their playing abilities. Still, we wish them the best of luck.

Regular duties were resumed at Langley Field on June 3rd, following a month's fatigued duty in conjunction with the beautification of the post. With the greater part of the aircraft either at Patterson Field, base of the Air Corps-Antiaircraft Exercises, or at March Field where the annual Air Corps Command and Staff Exercises were recently held, it was believed the most appropriate time to devote work in beautifying the post.

SERIAL NO. 330 LIST OF NEW MATERIAL ADDED TO INFORMATION DIVISION FILES

May 30th to June 30th, 1933 Incl.

Available for loan to Air Corps Organizations only upon request to the Air Corps Library, Munitions Bldg., Washington, D.C.

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#16-33 Eclipse Inertia Starters, Drilling of Holes in Rear Housing, May 20, 1933. Tech. Order 16-33.
- D 00.12/103  
#18-33 Carburetors Equipped with Accelerating Pump, June 21, 1933. Tech. Order #18-33.
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#15-33 Distinction between Engines for Use in Service Aircraft and Those for Experimental Test Purposes, May 13, 1933. Tech. Note #15-33
- D 00.12/123  
#16-33 Explosion of Aircraft Storage Batteries, May 18, 1933. Tech. Note #16-33.
- D 00.12/123  
#17-33 Carbon Dioxide Airplane Fire Extinguishers, May 23, 1933. Tech. Note #17-33.
- D 00.12/123  
#18-33 Inflatable Life Jackets-Information Concerning, May 25, 1933. Tech. Note #18-33.
- D 52.71/4 Rigid Airship Development and the USS Akron, by Rear Admiral W.A. Moffett, USN Jan. 1932.
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#461 The Effect of Rivet Heads on the Characteristics of A 6 by 36 Foot Clark Y Metal Airfoil by C.H. Dearborn. May, 1933. Tech. Note #461
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#463 Aerodynamic Tests of a Low Aspect Ratio Tapered Wing with Various Flaps for Use on Tailless Airplanes by F.E. Weick & R. Sanders. June, 1933. Tech. Note 463.
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INSPECTION DIVISION NOTES

The following Technical Orders, Technical Letters, Air Corps Circulars and Air Corps Circular Letters have been distributed since the last issue of the Air Corps News Letter on May 29, 1933.

Number and Date	Subject	Distribution
TL 31-107A 5/25/33	Follower Assembly, Synchronizer Generator Cam General, for Pratt & Whitney Engines. (This TL replaces TL 31-107, dated 9/10/32.)	
TL 33-30 5/25/33	Installation of Lubrication Fitting in Rocker Box, and Lubrication of Valves; R-1750 & R-1820-E Series Engines.	Aberdeen, Barksdale, Bolling, Chanute, Crissy, Crockett, Kelly, Langley, March, Maxwell, Selfridge, Wright, FAD, MAD, RAD, SAAD, Hawaiian Dept. Chanute, Wright, all depots.
TL 33-39 5/25/33	Valve Spring Inspection-All Wright Engines	
TL 33-33A 6/12/33	#32G1585 Rack Assembly, Parachute Flare, External, reworking of (This TL replaces TL 33-33 dated 5/15/33.)	Barksdale, Bolling, Chanute, Kelly, Langley, March, Maxwell, Selfridge, Wright, all depots except Hawaii General.
TL 33-35 6/10/33	Core, Valve Inside-Air-Oil Shock absorber Struts	
TL 33-45 6/10/33	Replacement of Rivets in Rudder Horn-Douglas O-31 & O-43 Model Airplanes	Brooks, Chanute, Mitchel, Wright, FAD, MAD, RAD, SAAD
TL 33-46 6/17/33	Drilling of Drain Holes, Auxiliary Wings-Douglas Y1C-21 & Y1C-26 Series Airplanes	Albrook, Bolling, Chanute, Crissy, Ft. Crockett, Mitchel, Selfridge, Wright, all depots.
TL 33-47 6/17/33	Installation of Aileron Balance Weight-Douglas Y1C-21, Y1C-26 & Y1C-26A Airplanes	Albrook, Bolling, Chanute, Crissy, Ft. Crockett, France, Mitchel, Selfridge, Wright, all depots.
TL 33-48 6/17/33	Change on Landing Gear and Tail Wheel Retractable Mechanism to Prevent Leaks in Lines - Douglas Y1C-21 & Y1C-26 Airplanes.	Albrook, Bolling, Chanute, Crissy, Ft. Crockett, France, Mitchel, Selfridge, Wright, all depots
TO 00-0-5 6/1/33	Monthly Index of Technical Instructions	General
TO 01-125B 5/29/33	Airplanes and Spare Parts-Assembly and Maintenance Instructions P-12E & P-12F. (This TO replaces TO 01-125B, dated 10/7/32.)	General
TO 02-65 5/29/33	Engines and Spare Parts -Assembly & Maintenance Instructions R-985, R-1340, R-1690 & R-1860. (This TO replaces TO 02-65, 10/7/32 & TO 02-30-3, dated 7/22/31.)	General
TO 10-1-2 5/26/33	Photographic Equipment & Supplies-General- Handbook of Instructions for filters.	General
TO 10-1-3 5/26/33	Photographic Equipment & Supplies-General- Handbook of Instructions for Vertical View Finders.	General
TO 10-10-1 5/26/33	Photographic Equipment and Supplies- Cameras- Handbook of Instructions for K3B Aerial Camera (This TO replaces TO 10-10-2, dated 9/27/29.)	General
TO 10-10-7 5/26/33	Photographic Equipment & Supplies-Cameras- Handbook of Instructions for K4A Aerial Camera.	General
TO 10-10-9 5/26/33	Photographic Equipment & Supplies-Cameras Handbook of Instructions for K6 Aerial Camera	General
TO 10-10-10 5/26/33	Photographic Equipment & Supplies-Cameras Handbook of Instructions for K11 Aerial Camera.	General
TO 06-1-2 6/23/33	Fuel & Lubricants- General- Fluids for Hydraulic Equipment. (This TO replaces TO 06-1-2, dated 12/23/32.)	General
TO 10-10-8 6/23/33	Photo Equip. & Supplies-Cameras Handbook of Instructions for K3 Aerial Cameras. (This TO replaces TO 10-10-2, dated 9/27/29.)	General

The following Air Corps Circulars and Air Corps Circular Letters have been distributed since the May issue of the Air Corps News Letter:

Number & Date	Subject
5-7 5/24/33	PUBLICATIONS, PRINTING AND BINDING - Handbooks of Instruction and Stock Lists.
15-3 5/27/33	BLANK FORMS AND REPORTS - Air Corps Form No.3, Monthly Aircraft Operations Report.
15-4 5/19/33	BLANK FORMS AND REPORTS - Air Corps Form No.4, Training & Operations Report.
15-60 5/31/33	BLANK FORMS AND REPORTS - Technical Instruction Compliance Record AC Form No.60A for Aircraft, AC Form No.60B for Engines.

<u>Number &amp; Date</u>	<u>Subject</u>	
65-10 5/8/33	SUPPLY - Property Classification of Air Corps Equipment and Supplies.	
65-28 6/8/33	SUPPLY - Flying Equipment Issued to Individuals.	
15-100 6/9/33	BLANK FORMS AND REPORTS - Air Corps Form No. 100, Stock Transfer.	
5-3 6/8/33	PUBLICATIONS - PRINTING AND BINDING - Blueprints and Change Notices - Filing and Distribution.	
<u>Number</u>	<u>Date</u>	<u>Subject</u>
33-22	6/16/33	Form of Will.

The following is extracted from a Materiel Division reply to an Unsatisfactory Report. It would indicate that some activities are not complying with all the provisions of Circular 15-54, O.C.A.C., dated June 1, 1932, covering the preparation of Unsatisfactory Reports.

"It is noted that the Air Corps number of the engine is not given in this report. It is requested that in all reports submitted in the future this information be included when the failure is on an engine part, and the airplane number given when the failure is on an airplane part."

The following Unsatisfactory Report and the reply of the Chief, Materiel Division thereto are quoted for general information:

Unsatisfactory Report.

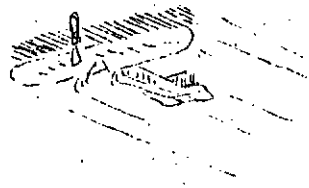
"Jenny, Hypressure, Model C, No. 1129 - Manufactured by Homestead Valve Mfg. Co., Coraopolis, Pa.

The inside rubber lining of steam hose breaks loose from the fabric ply and restricts the passage of steam, bursting the hose at various weak places thereby endangering the operator.

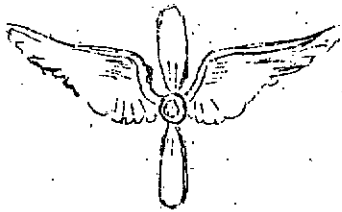
Recommend a hose be obtained that would be impervious to steam, kerosene and chemicals used with the Hypressure Jenny."

Reply.

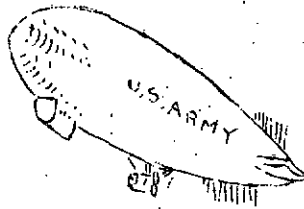
"The Jenny cleaner should not be allowed to generate steam, the maximum temperature of the solution should never exceed 212° Fahrenheit. Since this hose is not stocked, it is recommended that your station obtain a suitable product by local procurement."



# AIR CORPS



# News — — Letter



— ISSUED BY —  
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WAR DEPARTMENT  
WASHINGTON

OSD  
Jun 31  
1933  
July 3



The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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### AIRMAN'S FAREWELL TO HIS AIRPLANE

Quite a fitting companion piece for the "Cowboy's Farewell to his Pony," comes this Airman's Farewell to His Airplane from the pen of Captain Ralph H. Wooten, Air Corps, Military Attache at Santiago, Chile, who sent it to the Field Service Section, Materiel Division, to be filed with the permanent flying time report of the No. 29-288.

The records show that this airplane was sent to Captain Wooten on January 4, 1930, and has been in constant use by him ever since. Many pilots will feel and understand the sincerity underlying this bit of writing who could not have put like sentiments of their own into expression.

NUMBER 29-288

On the records you are only a number, a thing without life, an Airplane, made of steel, wood, cloth, rubber, copper, and other materials. You are like hundreds of others to the man in the central office who keeps the records of the planes that are built, are flown for a span of years, or months, or days, and finally dropped as worn out in fair wear and tear in the service of their country, or crashed, or burned. The worthy craftsmen who planned you, and who spent many hours of perfect workmanship in building you, have long since forgotten your existence. But to me you are a friend - a companion tried and true. Since the day in April over three years ago when you first roared to life on the temporary runway of the Los Cerillos Airport, and we together soared aloft into the blue skies of Chile, you have never failed me. You have borne me over the deserts and rivers and mountains and valleys of that beautiful country, over the endless wastes of the Patagonian pampas, and the unexplored forests and mountains of Southern Chile. Together we have looked down on the beautiful, wild and wonderful scenery of that land of romance and mystery - Tierra del Fuego - the land of fire. Together we have been to the southernmost point of the Americas, and you are possibly the only airplane which has made this flight of exploration under your own power. You braved the hurricane winds of this bleak region with the same courage that carried you thru hours of supreme effort around

the forbidding ice-covered peaks and snow-filled canyons of the Cordillera of the Andes searching for lost brothers. Others may forget, but you and I will carry memories to our graves of the mornings when we went together over those vast wastes of snow and ice around the forbidding crags searching for the Frenchman, Guillemet, and later, when your hangar mate, the "San Jose," and our friends on board disappeared, how you responded to the first warning and were the first to lead in the hopeless search of those barren, frozen expanses for your missing brother. At any time during those long cold hours at high altitude a failure would have meant death, and your stout heart never hesitated.

You have taken me over the boiling craters of erupting volcanoes, where we could look down into the revolting bowels of the earth, and over the beautiful lakes of the south. We have landed together in strange places, many of which never dreamed of being used as a landing place for an airplane. You have taken me thru storms and fog and rain. You have responded to my every wish, whether it be looping, or rolling, or spinning, or climbing over some almost impassable obstacle.

Ambassadors and Ministers of powerful nations have been proud to ride with us, and have taken the opportunity to see the beauties of the scenery from your high viewpoint. You have been true and faithful, and now as the time comes when we must part I want you to know that I shall miss you as I would one of my dearest friends. I hate to think of you being flown by some strange pilot, who may not appreciate your sterling worth, and who may mar your life by wrecking you in some strange field in some far away country. I hate to think of you being used as a machine of war by some ambitious country trying to wrest territory from a neighbor or in defense of its own land.

But the time has come when we must part, and I alone will shed a tear as I send in your papers to be filed as the official death with the dead records of Airplane Number 29-288.

Adios, mi amigo!

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### AERIAL GUNNERY AND BOMBING

Routine aerial gunnery and bombing were carried on by the organizations of the 5th Composite Group, Luke Field, T.H., recently. The 23rd Bombardment Squadron completed its aerial gunnery and bombardment schedule, and the other organizations have practically completed theirs with the exception of newly arrived officers.

A special allotment of ammunition was received by the Group for use in training enlisted men in flexible gunnery. This will include all crew chiefs and specially selected noncommissioned officers in the Bombardment squadrons.

Most of the routine work of the 6th Pursuit Squadron, Wheeler Field, T.H., during May and June was on the machine gun range at Waimanalo. This practice was preparatory to the annual record firing in July. Some excellent scores were turned in.

The 19th Pursuit Squadron, Wheeler Field, was also engaged in preliminary machine gun practice on ground targets at the Waimanalo Gunnery Range in preparation for the regular gunnery season.

During May, the 76th Pursuit Squadron, Albrook Field, Canal Zone, fired the aerial target phase of the gunnery course. The highest score was fired by 2nd Lieut. J.V. Crabb, with 291.

The 24th Pursuit Squadron, Albrook Field, practiced bombing during May, and turned in many excellent scores. The average for the squadron was 205. Second Lieut. Neal E. Ausman led with a score of 222.

Firing on tow targets was started in the month of June.

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## MOTORIZED OBSERVATION BALLOON

TESTS were recently conducted at Scott Field, Belleville, Ill., on a Motorized Observation Balloon for the purpose of determining the practicability of converting an observation balloon into an airship, in order that it may be transported from one observation point to another. The present observation balloon must be towed on a cable when such maneuvers are to be carried out and the advantages of flying the balloon through the air rather than maneuvering it over the ground are very apparent because of the rapidity with which a change in locations can be accomplished.

The tests were highly satisfactory considering the fact that all the tests were conducted on improvised and altered equipment which did not require any expenditure of funds.

The craft can be flown as an ordinary observation balloon and then hauled to the ground; the cable disconnected and a small power car attached, after which it can be operated as an airship. The change from a balloon to an airship can be made in about ten minutes. The fact that a craft of these characteristics is entirely practical will greatly improve the efficiency of observation balloons in that the arrangement allows a flexibility of operations that really permits two distinct applications of the same craft; that of an observation balloon and an airship.

When used as an observation balloon its operation will be similar to present practice, except that the balloon can be flown to the rear zone and secured to a small mooring mast rather than mooring close to the ground as was done during the war, which system required special preparations for such a mooring. It can be flown on a cable along sea coast stations for observation purposes and then be converted into an airship for harbor patrol work, under which condition it would have considerable advantage over surface craft that might be used for the same purpose.

In view of the satisfactory results thus far obtained with the experimental model, consideration is now being given to the development of a service test model with which the several applications may be more thoroughly investigated.

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## WARMING-UP APRONS COMPLETED AT ALBROOK FIELD

The concrete warming-up aprons have been completed at Albrook Field, Canal Zone. These aprons extend the entire length of the hangar line and are 60 feet wide in front of each hangar and 30 feet wide between them. The warming up strips proper extend out from the hangars and are 400 feet long and 150 feet wide. A 50-foot strip connects these strips at the far end. This strip is 950 feet long and can be used for take-offs. It is doubtful, however, if it will be used for landings, due to its being rather short and narrow. Also the soft condition of the shoulders during the rainy season would make it extremely dangerous in case of a ground loop. These strips fill a long wanted need at Albrook and are indispensable for operation during the long rainy season, but do not facilitate continuous operation. An all-weather runway seems to be the only logical solution to this problem.

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Temporary roads of crushed rock are under construction at Albrook Field, Canal Zone, connecting the hangar line with Headquarters and Post Engineering Hangars. With these roads it is hoped to eliminate the necessity of moving about through a foot or so of mud during the long rainy season.

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## D.F.C. PRESENTED TO CAPTAIN BRUNER By the Wright Field Correspondent

It was with the impressive simplicity governing most military ceremonies that the award of the Distinguished Flying Cross was made to Captain Donald L. Bruner at Wright Field on the morning of June 28th.

Within the ellipse in front of the Administration Building, a double line of Wright Field officers formed before the flag staff. Friends of Captain Bruner, fellow workers, and the families of officers stood about the edge of the ellipse to witness the conferring of the honor in which all were so deeply interested. Promptly at 10:30 o'clock, General George Van Horn Moseley, Corps Area Commander, accompanied by General Pratt, Chief of the Materiel Division, arrived at the ellipse and advanced to meet Captain Bruner who stepped forward through the line of officers to the center of the circle. There were the usual words of citation, the pinning of the Cross, the salute, and claspings of hands in congratulation.

So very simple, and still somehow to all those witnesses was conveyed anew the sense of splendor in any one's life of earning a decoration at the hands of one's Government. Also, it renewed in the memory of the associates of Captain Bruner his outstanding record in peace and war, the vision beyond thought of self-safety which led him into the experimental night-flying work, when hazard accompanied even the most routine night take-offs and landings, and which work has resulted in the very efficient night flying equipment of the modern airplanes and airways.

Captain Bruner could leave no finer legacy to young Donald, Jr., who, with Mrs. Bruner, stood near to see his father honored, than the memory of those sunny silent minutes before the flag staff, the officers at salute, and the symbolic flying cross with all its implied bravery and gallantry, being pinned to his father's lapel by the United States Government's highest ranking military officer available. What a gift to any son!

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## MARCH FIELD AND THE C.C.C. ✓

Of the 88 Regular Army officers stationed at March Field, 29 are assigned to C.C.C. work camps and 22 are performing district staff functions in addition to their other duties. Lieut.-Col. H.H. Arnold, Commanding Officer of the March Field District, supervises 25 forestry camps.

The three tactical squadrons of the 17th Pursuit Group are consolidated into three flights in the 95th Pursuit Squadron, and the three tactical squadrons of the 7th Bombardment Group are consolidated into the 11th Bombardment Squadron for purposes of tactical squadron training.

The following letter was received from Major General Malin Craig, Commanding General of the 9th Corps Area, by the District Commander:

"The mission assigned by the President for the enrollment of the Civilian Conservation Corps having been successfully completed, I desire to extend to all ranks of the Ninth Corps Area and to the civilian employees thereof my thanks and appreciation for the efficient and devoted discharge of duty."

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According to word received from the Rockwell Air Depot, March Field is to be equipped with a new allotment of 100 tactical planes during the Fiscal Year 1934, as follows: 54 P-26A, 1 P-30, 6 B-7, 10 B-10, 20 B-12, 2 O-19B, 2 BT-2, and one each of types F-1-A, C-4, C-14, C-24 and C-6.

## NAVAL OFFICERS VISIT AVIATION REPAIR BASES

A recent issue of the News Letter of the Bureau of Aeronautics, Navy Department, tells of a tour recently made by two representatives from each of the Navy's continental aircraft repair bases, three representatives from the Bureau of Aeronautics and one from the Bureau of Supplies and Accounts, the object of which was to promote economy and progress in the overhaul and maintenance of naval aircraft. These Navy representatives made a comprehensive study of aircraft repair methods and costs at Air Corps repair depots and at the overhaul centers of the larger commercial air lines throughout the United States.

The Navy News Letter goes on to say: "The trip was interesting and profitable. The naval visitors found a real welcome at both Air Corps and commercial plants, and a complete readiness to discuss and to demonstrate all phases of maintenance and repair methods and costs. Services received by the visiting officers at all Army fields were worthy of special note. What did you see? What did you learn? What will the Navy profit? are questions most frequently met by the returned travelers. Time will be required to reach the ultimate answers; to prepare reports at the various naval repair bases and in the Bureau; to collect these reports, to consolidate and to assimilate them; and then to disseminate the information not only to the individuals who were able to participate in the recent travel, but to others now engaged in the administration and performance of naval aircraft overhaul, and to still others who will come after them. Already it is apparent that the point of view and the inherent interest of representatives from the scattered fronts of naval aviation led them to discover and to observe a variety of facts - not contradictory, but supplementary - that should produce a summary report of wide scope and definite importance. The continent of the United States is, today, a vast laboratory in which are being worked toward their conclusions experiments of great importance in the very rapidly changing art of flying.

Relatively few airplanes are being overhauled commercially. So great has been the recent increase in speed of transport air schedules that equipment still entirely serviceable; so far as its condition goes, is being replaced by the much faster and much finer fleet of aircraft now being produced in several aircraft factories throughout the country. The maintenance engineer has been given a large voice in the design of this new equipment, to the end that airplanes may spend a very small part of their lives in the maintenance hangar. Certain of the newer types of transport aircraft have so remarkably justified this stressing of the importance of maintenance that the men who service them predict a day when commercial airplanes will no longer require the traditional routine major overhaul during their busy lives. On some lines a certain group of planes is scheduled for almost continuous operation with the very minimum of time in maintenance hangars in order to determine what is the maximum possible use of equipment, what are the features of design which delay the operation of aircraft, and how can design be improved to eliminate these delays and increase the pay capacity of the aircraft.

"Engines don't wear out," is a common opinion. They become obsolete because of the development of new designs, or they are retired after some 4,000 hours of operation, while still apparently intact, because of uncertainty concerning metallic fatigue. On some transport lines the demand placed upon engines during their lives is being intensively increased in a deliberate attempt to wear them out and to discover the maximum service that can be derived from them. Cruising speeds of conventional en-

gines are being stepped up to 2,000 r.p.m. and greater cruising speeds are yet to be tried. With each small increment in engine speed, the overhaul interval is reduced to about 250 hours, then increased toward 400 hours to discover the point at which parts begin to deteriorate rapidly under the increased demand placed upon them, so that they may be overhauled at the most economical interval both for the safety of operation and the economy of the overhaul. The life of individual parts is being carefully recorded and studied.

It is noteworthy everywhere that effective cost analysis and careful record keeping appear to have preceded each gain in performance and to have given great impetus to the improvements that are rapidly being made. A spirit of confidence in their ability to 'lick' any difficulty and the sense of a precise grasp of the complex problems incident to the high-pressure operation of aircraft were noteworthy wherever systematic analysis was a well-developed part of organization.

Engines completely installed in mounts, ready to be placed in an airplane is a matter of moments; rubber mountings for engines; quick detachable instruments; instrument boards, shock-mounted to absorb vibration; spark plugs that serve their purpose well over a thousand hours, function 350 hours without removal, and then are reconditioned for a few cents apiece; radio shielding of a great variety of designs, radio shielding of the simplest and cheapest appearing construction, said to permit voice communication across a span of more than a thousand miles; a cleaning vat whose invisible vapor melts away in a matter of seconds, the thickest coatings of grease and dirt from objects hung within it, as though black magic were the cleaning agent; a hundred gadgets, wrinkles, devices for the saving of time and the lightening of labor; overhaul shops operated like automotive assembly lines; the world's most modern, and perhaps its largest aircraft overhaul plant, superbly laid out for the smooth flow of a huge volume of work; these are but a few of the many features to be seen in this tour about the country. The experience was of the greatest conceivable value to each member of the visiting parties, who return with the feeling that it should be repeated periodically by Navy personnel, and that a visit to this vast laboratory should be an introduction to his new work for each officer about to assume duty in a Navy 'A&R' department.

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### A WARNING TO AIRCRAFT MECHANICS

The Navy News Letter reports that a recent ground accident of an unusual nature had such serious possibilities that all hands had well take a lesson from it. A propeller had been removed for checking. At the close of working hours a mechanic simply hung the propeller on the shaft as a matter of simple storage. Next morning the plane was rolled out, along with others, in preparation for turning over the engine, the mechanic being absent from the squadron at the time. An effort was made to start the engine, with the result that the propeller immediately flew off forward, hitting the ground with such violence that undoubtedly it would have caused death or serious injury to any person it would have hit.

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Construction work completed in the month of June at Fort Sill, Okla., included a new concrete apron in front of the new hangar and gypsum ceiling for the west hangar. The new parachute and locker room was completed early in July.

## NOTES ON THE CIVILIAN CONSERVATION CORPS CAMPS

On May 24th, the first contingent of Civilian Conservation Corps applicants, approximately 1200, in number, arrived at Langley Field, Va.

From the temporary "Bonus Camp" established at Fort Hunt, Va., the large group of veterans reached Langley Field by special train and boat, and were quartered in vacant hangars, warehouses and buildings, pending the completion of a cantonment, which was later established to the left of the flying field. With the necessary bathing and toilet facilities installed, the C.C.C.'s all moved from their various temporary housing headquarters to the field, where they were all intact and divided into companies, with Regular Army Air Corps officers designated as commanding officers of the various companies.

Two hundred men comprised each of the six companies, including one colored company, which had been self-sustaining since its arrival at the Virginia Air Corps station. Their headquarters was established west of the 19th Airship Company. The balloon hangar, formerly the property of Fort Eustis, Va., and recently transferred to Langley Field, served as their housing quarters.

The Post Commander appointed a staff of officers to work with the C.C.C. Capt. Henry Pascale was designated as Camp Commander; Lt. H.L. Neely, Adjutant, and Lt. F.A. Bacher, Supply Officer. Warrant Officers Gromme and Phelps served as assistants to the Camp Staff. Other officers were placed on duty with the C.C.C., as well as enlisted personnel, the latter acting as 1st Sergeants, Mess Sergeants, Supply Sergeants and Cooks.

On the day following their arrival, examinations were given in the Post Gymnasium, where temporary headquarters was established. The few veterans rejected for physical defects were furnished transportation to their homes, the remaining men continuing with the conditioning for future work in Uncle Sam's National Forests. Issuance of clothing was made by the Camp Supply Officer, consisting of various uniforms, raincoat, shirt, belt, underwear, barracks bag, service shoes, jumper, trousers, hat and socks.

Various athletic activities were participated in by the C.C.C. A mass meeting was held a few days after their arrival, when the companies appeared all intact for the first time, under the respective commanding officers. Lt. Col. A.L. Sneed, Post Executive, and Chaplain William K. Lloyd addressed the Corpsmen, and entertainment was furnished in the form of music and old time war songs.

At the time of this writing, official data regarding the departure of the former "Bonus Army" men had not been released. However, a call is expected almost any day to send the C.C.C. to the National Forests after over a month's conditioning at Langley Field.

The morale of the Vets is unusually high. Everyone has shown a willingness to work and aid in any way when called upon. The advantage of military training is very much in evidence as the buzz of activity compares with that of World War cantonment days.

Later arrivals at Langley Field have set the population of the former "Bonus Army" vets to approximately 1400.

On June 21st, Major-General Benjamin D. Foulois, Chief of the Air Corps, arrived by air at Chanute Field, Ill., where he remained for about three hours, conferring with Lieut. Col. James A. Mars, Commanding Officer, regarding C.C.C. matters. General Foulois stated that the Commanding General of the Sixth Corps Area, Major-General Frank D. Parker, spoke highly concerning the hearty cooperation rendered by Col. Mars in furnishing Air Corps of-

icers and noncommissioned officers for C.C.C. duty when the calls came. General Foulois was accompanied by Capt. A.B. McDaniel as aide, flying in a separate airplane, and departed on the same afternoon for Scott Field, Ill.

Lieut. Robert W. Harper, of Chanute Field, Ill., who has been in charge of the inspection of selectees for the Central Illinois District, No. 7, for the Civilian Conservation Corps, completed his work on June 5th, after having covered six Illinois counties and filling the quota of 440 selectees. The largest single contribution in this district was from Bloomington, Ill., which furnished 144 young men. Lieut. Harper has an extremely interesting account to render on this work, and reports that the men selected are very good material.

Of the first echelon of officers who were ordered from Chanute Field, Ill., to duty with the Civilian Conservation Corps, all have given a one hundred percent account of themselves. The officers reported to Fort Sheridan, Ill. Lieut. George R. Bienfang was, shortly after his arrival, appointed Camp Police Officer of the large camp at that station. Capt. Edwin F. Carey was placed in charge of a company, and within a short time was given first place for the finest appearing and most efficient unit, setting an example for all of the many others composed of the several thousand men. Captain Carey's company was shortly assigned to its permanent location at Starved Rock, Ill., considered one of the most beautiful spots in the Middle West. Next in line was Captain Russell M. Greenslade, whose company was given the next place following that of Captain Carey, and held as an example in appearance and efficiency for the others.

On July 1st, eleven more officers of Chanute Field departed on temporary duty with the C.C.C. at Camp Custer, Battle Creek, Mich. These officers included Capt. J.F. Powell; W.T. Meyer; Lieuts. R.C. Wriston, D.M. Ramsay, W.L. Ritchie, F.E. Cheatle, A.R. Springer, F.G. Allen, L.H. Tull, L.D. Fator and R.V. Williams. This brings the total of Chanute Field officers now on C.C.C. details to 20, of which number 19 are on detached service from the station. Chanute Field Air Corps officers on C.C.C. duty are thoroughly interested in their work and report that they have a fine class of men with which to work. They report that practically all of the C.C.C. personnel under their jurisdiction are eager in their work and appear to enjoy their new relations with the old Army life.

In the Rockwell Field District, classes were established for every night in the week for members of the C.C.C. wishing to improve on their education. The following subjects are proposed to be taught: Trigonometry, Mechanical Drawing, Public Speaking, Chemistry and Mental Hygiene.

The total strength of the C.C.C. has been announced at 301,575, distributed as follows:

240,000 young men, unmarried,
34,375 experienced foresters,
2,200 veterans recruited from Bonus Marchers,
25,000 veterans.

The 9th Corps Area, which is comprised of the eight Western States, has numerous and large national forests. Consequently, 459 camps have been spotted in the Area, while the other eight Areas altogether have a total of 971 camps.



### I. Preliminary Investigation.

Investigation of the precise measurement of the anti-knock values of aircraft engine fuels was started in 1928 by the Air Corps. It was soon found that the relative anti-knock values of fuels varied widely with test engine conditions and that the anti-knock value of benzol mixtures in terms of either gasoline-tetraethyl lead blends or heptane octane mixtures dropped sharply as the cylinder temperature was increased. The effect of engine temperature upon aromatics had not hitherto been known to the Air Corps and at once showed the necessity for knock test engine conditions which gave a similar relation to diverse types of fuel as did the average multi-cylinder engine. The apparent effect of engine temperature upon gasoline-aromatic blends was later found to be due to both cylinder temperature and throttling as a constant compression ratio was used and the throttle progressively closed as the cylinder temperature was increased.

Cross checking of multi-cylinder engines with knock-test-engines indicated during the initial portion of the investigation that the Series 30 engine when operated at 900 R.P.M. and 350° F. jacket temperature, gave fairly close agreement with multi-cylinder engine as regards gasoline-tetraethyl lead blends, gasoline-aromatic blends and gasoline-aromatic-tetraethyl lead blends, all of high anti-knock value (about 87 octane number). At the same time it was found that agreement with multi-cylinder engines could not be obtained on high octane number blends with the Series 30 engine if the rate of revolution was less than 900 R.P.M. or the jacket temperature was below 350° F. The significance of throttling, knock intensity, spark advance, etc., was not known at this time.

It was found that cylinder temperature and degree of knock were closely related and that it was easier to make the knock-test-engine results agree with those of the multi-cylinder engines as regards fuels containing any considerable concentration of aromatics if the rating was made on a basis of cylinder heating tendency rather than upon a basis of audible knock. The result of this finding was the development of a temperature plug for rating fuels in knock-test-engines.

### II. Series 30 Engine Specifications.

The first fuel of standardized anti-knock value was put into general service use at the beginning of 1931 and procured to U.S. Army Specification No. Y-3557-A. (See Table I). The test method was known to be unsound, but was based upon the availability of knock test equipment and its ease of operation and it did not appear that benzol blends or cracked fuels were likely to be supplied and thus render the method faulty in practice.

U.S. Army Specification No. Y-3557-A went through various minor modifications without change of rate of engine revolution or cylinder temperature until the supply of large quantities of cracked gasoline in the latter part of 1931 and a tendency of suppliers to concentrate upon cracked fuel made a change necessary. U.S. Army Specification No. Y-3557-E was, therefore, issued. This resulted in cracked-lead fuels and benzol blends being much more fairly rated in terms of straight run gasoline-lead blends. The test method proved to be exceedingly difficult to reproduce in terms of heptane-octane ratings of gasoline-lead blends and generally troublesome on account of the very high cylinder temperature, the variable throttle opening and the inadequate control of knock intensity. The method was, therefore, modified to U.S. Army Specification No. Y-3557-F (See Table I) which gave much better reproducibility in terms of gasoline-lead blends which were the only fuels

supplied to the specification. The method was found to be somewhat too severe upon cracked fuels for the later service engines. Further, it was found that not only was the method too severe upon cracked fuels of about 87 octane number, but that as the octane number of the fuel fell, the method became increasingly severe and at about 80 octane number and less under-rated aromatic-gasoline blends.

### III. Work with C.F.R. Engine.

Work aiming at substituting the C.F.R. engine for the Series 30 engine was started early in 1932. By this time a considerable amount of data on the multi-cylinder correlation of gasoline-lead, gasoline-aromatic, gasoline-aromatic-lead blends and of alcohol versus alcohol-water blends versus gasoline-aromatic-lead blends had been obtained. The gasoline used in the lead blends were of the types which

- (a) Had anti-knock values which sensibly did not vary in terms of octane number with severity of test conditions.
- (b) Had sharply falling octane number with increased severity of test condition.
- (c) Had rising octane number as severity of test condition was increased.

The blends on which multi-cylinder correlation data was available varied from 50 octane number to over 100 octane number. The work with the C.F.R. engine soon showed that without the mixture heater, the following were necessary for obtaining anything like adequate depreciation of cracked fuels and aromatic blends.

- (1) 900 or 1200 R.P.M. was required.
- (2) Throttling to about 50% of full throttle air consumption was required even in conjunction with cooling liquid temperatures of 350-400° F. and cooling liquids producing poor cylinder cooling.

As regards depreciating cracked fuels, the engine was decidedly insensitive to cylinder temperature. No suitable method fitting the available data on all fuels was found.

Work was also carried out using the mixture heater after the Motor Method had been worked out. This work was done at 1200 RPM with mixture temperatures of 300° F. and also without mixture heat but with and without the heater unit in position at jacket temperatures of 212 and 300° F. No satisfactory method could be found with any of the above conditions which would fit the available multi-cylinder data.

Before the Motor Method was evolved, the Air Corps had procured 2-5/8" bore cylinders for the C.F.R. engine which were a very close copy of the Series 30B cylinder as regards colling characteristics. This was done as the Series 30 cylinder appeared to be a reasonably satisfactory design for depreciating fuels as did the multi-engines. As preliminary work with the 2-5/8" bore cylinder indicated that it could be made to approximately agree with all the multi-engine data, and pressure of other work limited the time which could be further spent on trying to evolve a satisfactory specification with the standard 3 1/2" bore cylinder, it was decided to produce a temporary specification in terms of the 2-5/8" bore cylinder pending the production of a satisfactory method with the standard cylinder by other agencies.

Investigation with the 2-5/8" bore cylinder covered the effects of  
900 and 1200 R.P.M.,  
throttling,  
spark advance,  
jacket temperatures from 212-375° F.,  
V-6481, A.C.

zero to 300° F. mixture heating, knock intensity and its control.

It was found that mixture heating to 200-300° F. was not a substitute for a high cylinder temperature, particularly with reference to the observed full scale single cylinder engine relation between straight benzol and leaded straight run gasolines. Mixture heating also destroyed the observed full scale effectiveness of fuels of high latent heat of evaporation. The conditions finally found to most closely fit all the multi-cylinder engine data were as follows:

1200 R.P.M.

330° F. jacket temperature (diethylene glycol).

Fixed spark advance of 30°.

Standardized spark plug.

Throttle opening constant at 90°.

Carburetor bolted direct to cylinder intake port face without a gasket.

Improved temperature plug (Air Corps Type 15)

Under these fixed conditions the compression ratio is varied until the temperature plug reads the same for C.P. Benzene as for 88 Octane, 12 Heptane. With any fuel being tested, the engine is adjusted so that the above standard temperature reading is obtained (ex-

cept for fuels which after fire on cutting the ignition switch) and the matching mixture of reference fuels then determined. This is covered in detail by Air Corps Specification No. 3566.

While the Air Corps failed to obtain suitable conditions with the standard C.F.R. cylinder which would correlate with the available multi-cylinder data, it does not consider that such conditions cannot be found, but rather that it merely failed to find the necessary conditions.

#### IV. GENERAL TEST CONDITIONS.

In all the test methods used by the Air Corps the mixture ratio has been that giving either maximum bouncing pin or temperature plug reading.

In all but the earliest work with the Ser Series 30 engine, the carburetor air was dried with calcium chloride down to an absolute humidity of 4 to 7 mm. Hg water vapor pressure. At the present time the laboratory is being provided with conditioned air of 70-74° F. and 50% relative humidity so that the use of air dryers will no longer be necessary. The Air Corps has found that humidity control is necessary for reproducibility of ratings when high cylinder temperatures are used in the fuel-test-engines.

TABLE I.

Specification No.	Engine	RPM	Cooling liquid temp. °F.	Spark advance degrees	Detonation determined by	Throttle opening degrees	Full throttle compression pressure lb./sq. in. or compression ratio	Anti-knock value or reference fuel.
U.S.A. Y-3557-A	S. 30	600	300	20	Bouncing pin	variable	C.R. 7.25 to 7.75 to 1	87 Octane No.
U.S.A. Y-3557-D	S. 30	600	300	14 to 16	Bouncing pin or Type 3 temperature plug	"	200-210 lb.	" " "
U.S.A. Y-3557-E	S. 30	900	375	15	Type 3 temperature plug	"	200-220 lb.	" " "
U.S.A. Y-3557-F	S. 30	900	375	15	"	"	" " "	C6 1.1 ml. PbEt <sub>4</sub> per U.S. gallon
A.C. 3566	2-5/8" Bore C.F.R.	1200	330	30	Type 15 temperature plug	Fixed 90°	Variable	C6 2.0 ml. PbEt <sub>4</sub> for U.S.A. Y-3557-H Fighting Grade 65% A2 35% C6 for U.S.A. Y-3559-? Domestic Grade

#### 19TH AIRSHIP COMPANY ACTIVITIES

Concentration on coastal patrol missions played a prominent part in the training of the 19th Airship Company at Langley Field, Va., the TC-13, largest non-rigid type airship in this country, successfully completing a 45-1/3-hour mission on July 19th.

On this flight, the TC-13 took off with approximately 650 gallons of gas, proceeded up and down the Atlantic seacoast and north and south of the Chesapeake Bay, distances of 150 to 200 miles. The cruising range was limited somewhat due to the radio equipment at present installed in the large airship. A low ceiling was encountered on a portion of the trip, necessitating instrument flying during this short period.

A total of 2400 aircraft hours was allotted the TC-13 during the current fiscal year. This time will be utilized in making patrols out to sea and along the coast. It is contemplated that most of these patrols will be from 45 to 60 hours' duration.

Lighter-than-Air pilots now at Langley Field include: Major Butler, Lieuts. Williams, Anderson, Shively, Ent and Paul. Captain L.A. Lawson, Commanding Officer of the 19th Airship Company, and Lieut. R.R. Gillespie, are on duty with the Civilian Conservation Corps.

Construction work completed in June at Fort Sill, Okla., included a new concrete apron in front of the new hangar and gypsum ceiling for the west hangar. The new parachute and locker room was completed in July.

## MATERIEL DIVISION POWER PLANT LABORATORIES

By the Wright Field Correspondent

The Power Plant Laboratories at Wright Field are among the most efficient and completely equipped for the testing of aircraft engines in existence. These laboratories are housed in three main buildings. The largest of the three, known variously as the "Power Plant Administrative Building," "Dynamometer Laboratory," and the "Laboratory Building" contains the offices of the executive and engineering personnel of the Power Plant Branch, a drafting room, an engine overhaul shop, and the dynamometer laboratory. Of these the Dynamometer Laboratory is of special interest, the others being more or less self-explanatory.

This laboratory contains three stands for testing air-cooled or liquid-cooled engines; developing horsepower up to 1500; three stands for testing large liquid-cooled engines (two of which have maximum absorptions of 1500 h.p. and the third of 1000 h.p.); one stand for testing smaller air-cooled engines of 300 h.p. or less; four stands for testing small single-cylinder engines of either the air-cooled or liquid-cooled type. Exhaust collecting tunnels run the entire length of the laboratory on both sides with fans at one end which discharge into chimneys at the rear of the building, adequately removing the exhaust from all engines. There is also a "cold room" in which liquid or air-cooled engines may be tested for starting and operation characteristics under conditions approximating those of extremely cold weather or high altitude; and here the effects of cold and altitude on fuels, lubricants, oil coolers, fuel systems, and all materials and parts used in the operation of an engine may be studied.

By means of a large carbon-dioxide refrigerating system, the air in the cold room can be chilled to desired temperatures to a minimum of 50 degrees below zero, Fahrenheit. The "cold room" is insulated with cork, 8 inches thick, and is cooled by the circulation of air over 7580 feet of dry expansion coils. The working space is ample, being 15 feet by 27½ feet. The operation of the engine mounted on the test stand may be controlled either from within or without the room. A telephone and signal system are provided in order that engineers working in the cold room may have outside communication if desired. Provision for the wearing of electrically heated clothing is also made. In case inflammable vapor or carbon dioxide should seep into the air of the cold room, detectors would not only indicate the fact but cause the ringing of alarm bells.

While the cold room is especially adapted for testing engines for starting and operating at ground, the question of reduction of pressure as well as temperature enters into ground tests for altitude conditions, and to meet this problem five of the test stands in the dynamometer building have been equipped for "simulated" altitude testing. In this testing both pressure and temperature are reduced at the entrance of the carburetor, and pressure at the exhaust ports. Temperature reduction of the carburetor air is accomplished by the carbon dioxide refrigerating system.

Two 600 h.p. electric motors which drive propeller type blowers supply cooling air for the larger air-cooled engines at 166 m.p.h., and two smaller motors (100 h.p. and 200 h.p.) for small single and multi-cylinder engines. Reduction in pressure is accomplished at the exhaust ports by four large vacuum pumps which draw the exhaust gases away. Regulation of pressure at the carburetor entrance is accomplished by throttling. By this method engines can be tested at any altitude up to 30,000 feet. This laboratory forms one of the most extensive test plants in the United States for engine testing under simulated altitude condi-

tions.

The Dynamometer Laboratory is fitted with the latest high-speed types of dynamometers, water brakes, gauges for determining fuel consumption, scales for determining engine torque, revolution counters, tachometers for controlling and computing engine speed and complete equipment for the performance testing of the aircraft engine and each of its units.

Just outside the Laboratory Building a water storage-basin is located for supplying soft water by circulating pumps to water-cooled engines, water brakes, oil coolers, and other equipment. This is necessitated by the hardness of the water ordinarily supplied in the vicinity of Wright Field, which has a heavy lime content and is injurious to test equipment. Rain water from the roofs keeps the basin, which has a capacity of 235,000 gallons, adequately full except in the dry seasons of the year, when water softeners are resorted to.

### TORQUE STANDS

In appearance the torque stands resemble a series of square concrete stacks, 40 feet high, joined by enclosed passages. The materials employed are reinforced concrete and steel. Centered between the stacks are seven torque stands, six for the endurance testing of engines, and one for the testing of propellers as installed on engines. Each engine support pier is a huge block of concrete sunk 20 feet into the ground and completely encased in cork to prevent vibration.

Each torque stand has its own engine room which has a clearance for swinging a propeller 18 feet in diameter. The great stacks are for the purpose of reducing noise outside the building and are so constructed about the engine rooms that the sound waves striking the 40-foot walls can find an outlet only through the top of the stack which is open to the sky. Between each two engine rooms is an operator's room for observing engine tests, with glass observation windows on each side, looking into the engine rooms. Instruments for measuring engine pressure, temperatures, fuel flow, fuel consumption, engine speeds, etc., are placed on the wall near each observer's window.

Small rooms within the operating rooms contain tanks for engine fuel and oil used in running tests. These tanks are filled as needed for the special test being run by pumps from larger tanks located without the building.

### FUEL TEST LABORATORY AND DYNAMOMETER STORAGE

A laboratory for the testing of fuels and lubricants contains six single-cylinder engines especially designed and constructed for this work. Characteristics of various oils and the anti-knock properties of fuels are determined here. Research necessary for the preparation of fuel and oil specifications for the Air Corps is also conducted here. As a result of the tests performed in this laboratory, the fuels and lubricants used by the Air Corps are of higher quality than any ever before obtainable and are probably not surpassed by those in use by any other military organization.

Adjoining the Fuel Test Laboratory is a large storage room where the thousands of items used in connection with power plant operation and testing are available when required. This is in no sense a store room for worn out or obsolete experimental equipment, but for that which, while not in constant use, is of sufficient importance when needed to earn a place there.

Shortly before the close of the Fiscal Year, a 3,000-mile flight was made by the 430th Pursuit Squadron (Res.) Kansas City, V-6481, A.C.

## PLANES DROP FOOD TO EXPLORING PARTY



NICHOLS Field, cooperating with the Philippine Government in furthering a recent exploring expedition, has introduced several new methods of exploration. First, a careful preliminary reconnaissance was made from the air of the entire territory to be covered, the plane following the route to be taken. Second, a photographer in the rear cockpit of the plane took a series of vertical pictures of two rivers to be explored. These photographs, pasted together into strips, formed maps which the explorers actually used in going up the rivers. Third, another plane accompanying the first, took a series of oblique photographs of the mountains, which were later plotted on a map and proved of the greatest value in mapping the mountain range. And last, but certainly not least, the explorers were sustained by food dropped to them in two cargo parachutes from airplanes after they had been out eleven days from their base.

First Lieutenant John L. Hitchings, Air Corps, who headed the expedition, said:

"Our expedition, which consisted of Mr. A.W. Exline; Major G.D. Davidson, C.A., Retired, and myself, was organized for the dual purpose of improving existing maps and studying the wild tribes in the interior of Mindoro. That we were successful was due to the whole-hearted way in which all our friends helped us.

"By permission of Major John B. Brooks, my Commanding Officer, Army planes were used to help us. Lt. Howard Engler piloted us on our preliminary survey, took us to our starting point and, together with Capt. E.P. Gaines, Lts. R. Reeve and G. Hoyle, dropped food to us; and this help was indispensable. The first rate aerial pictures taken for us by Staff Sgt. R.K. Bishop, Privates R. Brewster and L. Strubel of the Sixth Photo Section, proved invaluable guides to an untrapped region.

"Landing on the Cantura field east of San Jose Major Davidson and I found Exline awaiting us with eight husky Visayan cargadores. Circling Obelisk Peak, we doubled back on the Lumintao a short way, then went to Tambonac to run down a 'Lost White Tribe' story. We found no lost white tribe, but an interesting lot of Bokits, with whom we lunched on naml. Major Davidson, who was the anthropologist and the linguist of our party, measured their height, reach and cephalic indices, and investigated their customs, while I took moving pictures of them. Meanwhile, Exline, lingering in the Cantura foothills, had run across a python and photographed him, and located a salt spring, which we plotted on the map. We also plotted a petroleum seepage I had encountered on a previous trip there.

"Returning to our camp at Cantura, we prepared for our trip north-east, over the mountains. Exline shot a five point buck, and the meat was more than welcome. At this point we parted with regret from Exline, who was forced to return to the Sugar Central, and the Major and I shoved on through the tigrbau with five Visayans and the prospect of several Mangyans to carry for us. Our food supply was already something of a problem, but having secured permission from Governor General Roosevelt to kill any game we needed for food, I knocked over a fine bull tamarao the first day out. The meat lasted us a week, re-appearing at every meal in the form of jerky.

"We followed the Batangan River to a tributary the natives call the Cayagayan, and having a photographic strip map of it, followed it to the pass, which an uncorrected altimeter reading told us was 894 meters high. Many foresters had believed that the lowland agohos changed to pines throughout the Mindoro mountains; but we did not find a single pine on the entire trip, and we noted agohos extending to the top of the

pass. Our camps were in somewhat rugged locations; one of them, in fact, was on a steep bank up which we had to pull ourselves on a rope to get to our hammocks.

"Dropping down into the Bongabong Valley, we sighted caingins, which marked the small Batangan village of Acliang; and making for them we purchased large quantities of gabi and saguing. Our coppers were considered very valuable, but the old chief was entirely ignorant of the value of silver and would not accept it in payment. The chief was quite an interesting chap and played us a lively tune on a sort of home-made guitar strung with woman's hair. All the natives we encountered value strips of red cloth suitable for turbans or gee-strings more highly than any amount of money. Beads got over pretty well, and small mirrors produced minor riots, but red cloth took the place of the gold standard.

