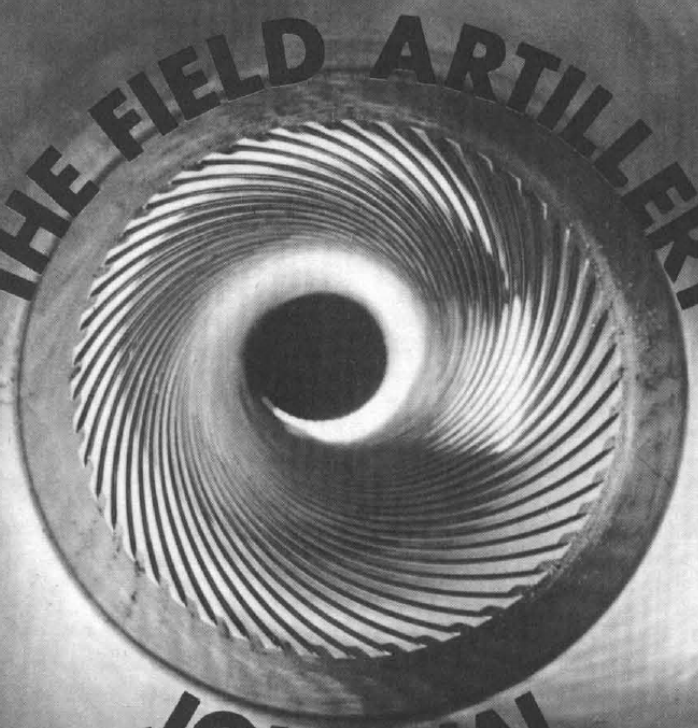
JULY 1973



THE FIELD ARTILLERY JOURNAL

In this issue:

FRENCH ARTILLERY

AUTOMATIC ARTILLERY

GAP IN TARGET ACQUISITION

TEACHING ARTILLERY TO THE INFANTRY

From The Editor

In January 1911, 62 years ago, a new military publication appeared within the U. S. Army, **The Field Artillery Journal.** This excellent Journal, first edited by CPT W. J. Snow (later to be MG Snow, Chief of Artillery) was published continuously until 1950. At that time it was merged with the Infantry to form **The Combat Forces Journal** later changed to **Army,** published by the Association of the United States Army.

As you can see, **The Field Artillery Journal** has been resurrected. Department of the Army after an exhaustive study of DA periodicals has published guidance for all service school publications. This guidance will enable us to publish on a regular basis as opposed to "whenever sufficient instructional material is available." As BG Koch, the Assistant Commandant indicated in his open letter in the October 1972 issue of **The Field Artilleryman,** (to which many of you favorably responded) we intend to publish under the "forum" concept. That is, we will rely heavily on those of you in the field for input while striking a balance with information from USAFAS.

This issue represents our initial effort to publish under this concept. For the first time in 23 years Field Artillerymen will have a Journal. As you read through the issue you will find that we have done more than change the name and the size. As food for thought, we have selected certain articles for publication that represent the author's viewpoint, not necessarily an approved school position. Some regular features have also been added which we think you will find interesting.

Major Coffman's excellent article on the state-of-the-art of target acquisition equipment is both interesting and thought provoking. Captain (now Mister) Jeff Fisher's article on an automated M109 won him a nomination for a Combat Developments Command Creative Thinking Award. For the history buffs, Ensign Donald White has provided the details on what is acknowledged to be the oldest continuous commissioned military unit in the United States, the Newport Artillery Company. For the general interest and information of the readership, LTC Clarke M. Brandt, MSC, has explained what happened to the battalion surgeon and the Redlegs from The Infantry School have contributed an article on their instructional activities.

For the readers interested in information from the School, we have included a trip report of the first Advanced Course visit to Bergstrom AFB, Texas, and the Navy Amphibious Warfare School at Coronado, California. COL Francis A. Leclerc, the French Liaison Officer to USAFAS, has written a thorough review of the French Artillery. Three officers, formerly with the Tactics and Combined Arms Department have discussed an additional training dimension to the versatile M31, 14.5 Trainer, that of direct fire and antitank training.

We have also established several regular features or departments which, we hope, will be of interest to you. Firing the Corps and Trooping the Line will contain notes from Officer Personnel Directorate, Field Artillery Branch and Enlisted Personnel Directorate respectively.

To go along with our "forum" concept we have added Right By Piece. This portion of the magazine will be dedicated to field artillery units everywhere. What we are looking for are training tips, unit accomplishments and/or just "better ideas"; anything you feel would be of interest to other units. We apologize to LTC Richard Rice and MAJ Charles Wascom of the 3d Infantry (MARNE) Division Artillery. LTC Rice sent the information on the Spirit of ′76 Marchers, men of his battalion, and MAJ Wascom, S3, 1st Bn, 10th FA, provided the poop on the 14.5 training in Germany. Both sent excellent articles, unfortunately space did not permit us to print them in their entirety.

To keep up to speed on the latest developments and future plans from The Field Artillery School, you may refer to the section entitled View from the Blockhouse, an obvious reference to the overview of the post provided by Signal Mountain.

You will also notice that we have included a section devoted to the wives associated with the Field Artillery entitled The Molly Pitcher Page. The idea came from the information we have received from the field indicating the extent to which units have been keeping their ladies and families informed of their duties and missions.

Lastly we have added a Letters to the Editor page entitled "Incoming." All readers are encouraged to send us their ideas and comments on the new format. We would like to emphasize that none of it is "locked in concrete." We will remain flexible. This is **your Journal** and it is our desire to make it conform to **your** tastes.

Just a word concerning the submission of articles and information for the magazine. Articles should be approximately 1500-2000 words in length. They may vary depending on the subject. Double space the copy and keep the pictures and/or illustrations separate. We can use colored photos but prefer black and white. For best reproduction they should be glossy and as large as possible, preferably 8″ × 10″ Letters and articles may be sent to US Army Field Artillery School, ATTN: ATSFA-AW, **The Field Artillery Journal,** Fort Sill, Oklahoma 73503.

Enjoy the issue!

Editor

ABOUT THIS ISSUE

Volume 41 **Number 1**

The cover is a view through the tube of a 155mm Howitzer

INCOMING

Letters to the Editor

Dear Editor:

As you know from my last visit to Fort Sill we in the 2d Armored Division Artillery are extremely interested in insuring that the Field Artillery becomes a leader in the Modern Volunteer Army in advancing innovative and dynamic professionalism among the Officer Corps.

A subject that we at Fort Hood have been discussing among ourselves for sometime is the desireability of a "new" Field Artillery Journal, and I want to take the opportunity to pass on these thoughts in response to your (BG Koch) open letter on this subject in the October "Field Artilleryman".

The general format and layout of the journal should be comparable to "ARMY", "ARMOR", and "INFANTRY" magazines, being a "slick" and professionally layed out. It's recognised that the cost of such a magazine could not be borne by the School; however if the format and contents are professionally challenging and high quality I am sure Field Artillerymen active and retired will support it through subscription sales.

The subject material for the journal should be thought provoking, controversial at times, and first and foremost should tell of the Field Artillery's past contributions in support of the Army's mission and it's future. We need to tell the "real" story of our part in the Vietnam action where in many cases the Field Artillery was the "Combat Arm of Decision", that we hit what we were firing at and we were not always indiscriminately "throwing steel around the jungle" with no apparent results.

Keeping our officers up to date on the technical advances of the branch should certainly have a part in the Journal. Thought provoking discussions on possible future desirability of having a tactical Artillery Brigade or even an Artillery Division in the force structure, and Field Artillery General Officers would be encouraged as far out as this might seem.

There should be a section within the Journal allocated to Field Artillery Branch Operations (OPO). This section could include available assignment locations, specialty programs and detailed discussions of personnel management changes such as the "dual track" career patterns. As in the old Field Artillery Journal, although the Army strength increase might preclude it, an annual listing of all Field Artillery Officers and their current assignments would keep the members of the Field Artillery family in touch with each other. Another possibility in the same vein would be to publish a list, by major command, of those officers in command of Field Artillery units.