"Thence we proceeded to the main bend of the Bongabong, where the food was to be dropped in three days. No friendly caingins greeted us, and the food situation got more and more serious. Our cargadores, when put on short rations, showed marked signs of disaffection, and expressed grave doubts that any big birds would come over and drop us food. Seizing this opportunity to get rid of the weaklings, we offered to pay off any who wished and let them go with enough rice to get them back. All took us up except three Visayan lads who said they would go through with us, food or no food. To these three brave young men, Mariano Rendon, Proctoso Lescara, and Carlos Encomio, we entrusted our lives time and again on the difficult part of the trip and they never failed us.

"The morning of the eleventh day from the Cantura base, the planes found us and dropped us food. I took pictures of the parachutes coming down, but I'm afraid my hand trembled with emotion! We devoted the rest of the day to eating.

"Going up the Bongabong, we found that it turned West, but that an unexplored tributary ran northwest toward the central north-south divide of the Island. Fortunately, our three Visayans had gotten us in touch with some Batangans, of whom the chief had never seen a white man, and had persuaded them to become our cargadores. With the aid of these people and a strip map we forged up the river. I can not say it was altogether easy going. We ran into a canyon where we had to use ropes to get over a series of rapids; the going improved but further up the river it again got pretty bad. Leaving behind all but Carlos and two Batangans, the Major and I pushed up to the upper gorge. There, leaving all but one Batangan to make another camp, we stripped off our clothes and alternately swam through deep, swift, ice-cold pools in a gorge that nearly closed over our heads, and climbed up over small waterfalls. The Batangan fell out, saying that he could no longer swim against the current; but we went until we satisfied ourselves that we had reached the headwaters of the river. Then we turned back, picked up the Batangan and Carlos, and returned to our camp down the river. There we took a gulp of brandy to take off the chill, ate soup and rice, and went at once to sleep. I slept fifteen hours out of the next twenty-four. The river has water as pure and cold as crystal, and rocks of many fascinating colors. It is indescribably beautiful.

"Guided by our Batangans, we started eastward again over an untrapped mountain range for Pinamalayan. We started by climbing a mountain with an uncorrected altimeter reading of 1405 meters, and again the going was not easy. I had started with two new pairs of shoes. My basketball shoes were gone, although I had prolonged their use with in-

ner soles cut from bark; and my Army shoes were fast going. But that day and the next put us down into the Eastern foothills. Our Batangan cargadores here secured others to replace them; and having measured them, photographed them, and paid them off with the cloth and beads they desired, we bade them goodbye.

"We came out at Bonsod, camped in a beautiful coconut grove, sent our Visayans home by boat, and went on up the coast with the aid of two horses which, however, carried packs and not us. The last five miles were comparatively civilized; we rode in state in a carromate. A more ragged pair of tramps can scarcely be imagined than we were when we pulled into Pinamalayan. I was practically barefoot, having worn out two pairs of shoes; and I had also worn out both my breeches and my shorts. And Major Davidson had the noblest crop of whiskers I have yet seen.

"We got clothes in Pinamalayan and returned on the S.S. TAMARAW, bringing with us, among other souvenirs, a bamboo bow used for shooting fish, pigs, and monkeys, and a quiver of reed arrows tipped not with metal, but with poisoned slivers of wood. I was more than fortunate in having such capable and jovial companions as Emline and Major Davidson on the trip; for that reason and because of the stirring beauty of the country, I shall always remember the expedition with a glow of pleasure.

"We all wish to express our gratitude to the Philippine Government for the backing they gave us; to the Nichols Field personnel I have mentioned; to Captain Russell Maughan, who helped us to organize the trip, and to Professor Otley Beyer, who lent us valuable documents and helped us in many ways. I hope the data we brought back will repay Professor Beyer.

"The Bureau of Science very kindly analyzed several rock specimens we brought back; they found indications of gold on a rock from the Bonbabong River, but not such good indications as recent specimens from near Mindoro's northern coast.

"Mindoro is not the white man's graveyard it is commonly pictured; but our trip was possible only in the dry season; and I do not advise anyone even then to enter the Eastern Mindoro mountains without full protection against rain and malaria."

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#### CLARK FIELD A DESIRABLE STATION

Clark Field, the home of the 3rd Pursuit Squadron, according to the officers and men stationed there, is the one place in the Philippine Islands to be stationed. "At any rate," says the News Letter Correspondent, "we have a high percentage of extensions of tour and of reenlistments.

"Clark Field, as we have said, is a one squadron post. The squadron is part of the Fourth Composite Group, with headquarters at Nichols Field. The field is adjacent to Fort Stotsenburg in Pampanga Province. Fort Stotsenburg, the third largest post in the Islands, is located some sixty miles by air, northwest of Manila. Spread out on the slope below Mt. Pinatuba and overlooking the central plain of Luzon, with Mt. Arayat sticking up its odd, solitary way in the middle, Clark Field affords a sense of space that we miss in the crowded jumble of Manila.

"Being an extremely large military reservation, it is possible to control sanitation so that the water is clean and the mosquitoes rare.

"The Air Corps troops are the only American soldiers on the post, the 26th Cavalry and 24th Field Artillery being Scout Regiments. There are twelve very comfortable sets of quarters on the field, but four or five officers are always quartered up on the main post. There are two

swimming pools, tennis courts and an excellent golf course. Taken altogether, most of those now stationed here think it a pretty good place to be."

At present the officers stationed at Clark Field are: Major G.E. Brower, Captains Leland R. Hewitt, Harold Rivers, 1st Lieuts. Lee Q. Wasser, Yantis H. Taylor, George E. Henry, 2d Lieuts. Lawrence H. Douthit, Ford L. Fair, Thomas W. Steed, John W. Persons, Thomas J. DuBose, James A. Ronin, Austin A. Straubel, James S. Sutton.

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#### ENGINE MECHANICS GRADUATE AT LUKE FIELD

Luke Field, Hawaii, graduated a class of 92 enlisted men, now qualified engine mechanics, from the post school recently. This is one of the largest classes to be graduated from the Luke Field Post Schools, the courses of which include Airplane Engines, Armament, Carburetion, Ignition, Stenography and primary education. A large amount of credit is due Sergeant L.D. Miller, who is Chief Clerk for the Post Schools. Technical Sergeant Randles was instructor for the Engine class, and he has turned out many excellent engine mechanics under his expert supervision.

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#### OFFICERS GRADUATE FROM TECHNICAL SCHOOL

Graduation of the several 1933 officers' classes of the Air Corps Technical School was held on June 30th, diplomas being presented to the graduates by Lieut.-Col. James A. Mars, Commanding Officer of Chanute Field and Commandant of the Air Corps Technical School, at a military review held upon the occasion of the graduation ceremony.

The graduating classes included the Regular Army Officers' classes in Communications and in Maintenance Engineering, and the National Guard-Air Reserve Officers' classes in Communications, Maintenance Engineering and Armament, as follows:

Communications, Regular Army: Lieuts. W.L. Ritchie, H.E. Tillery, E.J. Rogers, T.H. Baxter, J.T. Sprague, G.W. McGregor, W.E. Blaufuss, R.G. Montgomery, Jr., L.E. Watnee; and Lieuts. Ricardo Casteneda and Javier Gonzalez of the Mexican Army.

Maintenance Engineering, Regular Army: Lts. C.D. Wheeler, O.F. Carlson, R. Kyle, Jr., A.J.K. Malone, F.C. Wolfe, S.E. Anderson, J.A. Bulger, E.A. Sirmyer, Jr., C. Summers, T.M. Bolen, D.T. Mitchell and D.F. Meyer.

Communications, Nat'l Guard-Air Reserve: Lieuts. C.W. Alverson and T.E. Baker.

Maintenance Engineering, National Guard-Air Reserve: Capts. H.W. Generous, J.K. Gill, Lieuts. M.G. Carpenter, R.D. Castle, C. Stiles, R.S. Johnson and P. Waterman.

Armament, National Guard-Air Reserve: Dts. C. Gaty and E. Malstrom.

In addition, the following Reserve Officers on inactive duty attended the Maintenance Engineering Course and were graduated: Captain M.J. Jakowsky, Lieuts. C.K. Dubbar and P.S. Frederickson.

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The 1933 Officers' Class in Maintenance Engineering, under direction of Capt. William A. Hayward of the Air Corps Technical School, Chanute Field, spent several days before their graduation at Wright Field, Dayton, Ohio, where under the cooperation of the Chief of the Material Division, they observed the latest engineering developments and methods of the Division. This period of inspection visit at Wright Field is considered by the school staff as resulting in the student officers gaining information that will be invaluable to them and their future organizations.

## HENSLEY FIELD IMPROVED

Working under almost the same orders and regulations of Air Corps posts a hundred times its size, Hensley Field, manned by 15 enlisted men D.S., Air Corps Detachment, 8th Corps Area, and one Air Corps officer, commanding, starts its daily routine early and continues throughout the day and quite often work into the night.

Growing from 311 acres of mesquite-covered Texas soil with one lone building, now used as the Officers' Club, Hensley Field at the present time boasts of one of the most modern and up-to-date airways landing fields and facilities in the entire Southwest.

On May 15th last, two sets of officers' quarters and one set of noncommissioned officers' quarters were completed, bringing the total post buildings to ten. The officers' quarters are modern in design and are well located on the reservation, overlooking two beautiful lakes, which are being landscaped and stocked with game fish. The quarters for the noncommissioned officers are in keeping with the two larger buildings, being constructed of hollow tile with stucco finish.

The enlisted men's barracks, a one-story building, built of brick and stuccoed to conform with the other post buildings, will house some 35 men. In the barracks is a most home like and modern Army day room, equipped with a radio, easy chairs, ceiling fan, and the best in reading material.

A final check shows that 1,476 visiting airplanes of the Army, Navy, Marine Corps and National Guard landed and received service at Hensley Field since January 1, 1933. During the recent West Coast Maneuvers, one day's traffic totalled 114 planes, 76 of which remained overnight. Receiving air traffic from four directions, a total of 3,540 officers and enlisted men passed through this station in the past six months. A large percent of this total, both officers and men, were quartered overnight at Hensley Field.

The mechanics and clerical personnel of Hensley Field are of the highest type of Army personnel and most skillful in their work. Each enlisted man has several distinct duties to perform and an excellent working knowledge of the Air Corps as a whole.

In the twelve months of the past fiscal year, 106 Air Reserve officers flew on active and inactive duty at this station, flying all approved missions successfully for 1,227 hours without a single forced landing or motor failure.

Eleven training and service type airplanes are assigned for active and inactive duty training. No scheduled yearly training program is carried out, but the daily flying at Hensley Field is a picture-story within itself of an orderly Army flying field. Quite often visiting ships arrive with motor trouble and receive the same thorough and efficient service as can be had at the larger and most modernly equipped groups.

At this time economic measures seem to have removed all possibility of the regular annual summer training camp which has heretofore been conducted. In the past summer, four camps of two weeks each, were held, an average of 130 Air Reserve officers being trained in a most thorough and efficient manner.

## NIGHT FLYING AT CRISSY FIELD

A new night flying signal system is being completed and will be in commission for the start of night flying training at Crissy Field, Calif. Four strings of lights have been lined between two buildings so as to be clearly visible from the air. It is expected that alternate strings of red and white lights will be utilized with a selective control switch in the Operations Office from which landing zones can be controlled.

## RESCUE MISSION BY NATIONAL GUARD AIRMEN

Prompt action of New York National Guard airmen proved instrumental in effecting the rescue of six persons forced to jump overboard from a yacht which caught fire due to the overturning of a kerosene cooking stove. The imperiled party consisted of Colonel M. R. Guggenheim, his wife, son and three guests. Efforts to subdue the flames with fire extinguishers proved futile, due to the fumes from the flames combined with the chemical. It was impossible to reach the cabin where the life preservers were stored, as the flames barred any progress in that direction. There was one decorative life preserver lashed to the rail of the yacht and a bumper, a buoyant cylinder of canvas-covered reed and cork. Equipped with these, the six went over the bow of the burning yacht. There were no good swimmers in the party, and Colonel Guggenheim was the poorest of all. He clung to the life preserver while the others took turns hanging to the bumper.

They had been in the water several minutes when they saw a plane swooping toward them. One of the men aboard the plane, Capt. Rector, leaned out and dropped a life preserver among the little group struggling in the water. Capt. Rector and Lieut. Youmans had seen the burning yacht while they were directing artillery range finding at Fort Wright on Fishers Island. Several miles away in Block Island Sound, an Army tug was towing a target for gun practice. Capt. Rector at once radioed the tug and, cutting loose from the target, the Army boat came to the rescue, picked up all six, after they had been in the water more than 30 minutes, and took them to Fort Wright, where they were treated for exposure at the post hospital.

In this connection, the following letter from Col. Bryer H. Pendry, 245th Coast Artillery, to the Commanding General, New York National Guard, Camp Smith, N.Y., July 14, 1933, is quoted:

"1. Report is hereby made that the mission of the 27th Division Aero Squadron was handled by the officers detailed in a most commendable and excellent manner. The officers were available at all times, and information came from the air promptly and accurately.

2. It has also been reported by Lieut. Jos. J. Fallon, Hq. 1st Bn., who was an eye witness to the burning of Colonel Guggenheim's yacht, that had it not been for the promptness of these two officers in getting a life preserver to Colonel Guggenheim, in the fact of considerable danger to themselves and to their ship, there is no question but that the Colonel would have drowned before his rescue could have been effected.

3. It is suggested that the Commanding Officer, 27th Division Aero Squadron, be advised of the care and precision used by Captain Rector and Lieutenant Youmans in executing their mission with this regiment, and also their courage and promptness in aiding the rescue of Colonel Guggenheim and his party."

## 11TH SQUADRON HONORED

The official presentation of the Mackay Trophy to the 11th Bombardment Squadron was made at March Field, Riverside, Calif., on the morning of June 17th. Lieut.-Colonel H. H. Arnold, Commanding Officer of the field, presented the award in a brief address.

A few days later, another tribute was paid the 11th Squadron when Mr. George McManus, famous cartoonist and creator of the Jiggs insignia which adorns the Curtiss "Condor" Bombers of the Squadron, participated in an impressive ceremony, in the course of which he officially signed over to the Squadron the

Jiggs insignia which was born in the mud of France during the World War.

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#### 27TH SQUADRON VISITS CHICAGO

As part of the program of the opening of the American Air Races in Chicago on July 1st, the 27th Pursuit Squadron of Selfridge Field staged an exhibition flight over the Chicago Municipal Airport, the scene of the Races.

The Squadron flew on the morning of July 1st to Curtiss-Reynolds Airport, which was employed as a base, and then in the afternoon performed its intricate maneuvers for the enjoyment and education of the crowds who attended the opening ceremonies of the Air Races. Lieut. S.A. Kessler, Commanding Officer of the 27th, led the Squadron first through several close drill maneuvers, including the "A.C." formation which is becoming so familiar to civilians who have watched Selfridge Squadrons perform their drills. After the drill maneuvers, some mock single plane attacks on a ground target were made, and several other tactical formations.

In the evening after the flight, the entire squadron was entertained on the yacht of Mr. McDonald, of Chicago. The Squadron returned to Selfridge Field the following day.

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#### GRADUATIONS FROM TECHNICAL SCHOOL

On May 26th, the 1933 National Guard and Reserve Officers' Photographic class completed instruction, and its members were graduated from the Air Corps Technical School, Chanute Field, Ill. The class of eight members consisted of Captains Gerald V. Kelly, Vincent B. Moore, 1st Lieut. Reed E. Davis, 2nd Lieuts. John N. Mulvey, John E. Sandow, Air Reserve; 1st Lieuts. Joe O. Edge, Texas National Guard; Frank A. Low, Minnesota National Guard, and 2nd Lieut. Paul N. Flanary, Tennessee National Guard. These officers had been under instruction at the Air Corps Technical School for a period of three months, and their academic work was considered particularly gratifying.

Diplomas were presented by the Acting Commandant, Captain Samuel C. Skemp, at a ground review of the troops at Chanute Field held upon the occasion of the graduation.

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#### FOREIGN OFFICERS VISIT MARCH FIELD

A few days following the close of the Los Angeles Air Races, Major Ernst Udet, German war ace, who thrilled the crowds at the National Meet with his daring and skillful flying, paid March Field an official call, in response to the invitation of its Commanding Officer. Major Udet was taken on a tour of inspection of the field.

Group Captain G.R. MacFarlan Reid, Air Attache of the British Embassy in Washington, visited March Field on June 28th.

On July 1st, Captain Jean Vautrin, General Staff officer of the French Army, visited March Field.

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#### FLYERS WHO MAKE THE GRADE

Queries are often received as to what percentage of students entering flying school possess the inherent ability to fly and succeed in passing the necessary requirements for the rating of a military pilot.

The little monthly class paper issued by the Flying Cadets at the Air Corps Training Center publishes some very interesting statistics on this subject. These statistics deal only with students entering the Primary Flying School at Randolph Field, Texas, and graduating therefrom to the Advanced Flying School at Kelly

Field, Texas. Generally speaking, after a student is transferred to the Advanced Flying School he may be counted on successfully completing the advanced course. The exceptions to this rule are comparatively few.

Taking the class, including officers, flying cadets, noncommissioned officers training in grade, and students from foreign countries which began training at Randolph Field in November, 1931, the figures show that 48.80% of those who started training were transferred to the Advanced Stage. The percentage of successful students for the class of March, 1932, was 48.47; for the class of July, 1932, 48.67, and for the class of October, 1932, 45.10, or a general average for these four classes of 47.76%.

The consistency of these figures would seem to indicate that the question of the ability of the average American youth to make the grade as a military flyer is about a fifty-fifty proposition.

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#### DEMONSTRATION BY MARCH FIELD AT AIR RACES

Thirty-six planes, 18 Pursuit and 18 Bombardment, of the First Bombardment Wing, March Field, Calif., demonstrated coordinative attacks by three Bombardment squadrons on a theoretical target in front of the grandstand during the Air Races at Los Angeles recently.

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#### SPECIAL ORDERS AFFECTING AIR CORPS OFFICERS

CHANGES OF STATION: To Bolling Field, D.C.: 1st Lieut. Townsend Griffiths, from Randolph Field, Texas.

To Brooks Field, Texas: 2nd Lieut. John C. Gordon from Hawaiian Dept.

To Crissy Field, Calif.: 1st Lieut. George E. Henry from Philippines.

To Barksdale Field, La.: Captain Russell L. Maughan from Philippines.

To Kelly Field, Texas: 2nd Lieut. Roger J. Browne from Panama.

To the Philippines: 2nd Lieut. Norman H. Ives from March Field; Capt. Marion L. Elliott from Langley Field.

To Hawaii: Captain Edwin R. Page from March Field.

To Panama: 2nd Lieuts. Henry R. Baxter and Hansford W. Pennington from Kelly Field.

To Scott Field, Ill.: Lieut.-Col. Frank M. Kennedy from Maxwell Field, to assume command.

To Maxwell Field, Ala.: Major Wm. O. Ryan from duty as student, A.C. Tactical School.

PROMOTIONS: To Major - Capt. John G. Colgan, rank from July 1, 1933. To Captain: 1st Lt. James M. Gillespie, rank July 9, 1933. To 1st Lieut. - 2nd Lt. Charles B. Stone, 3d, rank June 24, 1933.

RETIREMENTS: Major Leo G. Heffernan, Capt. Roger S. McCullough, Edward Laughlin to proceed to their homes to await retirement.

RESIGNATION: 2nd Lieut. Clarence Edward Enyart, June 26, 1933.

ASSIGNMENTS: Major Percy E. Van Nostrand as Assistant Commandant, Air Corps Technical School, Chanute Field, Ill., vice Captain Samuel C. Skemp.

Col. Frank P. Lahm from duty as Assistant Military Attache for Air, to duty as Military Attache, American Embassy, Paris, France.

ORDERS REVOKED: Assignment of Lieut. S.M. Umstead, Bolling Field, to Middletown Air Depot; Assignment of 2nd Lt. Frederick W. Castle, Selfridge Field, to duty as student at Air Corps Technical School, Chanute Field.

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Work on the new flying field (Wheeler Field, T.H.) is advancing rapidly. It is now completely sodded, the hangars have been accepted, although it is not intended to occupy them until the new grass has had sufficient time to take root.

## AERIAL MAPPING OF BALER BAY AREA

MAPPING project was started several months ago, in conjunction with the Engineer Corps, of the Baler Bay Area, Tayabas Province, Island of Luzon. The T2A camera was used with four lenses in operation and at other times three. Existing maps of the area are incomplete and incorrect, the area containing mountains about 7,000 feet high not previously identified. Even two stream lines are substantially incorrect.

As practically the entire area is covered with forest of uniform growth and appearance and as the area has, in the past six months, been entirely free from clouds but one day after eight in the morning, the difficulty of flying courses as plotted may be imagined.

A company of Engineers camped in the area plotted certain control points in this beautiful virgin country. They reported very few people in the area, except in the town of Baler, and small barrios along the coast. The wild people are called "Ilongots" and are still in the original state, and there is little doubt that they will indulge in head-hunting.

A stranger in the wilds inhabited by these people has little chance of getting out alive, unless he travels with a large, well armed party, and even then the danger from poisoned darts and arrows is considerable.

Strangers are kept under constant and usually secret surveillance by the suspicious natives, and any breach of their customs, beliefs, superstitions or taboos, no matter how innocent or unintentional, places one in danger of attack.

Many distinct dialects are spoken in a distance of 200 miles, and as few natives understand more than their own and a few words of those of neighboring tribes, it is difficult to obtain guides who dare go with a party on a long trip.

The Philippine Constabulary in general does a fine job of keeping law and order among the semi-wild tribes by the maintenance of small patrol stations, and where possible enlisting a few of the more promising and influential youths of the different tribes. However, in these wild mountain districts where even the trails seem to have no beginning or end, there are large areas where an "Orlander" has never set foot and many of the natives therein have never seen persons other than those of their own tribe, perhaps not other than those of their own settlement of three or four roving families.

As it was found the four lens camera could not be mounted in the C-19, this photography was done from an O-2 when available and, when not, from a B-3A.

Equipment is carried which would be invaluable in case of a forced landing in these wilds. This includes bolos for cutting trails, medicines for various purposes, including that of destroying dysentery and cholera germs in water to make it potable, pocket compass, a Very pistol, etc. In addition, a shotgun, shells, bottle of matches and a friction lighter, and salt were carried. The food problem in such a case is not serious, as many edible animals, birds, fish and reptiles, also fruits, may be easily found and eaten, if necessary, by one who knows how to catch and prepare them.

The problem how to make a safe forced landing in such an area was not fully worked out. If the crew "bailed out," the chance is slight that the plane and its contents could be located by them even if it struck within half a mile. The best chance is probably to land in one of the small rivers and take a chance of being able to travel. At least the crash would be easier to locate and get to.

Due to the "sameness" of print after print, the Engineers had considerable trouble making the map from the pictures. The opportunity to

take pictures is fleeting. A radio report was sent whenever the weather seemed favorable, and the plane took off and proceeded for about 100 miles. By that time the clouds usually came in, but at times it was possible to do an hour's work before weather conditions became too bad for good photographic work.

A mark of 11,000 feet was set as the altitude, so that more time would not be lost in climbing but, of course, with a 7,000 foot mountain on one edge of the area, considerable distortion occurs.

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## TRAINING ACTIVITIES OF 26TH ATTACK SQUADRON

The most interesting and probably the most valuable phase of the year's training, according to the correspondent of the 26th Attack Squadron, Wheeler Field, T.H., is the cooperative missions performed with other branches of the service. The correspondent goes on to say that this squadron has an unusual opportunity for working with ground troops because of its proximity to Schofield Barracks, and because most ground troop commanders desire their men to develop anti-aircraft defense and the proper discipline during an air attack.

The Squadron has accomplished a number of cooperative missions with the Field Artillery units of late. Most of these missions have taken the form of attacks on moving columns while the artillery units were moving into the field for their summer exercises and firing. Other attacks have been made upon camps, established gun positions and camouflaged positions. The experience and training gained by both the ground units and air units are extremely valuable. Both gain a better understanding of the capabilities and limitations of the other and the usual result is a considerable increase in their mutual respect for each other. The ground troops have succeeded in developing some very efficient defenses against air attacks. Their camouflage is extremely deceptive and often low flying airplanes will fly right over a battery so concealed without the pilot being able to locate a single man or gun even though he knows the approximate area in which the battery is located.

The development of efficient ground defense stimulates the air units to greater activity, especially in planning and executing their attacks to insure their being successful. The 26th Attack Squadron has tried a number of different tactics on these missions and the knowledge and experience gained from them has been invaluable to the pilots.

Besides actual attack missions, the 26th Attack Squadron has also been of great service to the Coast Artillery units in the Hawaiian Department by towing targets for the training of their anti-aircraft batteries. While the value of cooperation of this type is less direct than the other, it is an important phase of training because the effectiveness of present anti-aircraft fire is a subject of which few pilots have much knowledge. In case of actual operations during war time, anti-aircraft will be a dangerous hazard to all flying, and it is believed that all pilots who have the opportunity should study anti-aircraft batteries in action.

In addition to purely military missions, the 26th Attack Squadron has accomplished some valuable work for the Territory of Hawaii by scattering seeds for the Forestry Department. Most of the rugged mountains on the Island of Oahu are inaccessible from the ground. The Forestry Department is attempting to introduce trees of commercial value to take the place of the riotous wild growth that now covers the mountains. An hour's flight will accomplish more in distributing



these seeds than a month of exhausting effort by a large ground force. The motto of the 26th Attack Squadron during the past month could well be "Cooperation."

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#### CONDEMNED PARACHUTES PUT TO GOOD USE

The 111th Observation Squadron, Texas National Guard, received ten parachutes, condemned for human use, to be used in dropping 5-gallon milk cans loaded with supplies to marooned parties in the marshy coastal sections of Texas, or to carry food, drink and ammunition to them. Every year several parties of hunters get lost in the salt marshes along the Texas coast, and occasionally motorboat parties run out of gas and are hung up on some lonely isle or key. The ten milk can chutes are expected to come in handy in such instances.

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#### OBSERVATION SQUADRON MAKES GOOD IN NEW ROLE

At a conference prior to the Anti-Aircraft Exercises at Dayton, Ohio, expressions of doubt were voiced as to the ability of the Observation Squadron to understand and carry out its mission as set down. The old time-worn Observation procedure was done away with and the Observation had been detailed to function in an entirely new capacity - the supporting of air troops instead of ground troops.

The Observers from Mitchel Field more than justified their part in the Exercises.

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#### FLYING TACTICS BY HAWAIIAN PURSUERS

The 18th Pursuit Group, Wheeler Field, T.H., recently staged a series of aerial tactics for the Commander of the 18th Composite Wing and his staff. This exhibition included every phase of tactical training covered by the training schedule for the year 1932-33, the purpose being to acquaint the new Wing Operations Officer, Major Michael F. Davis, with the units with which he would work during the forthcoming three years in the defense of the Hawaiian Group. Speed in response to alert calls was stressed. An excellent demonstration was made of communications by directing the 19th Pursuit Squadron by radio from the reviewing stand. The new short wave units are on hand and work was begun on their installation, but as yet all service units are still laboring with the old sets and there is continued interruption by the many service and commercial units operating in the Hawaiian Islands.

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#### 17TH PURSUIT STAGES FLYING MANEUVERS

The 17th Pursuit Squadron recently returned to its home station, Selfridge Field, after a short stay in Chicago, where it took part in the Military Tournament held in conjunction with the World's Fair. The personnel of the Squadron were quartered at Fort Sheridan, Ill., while the planes were based at Sky Harbor during the four days' stay. Visitors to the Fair and to the Military Tournament held each evening at Soldier's Field were afforded the opportunity of watching the Squadron perform its maneuvers.

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#### 91ST SQUADRON DISPENSES SMOKE

The 91st Observation Squadron, Crissy Field, Calif., recently conducted smoke screen experiments. Journeying by truck and air to Hamilton Field, they puzzled the farmers and ducks for miles around by producing a pretty good substitute for fog.

The problem of carrying a loaded tank from

the filling point to the airplane was solved in the following manner: A rectangle of 1 1/2" airplane tubing, 9-foot long by 14 inches wide, was constructed with cross bars on the ends. Three movable iron straps support the tank. A wooden stand supports the assembly for filling. This arrangement permits easy handling of the heavy load.

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#### SELFRIDGE FIELD ASSUMES NEW APPEARANCE

New construction at Selfridge Field has proceeded at such a rapid pace that in the course of a month the post assumed an entirely new appearance. The most important new addition is the main Post Road, just completed and built of very solid concrete, taking the place of the old main road.

Hand in hand with the new construction, the improvements on the post are progressing rapidly. The street lighting system is entirely completed, and consists of 110 concrete light standards, placed at certain intervals along all roads. The entire waterfront along Lake St. Clair is being graded - a big job - for there is a frontage of 4,000 feet along the Lake. A stone walk will be built along the water's edge, grass sown and trees planted. Soon the view towards the Lake will be changed from the aspect of a refuse dump to that of a well laid out park.

The new Post Exchange is about ready for use, and a few weeks later the Officers' Mess and the Enlisted Men's Club will be open for business.

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#### INTERNATIONAL AIR RACES

The Army Air Corps will enter one balloon in the International Gordon Bennett Balloon Race, to be held in connection with the International Air Races scheduled for Sept. 1st to 4th, inclusive, at Chicago, Ill. First Lieut. Wilfred J. Paul, pilot, of Langley Field, Va., and Master Sergeant Joseph H. Bishop, aide, of Scott Field, Ill., were designated by the Chief of the Air Corps as the team to represent the Army in this international contest.

According to the National Aeronautic Association, invitations were extended to the Navy and to the Goodyear Company, of Akron, Ohio, to enter a team each, also that France, Germany, Poland and Belgium have indicated their intention to enter teams in this historic contest.

The Army team of Lieut. Paul and Master Sgt. Bishop won the National Elimination Balloon Race, which started on May 30th of last year from Omaha, Nebraska, by remaining aloft 26 hours and 46 minutes, landing at 1:00 a.m., June 1st, at a point 13 miles north of Hatton, Saskatchewan, Canada, approximately 901 miles north and west of Omaha.

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#### COOPERATION WITH OTHER BRANCHES

The 4th and 50th Observation and 65th Service Squadrons, 5th Composite Group, Luke Field, T.H., participated in airplane missions with the Hawaiian Separate Coast Artillery Brigade during May, towing targets for anti-aircraft fire with a Sikorsky Amphibian and with O-19 Observation planes.

Cooperative missions were carried out by the 19th Pursuit Squadron, 18th Pursuit Group, Wheeler Field, T.H., with the 64th Coast Artillery Corps, in addition to the regular squadron training.

Saturday, July 15th, was the birthday of the 34th and 73rd Pursuit Squadrons and 17th Pursuit Group Headquarters at March Field.

## OBITUARIES

The personnel of Kelly Field have not as yet recovered from the loss of Captain Harold A. Moore, who was killed in an airplane crash on the morning of June 9th, while flying a P-12 on a local flying mission. The exact cause of the crash has not been determined. His death marks the first at Kelly Field since the death of Capt. Randolph in 1927, that is, a permanent officer assigned to this field.

Captain Moore, who enlisted in the Aviation Section, Signal Corps, on September 21, 1917, was born at Chicago, Ill., June 1, 1894. He attended high school at Evansville, Ill. for 4 years; Berea, Ky. College for 2½ years, and Ohio University for 2 years, receiving an A.B. degree from the latter institution. Following his graduation from Ground School at the Ohio State University, he was assigned to Rockwell Field, Calif., for flying training and, upon completion of same, was commissioned a 2nd Lieut. on May 14, 1918, and placed on active duty. From Rockwell Field he proceeded to Camp Dick, Dallas, Texas, where he served a short period, and then to Gerstner Field, La. He returned to Rockwell Field in August, 1918, and remained there until December, 1919, when he was transferred to March Field, Calif.

On July 1, 1920, Capt. Moore was appointed a 2nd Lieutenant, Regular Army, and was promoted 1st Lieutenant the same day. In January, 1922, he was ordered to duty in Hawaii. Completing this foreign service tour, he was assigned to Crissy Field, Calif. in April, 1925. Two years later, in April, 1927, he was transferred to March Field to pursue a course of instruction for flying instructors, following which he was assigned to duty at the Air Corps Training Center at Duncan Field, Texas.

Captain Moore had been stationed at Kelly Field since June, 1927. For several months prior to his death he was in command of the Headquarters Squadron.

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Lieut. Jerome P. Thompson, Air Reserve, attached to the 94th Pursuit Squadron at Selfridge Field, Mich., was killed in an airplane accident on the morning of June 17th, while he was engaged in a flight for the purpose of practicing combat maneuvers. Lieut. Thompson had been stationed at Selfridge Field since March 13, this year, and had already made a reputation for himself as a good pilot and an efficient officer. He had made many friends at the field.

Lieut. Thompson was born at Helena, Ark., February 20, 1909. He graduated from the University of the South, Sewanee, Tenn., with the degree of B.S., in 1927. Appointed a Flying Cadet, he commenced training at the Primary Flying School, Randolph Field, Texas, in March, 1932. He successfully completed the course both at the Primary Flying School and at the Advanced Flying School, Kelly Field, Texas, and, on February 24, 1933, he was commissioned 2nd Lieutenant, Air Reserve, rated "Airplane Pilot," and placed on extended active duty at Selfridge Field, Mich.

It was Major Brett's sad duty to notify of the tragedy Mr. and Mrs. Jacob Thompson of Helena, Ark., parents of the deceased officer. Major Brett said that Lieut. Thompson "showed much promise both as an officer and as an airplane pilot. His work while with the First Pursuit Group at Bowman Field in connection with the Anti-Aircraft - Air Corps Exercises in May was especially commendable. His loss will be keenly felt at Selfridge and by the Air Corps as a whole.

The name of Thompson unfortunately figured in another airplane accident, when 2nd Lieut. Keith A. Thompson lost his life in a crash on July 21st at a point approximately 20 miles southeast of Hallettsville, Texas, while on an authorized night aviation flight.

Lieut. Thompson apparently jumped from his airplane but, in all probability, his jump was at an altitude too low to save his life. The pilot chute was found resting on the top of a cypress tree, and the shrouds of the large chute were scarcely unfolded.

Lieut. Thompson, a native of Elano, Wis., was born on February 3, 1910. He graduated from the United States Military Academy on June 10, 1932, and was commissioned a 2nd Lieutenant of Infantry. The following month he was detailed to the Air Corps for flying training. He satisfactorily completed the course at the Primary Flying School, Randolph Field, graduating on June 30, 1933, and was undergoing the advanced course at the Advanced Flying School, Kelly Field, Texas, at the time of his death.

Lieut. Thompson's home was at Ogdensburg, Wisconsin.

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One of the most distressing accidents in the Air Corps in recent years occurred on July 25th, near Oceanside, Calif., when a C-6A (Amphibian) piloted by 2nd Lieut. Carl H. Murray, accompanied by six enlisted passengers, dropped a wing and crashed. None of the occupants of the ill-fated transport plane survived.

The plane left March Field at 11:40 a.m. for Rockwell Field and appeared over Oceanside at noon, when scores of people were in the streets. Witnesses said it was flying smoothly until it reached the south end of the town, when they saw a wing suddenly break away.

One witness, near whose house the crash occurred, said that her attention was attracted to the plane by a loud report when it was overhead. "I went outside and looked up," she said, "and saw what appeared to be small particles and smoke coming from the rear of the plane. I could see they were in difficulty and seemed to be coming down looking for a place to land.

"I heard a rasping noise, and the right wing tore away and went soaring off by itself. The main body of the plane floated an instant and then plummeted down in our pasture."

The occupants of the Amphibian besides Lieut. Murray were -

Sgt. Archie W. Snodgrass, 64th Service Squadron.

Sgt. Romell L. Herrick, 17th Pursuit Group Headquarters.

Corporal Walter T. Caylor

Private Stanley Book

Private Albert Overend

Private Vincent J. Galdic

All of the above-named personnel were stationed at March Field, Riverside, Calif., the last four named being members of the 95th Pursuit Squadron.

Lieut. Murray was born in McCook, Neb., July 3, 1904. He graduated from the University of Idaho in 1928, and his home was in Filer, Idaho. Appointed a Flying Cadet, he graduated from the Primary Flying School, March Field, Calif., October 11, 1929, and from the Advanced Flying School, Kelly Field, Texas, February 28, 1930, being rated "Airplane Pilot," commissioned a 2nd Lieutenant in the Air Reserve, and placed on extended active duty at Rockwell Field, Calif. He was appointed 2nd Lieut., Air Corps, Regular Army, on June 6, 1930.

ADVANCED SCHOOL GRADUATES ASSIGNED TO STATIONS

**M**EMBERS of the 17th class, trained under the five-year program were graduated from the Air Corps Advanced Flying School, Kelly Field, Texas, on June 29th. An aerial review was held at 8:00 a.m., and the graduation exercises at 10:00 a.m. in the War Department Theatre.

Chaplain Edward R. Martin delivered the invocation and, following introductory remarks by Lieut.-Col. Henry B. Clagett, Commandant of the Air Corps Advanced Flying School, Brigadier-General Charles R. Howland, Commanding General of the 3rd Infantry Brigade, Fort Sam Houston, Texas, delivered an address. Brigadier-General Charles H. Danforth, Commanding General of the Air Corps Training Center, presented the diplomas. The exercises were concluded with a benediction by Chaplain Martin.

The class of 96 students commenced training at the Advanced Flying School on March 1, 1933, and the 91 successful students, who received their "Wings," were graduated in specialized training, as follows: Attack, 4 Flying Cadets; Bombardment, 21 Flying Cadets, 2 Noncommissioned officers; Observation, 1 Regular Army officer, 20 Flying Cadets; Pursuit, 2 Regular Army officers, 41 Flying Cadets.

Two fatal airplane crashes during the period of this class resulted in the death of Flying Cadets Herman S. Davis (Bombardment), and Charles D. Rogers (Observation). Three students, Cadets D.W. Pippinger (Attack), L.P. Ricks (Attack) and E.F. Tindall (Pursuit) will be held over for training with the next class. The three officers of the Regular Army who were members of the graduating class were assigned to duty, as follows: 1st Lieut. R.P. Williams to Langley Field, Va.; 2nd Lieuts. John E. Barr and Joseph B. Zimmerman to the Philippines.

The graduating class completed their navigation training flights on June 24th, which wound up the final phase of training, and which the students always look forward to with keen anticipation, as the flights for each section cover a period of four days, including the maintenance day. All of the Sections, with the exception of Observation, followed this itinerary: Kelly to Fort Sill, Fort Sill to Fort Bliss, and return, with several stops at different stations for refueling and lunch. The Observation Section had maintenance day at Fort Sill instead of at Fort Bliss.

All Flying Cadets were discharged on June 30th and were placed on active duty temporarily at Brooks Field, under their Reserve commissions, pending final assignments to stations. Under Special Orders of the War Department recently issued, these new 2nd Lieutenants were assigned to stations, as follows, for the period of one year, ending June 30, 1934:

To Barksdale Field, La.:

Willard Van Deman Brown	Jay Lanham Gentry
John Francis Davidson	Philip Beeton Klein
Walter Edward Davis	Jeff Coleman Mock
Samuel Cleveland Dunlap	
Hal Willoughby Gregory, Jr.	

To Crissy Field, Calif.:

Eyvind Holtermann      George Henry Macintyre

To Fort Crockett, Texas:

James Thomas Connally      Jean Donat Grenier  
William Silver Edgar      Andrew Monroe Wynne, Jr.

To Langley Field, Va.:

Howard Owen Aigeltinger	William T. Hudnell, Jr.
Edward Schwartz Allee	Roger Herman Kruse
William M. Altenburg	Bierne Lay, Jr.
Joe Earle Barton	James Britt League, Jr.
Henry Stoner Bear	Millard Ray Newland
Richard C.W. Booker	Franklin Kendall Paul
Homer Astley Boushey, Jr.	Francis Pope
George Kenneth Crain	Thomas Jones Schofield
Donald Bream Diehl	James Edwin Stroud
Harold Lucas Dietz	James Winfield Williams
Ladson G. Eskridge, Jr.	Edgar Milton Wittan
Stanley Currier Hoyt	Geo. W. Youngerman, 3rd.
James H.C. Houston	

To March Field, Calif.:

Edwin Davis Avery	Lowell Everett Heacock
Joel Lee Crouch	John S. Lambie, Jr.
Don Orville Darrow	Sterling Talley Love
John Patrick Donlin	Ray Albert Noland
Edward R. Dorsey, Jr.	Bernhard A. Schriever
James Young Eastham	Elmer Patrick Schwarz
Elwyn Herbert Gibbon	John Dodds Treher
Charles Lee Hamilton	Daniel Wm. Wickland

To Mitchel Field, N.Y.:

Howard Alton Cheney	Harold Lewis Jones
Charles Edw. Flaherty	George F. McDermott
Cyril Adrian Goyette	Wm. S. Poccock, Jr.
Elkins Hamilton Hale	Raymond Walter Wells

To Scott Field, Ill.:

Harold Austin Gumm	Lawrence S. Fulwider
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To Selfridge Field, Mich.:

William Thomas Arthur	Charles Dean Manhart
Lloyd Herbert Bidwell	Herman G. Portman, Jr.
Newton Hunt Cramley	Everett Greeley Senter
Frank Howard Evans	Hamilton Smith, Jr.
Thomas J. Gaughen, Jr.	John F. Strickler, Jr.
John Holdon Gibson	Edwin Averell Warren
Charles P. Hollstein	

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TRAINING FOR MORE RESERVE OFFICERS

Mainly through the unceasing efforts of the Reserve Officers Association of the United States, of which Col. Kemper Williams, Infantry Reserve, is National President, and Major Bennett A. Molter, Air Reserve, National Secretary, the President of the United States authorized the withdrawal of an additional sum of \$1,000,000 from funds impounded for 14-days active duty training of Reserve officers. It is estimated that this additional sum will permit of the training of 7,400 additional Reserve officers of company grade.

There are at present 86,338 Reserve officers commissioned in the various Arms and Services on the Active Duty Assignable List, all of whom have met the professional requirements of their grade as laid down by the War Department. The second session of the 72nd Congress appropriated funds sufficient to train not less than 20,000 Reserve officers during the Fiscal Year 1934. The amounts made available to the War Department by the Director of the Budget were, however, curtailed so as to permit the training of but 3,151 Reserve officers. At present there are 1,672 Reserve officers on active duty with the Civilian Conservation Corps, making a total of 4,823, or approximately 5 percent of the total number of Reserve officers, eligible for training.

The authorization of additional funds to train 7,400 more Reserve officers will make it possible to provide active duty training for 12,223 Reserve officers this fiscal year.

The ultimate program of the Reserve Officers Association is to train every combat Reserve officer at least once a year.

It is stated that enrollments for membership in the Reserve Officers Association are now at an unusually low ebb. The efforts of the high officials of this organization have put forth to obtain this gratifying increase in the number of Reserve officers to be trained this Fiscal Year should meet with the approbation of every Reserve officer, and his support in a material way.

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The 113th Observation Squadron, Indiana National Guard, placed targets on the far side of their field for both forward and rear gun practice. This will give them an opportunity to take advantage of this type of training more than was possible in the past, when their aerial gunnery was largely confined to the summer camp period.

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During June at Patterson Field, Fairfield, O., 16 planes and 41 engines were given major overhauls, and 46 planes and 30 engines minor overhauls.

## GENERAL BALBO'S RECEPTION AT BOLLING FIELD

On July 20th, official Washington paid tribute to the intrepid Italians who, under the leadership of the youthful General Balbo, piloted the great Air Armada across the Atlantic, bearing a message of friendship and good will from Premier Mussolini to the American people.

The visit to Washington followed the huge reception given the fliers in New York and was a fitting climax to the many honors which had been bestowed by an admiring nation upon heroes whose accomplishment eclipses previous incidents of aviation history.

Bolling Field was given the privilege of first welcoming these distinguished airmen. When they stepped from the Army, Navy and Marine Corps planes, in which they had been flown from New York, fully 10,000 persons were at the field to obtain a glimpse of them, and many thousands of others from roof tops and from the streets watched the planes carrying the visitors, fly over the city on their way to the field. Several thousand of the visitors were Italian-Americans for whom space had been reserved.

At ten thirty the planes landed and taxied into position. As General Balbo and his officers alighted, a 19-gun salute was fired by Battery "C," 16th Field Artillery, of Fort Myer, Va. As the General came into view, a wild "Viva Balbo" came from the Italian-American section and was carried on through the crowd of spectators.

The General, accompanied by his staff and Col. Yount and Lieut. Robertson, then inspected the Guard of Honor, composed of Bolling Field troops. The Navy Band furnished the four ruffles and played the Fascisti National Anthem. General Balbo was then taken to the area allotted to the Italian contingent. The wild enthusiasm of his own people left no doubt in the mind of the General and other spectators as to the pride and affection in which they held him and his brave fliers. Here and there hands reached out from the stand to touch the hero and many Italian women dropped to their knees as he passed.

Having afforded the Italian Nationals an opportunity to pay tribute to their flying General, Col. Yount then escorted him and his officers to a stand where he was officially welcomed by the Secretary of the Navy, the Italian Ambassador, the Assistant Secretary of War, the Acting Secretary of State, the Secretary of Commerce, the Assistant Secretary of Commerce (Air), the Chief of Naval Operations, the Chief of the Army Air Corps, the Assistant Chief of the Army Air Corps, Commandant of the U.S. Marine Corps, Chief of the Bureau of Aeronautics, Assistant Chief of Staff, G-2, the Commander, District of Washington, and the Director of Naval Intelligence.

Secretary Swanson, welcoming the General in the name of the President, said: "I extend to you and your companions the hearty greeting of the President of the United States, and all of the American people." The spectators who could manage to catch a glimpse of the immaculately attired General as he responded to this welcome, could not understand his reply, but the gracious smile which played over his face convinced them that he was glad to be here. In reply to the Secretary's welcome he had said: "I will leave herewith the undying impression of the friendship of America for my own country."

Secretary Woodring told General Balbo: "We are happy to greet you and your comrades on this epochal flight that has splendidly accentuated the warm feeling of friendship which exists between Italy and America."

Secretary Roper said: "We welcome you into our hearts and into our nation's capital." That is exactly what the people of Washington did. Few of the thousands present at Bolling Field could hear these speeches. They didn't care. They were content to stand on tiptoe and shout "Viva Balbo!"

Following the welcoming ceremony, General Balbo and his officers were placed in cars and accompanied by Army, Navy and Marine Corps officers and representatives of official Washington, the cavalcade passed in review before thousands of visitors at the field. Riding with General B.D. Foulis, Chief of the Army Air Corps; Rear Admiral Ernest J. King, Chief of the Bureau of Aeronautics; and Hon. Irving Y. Mitchell, Assistant Secretary of Commerce for Air, he led the procession as it left Bolling Field. On all sides there was thunderous applause and wild "Vivas." His famous smile encompassed everyone.

Following the reception at Bolling Field, General Balbo was taken to the Mayflower Hotel from whence he left shortly for luncheon with the President of the United States. At the same time those officers not accompanying the General to the White House were entertained at luncheon at the Mayflower by the Overseas Writers Association and were later taken to the White House to meet the President. Army, Navy and Marine Corps officers and their wives were invited.

During the afternoon, General Balbo and his officers journeyed to the Tomb of the Unknown Soldier where General Balbo placed a wreath.

At four thirty, the Italian Ambassador afforded Washingtonians an opportunity to meet the distinguished visitors at tea.

Assistant Secretary Woodring and Secretary Swanson entertained the General and his officers at dinner on Thursday evening at the Army and Navy Country Club. The guest list included representatives from official and social Washington and many Army, Navy and Marine Corps officers and their wives.

It was at first planned that the fliers were to be returned to New York by plane, but it was later determined that they should go by train following the reception and dinner.

Never since the return of Lindbergh had Washington more generously extended hospitality to distinguished visitors. General Balbo and each of his officers made a lasting impression, and Washington is now eagerly scanning the news columns for information concerning his return trip. We wish him Godspeed and "Happy Landings."

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## ADDITIONAL HANGARS AT LUKE FIELD, T.H.

A most urgent need for housing facilities for bombardment airplanes will be filled in the very near future with the erection of two additional hangars at Luke Field, T.H. Work on their construction was recently started. This project, involving a contract totaling \$37,500, included the dismantling of three hangars formerly in use by the 18th Pursuit Group at Wheeler Field, and the erection of two of them into complete units at Luke Field. The material of the third dismantled hangar will be used in the construction of lean-to additions to the present hangars of the 5th Composite Group.

Since January 18, 1933, when fire completely destroyed the hangar assigned the 23rd Bombardment Squadron, the planes of this organization were parked in the open and exposed to weather, causing undue deterioration and requiring frequent rigid inspections, as well as an increase in maintenance beyond that normally required for planes properly stored in hangars.

The completion of these two additional hangars will be anticipated with great interest by the two Bombardment Squadrons of Luke Field, the 23rd and the 72nd, which organizations will share the storage space and will again be able to return to normal operating conditions.

# Radio

A radio test of the new SCR-183 sets, installed in P-12E planes, was recently conducted from Albrook

Field, Canal Zone. One pilot proceeded north to France Field 40 miles distant; and another pilot flew west for a distance of 30 miles. These two officers maintained two-way voice communication until they were approximately 90 miles apart. The ground station at Albrook Field, which was equipped with an SCR 183, maintained communication with the northern plane throughout the test and with the western plane up to a distance of 60 miles. Conditions were not the best, as a local amateur station and a Colombian Commercial station interfered considerably. The pilots found these sets extremely simple to operate and adjust and the test indicated a great advance over any radio equipment heretofore installed. Of the six type SCR 183 sets at this station, five are installed in P-12E type airplanes and the sixth is used in the ground station until the completion of the installation of the type SCR 188 ground transmitter.

During the recent gunnery season at Albrook Field, the problem of a safety ship was efficiently solved. This was done by use of the new SCR 183 installed in P-12E's. The radio ship patrolled the range, which is three miles to sea off Old Panama, and maintained contact with the ground station at Albrook. The Sikorsky Amphibian or Douglas Dolphin were available during the firing period for rescue missions on call of the patrolling radio ship.

The personnel of the Communications Department, Bolling Field, D.C., will be kept busy for several weeks installing the new 183 Airplane Radio Set in eight C-38F airplanes coming to this field. The new set makes communication between plane and ground a great deal more efficient, due to the compactness of the set, including a transmitter and several other features not included in the old style sets.

The student officers and part of the instructional staff of the Department of Communications of the Air Corps Technical School, Chanute Field, Rantoul, Ill., recently proceeded to Chicago on an inspection visit, which included the electrical exhibits of A Century of Progress, the Majestic Company's Chicago plants and National Broadcasting systems.

Those making the trip, which was under the direction of Captain Malcolm N. Stewart, Acting Director of the Department of Communications, included: Mr. David Reeves (Lieut.-Col. Spec. Res.); Mr. Charles W. Richard, (Major, Air Res.); Lieuts. F.C. Allen and R.V. Williams, Air Corps, Instructors; and student officers Lieuts. W.L. Ritchie, M.E. Tillery, G.W. McGregor, J.J. Sprague, T.H. Baxter, E.J. Rogers, W.B. Blaufuss, H.G. Montgomery, E.A. Sirmeyer, Jr., and Lloyd H. Wetnee.

## TECHNICAL SCHOOL STUDENTS AT WRIGHT FIELD

Thirteen officers of the Maintenance Engineering course at the Air Corps Technical School, Chanute Field, Rantoul, Ill., reported for ten days' duty at the Materiel Division, Wright Field, Dayton, Ohio, for the purpose of inspecting the engineering laboratories and receiving instruction in the various branches of engineering.

## HOW BRITISH ROYAL AIR FORCE PROPOSES TO UTILIZE RADIO IN TIME OF WAR.

How the Royal Air Force in time of war would coordinate intelligence exchanged between it and the British Army on the ground was recently illustrated in the maneuvers held at Old Sarum, England, under the direction of Major Gen. W.W. Pitt-Taylor, commander of the Third Division. In a long article on the maneuvers in general, the military correspondent of The Times of London has this to say on this particular phase:

"The exercise was well devised to test the system of staff work in obtaining information from the R.A.F. The air squadron headquarters was at Thrup, and there the intelligence liaison officer (I.L.O.) of the division remained to instruct each pilot before he went up, and to examine him when he came down two hours later. The staff at divisional headquarters had to bear in mind the times when the pilots went up and take care to prime the I.L.O. with up-to-date information and special requirements for more. So it was essential to have a telephone wire from headquarters to the airdrome.

As the troops advanced they increased their distance from the airdrome, and a question of having an advanced landing-ground arose. So did the question of finding enough new telephone cable to run to it, as cooperation would break down unless the I.L.O. went forward to the place where the pilots landed.

The directing staff had with them the complete plan of the enemy's movements, carefully timed, and it was their business to decide how much the divisional General should be told about those moves. That depended (apart from visibility) upon the instructions which the intelligence liaison officer gave to the pilots about what to look for and where to look for it. It was all most realistic, as may be imagined.

According to the Bolling Field correspondent, the Army Air Corps is constantly becoming more aware of the necessity of radio to the airplane. This can be visualized by the fact that all new transports are well equipped with the most modern of radio sets, have a compartment for the set and operator, and carry an operator on all long flights. Equipped in this manner, the plane is in constant communication with the ground; and in the case of a rapidly approaching storm or other type of bad weather the pilot is immediately notified by the radio operator. The pilot then uses his best judgment in proceeding or reversing his course. Radio is a safety factor that is a necessity on all planes.

## AIR CORPS STUDENTS VISIT INDUSTRIAL FIRMS

The 1933 Class of the Air Corps Engineering School, accompanied by the Assistant Commandant, recently took off from Wright Field in seven airplanes for a flying tour of various cities in which are located industrial concerns which produce aircraft or equipment under government contracts. This flight is an annual feature and part of the Engineering School course.

The industrial concerns visited were the Locomotive Engine Co., Williamsport, Pa.; Curtiss and Consolidated Aircraft Companies, Buffalo, N.Y.; Eastman Kodak and Busch and Lomb Instrument Companies at Rochester, N.Y.; Chance Vought and Pratt and Whitney Companies at Hartford, Conn.; Wright Aeronautical Corp., Paterson, N.J.; Berliner-Joyce, General Aviation and Glenn L. Martin Companies at Baltimore, Md., and the W.A.C.A. Laboratories at Langley Field, Va.

**AIRPORT AND AIRWAY INFORMATION**

(Published in accordance with Air Corps Circular No. 90-2, dated January 5, 1933.)

NOTE: This information, to be published from now on in the AIR CORPS NEWS LETTER, supplants the Airport Information Bulletins which have been previously issued.

July 1, 1933

Index

General Remarks . . . . .	185
List of New Maps . . . . .	185
Maps Cancelled . . . . .	185-186
Quarterly Report from Air Corps Stations . . . . .	188-187
Notices to Pilots still in Effect. . . . .	187

General Remarks

Cancellation of Air Corps Strip Maps.

It has been decided in the future where an Air Corps Strip Map is entirely covered by a Department of Commerce Sectional Map, the Air Corps Strip Map will be discontinued when the entire stock has been used up. Arrangements have been made with the Department of Commerce to have a special run made of each Sectional Map they publish, or revision of a map, indicating on such special Air Corps Edition, the information formerly contained on the Strip Map, such as, lines of flight and mileage scale. The following Air Corps Strip Maps will be discontinued whenever the stock on hand is exhausted:

<u>Air Corps Strip Map</u>	<u>Sectional Map Covering</u>
No. 19, New York-Bennefonte	New York.
No. 23, St. Louis-Kansas City	Kansas City.
No. 37, Cincinnati-St. Louis	Cincinnati.
No. 52, Dayton-Belleville	Cincinnati.
No. 56, Dallas-Midland	Dallas.

Use of State Maps.

It is believed that the new Department of Commerce Sectional maps will replace to a great extent the use of State Maps. For this reason the requisitioning of State Maps of the following States should be held to a minimum as the States are either entirely or 90% covered by one or more sectional maps:

Connecticut	Massachusetts	Pennsylvania
Illinois	Ohio	Rhode Island
Indiana	Oklahoma	New York.

Funds for Purchase of Maps

The funds approved for the purchase and correction of Air Corps maps have been cut twenty-five percent, necessitating additional care in the use of maps and fewer maps revised during this fiscal year. Requisitions should be held to the minimum requirements and all maps used until worn out.

NEW MAPS

<u>Air Corps Maps</u>	<u>Type of Revision</u>
*56. Dallas, Texas, to Midland, Texas	New Map (Apr. 1933)
*58. Midland, Texas, to Ft. Sill, Okla.	New Map (Apr. 1933)
*Proof copies only in limited number, final printing in progress.	
<u>Department of Commerce Maps</u>	
U-I-10 & L-J-10 San Francisco	New Map (May-1933)
U-K-18 Albany	New Map (June-1933)
129 Richmond to Greensboro	Revised (June-1933)
<u>Hydrographic Office Maps</u>	
234 Washington to Norfolk	Revised (May-1933)
235 Norfolk to Morehead City	Revised (July-1933)
236 Morehead City - Charleston	Revised (July-1933)
240 Key West - Cedar Keys	Revised (July-1933)

Maps Cancelled

The Department of Commerce has cancelled the following maps and such maps will no longer be maintained by Air Corps Stations or furnished on future requisitions. These maps have been replaced by Sectional Maps:

- No. 103. Oklahoma City to Wichita.
- No. 114. Cincinnati to Chicago.
- No. 110. St. Louis to Chicago.
- No. 116. Cleveland to Buffalo.
- No. 111. Chicago to Milwaukee.
- No. 119. Buffalo to Albany.

No. 127. Atlanta to Birmingham. No. 132. Los Angeles to Las Vegas.

The Air Corps has temporarily suspended further printing of Maps Nos. 3 and 6 until a decision is reached as to the merits of the new experimental map No. 63, on the scale of 1/1,000,000. Comments from Air Corps Stations and Pilots who have used this new map would be appreciated.

CORRECTIONS RECEIVED FROM AIR CORPS STATIONS ON QUARTERLY REPORTS, AFFECTING AIR CORPS STRIP MAPS, AS REQUIRED BY CIRCULAR 90-2.

Air Corps Map No. 25, Muskogee to Dallas

Show the Red River as more prominent than the Canadian River. The Trinity River through Ft. Worth and Dallas is not very prominent and should be shown in about the same width as the Blue River which flows into the Red River.

Add Railroad between Commerce and Greenville.

Remove Railroad between Bonham and Denison.

Show Intermediate Landing Field with beacon  $2\frac{1}{2}$  miles North of Gainesville, Texas. Shape of Ada should be shown as square.

Air Corps Map No. 13, Cheyenne to Rock Springs.

The East Branch of the Railroad between Tie Siding and Laramie should be removed. The highway changes are shown by attached sketches.

Air Corps Map No. 14, Rock Springs to Salt Lake City.

Highway as shown on the map running to the north of the Railroad from Granger to Green River is in error. The correct location of the Highway is to the south of the Railroad between these towns.

Highway should be shown to the North the full distance between Green River and Rock Springs.

Air Corps Map No. 33, Salt Lake City to Elko.

Highway as shown on the map running East from Wells, North of the Railroad to the sharp turn in the Highway 3 miles West of the  $114^{\circ} 30'$  line, is in error. The correct location should be shown joining the highway where it leaves the railroad to go SE and running from this point to sharp turn as mentioned 3 miles West of the  $114^{\circ} 30'$  line.

Railroad as shown running north from the 464 mile blinker into Wells is in error, the correct location being to show it crossing to the West of the Highway at the 464 mile blinker and running into Wells to the West of the Highway.

Show new Highway from Burmester to Grantsville to Tooele.

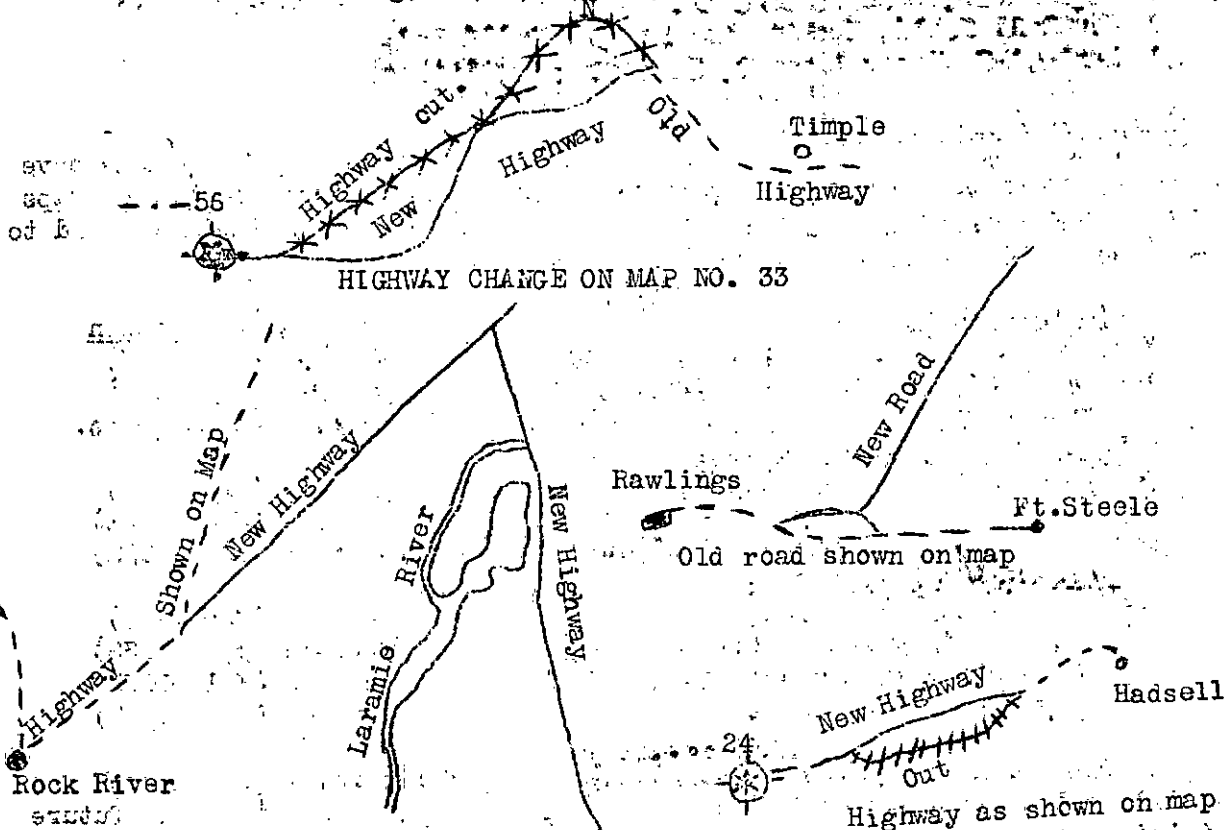
Air Corps Map No. 34, Elko to Reno.

Remove Alkal Lake. Note Highway changes as shown on attached sketch.

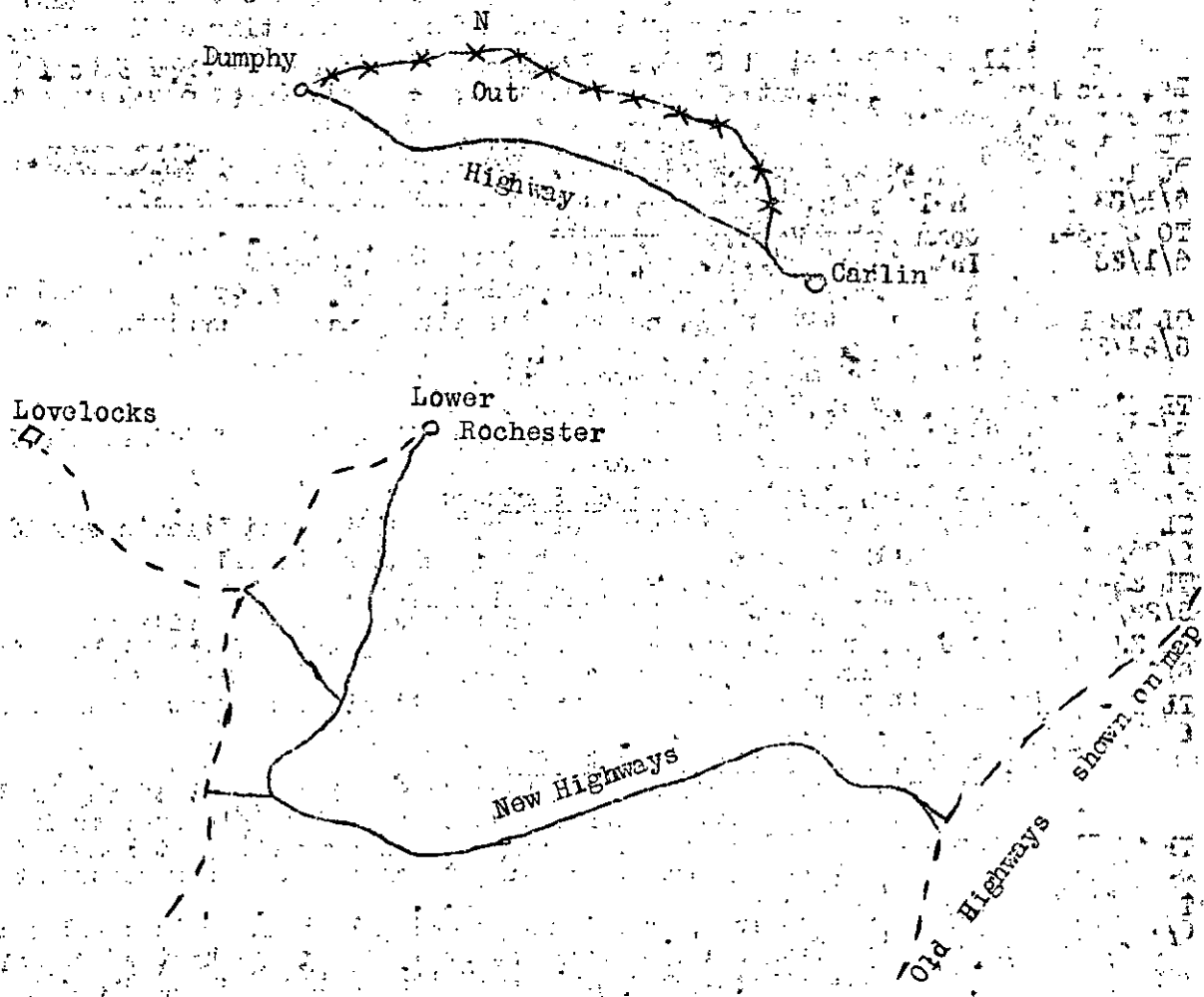
Air Corps Map No. 35, Reno to San Francisco.

New High-tension lines and highway changes are too numerous and too difficult to indicate verbally and will be shown later on a complete revision of the map.

Negative Reports on maps charged to the following Air Corps Stations have been received: Bolling, Brooks, Chanute, Ft. Sill, Rockwell, Scott, Selfridge.



HIGHWAY CHANGES ON MAP NO. 13.



HIGHWAY CHANGES ON MAP NO. 34

In accordance with A.C. Circular 5-10, December 27, 1932, the following Notices to Pilots are believed to be still in effect:

- 1933
- No. 9 Phillips Field, Aberdeen Proving Ground, Restricted Area.
  - " 34 Rockwell Field, Restriction against planes with tail skids.
  - " 35 Pope Field, Restricted Zone.
  - " 37 Trumbull Field, Machine Gun Range Established.
  - " 38 Lambert-St. Louis Airport, Servicing Facilities.



INSPECTION DIVISION NOTES

The following Technical Orders, Technical Letters, Air Corps Circulars Letters have been distributed since the last issue of the Air Corps News Letter on June 30, 1933:

NUMBER & DATE	SUBJECT	DISTRIBUTION
TO 13-15-1 6/1/33	Clothing, Parachutes, Equipment and Supplies Helmets-Reworking for Installation of Headsets	General
TO 29-5-1 6/1/33	Commercial Hardware and Miscellaneous Supplies Interlocking Fasteners-Installation, Maintenance & Repair. (This TO replaces TO 01-1-58, dated 2/27/29)	General
TL 32-16A 6/24/33	Installation of Gun Synchronizers on R-1340 Series Engines for Observation Type airplanes. (This TL replaces TL 32-16 dated 1/29/32.)	All depots, Chanute & Wright
TL 31-93A 6/24/33	Cracked Pistons, R-1340 Series Engines - (This TL replaces TL 31-93, dated 2/26/31.)	All depots, Chanute & Wright.
TL 32-145A 6/24/33	Intake Valves and Electro-tin plated Locks, Part No. 1065, Pratt & Whitney Engines	All depots, Chanute & Wright
TL 33-41 6/24/33	Instructions for Boring Master Rod Bearings- All Wright Radial and V-1570 series Engines	All depots, Chanute & Wright
TL 33-43 6/22/33	Parachute Pack Assemblies	General
TL 33-44 6/24/33	Ball Bearings - Scintilla V-AG Magnetos	All depots, Chanute & Wright
TL 33-49 6/23/33	Installation of Tail Wheel Anti-Shimmy Shock Absorber-Keystone B-3A, B-4A, B-5A, B-6A, Y1B-4, & Y1B-6 Airplanes (This TL rescinds TL 32-10, dated 1/19/32.)	Aberdeen, Chanute, France, Kelly, Langley Leavenworth, March, Maxwell, Wright, all depots.
TL 33-51 6/24/33	Elimination of Fire Hazard in Lamp Assembly Type A-5A, Part No. 31-1825	General
TO 13-5-2 6/15/33	Clothing, Parachutes, Equipment & Supplies-Parachutes-Construction, Maintenance, Storage & Use. (This TO replaces TO's 13-5-2, dated 7/12/27 & 13-5-2A, dated 12/1/30, and TL's 31-160, 31-163, 31-283, 31-309, 31-310, 32-50 & 32-70.)	General
TO 01-1-4 7/6/33	Airplanes and Spare Parts-General-Insulating Electrical Terminals. (This TO replaces TO 02-1-25 dated 1/21/31.)	General
TO 13-1-2 7/6/33	Clothing, Parachutes, Equipment & Supplies- Clothing-Treatment of Leather Articles & Garments with Saddle Soap. (This TO replaces TO 13-1-2, dated 4/19/29.)	General
TO 00-0-6 7/1/33	Monthly Index of Technical Instructions	General
TL 33-53 7/22/33	Modification of M-8 Flare Installation on Model Langley, YB-9, Y1B-9 and Y1B-9A Airplanes	Wright, all depots
TL 33-55 7/25/33	Replacement of Rivets, Landing Gear Center "V" Boeing P-12C, P-12D, P-12E & P-12F Airplanes	Albrook, Barksdale, Bolling, Chanute, France, Kelly, Langley, Ft. Leavenworth, March, Maxwell, Randolph, Selfridge, Wright, all depots.
TL 31-95A 7/25/33	Replacement of Impeller Shaft Bearings, Part #105, during Overhaul of All Pratt & Whitney Engines. (This TL replaces TL #31-95 dated 1/13/32.)	Chanute, Wright, all Depots.
TL 33-52 7/25/33	Installation of Lubricating Fitting in Rocker Box, and Lubrication of Valves, R-985, R-1340, R-1690 & R-1680 Series Engines.	General
TL 32-1A 7/25/33	Pratt & Whitney, Lycoming & Wright Engine Cylinders. (This TL replaces TL #32-1, dated 1/5/32)	General
TO 10-10-11 7/20/33	Photographic Equipment & Supplies-Cameras-Handbook of Instructions for K-12 Aerial Camera.	General

The following Air Corps Circulars and Air Corps Circular Letters have been distributed since the June issue of the Air Corps News Letter:

Number & Date	Subject
5-2 5/24/33	PUBLICATIONS, PRINTING AND BINDING - Air Corps Circular Letters
15-9A 6/24/33	BLANK FORMS AND REPORTS-War Department Air Corps Form No. 9, Flight Envelope.
40-3 6/29/33	CIVILIAN PERSONNEL - Routine Reports.
60-15 6/22/33	FLYING - Riding on Wings of Aircraft Being Taxied.
45-5 6/22/33	INFORMATION - Technical Libraries.
85-3 7/5/33	AIRDROMES, LANDING FIELDS AND AIRWAYS - Flights over Canadian Territory.
60-13 7/27/33	FLYING - Tactical Formations.

<u>Number &amp; Date (Cont'd)</u>	<u>Subject</u>
15-5 5/27/33	BLANK FORMS AND REPORTS - AC Form Nos. 5 & 5A, Individual Flight Records.
30-3 7/14/33	FINANCE - Report of Contemplated Purchases.
0-2B 7/17/33	INDEXES - Numerical Index to Air Corps Circulars.
30-4 7/18/33	FINANCE - Withdrawals from the Treasury, FY 1934.
15-205 7/18/33	BLANK FORMS AND REPORTS - AC Form No. 205, Flight Surgeon's Report of Aircraft Accident.
130-1 7/20/33	MISCELLANEOUS - The Cheney Award.
65-23 7/17/33	SUPPLY - Price List of Aircraft Fuel and Oil.

<u>Number</u>	<u>Date</u>	<u>Subject</u>	<u>Distribution</u>
33-23	6/22/33	Water in Gasoline	A to E Incl. G, H, I
33-24	6/27/33	Procurements-Restrictions on Deliveries	A to G Incl.
33-25	7/ 5/33	Anticipatory Breach of Contract	A to D Incl. & G.
33-0	7/ 1/33	Circular Letter Index	A to J Incl.

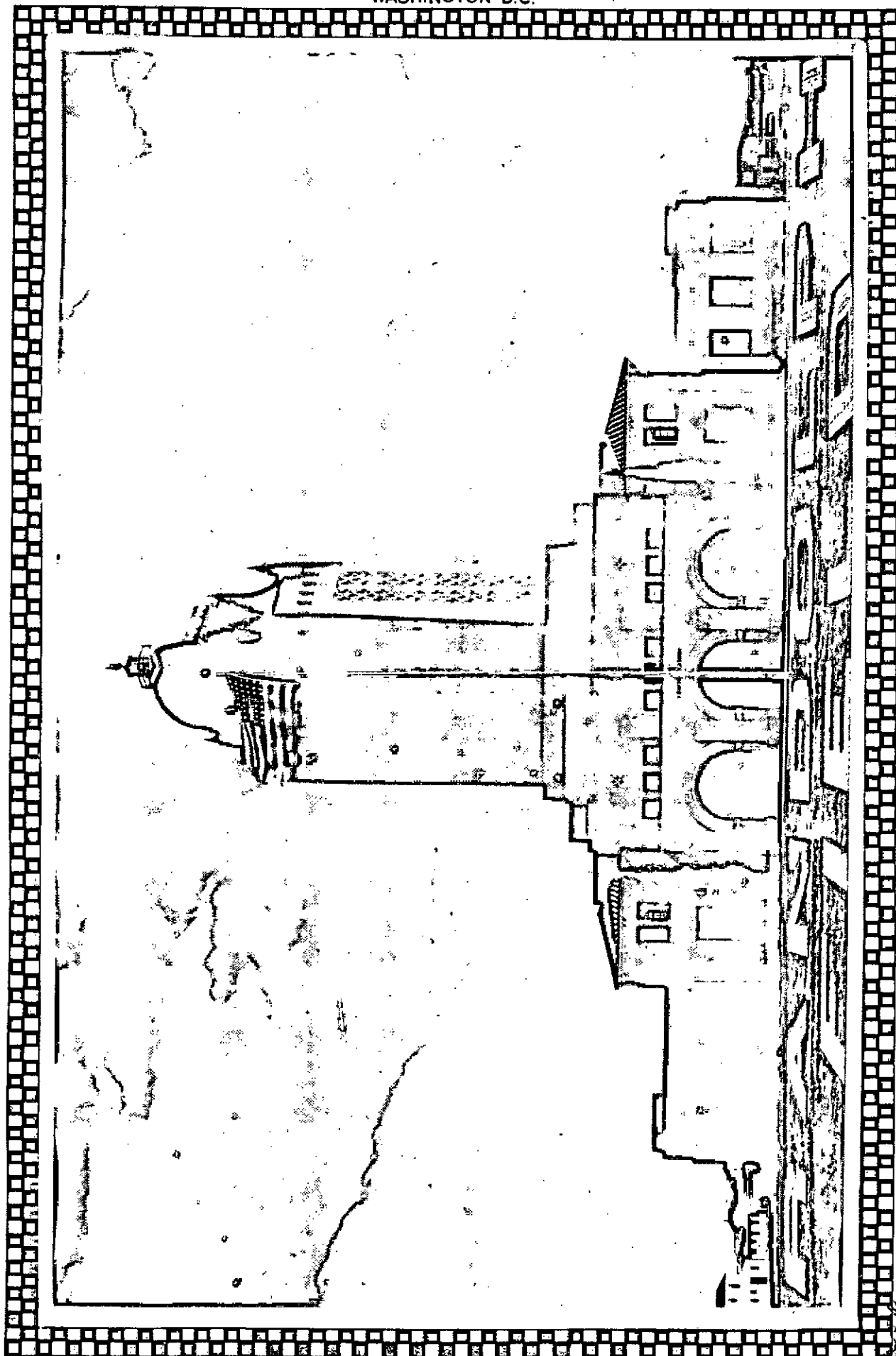
The following is extracted from a letter from Chief, Materiel Division in reply to an Unsatisfactory Report on SR-1340-E engine:

"4. It was noted that the engine was removed particularly because of the possibility of the fire extinguisher liquid having entered the cylinders. The only effect of carbon tetrachloride on the engines would be washing of the oil from the cylinder walls and other exposed parts. Engines on which fire extinguishers have been used should be turned over by hand several times before starting but should not be removed from service."

# AIR CORPS 3

# NEWS LETTER

ISSUED BY THE  
OFFICE OF THE CHIEF OF THE AIR CORPS  
WAR DEPARTMENT  
WASHINGTON D.C.



2431  
1933  
8



The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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### THE INTERCEPTOR PURSUIT AIRPLANE

By Captain Ross G. Hoyt, Air Corps

1. The term "Interceptor Pursuit" is rapidly assuming a different significance than that held during and after the World War.

2. During the World War the term included only that Pursuit aviation kept on the ground on the "alert" until information was received of the location of enemy aircraft in sufficient numbers to warrant a take-off, whereupon it took off and without further information attempted an interception.

3. The term "Interceptor Pursuit" now embraces all Pursuit aircraft whether held on the ground on the "alert" or in the air on patrol which possesses the requisite speed, rate of climb and fire power to overtake and deny the operation of hostile aircraft.

4. Contrary to the belief after the World War that this type of aircraft was ineffective, it is now apparent that there is a definite demand and an urgent need of a Pursuit airplane to assume the above role.

5. This reversal of opinion has been brought about by several factors, chief among which are the following:

- a. Successful development of air-ground and plane to plane radio communication.
- b. Development of efficient ground intelligence nets.
- c. Greater and probable increase in the performance characteristics of the Pursuit airplane.
- d. Deeper appreciation of the time and space factors involved in the interception problem.
- e. Practical application and tests of the above developments in recent exercises and maneuvers.

6. During the recent Joint Air Corps - Anti-Aircraft Exercises held at Fort Knox, Ky., in April and May of the current year, it was found that both the air-ground and inter-plane radio communication functioned most satisfactorily. The ground intelligence net functioned in a most efficient manner. Although a large majority of the aircraft entering the ground intelligence net was intercepted during the above Exercises, the rate of climb and speed of the Pursuit airplanes employed was found to be entirely inadequate. The interceptions made are accounted for by the efficient tactical handling of the defensive Pursuit aviation rather than to the performance characteristics of the Pursuit airplane employed in the Exercises.

7. Performance characteristics essential in an interceptor Pursuit airplane are best indicated by the solution of problem involving the time and space factors which might be encountered under actual operating conditions.

8. Let us assume that the interceptor Pursuit airdrome is located 165 miles behind the front lines; that the intermediate bans of the ground intelligence nets, running parallel to the front lines, are 25 - 50 - 75 - 100 and 125 miles distant therefrom; that in addition to the intelligence bans running parallel to the front lines, that intelligence bans running perpendicular thereto are established every 50 miles; that the speed of the enemy formation to be intercepted is 225 miles per hour; that the enemy formation enters friendly territory at an altitude of 20,000 feet; that it would take the interceptor Pursuit 50 miles travel

of the enemy formation to organize and push home the attack after interception; that 10 minutes are consumed by the interceptor Pursuit before it takes off; that three minutes are consumed in the transmission of information from the ground intelligence net and for the Pursuit commander to arrive at a decision; that the speed of interceptor Pursuit should be 75 miles in excess of that of the enemy formation, or 300 miles per hour at 20,000 feet.

9. Omitting here the mathematical computations involved, it is derived from the above data that a rate of climb of at least 2,500 feet per minute is necessary.

10. The auxiliary equipment to be carried on the interceptor Pursuit airplane should be as follows:

- a. Either one or two .30 caliber or .50 caliber machine guns, depending upon the weight limitations.
- b. 25 to 30 three-five pound supersensitive instantaneous fuse bombs. (This type bomb is believed preferable).
- c. Two-way radio set.
- d. Auxiliary droppable gas tank capable of being carried at the same time as the bomb. (When being employed on purely ground "alert" missions this tank would not be installed.)

11. The gas capacity of the interceptor Pursuit airplane should be  $1\frac{1}{2}$  hours at full throttle exclusive of the gas contained in the auxiliary tank.

12. In connection with the Pursuit airplane of the above characteristics, it is to be borne in mind that it is an airplane not only capable of effective ground "alert" work, but is also a powerful weapon for employment on patrol missions for the purpose of denying hostile observation or on other purely offensive missions.

13. Heretofore the trend of development of the Pursuit airplane has been along the lines of an all-purpose craft speaking strictly of Pursuit missions.

14. The time has now arrived when, if we are to take advantage of tactics already evolved, at least two distinct types of Pursuit airplanes should be developed; one of the type indicated herein, another of the long range multi-place type with performance characteristics superior to our most efficient Bombardment airplane.

15. Regardless of the nomenclature given it, it is apparent from the result of the recent exercises and maneuvers that there is an urgent demand for a type of aircraft, the primary missions of which are to deny the operations of the hostile air force and to support the operations of our own air force.

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### INSIGNIA FOR THE 79TH PURSUIT SQUADRON

The new insignia of the 79th Pursuit Squadron, Barksdale Field, La., was approved by the Commanding Officer of this post and forwarded to the War Department for its approval.

The insignia is composed of a flying machine gun spitting smoke and flame as it comes out of the clouds. Personnel of the 79th believe this insignia will take its place in the ranks of the famous insignias of the Air Corps.

As quarters, hangars, and the landing field are taking shape for a new Air Corps Bombardment Base at Hamilton Field, Calif., the 25 men who have already been sent arrived there on July 17th and started work immediately on the post overhead organization, anticipating the arrival of the two other units.

Construction at Selfridge Field, Mt. Clemens, Mich., has progressed to the point where it is possible to say that this field is now modern in all respects. All wooden buildings have disappeared with the exception of three - the old Post Exchange building, the Post Gymnasium and the Guard House. Hope is expressed that these will soon vanish and that Selfridge Field will be completely equipped with the latest type of construction. All roads to this station are now hard surfaced and, under the present contracts, all grading should be completed before October 1st.

Air Corps construction at Fort Sill, Okla., is nearing completion. Officers and noncommissioned officers' quarters need only the installation of utilities to be ready for occupancy. The new barracks will be completed about September 22nd. New noncommissioned officers have already been assigned to all but two of the married men of the first three grades.

After a year of patient waiting, the 18th Pursuit Group, Wheeler Field, T.H., finally moved into its new hangars and now is using the new flying field. New Wheeler Field is as modern and convenient as any of the fields now occupied by the Air Corps. Well designed hangars, large enough to accommodate an engine squadron, have centralized activities and have greatly reduced the problem of maintenance. While the new field is not at all completed, a large portion of it is in excellent shape.

FLIGHTS

The recent arrival of the Transport REPUBLIC in Hawaii gave to the Air Corps once more an opportunity to demonstrate the efficiency of aviation.

One of the Congressional delegation aboard the Transport was Mr. Taylor, of Colorado, long a member of the Appropriations Committee. Congressman Taylor officially was most interested in the National Park and was especially desirous of bringing his first-hand knowledge of the parks in Hawaii up to date. He had inspected the National Park years before, but recalled that the visit required several days, whereas he now had but one day available before departing for home.

On Mr. Taylor's request, Lieut.-Col. Brant, as Department Air Officer, arranged for a flight in a Douglas Amphibian to Hilo and return the same day. During a nine-hour absence from Honolulu, Mr. Taylor was enabled to see both sections of the Hawaii National Park (which are on separate islands), pay a visit to Park Headquarters and hold a conference of approximately two hours with the Park Superintendent. Lieut. R.E. Fisher piloted the plane, with Major M.F. Davis as co-pilot.

On June 27th, the 26th Attack Squadron, stationed at Wheeler Field, T.H., made an inter-island flight to the Island of Hawaii and return. Landings were made on the Islands of Molokai, Lanai, Maui and at Upolu Point on Hawaii. Arriving at Hilo about 2:30 in the afternoon, the planes were immediately staked down for the night and the officers driven out to Kilauea Military Camp, where they spent the night. In the morning the officers made a short tour of the Park and then returned to their airplanes. On the way back to Wheeler Field, the squadron flew over the crater of Haleakala on Maui, the largest extinct volcano known.

The trip was extremely interesting and valuable, since it was the first time many of the officers had visited the other islands. The officers making the trip were Captain D.G. Stitt, 1st Lieut. W.S. Lee, 2nd Lieuts. J.L. Daniel, Jr., R.L. Easton, J.C. Horton, C.P. West, E.T. MacArthur, Jr., J.C. Gordon, R.J. Corrigan and R.J. Moore.

A ten-day flight, June 25th to July 5th, inclusive, was made in five planes of the 11th Observation Squadron, Texas National Guard, to Little Rock, Ark., the home station of the Arkansas National Guard; Scott Field, Belleville, Ill.; Wright and Patterson Fields, Ohio; Selfridge Field, Mt. Clemens, Mich.; and Chicago, Ill., landing at the latter city on the Municipal Airport, the home of the Illinois National Guard. On the return, the flight visited Scott Field, Little Rock and Barksdale Field, La. The flight was led by Major Thomas W. Blackburn, who was accompanied by 1st Lieuts. Earle T. Showalter, Aubrey W. Schofield, Alexander G. Greig, 2nd Lieuts. George C.P. Gifford, Henry L. Borden, Newton E. Meador, Jr., Master Sgt. McMath, Staff Sgt. Edwards and Private Szabo.

"We are quite handicapped here in Hawaii in obtaining flight experience away from our home airdrome," says the Correspondent of the 18th Composite Wing, Fort Shafter, T.H., and he then goes on to say: "To overcome this, the 18th Wing has recently completed an inter-island airways flight by squadron echelon. The purposes of the flight were:

- a. Familiarization of flight personnel with Inter-Island Airways.
- b. Squadron aviation training.
- c. Squadron and Flight airdrome discipline.
- d. Communication and supply experience away from home station.

The itinerary included a visit to all islands and landing fields of the Hawaiian Islands, with the exception of the Island of Kauai, and included an overnight stop at Hilo, our southernmost flying field.

The seven squadrons of the 18th Wing completed the mission without incident and the reports of the unit commanders show unanimous concurrence in believing the experience to have been a very valuable part of the annual training of this department. A total of 96 officers and 84 enlisted men participated in the flights.

The First Pursuit Group, Air Corps, under instructions from The Adjutant General, contacted the Italian Armada, under General Balbo, and escorted it from Port Huron, Mich., its point of entry in the United States, to Chicago, Ill.

Upon arrival at Chicago, the Pursuiters staged a demonstration for the benefit of the Italian flyers and wound up this performance by spelling out the word "ITALY" at an altitude of 2,000 feet. The Army flyers returned to Selfridge Field the same day.

The Group again contacted the Armada at Chicago on the day of departure therefrom and escorted it as far as Toledo, Ohio. The bulletin service established by the Mackay Radio and Postal Telegraph were of invaluable assistance in following the course of the Italian flight from Montreal to Port Huron, Mich., and permitted the Selfridge Field Pursuiters to contact them at the proper time.

WEST POINT GRADUATES DETAILED TO THE AIR CORPS

A total of 84 members (slightly over 24 per cent) of the class of 346 cadets who graduated from the United States Military Academy on June 13th last were, under Special Orders of the War Department, recently issued, detailed to the Air Corps for flying training. These newly appointed 2nd Lieutenants of the Regular Army are under orders to proceed, upon the expiration of their present leave of absence, to Randolph Field, Texas, and report to the Commanding General, Air Corps Training Center, for duty and flying training.

These 84 students received commissions in the various branches of the Army, except the Air Corps, as follows: Corps of Engineers, 3; Cavalry, 13; Coast Artillery, 9; Field Artillery, 25; and Infantry, 33. Under the policy of the War Department, based upon the provisions of the Air Corps Act, approved July 2, 1926, no officers are eligible for permanent commissions in the Air Corps unless they are graduates of both the Air Corps Primary and Advanced Flying Schools. A year of intensive training is ahead of these West Point graduates to whom aviation presented a special appeal, i. e., an eight months' primary and basic course at Randolph Field, and a four months' course at the Advanced Flying School at Kelly Field, Texas. Those who succeed in completing the year's course will be given the rating of "Airplane Pilot" and transferred to the Air Corps, while those failing to make the grade will return to the branch of the Army in which they were commissioned upon their graduation from the Military Academy.

It is now three years since the policy was inaugurated of detailing West Point graduates to the Air Corps for flying training. During the period from 1922 to 1932, inclusive, 649 West Pointers were accepted for flying training, of which number 304 graduated from the Advanced Flying School, or 46%. This bears out the contention made in the last issue of the News Letter that approximately 50% of the young men mentally and physically qualified to undergo training at the Army Flying Schools are able to pass the course successfully.

The following statistics covering an eleven-year period of flying training given to West Point graduates may be of interest:

Year	Total No. of Graduates	Detail- ed to Air Corps	Pct.	No. graduat- ing from Advanced Flying School	Pct.
1922	102	16	15.6	8	50.00
1923	261	51	19.5	25	49.21
1924	406	61	15.0	20	32.78
1925	244	42	17.2	9	21.43
1926	152	18	11.8	7	38.88
1927	203	30	14.7	16	53.33
1928	260	77	29.0	53	68.83
1929	297	110	37.0	41	32.27
1930	235	84	35.7	40	47.62
1931	296	92	31.0	43	46.74
1932	258	68	26.3	42*	61.76
Total	2714	649	23.9	304	45.7

\*Scheduled to graduate in October, 1933.

The West Point graduates who will soon wend their way to Randolph Field to try their hand at piloting Army airplanes are enumerated below as follows:

Class Standing	Name	Home
<u>Corps of Engineers</u>		
9	Paul R. Gowen	Caldwell, Idaho
11	Marshall Bonner	Houston, Texas
26	Hoy D. Davis, Jr.	Gary, Indiana

Coast Artillery

- 28 William H. Ball Saginaw, Mich.
- 44 William C. Reeves Washington, D.C.
- 66 Travis M. Hetherington Reagan, Texas
- 73 John G. Armstrong Whitestone, N.Y.
- 77 Harry W. Schenck Connellsville, Pa.
- 78 Lemar C. Ratcliffe Corning, Ark.
- 86 William O. Senter Abilene, Texas
- 99 Harry S. Bishop Austin, Texas
- 111 John F. Thorlin Portland, Oregon

Field Artillery

- 42 Thomas S. Moorman, Jr. Fort McPherson, Ga.
- 51 Winton S. Graham Big Stone Gap, Va.
- 53 William L. Travis Savannah, Ga.
- 54 Thomas B. Hall Los Angeles, Calif.
- 55 Chalmer K. McClelland, Jr. Fayetteville, Ark.
- 57 David N. Crickette Byron, Ill.
- 62 Edward J. Hale Fayetteville, N.C.
- 63 William J. Daniel New Orleans, La.
- 70 William Y. Frenzler Danville, Ill.
- 95 Vernon C. Smith Hot Springs, Ark.
- 102 Francis Hill Brockton, Mass.
- 104 Lassiter A. Mason Jacksonville, Fla.
- 127 Frank P. Hunter, Jr. Portsmouth, Va.
- 151 Avery J. Cooper, Jr. Fort Totten, N.Y.
- 152 Lawrence B. Kelley Gower, Mo.
- 156 Cam Longley, Jr. Ozona, Texas
- 157 Carlyle W. Phillips Calvin, Okla.
- 159 Philip H. Pope Washington, D.C.
- 160 William J. Ledward Westerly, R.I.
- 166 George A. Carver Rome, Ga.
- 173 Douglas M. Cairns Fort Du Pont, Del.
- 191 Richard J. Mayer Hamburg, N. Y.
- 197 Milton F. Summerfelt Benton Harbor, Mich.
- 198 Franklin G. Smith Redlands, Calif.
- 200 Gabriel P. Disoway Wichita Falls, Texas

Cavalry

- 76 Donald G. McGrew Roodhouse, Ill.
- 136 Edward D. Marshall New York City
- 167 Robert A. Brunt Marion, Indiana
- 213 Franklin S. Henley Eastman, Ga.
- 217 Charles F. Harrison Leesburg, Va.
- 223 William F. Damon, Jr. Elkton, Ky.
- 225 Robert E. Arnette, Jr. Winnsboro, S.C.
- 229 Victor H. King Ashtabula, Ohio
- 253 Bruce von G. Scott Fort Hoyle, Md.
- 263 Matthew W. Kane Oak Park, Ill.
- 265 Richard E. Myers Santa Fe, N.M.
- 268 Norman K. Markle, Jr. Rochester, Minn.
- 270 Jesse M. Hawkins, Jr. Ironton, Mo.

Infantry

- 130 Harold R. Maddux Cincinnati, Ohio
- 132 Dwight Divine Ellenville, N.Y.
- 150 Henry N. Burkhalter, Jr. Kansas City, Mo.
- 193 Joseph L. MacWilliams Perth Amboy, N.J.
- 207 Jewell B. Shields Danville, Ind.
- 214 Cyrus A. Dolph, 3d Portland, Oregon
- 218 Thomas B. Evans Pikeville, Ky.
- 219 Walter A. V. Fleckenstein New York City
- 220 Franklin G. Rothwell Weehawken, N.J.
- 238 Cordes F. Tiemann Brenham, Texas
- 244 Corwin P. Vansant, Jr. Sewell, N.J.
- 251 Samuel A. Mundell Belvidere, Ill.
- 254 Felix L. Vidal, Jr. Madison, S.D.
- 267 Frederick W. Gibb Mariners Harbor, N.Y.
- 277 Richard T. King, Jr. Georgetown, S.C.
- 286 Stephen B. Mack Flora, Ill.
- 289 Russell F. Akers, Jr. Gladstone, Va.
- 290 Claude L. Bowen, Jr. Brookhaven, Miss.
- 291 Duff W. Sudduth Starkville, Miss.
- 296 James D. Underhill Morganton, N.C.
- 300 Nelson P. Jackson Barre, Vt.
- 301 Frederick O. Hartel Union City, N.J.
- 304 Roy D. Gregory Lovington, Ill.
- 305 Karl Truesdell, Jr. New York City
- 309 Chester B. Degavre Red Bank, N.J.
- 313 Robin B. Epler Bonner Springs, Kans.
- 316 Peter D. Clainos Manchester, N.H.
- 318 Sydney D. Grubbs, Jr. Martinsville, Ind.
- 321 Millard L. Haskin Mamaroneck, N.Y.

323 Ben Harrell Portland, Oregon  
328 Stanley N. Lonning Eagle Grove, Iowa  
336 Richard M. Montgomery Altoona, Pa.  
343 Gerald C. Simpson Russellville, Ind.  
Philippine Scouts  
346 Emmanuel Cepeda y Salvador

#### THE NEW MARTIN BOMBER

Captain Arthur B. McDaniel, Air Corps, recently had occasion to give the new Martin Bomber a pretty thorough flight test, and he is very enthusiastic over its performance. Taking off from Bolling Field, D.C., he touched Maxwell Field, Ala.; Barksdale Field, Shreveport, La.; Randolph, Kelly and Brooks Fields and Fort Crockett, Texas, and back to Bolling Field along the same route.

Captain McDaniel stated that the Bomber functioned perfectly throughout his entire air journey and that the only complaint he had to register was against the weather. At Maxwell Field he invited Captains Harold L. George and Odas Moon, Bombardment Instructors, to give the ship a try-out. He made no mention of their reactions to it, so it must be assumed that there was no cause for complaint. An all-night rain at Maxwell Field, totalling some 8 inches, prevented his take-off for Shreveport the next day, when 9 more inches fell, making the field ideal for operating an Amphibian plane. When he finally reached Shreveport, bad weather again delayed him.

A number of pilots at Randolph, Kelly and Brooks Fields and at Fort Crockett were extended the courtesy of flying the Martin. None of the Air Corps pilots who flew it experienced any trouble at all, and all of them, to use an ordinary expression, "liked" it.

Captain McDaniel was accompanied on his air journey to Texas and return by Mr. Paul Anderson, Project Engineer on the 1820-F "Cyclone" engine for the Wright Aeronautical Corporation, and Private Robertson of Bolling Field. On his trip from New York to Bolling Field he was accompanied by Commander Spernadorni of the Italian Embassy, Washington. The new Martin Bomber (monoplane) is powered with two 1820-F "Cyclone" engines, driving three-bladed propellers. The landing gear is of the retractable type.