To assist you in your actions toward a new Field Artillery periodical we of "Hells Fires" will contribute articles that would be appropriate as soon as a publishing date is fixed. I hope these thoughts will be of help to you and you can count on the 2d Armored Division Artillery as a strong and continuing supporter in your endeavors toward establishing a Field Artillery Journal.

COL ALBERT B. AKERS
CO, 2d Armored Div Artillery

Editor:

From my standpoint as a MAAG Advisor (Royal Thai Army), our problem many times is finding reference material, training aids, etc., for obsolete US Army equipment that is being put to good use by our Allies.

It is frustrating to try to explain and advise on serviceable equipment that is older than yourself in many cases. Most advisors have little or no experience on some of this equipment (technical or tactical use).

I realize that *The Field Artilleryman* functions as a vehicle to bring field artillerymen up to date on new developments, etc., but it would be nice if a small section were devoted to equipment not currently in the US inventory. Unlike old soldier's, obsolete weapons do not fade away. They function for many, many years in MAAG's throughout the world. I think it would also be interesting to show how the field artillery functioned during the "Brown Shoe Army" days, while giving helpful and useful hints that we "youngsters" can pass on to counterparts.

Devote an entire issue to Artillery Lessons Learned in Vietnam. This would be a consolidation of all previous issues, plus extracts from DA Pamphlet 350-15-14 and 350-15-15. This would be a very valuable reference book like your Oct 1972 issue is on equipment, organization, and operations.

A historical section on individual units in the field artillery. A vast store of material is available on operations and exploits of individual units in Vietnam. Veterans would enjoy reading about 25th Div/Arty, 108th Arty Gp, XXIV Corps Arty, etc.

How about an entire issue on a single subject, e.g., 105mm howitzer, development, use in combat etc. There would be many, many topics that could be included such as airmobile operations to future of the 105mm howitzer.

Finally how about making available individual articles from within each issue like *Readers Digest* does. This way you could send and get 25-50-100 copies of an article that might just be what you need for a class, etc.

I hope that above suggestions don't sound too far out in left field, but it is just some thoughts I had.

MAJ WILLIAM A. SPIN
MAAG, Thailand

Sir:

I would view with great pleasure the introduction of a new Artillery publication. I am presently away from the "mainstream" of the Army and the Field Artillery and would honestly appreciate a more comprehensive publication. *The Field Artillerymen* as now produced does a good job keeping artillerymen technically up-dated but I feel there is a need for an artillery magazine with a "looser" format. Letters, opinions, more color, more pictures, articles covering a wider spectrum of topics, and possibly input from OPO in Washington would give artillerymen everywhere in the world a better feel for just what is going on in the artillery world.

CPT JOHN S. DUTY
ROTC Instructor
Middlebury, VT

Editor:

I heartily concur with the decision to revamp our branch publication. The present format is not only inferior to the journals published by the Infantry and Armor Schools, but is so technically oriented that it offers little of interest to Field Artillerymen in general. In response to your request for suggestions I would like to make the following recommendation.

The Field Artillery Advanced Course students are currently required by the Communicative Arts Branch, Command, Leadership and Training Department, to submit a historical research paper from a list of topics covering the evolution of Artillery from Caesar's campaigns to the Indo-China Conflict. As an instructor of Military History, I serve as a technical advisor for the project as well as being a member of the board which reviews selected papers for the Writing Excellence Award.

While not all the papers can be compared to the works of Fuller, Hart and S.L.A. Marshall, a significant percentage are worthy of note. These papers represent an analysis of Artillery through the ages as seen by today's generation of Artillerymen. The inclusion of one or more of these articles in each issue of our journal would be both informative and professionally rewarding to the author.

The standard argument has been that no one would be interested in reading about Napoleonic artillery tactics or the German 88. This is invalid. My proposal falls directly in line with the recent Department of the Army guidelines placing renewed emphasis on the study of Military History. I feel that the use of selected articles would provide a significant contribution towards the Department of the Army objective as well as drawing attention to the proud heritage of the Cannoneers of yesteryear.