#### AUTOMOBILE FERRY FOR LUKE FIELD, T.H.

A commercial ferry was recently established between the Coal Dock, Pearl Harbor, and Luke Field, T.H. Young Brothers, Ltd., of Honolulu, are the owners and operators and have provided the small automobile and passenger ferry "Menawai" operating on an hourly schedule from 6:00 a.m. to 6:00 p.m. It is now possible for military personnel to drive their automobiles from their quarters to Honolulu and return and to be able to keep their automobiles on Luke Field. The fare on the ferry is five cents per passenger and 25 cents per automobile. The ferry is capable of handling thirty automobiles and 300 passengers.

#### MACHINE GUN UP A TREE

When the wreckage of the airplane piloted by 2nd Lieut. John Gebelin, Jr., was examined for the purpose of salvage, one machine gun was found hanging about eight feet above the ground in the limbs of a tree. Lieut. Gebelin was forced to make an emergency parachute jump when his plane caught fire during the course of aerial acrobatics near Barksdale Field, Shreveport, La.

#### FRANCE FIELD PILOTS FLY ON ERRAND OF MERCY

The Air Corps was recently afforded the opportunity of demonstrating its utility to a neighboring Central American country, on a mission which in all probability resulted in the prevention of much misery, and perhaps even the loss of lives.

For several weeks there had been a mild epidemic of typhoid fever in San Jose, the capital of Costa Rica, when it was discovered that the supply of chlorine for treating the water was exhausted. Upon hearing of this fact and realizing that Panama was the nearest source of supply for this disinfectant, Mr. Eberhart, the American Minister to Costa Rica, immediately cabled the State Department in Washington to grant authority for the Air Corps to ferry an emergency supply of chlorine to San Jose.

Authority for the flight did not arrive at France Field until late in the afternoon of July 1st - too late to get through to San Jose - so on the following day, a B-3A airplane, with Lieuts. Harvey L. Boyden and Wm. L. Scott, Jr., pilots; Private Kleckner, crew chief, and Corporal Wright, radio operator, took off for San Jose via David, Republic of Panama. Upon arrival, the tanks of Chlorine were delivered to the Costa Rican government by the American Legation.

The return flight to France Field was made on July 4th in 4½ hours. San Jose is probably the most attractive city in Central America, with its cool climate, a variety of fresh fruits and vegetables, good milk and coffee, pleasant hotels and surroundings.

#### SKEET SHOOTING

Skeet shooting at Crissy Field, Calif., recently received a big boost when the well known author, Mr. Peter B. Kyne, donated a fine Browning over and under shotgun to be competed for by the officers. The first phase of the shoot will determine a handicap for each participant, and the second phase will determine the winner. "Mr. Kyne's generosity in making this gift," says the Crissy Field Correspondent, "is highly appreciated and is typical of this high type of sportsman."

Lieut. Percy, Armament Officer at Barksdale Field, La., ingeniously fashioned a Skeet range with the most precarious of financial backing, and formally opened it to the Post with many an unorthodox salvo and a minimum of damage to equipment or birds. But the competition promises to be keen and has attracted the interest of all the big game hunters of the post.

#### SYNTHETIC RUBBER

The first application of synthetic rubber to aircraft is being made at the Materiel Division, Wright Field, Ohio, in a series of tests to determine the practicability of this material as a substitute for genuine rubber in aircraft hose and gaskets. Present results indicate that, at normal temperatures and where there is solvent and swelling action on the rubber as a result of contact with fuels, the synthetic rubber is superior in durability and performance to the genuine rubber.

A quantity is undergoing service test at the present time. The development of this material would be a great boon under emergency conditions, since it would eliminate the necessity of providing genuine rubber which must be imported, and could be produced domestically in any amount which might be required.



## EXTENSION OF AIR CORPS INSTRUMENT FLYING SYSTEM

By the Wright Field Correspondent

Four Air Corps pilots, Captain Westside T. Larson, March Field; Lieuts. E.R. McReynolds, Maxwell Field; J.S. Griffith, Kelly Field; and J.E. Parker, Air Corps Engineering School, Wright Field, recently reported at Wright Field, Dayton, Ohio, for training and practice in the Air Corps Instrument Flight System.

This represents the third definite step taken in the service testing of this system - formerly referred to as the Air Corps Blind Flying and Landing System - in the development of which at Wright Field outstanding progress has been made toward overcoming in a workable and practical manner the hazards to flight offered by fog and the low visibility conditions attendant upon storms. The first step was the accomplishment of solo flights and landings in a completely hooded cockpit. The second step was the qualifying of a class of six Wright Field pilots as capable, under the Air Corps system of instrument flying; of taking off, flying any distance, returning to the field along a definite line of approach, and landing upon the runway, without at any time obtaining a view of the earth, sky, or horizon, the whole operating field lying within the narrow confines of the pilot's cockpit.

The occasion of the new detail of officers for this work is that they may become qualified in this system of flying and in turn go forth to four designated fields carrying the same instruction to a widening chain of Air Corps pilots. For the purpose of this training, four BT-2B airplanes have been equipped with hooded cockpits and the necessary instruments and radio equipment, consisting of artificial horizon, directional gyro, magnetic compass, airspeed indicator, sensitive altimeter, boundary marker indicator, radio receiving set, and, one of the most important instruments of the system, radio compass with visual indicator giving right and left indications. The

necessary ground equipment functioning in coordination with the airplane equipment consists of two guiding stations and two high frequency marker beacons, all developed in portable form for easy transportation purposes.

The ground equipment has been in operation at Wright Field for more than a year. Now Kelly Field, Langley Field, and Chanute Field are being similarly supplied, these with Wright Field being the four fields designated for initial general instruction of pilots in the system and thorough testing of it.

The tests by which a pilot qualifies under the instrument system are rigid. Count is kept of all practice hours. In the class of Wright Field pilots which qualified in May, however, an average of less than 12 practice hours each enabled all members to meet the tests successfully. Final requirements are five perfect instrument landings with hooded cockpit and without any aid whatever from the observer, the last three of which must be made in succession.

The number of hours until a pilot accomplishes his first instrument landing varies greatly with the individual, depending upon the ease or difficulty with which he makes the psychological adjustment of completely replacing his human senses with instrument senses. This first instrument landing accomplished, however, his flying technique in the system smooths itself out with a little practice and the whole procedure, like many long-sought solutions, seems almost too simple to be true.

If the service testing at the designated fields fulfills its promise, it can mean but a wider application of the system, and eventually, the greater simplification of flying under adverse weather conditions with general safety.

### TRAINING NOTES

Doughboy drill is being stressed in the 77th Pursuit Squadron at Barksdale Field, La. Tuesday and Saturday mornings are devoted to drill of the Squadron as a whole, under the supervision of all officers of the Squadron. On Monday and Wednesday mornings, those men with less than one year's service are required to attend additional drill, under the direction of two Squadron officers.

The Squadron participated in considerable night flying during July, and more of such flights are scheduled. The new lighting equipment is very satisfactory, and the Squadron is taking advantage of same to the fullest extent.

The 23rd and 72nd Bombardment Squadrons, Luke Field, T.H., recently completed Aerial Gunnery Events IV and V, for enlisted personnel. Very satisfactory results were obtained, as out of 38 enlisted men firing the course but three failed to qualify. With a total flying time of 87:30 hours, the 5th Composite Group now has 17 Experts, 2 Sharpshooters and 14 Marksmen in its enlisted personnel.

The prevalent clear weather during July made it possible for the 55th Pursuit Squadron, Barksdale Field, La., to run on schedule in night flying training. After the lighting system was perfected, about July 1st, local flights were made, followed by night aviation flights.

Since the first of June, the 7th and 44th Observation Squadrons, 6th Composite Group, France Field, Canal Zone, have been given a good work-out in efforts to increase their effectiveness and training to a maximum. Under direction of the Chief of Staff, problems have been scheduled on Tuesdays and Fridays, with the Bombardment Squadron simulating an enemy attacking a vital point in the Canal system, through the observation screen. Training for Bombardment has mostly taken the form of drill in simulated attacks against aircraft carriers which are defended by anti-aircraft fire but not by Pursuit.

### AERIAL SURVEYS IN MISSISSIPPI

The 5th Photo Section, Barksdale Field, La., recently made a survey for the Mississippi River Commission at Vicksburg, Miss., on three projects, namely, Diamond Point Cut-Off, Yucatan Cut-Off in the vicinity of Vicksburg, Miss., and the Giled Bend Cut-Off in the vicinity of Natchez, Miss. When completed by the Engineers, the above-named cuts will entirely change the course of the Mississippi River in these places and save a substantial amount of travel for river craft. This project is to be carried out at six-week intervals in order to supply the Engineers with a complete report of progress on their construction.

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## COMMERCIAL ASPECTS OF BUZZER TRAINING

By the Randolph Field Correspondent

Proficiency in buzzer is a valuable asset in anyone's training, regardless of whether he expects to stay in the Air Corps or return to civilian life. Messages were radioed by code long before they could be sent by voice and, regardless of the developments of voice transmissions, it is extremely doubtful if code will be abandoned.

Code sending and receiving requires simple receiving and transmitting apparatus and, because of this fact, amateur radio enthusiasts started sending messages to each other several years ago. These amateur radio men kept at work with radio and its development when they could obtain little scientific and financial aid or even moral support. At that time it was only a hobby, but it proved to be one of the most fascinating hobbies ever found. The experimentation and resulting discoveries from this hobby solved many problems in radio and led to voice transmission. Today, thousands of these amateur radio operators in all parts of the world find enjoyment in communicating with each other. A small, inexpensive set will reach any part of the United States and many foreign countries. It is nothing unusual for one who has made radio his hobby, whether he be a high school student or a college professor, to get up in the wee hours of the morning and "talk" to a fellow enthusiast in New Zealand, China or South America. And yet, short wave is probably more popular commercially than it is as a hobby.

The dependability, economy, and distance-getting ability of the short wave radio set has caused it to find a secure place in the commercial world. Every ship or boat of any size carries radio equipment. Newspaper syndicates flash news across the Pacific, and the Atlantic as well, by radio code. The splendid courses given in the Army schools enable students to become proficient amateur operators, and the faster students may be attracted by the commercial field.

The training offered the students at Randolph Field is necessarily intensive, as upon graduation to Kelly Field the embryo officer has little time for continuation of this particular subject. At Kelly Field the student will see the practical side of telegraphy as it is used in the Air Corps. For this reason, if for none other, the student should make the most of this opportunity to make himself proficient in "Buzzer," as he will have constant use of it upon reporting to tactical units after graduation from Kelly Field.

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## SECRETARY OF WAR VISITS MARCH FIELD

The Honorable George D. Dern, Secretary of War, paid March Field, Calif., a visit on July 31st, stopping at C.C.C. Camp, San Antonio, en route. Upon arrival at March Field, a luncheon in honor of the Secretary, Mrs. Dern and their daughter was given at the March Field Officers' Club. This was followed by an aerial review and inspection of the post. Mr. Dern expressed himself as being well pleased with the appearance of the field.

The following morning, Mr. Dern was the guest of honor at a breakfast given by the Riverside Chamber of Commerce at the Mission Inn, and attended by several officers from March Field. The Secretary departed by plane on the morning of August 1st for Salt Lake City on his way back to Washington, his plane being piloted by Lieut. Frederick V.H. Kimble, from Bolling Field, D.C.

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## CLEVER PILOTING AVERTS CATASTROPHE

Five March Field men recently received a thrill when the plane in which they were flying was landed in the Golden Gate of San Francisco Bay, near Crissy Field. Lieut. Marvin L. Harding, 31st Bombardment Squadron, was piloting a B-4 Bomber, and his passengers were Captain Fletcher E. Ammons, Medical Corps; Sgt. J.C. Merrill, Privates E.F. Umphray and John Heiems.

After taking off from March Field and traversing nearly a third of the distance to San Francisco on a navigation flight, Lieut. Harding discovered that his landing gear was damaged and was hanging loosely from the plane. He continued on to San Francisco, where he circled Crissy Field and the Coast Guard station there several times in order that they might see his plight. He then dived at a point a short distance from the Coast Guard docks to indicate the spot where he expected to land, and waited in the air until he saw the Coast Guard rescue boat proceed to that point. Lieut. Harding then stalled the plane into the water near the boat. The plane remained afloat, and shortly thereafter when the Coast Guard arrived the occupants of the Bomber climbed out with only a partial drenching. The Bomber was lassoed and dragged to shallow water.

Considerable favorable comment was expressed by those who saw the incident in referring to the skill with which Lieut. Harding handled the situation.

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## FOREIGN OFFICERS VISIT AIR CORPS STATIONS

Brigadier-General John C. Wong, Professor of the Central Military Academy at Nanking, China, and Lieut.-General Chih Jou Chow, Vice Commander of the Chinese 18th Army at Nanking, China, visited Patterson Field, Ohio, on August 2nd. Prior to that date, on July 28th these two officers made an inspection tour of Randolph Field, Texas.

Other foreign visitors to Randolph Field for the purpose of studying flying training methods were Mr. Germain Orlando, Consul-General at New York City for the Colombian Government, and Colonel Augustin Gonzales Castrejon of the Mexican Army.

The Flying Cadet Detachment at Randolph Field, Texas, entertained three distinguished guests on July 24th, when officers of the Brazilian Air Service arrived on an inspection tour of Army air posts throughout the United States. The visitors, Captains Joelmir Aripe Macedo, Francisco Corres de Mello and Julio Americo dos Reis, were shown through the Cadet barracks, the mess hall, gymnasium, and the academic buildings by Lieut. Bassett. They were also shown through the hangars and shops of both flying stages. After visiting other fields in the vicinity of San Antonio, they departed in their plane for Barksdale Field, and from there will proceed to New York before returning to Brazil.

Prior to the visit of the above members of the Brazilian Aviation Commission to Randolph Field, they inspected the plant of the Materiel Division at Wright Field, Dayton, Ohio, the members of the visiting party, in addition to Captains Macedo and de Mello being Captains Antonio Alves Cabral and Jose Candido da Silva Muricy. Captain Albert Egenberger and Lieut. A.R. Crawford, Air Corps, conducted the visitors about the field.

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## AIR CORPS SCHOOL ACTIVITIES

### RANDOLPH FIELD "DODOS" REACH BASIC STAGE By the Randolph Field Correspondent

The goal towards which the Flying Cadets of the March, 1933, Class have striven so earnestly was reached at last. Four months ago, the thought of graduation to "B" Stage was a fond hope, far distant, and filled with doubt. Now that the March Class has been recognized as the new Upper Class, we look back and wonder why the struggle seemed so severe and the anxiety so great. Needless to say, however, the work we have just completed on "A" Stage has been so interesting and the progress so exciting that "Dodo" days at Randolph Field will always be remembered.

We think again of that first ride, the instructor demonstrating methods of control, level flying, and shallow banks. As time passed, we had climbing, gliding and landings and take-offs. All this, interesting though it was, only led up to the big day in the life of the Dodo - the first solo. Then what a thrill everyone got during the solo stage! We had a plane of our own to fly as we pleased, with no one to watch our every move. As soon as the "Solo Stage" had passed, the first fundamental maneuvers were started. Spins, chandelles, lazy eights, and pylon eights were tried and mastered.

Then the brief spell of acrobatics. Loops, Immelmans, slow rolls, snap rolls and reverse-rolls were taken in turn. Regular check rides, sandwiched in between various stages of training, kept the "A" Stage students on edge. There was little chance of getting stale, as events occurred too rapidly.

Now that the class has been recognized, attention has turned to the "BT's." From what we have been able to gather, the planes we are to fly require much more delicate handling than the planes we have been accustomed to fly. Also, stunting is "off limits." All of us have probably sworn never to fly the lowly PT again; nevertheless we remember it as a rugged and faithful friend.

The future work on "B" Stage is somewhat similar to the flying with which we have become familiar. First, there is the dual instruction in the heavier planes. As soon as satisfactory proficiency has been developed, solo is again in order. Concentrated instruction and practice must then include eights, lazy eights and chandelles. Forced landings are in store, as well as hurdles and spot landings.

Later in the course, "B" Stage classes are given cross-country trips to test the students' ability in navigation. We are looking forward to the trips to Corpus Christi, Austin and Del Rio and, although precedent is not in our favor, there is not a Flying Cadet in the March Class who does not believe that he can arrive at a predetermined destination and return to Randolph - at least return to Randolph.

We look forward to our work on "B" Stage with much optimism and hope. We expect the days we spend there to be steadier and less doubtful than the hectic days of "A" Stage.

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### Dodos well versed in Military Training

The Dodos comprising the class which entered Randolph Field on July 1, 1933, are the best military trained group of Cadets the air school has ever had. In this class there are 32 Naval Academy graduates. Due to unfortunate circumstances, the Navy Department was unable to commission them. Through the effort and cooperation of the War Department, arrangements were made to handle 60 of the 150 who did not receive their commissions. Thirty-four of these reported for training. In addition to this

group of Naval Academy graduates, there are 90 men who are Reserve officers in the various branches of our Officers' Reserve Corps. These men have had four years in the ROTC, and many of them have also had National Guard training. The remainder of the class is made up of Cadets who are enlisted men from the Regular Army and National Guard Air Corps organizations who have had at least two years of college or have passed the required mental examination.

### First Impressions of a "Dodo."

My ideas of Randolph Field were close to actuality, as far as the layout and architecture were concerned. I was particularly impressed by the enlisted men's quarters, which closely resemble some of the Officers' Clubs I've seen on other Army posts. I think this is fine, as beautiful surroundings always tend toward contentment and pride.

The military system I expected to be rigid. It is. Here I was very impressed by the fact that upper classmen in most schools tell the lower classmen to do things, all the while failing to do it themselves. Here, when a lower classman gets called down for having a dirty brass, he notes that the man reprimanding him has his own brass shined. This creates a feeling that we shine our brass because it is the right thing to do. I was also struck with admiration by the keen alertness of the older Flying Cadets, the erectness of posture that they carried at all times, and the execution of their military duties.

I was pleased with the attractiveness of our new home - our quarters for the next 8 months. I admired the simplicity of the room, which was designed and furnished with the idea of efficiency in mind. I especially appreciated the cool and well lighted rooms. It seems that everything is in equilibrium here - an hour's flying to an hour's ground school, with proportional time for drill, athletics and cleaning up.

I expected to be impressed and am greatly impressed by the flying instruction. One readily understands why Randolph Field is known as the "West Point of the Air" when the opportunity to meet his instructor and fly with him presents itself. The pride of the Flying Cadet Detachment impresses me and injects itself into us all. It is immediately evident that all the Flying Cadets are glad to be here, proud to be here and hope to stay here!

### Engineering School Commencement Exercises

Members of the 13th Class of the Air Corps Engineering School, Wright Field, were awarded diplomas on July 31st at commencement exercises held at the Wright Field auditorium. The ceremonies were brief, Brigadier-General H.C. Pratt, Chief of the Materiel Division and Commandant of the School, making the address and presenting the diplomas. Personnel of the Materiel Division and families and friends of the student officers were in attendance.

New assignments of the eleven members of the graduating class are as follows: Captain J.M. Gillespie, Lieuts. C.S. Irvine, G.F. Smith and Paul Wolf to the Power Plant Branch; Lieut. J.F. Early to the Field Service Section; Lieut. R.C. Wilson to the Aircraft Branch, Wright Field; Lieuts. J.E. Parker to Selfridge Field, Mich.; M.E. Cross, Office of the Chief of the Air Corps; R.F. Travis, Langley Field, Va.; A.R. McConnell,

Kelly Field, Texas; J.T. Murtha, Rockwell Field, Calif.

The 1934 Class started work on schedule, August 1st, the number of students being reduced to six in accordance with present economy measures. Enrollments were Captain J.A. Woodruff and Lieut. R.K. Giovannoli, Wright Field; Lieuts. P.W. Timberlake, Patterson Field; A.E. Johnson and K.A. Rogers, Randolph Field; T.A. Sims, Instructor, U.S. Military Academy, West Point, N.Y.

#### Randolph Field Celebrates Third Anniversary

The third anniversary of the dedication of Randolph Field was observed on June 20th by the personnel of the Primary Flying School.

No flying activities were conducted. Enlisted men and their families were given free admission to the War Department Theatre, and a baseball game was played between the Randolph Field and Camp Normoyle teams. The swimming pools were open from 6:30 o'clock in the morning until 11:00 o'clock that night.

#### General Foulois Visits Randolph Field

Major-General Benjamin D. Foulois, Chief of the Air Corps, was a visitor at Randolph Field on July 11th and 12th, departing on the 13th for Barksdale Field. While at Randolph Field he gave the flying cadets a talk, telling them that, due to lack of funds, in all probability the class upon graduation would not be called to active duty. He also told them that he was making every effort to try to get them to a tactical organization upon graduation as Flying Cadets until such time as there was money to call them to active duty as officers.

#### FIRE AT RANDOLPH FIELD

At 5:30 p.m. on the afternoon of July 12th, a fire broke out in the dope shop, damaging the building to the extent of about \$4,000. The fire is believed to have been started by spontaneous combustion, through wind cones and panels that had been painted with tectar paint.

The wind cones were painted and put outside the building to dry, and brought back to the building only after having been thoroughly dried and were then laid over benches in the dope shop. The board which investigated the fire came to the conclusion that, due to the poor ventilation in the building, the hot temperature in the afternoon, together with the sun shining through the window on the cones and panels, caused the fire.

The board could not find any indication that fire regulations were being violated. The building had been locked since 11:30 that morning, it being Wednesday and all work in the dope shop having been suspended in the afternoon.

#### 23RD. PHOTO SECTION CELEBRATES

Forgetting for an entire day such routine matters as safe lights, intervalometers and developing fluids, 20 members of the 23rd Photo Section, March Field, Calif., and several guests from among the March Field officers and enlisted men, celebrated Organization Day on July 26th, on a fishing launch anchored off Newport Beach. Aside from participation in refreshments, the diversions of the members of the party included deep sea fishing, swimming, and an overdose of California sunshine.

#### NEW GASOLINE STORAGE FOR LUKE FIELD

The use of two Navy gasoline storage tanks was secured by the War Department from the Navy for the handling of the gasoline supply of Luke Field, T.H., and the tanks were filled to capacity last June. At present, this supply is dead storage, as the pipeline and servicing equipment connecting the tanks with Luke Field has not yet been installed. Bids covering the installation could not be accepted, as they were in excess of the available funds. Authority, however, was obtained to purchase the materials necessary and use Government labor or funds from appropriations of the Fiscal Year 1934. All necessary equipment was purchased, and informal bids indicate the labor cost will be approximately \$3,200.

The securing of these tanks from the Navy will be most beneficial in many respects. As the tanks are located near deep water, gasoline can be unloaded directly from tankers, insuring a much lower price than has been possible under the present system of transporting gasoline to Luke Field by tank trucks. The new installation will eliminate the present system of refueling aircraft with service trucks, as it includes the installation of pit boxes equipped with hose, meter, and remote control at each squadron.

Funds from 1934 allotments are not yet available to complete this installation and, in the event they are not forthcoming in the near future, work on this project will be accomplished with enlisted labor.

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#### AIRPORTS AND LANDING FIELDS IN HAWAII

The Joint Army and Navy Maneuvers of recent years have always emphasized scarcity of landing fields in Hawaii. Strenuous efforts by the Air Officer, Hawaiian Department, and whole-hearted cooperation by the Territorial officials is at last beginning to bear fruit. To date, in addition to Luke and Wheeler Fields, the Regular Army Air Corps stations, the Hawaiian Department has eight territorial airports and twenty-two Air Corps temporary or emergency fields. Of these landing fields, fourteen are on the Island of Oahu, with the remainder on the other islands.

The latest of these fields was accepted by the territorial government as of August 4th. Being planned so as to provide a better life for the unfortunate residents of Kalaupapa, the leper settlement on the Island of Molokai, it is of especial interest. The field will serve a dual purpose, as it will provide, in addition to regular aviation facilities, an opportunity for emergency medical attention from Honolulu.

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#### ENLISTED MAN DESIGNS NAVIGATION AID

Private W.A. Reeve, Specialist 6th Class, a member of the 95th Pursuit Squadron, March Field, Calif., and now on special duty in the map section of the Operations Office of that field, completed a clever instrument to simplify navigation, merely by turning a dial on an aluminum disk. The magnetic course and mileage appear through a small opening. Calculations from 12 basic points to 24 destinations are available on the instrument, a total of 288 courses. The instrument is small enough to be easily hung in the cockpit of an airplane for ready reference.

Second Lieutenant Philip B. Foote, Air Reserve, assigned to Crissy Field, Presidio of San Francisco, Calif., has been on C.C.C. work for over two months, and sends in the following word picture of events taking place at the 1996th Company, Camp F-27, Big Bar, California: "After two months at Big Bar, a great deal of work has been accomplished to make the camp a more comfortable place to live. Four barracks have been built to house the 200 men. The bath house provides adequate shower facilities, and our camp post exchange is doing a good business, providing a Company Fund for the purchase of athletic and recreational facilities. An old Dodge motor and 7½ KW generator provide electric lights to the camp each evening.

We have built an outdoor dance pavilion and a dance is held every other Saturday night with a good crowd of outsiders from the nearby towns in attendance. Everyone seems thoroughly to enjoy the dancing, which continues from about 9:00 p.m. until 3:00 a.m., under the Big Bar Moon and the festoons of colored electric lights. Recreation also includes weekly base ball games with other C.C.C. Camps in the vicinity. To date our team is undefeated, and a championship game is scheduled to take place with the Mad River Camp at Eureka.

Boxing is under way with inter-camp competition forthcoming. Other recreation is provided by fishing parties and gold mining expeditions; although to date no large quantities of gold have been brought into camp.

Our men are busily engaged in Forest Service projects in Trinity County, which consist of building a bridge over the North Fork of the Trinity River, building a road from Big Bar to Hyampon, building trails to various forest lookout stations and stringing and maintaining telephone lines throughout the Trinity National Forest.

The Forest Service rangers, superintendents and foremen report that, for the most part, the C.C.C. men are doing more work per day than the \$4.00 per day men had done previously. Further, the C.C.C. is a great asset in connection with fire suppression and fire fighting, materially reducing the fire losses in the forest by being on the job at all times and available at a minute's notice to reach the scene of the fire and prevent heavy losses usually sustained when fire gets a head start on the fighter.

The morale among the men has remained very high. The majority of the men appreciate the recreational facilities and are proud of their baseball team, proud that Big Bar has the highest flag pole in the district, enjoy the dances, and are glad to be working after several months or, as in some cases, many months of idleness.

Aerial photographs, according to the Forest Service men, would be of infinite value to their projects. A mosaic map of the forest would greatly simplify the planning and construction of roads, trails, fire-breaks, and the spotting of forest lookouts. This is still a primitive country, with thousands of relatively unexplored miles of timberland, and the job of the Forest Service to protect this area is greater than most of us surmise.

We are learning what it is to take the field some 90 miles from the base of supplies over mountain roads, to construct a camp, feed, house and clothe over 200 men who have never been in such an organization before, to provide for their recreation and to deal with their difficulties.

The Forest Service is reaping benefits in that they are able to carry on projects such as road building, bridge construction and fire suppression that heretofore have been only

dreams, due to the lack of appropriations and man power. Many of their projects are fast nearing completion."

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There are at present 21 Regular Army officers from Selfridge Field, Mich., on duty with the C.C.C., including all grades from Majors to Second Lieutenants. In addition to this number, 13 are from other stations, for whom the Commanding Officer of Selfridge Field must provide airplanes to maintain their piloting proficiency. As the camps at which they are stationed are scattered over the entire southern peninsula, the problem is how can 50 officers of the Air Corps, who are rated pilots, do enough flying to maintain their proficiency and complete certain phases of the War Department Training Directive, when the station which furnishes the aircraft is anywhere from 100 to 250 miles from the point where the airplanes will be used. This problem has so many angles, and the Operations Officer at Selfridge Field has received so much advice as to what should and should not be done, that a plan has been adopted whereby Reserve officers from the last three classes who have not as yet had an opportunity to fire the aerial gunnery course will be given this chance, and at the same time provide aircraft for the use of flying personnel on C.C.C. duty (commonly called in the State of Michigan "The Woodpecker Army.") to wit, establishing a camp at Oscoda, Michigan, the aerial gunnery range of the First Pursuit Group; sending one squadron at a time with all available two-seaters, as well as all available Observation aircraft; Reserve officers to fire the aerial gunnery course in the early morning and those officers who are not on the range to ferry airplanes to the various C.C.C. camps for use of the officers on duty there.

Some of these camps are in such remote places that the Forestry Department, realizing the difficulty of overland transportation for their inspection tours, have cleared out areas and made them into respectable landing fields, so that airplanes can be used for their administrative work which requires journeys of 200 and 300 miles in one day, and which can be accomplished in a couple of hours by using aircraft.

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Two calls were recently made upon Crissy Field, Calif., to furnish officers for duty in connection with the Civilian Conservation Corps. Second Lieutenants William Ball was detailed to duty at Camp F-52, Company 955, Berry Creek, Calif., and Donald W. Titus to Anopolis, Calif., with Company 1920.

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Corporal Wickham, with Lieut. Karnes as pilot, both from Post Field, Fort Sill, Okla., took a mosaic of Platt National Park at Sulphur, Okla., to be used in connection with C.C.C. work in that district.

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Cooperation with the Civilian Conservation Corps is now being carried out by the 5th Photo Section at Barksdale Field, La. An aerial mosaic of the Caddo Camp of the C.C.C., was recently delivered to the Officer in Charge.

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"The C.C.C. has taken its toll in our Squadron, although we are fortunate as compared with brother officers in the line," reports the Correspondent of the 77th Pursuit Squadron, Barksdale Field, La. "Lieut. J.G. Hopkins was detailed to the Camp McClellan, Ala. Camp, and Staff Sgts. Proton and Simon were sent to Camp Beauregard, La. These men, together with a few sent to C.M.T.C. Camps, left our ranks somewhat depleted."

What is believed to be the highest C.C.C. forestry camp in the United States is located in the March Field District near the top of Mount Whitney. The mountain itself rises to a height of 14,898 feet, and the camp is located at an altitude of 13,300 feet. The boys in the stub camp, which is a part of the Silver Lake Camp organization, have become accustomed to working at this altitude and are reported to be in the finest of spirits and the best of

health, in spite of the heavy work accomplished and the rare atmosphere.

Lieut. Henry B. Fisher, Air Reserve, son of Colonel A.G. Fisher, Commanding Officer of the San Antonio Air Depot, was ordered to active duty for sixty days with the Civilian Conservation Corps at Camp Davis, Marfa, Texas.

#### NATIONAL GUARD ACTIVITIES

From July 15th to 20th, five planes of the 11th Observation Squadron, Texas National Guard (3 Douglas and 2 C-17's) were assigned to temporary duty with the 56th Cavalry Brigade, Texas National Guard, on annual encampment at Mineral Wells. Air-ground communications by Morse and microphone were successfully carried out, and much photographic work completed, thereby winning the commendation of Brigadier-General Jacob F. Wolters, Commander.

Captain W.K. Ennis led the Mineral Wells flight, being accompanied by 2nd Lieuts. Theodore C. Castle, George C.P. Gifford, James C. Neely and Benjamin F. Thompson, Master Sgt. Richard P. Goodwin, Tech. Sgt. Joseph J. McMath, Staff Sgts. Estes, Wilson and Richard.

#### Encampment of Penna. National Guard Airmen

The annual encampment of the 28th Division Aviation, Pennsylvania National Guard, was held this year from July 15th to 30th at the Middletown Air Depot, Pa., and was without a doubt the most successful the organization ever enjoyed.

Of the flying time of 344 hours and 55 minutes accumulated during this encampment, 300 hours were tactical training time which included all phases of the War Department Training Directive except aerial gunnery, which could not be engaged in due to lack of facilities.

The artillery adjustment missions, including service and sub-caliber ammunition on 75's and 155's, with the 107th and 176th Field Artillery, and the communications missions with the 108th and 109th Field Artillery constituted especially good training and were enjoyed by the observers of the unit. The Infantry contact and photographic missions were also productive of some very excellent results; in fact, the entire total of 300 hours' tactical time showed most gratifying results in training the personnel.

During the middle week end in camp, the entire Squadron flew in formation to Buffalo, N.Y., where they were met by the Mayor and entertained.

A very unusual performance in communications was staged during this encampment through the cooperation of Radio Station WHP of Harrisburg. After dark one night, a six-ship formation, including one radio ship, took off to fly over the different encampments in the vicinity, including Mt. Gretna, Carlisle Barracks, and the Artillery camp at Indiantown Gap. Shortly afterwards, a single radio ship took off to observe the formation. The single ship and the radio ship in the formation contacted the Squadron ground station and carried on a regular program by voice. Station WHP picked up and rebroadcasted over the Columbia chain the entire program between the two ships in the air and the ground station.

During the second week of the encampment, the Squadron Officers' Club entertained the officers of Middletown Air Depot and their wives at dinner, and later in the week were in turn entertained at the Post Golf Club. They were, indeed, two most enjoyable evenings and afford-

ed an excellent opportunity to welcome the new Commanding Officer of the Depot, Major Churchill. The golf course and swimming pool certainly came in for their share after each day's flying was over and were just a few more of the many courtesies extended by Major Churchill and his officers, which made one very sorry to leave.

Among the many prominent visitors at the camp were Major-General George E. Leach, Chief of the National Guard Bureau; Major Ralph P. Cousins and Captain Vincent J. Meloy of that Bureau; Major-General William Price, former Commanding General of the 28th Division; Major-General Edward Shannon, Commanding General of the 28th Division, and a host of other officers. All of the visiting officers who cared to were taken for a short airplane ride.

On the morning of July 28th, Governor Pinchot inspected the entire encampment, and he was then flown to his home in Milford, Pa., by Major Dallin. During the flight he was accompanied by a formation of airplanes, and before arriving at Milford he had the experience of flying over clouds and fog banks in the valleys. The Governor expressed considerable interest in the unit during his inspection, which was the first Governor's inspection of the organization, and he promised to see more of it in the future. He thoroughly enjoyed his trip and keenly followed the maps, particularly in his own county, of which he undoubtedly knows every detail by heart.

#### Ohio Airmen Pleased With Their Encampment By the News Letter Correspondent

Well, our Annual Field Training Period was held July 23rd to August 6th, and we are very grateful to state that this year was the finest and most successful camp period this Squadron (112th Observation, Ohio National Guard) has ever experienced. We are basing this statement on tactical results accomplished. By this we mean coordination with Division, Brigade, Regimental Signal Corps troops and Infantry troops in two-way radio communication on Command Post Problems and, in addition to this, the use of panel communications as well. The accomplishments and results obtained were brought about by the organization of three Observation teams which functioned in the same capacity as in war time. In addition to Command Post Problems, they also functioned as photographic teams, making mosaic maps of the terrain desired, as well as pin point photography and the taking of oblique photographs.

All of the officers, both pilots and observers, shot with both front and rear guns at ground and tow targets. No bombing was done, due to the shortage of bombs and ammunition. The Squadron used the new landing field this year, which was a very added improvement over previous years, as no Infantry troops were allowed on the field, and this eliminated the danger of anyone getting in the way of airplanes landing or taking off.

Lieut.-Colonel Mars, Commandant of Chanute Field, permitted 1st Lieut. E.J. Rogers, who was formerly stationed at Kelly Field, Texas, on duty as instructor on instruments and instrument flying, to fly to Camp Perry and give all the officers a most interesting and instructive lecture on the use and functions of instruments in this type of flying. We were all very grateful to Lieut. Rogers for this lecture and learned considerable from it.

The Photographic Section under Lieut. Clyde H. Butler functioned to a high degree in using a new type positype paper, which they developed and printed in 3½ minutes. This is a unique performance, as it is something very new in progressive aerial photography. Also worthy of mention is the taking of very excellent oblique photographs from an altitude of 12,000 feet.

The total flying time during the camp period was 298 hours.

#### RECENT PARACHUTE JUMPS AND THEIR CAUSE

First Lieut. Ralph E. Fisher, of Wheeler Field, T.H., pilot, with Master Sergeant Chester F. Colby, co-pilot, and a load of four passengers, in returning from a recent flight from Molokai in a Douglas Y1C-21 plane, encountered a case of sustained wing vibration just after passing Honolulu Harbor. Lieut. Fisher appreciated at once that this was not a momentary or negligible case of passing vibration, and he ordered the crew overboard at the same time that he attempted to regain control of the plane. The severity of the vibration was such that the passengers did not need to be told twice, and two of them, Private 1st Cl. Loma L. Dyess, 85th Service Squadron, and Mr. Rodney M. Davis, civilian employe of the Hawaiian Air Depot, cleared the ship before Lieut. Fisher sensed that the vibration was beginning to damp out, and he accordingly ordered the rest of the passengers to remain aboard.

It was lucky for the two who jumped that they were close to the reef and, by slipping their parachutes, they managed to land in shallow water. Lieut. Fisher and Sgt. Colby considered first landing at Rodgers Airport, the nearest airdrome, but, having about 5,000 feet altitude and the vibration having damped out completely, they decided to proceed on into Luke Field where a safe landing was made.

Subsequent examination led to an indictment of that old pair of offenders - incompletely balanced ailerons combined with loosened aileron control lines. The severity of the vibration encountered can be appreciated when all the witnesses agreed that the amplitude of vertical movement of the wing pontoons was in the neighborhood of 18 inches and lasted for a period of approximately 30 seconds. In spite of this punishment, the plane had sustained no apparent damage or permanent distortion. The Materiel Division torsion test was applied to the wings and the results compared with the test made previously on the experimental airplane at the Materiel Division. There was apparently no loss in torsional rigidity. Planes of this type have been returned to service in the Hawaiian Department under instructions from the Materiel Division which prescribe the tensions to be maintained in the aileron control lines.

Practicing acrobatics at Barksdale Field, La. at an altitude of 6,000 feet, the P-12E airplane piloted by 2nd Lieut. John F. George, Jr., Air Reserve, went into an inverted spin, the controls failing to respond normally. In endeavoring to recover from the spin, the controls were tried in different positions without response, and the engine failed to accelerate when the throttle was opened. Altitude

On August 4th, Major-General Benson Hough, Commanding Officer of the 37th Division, reviewed the entire Division, at which time the Squadron, led by Major Zistel, and followed by two 3-ship formations, passed in aerial review by the reviewing stand.

General Leach, Chief of the National Guard Bureau, and Captain Vincent J. Meloy were official visitors for one day, the latter flying the General to the Camp. Captain Guy H. Gale, Regular Army Instructor of the 113th Observation Squadron, Indiana National Guard, was our Inspecting Officer. Captain Charles M. Cummings, on duty in the Office of the Chief of the Air Corps, Washington, stopped in to see us at Camp. He was formerly our instructor before going to Washington. We are always glad to see him, as well as Captain Meloy.

tude was being lost very rapidly, so Lieut. George released the safety belt and was thrown clear of the plane. He stated that he was frightened at not being able to recover from the inverted spin when he realized that the airplane was losing altitude rapidly, but after the parachute opened he felt no fear for his safety.

On the occasion of the flight of the 17th Pursuit Squadron, Selfridge Field, Mich., to Chicago in connection with the opening of "The Century of Progress," Lieut. Norman R. Burnett was forced to leap out of his burning plane and trust to his parachute. When returning to South Chicago to refuel at Lansing Airport, his motor quit. He noticed his gas pressure had dropped, so he resorted to the wobble pump. But the motor, instead of responding properly, suddenly gave forth roaring flames which swept back over the cockpit of the ship. The pilot hastily took to his silk life-saver, but not before his hand was badly burned.

During the subsequent inquiry over the remains of the wrecked plane, it was determined that a broken gas line was the initial cause of the accident. The ship landed in an open field and sank many feet in the mud.

A terrific wind and rain storm which enveloped two Randolph Field airmen near Beeville, Texas, recently, forced them to desert their plane and float safely to earth with their parachutes. Lieut. A.M. Kelley, pilot, with Pvt. C.W. DeCuir, were returning to Randolph Field from Brownsville and, after bucking strong headwinds all the way, and with the fuel supply running low, they encountered a terrific wind and rain storm in the vicinity of Beeville. Lieut. Kelley sought to land but, because of the rain and darkness, was unable to do so. Pulling high up into the clouds, both men left the ship and landed safely. Lieut. Kelley spent most of the next day trying to find the airplane.

Johnny Livingston, nationally known speed flyer, is a philosopher as well. He was forced to desert his speed plane and take to his parachute because of the failure of the landing gear following his take-off from Detroit and, while naturally distressed over losing the plane, he wound up his story with the remark to the following effect: "I remember they still build planes, but nobody has ever built a human body." Following his take-off, Livingston felt that something had happened to the retractable landing gear as he drew it up. He did not know exactly what was wrong, and fifty

minutes later, when he sighted Port Columbus, Ohio, he decided that the only way to find out was to give it a try. He came into the landing field and touched the ground on the right side. This felt all right, but he was not satisfied with the left side, so he came down on that side and found that he went clear down. He shot up into the air again and tried to figure things out. He knew the wheel was there and calculated that if he shot straight up the wind might drag it down. He circled about for half an hour trying this and then got hold of a screw driver and punched holes in the cowling so that he could see the wheels. When he saw the left wheel folded up under the plane he knew he was in for it. After dropping a note over the airport to the effect that he

was going to jump and asking that he be followed, he took off for the open country to avoid the possibility of the falling plane, doing any damage to lives or property. At about 7,000 feet, he took off one of the doors of the cockpit because, as he put it, "I didn't want anything stopping me." As he got to the doorway, the plane started into a spin and he had to climb back to straighten her out. As he got to the door the second time, the plane again started in a spin, but this time he did not turn back but rolled or fell out, he does not remember which, and, after yanking the rip cord, watched his plane crash. The demolished plane was found about four miles from the spot where Livingston landed.

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## O B I T U A R I E S

The deepest sympathy of the Air Corps is extended to Captain Albert F. Hegenberger upon the death of his wife as the result of an automobile accident in Michigan on August 7th. Captain and Mrs. Hegenberger were driving to see their two sons who were in camp in Michigan when the accident occurred. Mrs. Hegenberger passed away at 11:00 p.m. the same day.

Death rode the wings of a night flight for four Langley Field airmen on June 24th while they were enroute from Baltimore to their home station, when a Boeing Bomber, piloted by 2nd Lieut. Lewis Horvath, Jr., Air Reserve, plunged into the James River, about a mile offshore, near Rushmere, Va., carrying the pilot; the co-pilot, 2nd Lieut. Howard W. Mackelcan; and Pvts. 1st Class Charles C. Sayre and Albert C. Olive to their death.

Lieuts. Horvath and Mackelcan were to have completed their tour of active duty at Langley Field on the last of June, their brief careers being cut short by the fatal accident.

Lieut. Horvath was born at Mexico City, Mexico, March 15, 1909. He attended Northwestern University for three years, and in September, 1930, enlisted in the Infantry, serving ten months with the 27th Regiment in Hawaii, when he was appointed a Flying Cadet in the Air Corps.

Lieut. Mackelcan was born at Rocky Mount, N.C., June 18, 1910. He graduated from Baltimore Polytechnic Institute in 1927 and from the Drexel Institute, with the degree of B.S., in 1931. He was appointed a Flying Cadet in the Air Corps, and both he and Lieut. Horvath entered the same class at the Primary Flying School, Randolph Field; graduated from the Advanced Flying School in June, 1932; rated "Airplane Pilot;" commissioned second lieutenants in the Air Reserve and placed on extended active duty at Langley Field, Va.

Privates Sayre and Olive, both members of the 49th Bombardment Squadron, had served in the Air Corps for eight and three years, respectively. The personnel of the 49th Squadron passed in review for the deceased. Memorial and funeral services were conducted at Langley Field by Chaplain William K. Boyd upon recovery of the four bodies from the waters of the James River by divers from the Naval Base near Norfolk, Va.

Robert M. Arrington, 2nd Lieut. Air Reserve, attached to the 17th Pursuit Squadron at Selfridge Field, Mich., was killed in an aircraft accident on the morning of July 13th, near Middletown, Pa., while engaged in an aviation training flight. Lieut. Arrington reported for duty at Selfridge Field on March 21, 1933, from the Advanced Flying School, Kelly Field, Texas. During his tour of duty he had established himself as an efficient of-

ficer and a good pilot and, due to his personality, had many friends at this station. During his short tour of duty, he participated in the Anti-aircraft - Air Corps Exercises at Bowman Field, Ky., and, although a new officer in the service, his work was especially commendable. His loss will be keenly felt at Selfridge Field.

Lieut. Arrington was born at Nashville, Tenn., December 13, 1910. He graduated from high school in Baltimore, Md., and then attended the Baltimore Polytechnic Institute for two years, following which he attended the University of Baltimore Law School. He was appointed a Flying Cadet, Air Corps, and commenced training at the Primary Flying School, Randolph Field, Texas, with the March, 1932, Class.

Graduating from the Advanced Flying School, Kelly Field, Texas, in February, 1933, he was commissioned a second lieutenant in the Air Reserve, rated "Airplane Pilot," and placed on extended active duty at Selfridge Field, Michigan.

### Death of Two Noted World War Pilots

Two noted American Army pilots who served with distinction in the World War, both of whom were awarded the Distinguished Service Cross, died recently. Captain Chester Ellis Wright passed away in a Boston Hospital on August 9th, following several months' illness, and Lieut. Alan Francis Winslow on August 15th at Ottawa, Canada, when injuries received as the result of a fall from a third story window of a hotel on the afternoon of the 13th proved fatal. Apparently becoming faint, he had sought to open the window and fall out.

Captain Wright, who bore the unofficial title of "Ace" by virtue of having shot down eight enemy planes and one balloon during the War, was born at Readville, Mass., Sept. 1, 1897. He graduated from Hyde Park High School, Boston, and attended Harvard University for 2½ years when he entered the military service, enlisting in the Aviation Section, Signal Corps, as a candidate for a commission, on March 26, 1917, with the rank of Sergeant. From the time of his enlistment up to May 30, 1917, he received flying instruction at the Curtiss Aviation School at Newport News, Va. He then attended ground school at the Massachusetts Institute of Technology, Cambridge, Mass., completing the course on July 21st. Following a course of instruction on hydroplanes at Essington, Pa., he left on August 25th for Chanute Field, Rantoul, Ill., for further flying instruction, completing his R.M.A. tests on September 15th. Commissioned a first lieutenant on October 15th, he was assigned to active duty on October 23rd at



Garden City, Long Island, N.Y., as Adjutant of the 19th Aero Squadron.

Captain Wright left Garden City for overseas on November 23rd, arriving in Europe on December 8th, and was stationed at St. Maxient, France, until March 14, 1918, when he was ordered to the Third Aviation Instruction Center at Issoudun for further flying instruction. Upon the completion of training on service type planes, he was, on April 15th, sent to Cazaux for a month's training in aerial gunnery. His next assignment was at Orly, France, for duty as a ferry pilot. On July 29th, he reported to the 93rd Pursuit Squadron for duty as pilot, and a week later was appointed flight commander.

The citation accompanying the award to him of the Distinguished Service Cross reads as follows:

"For extraordinary heroism in action near Beffu, France, 10th October, 1918.

Lieut. Wright attacked an enemy observation balloon protected by four enemy planes; despite numerical superiority he forced the planes to withdraw and destroyed the enemy balloon.

A Bronze Oak Leaf. For extraordinary heroism in action near Bantheville, France, 23rd October, 1918.

Lieut. Wright accompanied by one other machine attacked and sent down in flames an enemy plane (Fokker type), that was attacking an Allied plane. He was in turn attacked by three enemy planes. His companion was forced to withdraw on account of motor trouble. Lieut. Wright continued the combat and succeeded in bringing down one of the enemy planes and forced the remaining two into their own territory."

Captain Wright was honorably discharged from the military service on April 1, 1919, and subsequently received two 5-year appointments in the Air Reserve.

#### ----- RICKENBACKER

Lieut. Winslow, to whom went the honor of achieving the first official victory by a member of the United States Air Service, was born at River Forest, Ill., on October 2, 1895. He graduated from high school in Chicago, Ill., and was in his junior year at the Sheffield Scientific School, Yale University, when he left the United States and joined the French Foreign Legion, Aviation Division, early in July, 1917, as a volunteer with the rank of private. He received his aviation training at the French schools of Juvisy, Avord, Pau and Plessey-Belleville, obtained his French military license on October 12th, and was assigned to the front on December 24, 1917, in the 152nd French Squadron at Corcieux in the Vosges. He spent two months at the front in this scout squadron, having 40 flying hours over the lines and engaging in six combats.

On February 20th he was commissioned a 2nd Lieutenant in the Aviation Section, Signal Corps Reserve, and reported for active duty at the Third Aviation Instruction Center, Issoudun, France, two days later. He was assigned to the 94th Aero Squadron, and on April 14, 1918, the first day that this Squadron went into active service over the lines, he shot down his first enemy airplane, causing it to crash beside the airdrome. Lieuts. Winslow and Douglas Campbell were on "Alerte," playing cards and waiting for a call. At 8:45 a.m., a telephone call came in stating that two enemy airplanes were about 2,000 meters over the city, about a mile from the airdrome. Both took off immediately in pursuit and, after a brief combat, Winslow brought down one of the airplanes out of control. A moment later, as Winslow climbed to the aid of Campbell, the latter brought down the other enemy plane which crashed and burst into flames on the other side of the airdrome. Both combats

took place at an altitude of about a thousand feet. For this victory, Lieut. Winslow was decorated with the French Croix de Guerre with palm.

The citation, accompanying the award to Lieut. Winslow of the Distinguished Service Cross, reads as follows:

"For extraordinary heroism in action in the Toul Sector on 6th June, 1918. While on patrol consisting of himself and two other pilots, he encountered a biplace enemy plane at an altitude of 5,000 meters, near St. Mihiel, France. He promptly and vigorously attacked and after a running fight extending far beyond German lines, shot his foe down in flames near Thiécourt."

On the 31st of July, while in temporary command of the 94th Squadron, Lieut. Winslow's patrol of 15 Spads engaged 17 German Fokkers at an altitude of 5,000 meters, approximately eight kilometers in German territory. During this encounter, he was shot down and his left arm shattered by machine gun bullets. Taken prisoner and confined in a German hospital, efforts during three weeks to save his arm proved futile and it was necessary to have it amputated six inches below the shoulder. He remained a prisoner in German hospitals at Laon, Treves and Konigsberg until July, 1919, when he was released and, upon returning to France, was made aide to General Wm. Mitchell. Upon his return to the United States, he was honorably discharged on March 26, 1920, later entering the diplomatic service of the United States government. He was Secretary and Charge d'Affaires at Berne, Switzerland, and for a brief period Counselor to the American Legation in China. After that he was First Secretary of the American Embassy at Mexico City. In December 1930, he went to the Pan American Airways as a foreign representative of that line and spent a good deal of time in Central and South America.

Since his unfortunate injury incurred during the War, Lieut. Winslow met with a series of other misfortunes. Several years following the War, he suffered severe injury as the result of an airplane accident, and it was with great difficulty that he could walk. About three or four months ago he was injured in an automobile accident which again confined him in the hospital. His wife died a year ago, leaving as the survivors of his family three sons, one aged 7, and twins aged four.

#### ----- Captain Ernest E. Harmon

\* Captain Ernest E. Harmon, fondly alluded to by all who knew him as "Tiny," is no more, the big fellow losing his life during the course of a night flight from Easton, Md., to Mitchel Field. The cause of the accident will probably never be known, but the assumption, according to press reports, is that he was forced to jump with his parachute after he had lost his way and ran out of gas. His body was found about an eighth of a mile from the wrecked airplane.

The death of this popular officer was a distinct shock to his host of friends both in and out of the service. He was well known in athletic circles, being a football and baseball player in his college days, and he often served as an official in college football games played in Washington.

A native of Texas, Captain Harmon was born at Dallas on February 8, 1893. His parents having moved to Washington, he attended the Eastern High School and, upon graduation therefrom, he attended Bethany College, West Virginia. Following his graduation in 1913, he was principal of St. Clairsville, Ohio, High School and Athletic Coach for two years,

and for a year he was instructor at the Tyler County, West Va. High School. He attended the George Washington University for one year, and for a year prior to his entry in the military service he was an examiner in the U.S. Patent Office.

Following Captain Harmon's enlistment on September 25, 1917, in the Aviation Section, Signal Enlisted Reserve Corps, he attended ground school at the School of Military Aeronautics, Austin, Texas, and, upon graduation therefrom, entered upon his flying training at Gerstner Field, Lake Charles, La. He received his R.M.A. rating and was commissioned a 2nd Lieutenant on May 4, 1918. He remained at Gerstner Field as a flying instructor, also as an instructor in aerial gunnery, until August 16, 1918, when he was transferred to Wilbur Wright Field, Fairfield, Ohio. Here he made a study of aircraft armament, and he divided his time between that station and the Air Corps Engineering Division at McCook Field, Dayton, Ohio, serving principally as test pilot.

Captain Harmon, it may be said, was a specialist in piloting large airplanes, and in the early days of the Air Corps, whenever one of that type was shipped to the Engineering Division to be assembled and tested, he was the individual selected for the job. This does not mean that he did not fly other types of planes, for following his transfer to Bolling Field, D.C., in January, 1919, he was assigned to duty as flying instructor on various types of new planes, among them the LePere, which type was later used at McCook Field and with which existing altitude records were broken.

On July 24, 1919, Captain Harmon, with Lieut. Colonel R.S. Hartz, started on the famous "Round the Rim Flight." They were accompanied by M.S.E. John Harding (later of Around-the-World Flight fame) and Jerry Dobias, mechanics. During the course of this flight in a Martin Bomber, the United States was circumnavigated in a flying time of 104 hours and 24 minutes, the distance involved being 9,823 miles. They visited 48 of the principal cities of the United States and, while they had a number of forced landings, due to unfavorable weather conditions, there was no damage to the plane save on one occasion, and then repairs were made on the spot. The greater part of this trip was traversed over untried routes, with few regularly established landing fields. This trip demonstrated the reliability of the Martin Bomber and the Liberty engine.

During the International Air Races at Mitchel Field, N.Y., in 1925, Captain Harmon won the Detroit News Trophy Race, piloting the Huff-Daland Light Bomber at an average speed of 119.91 miles per hour.

In the Aerial Gunnery and Bombing Matches held at Langley Field, Va., Captain Harmon, pilot, with Lieut. Harold L. George, bomber, won the Bombing event with a score of 1472 points out of a possible 1600.

Next to assembling and piloting large types of airplanes, Captain Harmon's work in an administrative capacity was in the field of patents, and in this line of endeavor he rendered invaluable service, especially in his assistance to the Department of Justice in defending suits brought against the United States involving patents on aeronautical devices. He was generally recognized in patents circles as the foremost authority on patents relating to parachutes.

In April, 1920, Captain Harmon was transferred to duty in the Office of the Chief of the Air Corps, where he served for four years in the Patents Division.

Following a period of duty at Bolling Field as Assistant Engineering Officer and as Commanding Officer of the 58th Service Squadron, Captain Harmon again served for several years in the Patents Division, Office of the Chief of the Air Corps. He next served a tour of

duty in Panama, and upon the termination thereof was assigned to Mitchel Field, N.Y.

Funeral services for the deceased officer were held on Wednesday morning, August 30th, at the Arlington National Cemetery, the pall bearers being Captains Ross G. Hoyt, David S. Seaton, George C. Kenney, Merrick G. Estabrook, Jr., Harold L. Clark, and Lieut. Samuel P. Mills.

#### NEW TOW TARGET WINDLASS

A new tow target windlass, known as the Type C-4, having a capacity for 4,000 feet of cable and completely enclosed in metal, is undergoing experimental testing at the Materiel Division, Wright Field, Dayton, Ohio. This windlass, which is a redesigned Type C-3, may be installed either in the inside of the cockpit or underneath the fuselage on the outside. Spur gears are eliminated and the drum flanges and brakes are enclosed.

Although of larger capacity, the weight of the new windlass, which is 65 pounds, is 10 pounds lighter than the present standard Type C-3. Frames and rods are constructed of cast aluminum. The airplane used in the testing of the windlass is the Fokker XC-14. Drawings are under way, however, for its installation on an C-31, which will permit of higher speed tow tests, and it is anticipated that the next six months will see this equipment ready for service testing.

Increased interest and demand have been shown in tow target equipment, since at present it is used by the Field and Coast Artillery as well as the Air Corps - in fact, by all arms of the service in which the practice of gunnery is an essential function.

#### ARMY POST EXCHANGES MUST PAY GAS TAX

A controversy came up recently in the State of Texas regarding the question of gasoline sold to an Army Post Exchange and resold to the officers and enlisted personnel of the Army being subject to the State gasoline tax of 4 cents a gallon. The decision rendered was that the State tax of 4 cents per gallon must be paid by all persons, except where it is used by the Federal government or would be paid by the government.

It had come to the attention of the Comptroller of the State that thousands of gallons of gasoline were being sold through the post exchanges tax free. Assistant General Earp's decision was that this gasoline was not being used in any governmental work but placed in the cars of officers and enlisted men for their "pleasure and convenience" and that they were using the public highways. He cited history and authorities to sustain his position that post exchanges are not governmental institutions and that the gasoline in question has no part in governmental functions. As a result, the Comptroller is now collecting tax on all gasoline dispensed through Army Exchanges.

During the month of July, the Fairfield Air Depot, Patterson Field, Ohio, gave a total of 14 airplanes and 40 engines a major overhaul, while 21 airplanes and 16 engines were given minor overhaul.

CHANGES IN PERSONNEL AT AIR CORPS STATIONS

Two Randolph Field officers, assigned to new duties, left August 15th for their new stations, Major M.G. Healy, Medical Corps, departing for New York City, from which place he will sail for Hawaii, and Captain A.G. Liggett for Montgomery, Ala., for duty as student at the Air Corps Tactical School.

Lieut. P.W. Timberlake, Fairfield Air Depot, Patterson Field, Ohio, was transferred to Wright Field on August 1st for duty as student in the 1933-1934 course in the Air Corps Engineering School.

Captain James E. Duke, Jr., who recently arrived in the Hawaiian Department, assumed command of the 75th Service Squadron, Lieut. Tourtellot, attached to this Squadron for the past several months, and formerly Squadron Commander, sailed July 21st for his new station at Selfridge Field, Mich.

Captain J.Y. York, who was on duty in the Industrial War Plans Division of the Materiel Division, Wright Field, since 1929, left recently for Randolph Field, Texas, for duty as student at the Primary Flying School. His present ratings include Airship Pilot, Balloon Observer and Airplane Observer.

Four officers reported to Wright Field recently for duty - Captain C.W. Dingman, Medical Corps, from the General Dispensary, Chicago, assigned to the Flight Surgeon's Office; Lieut. J.S. Gullet, from Mitchel Field, assigned to Industrial War Plans Section; Lts. Wesley T. Guest and Dale P. Magon, Signal Corps, from Office of the Chief Signal Officer, the former assigned to the Post Signal Office and the latter to the Radio Laboratory.

At Crissy Field, Presidio of San Francisco, Calif., four officers reported during July - 1st Lieut. William E. Baker from the Philippines, 2nd Lieuts. George D. Fator from Hawaii, Eyvind Holberman and George H. McIntyre, Air Reserve, from Brooks Field, Texas.

First Lieut. Frederick A. Bacher, who recently reported for duty at Randolph Field, was assigned as Instructor on the Primary Stage. Two instructors, Lieuts. K.A. Rogers and E.P. Rose left the field on a month's leave prior to reporting to their new stations, the former going to the Engineering School, Wright Field, and the latter to the Air Corps Technical School, Chanute Field. Both officers have been at the field since the Primary Flying School was moved, and were formerly stationed at Brooks Field.

With the departure of Captain H.L. Clark for duty in the Office of the Chief of the Air Corps, Lieut. C.E. Crumrine is back in his old haunts as Squadron Commander, 55th Pursuit, Barksdale Field. The Squadron gained three new Reserve officers from the July Class of Kelly Field, Lieuts. Klein, Mock and Gentry.

The assignment of nine officers to the 79th Pursuit Squadron, Barksdale Field, brought its strength up to 15 pilots. Those assigned recently were Lieuts. T.H. Baxter, D.T. Mitchell, D.F. Myers and T.M. Bolen from the Technical School, Chanute Field; Lieuts. J.F. Davidson, W.V.D. Brown and W.E. Davis from the recently graduated class of Kelly Field; Lieuts. H.O. Gibner from the 77th Pursuit and D.N. Motherwell from the 55th Pursuit, Barksdale Field.

Crissy Field welcomed Captain F.E. Galloway, who graduated from the Air Corps Tactical School recently. He was assigned as Executive

Officer and Station Inspector of the post.

With the transfer of 1st Lieut. Charles H. Howard to the Air Corps Tactical School, Maxwell Field, Ala., for duty as student, the 11th Bombardment Squadron, March Field, Calif., received a new commander in the person of Captain Robert E. Selff, who assumed command early in August.

In the three years during which Lieut. Howard commanded the 11th Squadron, he has led his formation of Curtiss "Condors" on numerous important flights and has won for that organization an enviable reputation. Most outstanding among the notable achievements under his administration of this squadron, which has for its insignia a reproduction of the famous "Jiggs," was the Indian Relief Expedition over the snowbound Navajo Indian country of Arizona in 1932. It was for this flight that Lieut. Howard received the coveted Mackay Trophy on behalf of the Squadron.

The following officers, stationed at Randolph, Texas, were ordered to the Air Corps Technical School, Chanute Field, Rantoul, Ill., to report not later than September 1st, for duty as students in the Aircraft Armament course: 1st Lieut. H.F. Dyer, 2nd Lieuts. R.E. Walker, D.W. Benner, A.L. Moore, F.K. Park and E.P. Rose. First Lieut. N.D. Frost, 2nd Lieuts. G.F. Kinzie, R.L. Pirtle and E.H. Porter are to take the Communications Course at the Technical School, reporting not later than October 1st.

Randolph Field officers assigned to duty as students at the Air Corps Tactical School, Maxwell Field, Ala., and to report not later than September 1st, are Captains A.G. Liggett, B.S. Thompson, J.B. Patrick, and 1st Lieut. R.B. Williams.

On August 5th, a radiogram was received from the War Department, granting Lieut.-Colonel Gerald C. Brant, the Air Officer, Hawaiian Department and Commanding Officer, 18th Composite Wing, an extension of his tour of foreign service to August 1, 1934.

Colonel Brant arrived in the Hawaiian Department on November 26, 1930, from Mitchel Field, New York. During his tour here, the Air Corps in this Department has been built up from a small unit to quite a sizeable force. The 18th Composite Wing, embracing the 18th Pursuit Group and the 5th Composite Group, was formed and the entire tactical administration of both Groups placed under one head. Wheeler Field was transformed from a small temporary airdrome to a large permanent air station, and many other improvements have taken place.

Since his arrival, Colonel Brant has learned to love the Islands, their people, and the service here. He has built up a host of friendships amongst the prominent civilian population and the military personnel.

A SUGGESTION FROM HAWAII

Dear Ed:

Years ago, when the News Letter was young and you were looking for copy, a series of articles was run by you entitled "And I learned about flying from that." Now then we provincials are a long way from home and modern lessons in flying are being learned daily that we with our 'C-19's don't get.

How about telling us of these experiences via News Letter?

A "SIDE LIGHT" - NOT AN OBITUARY

By Lieut. Samuel P. Mills, Air Corps

Captain Harmon ("Tiny" Harmon) is gone. The Air Corps has lost an extremely valuable and experienced man; the Nation has lost a real "he-man" defender; a family has lost a devoted husband and father; and several hundred officers of the Air Corps have lost a close personal friend.

The news of the passing of the Captain as the result of a night flying accident brings quite vividly to my mind a little incident which took place in Macon, Georgia, back in 1919. The Armistice had been signed only two or three months. The country was sort of breathless wondering what would come next. Considerable interest centered at different parts of the country on the development of aircraft and air transportation. The city of Macon, in giving vent to its air enthusiasm, had arranged an elaborate Aeronautical Congress to which many high government officials and parties interested in aeronautics were invited. The outstanding feature of this meeting was to be the demonstration of the new and mighty Martin Bomber from Washington, D.C., only one or two of which had been completed, but which was stated to be the world's most formidable bombing airplane.

I have lively recollections of that morning. Lieut. Robert Ward and I had been selected to fly the "first southern aerial mail" between Montgomery, Alabama, and Macon, Georgia, during the Congress. After dodging a series of storms on that trip, we finally succeeded in landing on time within the race track at Macon. Shortly afterward the air was rent with the deep, throaty roar of two Liberty engines pulling the big bomber in a wide circle around the city of Macon. It was the largest airplane I had yet seen, and was most impressive as compared to the Hispano-Jenny which we were flying. The crowd was tense, wondering whether or not it would be possible for this big airplane to land within the small confines of the race track.

Coming in on a straight, even glide, the big bomber cleared the trees by a scant ten feet and settled gracefully as a feather into the field, using only about two-thirds of the available space. To me it was a feat nothing short of remarkable. A moment later the plane taxied up to the gathering of notables in order that two or three famous passengers might join the Congress.

A large crowd gathered around the big bomber and when it was announced that it would be shortly taken up and a few of the notables given a ride, everyone was all keyed up, hoping that he would be selected. Many with generals' stars and colonels' eagles, majors, politicians and distinguished guests of all varieties, placed themselves in advantageous positions for the opportunity of being chosen to make this flight. Being a young second lieutenant in the Air Corps and not "dragging any water," I would not have gambled a nickel on my chances to ride in the big bomber. The pilot stood up in his cockpit, glanced over the edge at the crowd, and although a stranger to me, caught my eye, glanced at my shoulder bars of nice, new shiny gold, and said: "Lieutenant, would you like to ride with me?" Few moments in my life have been bigger than this one. A few seconds found me not only in the airplane but sitting in the seat of honor as co-pilot, alongside of the chief pilot. A few minutes later a mayor, a high government official and a couple of high-ranking Army officers boarded the plane. The big bomber left the race track on a smooth, even climb, without much room to spare, circled the city several times and landed as lightly as it had before. I thanked the pilot very earnestly

for his consideration and he answered: "Oh, that's all right; Lieutenant, I am mighty glad to meet you. My name is Harmon, "Tiny" Harmon, from Washington. Drop in and visit me when you come to the Capital."

And so, down through the years, if one is sufficiently interested to check through many of the dusty files, he will find the name of Harmon, Captain Ernest Harmon, always on the Air Corps battle-front. Time and again, at the Experimental Station at Dayton, Ohio, Captain Harmon would visit us to give many of the new and strange looking aircraft some of their first flights. Then, one notes how he piloted a bomber in the first movement of that type of Army planes over the vicious terrain of Mexico and on into our station at Panam.

His usefulness to the Air Corps has not been confined entirely to flying. His training and knowledge of law made him so valuable to us in various legal branches, and his work in the Patents Division will long be remembered. And now, more recently, we find him as a squadron commander at Mitchel Field, one of the key men in that organization, "father" of a couple of hundred soldiers of the service. His ability as a leader of men, his characteristic of gaining and holding the respect of the soldiers under him and his superior officers, has always been outstanding. We shall miss him as few men are missed, but the example he has set for us in always being ready to fly, night and day, on whatever mission was desired, and his always placing the needs of the service ahead of personal interests, will live long in our memories. Yes, the Air Corps is better, and the Nation more secure, for his having been in our midst these sixteen years.

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WAR DEPARTMENT ORDERS

CHANGES OF STATION: To Maxwell Field, Ala., as students at Air Corps Tactical School: 1st Lieuts. Leo H. Dawson and Charles H. Howard, from March Field, Calif.; Captains Arthur G. Liggett, John B. Patrick, Bernard S. Thompson from Randolph Field, Texas; 1st Lieut. Austin W. Martenstein from duty as student, Army Industrial College, Washington.

To Randolph Field: Captain Harvey H. Holland, from Rockwell Field, for training, with Class of October 15, 1933.

To Langley Field, Va.: 1st Lieut. Jack Greer, from Philippines. Previous orders in his case revoked.

DETAILED TO AIR CORPS: 2nd Lieut. John B. Ackerman, Coast Artillery, and to Randolph Field for training, Class of October 15th.

RELIEVED FROM DETAIL TO AIR CORPS: 2nd Lieut. Gunnard W. Carlson and from station at Barksdale Field, La., to the 29th Engineers, Fort Schuyler, N.Y.

CHANGES IN ASSIGNMENT: Captain Charles M. Cummings, from Office of the Chief of the Air Corps, to the National Guard Bureau, Washington, D.C.

RETIREMENT: Major Thomas DeW. Milling, July 31, 1933, for disability incident to the service.

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Major-General Benjamin D. Foulis, Chief of the Air Corps, accompanied by Major Carl Spatz, formerly Commanding Officer of the 1st Bombardment Wing at March Field, Calif., paid this field a visit on August 4th for an informal inspection. They remained at March Field several days before proceeding to Rockwell Field.

AIRPORT AND AIRWAY INFORMATION

NOTE: The information hereinafter published supplements the Airport Information Bulletins published in accordance with Air Corps Circular No. 90-2, dated January 5, 1933.

The Commanding Officer of Pearson Field, Vancouver Barracks, Washington, reports that the Pacific Telephone and Telegraph Company, Vancouver, Washington, has completed painting of their telegraph poles on the south side of the Evergreen Highway adjacent to Pearson Field.

Poles on both sides of the Evergreen Highway adjacent to Pearson Field are now painted chrome yellow and black in accordance with existing regulations.

Corrections for Air Navigation Maps 19 and 46

A letter received by the Chief of the Air Corps from the Director of the Coast and Geodetic Survey, on the above subject, reads as follows:

The following corrections have been reported to this office by Mr. Claude L. Knoderer, 19 Morningside Road, Verona, New Jersey:

- Map No. 46.
1. Steeltown incorrectly spelled - should be STEELTON.
  2. Bismark incorrectly named. Official Post Office name has been QUENTIN since 1919.
  3. Lingletown incorrectly spelled - should be LINGLSTOWN.
  4. HIGHSPIRE indicated but not named.
  5. Mariella incorrectly spelled - should be MARIETTA.

Map No. 19. Above errors Nos. 1, 2 and 3.

SERIAL NO. 331 LIST OF NEW MATERIAL ADDED TO INFORMATION DIVISION FILES 1-2

July 1st to Aug. 28th, 1933, Incl.

Available for loan to Air Corps Organizations only upon request to the Air Corps Library, Munitions Bldg., Washington, D.C.

DOCUMENTS

- Paris, Ed. Blondel la Rougery.
- D 00.12/2/#23 Contribution a l'Etude de la Corrosion du Fer, Potentiels du Fer et des Constituants de l'Acier dans les Divers Milieux; Passivite, Activite, par Jean Aubert. France. Ministere de l'Air. Publication Scientifique et Technique #23.
- D 00.12/2/#24 Prevision de l'Action d'un Vent dont la Direction Varie Rapidement. Application a l'Effet Katzmayr et a l'Autorotation. Obtention des Aerodrammes par Refrignence. Modification du Sillage des Corps (premiere partie), par A. Lafay. Ministere de l'Air. Publication Scientifique et Technique #24.
- D 00.12/2/#25 Recherches Experimentales de Marey sur le Mouvement dans l'Air et dans l'Eau, par P. Nogues. Ministere de l'Air. Publication Scientifique et Technique #25.
- 
- U.S. Naval Aircraft Factory, Navy Yard, Philadelphia, Pa.
- D 00.12/4 PTL-72 Investigation of Cleaning Compound (Navy Dept. Spec. M-43a) by Physical Testing Laboratory PTL 72. Jan. 11, 1933.
- D 00.12/4 PTL-143 Wire Mesh Fabric for the Covering of Naval Aircraft. Investigation of. Jan. 20, 1933.
- D 00.12/4 PTL-192 Lubricants for Brass Fuel Line Cocks and Aluminum Alloy Threaded Parts, by Physical Testing Laboratory. 6/12/33. PTL-192.
- D 10.1/169 Investigation of Inconel (80% nickel alloy). 7/31/33 ML-93
- 
- Navy Department, Bureau of Aeronautics, Washington, D.C.
- D 00.12/103 22-33 Material for Making Up Gasoline Tight Joints. 7/6/33. Tech. Order 22-33.
- D 00.12/103 23-33 Life Rafts-Replacing of Nipples on Inflation Equipment for, 7/8/33. Tech. Order 23-33
- D 00.12/103 24-33 Parachute Rip Cord Pull Ring - Painting of. 8/1/33 Tech. Order 24-33
- D 00.12/103 26-33 Propellers - Maintenance of, 8/2/33 Tech. Order 26-33
- D 00.12/103 27-33 Eclipse Inertia Starters, Drilling of Holes in Rear Housing. 8/3/33 Tech. Order 27-33
- D 00.12/123 No. 20-33 Spark Plugs-Inspection, Test and Maintenance. 7/3/33 Tech. Note 20-33
- D 00.12/123 No. 22-33 Suppression of Rust in Cooling Systems of Liquid Cooled Aircraft Engines. 7/24/32 Tech. Note 22-33
- D 00.12/123 No. 23-33 Filters for Aviation Gasoline, 7/31/33 Tech. Note #23-33
- 
- D 13.3/Gyro-scope/7 Flying with the Sperry Horizon and the Directional Gyro, by Sperry Gyroscope Co. Brooklyn. 1933.
- 629.13/G81t #1486 Oil Cooling for Aircraft by B.C. Carter. London H.M. Stationery Office. 1933. Aero. Research Committee Report & Memo #1486
- 629.13/Un3 #456 The Aerodynamic Forces and Moments Exerted on a Spinning Model of the "NY-1" Airplane as Measured by the Spinning Balance, by M.J. Bamber & C.H. Zimmerman. Washington. Gov't Printing Office. 1933. NACA Report #456.
- 629.13/Un3 #457 Maneuverability Investigation of an "O3U-1" Observation Airplane by F.L. Thompson & H.W. Kirschbaum. Washington Gov't Printing Office. 1933. NACA Report #457.
- 
- N.A.C.A. Washington
- 629.13/Un3ac #182 The Hanriot-Biche 110 Cl Airplane (French); an All-metal low-wing Pursuit Monoplane by Rene Rabion. Airc. Circ. #182. 7/1933.
- 629.13/Un3ten #464 A complete Tank Test of a Model of a Flying Boat Hull, NACA Model #11, by J.M. Shoemaker & J.B. Parkinson. Tech. Note #464 7/1933.
- 629.13/Un3ten #465 Some Characteristics of Sprays Obtained from Pintle-Type Injection Nozzles by E.T. Marsh & C.D. Waldron. 7/1933. Tech. Note #465.
- 629.13/Un3ten #466 Engine Performance with a Hydrogenated Safety Fuel, by O.W. Schey & A.W. Young. July 1933. Tech. Note #466.
- 629.13/Un3ten #467 Simplified Aerodynamic Analysis of the Cyclogiro Rotating-Wing System by J.B. Wheatley. Aug. 1933. Tech. Note #467.
- 
- D 11.3/64 Fuel Testing by the U.S. Army Air Corps by S.D. Herron. A.C. Mat. Div., Dayton, O. 1933.
- 629.13/Un3us #835 Air-Ground Message Code Used During the New England Flood Relief Operations, Commencing Nov. 5, 1927 by Information Div. A.C. Washington. Stencil U-835, A.C.
- 629.13/Un3us #1068 Extracts from Tentative Infantry Drill Regulations 1932 (for service test only). Stencil U-1068, A.C.

DOCUMENTS (Cont'd)

Serial No. 351

629.13/Un3teh Methods of Performance Calculation for Airplanes with Super-  
#3752 charged Engines Developed by W. Bailey Oswald. Wright Field,  
Dayton, O. Jan. 4, 1933. Tech. Report #3752. Also A.C. Information  
Circular Vol. VII, Apr. 1, 1933, #679

629.13/Un3teh

The Measurement of the Tail Loads in a BT-2B Airplane in Zero  
Thrust Glides and the Behavior of the McCollum-Peters 12-element  
Telemeter Apparatus as a Flight Test Strain Recorder by C.G.  
Brown. Wright Field, Dayton, O. Jan. 6, 1933. Tech. Report #3753  
Also issued as A.C. Information Circ. Vol. VII, May 15, 1933,  
#680.

629.13/Un3teh

High Speed Engine Pressure Indicators, by F.L. Prescott. Wright  
Field, Dayton, Ohio. Feb. 27, 1933. Tech. Report #3768. Also issued  
as A.C. Information Circular Vol. VII, May 15, 1933, #681.

629.13/Un3teh

Three-Bladed Aluminum Alloy Propeller of Design XP2F100-12, by  
C.F. Phillips. Wright Field, Dayton, Ohio. Dec. 27, 1932. Tech. Re-  
port #3832.

629.13/Un3teh

Three-bladed Aluminum Alloy Test Club for V-1570 Engine, by C.  
F. Phillips. Wright Field, Dayton, O. May 12, 1933. Tech. Report  
#3833.

#3833

C 13/15

Aircraft Executives; A Mailing List of Purchasing, Engineering  
and Production Officials in American & Canadian Aircraft and  
Engine Factories... Phila., Pa. Chilton Class Journal Co. 1932.

INSPECTION DIVISION NOTES

The following Technical Orders, Technical Letters, Air Corps Circulars and Air Corps Circular Letters have been distributed since the last issue of the Air Corps News Letter on July 31, 1933:

NO. & Date	SUBJECT	DISTRIBUTION
TL 33-40 8/5/33	M-8 Flare Installation Modification - Keystone Bombers B-3A, B-4A, B-5A, B-6A, Y1B-4 & Y1B-6	Aberdeen, Kelly, Langley Ft. Leavenworth, March, Maxwell, Rockwell, Wright, all depots.
TO 10-10-11 7/20/33	Photographic Equipment & Supplies-Cameras-Hand-book of Instructions for K-12 Aerial Camera.	General
TO 02-1-39 7/28/33	Engines and Spare Parts-General-Precaution when Removing Master Connecting Rod Cylinders from Radial Engines. (This TO replaces TO 02-1-39, dated 7/7/29.)	General
TL 33-58 8/12/33	Replacement of Stabilizer Brace Strut Upper Curtiss O-1G & O-39 Airplanes	Boston A. Chanute, Mitchell, Pope, Wright, all depots.
TL 33-61 8/12/33	Propeller Setting for Douglas O-38E & O-38F Airplanes	Bolling, Chanute, Wright, all Depots & Nat. Guards
TL 33-63 8/14/33	Cord, Parachute Packing - Reworking of	General
TL 33-59 8/11/33	#0159268 Handle Assembly, Control, Type A-3 Failure of Attachment Cable	General
TL 33-60 8/12/33	Replacement of Hand Fuel Pump Control Assembly-Thomas Morse O-19B, O-19C & O-19D Airplanes.	Albrook, Boeing, Brooks Chanute, Chicago Airport Grissy, France, Hatbox, Hensley, Kelly, Long Beach, Maxwell, March, Pearson, Post, Salt Lake City, Scott, Selfridge, Wright, all depots.
TL 33-62 8/15/33	Installation of Rib Braces, Stub Wing, Douglas XB-7, Y1B-7, XO-35 & Y1O-35 Airplanes	Brooks, Chanute, March, Mitchell, Wright, FAD, MAD SAAD, RAD.
TO 02-75B 7/31/33	Engines and Spare Parts-Handbook of Instructions for R-680 Engine Overhaul Tools.	All depots.
TO 00-0-7 7/1/33	Monthly Index of Technical Instructions July, 1933.	General

The following Air Corps Circulars and Air Corps Circular Letters have been distributed since the July issue of the Air Corps News Letter:

No. & Date	Subject	
15-3A 7/28/33	BLANK FORMS AND REPORTS-	Air Corps No. 3, Monthly Aircraft Operations Report.
15-46A 8/5/33	BLANK FORMS AND REPORTS-	Air Corps Form No. 46, Parachute Record
15-102A 8/5/33	BLANK FORMS AND REPORTS-	Requisitions.
45-7 7/18/33	INFORMATION -	Pilot's Information File.

Number & Date	Subject	Distribution
33-26 7/10/33	Charges-Guarding Aircraft	A to G incl. & H.
33-27 8/10/33	Flying Time with Civilian Conservation Corps Activities	A to E incl. & G to I incl.
33-28 8/10/33	Procurement Circular #60, August 4, 1933	A to D Inc. & G.
33-29 8/14/33	Report of Number of SCR-183 & SCR-192 Radio Sets on Hand	A to J incl.

The following extracts from Materiel Division replies to Unsatisfactory Reports from AC stations are quoted for your information:

Failure of Baffle Plates in Gasoline Tanks of Keystone B-5A Airplane

"2. For your information the following is quoted from a report from a service activity on the failure of fuel tank:

"It is believed that this breakage is caused by mechanics operating refueling pump after the tank is filled, thereby placing undue strain on the tank. Instructions have been issued to all operating personnel calling attention to this possibility."

Failure of Distributor Gear of Scintilla Magneto Installed on V-1150-E Engine.

"1. Reference is made to unsatisfactory report submitted by \* \* \* under date of July 19, 1933, on failure of the large distributor gear of Scintilla Magneto No. 50451 installed on V-1150-E Engine No. 30-26.

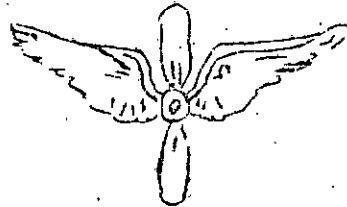
"2. It was the opinion that if instructions contained in Technical Letter 32-104, regarding the lubrication of these gears at stated intervals, were followed the number of failures of this nature would be reduced to a minimum. It is requested that when the slightest wear of the gear teeth is noted, which can be detected during regular inspection, the magneto be replaced immediately instead of allowing same to be run until the teeth of the entire gear sector are stripped.

"3. Tests have been concluded on a forged aluminum bronze distributor gear for V-AC type magnetos operated with a heat-treated small gear, and results show this material is superior to the present standard gear material. It is proposed replacing present bronze and cast iron gears on all magnetos as soon as funds for procurement thereof become available. Necessary instructions will be issued in the form of a Technical Letter at that time."

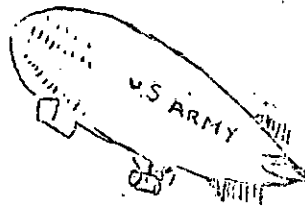




# AIR CORPS



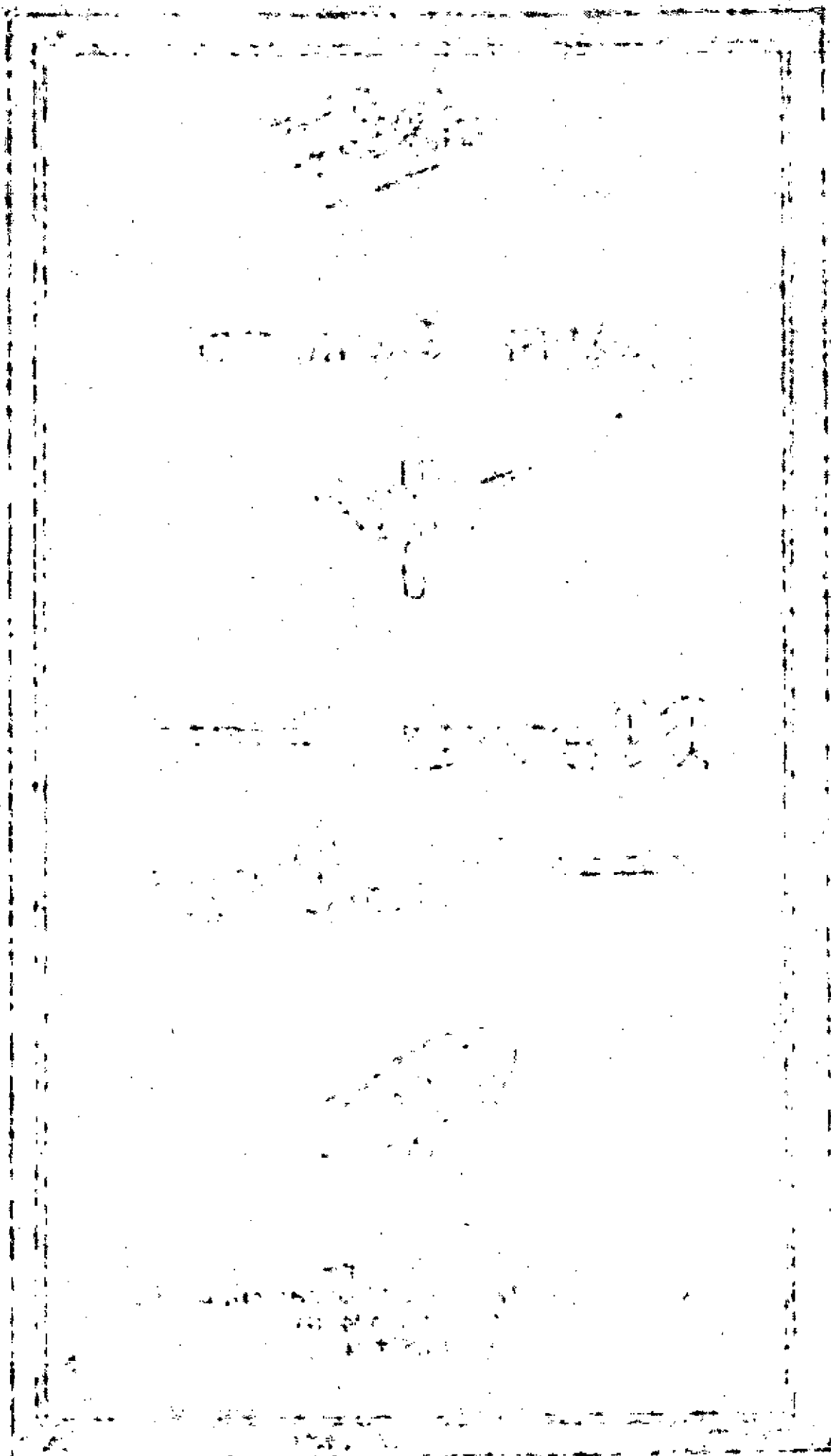
# News == == Letter



- ISSUED BY -  
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Sept 1933



September 30, 1933

Munitions Building  
Washington, D. C.

The Chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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### WILEY POST TESTS AIR CORPS RADIO COMPASS ON WORLD FLIGHT by Marguerite Jacobs Heron

The return of Wiley Post from his round-the-world flight meant more to Wright Field engineers than the fact that the time for encircling the globe by air had been shortened, or that demonstration had been made that the feat could be accomplished solo. For Mr. Post had had installed at Wright Field before his departure a new type of Air Corps radio compass, one which had been under development by Wright Field Engineers for the past several years, and Wright Field - in fact the whole Air Corps - were most eager not only to congratulate Mr. Post but to hear from his own lips a report upon the operation of the instrument in which an extensive amount of local testing had caused them to place high confidence. Permission for the installation of this equipment, still in the service test stages of development, had been granted only because of the value that such a flight test would prove to the Air Corps, particularly in a plane as well equipped as Mr. Post's and in the hands of as sound a pilot. Prepared therefore for either adverse or favorable comment, Mr. Post's arrival at Wright Field at the conclusion of his flight for the purpose of returning the borrowed compass was eagerly awaited. The story proved an interesting one.

Before his take-off from New York, Mr. Post had arranged with the radio station at Manchester, England, for operation of the station on a wave length of 625 kilocycles continuously during the night of his flight over the Atlantic. Because of interference with existing broadcast schedules in England, however, this service could not begin until midnight. At midnight Mr. Post attempting to tune in, found the station suddenly, the sound flooding into the earpieces of his helmet. Immediately the visual indicator showed his bearing slightly off the course and turning the plane until the needle of the indicator rested at the zero reading, Post held it there through 1600 miles of night over-ocean flight, and without recourse to any other navigational aid whatever, was brought toward morning directly over the radio towers of Manchester. The indications on the instrument were so reliable that Post expressed the belief that if the station had come on the air when he was over Newfoundland, that he could have flown the entire over-ocean distance, from land's end to land's end, by its aid alone. To have had such positive direction over those 1600 miles meant not only strict adherence to the great circle course, but the saving of physical energy required by periodic checking of a course which other navigational methods make necessary, and a great relief from mental strain.

The radio compass again proved its reliability when on leaving Berlin, Post ran into the same storm that was responsible for the death of the two Lithuanian flyers. An oil leak had developed that put the robot pilot temporarily out of commission. The storm was severe, the visibility zero. Tuning in on a radio station at Konigsberg, the compass brought him directly over the city and he was able to effect a safe landing.

Had radio stations been available all along the great circle course, the radio compass could have been of more constant benefit.

Over certain vast areas, however, flying by compass would have meant wide detours from the great circle course, and so could not be continuously employed.

Upon his return to the North American continent through some lack of understanding, the radio station at Fairbanks, Alaska, Post claim was not on the air when he tried to tune in after striking the mainland, and this together with extremely low ceiling, the fact that his magnetic compass was off, due to magnetic polar influence at that location, and above all the state of complete exhaustion which accompanied this stage of his flight caused him to make an emergency landing at Flat, Alaska. The radio compass was checked after the landing, however, and proved to be in perfect condition, later guiding him into Edmonton, and from there to New York. The action of the visual indicator needle was positive and virtually without oscillation, and on the flight when used in connection with the magnetic compass needle could be used as a check of the wind drift.

#### DEVELOPMENT OF RADIO COMPASS

The Air Corps Radio Compass which has been under test at the Materiel Division for the past two years provides a visual indication of the heading of an airplane. It enables a pilot to fly toward a broadcasting station, or any station which has a continuous or intermittent carrier operating within the band of 250 to 1500 kilocycles. The nature of the visual indication consists in the exact center position of a galvanometer indicator needle whenever the aircraft in flight is headed toward or away from a radio station. The location of this center position is indicated on a dial by a zero. Letters "L" and "R" to left and right of the zero reading indicate that the airplane is heading to left or right, respectively, of the direct course. The direction indicated is independent of the geographical course on which the airplane is flying. It is dependent wholly upon the broadcasting or other transmitting station to which the compass is tuned. A standard radio receiver is used in conjunction with the radio compass.

Besides the visual indicator located on the instrument board the compass consists essentially of the following parts: A circular loop, 18 inches in diameter, used to obtain directional effect by picking up a signal which is then carried to the modulator box unit and causes a deflection in the course indicator needle; a modulator box by which is maintained a constant relation between the loop tuning and radio receiver tuning; remote tuning control; control box; and volume control unit.

The operation of the compass is extremely simple. The pilot tunes to the station desired which is identified by its frequency or call letters. When assured of the correctness of his tuning, he operates a manual switch which immediately actuates the visual indicator needle, so that it indicates the bearing of the plane. If there is a deviation of the needle to right or left of the zero reading, the plane must be turned until the needle rests on zero. Any deviation from the true heading are registered with accuracy and if

the indicator needle is kept on the zero the airplane will eventually be brought directly over the antenna mast of the station tuned in.

If lost, a pilot may tune in on any radio station he can locate and listen for the announcer to identify the station. If on throwing the switch the indicator needle points to right or left and he turns the airplane until a zero reading is obtained he will know he is heading toward the station. Should the indicator needle point directly to zero when the switch is thrown he will know that he is on the course but he will not be sure whether he is headed toward or away from the station. This fact is ascertained by swinging the airplane from left to right across the direction of the line connecting the airplane and the transmitting station. If the needle as a result swings from right to left (opposite to the direction of the plane), the airplane is headed toward the station. If the needle swings from left to right (in same direction as airplane) the airplane is headed away from the station, and keeping the airplane turning until the needle again rests on zero will head it in the proper direction. When the plane arrives directly over the radio station, the emanated field above the station being somewhat distorted, the indicator will swing rapidly from side to side, not resuming a stationary position until the station has been passed over. The instrument therefore not only leads the pilot to the station but informs him when he is above it.

#### RADIO COMPASS AND INSTRUMENT FLYING AND LANDING SYSTEM

The Air Corps radio compass is a link in the chain of equipment, which has made possible the successful development of the Air Corps system of instrument flying and landing by which it is believed all hazards to flying caused by the lack of visibility attendant upon fog and storm may be definitely overcome. The simplicity and reliability of the compass, as just described, is characteristic also of the other items of equipment necessary for the operation of the system. These include, in the airplane, an artificial horizon, directional gyroscope, magnetic compass, airspeed indicator, sensitive altimeter, boundary marker indicator, and the radio receiving set previously mentioned. This equipment adds but little to the initial weight of the airplane, while the ground equipment, which consists of two guiding stations and two high frequency marker beacons, is so rugged and compact that it can be transported from place to place in an airplane or transported by motorcycle with side car.

Briefly stated, the operation of the system from the point of view of the pilot hunting his airframe through fog or low visibility conditions, is as follows: The work of the radio compass in setting him on a direct course from a distance has already been described. As he approaches the vicinity of the station toward which he has been flying, he makes a new tuning with the radio compass, finding a radio control guiding station located about a thousand feet beyond the field's boundary and along the line of the wind from the center of the field. The flash of a light on his instrument board informs him of his passing over this station. At this instant he tunes in with the radio compass on a second radio control guiding station situated 8000 feet beyond the field's boundary. The radio compass guides him on a line between these two stations. He is informed of his arrival over the second station by a second flash of light. On the way between the two stations he has set his directional gyro at zero. He then makes a wide 180-degree turn which brings him back in line with the two stations, but flying toward the

center of the field. Gradually as he located the two stations he has been losing altitude until dropping above the second station he has reached approximately 600 feet. As he approaches the first station, located at a thousand feet from the center of the field, he throttles his engine to 1100 r.p.m. and puts his plane in a glide. As he passes over this station his altitude has lowered to 150 to 200 feet. From here with the aid of the artificial horizon, the directional gyro, and the sensitive altimeter, he makes a power landing at the center of the field, touching wheels first. Very little practice of an experienced pilot makes the operation simpler than the telling. Furthermore, it has been proved again and again that test flying by the system under actual fog conditions is never as difficult as practice flights under the hood for the reason that the pilots going up in the worst possible weather have never found a fog blanket that didn't allow some slight visibility just above the ground, enough in fact to permit of a three-point landing. However, should this visibility not obtain, hundreds of landings completely under the hood have demonstrated that planes can easily be set on runways without visibility and without injury either to fliers or equipment.

The qualifying of two classes of Air Corps officers - the first-class made up of Wright Field pilots, the second, of pilots from various Air Corps stations - as capable pilots of the new instrument flying and landing system has demonstrated the ease with which the trained flier adapts himself to its demands. With but a few hours of training in each individual instance, the pilot was able to follow from a distance a definite line of approach into the airframe and bring his plane down upon the runway in safe landing without a glimpse beyond the interior of his closely hooded cockpit. A solo instrument flight and landing completely under the hood has also been achieved. Such results have been accomplished for the first time in history and under no other system known.

Up to the present time the only installations of the Air Corps Instrument Flying and Landing System have been at the Material Division, all training of students taking place at Wright Field. Ground equipment and airplanes especially equipped are now to be sent to other Air Corps fields for the extension of pilot training and service testing. Perhaps Post's test of one item of the system's equipment, the radio compass, is a good omen of the broader usefulness the system as a whole will prove to aviation's safety.

Supplementing the author's most interesting article on the connection of the Army Air Corps with the navigation phase of Wiley Post's flight, and which was not hitherto generally known, it may be of interest to quote an article which appeared in the September issue of *THE BEE-HIVE*, the monthly organ of the Pratt & Whitney Company, which gives interesting side-lights and valuable data on the circumnavigation of the globe by this lone flyer.

The article goes on to say:

"Three W's set a new air mark: Wiley Post, the Wasp engine and the Winnie Mae. Although their routes were not exactly the same, the trip which took the imaginary Phineas Fogg of Jules Verne eighty days required for this triumvirate of our own generation 7 days, 19 hours, 49½ minutes. And there was nothing imaginary about it. In his record globe circuit, which bespoke as much the marvelous reliability of his supercharged Wasp as his own incredible stamina, stocky, one-eyed Wiley hung up a whole series of records for others to shoot at.

#### FIRST TO GIRLE GLOBE SOLO

He was the first man to fly around the world alone. He made the circuit faster than

it has ever been made before. He made the longest solo hop from the territory of the United States to the continent of Europe: New York to Berlin, 3,900 miles. He made the fastest air passage to Berlin, 25 hours and 45 minutes. He was the only man to fly twice around the globe.

For it must be remembered that Wiley Post in the same Lockheed plane and with the same Wasp engine, was shooting at his own mark of 28 days, 15 hours, 51 minutes, which he made with Harold Gatty as navigator in 1931. The routes of the two circuits were almost identical, with a total distance of 15,596 miles this year, as compared with 15,470 two years ago.

On his latest circuit, Post had a number of electrical and mechanical improvements which greatly facilitated his flight, and doubtless will have an important bearing on distance flying of the future. One was the Sperry Automatic Pilot which, but for a broken oil connection, on one short leg of the journey, functioned excellently and, by his own testimony, made possible two of the hardest legs - the Atlantic crossing, and the hop from Khabarovsk to Alaska, nearly all in cloud over jagged mountains, Bering Strait, and the Sea of Okhotsk. Another was the controllable pitch propeller which enabled him to use the full horse-power of his Pratt & Whitney engine to the best advantage. A third was the radio homing device installed by engineers of the Army Air Corps at Wright Field, Dayton, Ohio, which functioned so excellently that he was able practically to ride a radio wave around the world.

#### POST'S RECORD FLIGHT AROUND THE WORLD IN 11 HOPS AT SPEEDS UP TO 161.7 MILES AN HOUR.

A summary of Wiley Post's eleven hops in his round-the-world solo flight, their distances, the flying time and the average speed follows:

Distance	From	To	Time	Aver. Speed M.P.H.
3,942	New York	Berlin	25:45	153.5
340	Berlin	Koenigsberg	4:30	77.77
651	Koenigsberg	Moscow	5:15	119.68
1,579	Moscow	Novosibirsk	13:15	111.58
1,055	Novosibirsk	Irkutsk	6:33	161.7
750	Irkutsk	Rukhlovo	7:32	99.55
650	Rukhlovo	Khabarovsk	4:20	150.
2,800	Khabarovsk	Flat	22:32	124.2
375	Flat	Fairbanks	3:14	115.98
1,450	Fairbanks	Edmonton	9:22	154.8
2,004	Edmonton	New York	13:18	150.5
15,596	New York	New York	115:38:30	127.43

#### WASP FUNCTIONED PERFECTLY

But when all is said and done, it was the infallible performance of Wasp 3088 which took him safely over the storm-blind sea; across the mountain ranges of Central Russia; above the endless steppes ever eastward, and the great river basins that cut the giant land of the Soviets; north across the hostile rim of the Pacific; through the high Alaskan passes, and down, in a magnificent final swoop, across the grainary of Canada and the heart of the Empire State.

That engine gave him confidence, its un-failing song of power brought courage in the blackness of the Atlantic, and in the swirling clouds over land that forced him to fly blind for long hours at a time.

#### COULDN'T DESERT THE WINNIE MAE

Twice - once between Moscow and Novosibirsk, and once before his dog-weary landing at Flat, Alaska, - he was tempted to bail out. But he confessed in his quiet drawl that he thought so much of the old Winnie Mae and her mechanical heart that he could not bear to leave her.

And so the game little Oklahoma flier, who had graduated to the master's degree of aviation through the long curriculum of farm boy, garage mechanic, parachute jumper, and test pilot, hung on through more hours of bewildering

cloud when minutes were marked with the hide and seek of death in a game of hidden mountain tops, and 3088 and the Winnie Mae brought him in the end to triumph.

Wasp 3088 had a total of 846 hours on its log, including the 1931 trip around the world, before the take-off at Floyd Bennett Field at 5:10 A.M., Eastern Daylight time, July 15. It had had 28 hours since its overhaul by Ray Peck at Oklahoma City. It added another 100 hours on the trip that was to make history. Comparatively little had been done to it except, as Wiley put it, to bring it up to date.

New cylinder heads, with thinner fins for more efficient cooling, had been substituted for the old cylinders, and it was equipped with the new sodium-cooled valves. When it had had a 20-hour check by Lionel Clark, service representative, it was ready for another record-breaking performance.

#### AN AUSPICIOUS START

There was an inkling of the performance that was to come for those who saw the start at Floyd Bennett Field.

Post, one of whose attributes is the ability to get along with as little sleep as a lizard, had had a late conference with Dr. James H. Kimball, the guardian angel of ocean fliers. It was the last of many conferences. For a man who was going to fly around the world alone, he had hardly had more than catnaps for several days. But at the city's huge airport before the start, he was as calm and collected and dispassionate as ever.

The Winnie Mae was gassed and ready at the head of the long runway that leads from Flatbush Avenue to Jamaica Bay. Six hundred and fifty-nine gallons of Mobilgas were in her tanks, and Mobiloil had been poured. At the last minute, two gallons of heated oil went in to make the warming up process easier. A moment later the engine roared.

Down the runway drove Major J. Nelson Kelly, director of the airport, with newspaper men who took a precarious place at the edge of the concrete at about the point where they thought the Winnie Mae's wheels would leave the ground. Deeper and louder came the song of Wasp 3088. In the east, a red dawn was breaking.

#### TOOK OFF IN 1,900 FEET

Then suddenly someone shouted, "Here he comes!"

Like a great white moth of the night, the Winnie Mae charged down the runway. Bluish flame spat from the exhaust ports. Incredibly soon the tail was up, and suddenly, a hundred yards, at least, before expected, the wheels had cleared the ground and Wiley Post was off. As he roared directly overhead, sidling a little to the left of the runway to take full advantage of the wind, he was already 50 feet up.

With the Wasp turning up 2,300 r.p.m., and with his propeller at a 14-degree pitch, he had taken off in 1,900 feet, and in only 29 seconds. That take-off brought a heartfelt cheer and a sense of unshakeable confidence to those that saw it done.

#### EXCEEDED EXPECTATIONS

But Wiley was to find still more performance than even he had expected from the combination of supercharged Wasp and controllable pitch propeller. The normal top speed of Post's plane was not more than 190 miles an hour. But Wiley found that at 15,000 feet he had a cruising speed of 200 miles an hour. It is this that has led him to the prediction that, with further development of supercharging and a still wider range of propeller settings, he can cruise the Winnie Mae at 300 or more miles an hour up, as he puts it, "where the air is thin," at 35,000 feet or so.

He found, too, that he had great economy of operation. His manifold pressure was be-

tween - 8 and 10 inches of mercury. Fuel consumption ran between 18 and 20 gallons an hour, using Mobilgas of 87 octane rating for take-off, and 80 for cruising. When he reached Berlin, 3,900 storm swept miles from New York, there were still 160 gallons of gasoline in the Winnie Mae's tanks. His fuel consumption was consistently low.

#### NO DIFFICULTY IN TAKE-OFF

At no other field did Post have to take off a load such as that at Floyd Bennett. But he had no difficulty anywhere from the point of view of powerplant. His difficulties were weather; constant adverse weather conditions which would have driven a less doggedly courageous pilot time and again to abandon the effort. In Russia he flew at all kinds of altitudes, dropping down once from 21,000 feet to 200 feet before he saw the ground. And he hodge-hopped under a low cloud bank, and made two landings at points somewhere in Siberia whose names he still does not know. At one, lost and discouraged, he hailed with joy the appearance of two peasants.

"I couldn't talk to them and they couldn't talk to me," he says. "I asked them where was Irkutsk. One pointed one way, and one directly the other. It was heads or tails. But one fellow seemed very positive, and I bet on him. I won."

#### SLEPT LESS THAN 20 HOURS

Wiley's sleeping time on the whole trip was less than 20 hours. Despite this he claimed he was never tired.

The three W's - Wiley Post, the Winnie Mae and the Wasp engine - will probably go more places and do more things."

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#### LANGLEY AIRMEN AID IN NRA CELEBRATION

In the official opening of the NRA Celebration at Newport News, Va., on August 12th, the airmen of Langley Field played a prominent part, starting off the festivities at eleven o'clock by staging an aerial program, and then bringing the day's happenings to a close with formation flying, while a mammoth parade, including many floats, was under way on the two-mile stretch up and down Washington Avenue which was lined with a throng of eager spectators. The performance of the Army flyers was one of the high lights of the Blue Eagle Day at the "Ship-building City".

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#### "LANGLEY AIRMEN PLAY HERO ROLE IN JERSEY STORM."

The above headline was sent over the AP wire and published in the VIRGINIAN PILOT AND NORFOLK LANDMARK of Norfolk, Va., in their issue of August 22nd. An extract from the newspaper story is as follows:

"Four persons probably owe their lives to the alertness of Lieuts. Towing Cowling and Joseph Kelly, Army fliers stationed at Langley Field, Virginia.

"Returning from Atlantic City late Sunday the fliers observed a capsized boat off the coast near Ocean City, N.J., with three persons clinging to it while a fourth held onto some wreckage not far away.

"After signaling to the victims the plane went off in search of a rescue ship. One was located and by some more signaling maneuvers directed to the wreck where the four victims were picked up. The Army airmen then completed the trip to their home station."

The original report was in error in quoting the name of one of the officers as "Towing Cowling". This should have read "Charles A. Cowling". Both of these young officers have been on duty at Langley Field since their graduation from the Advanced Flying School, Kelly

Field, Lieut. Cowling reporting for duty on November 2, 1932, and Lieut. Joseph J. Kelley on November 10th. They are members of the Second Bombardment Group.

"It is, indeed, gratifying to read of the splendid deed performed by these two young Reserve officers", says the Langley Field Correspondent, "and they have the praise and admiration of the entire command."

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#### STORM FLOODS LANGLEY FIELD

Langley Field was in a state of rebuilding following the hurricane winds and high tidal wave which raged with cyclonic fury from Tuesday night, August 22d, until noon of the following day, striking eastern North Carolina and the entire coast of Virginia.

The approximate estimate of damage to government property was set at \$70,000. This amount, however, did not include heavy damage to contents of hangars, warehouses, barracks, quarters, etc., or the basements thereof, the flooded condition of the latter preventing a check of their contents. Also, a survey of aircraft and accessories and supplies in warehouses was not completed.

Boats and skiffs of all descriptions were grounded over the post, including the flying field. Fishermen on the surrounding islands were unable to claim their property until transportation was made possible without swimming.

Communication and power services were disrupted the greater part of Wednesday, and for several days the drinking water was very limited, some of the field personnel not having sufficient water with which to wash or shave. High tides and wind, twin partners in destruction, left in their wake flooded streets and basements, shattered windows, uprooted trees and a general conglomeration of debris. Automobiles were actually seen floating, while others were almost buried under water which in some places was several feet deep.

Huge gasoline tanks, estimated to hold a capacity of approximately 100,000 gallons of gas, were stripped from their racks and were seen floating towards the flying field.

Various organizations, officers and married noncommissioned officers who were without sufficient food, found it necessary to swim from their barracks and quarters - some located about a mile from the Post Commissary - to purchase food for their families. Those who were fortunate to capture a boat running amuck used two-by-fours as oars.

The Headquarters force was called to the office to await high tide, with orders to stand by until further notice. Desks and valuable papers were drenched with water before the personnel had the opportunity to wend their way through the flooded streets from the barracks to the Administration Building.

All basements on the post were under water, and many of the officers' cars, stored in the garages, were covered with water and could not be removed until the flood subsided.

The tailor shop, shoe shop and grocery store concessions in the basement of the Post Exchange building were all under water and could not be approached early Thursday morning.

The one-quarter mile bridge entrance to the reservation was partially torn up, and the military personnel and enlisted employees were forced to park their cars on the other side of the bridge and walk over. Messages from the Post to the city were relayed via bicycle, this being the only means of transportation available to and from Langley Field.

Aside from the fact that the roofs of some of the squadron buildings were partially torn off, little damage was done to the living quarters with the exception of that caused by the high water. All but the last ten rows of the new War Department Theatre were under water, and the new Post Gymnasium was flooded.

V-6503, A.C.

The 18th Pursuit Group at Wheeler Field, T.H., will officially move into its new post area when Headquarters moves from improvised quarters in one of the hangars to the new Administration Building, and which has probably been accomplished at this writing.

The new Administration Building is of the Mediterranean type, similar to the rest of the local construction, three stories in height, with outside dimensions of 60 feet x 130 feet. In a semi-basement are located two storerooms and a room containing the main control switches for the field lighting system. On the first floor are located offices for the O.D., operations activities, message center and an assembly room. On the east end is located one ambulance garage with runway toward the flying field. On the second floor are offices of the Commanding Officer, the Executive Officer, the Adjutant, Sergeant Major, plus two file rooms and a court-martial room. The top floor houses the offices for the meteorological section with room for meteorological instruments on the roof. Surmounting the roof is located a revolving beacon.

The present construction layout of the field shows the Administration Building at the center of the north side of the field, 500 feet back of and 35 feet above the flying line; the quarters for the officer and non-commissioned officer personnel situated along north side; the barracks and hangars housing the 6th and 19th Pursuit Squadrons, the 26th Attack and 75th Service Squadrons, extending westward to the right of Headquarters. Further to the right are located the buildings for the service and supply units. Further construction for housing the contemplated two additional pursuit squadrons will be to the left of the Administration Building - at present two hangars are being left on old Wheeler Field for that purpose.

The new flying field is approximately 1/3 mile by 1-1/5 mile. The Bermuda grass planted last May is growing satisfactorily but much work is required to keep down bunch grass and guava bushes. To protect as much as possible the new sod, the pursuers use the 150 x 270 foot concrete aprons located in front of the hangars and the attack ships taxi out to a well sodded area for taking off when possible. Landings also are restricted to a few small areas.

The new field lighting equipment is functioning satisfactorily. The outline of the field is well defined by the boundary lights and the new flood lighting system with a unit of eight lights furnishing 12,000,000 candle power for the central and eastern areas and another unit furnishing 6,000,000 candle power for the western portion of the field, is a great improvement over that used at the old field. All squadrons have been carrying on regularly scheduled night flying.

The Group is up to date with its training schedule. Flying time, however, has been greatly curtailed and there is no scheduled gunnery or bombing due to economy requirements for the year.

All units of the Group engaged in the quarterly full military load equipment test on August 18th, the pursuit squadrons with satisfactory results, the attack squadron with particularly interesting results as to the climbing characteristics of the A-3B in squadron formation under full load conditions.

The dolphins from the 75th Service Squadron were used for several inter-island flights during August for the transportation of Government official and military personnel on official business.

## AIRPORT DEDICATION ON ISLAND OF MOLOKAI, T.H.

The attached clipping is from the Honolulu Advertiser of September 1st. It is believed of particular interest, when one pictures an airport being dedicated in accordance with ancient pagan ceremony.

## "OLD HAWAIIAN RITES FEATURE OF DEDICATION OF BRANT AIRPORT"

Hawaii's newest class A airport, one of the largest and best in the Islands, the 100-acre Col. Brant airport built by Paul Fagan, Honolulu and San Francisco capitalist, on his Puuhoku ranch on Molokai, was dedicated Monday with ancient Hawaiian religious rites.

The new airport, which has two runways forming a cross to permit landing from all four directions, has been named for Col. Gerald C. Brant, A.C., U.S.A., Department Air Officer, Hawaiian Department of the Army.

Fagan established the landing field for the convenience of the Army Air Corps, the Inter-Island Airways and civilian aviators.

The dedication ceremonies, which were witnessed by Fagan, Col. Brant, Mike Lowrey, Californian visiting the Fagans, and prominent Honolulu businessmen, were performed by the chief kahuna of Molokai, who is 87 years old. Many Hawaiians, including a choir from Halewa valley, were also present.

After prayers and chants by the aged kahuna, Col. Brant and Fagan placed their hands together on a "lucky stone", a perfect sphere about a foot in diameter with the letter B engraved upon it. This stone will be buried in the exact center of the field with only the initial showing.

During the ceremonies a plane belonging to the photographic section of the Army Air Corps droned over the field, unwittingly symbolizing the old and the new Hawaii. The pilot had not been invited to fly over the field, but was attracted there by the American and Hawaiian flags which Fagan had flown from a 70-foot pole.

A delighted kahuna, stopped his chant at the unexpected appearance of the plane, asserting that it was an omen of good luck.

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## LUKE TROPHY PRESENTED

The annual award of the Frank Luke, Jr., Memorial Trophy to the Army Air Corps took place on Aug. 24th at Bisbee, Ariz., in connection with the 15th Annual American Legion Convention there.

The ceremony was inaugurated last year by the Arizona American Legion, who designed and constructed a beautiful bronze plaque, to be presented each year to the West Coast Army Pursuit pilot-making the highest gunnery score. The recipient this year was 2nd Lieut. W.C. Morse of the 95th Pursuit Squadron, March Field, Calif., present national Pursuit gunnery champion.

Lieut.-Col. H.H. Arnold, Commanding Officer of March Field, represented the Air Corps in receiving the award and passing it on to the winning pilot. Six Bombers and twelve Pursuit planes flew a review as part of the program.

The Trophy is in memory of the great American "Ace", Frank Luke, Jr., known as the "Balloon Buster of Arizona", who lost his life in action during the World War. His parents, Mr. and Mrs. Frank Luke, Sr., still live at the old home in Phoenix, and take great pride in the annual ceremony in honor of their famous son.

Lieut. Morse, in the Aerial Gunnery and Bombing Matches at Langley Field, Va., in September, 1932, attained 1014 points out of a possible score of 1750, his percentage of accuracy being 57.9 and second only to the percentage of 59.1 obtained by the late Capt. E.M. Elmendorf during the Matches in 1927, when he scored 902.1 out of a possible 1525.

The 111th Observation Squadron, Texas National Guard, returned to its home station August 19th, following an intensive 15-day field training schedule with the 36th Division, Texas National Guard, at Camp Hulen, Palacios, Texas. Seven planes were used, an O-38E, a BT-1, three O-38's and two O-17's. In attendance were 18 officers and 90 enlisted men.

Aerial gunnery, bombing, radio and photography were carried on with success during the first week of the encampment, together with successful infantry contact and artillery fire control. The latter problems included the lay on me, reference point, and other methods, the observer picking out the targets and directing the fire. Three battalions fired, the average time consumed for adjustment being approximately 15 minutes. Both piece and volley fire were used, also salvo. The artillery was well pleased with the results. The infantry problems included one CPX, using radio and dropped messages. The squadron ground station, 80 miles from the scene of the problem, followed and checked the radio communications. This station reported the signals from the radio plane as loud and clear.

The second week of the encampment was interrupted by continual rains; but one plane leaving the ground from Tuesday until Saturday. The landing field was soft and unsafe.

The rains interfered with the aerial gunnery and bombing schedule, not all pilots finishing their phases. Major Blackburn, Commanding Officer of the Squadron, is making arrangements to finish these courses. Dummy bombs will be dropped on the home airdrome. The tow-target work will be concluded off the coast of Galveston Island, 50 miles south of Houston.

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 The 120th Observation Squadron, A.C., Colorado National Guard, completed two weeks' training at Fort Sill, Okla., during the first half of August.

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 And the flood arrived. On August 24th, when the permanent detail of the 103d Observation Squadron, Pennsylvania National Guard, reported for work at 8:30 a.m., and promptly went to their accustomed jobs in the hangars, the field was in very good condition, despite the hurricane, but by 10:00 o'clock there was over five feet of water on the field and in the hangars, and the men had to swim out after making things as secure as possible in the short time allowed by the rising waters. Due to the storm, the dikes on the Delaware River and tributary creeks had broken, and hence the flood waters.

There was not sufficient time to remove the airplanes or any of the trucks, and it was not until the next day that the airplanes were removed from the flooded hangars and placed on dry ground around the Amory. The flood came at a very inappropriate time, as the Squadron was to supply a 3-ship detail to the 103d Cavalry at Indiantown Gap for their 3-day Field Problem, and also a 3-ship detail to the 213th Coast Artillery at Virginia Beach, Va., to tow targets, for tracking missions, etc.

With the more than welcome help of the permanent detail of the 108th Field Artillery, Penna. National Guard, the wings of six of the airplanes were removed, the planes towed to Wings Field, Blue Bell, Pa., where they were rigged and from there three planes were flown to Virginia Beach. Major Dallin, Lieuts. Scattergood, DeCoursey, Master Sgt. J. Kelly and Staff Sgts. Dawson and Hollenback made up this detail, and during the nine days at Virginia Beach performed all aerial missions called for with very good results for both the 213th and the Squadron.

While the detail with the 103d Cavalry to be indefinitely postponed, previous to the flood a detail with Lieuts. DeCoursey, Scattergood, Humphries, Brenner; Master Sgt. Kissinger and Sgt. Fielding performed a 3-day contact and reconnaissance mission with the 104th Cavalry, Penna. National Guard, at Indiantown Gap, Pa. The mission was completed most successfully, and it was the first time aircraft had been so extensively used by this Cavalry regiment during their 3-day Field Problem. From a training standpoint, the mission was excellent.

On August 20th, Major Dallin and Lieut. Merrill flew to Skytop Airport, Pa., where they participated in a drop and pickup mission with a unit of the 109th Infantry, Penna. National Guard, from Stroudsburg, Pa.

Second Lieut. Lewin Barringer received his Airplane Pilot rating from the War Department and is now one of the pilots of the 103d Squadron.

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**ENGINEERING & SUPPLY CONFERENCES -  
 HAWAIIAN DEPARTMENT**

In days gone by, Air Corps officers could spend an entire tour of duty in Hawaii and return to the mainland without having any more than a vague idea as to where the Hawaiian Air Depot was located, and with probably a more vague idea of what was accomplished there. This old order of things has been changed with the inauguration of weekly inspection trips and conferences at the Depot. Wheeler Field Supply Officers recently visited the Depot and were conducted around the entire area by the officers in charge of the various units. The next day the Engineering Officers were the visitors. The same procedure will be followed by Luke Field, and all Engineering and Supply Officers from the two fields will be regular visitors in the future. Following the inspection trips, the officers hold a short conference discussing various problems arising in the respective branches of work and ironing out all difficulties encountered in Supply and Engineering. It is confidently expected that these visits will have highly beneficial results. Cooperation in this manner between the Depot and the operating organizations should solve many problems and surmount the difficulties encountered in the past.

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**LUKE FIELD NOW HAS A TRAFFIC PROBLEM**

Oldtimers, remembering Ford Island as it used to be, probably never visualized the time when it would be confronted with a traffic problem requiring attention. The advent of the ferry "Manuwa'i", brought to the Hawaiian Islands from Portland, and operated between the Pearl Harbor Coal Dock and the Luke Field Ferry Slip, has changed the old order of things. Trucks, salesmen's autos and the cars of personnel and visitors now have easy and speedy access to Ford Island, where a few years ago only the old heaps and wrecks that were no longer good enough to go to town held the center of the picture. These old cars were picturesque, troublesome and noisy, but they managed to get about. Now they have had to take a back seat and the town cars are in evidence on every side. Those who planned this station in the early days probably did not foresee any traffic problem and, as a result, no sidewalks were ever provided. This has resulted in a recurrence of orders directing pedestrians to preserve life and limb by walking no more than two abreast in the streets and keeping a wary eye for speedsters. To date, no casualties have occurred and the increased activity surely has relieved the former isolation of this little island.



## AIR CORPS RESERVE ACTIVITIES

Interest of the citizens of Pittsburgh, Pa., during the ten-day period from August 31st to September 8th was centered in Army Air Corps and Air Reserve Maneuvers. The initial event was the visit of the 8th Pursuit Squadron, from Langley Field, Va., under the command of Lieut. G.B. Henderson. Seven planes comprised the flight.

The next stanza was the 1st Observation Squadron of six planes (O-25's and O-38's) commanded by Capt. E.W. Raley, and one Photo Section from Mitchel Field, L.I., N.Y. The three Fairchild Photographic planes were led by Lieut. J.F. Olive.

Both outfits expressed appreciation over the high class cooperation of the two Pittsburgh Reserve squadrons, the 324th and 355th, which participated in all missions with equipment and personnel. The two Pittsburgh Reserve squadrons flew missions each day. A regular three-phase problem was flown, the National Guard 28th Signal Company furnishing the ground radio and panel work. The problem consisted of a stage of radio communication between plane and ground, the second stage communication to the plane with panels and to the ground by radio, and the third phase by message dropping. Very pistols and other signals. During the flying of the problem each afternoon, the ships maintained formation, which was constantly varied from the conventional "V" to echelons, stack, etc. An interesting feature at the conclusion of the mission was the broadcast by voice from the plane to the ground, which was rebroadcast over an extensive amplifying system.

Radio contact was excellent. All officers of the Pittsburgh squadrons were given an opportunity to participate, and thus the line-up changed each day. The officers who took part were Major Hal Bazley, commander of the 355th; Maj. Jack Harris, commander of the 324th; Capts. C.J. Evans and Ed Thompson; Lieuts. Roy Sheidler, Jack Fife, Dick Wilson and V.L. Hubbard, who handled the radio on all missions. On Saturday and Monday, the Langley Pursuiters staged a series of acrobatic maneuvers. All of these events were made possible only through the close cooperation of Lieut. Corley McDermont, A.C., new unit instructor and Commanding Officer at Rodgers Field.

On Sept. 9th, the two Pittsburgh Squadrons with five ships left Pittsburgh for Meadville to answer the invitation of Maj. C.J. Culbertson for participation in dedication events. Radio contact was maintained with the field all the way.

At Brooks Field, Texas, the Reserve flight taking care of all inactive duty Reserve officer flying activities, received an allotment of 504 hours' flying time for service type aircraft for the Fiscal Year 1933-34.

Lieut. S.O. Redetzke, Sergts. Reilly and Frederick of the 22d Observation Squadron, and Cpl. Butler and Pvt. Comer of the 88th Observation Squadron, Brooks Field, Texas, were ordered to Hensley Field, Texas, on Aug. 27th for temporary duty in connection with the Air Corps Reserve Officers' Summer Training Camp which started at that station August 27th and is scheduled to continue to October 14th.

The Air Corps Reserve Officers' Camp, held at Candler Field, Atlanta, Ga., between August 20th and September 2d, under the supervision of 1st Lieut. Raymond R. Brown, A.C., was attended by 29 Reserve Officers. Among these officers were 1st Lieuts. Bayard B. Borden, of Charlotte, N.C., who was Camp Commander; Edward C. Davis, Jr., Atlanta, Ga., Operations Officer; 2d Lieuts. Walter N. Pharr, Memphis, Tenn., Ad-

jutant; James H. Patrick, Montezuma, Ga., Engineering Officer; Mell M. Stephenson, Jr., Athens, Ga., Athletic Officer; and Frank L. Smith, Mount Airy, N.C., Educational Officer.

During the progress of the camp, Major-General Edward L. King, the Commanding General 4th Corps Area, made an inspection, and in his address to the officers he urged each of them to keep prepared to serve the government to the fullest in time of national emergency. He pointed out the great responsibilities they have as officers of the Army and as pilots. He also expressed his pleasure over the fine work of the camp and the successful way in which the officers had carried on the flying.

On August 28th, upon request of the local civil authorities, General King authorized a special reconnaissance mission over the country surrounding Jackson's Mill, near Jonestown, Clayton County, Georgia, for the purpose of searching for a criminal who had just murdered a white man and seriously wounded another. It was not believed that the fugitive, who was hiding in a swamp, would be seen from the air but it was thought that the planes would scare him out of hiding. It was learned later that he did come out of the swamp shortly after the planes returned to Candler Field. It was agreed by all that excellent results were obtained from this flight, both as an Observation training mission and as a mission for the purpose of cooperation with civil authorities.

Among other interesting events of the camp were lectures by Maj. Rader, the Fourth Corps Area Air Officer, and Majors William L. Plummer and Francis F. Hughes, of the Air Reserve. At the close of the camp a dinner was held at the Ansley Hotel in Atlanta. It was a get-together, good fellow meeting, and each of the officers was called upon to say something. Guests of the evening were Maj. Rader; Lieut. Brown; Capt. John D. Ficklen, A.C., of Atlanta, and Lieut. W.G. Shepard, of Mitchel Field, N.Y.

One special feature of the camp was that every officer joined the Reserve Officers' Association and also the Air Reserve Association. This shows the eagerness of the Reserve officer to serve and his appreciation of the great work carried on by these Associations. The officers of the camp were particularly proud of the 100% enrollment.

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### BUZZARD COLLIDES WITH AIRPLANE

Little birds must get out of the way of big birds is probably the firm conviction of 2nd Lieut. Jerald W. McCoy, Air Corps, stationed at France Field, Panama Canal Zone, who suffered the loss of three lower teeth and severe lacerations about the face as the result of a buzzard colliding with and knocking off the windshield of an O-19 airplane he was piloting recently.

Lieut. McCoy was flying No. 2 position of a 4-plane formation which took off from France Field for the purpose of an avigation flight to Anton, Republic of Panama. The accident occurred when the formation was near the emergency landing field at La Venta, R. de P. Immediately after the buzzard struck the windshield, Lieut. McCoy left the formation and landed on the emergency field at La Venta.

Corporal Robert A. Grier, 7th Observation Squadron, Lieut. McCoy's passenger, used the first-aid kit carried in the airplane and bandaged the injured pilot's face. Lieut. Elmer T. Rundquist, the leader of the formation, landed and carried Lieut. McCoy as a passenger in his airplane to France Field. Taken to the Colon Hospital, Lieut. McCoy was given a total anesthetic and the wounds on his face treated. Approximately 21 stitches were required to sew up his wounds.

## FLIGHTS

Capt. Warner B. Gates, Adjutant of the San Antonio Air Depot, Duncan Field, Texas, made a flight to the Rockwell Air Depot, California, in August, for the purpose of conferring on Depot administrative and personnel matters.

Col. A.G. Fisher, Commanding Officer of the San Antonio Air Depot, and 1st Lieut. D.J. Ellinger, of the Depot Supply Department, took off on August 8th on an extended aviation training flight. Col. Fisher stopped at March Field and Lieut. Ellinger continued on to San Francisco.

Led by Major Douglas B. Netherwood, Air Officer, Philippine Department, a flight of three E-3A's from the 28th Bombardment Squadron made a five-day tour of the Southern Islands. Pilots and passengers included Major Charles E. Brenn, M.C., Flight Surgeon; Lieuts. H.P. Rush and Gerald Hoyle, pilots, Lieut. A.A. Straubel and ten enlisted men of the Squadron, passengers.

Major G.E. Brower, Commanding Officer of Clark Field, P.I., recently led a flight of 11 planes of the Third Pursuit Squadron on a radio controlled flight to Baguio. Shortly following the take-off, two planes dropped out and returned, due to trouble developing. The remaining nine continued to Baguio and were flown in formation above the town for a while. The pilots then landed and inspected the Baguio landing field, which at the present time is in very good condition. All flight and element leaders and two wing men were in constant radio contact throughout the flight. Due to the shortage of short wave coils, the remaining wing men presumably enjoyed music from Manila throughout the flight.

A nine-plane formation, led by Major Brower, took part in a Group Review to welcome Governor-General Murphy upon his arrival in Manila Bay.

Six Keystone Bombers from March Field, Calif., were ferried to Kelly Field, Texas, on August 29th, by Capt. Jones, Lieuts. Boyd, Pennington, Drumm, Fitzmaurice and Whitson. This exodus is the beginning of the end of the Keystone and Condors for March Field. They will soon be replaced by 30 of the new Martins.

The 9th Observation Group from Mitchel Field, N.Y., did its bit towards establishment of the NRA. On August 11th, 16 planes participated in the brief demonstration and later carried supplies to several cities in the South and East. A flight of three planes, led by Lieut. Henry, proceeded to Richmond, Va. Another flight, led by Lieut. Cork, carried its message to Columbia, S.C., and Lieut. Acheson led a flight to Washington, D.C. Three other cities reached in this work were Middletown, Pa., Boston and Albany. The weather conditions were far from ideal, but the entire routine was carried out very satisfactorily, and Mitchel Field personnel feel as if they cannot do enough to further the advance of this fine step towards National Recovery.

The First Bombardment Wing, March Field, Calif., sent 18 Pursuit and 18 Bombardment planes to Los Angeles on Sept. 1st to participate in the Victory Day Parade and Celebration staged in connection with the NRA drive. The Wing flew over Los Angeles and vicinity for 45 minutes and then returned to March Field. No landing was made at Los Angeles.

During July, the 5th Composite Group, stationed at Luke Field conducted a series of over-night flights to the Island of Kauai, with the tactical organizations of the Group visiting that island with all available airplanes and personnel. The mission included flying around the Islands of Niihau and Kauai, and an over-night stop at Port Allen. Captain W.H. Gorham, Air-Res., extended every courtesy and was of great assistance to the personnel of each organization as they arrived, aiding materially to the pleasure of the trip by a visit to the famous Waimea Canyon. Captain Gorham is one of the old residents of Kauai, well known to all of the personnel participating in flights to that Island, as he is always on hand to extend hospitality and to insure a very pleasant trip to all participants.

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### A NIGHT AMONG THE WHITE INDIANS

Lieut. M.L. Shockley, of Albrook Field, Panama Canal Zone, recently acquired the distinction of being one of the few white men ever to stay overnight on one of the San Blas Islands. These are a small group of islands, about 75 miles from Colon on the Atlantic side of the Isthmus, which are inhabited by the San Blas Indian tribe. They have the peculiar custom of not allowing white people on their islands over night and have enforced this custom, except in a few exceptional cases.

While on an aviation flight, in company with Lieut. F.L. Sinclair in another plane, Lieut. Shockley was forced down on one of these islands. After a dive through the clouds, the engine on Lieut. Shockley's plane failed to pick up. Switching to the main tank served no purpose, and he landed in a mangrove swamp, completely washing out the plane. Luck was with him in one respect and he escaped with only a few scratches on his face.

Lieut. Sinclair proceeded to France Field and reported the crash, but it was too late in the afternoon to send out a rescue party. Lieut. Shockley was taken to one of the Indian villages by the Indians and he spent a fairly comfortable night in a hammock. The next morning the Douglas and Sikorsky Amphibians cleared Albrook Field and proceeded to the San Blas region. They rescued the stranded flyer and returned that afternoon. The plane was later salvaged. To quote Lieut. Shockley: "The rings in their noses certainly scared me for a moment."

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Major H.A. Strauss, Chief of Procurement Section, Air Corps Materiel Division, Wright Field, and 1st Lieut. K.B. Wolfo, of that Section, the former piloting a Y1B-7 Bomber and the latter an XO-31, arrived at the San Antonio Air Depot August 7th, enroute to various Air Corps activities on the West Coast.

The Organized Reserves at Richards Field, Kansas City, Mo., successfully conducted a training mission to San Antonio and vicinity recently.

Albrook Field played a very important part in the celebration of the Panamanian National Holiday - Amador Day. The 16th Pursuit Group, composed of the 78th and 24th Pursuit Squadrons, flew over the City of Panama in the following order of formations: Group Column, "AC," Inverted Wedge, and a 24-ship "A." While the Pursuit Group was engaged in these formations, the 44th Observation Squadron circled the city at a lower altitude and dropped copies of the President's speech.

This was the first opportunity offered the 16th Pursuit Group to participate in any ceremony.

## AIR CORPS TRAINING

The 28th Attack Squadron, Wheeler Field, T.H., compiled some interesting data on performances of Curtiss A-3B airplanes during the last quarterly weight test. Twelve airplanes were flown in the test. The gross weight of each airplane was accurately determined, same including the actual weight of the pilot, observer, radio, armament, over-water equipment, etc. The test was divided into two parts. In the first part of the test, airplanes took off individually. The time required for the take-off was recorded with a stop watch and the length of run for each airplane was measured.

The second part of the test required the twelve airplanes to take off in formation. The results were a surprise to most of the pilots, because although the squadron climbed at a little less than full throttle all twelve airplanes reached the 5000 foot altitude in almost the same time as their general average for the climb to this altitude when they were flown individually. This would suggest that the majority of the pilots had not used the most efficient angle of climb during the individual test. It is an interesting result and calls for a more thorough investigation of the climbing characteristics of the A-3B under full load conditions.

The 5th Composite Group, with 24 airplanes, participated in a Minor Joint Exercise with the Coast Artillery on the night of August 17th, cooperating with the Navy in simulated bombing attacks on Ford Island and the installations of Pearl Harbor. The attacks, requiring accurate coordination and timing, were accomplished in spite of adverse weather conditions which threatened to cause a postponement of the problem. A letter received from the Wing Commander following this Exercise follows:

"1. In connection with Minor Joint Training Exercise No. 4, August 17-18, 1933, and with particular reference to the missions carried out by the 5th Composite Group, the Wing Commander wishes to commend your organization upon the high degree of efficiency displayed during the night bombing attacks on Pearl Harbor.

"2. Despite adverse weather conditions your missions were carried out in a manner that reflects great credit upon all the personnel engaged. The maneuvering of four squadrons, on a dark night without the use of running lights, indicates a high standard of air operations planning, efficient pilotage and excellent air and ground discipline, which is in keeping with the high standards already set by the 5th Composite Group."

During the past year, the 3d Pursuit Squadron, Clark Field, P.I., completed its training schedule one hundred percent. With an average of 16 pilots assigned, each pilot averaged approximately 240 hours in the air. Excellent progress was made in all phases of training.

The 6th Photo Section, Nichols Field, P.I., due to the non-arrival of supplies from the States, operated under "half steam" photographically, aerial work being curtailed due to both lack of material and good weather. The personnel managed to keep fairly busy on the "ground".

The 12th Observation Squadron, Brooks Field, Texas, moved their planes to the Airship Hangar, and all flying activities of this squadron are conducted from there.

The Reserve officers stationed at Selfridge Field, Mt. Clemens, Mich., who had not participated in aerial gunnery were taken to Oscoda, Mich., and afforded an opportunity to learn what it is like. Although there was no firing for record, each officer expended three thousand rounds in practice. Some of the scores towards the end of the encampment were very good. Each squadron of the First Pursuit Group spent two weeks in camp, the 27th under Lieut. Kessler, the 94th under Lieut. Partridge and the 17th under Lieut. McCormick.

The Commanding Officer of the 28th Bombardment Squadron, Nichols Field, P.I., is pointing with pride to Operations Charts indicating 100% completion of scheduled training.

### OHIO N.G. AIRMEN PREPARE FOR FALL TRAINING

Now that the field training is over, the 112th Observation Squadron, Ohio National Guard, is busy working out the details on the fall armory training. The schedule calls for intensive training in Communications, Photography and Armament-Engineering. To accomplish this end, the officers have been divided into three groups and will spend two hours of each Friday night drill period in the group assigned for a period of three months, at the end of which they will be shifted to another group. The groups will be classified into -

- A - Communications;
- B - Photography, and
- C - Armament-Engineering.

A Class in Communications for noncommissioned officers will be held every Thursday evening for a period of six months. Learning the code, as well as instruction in the installation of equipment in airplanes and trouble shooting are part of the course.

Two Observation Teams, one with Lieut. Alfred F. Tucker, pilot, and Lieut. Rudolph W. Dean, observer, and the other with Lieut. Karl E. Bushong, pilot, and Lieut. Raymond C. Kissack, observer, were sent to Fort Knox, Ky., Sept. 2nd to 6th, to work with the 62nd Field Artillery Brigade in Communications and Artillery Adjustment problems.

Four ships of the Squadron were assigned to participate in the hunt for a lost United States Air Lines pilot, Harold Neff, who disappeared between Toledo and Cleveland on the night of September 18th while enroute to the latter city. The officers participating in the search were Major Zistel, Capt. Barnhill, Lieuts. Backes, Bushong, Tucker, North, Russ and Barr. After a three-day search, Pilot Neff was found alive in a marsh near Jackson, Mich., having suffered exposure, a broken leg and arm, and cuts. He has since died.

Captain Cummings, of the National Guard Bureau, pilot, accompanied by General Leach, Chief of that Bureau, stopped in on the morning of September 22nd, enroute to St. Paul, Minn.

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The Air Corps was represented at the International Air Races at Chicago, September 1st to 4th, by a composite squadron from the 1st Pursuit Group, Selfridge Field, Mich., in command of Captain R.C.W. Blessley. Nine P-3E's of the 17th and nine P-12E's of the 27th staged an aerial performance which was very warmly received by the crowd. Those who made the trip, in addition to Captain Blessley were Lieuts. Kessler, Olds, LeMay, Tellman, Pettigrew, Springer, Gibson, Crumley, Burnett, McCormick, H.T., Ramey, Jacobs, Garrison, Sillin, Portman, Evans, Strickler, Hollstein and O'Donnell.

WAR DEPARTMENT ORDERS AFFECTING  
AIR CORPS OFFICERS

**CHANGES OF STATION:** To Maxwell Field, Ala. 1st Lieut. Evers Abbey, from Office Chief of the Air Corps; 2d Lt. James L. Majors from Hawaii; Capt. Edgar P. Sorenson from Philippines; 1st Lt. Dayton D. Watson to Air Corps Tactical School for duty as student, theretofore on duty at Maxwell Field.

To Crissy Field, Calif.: 2d Lt. Don Z. Zimmerman from Hawaii.

To Chanute Field, Ill.: 1st Lt. Norme D. Frost, 2d Lts. Joseph A. Miller, Frederick W. Ott, Edward H. Porter and Stanley K. Robinson to Air Corps Technical School for duty as students in Airplane Maintenance Engineering course. Previous orders in their cases revoked.

To Los Angeles, Calif.: 2d Lt. Anthony E. Curcio, from March Field, for duty as student at California Institute of Technology.

To Langley Field, Va.: 2d Lt. Wm. C. Bentley, Jr., from Hawaii.

To Selfridge Field, Mich.: 2d Lt. Rudolph Fink from Hawaii.

To Barksdale Field, La.: 2d Lt. John C. Horton from Hawaii.

**DETAILED TO THE AIR CORPS,** and to Randolph Field, Texas, for primary flying training: 2d Lts. Earl F. Singer, John D. O'Reilly, Charles H. Pottenger, Infantry; Joseph L. Cowhey, Field Artillery.

**RELIEVED FROM DETAIL TO AIR CORPS:** 2d Lts. Everett W. Barlow, Hugh T. Cary, Harold R. Everman, Paul A. Mayo, Alexander J. Sutherland, all assigned to Infantry, 2d Div., Ft. Sam Houston, Texas.

**PROMOTIONS:** To Lieut.-Colonel: Major Frederick L. Martin, rank from August 31, 1933; to 1st Lieut.: 2d Lts. Marion Higgins, Neil B. Harding, rank Sept. 1, 1933; Robert L. Easton, rank Sept. 12, 1933.

**RETIREMENT:** 1st Lt. Wm. B. Clarke, August 31, 1933, for disability incident to the service.

**AIR CORPS OFFICERS ON GENERAL STAFF  
ELIGIBLE LIST**

Under General Orders of the War Department recently issued, the following Air Corps officers were placed on the General Staff Corps eligible list: Majors Roseham Beam, Ralph P. Cousins, William E. Lynd, Charles B. Oldfield and Captain Clayton L. Bissell.

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**WAR PILOTS HONORED IN NAMING HAWAIIAN  
LANDING FIELDS**

Five auxiliary flying fields in the Territory of Hawaii were named in memory of Air Corps pilots who rendered conspicuous service overseas during the World War, announcement to that effect being made in General Orders of the War Department recently issued.

The auxiliary flying field at Port Allen Military Reservation was designated as "Burns Field", in honor of 2d Lieutenant James S.D. Burns, 88th Aero Squadron, who was awarded the Distinguished Service Cross for extraordinary heroism in action near Fismes, France. He was killed August 11, 1918, while performing a photographic mission.

The auxiliary flying field at Waimanalo Military Reservation now bears the name of "Bellows Field", in honor of 2d Lieutenant Franklin D. Bellows, 50th Aero Squadron, who was awarded the Distinguished Service Cross for extraordinary heroism in action near St. Mihiel, France. He was killed September 13, 1918, while performing a reconnaissance mission.

"Suiter Field" is now the name of the auxiliary flying field at Upolu Point, in honor of 1st Lieutenant Wilbur C. Suiter, 135th

Aero Squadron, who was awarded the Distinguished Service Cross for extraordinary heroism in action near Vilcey-sur-Trey, France. He was killed September 12, 1918, while performing a reconnaissance mission at low altitude over enemy territory.

The auxiliary flying field at South Point Military Reservation was designated as "Morse Field", in honor of 2d Lieutenant Guy E. Morse, 135th Aero Squadron, who was awarded the Distinguished Service Cross for extraordinary heroism in action near Vilcey-sur-Trey, France. He was killed September 12, 1918, while performing a reconnaissance mission at low altitude over enemy territory.

The auxiliary flying field at Fort Shaftner, Territory of Hawaii, was designated as "Putnam Field" in honor of 1st Lieutenant David E. Putnam, 139th Aero Squadron. Lieut. Putnam was awarded the Cross of the Legion of Honor and the Croix de Guerre by the French Government, and the Distinguished Service Cross by the United States Government for extraordinary heroism in action near Lachaussee, France. He was killed September 12, 1918, while in combat with seven Fokkers which had attacked an allied biplane.

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**AIR DEPOT ACTIVITIES**

For the month of September only, the days of enforced closing of the San Antonio Air Depot, Duncan Field, Texas, under the existing economy program, were set for the two Saturdays of the 2nd and 23rd, and for the remaining months of this calendar year the schedule will revert to the original closing dates of the second and fourth Saturdays of each month.

During the month of July, the Engineering Department of the San Antonio Air Depot overhauled a total of 16 airplanes and 58 engines of various types and repaired 20 planes and 30 engines.

During the month of August the Air Depot at Patterson Field, Fairfield, Ohio, performed major overhauls on 18 airplanes and 40 engines, and minor overhauls on 23 planes and 12 engines.

Planes ferried to various destinations during August by personnel of Patterson Field were an O-19, by Major Coleman and a BT-2B by Capt. Flickinger, both of Maxwell Field, Ala.

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**FLIGHTS**

Lieut. T.V. Foster, piloting a BT-2 plane, with Major-General E.B. Winans, Commanding General of the 8th Corps Area, as passenger, recently departed on an inspection tour, this being the final inspection of posts in that Corps Area prior to General Winans' retirement in October.

Major G.E. Lovell, Capt. E.V. Harbeck, Lts. M.E. Tillery and H.K. Mooney, of Barksdale Field, La., were recent visitors at the San Antonio Air Depot, the first named on a ferrying mission and the other three officers attending the regular monthly Control Area Supply and Engineering Conference.

Officers on duty at the Fairfield Air Depot, Patterson Field, Ohio, recently ferried four airplanes to Maxwell Field, Montgomery, Ala. Major F.H. Coleman, Lieuts. R.L. Williamson and H.G. Bunker ferried P-12C's and Captain B.F. Lewis an O-19B.

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THE NEW CLASS AT RANDOLPH FIELD

The new class to start training at the Air Corps Primary Flying School at Randolph Field, Texas, on October 12th, next, totalling 159 students, will, in addition to the 84 newly commissioned Second Lieutenants who were graduated from the United States Military Academy, West Point, on June 13th, last, and who were enumerated in the previous issue of the News Letter, comprise 75 others who will receive training under the status of Flying Cadets, among these latter being 18 Enlisted Men of the Air Corps Regular Army, 6 enlisted men from other branches of the Army and 51 Cadets from civil life.

Students training under the status of Flying Cadet, who successfully complete the course, are given the rating of "Airplane Pilot" and commissioned Second Lieutenants in the Air Reserve. Heretofore, these newly commissioned Reserve officers were assigned to extended active duty with Air Corps tactical squadrons but, due to the curtailment in War Department appropriations, it is not certain at this time whether they will be extended the privilege of this active duty under their status as Reserve Officers.

The new students are due to undergo a year of intensive flying training - eight months at the Primary School, Randolph Field, and four months at the Advanced Flying School, Kelly Field, Tex.

The course at the Primary School is divided into the Primary and Basic Stages, each of four months' duration. When a student reaches the Basic Stage, it is generally an indication that he shows the inherent ability to fly, and the chances are good that he will pass through the Basic Stage successfully as well as the advanced course at Kelly Field. Statistics compiled by the Air Corps show that the percentage of students failing to make the grade after reaching the Basic Stage is very small.

In the Basic course, students no longer fly the primary training plane, but the basic type known as the BT-1. The controls in this airplane are more delicate, and when a student becomes proficient in handling it, he generally has no difficulty in mastering the controls of the regular service type planes which are in use at the Advanced Flying School as well as by the Air Corps in general.

The personnel of the new Flying Cadet class are enumerated below, as follows:

Civilians

C. Virgil Bell	Brocton, Ill.
Charles Harvey Bauss	Buffalo, N.Y.
Leon Bieri	Denver, Colo.
Theodore Harry Brittan	Baltimore, Md.
Horace Brock,	Lebanon, Pa.
James R. Brown	Nashville, Tenn.
Wallace A. Burton	Los Angeles, Calif.
Radcliffe C. Clausen	Los Angeles, Calif.
Garrett Steele Coleman	Long Beach, Calif.
William Haldane Council	Ingomar, Pa.
Carl A. Dahlgren	Fort Worth, Texas
Leon Williams Damours	Kersey, Colo.
Frank Joseph Darcy	Ypsilanti, Mich.
David M. Eichelberger	Waco, Texas
Lee Moseley Ellis	Richmond, Va.
Harney Estes, Jr.	Granbury, Texas
Richard William Etter	Indianapolis, Ind.
Fred Raymond Fader	Las Vegas, Nevada
Charles W. Fielder	Salina, Kansas
Richard G. Finch	Ann Arbor, Mich.
J. Edgar Hale, Jr.	Philadelphia, Pa.
Edward R. Hale	Roanoke, Va.
Allan Fuller Hubbard	Chase City, Va.
Fred C. Johnson	Salt Lake City, Utah
Arthur V. Jones, Jr.	Los Angeles, Calif.
Harry McD. Jones	Williamsburg, Pa.
Herbert E. Kneece	Batesburg, S. C.
Arnold C. Kraaymes	Oakland, Calif.
Oscar K. Lawing	Little Rock, Ark.

G.T. McCutchan	Evansville, Ind.
Gordon Mainland	Denver, Colo.
William A. Major	Lebanon, Tenn.
Theodore J. Marest	Cedar Rapids, Iowa
Harry Davis Martin	Clemson College, S.C.
Ben A. Mason, Jr.	Houston, Texas
Samuel Rhea Mathes, Jr.	Birmingham, Ala.
Harold E. Matthews	Philadelphia, Pa.
Homer E. Mauer	Lynchburg, Va.
William A. Miller	St. Louis, Mo.
James Page Mills	Brookline, Mass.
Thomas Edwin Norris	Annapolis, Md.
Donald Gordon Ogden	Baton Rouge, La.
Robert Edwin Robinson	Parkers Landing, Pa.
Robert C. Streater	Minneapolis, Minn.
Frank Glasgow Tinker	DeWitt, Ark.
Dallas M. Tourtellot, Jr.	Houston, Texas
William Van Gorder	Glen Spey, N.Y.
Herbert Reed Volin	Pittsfield, Mass.
Raymond Paul Zimmerman	Hays, Kans.
Frank B. Gamby	Newbury, Vt.
W. Philip Lester	Houston, Texas

Enlisted Men - Air Corps  
Privates

Ernest G. Cooper, Jr.	Denton, Md.
35th Pursuit Squadron, Langley Field, Va.	
John M. Davis	Miami, Ariz.
47th School Squadron, Randolph Field, Texas.	
Charles E. Fisher	Asheville, N. C.
20th Balloon Company, Fort Bragg, N.C.	
Herbert E. Krierig	Modesto, Calif.
6th Pursuit Squadron, Wheeler Field, T.H.	
Walter S. Lucke	San Antonio, Texas
53rd School Squadron, Randolph Field, Texas	
Henry Paul Luna	New York City
1st Obs. Squadron, Mitchel Field, N.Y.	
Paul L. McCoon	Washington, D.C.
Headquarters Co., Randolph Field, Texas	
Eugene F. Meeks	Ripley, Miss.
55th Pursuit Squadron, Barksdale Field, La.	
Paul C. Moulder	Glendale, Calif.
95th Pursuit Squadron, March Field, Calif.	
Joan W. Nageley, Jr.	Ensley, Ala.
9th Obs. Group, Mitchel Field, N.Y.	
Max F. Schlather	Cibola, Texas
53rd School Squadron, Randolph Field, Texas	
Willie R. Sledge	Marshall, Texas
77th Pursuit Sqdn., Barksdale Field, La.	
LeRoy G. Starr	Branch Dale, Pa.
72nd Bombardment Squadron, Luke Field, T.H.	
Elmer P. Stewart	Pennington Gap, Va.
96th Bombardment Squadron, Langley Field, Va.	
Hugh L. Vaughan	Baltimore, Md.
20th Bombardment Sqdn., Langley Field, Va.	
Lloyd R. Weiss	Huntington, West Va.
26th Attack Squadron, Wheeler Field, T.H.	
William E. White	San Antonio, Texas
A.C. Technical School, Chamute Field, Ill.	
Edward William Wooters	Philadelphia, Pa.
23rd Bombardment Sqdn. Luke Field, T.H.	

Enlisted Men - Other Branches

Frederick W. Baltz	Washington, D. C.
13th Engineers, Ft. Humphreys, Va.	
Charles H. Jeter	Wann, Okla.
10th Signal Service Co., Manila, P.I.	
James F. Kent	Waterboro, Me.
5th Infantry, Ft. Williams, Maine	
Frank N. Nightingale	Emporia, Kans.
Hqrs. Company, Ft. Leavenworth, Kansas	
Corp. Glenice L. Owens	Quitman, Texas
Co. D. 31st Infantry, Manila, P.I.	
Medford M. Plott	Honolulu, T.H.
19th Infantry, Schofield Bks., T.H.	

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The annual inspection of the 12th Observation Group was made, Sept. 18th to 21st, by Lieut.-Colonel W.F. Robinson, Jr., Inspector General's Department.

Two opportunities were recently given for Southern California citizens to view first hand the progress of the forest work being done by the C.C.C. and to gain some idea of the every day camp life of this new Army. Twenty representatives of Southern California newspapers were recently conducted by Forestry Department officials to Camp Idyllwild, commanded by Capt. Charles Douglas, Air Corps. After a full evening of sight-seeing and entertainment, they were given the rare privilege of extending their research to the hard-board bunks used by the enrollees just in order to prove that things in the C.C.C. were far from soft. The journalists were firmly convinced that life there was no bed of roses. The next morning the guests proceeded to Camp Vista Grande and Mill Creek for brief inspections, lunching at Radford with Captain Gilbert T. Collar, Air Corps. They then proceeded along a new mountain road constructed by the C.C.C. boys to the Big Bear Lake, where they were shown a C.C.C. camp there. They returned home tired but willing converts to the novel experiment being tried by the administration.

Several days later, Lieut.-Col. H.H. Arnold, Commanding March Field, Calif., accompanied by Mrs. Arnold and their daughter, also members of the District staff and their ladies, conducted an inspection tour for 35 prominent southern California citizens and their families on a one-day trip to Camps Cajon, Miller and Arrowhead.

Speaking of Camp Cajon, the Air Corps will be interested to know that it was recently selected on a point scoring system as being the outstanding camp in the March Field District and that it is commanded by two Air Corps officers, 1st Lieut. Stewart W. Towle and 2nd Lieut. Donald R. Lyon. Air Corps officers have made an excellent showing in the forestry work. The rating was given in connection with the contest being held by the Army & Navy Journal, in which the best camp in each Corps Area was given special recognition.

GRADUATION OF STUDENTS FROM ADVANCED SCHOOL

The seventeenth class trained under the five-year program will be graduated from the Air Corps Advanced Flying School, Kelly Field, Texas, on October 14th. An Aerial Review will take place on that day at 8:00 a.m., and the graduation exercises two hours later in the War Department Theatre.

Of the 91 students who started training at the Advanced Flying School on July 1st last, 85 will be graduated in specialized training, as follows: Regular Army Officers, 4 Attack, 10 Bombardment, 15 Pursuit and 10 Observation, total 39; Flying Cadets, 2 Attack, 14 Bombardment, 15 Pursuit and 15 Observation, total 46.

The loss of the six students not graduating was occasioned by the death of 2nd Lieut. Keith A. Thompson, Infantry, in an airplane crash on July 20th; the failure of one cadet to qualify in military flying, and holding over to the next class of two officers and one flying Cadet due to time lost on account of illness.

The Regular Army officers are all West Point graduates of the Class of June, 1933.

The class started on their aviation training flights on September 29th, and same are scheduled to continue until October 7th. These flights, which are the final phase of training of the advanced students, are always looked forward to with keen anticipation, as the flights for each section cover a period of four days.

The Bombardment Section's itinerary is Kelly Field to Midland, El Paso, Marfa and Dryden, Texas, and return; Pursuit Section, 1st flight, Kelly Field to Dallas, Texas; Muskogee and Fort Sill, Okla.; Midland, El Paso, Fort Clark, Tex., and return; 2nd flight, Kelly Field to Midland,

Muskogee, Fort Sill, Midland, El Paso, Fort Clark and return; Attack Section, Kelly Field to Midland, El Paso, Dryden, Texas, and return; Observation Section, 1st flight, Kelly Field to Fort Sill, El Paso, Marfa, and return; 2nd flight, same itinerary.

SERGEANT PRIDHAM TAKES HIS LAST PASS

On August 14th the 91st Obs. Squadron lost its First Sergeant. Crissy Field and the Army lost an outstanding soldier, and many, many, many besides ourselves, lost a friend. Sergeant Pridham's death was caused by an acute heart attack.

Sergeant Pridham was 41 years old and had over 18 years' service, five stars on his World War ribbon and an all around enviable record. He served as First Sergeant of the 91st Observation Squadron over nine years. He was First Sergeant under Majors Emmons and Sneed, Lieut.-Col. Brant, Capt. Kraus, Lieut.-Col. McIntosh, Majors Davis and Muse. There are a few who served longer at Crissy Field, but none did more for it and its men. Sergeant Pridham made it his job to know not only his job but more; he made it his job to take care of anything even remotely connected with his work. Yet he never interfered with others' functions. His suggestions and advice were not only not resented but desired and sought after.

Ask any of his Commanding Officers. Ask any officer or soldier who served with him. You will be surprised at the uniformity and emphasis in the replies. Let not the stranger think it is a case where "a friend exaggerates a man's virtue." To know Sergeant Pridham was to admire him. To see his work was to appreciate him. New recruits and Master Sergeants, Lieutenants and Generals recognized his merit. One episode is sufficient. A Major-General spent a half hour inspecting Sergeant Pridham's efforts. On finishing, the General, in the presence of his Commanding Officer and within earshot of the men, said: "Sergeant, did you ever see better results?" The commanding eyes could not force an answer. "Well, Sergeant; if I must reply for you, you have not, nor have I." Sergeant Pridham was not only a First Sergeant, he was a man. In fact, he was not a First Sergeant when he died. He had been demoted. Voluntarily? Yes. He was expecting promotion to Master Sergeant and, in view of his lack of experience in engineering work, he voluntarily took a temporary reduction and asked to be assigned to engineering in order to equip himself for duties commensurate with his expected rank. Therefore he died as a Staff Sergeant, but to the 91st he will always be "THE FIRST SERGEANT."

The First Sergeant took about one-half of his furlough allowance, none at all since 1927. At 9:00 A.M. the day of his death he asked for a day's pass. Quizzical, not disapproving frowns answered him. Him, the man who seldom took a furlough and never took a pass. Finally and reluctantly he admitted he did not feel entirely well enough to remain on duty. The man who never tired asking for a rest! The man who never complained of ailments admitting he was not quite well! The soldier who lived to serve took a pass to die.

Sergeant Pridham, the 91st Squadron and Crissy Field salute you. The pleasure of having known you will mitigate the sorrow of our loss.

## CHANGES IN PERSONNEL AT AIR CORPS STATIONS

First Lieut. Reuben Kyle, Jr., reported for duty at Brooks Field, Texas, from Chanute Field, Ill., and was assigned to the 12th Observation Squadron. Second Lieut. John C. Gordon reported for duty from the Hawaiian Department and was assigned to the 22nd Observation Squadron.

The 95th Pursuit Squadron, March Field, Calif., recently received a new commanding officer in the person of Capt. Virgil Hine. The flying activities of the entire 17th Pursuit Group are now consolidated into this Squadron, due to the shortage of personnel resulting through details on C.C.C. duty. The 11th Bombardment Squadron, now commanded by Capt. R.E. Self, is controlling the flying activities for the 7th Bombardment Group.

Capt. Arthur Thomas, for the last few years Adjutant of the Air Corps Training Center, departed from Randolph Field on August 24th for Maxwell Field, Ala., where he will be a student at the Air Corps Tactical School.

Lieut. Townsend Griffiss, Commandant of Cadets at Randolph Field, was recently ordered to duty in the Office of the Chief of the Air Corps, Washington, D.C. He came to Randolph Field from March Field, Riverside, Calif., where he had been the Commandant of the Flying Cadets for that division of the Training Center of the Air Corps. In October, 1931, Randolph Field was opened, and the activities at March and Brooks Fields, the former primary training schools, were moved to Randolph Field and combined into one primary school.

Upon being made the Commandant of the Flying Cadets at this new school, Lieut. Griffiss was faced with the difficult task of welding the two flying cadet organizations of the old primary schools into one coherent and cohesive force. It was an undertaking calling for due discretion and tact in order that the result would produce a flying cadet battalion that would contain the best of the two older organizations, the undesired parts eliminated, with new and direct ideas added such as would produce lasting traditions and customs for the Flying Cadet Battalion.

"It is believed", says the Randolph Field Correspondent, "that the aforementioned was accomplished and that the customs, traditions and battalion spirit of the Flying Cadet Battalion at Randolph Field were indirectly the results of his untiring efforts and time. We regret Lieut. Griffiss was ordered away, but the fact that the Air Corps has its many stations and diversified jobs is one of the many reasons that make it an attractive profession."

Eight recent graduates of Kelly Field Advanced Flying School were assigned to duty at Mitchel Field, N.Y., Lieuts. Coyette, Flaherty and Cheney to the 1st Squadron; Jones and Hale to the 5th, and McDermott, Wells and Pocock to the 99th. Capt. Charles P. Prime is another recent arrival, taking over the duties of Capt. Cornelius J. Kenny, who was in charge of the Reserves of the 2nd Corps Area, and who was recently ordered to duty as student at the Tactical School, Maxwell Field, Ala. Capt. Frederick W. Evans, Commanding Officer of the 99th Squadron, also left for duty at Maxwell Field.

Lieut.-Colonel Reynolds and Lieut. P.C. Wilkins have been relieved from duty with the C.C.C. and assigned to Fort Sill, Oklahoma.

Relieved from duty as Aide to Brig. General James K. Parsons, Lieut. Wm. T. Coleman was assigned to the 66th Service Squadron, Nichols Field, P.I., assuming the duties of Lieut. Everett S. Davis, who was ordered to duty at Crissy Field, Calif.

Capt. Edward Laughlin, formerly of the Middletown Air Depot, and the first Chief Engineer of the San Antonio Air Depot under the consolidation of Air Corps Supply and Repair Depots in 1921, who is under orders to proceed to his home to await retirement, will make his home in San Antonio. He and his family were welcomed by their many friends in this vicinity.

### AERIAL SURVEY OF AREA DEVASTATED BY STORM

As a result of the hurricane in the lower Rio Grande Valley, Texas, the 12th Observation Group, Brooks Field, Texas, was called upon to cooperate with civil authorities in making reconnaissance missions over that area on Sept. 6th, 7th and 8th. Four airplanes with pilots and observers were used on this work, operating from the Municipal Airport at Corpus Christi, Texas, under the direction of the Hon. Richard M. Kieberg, Member of Congress. Photographs were made of Fort Brown, and each town in the storm area, showing the approximate amount of damage done by high winds. Food was dropped by Brooks Field planes to two men who were marooned on Padre Island.

### NEW AIR CORPS CONSTRUCTION

Construction was recently completed of three more new buildings at the San Antonio Air Depot, Duncan Field, Texas, i. e., Quartermaster Warehouse and Maintenance Building, 100 x 276 feet, one story; Quartermaster Garage, 100 x 200 feet, one story; and Fire Station and Guard House, 40 x 93 feet, two story.

These buildings are of steel frame construction, with concrete floors, hollow tile walls and plaster and stucco finish, the first two named having steel deck, built-up, insulated roofs, and the last named a tile roof. They are located just across the road from the new Engineering Shops building. This construction was performed under the control of Capt. A.F. Dershimer, Constructing Quartermaster of San Antonio and vicinity. These handsome and up-to-date structures, which were urgently needed, will materially enhance the efficiency and add to the appearance of this post.

Details are being sent to the Curtiss factory and the Wright engine plant from the Third Attack Group, Fort Crockett, Texas, to familiarize them with the new Attack planes and power plants. The personnel at the field are anxiously awaiting delivery of the first of the new type planes. A model in the map room has attracted considerable attention and comment pro and con.

### MOVING DAYS AT ALBROOK FIELD

Personnel at Albrook Field, Canal Zone, were on the move to a considerable extent during August. The Air Corps Supply moved from Hangar No. 1 to its home in the Air Corps Supply Hangar; Post Operations, the 44th Observation and Post Headquarters immediately took over this hangar, vacating Hangar No. 2, which in turn was taken possession of by the 24th Pursuit Squadron. This shifting about relieved the congestion faced by the two Squadrons, both having occupied Hangar No. 3, a structure designed for but one organization. The change was welcomed by all concerned.

SERIAL NO. 332 LIST OF NEW MATERIAL ADDED TO INFORMATION DIVISION FILES

August 29th to October 3rd, 1933, Incl.

Available for loan to Air Corps Organizations only upon request to the Air Corps Library, Munitions Bldg., Washington, D.C.

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- C 70/6 The Future of Air Warfare, by A.E. Blake, No place, np. Jan. 1930. From Fortnightly Review, Jan. 1930.  
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- D 00.12/2 Contribution a l'Etude de la Viscosite et de la Congelation des Hiles. by Bourdiol, M. Ministere de l'Air. Pub. Scientifique et Tech. #27.
- D 00.12/2 Etude des Flux d'Épuration et de Protection du Magnesium et de ses Alliages Pendant Leur Fusion dans les Creusets et Leur Coulee dans les Moules. 1933, by Hardouin, Maurice. Ministere de l'Air. Publication Scientifique et Technique #28.
- D 00.12/4 Tests of Aircraft Spar Vernishes (Glyceryl Phthalate) (Proposed Navy Dept. Specification V-11a). Phila. Navy Yard, Aug. 15, 1933. PTL-205.  
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- D 00.12/103 Airplane Tail Wheel Roller Bearings. US Bureau of Aero. Tech. Order No. 31-33. Aug. 19, 1933
- D 00.12/103 Accessories to Be Included in Shipments of Aircraft Engines. US Bureau of Aero. Tech. Order 32-33. Sept. 8, 1933.
- D 00.12/123 Removal of Ignition Wire Clips from Intake Pipes when Installing Radio Shielded Ignition Harness. Aug. 19, 1933 US Bureau of Aero. Tech. Note No. 25-33.
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- D 00.12/123 Streamline Wires - Corrosion and Abrasion of. Sept. 6, 1933. US Bureau of Aero. Tech. Note #28-33.  
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- D 52.1/Great Air Force and Moment for XBC-1 Airplane. Apr. 13, 1933. Aerodynamical Lakes/1 Laboratory Report #494.
- D 52.6/32 Air Force and Moment for Preliminary Design No. 121 Flying Boat. Aerodynamical Laboratory Report #495.
- D 10.13/139 Aluminum in Aircraft. Aluminum Co. of America Pittsburgh. 1930.
- D 52.1/Breda "Breda 32" Three-engines All-metal Commercial Monoplane. Milan, 2 Società Italiana Ernesto Breda, 1932.
- D 52.1/Douglas Assembly and Maintenance Instructions for Douglas Observation Airplanes Model O-2H. Santa Monica, Calif. Douglas Co. nd  
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- 629.13/G81t Spinning of High and Low Wing Monoplanes. Report & Memo. 1534  
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- 629.13/G81t Wind Tunnel Interference on Streamline Bodies, by Lock, C.N.H. 1933.  
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No. 459 Report 459. 1933.
- 629.13/Un3 Interference on an Airfoil of Finite Span in an Open Rectangular Wind  
No. 461 Tunnel. 1933. By Theodorsen, Theodore. Report 461. Also issued in the Annual.
- 629.13/Un3 Increasing the Air Charge and Scavenging the Clearance Volume of a  
No. 469 Compression-Ignition Engine, by Spanogle, J.A. 1933. NACA Report #469.  
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- 629.13/Un3teh Aluminum Alloy Propeller with 2562 Hours Flying Time, by Phillips,  
No. 3838 C.F. Tech. Report #3838. June 21, 1933.
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No. 3836 ships, by Phillips, C.F. June 21, 1933. Tech. Report 3836.
- 629.13/Un3teh Magnesium Alloy Blades (Manufactured by the Materiel Div., A.C.)  
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- 629.13/Un3ten A Study of Factors Affecting the Steady Spin of an Airplane, by Nathan F. Scudder, Aug. 1933. Tech. Note 468.
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- 629.13/Un3ten A Complete Tank Test of a Model of a Flying-boat Hull. NACA Model No. 470 No. 11-A, by Parkinson, J.B. Sept. 1933. Tech. Note #470.
- 629.13/Un3ten A Complete Tank Test of a Model of a Flying-Boat Hull - NACA Model No. 471 16, by Shoemaker, J.M. Sept. 1933. Tech. Note 471.
- 629.13/Un3tm Dimensions of Twin Seaplane Floats by L. Meyer. Aug. 1933. Tech. Memo. 719.
- 629.13/Un3tm Recent results of Turbulence Research by L. Prandtl. Aug. 1933. Tech. Memo. 720.
- 629.13/Un3tm Results of Extended Tests of the Focke-Wulf F 19a "Ente" a Tail-First Airplane by Hubner, Walter. Sept. 1933. Tech. Memo. 721.
- 629.13/Un3tm Guide Vanes for Deflecting Fluid Currents with Small Loss of Energy, by Krober, G. Sept. 1933. Tech. Memo. 722.

INSPECTION DIVISION NOTES

The following Technical Orders, Technical Letters, Air Corps Circulars and Air Corps Circular Letters have been distributed since the last issue of the Air Corps News Letter on August 29, 1933:

NO. & Date	Subject	Distribution
TL 32-95A 8/25/33	Modification on Crankshaft and Propeller Shaft Ends on all Aircraft Engines. (This TL replaces TL No. 32-95, dated 5/10/32)	All Depots, Chanute, Wright
TL 33-30A 8/25/33	Installation of Lubricating Fitting in Rocker Box & Lubricating of Valves, R-1750 and R-1820 Series Engines. (This TL replaces TL #33-30, dated 5/25/33.)	Aberdeen, Barksdale, Bolling, Chanute, Crissy, Ft. Crockett, Kelly, Hensley, Langley, March, Maxwell, Selfridge, Wright, FAD, MAD, RAD, SAAD & HAD
TL 33-57 8/25/33	Oil Treatment of Hand Refueling Systems	Aberdeen, Barksdale, Bolling, Brooks, Chanute, Crockett, Kelly, Langley, Leavenworth, March, Maxwell, Mitchel, Randolph, Crissy, Scott, Selfridge, W. Point, Wright, all depots.
TL 33-64 8/25/33	Reinforcement of Stabilizer Rear Spar Attachment Fitting-Keystone B-3A, B-4A, B-5A, B-6A, Y1B-4 & Y1B-6 Airplanes	Aberdeen, Chanute, France, Kelly, Langley, Ft. Leavenworth, March, Maxwell, Wright, all depots.
TL 33-65 8/25/33	Staking Flange Screws in Rotating Magnet Assembly #10-923 of Scintilla SC-1 Type Magnetos	FAD, MAD, RAD, SAAD, Chanute and Wright.
TL 33-55A 9/6/33	Replacement of Rivets, Landing Gear Center Strut-Boeing P-12C, P-12D, P-12E & P-12F Airplanes. (This TL replaces TL #33-55 dated 7/25/33)	Albrook, Barksdale, Bolling, Chanute, France, Kelly, Langley, Ft. Leavenworth, March, Maxwell, Randolph, Selfridge, Wright, all depots.
TL 33-66 9/6/33	Installation of Screen, Carburetor Air Intake Scoop- Douglas BT-2A Airplanes	Barksdale, Boeing, Chanute, Hatbox, Langley, Ft. Leavenworth, Logan, Long Beach, Pearson, Offutt, Selfridge, Wright, FAD, RAD, MAD, SAAD, General
TL 33-67 9/8/33	Reinforcement of Tail Wheel Post-Douglas BT-2A, BT-2B, BT-2C, O-25A, O-25C, O-38, O-38A and O-38B Airplanes.	
TO 00-5 9/1/33	Technical Orders-General Provisions-Explanation of System. (This TO replaces TO 00-5, dated 9/15/31)	General
TO 00-0-8 9/1/33	Monthly Index of Technical Instructions	General
TO 08-5-3 8/14/33	Commercial Electrical Equipment - Aircraft Radio Insulating Radio-telegraph Keys	General
TO 11-20-3 9/1/33	Aircraft Combat Material-Synchronizers - Position of Zero Shot	General
TO 12-1-1 8/7/33	Fuel and Lubricating Equipment and Supplies-General-Maintenance and Operation of Hydraulic Fuel Handling Equipment.	General
TO 13-5-2A 9/20/33	Clothing, Parachutes, Equipment & Supplies, - Parachutes- Construction, Maintenance, Storage and Use.	General
TL 31-175A 9/25/33	Replacement of Running Lamp Assemblies Type A-4, Part Nos. 066170-1, 2, 3 and 4. (This TL replaces TL No. 31-175 dated June 15, 1931)	General

The following Air Corps Circulars and Air Corps Circular Letters have been distributed since the August issue of the Air Corps News Letter:

NUMBER & DATE	SUBJECT	DISTRIBUTION
70-1 8/15/33	ENGINEERING - General Provisions	
40-3A 8/26/33	CIVILIAN PERSONNEL - Routine Reports	
40-5A 8/29/33	" " Appointments	
15-11 9/ 8/33	BLANK FORMS AND REPORTS - Report of Passengers Carried in Military Aircraft, under Authority of Paragraph 55a, Changes #1, Army Regulations 95-15, dated May 28, 1931.	
15-32 9/13/33	" " " " Housing Report.	

NUMBER & DATE	SUBJECT	DISTRIBUTION
33-30 8/19/33	Procurements	A to D Incl. & G.
33-31 8/21/33	Standard Forms Nos. 1051 & 1051A	A to J Incl.
33-32 8/30/33	Instruction Pamphlets on SCR-183 Radio Sets and the BC-192 Receivers	A to J Incl.
33-33 9/ 5/33	Aerial Equipment	A to E Incl. & G.
33-34 9/ 7/33	Revision of AC Cir 65-11 & 65-11C	A to G Incl.
33-35 9/12/33	Mutilation of Gun Cameras	A to E Incl. & G to I Incl.

Quoted herewith are some of the difficulties experienced by field activities, as reported on Unsatisfactory Reports and extracts from the comments of the Materiel Division in connection therewith:

1. A Spark Plug was lost in flight from a GLV-1570 engine. The crew chief asserted that all spark plugs were securely tightened on installation. However, when the lost spark plug was replaced, all spark plugs were found to be loose. The Engineering Officer was of the opinion that the new gaskets packed down after the successive heating and cooling of the two flights previous to the one during which the spark plug was lost and recommended development of a new type spark plug gasket.

Matériel Division comment: "2. It is the opinion of this Division, from the information contained in this report, that these conditions were caused by the fact that the spark plugs were not properly tightened at time of installation, although the report states the mechanic had tightened them all. It is believed that the gaskets installed probably were not in perfect condition, with resultant failure.

3. Gaskets should be inspected for close fit around the plugs, concentric and free from deep ridges or nicks, and of a thickness permitting leak-proof compression between the plug and the cylinder. Where gaskets are found flared out, flattened, and non-compressible, they should never be used.

4. It is believed that, due to the infrequency of similar report and the large number of engines employing this type gasket with which satisfactory service apparently is being obtained, no change in spark plug gaskets is necessary at this time. Accordingly, unless additional information is supplied to substantiate a change, no further action on this report will be taken."

2. Paint, black, acid proof, 1 qt. cans. "Spec. 3-81. This paint, used especially around battery containers on aircraft, washes off particularly when gasoline is used to clean the engines. Recommend a superior grade of paint be obtained and that experiments be made to determine if the specifications can be changed to specify a paint that will not wash off."

Matériel Division comment: "Acid proof paint offers poor resistance to gasoline. It is suggested that in cleaning aircraft parts with gasoline that the portions in the vicinity of the storage batteries, which are coated with this type of paint, be avoided. It is recommended that these parts be cleaned with a solution of soft soap, Spec. 4-49, and water. If the parts can not be satisfactorily cleaned in this manner, and it is considered necessary, to use gasoline, it is necessary to apply gasoline resistant protective coating over the acid proof paint. For this purpose, two coats of spar varnish, Spec. 3-136, is recommended."

3. YO-27 Airplanes. "The material from which the radiator to pump Prestone line is manufactured is apparently too light material. It is necessary to use two hose clamps on the hose connections in order to retain the Prestone fluid and when these clamps are tightened sufficiently to be leak-proof the tubing is crimped under pressure of the hose clamps. This makes it very nearly impossible to make a perfect seal."

Matériel Division comment: "In connection with the subject Unsatisfactory Report submitted by the Post and Group Engineering Office under date of July 17th covering the difficulty with the hose clamps on coolant lines on YO-27 airplanes, the use of two (2) hose clamps on Prestone lines has been found to cause more difficulty with leaks than one (1) hose properly installed. When installing hose clamps the tubing should be smooth and round and the clamps should be fitted just back of the bead on the tube and approximately 1/8 inch from the end of the hose. The tightening screw should then be tightened only until the surface of the hose is approximately flush with the outside of the clamp in the square holes. If this procedure is followed, no difficulty should be experienced with leaks or distorting of the tubing. A hose clamp wrench is now under development which should automatically provide the proper tension for hose clamps and will be made available to the Service as soon as practicable."

4. Gasoline Tanks. "At the present time, when the auxiliary tanks on various types of airplanes run dry, the engine ceases to function as abruptly as if the switches had been cut. There is not the slightest warning until such time as the engine cuts out completely. This had resulted in at least three incidents of which the undersigned is personally aware, when an accident has only been avoided by a small margin due to the gas running out as the airplane was either landing or taking off. It is recommended that consideration be given to the possibility of arranging the fuel vent in such a way that the engine will miss badly or choke for gas for about two minutes before it completely cuts out thereby giving the pilot some warning and some power while another tank is being switched on. The same arrangement should also be applied to the main tank so that it will give some warning when about to run dry. In conversation with a Department of Commerce airplane inspector this date, he stated that two recent airline crackups in the south would have been avoided if some arrangement as recommended above had been in use as both airplanes were thought to have run out of gas on the take-off due to failure to switch tanks."

Matériel Division comment: "2. A device which warns the pilots when the gasoline supply is nearly exhausted has been devised at this Division but it was not considered practicable to install same as it would make the fuel system more complicated. It is the opinion of the Division that it would be very poor practice to depend on the use of a device of this kind in determining when a change to a different fuel tank should be made. The use of fuel from a partially filled aux-

iliary tank during take-off, landing, or low altitude operation is considered extremely dangerous and would continue to be so even though the airplane were equipped with a warning device as suggested.

\* \* \* \* \*  
3. The Fuel pressure gauge is a positive indication of low fuel supply since the fuel pressure will fluctuate for a period of one to three minutes before the engine stops."

5. Nut, Machine Screw, Hexagonal, Fine Thread. "Some difficulty is experienced at this Depot when installing instruments due to the size of the nut used. With very few exceptions, instruments are installed using 8-32 machine screws and nuts. The outside diameter of these nuts is too large to permit the use of a 11-32" spintite wrench and too small to anchor itself against the side of the instrument so that a screw driver may be used. It is suggested that a nut be furnished for installing instruments which has all measurements identical with an AN345-B6 nut except that it be drilled and threaded for an 8-32 screw."

Materiel Division comment: "The unsatisfactory condition in the use of AN-345-B8, Nut, machine, screw, hexagonal, fine thread, for installing instruments has been noted. It is not considered making any change in the hexagon nut standards as they conform to the American Standards Association standards and to make the change recommended in subject report would create a special size of nut for aircraft instruments. Investigation has been made at the Fairfield Depot and Wright Field and it was found that an open end wrench or a long nose pliers was used in holding the nut while the instrument is being installed or removed. If this is not found to be satisfactory at your Depot, it is recommended that one flat of 11/32" spintite be ground off and used for holding the nut."

\* \* \* \* \*  
6. Gasket cam cover, V-1570 Series engines. "V-1570 Series Engines received from overhaul have the cam cover gaskets part No. C-9251, shellacked to the cam cover. This requires filing or burning the gasket off of the cover parting surface and makes it very difficult to obtain an oil-tight joint. It is recommended that the gaskets be installed without use of shellac."

Materiel Division comment: "This gasket is being shellacked to the cam cover in accordance with Technical Letter, Serial #31-202, dated April 15, 1932, copy enclosed. It is the opinion of this Division that if the proper care is exercised in the removal and installation of the cam covers, the gaskets should never require replacement between overhaul. The above-mentioned Technical Letter was issued on the recommendation of service activities due to the trouble experienced with shrinkage and improper installation of the gaskets, and unless similar complaints are received, no further action will be taken on this report."

\* \* \* \* \*  
7. Alfite Fire Extinguisher (Model 15). "Rubber Hose Grip and Discharge Tube Cover of the Alfite Fire Extinguisher became defective due to weather exposure. This fire extinguisher was installed on Field Service Truck Heavy Duty, Type E-2."

Materiel Division comment: "1. With reference to subject unsatisfactory report, \* \* \*, on hose of Alfite fire extinguisher, Model 15, it is advised that this was commercial equipment supplied by the manufacturer of the field servicing truck. Specifications which will insure procurement of the proper type material on future orders are now available covering this equipment."

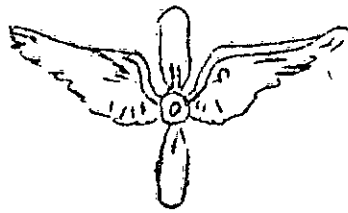
2. The defective hose and discharge horn should be replaced by local procurement from the American LaFrance Company. If funds are not available, this Division should be advised and same will be allotted."

\* \* \* \* \*  
8. Fuel Strainer Housing Assembly, Type C-2. "The lugs for the hold down strap broke."

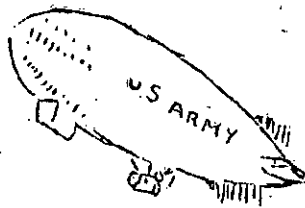
Materiel Division comment: "2. The force applied by the fingers is sufficient to tighten it enough to prevent leakage if the gasket is in good condition. When greater force is applied on the wing nut by the use of pliers or wrench, failure of the lugs will result or the strap will spring allowing the bolt to slip out of the prong. After tightening the wing nut as tight as possible with the fingers, safety wire should be used to prevent it coming loose due to vibration."



# AIR CORPS



# News — — Letter



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The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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OUR LAST ISSUE.

With this issue, the News Letter bids adieu to its readers, the Chief of the Air Corps having decided to suspend the publication thereof for the present, in order to reduce all paper work throughout the Air Corps which is least essential to its peacetime efficiency and, further, because of the expansion of the present duties of the Information Division of this office and the limited personnel available to perform these duties.

The suspension of the publication of the News Letter does not imply that its correspondents at various Air Corps fields and stations should discontinue altogether the forwarding of news items of general interest. They should understand, of course, that certain items heretofore forwarded for publication which were of interest to Air Corps personnel can not now be used, but they are invited and, in fact, urged to forward to the Information Division at regular intervals such articles and news items pertaining to Air Corps activities which may form the basis of releases to the press for the information of the public at large.

It is hoped at some future time, when conditions are more favorable, to resume the publication of the News Letter and make it better and bigger than ever.

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CIVIL WAR BALLOON CLOTH.

By the Wright Field Correspondent

A recent acquisition of the Army Aeronautical Museum at Wright Field is a small portion of the gas bag of a balloon used by the Confederate Army for observation purposes. This is a portion of a larger piece presented to the National Museum in Washington by the son of Professor Thaddeus S.C. Lowe, the latter having figured very prominently in the aerial activities of the Union Army.

This piece of cloth is valuable not only as a reminder of the use of aircraft in the Civil War but of the ingenuity displayed by a poverty-stricken Army in providing equipment. General Longstreet in "Our March Against Pope", relates an interesting bit of history in this connection, as experienced by the opposing forces:

"It may be of interest," he wrote, "to relate an incident which illustrates the pinched condition of the Confederacy, even as early as 1862. The Federals had been using balloons to examine our positions and we watched with envious eyes their beautiful observations as they floated high in the air well out of the reach of our guns. While we were longing for the balloons our poverty denied us, a genius suggested that we gather together all the silk dresses in the Confederacy and make a balloon. It was done and soon we had a grotesque patterned ship of many and varied hues which was ready for use in the Seven Days Campaign. We had no gas except at Richmond, and it was the custom to inflate the balloon there, tie it securely to an engine and run it down the York River railroad to any point at which we desired to set it up.

One day it was on a steamer down the James River when the tide went out and left the vessel and balloon high and dry on a bar. The Federals gathered it in and with it the last silk dress in the Confederacy. This capture was the meanest trick of the war and one which I have never forgiven."

Patriotism, sacrifice, ardor, and romance quite aside from its aerial activities hang about that varnished and faded silk.

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HAMILTON FIELD

Sergeant E.W. Lindhe, on duty at Hamilton Field, Calif., in his contribution to the News Letter, voices his opinion that the Air Corps should sit up and take notice of the newest and most modern addition to our Air Corps Defense.

Located in "Marvelous" Marin County in California, across the Bay from San

Francisco, he says that this location is undisputedly ideal for several reasons: one being that the climate is unrivaled, at least from an aeronautical standpoint, since there is a total absence of fog. Hamilton Field is centrally located between our borders to the north and south.

To quote Captain Nurse, the constructing Quartermaster: "Other reasons contributing toward the favor of location is the fact that it is sheltered from the sea by a low range of mountains; that it is far enough inland to be free from gun-fire from an enemy fleet; that it is adjacent to the principal manufacturing district of our West Coast, and that the land adjoining the site is more than adequate for any necessary expansion in case of emergency."

This new Air Base was named in honor of 1st Lieut. Lloyd Andrew Hamilton, 17th Aero Squadron, who was killed in action near Lagincourt, France, August 26, 1918.

When completed, Hamilton Field will provide accommodations for 85 commissioned officers, 100 non-commissioned officers and 700 other enlisted men, this personnel to be organized as one Headquarters Squadron, one Service Squadron and two Bombardment Squadrons.

The futuristic architecture of the hangars, shops and barracks is quite different from anything heretofore seen in the Air Corps. The homes are cleverly built amongst the oak-clad hills, bordering one side of the 640-acre landing field, taking advantage of the marvelous view. Winding roads are leading in and amongst these hills, in which the natural contours have been preserved.

About 1200 trees have been planted on the post, and a large and complete nursery is providing shrubbery and flowers for beautification and landscaping.

There are at present only six officers stationed at Hamilton Field, viz: Captain Don L. Hutchins, Commanding Officer; Major Fabian L. Pratt, Post Surgeon; Captain H.B. Nurse, aided by Lieuts. Cron and Veal, and Captain John O. Roady, Post Quartermaster. The enlisted men, about 40 in number, are from the Air Corps, Signal Corps, Quartermaster Corps, Medical Corps and Ordnance Department. The Air Corps personnel predominate, with Mr. Sgt. C.E. Peterson as Post Sergeant Major; Mr. Sgt. H.A. Dorian, Line Chief, and E.W. Lindhe as First Sergeant. These men are housed in a barrack built to accommodate 200 men. Messing facilities are about the most modern and complete of any Army barrack, bar none, with electric equipment such as dishwashers, potato peelers, ice cream freezers, toasters, slicers, mixer, and a refrigeration system large enough to accommodate at least twice its required capacity. Kitchen tables and sinks are of stainless steel; walls are glazed tile which adds considerably to the sanitation by being easily kept clean. Additional equipment are bake ovens and pressure boilers. Cafeteria style steam serving tables and percolators in the mess hall are conveniently connected with the dish-washing room by service windows.

The entire barrack is provided with a Thermostatic heating system, remote controlled. Ice water is furnished throughout by an electric cooling system.

A roomy basement and attic are not to be forgotten as valuable additions to the convenience of this building.

Of military activities there are at present very few, although recently there were eleven Reserve officers at the field for 14 days' training, under the leadership of Captain Walthall, Lieut. Lindsay, and a detachment of enlisted men from Crissy Field.

Considerable activity at this post is expected shortly, when several hundred men will be employed to finish the buildings and complete the erection of this latest big project of the Air Corps.

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EXTRACT FROM "TIME" - OCTOBER 23, 1933.

MAYO ON WAR. Dr. Mayo, who alternated with his elder brother, Dr. Willian James Mayo as chief surgical consultant to the U.S. Army Medical Department during the War, who won the Distinguished Service Medal and is a Brigadier General in the Medical Officers' Reserve Corps, was thinking last week that war again was imminent over Europe (see p.15). Cried he, speaking before the Chicago Association of Commerce: "The speed of the world has increased so fast that a lot of people can't keep up. Their training and vision are still those of the horse age. Now the Government is sending fine stallions out to the western plains to breed horses for the cavalry. You might as well go to war in a horse and buggy. This is a machine age, and war hereafter will be waged by technical men. We are spending a quarter of a million dollars for warships which will be obsolete in ten years. No class of countries will ever fight another war with massed men. It will be too expensive. The world must be ready for a quick jump. Planes will drop explosives, gas and disease. Their maxim will be, "Jump in and destroy as quickly as you can."



SUB-TROPICAL EXPOSURE RACKS  
By the Wright Field Correspondent

Some time ago the need of obtaining more rapid and positive results in testing paints, dopes, and protective coatings of all kinds used on fabric-covered or metal structures of aircraft, especially those assigned to the sub-tropical island possessions of the United States, led the Materiel Division, Wright Field, to investigate the feasibility of establishing exposure test frames in a location other than Dayton, Ohio.

Florida immediately presented itself as having the most even sun conditions and a climate more nearly approximating the sub-tropical than any other within the continental limits of this country. It is used by the majority of large paint companies for exposure testing who, if they do not have their own racks set up, use those of several services established for the purpose.

Likewise there was Chapman Field, an Air Corps flying field for gunnery practice, located fifteen miles south of Miami, Florida, available for the work. Six months of winter exposure in Florida, it was estimated, would be equivalent to a full year in Dayton. Another advantage lay in the fact that Chapman Field is on the sea and the air carries enough salt to determine corrosion resisting properties of the various finishes tested.

Approval for the project was obtained, and about a year ago land racks were set up and panels mounted on them. So favorable for test conditions did the location prove that recently it was decided to add a tide water rack on which twice each day panels covered with coatings used on metals would be subjected to complete immersion in the salt water at high tide, while low tide would leave them exposed to air and sun. These racks were constructed about August 1st and completed August 25th when 180 panels were mounted upon them. This being a new project, it is hoped to obtain checks each six weeks for at least the first two six-week periods of exposure to determine the degree and acceleration of metal corrosion under actual salt water and weather conditions and to be enabled to form estimates of the duration of life of materials.

Engineers flying from Dayton to Miami in connection with this project have doubled on projects by studying the terrain passed over with a view to obtaining ground camouflage data for this section of the country. A revived interest in camouflage has been brought about by the Air Corps maneuvers of the past two years in which its advantage both for airplanes on the ground and in flight were impressively demonstrated. Economy measures permitting, both of these projects will be advanced to the fullest extent.

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A NEW AIR CORPS DETACHMENT

A new Air Corps Detachment, Flight A, 86th Observation Squadron, was formed at Crissy Field, Presidio of San Francisco, Calif., and transferred on October 1, 1933, to Fort Lewis, Washington.

Among the officers and non-commissioned officers of Crissy Field who were transferred to Flight A were Captain Isaac J. Williams, 1st Lieut. Everett S. Davis, 2nd Lieuts. Arthur L. Smith, Donald W. Titus, Master Sgt. Raymond Stockwell, Staff Sgts. Martin Brucher, Tony Dambroso, Samuel Daniels, Sergeants Kermit I. Johnson, Frederick E. Miller, Corporals Fritz Seaburg and Andrew M. Pascal.

Lieut. Davis was a recent arrival from the Philippines.

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OBSERVATION BOARD IN CONCLAVE.

A group of Air Corps pilots convened at Wright Field, Ohio, during the latter part of September to test and make recommendations regarding three Observation airplanes, the YO-40A, the O-43 and the Y10-40B as possible Air Corps equipment. The officers comprising the Board were Majors W.O. Ryan, Donald Wilson, Maxwell Field; Capts. G.C. McDonald, H.W. Holden, Office of the Chief of the Air Corps; Major Follett Bradley, Lieut. L.M. Bawsel, Mitchel Field; Capts. Victor Strahm, J.F. Taylor and John F. Whiteley, Materiel Division.

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Garrison School and Army Extension Courses began at Brooks Field, Texas, on October 16th.

## RADIO ✓

Lieut. W.G. Smith and Mr. T.B. Holliday, Engineer of the Equipment Branch, Materiel Division, Wright Field, recently returned from an extended flight which took them to Seattle, Wash.; Santa Monica, March Field and Rockwell Field, Calif.; Fort Crockett, Texas, and Maxwell Field, Ala.

For two years a series of intensive tests were carried on at the Materiel Division in an attempt to eliminate the radio interference caused by the different electrical circuits, such as lighting, ignition, etc., in aircraft by improving bonding and shielding methods. In these tests, a considerable amount of new and salient information bearing on the subject was brought to light - information which will greatly influence future installations. It was for the purpose of discussing these radio installations with engineers of the Boeing and Douglas Companies as affecting airplanes under present contract that these plants were visited. At March, Rockwell, Maxwell Fields and Fort Crockett, radio installations in aircraft were inspected and faults in reception were investigated.

The 16th Pursuit Group, Albrook Field, Panama Canal Zone, has been employing the high frequency aircraft equipment, consisting of SCR-183 sets, SCR-192 receivers and the SCR-188 ground transmitter, daily in all local squadron or Group formation flights and avigation flights.

It is now the normal procedure for squadron commanders, before taxiing out, to contact the other radio-equipped P-12E's in their squadrons and the ground station. The Group frequency (6610 KCS) only is used, and the Group Commander or the Post Operations Officer can, when in the air, immediately contact the squadron commanders to issue any flight instructions.

The Post Operations Office broadcasts information on sudden changes in ceiling and visibility that occur while flying is in progress, either by remote control of the SCR-188 transmitter or through the ground station operator. A continuous watch is maintained at the ground station when any Pursuit planes are in the air.

This facility of the ground station is used on all the weekly avigation flights, and no plane has yet flown out of communication range. To date, the furthest contact has been with two P-12E airplanes at a distance of 225 miles, the planes being heard with a signal strength of S-3 before landing and S-2 after landing, (Puerto Armuelles) while the ground station was heard with a signal strength of S-4. This means of radio communication on long flights is of great value in the Republic of Panama where other means of communication are very limited.

### LANDING FIELDS IN PANAMA

At the instigation of the Department Air Officer, Major Candee, considerable work has been performed towards bringing all of the reports on Panama landing fields up to date. Lieut. Cabell, in command of the 44th Observation Squadron, Albrook Field, Canal Zone, is conducting a very thorough reconnaissance campaign with cameras, sketch pads, O-19's and a lot of energy. It is hoped soon to have all this information available in very accurate form.

Due to the fact that the jungle is continually doing its best to reclaim a great many of the up-country landing fields, the reports regarding them are soon out of date unless a continual check is made to see that the information is accurate.

Rear Admiral Noumasa Tada, Commander Osanmu Sugimoto, Lieut.-Commander Katsumuji Kondo and Commander Tokuji Bannai, all of the Imperial Japanese Navy, were recent visitors at Wright Field and were shown through the Materiel Division laboratories by General Pratt. The Japanese Naval officers then visited the Fairfield Air Depot at Patterson Field, Ohio.

Messrs. P.E. Koster and W. Schilo, of Berlin, Germany, recently arrived at the Materiel Division to view the laboratories. Former students of the Technical High School of Berlin, they were awarded their trip to the United States for their treatise on "An Altitude Long Distance Motor", the award being that of the Dr. Luther prize given by the Association of Professional German Airplane Pilots. The German Air Ministry arranged for their flights while in this country.

## AIR CORPS GRADUATES CLASS OF FLYERS

The 17th class of flying students trained under the Air Corps five-year expansion program will be graduated from the Advanced Flying School, Kelly Field, Texas, on October 14th. An aerial review, with the graduates as participants, will take place at the field on that day, followed by the graduation exercises two hours later in the War Department Theatre.

Of the 91 students who started training at the Advanced School on July 1, 1933, 85 will be graduated, comprising 39 commissioned officers of the Regular Army, all except one being members of the 1932 graduating class of the United States Military Academy, and 46 others who trained under the status of Flying Cadets. These successful students graduated in specialized training, as follows: Attack, 6; Bombardment, 24; Observation, 25; and Pursuit, 30.

When this class started training at the Primary Flying School in October of last year, it numbered 194 students, 69 being members of the June, 1932, West Point graduating class. It will thus be noted that 44% of those who commenced training graduated which, according to statistics compiled over a period of years, is the normal percentage of students who are able to complete the 8 months' primary flying course at Randolph Field and the four months' advanced course at Kelly Field, Texas.

All graduates of the October class will be given the rating of "Airplane Pilot". The officer graduates will be transferred to the Air Corps, Regular Army, to become permanent members of its commissioned ranks. The Flying Cadets will be commissioned Second Lieutenants in the Air Reserve.

Heretofore these newly commissioned Reserve officers were placed on extended active duty with various Air Corps squadrons. It has not been definitely decided whether this policy will be continued, due to the present economic situation. The probability is that, while retaining their status as Reserve officers, they will be continued on duty as Flying Cadets at various Air Corps stations.

### U. S. MILITARY ACADEMY GRADUATES, CLASS OF 1932

#### Second Lieutenants

Charles H. Anderson	Cavalry	Peoria, Ill.
Byram A. Bunch	Cavalry	New Castle, Ind.
Paul D. Bunker	Infantry	Annapolis, Md.
Daniel S. Campbell	Infantry	Boonville, Ind.
George D. Campbell, Jr.	Field Art.	Lonaconing, Md.
Robert L. Carver	Infantry	Dallas, Texas
James H. Cunningham, Mr.	Coast Art.	Washington, D.C.
Leo P. Dahl	Coast Art.	Ely, Minn.
Thomas C. Darcy	Infantry	Westminster, Mass.
William M. Garland	Infantry	Fort Worth, Texas
James W. Gurr	Infantry	Dawson, Ga.
Donald L. Hardy	Coast Art.	Philadelphia, Pa.
Hunter Harris, Jr.	Infantry	Athens, Ga.
Loren B. Hillsinger	Field Art.	Syracuse, N.Y.
Kenneth B. Hobson	Infantry	Ashland, Oreg.
Frank L. Howard	Field Art.	Big Timber, Mont.
Harvey P. Huglin	Field Art.	Fairfield, Iowa
Frank F. Jamison	Infantry	Quarryville, Pa.
Joe W. Kelly	Infantry	Franklin, Ind.
David H. Kennedy	Field Art.	Williston, S.C.
John P. McDonnell	Field Art.	Booneville, Ark.
Andrew Meulenberg	Infantry	Grand Rapids, Mich.
Thomas C. Morgan	Infantry	Aiken, S.C.
Eugene P. Mussett	Infantry	Minneapolis, Minn.
Nicholas E. Powell	Infantry	Newnan, Ga.
Romulus W. Puryear	Infantry	Hartsville, Tenn.
Clifford H. Rees	Infantry	Cynthiana, Ky.
Robert L. Scott, Jr.	Infantry	Macon, Ga.
Edwin G. Simenson	Field Art.	Valley City, N.D.
Ray J. Stecker	Field Art.	Hazleton, Pa.
Stanley R. Stewart	Coast Art.	Kalamazoo, Mich.
Edward W. Suarez	Infantry	Mobile, Ala.
John R. Sutherland	Cavalry	Monroe, N.Y.
Robert H. Terrill	Infantry	Westminster, Mass.

James F. Thompson, Jr.  
 Benjamin J. Webster  
 Sam H. Wiseman  
 Torgils G. Wold  
 Harry H. Geoffrey

Field Art. Chicago, Ill.  
 Coast Art. Honolulu, T.H.  
 Cavalry West Point, N.Y.  
 Coast Art. Brooklyn, N.Y.  
 Field Art. St. Paul, Minn.

FLYING CADETS

<u>Name</u>	<u>Home</u>	<u>Station Assignment</u>
Robert H. Allen	Groton, Mass.	Mitchel
James E. Anderson	New York City	Langley
Benton R. Baldwin	Ventura, Calif.	March
Walter G. Bain, Jr.	Boulder, Colo.	
William B. Barnes	Lanexa, Va.	Mitchel
Joseph Peter Bohl	Selma, Calif.	March
Lawrence C. Coddington	Los Angeles, Calif.	March
Wilbur Denham	Cleveland Hts, Ohio	Langley
Junius W. Dennison, Jr.	Ojai, Calif.	March
Roscoe A. Dunahoo	Pasadena, Calif.	March
William S. Elliott	Washington, D.C.	Langley
Sylvester L. Fahey	Mackinaw, Mich	
Kenneth C. Fairchild	Kansas City, Mo.	Crockett
Charles M. Fischer	Glendale, Calif.	March
Samuel D. Freeman, Jr.	Cardinal, Va.	Langley
Clement J. Gaster	Asher, Okla.	Selfridge
Robert E. Griffin	Iowa City, Iowa	
Marvin J. Griggs	Salina, Kans.	March
Sylvan D. Hand	Columbia, S.C.	Langley
Benjamin S. Harrell	Jackson, Miss.	Langley
Edward T. Hausafus	St. Louis, Mo.	
John H. Hayden	New Rochelle, N.Y.	Mitchel
Henry L. Hoxie	Los Angeles, Calif.	Barksdale
Herman E. Hurst	Dekalb, Ill.	Selfridge
William Baker Inman, Jr.	Birmingham, Ala.	Langley
Joe Stanley Irvine	Austin, Texas	Selfridge
Ross A. Kinkel	Los Angeles, Calif.	March
Russell E. Laird	Riverside, Calif.	Crissy
Frederick H. Miller, Jr.	Union City, Ind.	Mitchel
Clement C. Mitchell, Jr.	Wilmette, Ill.	Scott
Walter D. Mitchell, Jr.	Los Angeles, Calif.	March
Orvis M. Nelson	Tamarack, Minn.	March
Calvin E. Peeler	Corona, Calif.	March
Daniel William Pippinger	Minneapolis, Minn.	
Duncan J. Powers	Los Angeles, Calif.	March
Ralph N. Read	Marietta, Ga.	Langley
Robert Lee Reid	Carrollton, Ga.	Langley
Louis P. Ricks	State College, Miss.	Crockett
Francis L. Rivard	Grosse Pointe Park, Mich.	
James E. Roberts	Pettus, Texas	March
Charles J. Schuster, Jr.	Baltimore, Md.	Langley
Edward F. Tindall	Maryville, Mo.	Selfridge
Gerald E. Warner	Elkhart, Ind.	Mitchel
Hiette S. Williams, Jr.	Concord, N.H.	Langley
Joshua T. Winstead, Jr.	Macclesfield, N.C.	Mitchel
Clair L. Wood	Liberal, Kans.	Crissy.

CHANGES IN PERSONNEL AT AIR CORPS STATIONS

Capt. Robert Kauch is the new Post Adjutant of Brooks Field, Texas, relieving Capt. Arthur I. Ennis, who has been placed in command of the 22d Observation Squadron.

During August and September, the officers of Albrook Field, Canal Zone, were glad to welcome into their midst four officers and their families, namely: Lieut. Colonel Wm. C. McChord, Major Robert L. Walsh, Capt. Alonzo M. Drake, and Lieut. Joseph A. Bulger.

## THE AIR CORPS AND THE C.C.C.

Life in the March Field District must have a definite appeal for the members of the Civilian Conservation Corps stationed there, inasmuch as sixty percent of them are re-enrolling for the next six months. The remaining forty percent, having found employment, will be furnished transportation back to their original places of enrollment.

With a rattle of mess kits and dinning of frying pans, the colored C.C.C. Jug Band from Camp Santa Ana won their way into the vociferous esteem of the members of this field at the March Field Post Theatre, with a highly entertaining repertoire, including Negro spirituals, popular jazz melodies, tap dancers and other typically Afro-American footlight accomplishments. So pleased were the officers and men of the Post that they applauded the young woodsmen into appearing on the stage for another ten minutes for further skits.

The Band has made many friends in its tours throughout Southern California and radio broadcasting over station KFXM, in San Bernardino, Calif. The virtuoso who selected the instruments for the band must have ransacked every nook and corner of the camp kitchen. Included in the array of harmony producers are common table spoons, a wash board, a frying pan, crock jugs, kazoos, instruments from mess kits and various stringed instruments. Soloists and a quartet scored heavily with vocal selections.

The March Field Correspondent hopes the Band will return to that field for another entertainment if it is organized again at the beginning of the second enrollment period.

Flight "E", 16th Observation Squadron, Fort Sill, Okla., is still performing work in connection with the C.C.C. During the month, pictures were taken of camps in the southeastern district of Oklahoma by Cpl. Wickham, Photo Section, with Lieut. Karnes piloting.

Lieuts. G.R. Geer, W.W. Messmore, R.I. Dugan, J.J. O'Hara, L.R. Tindal, R.S. Macrum and J.P. Newberry of Brooks Field, Texas, were relieved on October 1st from C.C.C. assignments. Capts. B.F. Griffin and W.S. Hamlin are the only officers from this field still on C.C.C. duty.

Believing that the path to a Civilian Conservation Corps lad's heart lies through his stomach, Lieut.-Col. H.H. Arnold, District Commander, March Field District C.C.C., ordered that schools be held the week beginning October 9th in "Mess Management", "Company Funds (Custodian)", "Supply" and "Post Exchange Management". The chief instructor for the four one-day schools was Capt. William O. Morris, Air Corps, March Field District Inspector C.C.C., assisted by Tech. Sgt. Thomas J. Baldwin and Staff Sgts. George Bathey and Benjamin Webb. It is believed much benefit was derived by the company commanders and other officers present.

Five days a week do the tree saviors of the March Field District C.C.C. labor; on the sixth day they rest and indulge in recreation, and on the seventh day, hie themselves to the nearest temple of worship in rather large numbers, according to the report recently made by Chaplain Jacob D. Hockman, District religious supervisor to Lieut.-Col. H.H. Arnold.

The statistics submitted are interesting in that they exemplify the great pains being taken by Army personnel in this District to take care of all the needs of the foresters from the time they come back from the woods until the time work calls sound in the morning. Chaplain Hockman has worked indefatigably since the hour the youngsters from the cities first started pouring into the conditioning camp at March Field. He erected a large tent almost immediately which accommodated 200 men and furnished it the best he could. During the first few weeks all of the nights were cold and many of them were wet. The Chaplain's tent was the only warm and dry place in the camp.

Civilian clergymen residing in the vicinity of the camps have been invaluable to the district chaplain in holding services at the camps and opening the doors of their churches to the young foresters. Many of the ministers drove from sixty to eighty miles to conduct the services without receiving remuneration for the gasoline and oil which they expended in the journeys. The Government now compensates the clergymen for the gasoline and oil used in making these trips.

Realizing the need of a formal organization to take care of the religious services of the community, Chaplain Hockman formed a 5-C club to serve the Chris-

tian element in the camp, develop leadership and to add to the general well being of the camp. The five C's symbolize Civilian Conservation Corps Christian Comradeship. The men supply most of their own talent and conduct the Sunday evening meetings on their own initiative. The welfare officer in the camp acts as sponsor. Chaplain Hockman states in his report that nearly 4300 of the young woodsmen have registered as being of a particular faith, while less than 400 claim no religion. There is a total church membership of 3112, or 66 $\frac{1}{2}$ %.

March Field officers on duty with the Civilian Conservation Corps in the 9th Corps Area are gradually being recalled to training duty with the arrival of 18 Reserve officers of various branches who have been called to active duty from the 9th Corps Area for C.C.C. work. At present, 13 officers and 35 enlisted men from March Field are on duty in work camps; 18 officers and 30 men are on full or part time duty in district headquarters.

It is planned to complete construction of the winter camps by the end of October. Carpenters have been hired from nearby cities and the small cantonments are springing up everywhere.

Work in the March Field District seems to be popular with the young enrollees as over 66 percent of them have signed up for another six months. That assignment to this district does not entail easy details is proven by the great amount of work recorded accomplished. These reports are not furnished by the C.C.C. or Army officers but by "hard-boiled" forest rangers. The high percentage of reenrollments will make easy the task of filling up the 9th Corps Area quota by Christmas.

Evidence of the success of Air Corps personnel in the woods is the petition offered by a great number of the enrollees in Camp Temescal, near Corona, Calif., in appreciation of the services of 1st Lieut. John C. Crosthwaite, Air Corps, Camp Commander.

As for work accomplished, 91 miles of truck trails have been completed, over 100 miles of firebreak made, 75,000 acres cleaned of rodents in a region notorious for them, 27 rock filled dams constructed as a step toward erosion control, bridges built and reconstructed, and 31 miles of telephone lines strung in the 16 camps in the San Bernardino National Forest alone. In addition to these and other public works, the boys worked courageously many times to stamp out fires, helping to reduce this year's loss.

The men themselves gained from four to thirty pounds in weight and have a daily sick report list of only one-half of one percent. The rate expected by the Corps Area Commander was two percent.

#### AIRPLANES FERRIED TO VARIOUS DESTINATIONS

Seven airplanes recently passed the final inspection of inspectors and pilots of the Materiel Division and were flown to destinations, as follows: One C-27 A, Bellanca, to France Field, Panama Canal Zone; one Douglas O-38F to Maryland National Guard, one Douglas C-29 to Bolling Field, D.C., and one each Douglas O-38E to the National Guard organizations of Ohio, Michigan, Indiana and Pennsylvania.

Pilots stationed at the Fairfield Air Depot, Patterson Field, Ohio, recently ferried the following airplanes to various destinations: Major Fred H. Coleman a BT-2B to Langley Field, Va., and a P-120 to Maxwell Field, Ala.; Lieuts. G.V. McPike and H.G. Bunker each an O-19B to Maxwell Field, Ala.; Capt. H.W. Flickinger a P-6D to Langley Field, Va., and Lieut. R.L. Williamson an O-25 to Kelly Field, Texas.

#### GROUP STANDARD PRESENTED TO 12TH OBS. GROUP

The 12th Observation Group was formally presented its new Group Standard on September 27th by Major-General Edwin B. Winans, retiring commander of the 8th Corps Area. The group was formed in front of Post Operations Office at 9:30 A.M., for the presentation, and passed in review immediately after the Standard had been turned over to the color guard.

This presentation was the last official act of General Winans prior to relinquishing command of the Corps Area. The Standard bears a shield in the colors of the Air Corps and five fleur-de-lis represent World War Service. The star in the crest symbolizes Texas, birthplace of the organization, while the grey goose in flight superimposed on the star denotes Observation, as the grey goose is known for his ability to locate his enemy and "honk" his warning to his flock. Prior to the presentation of the Standard, General Winans presented athletic trophies to the Squadrons. The baseball and basketball cups were given to the 12th Observation Squadron, while the cup for the best athletic standing for the year went to the 62nd Service Squadron.

## NEW AIR CORPS CONSTRUCTION

Present Air Corps construction at Fort Sill, Okla., is being rapidly completed. Finishing touches are being added to the barracks into which it is expected that both the 1st Balloon Squadron and the Flight ("E", 16th Observation Squadron) will move to within the next two or three weeks. Bids have been asked on the outside utilities of the officers' and non-commissioned officers' quarters, and it is thought that the quarters will be ready for occupancy within a period of approximately six weeks.

With funds allotted under the National Industrial Recovery Act, construction at Selfridge Field, Mich., has begun on several new projects, the largest and most important being the laying of two paved landing runways. One will run east and west, parallel to the hangar line, and the other, a shorter one, will run north and south at the west end of the field. The dimensions of the larger will be 2170 feet by 120 feet, and the smaller, 1200 feet by 60 feet. These strips will be very welcome adjuncts to the concrete aprons and will obviate forever the sloppy taxiing which in bad weather used to cover the planes with mud.

In addition to the runways, work on a combination Fire and Guard House, a new bakery, an addition to the hospital, and a boathouse will soon be started. The few remaining unattractive areas of the post will be graded and seeded, and the contract for an 8-foot wire fence to circumscribe the reservation has been let

Authority has been received to proceed with new construction at March Field, Calif., funds for that purpose having been allotted to the amount of \$274,012, including the following projects:

Completion of gasoline storage system, \$10,000; bomb storage system, \$5,000; sprinkler system, \$12,000; telephone construction, \$2,500; non-commissioned officers' quarters, \$22,500; improvement of warehouse, \$2,000; magazines, \$4,500; well tank and pump, \$20,000; radio building, \$10,000; Ordnance warehouse, \$43,379; sentry house, \$1,800; field, \$50,000 and roads, \$10,000.

Funds which had been previously withdrawn have been re-appropriated for the following purposes: Barracks, Medical Corps, \$22,061; laundry, \$3,060; bakery, \$1,513; contagious ward, hospital, \$10,645; officers' mess \$42,489; theatre, \$565.

Labor from Riverside, Calif., will be furnished exclusively. Men will be hired through the local reemployment bureau. The March Field Correspondent believes that this construction will do much to relieve distress among Riverside's unemployment.

Even though the rains have been rather a hinderance to the work on the landing area at Albrook Field, Canal Zone, considerable progress has been made in the last few months. Three months ago only a very narrow runway at the south end of the field was available for use, and even this was a bit muddy at times. At this writing, however, three fairly good runways are in use for landings, and the concrete ramp is used for all take-offs. A few landings have been made on the concrete ramp, but hazards yet remain which might make landings on the ramp dangerous if the wind was not in the right direction.

The new boundary markers which were at first rather hard to distinguish against the clay soil of the landing field have now been painted a silver color at the suggestion of Lieut. Carl J. Crane. The markers now show up clearly for a distance of several miles even on a cloudy day.

Due to the fact that maintenance personnel and machinery are practically always at work on the field, it has almost become a by-word among the pilots here to "watch where you land, they're moving the field again".

The Materiel Division at Wright Field is to benefit as a result of the Recovery Act Funds by the addition of two new buildings - a Static Test Laboratory for the purpose of conditioning static and dynamic tests and a Technical Data Building, which will house the various operating units of the Technical Data Branch, including the editorial and statistical staffs, the moving picture and still photography units, the library, and the Army Aeronautical Museum. These buildings are to cost \$107,000 and \$200,000 respectively. Drawings are completed and architects have already been awarded the contracts. Work on actual construction is expected to start within a few weeks.

Capt. Bruce Hill, Corps of Engineers, assigned to the Air Corps and on duty with the Aerial Photographic Unit at the Materiel Division, Wright Field, left recently for Washington to report to the Chief of Engineers for temporary duty.

## AIR CORPS TRAINING

Pilots of the 79th Pursuit Squadron, Barksdale Field, La., who are recent graduates of the Advanced Flying School, recently started actual gunnery on the ground target range, beginning at 6:00 A.M., each morning, in order to take advantage of weather conditions most propitious to good shooting. Even at that hour, however, a moderate cross wind has prevailed steadily, necessitating diversified approaches in all phases of a run and proving a drawback to the promotion of high scoring. The targets are placed facing westward, so that the shooting is done towards the east and into the reservation beyond the border of the landing area, thus avoiding accidents from chance bullets straying into adjacent civilian property. Scores have been moderately good, with steadily improving accuracy, and with continued practice all pilots participating should qualify as excellent marksmen.

With the receipt at Fort Sill, Okla., of a special type of hood, a course in instrument flying is contemplated in order to give each pilot on duty at that station experience in this type of flying.

Under the direct supervision of Lieut.-Col. Frank M. Andrews, Commanding Officer of Selfridge Field, Mich. a week was recently devoted to the test and inspection of tactical equipment at Oscoda, Mich. Each of the three squadrons of the First Pursuit Group spent two days at Oscoda and performed the tests in accordance with the following plan: Took off from Selfridge Field with full auxiliary tanks, guns, ammunition, oxygen, and proceeded to Oscoda at 20,000 feet, using the oxygen on the way. Upon arrival at Oscoda, auxiliary tanks were removed, bomb racks installed, guns adjusted and bore-sighted. On the second morning, 100 rounds per gun and three bombs per ship were expended. In the afternoon, the auxiliary tanks were replaced and the planes serviced for the return flight to Selfridge Field.

At last the Pursuiters at Albrook Field, Canal Zone, have a chance to prove to the Bombers from France Field that some real good shots can be obtained against the big ships in the 25th Bombardment Squadron. The first type G-4 Camera guns were received in the Canal Zone recently, and as many as possible were installed on the little P-12E's.

The guns are used during the combined problems of the Pursuit Group and the 25th Bombardment Squadron, in order to obtain some accurate data on the value of the different types of attacks made by Pursuit. Usually, about three of these combination problems are conducted each month, and it is hoped that some valuable tactics will be evolved.

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## AIR CORPS ACTIVITIES AT PORT COLUMBUS, OHIO

Due to the limitation of flying time and the large number of Class "A" pilots (Air Reserve officers) assigned to this station Class B and C officers were deprived of military flying since July 1st.

The number of visiting aircraft has seemed to maintain its average, as we are still having about 200 visiting ship movements each month. This station has been a regular stop for Navy and Marine Corps pilots and the mechanics are getting experience on many of the newer types of land planes used by the Navy. General Leach, in charge of National Guard Bureau, has been a fairly regular visitor. Among the others stopping here recently were Brig.Gen. Westover who stayed two days; Secretary of War Dern and party, several times; former Sec. of War Patrick Hurley; Asst. Sec. of War Woodring, twice during October; Mr. Norman Davis; Governor Johnson of Colorado, over night; Commander Hawks and Wallace Beery.

Activities carried on for Reserve officers included radio - photographic formation flying and reconnaissance. General Moseley, Commanding General Fifth Corps Area is a frequent visitor at this station, and he and his staff give a great deal of assistance. The mechanics are feeling happy over the fact that there has been no forced landing of any airplane assigned to this station during the past year.

The Reserve officers are anxiously awaiting the pursuit planes allotted to this station. They all want to be pursuit pilots. As this station furnishes planes for five squadrons, the allotment of flying hours is inadequate to keep all officers proficient, but about a fourth of the officers assigned are working for air lines, which leaves more flying time for those who need it.



ENGINEERING - SUPPLY CONFERENCE  
By the Wright Field Correspondent

Again the days set for the annual Engineering-Supply Conference at Wright Field rolled around - October 9th to 13th, inclusive - and officers from far and wide, familiar and unfamiliar, appeared in the halls, laboratories and cafeteria of the Materiel Division. The auditorium was rearranged for the event, this year with tables and chairs placed in a semi-circle about the table of the conference leader, this being a decided improvement over previous arrangements when the speaker was isolated being addressing an audience from the stage. An improvement also lay in the assigning of his own table and chair to each visiting delegate, the supply officers to one side, the engineering officers to the other, like a small senate, thus increasing comfort and convenience and adding to the business-like atmosphere of the scene.

Each year, perhaps, the importance of this conference impresses itself more fully upon the observer. The fact that these responsible officers can come to headquarters, so to speak, bring their problems and complaints as well as their recommendations and commendations into open discussion and can learn in return the problems and objectives at the source of supply undoubtedly leads to better cooperation and understanding and, as a result, greater efficiency in the Air Corps. Always the discussion by the Chief of the Engineering Section concerning the Engineering activities of the year past, with the changes in trends of policy brought about by changing requirements and added knowledge, is an enlightening thing for workers at the Materiel Division as well as the visiting delegates. Perhaps at no other time does one get so clear a picture of the unity of purpose inherent in all the phases of activity which go to make up the Air Corps organization.

As usual, General Pratt opened the conference with an address. Major Hugh Knerr was in charge for Supply; Major C.W. Howard for Engineering. The following visiting delegates attended:

Washington, D.C.

Major Edwin B. Lyon, G-4, Gen. Staff  
Capt. C.M. Cummings, Nat'l Guard Bureau  
Capt. T.J. Koenig, Office, Chief A.C.  
Capt. Max F. Schneider, Office, Chief AC.  
Capt. M.G. Estabrook, " "  
Lieut. Mervin E. Gross " "

Middletown Air Depot, Pa.

Maj. Lawrence S. Churchill  
Capt. Charles W. Steinmetz  
Capt. Arthur E. Simonin

Langley Field, Va.:

Capt. Milo McCune  
Lieut. Harold A. McGinnis

Mitchel Field, N.Y.:

Capt. Leland W. Miller  
Capt. Frederick F. Christine

Bolling Field, D.C.:

Capt. Aubrey Hornsby

Randolph Field, Texas:

Capt. Ames S. Albro  
Capt. H.A. Bartron

Fairfield Air Depot, Ohio:

Major Fred H. Coleman  
Capt. H.W. Flickinger  
Lieut. G.V. McPike

Scott Field, Ill.:

Lieut. Harold H. Carr

Selfridge Field, Mich.:

Capt. Harry G. Montgomery  
Lieut. James E. Parker

March Field, Calif.:

Capt. John M. Davies  
Lieut. James W. Spry

Harrisburg, Pa.:

Capt. B.J. Tocher, Tech. Supervisor

Dayton, Ohio:

Capt. H.A. Bivins, Tech. Supervisor

San Antonio, Texas:

Capt. B.F. Giles, Tech. Supervisor

San Antonio Air Depot:

Col. Arthur G. Fisher  
Capt. Ralph B. Walker  
Capt. Robert V. Ignico

Brooks Field, Texas:

Capt. William B. Mayer  
Lieut. Milton J. Smith

Fort Crockett, Texas:

Capt. Alfred Lindeburg  
Lieut. Nathan F. Twining

Kelly Field, Texas:

Capt. Morris Berman  
Lieut. Ray G. Harris

Barksdale Field, La.:

Capt. Edward V. Harbeck, Jr.  
Capt. John P. Temple

Maxwell Field, La.:

Lieut. Clarence F. Horton  
Lieut. Edwin R. McReynolds

Rockwell Air Depot, Calif.:

Major S.W. FitzGerald  
Capt. Clarence P. Kane  
Capt. Barney M. Giles

Crissy Field, Calif.:

Capt. Harvey W. Prosser  
Lieut. Richard C. Lindsay

Scott Field Air Depot:

Lt.-Col. Frank M. Kennedy  
Capt. Michael E. McHugo  
Lieut. George G. Cressey

San Diego, Calif.:

Lieut. C.H. Ridenour, Tech. Supervisor

## TECHNICAL SCHOOL ACTIVITIES

On August 1, 1933, the Air Corps Technical School Detachment of Chanute Field ceased to exist, and, in its stead, there were established by direction of the War Department, and under supervision of Lieut.-Col. James A. Mars, Air Corps, two School Squadrons and Air Corps Technical School Headquarters. The establishing of the school squadrons fills a long felt need. The former A.C.T.S. Detachment constituted a large, unwieldy and unsatisfactory arrangement, resulting in excess overhead.

The 48th and 98th School Squadrons, each of 135 men, now provide for better efficiency and economy in operation. The 48th School Squadron is commanded by Capt. James F. Powell, Air Corps, while the 98th School Squadron is under command of Capt. Edward H. Wood, Air Corps.

A.C.T.S. Headquarters, consisting of 90 men proper, has attached all students from other stations, and all of the Air Corps, Chanute Field (unassigned) Cadre, totalling for the organization, approximately 500 men. A.C.T.S. Headquarters is commanded by Capt. Earl G. Harper, Air Corps.

The organizations and detachments at Chanute Field are at this time practically at full authorized strength. The Air Corps organizations and the Medical Detachment have been filled through the Chanute Field Recruiting Office, while there is remaining one vacancy in the Detachment, Quartermaster Corps, which, it is expected, will be filled within the next few days.

On September 5, 1933, the new Department of Clerical Instruction at the Air Corps Technical School started its first class with twenty enlisted students, five of whom are from Chanute Field, the other fifteen being from other Air Corps stations. The new department presents a Course of Instruction for Air Corps Supply and Technical Clerks, specializing in Supply, Engineering, and Operations office work. The course is twenty weeks in length, and two classes will be held consecutively during each school year. The Department of Clerical Instruction constitutes a fifth department of the Air Corps Technical School, and is under the supervision of Lieut. Herbert W. Anderson, Air Corps, as Director, while Mr. Frank E. Fish, of Rantoul, Ill., former court reporter of Chanute Field, is the Chief Instructor of the new department.

The first class will graduate on January 26, 1934, and it is expected that the graduates, on returning to their home stations will be in much demand in the Supply and other technical offices, inasmuch as the need of enlisted men trained in this type of work has been long felt. Eligibility requirements for this course are somewhat higher than for other enlisted courses in the Air Corps Technical School, because of the nature of the course, and it is found that the first class consists of men of an exceptionally high calibre.

On Sept. 5th, instruction was resumed at the Air Corps Technical School, after the six weeks' Summer period of cessation of instruction. All Enlisted Men's Classes resumed instruction, with the exception of Radio Mechanics and Operators Classes with less than twelve weeks of class work completed prior to the recent fire. No new enlisted classes in Radio or Photography will be started at this time because of the loss of equipment in the fire. All classes in Armament and the Department of Mechanics have been resumed according to schedule.

On Friday, September 1st, a convocation of officers of Chanute Field was held for the new student officers of the Air Corps Technical School. The new officers were addressed and welcomed by Lieut.-Col. James A. Mars, Air Corps, Commandant of the School, followed by Maj. P.E. Van Nostrand, Air Corps, Assistant Commandant, and Capt. Samuel C. Skemp, Air Corps, Secretary.

The Officers' Classes starting instruction at the beginning of the school year, consist of the Maintenance Engineering-Armament Class of 26 officers, commencing on Sept. 1, 1933, and ending on June 30, 1934, and the Photographic Class of 3 officers, commencing on Sept. 15, 1933, and ending on June 30, 1934. The Communications Officers Class will not be held during the present school year, due to loss of equipment in the recent fire at Chanute Field.

Lieut. Robert W. Harper, Air Corps, Personnel Adjutant of Chanute Field is completing examination and induction of an Autumn group of selectees for the Civilian Conservation Corps, from the Central Illinois District. This group totals 315, including 28 World War veterans. The veterans are inducted at Chanute Field, and sent to Fort Sheridan, Ill., for processing. Other selectees are received at county headquarters, and are sent by rail to Fort Sheridan. This is Lieut. Harper's second tour of examination of candidates for the Civilian Conservation Corps and the district assigned to him at this time is twice as large as that covered

by him on his first selection trip.

A recent notable change in the curriculum of the Air Corps Technical School, instituted under revision of Army Regulations, combines the Officers' Courses in Armament and Maintenance Engineering. Formerly the Maintenance Engineering Course was nine months in length, while the Armament Course extended over a six months' period. Under the revised curriculum, the two courses, instead of being presented separately, a student receiving only one of the two, are combined, and all student officers in the two departments will receive the new combined Maintenance Engineering-Armament Course, covering a total period of ten months, of which seven are allotted to Engineering, and three to Armament.

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#### FLIGHTS

In the category of "Things the Army Does Besides Fight" may be classified the assistance being given by the 11th Bombardment Squadron and the 95th Pursuit Squadron, March Field, Calif., to Dr. Robert Millikan and his colleague, Dr. Victor Neher, both of the California Institute of Technology, Pasadena, in their efforts to find the cosmic ray nearly four miles above the earth. These two men have sought for the elusive ray all over the United States, Canada, South America and Central America.

Carrying the delicate, self-recording instruments designed by Dr. Millikan for the experiments, a bomber was flown in the first series of 14 to 16 trips to the altitude of approximately 19,000 feet. A different officer pilots the plane, a B-2 "Condor", on every flight in order that as many officers as possible will get this valuable experience. Present plans call for a flight of one hour and 15 minutes at the 15,000 ft. elevation, and a flight of this duration at the 19,000 ft. altitude. A different enlisted man is also carried on every trip.

Col. A.G. Fisher, Commanding Officer, and Lieut. T.H. Chapman, Engineering Department, San Antonio Air Depot, recently made an extended aviation tour to Ft. Crockett, Texas; Barksdale Field, La.; Hensley Field, Texas; Hatbox Field, Muskogee, Okla.; Lowry Field, Denver, Colo.; Biggs Field, Ft. Bliss, Texas, and return, for the purpose of conferring with Commanding Officers of Regular Army and National Guard Air Corps activities at those stations on maintenance of equipment and supplies.

Lieut. Wm. J. Hanlon, accompanied by Mr. J.M. Dixon of the Field Service Section, Air Corps Materiel Division, Wright Field, Ohio, on a tour of various Air Corps activities, conferring on engineering and supply matters and civilian personnel classification, visited the San Antonio Air Depot recently.

Lieut. D.F. Fritch, of the Engineering Department, San Antonio Air Depot, made a trip by rail to the plant of the Bellanca Aircraft Corp., New Castle, Delaware, and ferried to the Depot a new C-27A Transport.

Capt. Arthur I. Ennis and 1st Lieut. J.H. Hicks recently flew an O-35 airplane to Dayton, Ohio, where they served as members of a Board of Officers at that station to consider the suitability of the YO-40A and B and the O-43 airplanes.

Capt. Albert F. Hegenberger, Air Corps, took off from Wright Field, Ohio, Oct. 18th in a BT-2B airplane, equipped for instrument navigation, which he ferried to Rockwell Field, Calif., where he will inaugurate classes in instrument flight and landings in accordance with the recently developed Air Corps system, and give demonstration instruction. He will return to Wright Field in approximately a month's time, stopping en route at Brooks and Chanute Fields in connection with Instrument Flying and Landing installations.

Capt. H.Z. Bogert and Mr. W.E. Savage, in charge of the Structures Unit at Wright Field, flew to Santa Monica recently to witness tests on the structure of a new contract amphibian at the plant of the Douglas Company.

Capt. Camblin, 79th Pursuit Squadron, Barksdale Field, La., just returned from an official trip to the West Coast where he visited the Boeing Plant at Seattle, Wash., and inspected plans and structures of the new P-40 plane.

Lieut. D.R. Goodrich, of the Fairfield Air Depot, Ohio, proceeded by rail to Santa Monica, Calif., and ferried from there an O-38E to the Municipal Airport at Cleveland, Ohio.

Lieut. P.D. Coates, Commanding the 1st Photo Section, Brooks Field, Texas, recently departed in a Fairchild Photographic plane for Galveston, Texas, to work on a photographic project of the coast line between Galveston and Corpus Christi, Texas, for the U.S. Coast and Geodetic Survey.

Following their attendance at the annual Supply and Engineering Conference at the Materiel Division, Col. A.G. Fisher, Commanding Officer; Capts. R.B. Walker, Chief Engineer Officer, R.V. Ignico, Depot Supply Officer, all of the San Antonio Air Depot, proceeded to Middletown, Pa., Air Depot; Mitchel Field, N.Y.; Hartford, Conn.; Paterson, N.J.; Philadelphia, Pa.; Baltimore, Md., and Langley Field, Va., for conference in connection with various Air Corps matters. They were accompanied on this trip by Sgt. John H. Price as mechanic and Mr. L.A. Hershey of the Operations Office of the Depot.

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#### BOMBER CREW JUMPS TO SAFETY

Staying with his burning Bomber until he had lost all hope of saving it, 2nd Lieut. Kenneth Gardner, Air Reserve, of the 31st Bombardment Squadron, March Field, bailed out after having ordered his two companions in flight, Tech. Sgt. J.C. Carter and Pvt. 1st Cl. Kenneth D. Russell, also of that squadron, to take to their parachutes. Lieut. Gardner and Pvt. Russell landed without injury. Sgt. Carter, however, sustained an injury to his vertebra when he was dragged after he hit the ground, and he will be confined to the March Field hospital in a cast for at least two months.

While flying between Azusa and Baldwin Park, Calif., at about 10:30 A.M., the port motor of the twin-engined Bomber burst into flames at an altitude of 3,500 feet. Lieut. Gardner ordered his crew overboard and then attempted to extinguish the fire. The flames increased in scope, however, and he was forced to leave by the time the plane descended to 1400 feet. Upon striking the ground the Bomber's fuel tanks exploded with a roar heard throughout the district. The fire reduced the wreckage to ashes, consuming all except the aluminum parts and the engines.

Lieut. Gardner and the other flyers in the group had been ordered by radio to reconnoitre over a large area and rendezvous over Pomona, Calif. Lieut. Gardner was making his way towards the meeting place when the fire broke out. He had applied for a training jump a few days previous to the time the accident occurred. The mishap relieved him of the necessity of making the training jump, and he has secured, in addition, the added thrill of being initiated into the Caterpillar Club.

It may be mentioned that the accident occurred on Friday, October 13th.

2nd Lieut. Edward Dorsey, Air Reserve, of the 95th Pursuit Squadron, March Field, may claim a week's seniority over Lieut. Gardner and his two companions in that mythical organization, the Caterpillar Club. His emergency jump occurred on October 6th, when his engine failed in the desolate Gila Bend area in Arizona, and he was unable to find a safe landing place. Lieut. Dorsey was one of the pilots in a six-plane Pursuit formation, led by Lieut. Schoenlein, which was flying a problem. The formation left March Field for Tucson, Ariz., and returned in a night flight. Lieut. Dorsey was uninjured, but his plane was completely demolished.

It may be added that the Caterpillar Club membership is fast nearing the 600 mark, a total of 593 lives having been saved thus far in this country, as far as known, through the medium of emergency parachute jumps. Twenty-three repeater jumps have been made by members of this mythical organization.

The 7th Bombardment Group Headquarters Detachment, March Field, Calif., celebrated the birth of their organization on Sept. 21st. Deep sea fishing occupied the attention of the members of this organization, with Lieut. Jean Byerly carrying off the honors for hooking the most ocean-going beauties.

Orders were received at Fort Sill, Okla., changing the designation of the 1st Balloon Company to the 1st Balloon Squadron, effective as of midnight, Sept. 30, 1933.

On Oct. 5th a "Quarterly Test of Airplanes", with full military load, was conducted in conjunction with a flight to altitude.

Other flying for the month included radio communication and photography with the Field Artillery School and routine training, in compliance with the "War Department Training Directive". The course in "Instrument Flying" is well under way and is proving very interesting.

Lt.-Col. Reynolds, Air Corps, departed Sept. 26th for Maxwell Field, Ala., to confer with the faculty of the Air Corps Tactical School. Lt.-Col. Reynolds is instructor at the Field Artillery School, Fort Sill, Okla., and is assigned to Flight "E" for flying duty.

On Sept. 29th, Lt. Gaffney, commanding a Student Pursuit Flight of nineteen airplanes from Kelly Field, stopped over night en route to El Paso. The following day a Student Observation Flight, consisting of fourteen airplanes led by Col. Clagett, arrived and remained over night. On Oct. 4th, Lt. Griffith, with twenty students from the Pursuit Section at Kelly Field, dropped in for gas, oil, food and shelter. The next morning, just after this flight cleared for El Paso, Lt. McHenry, with nineteen observation planes from Kelly Field, flew in for an over night stop.

On Friday, Oct. 13, Lt. L.C. Craigie made a perfect landing in a hay field near Cogar, Okla. A broken exhaust valve hammered through the piston head freezing the engine. A new engine from this station was taken up by truck and installed the following day and the BT-2B was flown back to Fort Sill. The forced landing occurred over some of the roughest country in southwestern Oklahoma and the field was the only one available for several miles around. Lt. Craigie has marked all the Fridays that fall on the 13th of the month as just ordinary days when anything is likely to happen.

Bids for the completion of new Air Corps Quarters have been let and work is expected to start at any date. It is expected that the new barracks and quarters will be ready for occupancy by not later than November 30th.

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#### MAJOR POOLE TO RETIRE

One of March Field's most popular officers, Maj. Francis H. Poole, Medical Corps, and a Flight Surgeon at this field for the past several years, will retire from the Army on December 1, 1933. During the time Maj. Poole served at this post he has made many friends among commissioned and enlisted personnel.

Maj. Poole was born in Pennsylvania and received his degree of Doctor of Medicine from Columbia University in 1902. Twenty years later he graduated with honors from the Flight Surgeon's course, School of Aviation Medicine at Brooks Field, Texas. He became a Captain in the Officers Reserve Corps shortly after the declaration of war with Germany, and was promoted to Major the following January. He received his commission in the Regular Army in October, 1920.

Major Poole served three years as an enlisted man in the Cavalry and Hospital Corps, from 1894 to 1897, and again in the Cavalry for the duration of the Spanish-American War. He was out of full time service for nearly twenty years, but served with the Idaho National Guard as a Medical Officer for several years.

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Mrs. C.M. Savage, wife of Captain Savage, stationed in the Office of the Chief of the Air Corps, recently arrived at Wright Field in her own plane on her way to St. Louis to enter the Liberty Aerial Treasure Hunt, a contest for men and women amateur pilots sponsored by Liberty Engine. The flight from Washington to Dayton, Mrs. Savage stated, was her first long cross-country trip, but she came through without difficulty and took off for St. Louis with enthusiasm. Wright Field personnel extended her their best wishes for success in her flying venture.

The Air Corps extends its deepest sympathy to Lieutenant George E. Henry, Air Corps, over the sad and unexpected death of Mrs. Henry, who passed away at the Letterman General Hospital, San Francisco, Calif., on October 12th. Lieut. Henry recently reported for duty at Crissy Field from the Philippines.

## NATIONAL GUARD ACTIVITIES

Pilots of the 28th Division Aviation, Pennsylvania National Guard, flying six airplanes, flew to Wilkes Barre, Pa., on Oct. 7th, and from there proceeded in formation to Bloomsburg, Pa., where they were the guests of the local flying club. The participants in this group aviation flight were Maj. Dallin, Capt. Dickens, Lieuts. Scattergood, Jablonski, Bradford, Miller, Barringer, Merrill, Humphreys, Brenner, Staff Sgts. Pyle, Brasko and Winters.

The unit just received one of the new O-38E's, and everyone is very anxious to give it a try-out.

Since the last news letter, additional information was received regarding the detail with the 213rd Coast Artillery (AA) at Virginia Beach, Va. Lieut. Scattergood and Mr. Sgt. John Kelly were first to indulge in flying operations at Virginia Beach, after their plane was reassembled following its removal from the flooded Philadelphia airport. Their first two days were very busy ones, for them, as they were forced to perform all the missions alone. These went off without a hitch, due to the experience and splendid cooperation of the officers and men of the 213th. Two days later two planes, flown by Maj. Dallin with Sgt. Hollenback and Lieut. DeCoursey with Sgt. Dawson arrived and they prepared to carry out their part of the mission. The new type of target equipment worked splendidly, causing very little trouble and less loss of targets. Having the gas and oil supplies at the Virginia Beach field instead of at Langley Field made the servicing of the planes much easier and caused less delay all around.

Headquarters Battery of the 213d assigned a crew of men to fold targets and service ships, and these men were undoubtedly a help to make the complete mission successful. There was much less mechanical trouble both with the airplanes and target equipment than in previous years, due to better and more up-to-date materials. Due to reduction in ammunition supply, there was necessarily much less flying time than formerly, but the experience gained by the airmen and the artillerymen was excellent and will undoubtedly help in future missions of this kind.

The 11th Obs. Squadron, Texas National Guard, has been busy since the annual fifteen day field training period in August at Camp Hulen, Palacios, Texas, in finishing bombing and aerial gunnery. The last week of the training period was inactive on bombing and gunnery practice due to rains, making the landing field soft and unsafe. Since the return to the home station the squadron has dropped dummy bombs on a target just off the flying field. Arrangements have been made to wind up the aerial gunnery practice on tow targets off Galveston Island, 50 miles south of Houston.

The first week in October, Major Blackburn returned from the Douglas factory at Santa Monica, Calif., with another and the second O-38E ship for the squadron. One of the E's is now being equipped for instrument flying.

The squadron insignia, "Ace in the Hole", has been approved by the War Department and now decorates all ships in the squadron. The insignia is two feet in diameter, a circle, placed just back of the rear cockpit on the fuselage. The star of Texas in blue and orange is symbolic of the Lone Star state, the blue and orange representing the Air Corps colors. In the center of the star protruding through an opening is seen a corner of the ace of diamonds, symbolic of the advantage of the squadron has over the enemy. The black and white circles surrounding the insignia are symbolic of oil and cotton, the chief mineral and agricultural products of Texas. 1st Lieut. Earle T. Showalter designed the insignia which was approved by the Secretary of War.

While credited with but thirty-six drill periods annually, the squadron is carrying on with forty-eight, the officers and men showing up every Sunday regularly.

Activities of the 154th Observation Squadron, Arkansas National Guard, have been numerous since the annual encampment. New assignment of officers are as follows:

Maj. Williamson, Commanding; Capt. Romich, Executive Officer and Supply Officer; Capt. McSwine, Officer in charge squadron schools, and Equipment Officer; Captain Baker, Flight Commander; Capt. Cronk, Flight Commander; Capt. Chrisp, Operations Officer; Lt. Adams, Adjutant; Lt. Perciful, Personnel Adj.; Lt. Fee, Communications Officer; Lt. Howe, Asst. Engineering Officer and Asst. Operations; Lt. Taylor, Parachute Officer; Lt. Hopson, Armament Officer, Lt. Garbacz, Asst. Communications; Lt. Bell, Asst. in charge Squadron Schools; Lt. Holbert, Asst. Supply; Lt. Fagan, Athletic Officer.

Operations under the supervision of Capt. Chrisp has been progressing rapidly. Night aviation, night reconnaissance, and radio communication from ground to ship and ship to ship is being participated in by all sixteen flying officers. Due to the limited flying time allotted to National Guard Squadrons, daytime cross-country flights are held to the minimum. Day flying is being consumed by instruction in "Instrument Flying", under the able leadership of Lt. Chas. Horn, Reg. Army Instructor for the Squadron.

Communications report that all Squadron Officers are "qualified operators", and have completed a strenuous course in Artillery Adjustment. A new miniature range is in the process of construction, and a complete test bench has been completed in the radio section, to test all radio equipment before installing in airplanes. Sgt. Van Homard, a recent graduate of Chanute, in communications, along with his assistants, (all qualified radio mechanics) are making this section hum.

The Squadron has just received a new O-38E and seems to be well satisfied with its performance. Other equipment consists of two O-38's, one BT-1 and one O-2-H. Dayton has sounded the death knell on all Liberties. Seems a shame too, because that old motor lulled the pilot's fears, like a mother crooning to her baby.

The squadron regrets the loss of Maj. John Carroll Cone, recently resigned, who accepted a position in Washington, as Asst. Director of Aeronautics, Department of Commerce. Maj. Cone served as Commanding Officer of the Squadron for five years, and through his capable leadership, the Squadron achieved very much. In his place steps Maj. Adrian Williamson, a veteran of wartime Kelly, with fifteen years flying experience.

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#### AIR DEPOT ACTIVITIES

During September, the Engineering Department of the San Antonio Air Depot overhauled a total of 29 airplanes and 64 engines and repaired 9 airplanes and 17 engines.

Fire Prevention Week, October 8th to 14th, was observed at the San Antonio Air Depot with a thorough inspection of the station by a Board of Officers with reference to proper fire precautions and tests of fire protection equipment.

At the Fairfield Air Depot, Patterson Field, Ohio, during the month of September, 17 airplanes and 40 engines were given a major overhaul and 21 airplanes and 14 engines a minor overhaul.

The Engineering Department of the San Antonio Air Depot, during the month of August, overhauled 20 airplanes, 59 engines and repaired 27 airplanes and 25 engines.

Officers from other stations attending the regular monthly Control Area Supply and Engineering Conference at the San Antonio Air Depot on September 5th were Major T.W. Blackburn, Commanding the 36th Division Aviation, Texas National Guard, Houston; Capt. E.V. Harbeck, Jr. and Lieut. T.M. Bolen of Barksdale Field, La.; Capt. Alfred Lindeburg, Fort Crockett, Texas, and Capt. M.R. Wood, Air Corps Instructor with the Colorado National Guard, Denver, Colo.

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#### DEATH OF LIEUT. W.L. STRIBLING, JR.

News of the death of Lieut. W.L. Stribling, Jr., Air Reserve, as a result of a motorcycle accident, was received with deep regret by Air Corps personnel.

The Chief of the Air Corps, who forwarded a telegram of condolence to Mrs. Stribling, received from her the following communication:

"The Striblings  
Macon, Georgia.

October 19, 1933.

Dear Sir:

The message from the personnel of the Air Corps is deeply appreciated.

"Strib" thought so much of his fellow officers in the Aviation Section and will always be grateful for the many favors extended to him, particularly during the training period and later after he received his commission.

He prized second to no other position his lieutenancy and always looked forward to seeing the other members of the Air Corps.

The parting gesture which was extended during the hour of his funeral was a comfort indeed to us and the honor is deeply appreciated by every member of his family.

Thank you so much for your thoughtfulness, and I wish for you personally and the other fine men in the Air Corps all the good things of life in future years.

Happy landings for all,

Sincerely,  
Mrs. W.L. Stribling, Jr.

B.D. Foullois, Chief of Air Corps,  
Washington, D.C."

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WAR DEPARTMENT ORDERS AFFECTING AIR CORPS OFFICERS

CHANGES OF STATION: To San Diego, Calif.: Capt. Charles W. Sullivan, from Rockwell Field, for duty as Technical Supervisor of Rockwell Air Depot Supply Control Area; vice 1st Lieut. Carlyle H. Ridenour, ordered to duty at Rockwell Field.

To Maxwell Field, Ala.: 1st Lt. Stanley M. Umstead from Bolling Field, D.C.

To Langley Field, Va.: 2nd Lt. David H. Kennedy from duty as student at the Advanced Flying School, Kelly Field. Previous orders in his case revoked.

To Scott Field, Ill.: 2nd Lieut. Andrew Meulenberg from Advanced Flying School, Kelly Field. Previous orders in his case revoked.

PROMOTIONS:

To Captain: 1st Lieuts. Frederick von H. Kimble, William J. Hanlon, Howard A. Craig, David R. Stinson, Joseph T. Morris, Armor S. Heffley, rank from October 1, 1933; William R. Sweeley, George A. McHenry, Jr., rank from October 17, 1933;

To 1st Lieutenant: 2nd Lieuts. Walter W. Gross, Otto C. George, John N. Jones, rank from Oct. 1, 1933; Leo W. DeRosier, Gordon P. Saville, rank from October 17, 1933.

DETAILED TO THE AIR CORPS: and to Randolph Field, Texas, for primary flying training: 2nd Lieuts. Jean E. Engler, John M. McGee, Infantry.

RETIREMENTS: 2nd Lieut. Edward A. Dodson, Sept. 30, 1933, for disability incident to the service; Major Maxwell Kirby, from Langley Field, Va., to proceed to his home to await retirement.

ORDERS REVOKED: Assignment of Capt. Russell L. Maughan to Barksdale Field, La., upon completion of tour of duty in Philippines.

ASSIGNMENT OF GRADUATES OF ADVANCED FLYING SCHOOL: To Hawaiian Department:

2nd Lieuts. Byram A. Bunch, Daniel S. Campbell, Leo P. Dahl, James W. Gurr, Donald L. Hardy, Thomas S. Morgan, Eugene P. Mussett, Nicholas E. Powell, Clifford H. Rees, Edwin G. Simenson, Robert H. Terrell, Benjamin J. Webster, Sam H. Wiseman.

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13 MAR 1934







vol 17/1933