CPT SAMUEL W. FLOCA, JR.
Instr, Military History
Ft. Sill, OK

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The new **Field Artillery Journal** is published for the same reasons stated in the first Field Artillery Journal in 1910:

The publishing of a Journal for disseminating professional knowledge and furnishing information as to the field artillery's progress, development, and best use in campaign; to cultivate with the other arms, a common understanding of the powers and limitations of each; to foster a feeling of interdependence among the different arms and of hearty cooperation by all; and to promote understanding between the regular and militia forces by a closer bond; all of which objects are worthy and contribute to the good of our country.

Opinions expressed by the authors are their own and do not reflect the opinions of the Department of the Army or The Field Artillery School. Articles or letters should be addressed to: Commandant, US Army Field Artillery School, ATTN; ATSFA-AW, Fort Sill, OK 73503. Requests for subscriptions should be addressed to: Commandant, US Army Field Artillery School, ATTN: Bookstore, Fort Sill, OK 73503.

TARGET THOSE TANKS!

Authors: **Maj. Robert H. Sims, Jr; Cpt. Richard A. Schlime; and Cpt. George J. Blanc**
Photos by Sp5 Bill Waters

As the 105-mm howitzer battery moved down an unsecure road the executive officer signaled the column to immediately deploy and prepare to engage a column of tanks.

FIRE—Students utilize M31 trainer mounted on howitzer to engage attacking tanks. The M31 greatly increases the realism of the direct fire training.

DIRECT HITS—M48A3 tank with Simulator shows the results of exploding 14.5 rounds. Hits are in circled areas.

The executive officer commanded TARGET, TANKS, RIGHT, FIRE AT WILL. About that time, five M48A3 tanks, belching white smoke, attacked the artillery column from the right flank at a range of about 350 meters. As the howitzers were prepared for action, section chiefs began identifying targets to their sections by announcing range and lead. The command SET, SET, SET could be heard as the assistant gunner alined the proper range line of the elbow telescope reticle with the target. The command FIRE, given by the gunner, preceded the flash and bang as the crews fired. In the target area, rounds could be seen as they hit or missed the tanks. NO, THE WEAPONS WEREN'T FIRING LIVE 105-MM HEAT ROUNDS!!! Before the exercise, the battery had mounted 14.5-mm FIELD ARTILLERY TRAINERS M31 coaxially with the howitzer tube. Bursting of the small 14.5-mm projectiles fired from the trainers allowed observation of the rounds as they hit or missed. This event is part of the exercise commonly known as the 4-Day War, which is conducted during the training of Officer Basic Course students at the USAFAS, Fort Sill, Oklahoma and has proved to be an effective method of providing practical training in direct fire techniques.

The ability of the firing battery to successfully defend itself against armor attacks has long been a major concern of field artillerymen. Emphasis in this area has increased as the Vietnam war has been phased down and we again direct our attention toward training for mid-intensity confrontations involving an enemy with an armored capability. Because of this shift in priorities, increased training in the two-man, two-sight method of delivering direct fire against a moving target has been incorporated into the student training program at the Field Artillery School.

For a number of years, the M31 trainer has provided a means of training field artillery units when training areas are limited or when service ammunition is in short supply. It is a training aids device and, as such, is stored, maintained, and issued by the major army area training aids centers. It was designed as an effective but inexpensive means of training fire direction center, survey, communications, and firing battery personnel in the indirect fire role. Because the trainer can be coaxially mounted with the primary tube of any artillery piece, it can also be successfully employed to provide crew training in the direct fire role. It is

issued with, and designed to be fired from, a tripod; however, there are a number of ways to mount the trainer on the primary tube. Mounts can be easily fabricated to fit any field artillery cannon. Detailed plans for fabrication of the mounts used with the M101A1 and M102 howitzers may be acquired by contacting the 5th US Army Training Aids Center, Fort Sill, Oklahoma 73503. Refer to work order file numbers 716639 (for the M101A1) and 721725 (for the M102).

The M31 trainer fires a projectile that produces an audible report, a puff of smoke that is visible for 1,000 meters during daylight, and a flash of light visible for several kilometers at night. One charge and three types of fuzes are available for use with the trainer. In the exercise described above the M183 fixed round, charge 1 with PD fuze, was fired at M48A3 tanks.

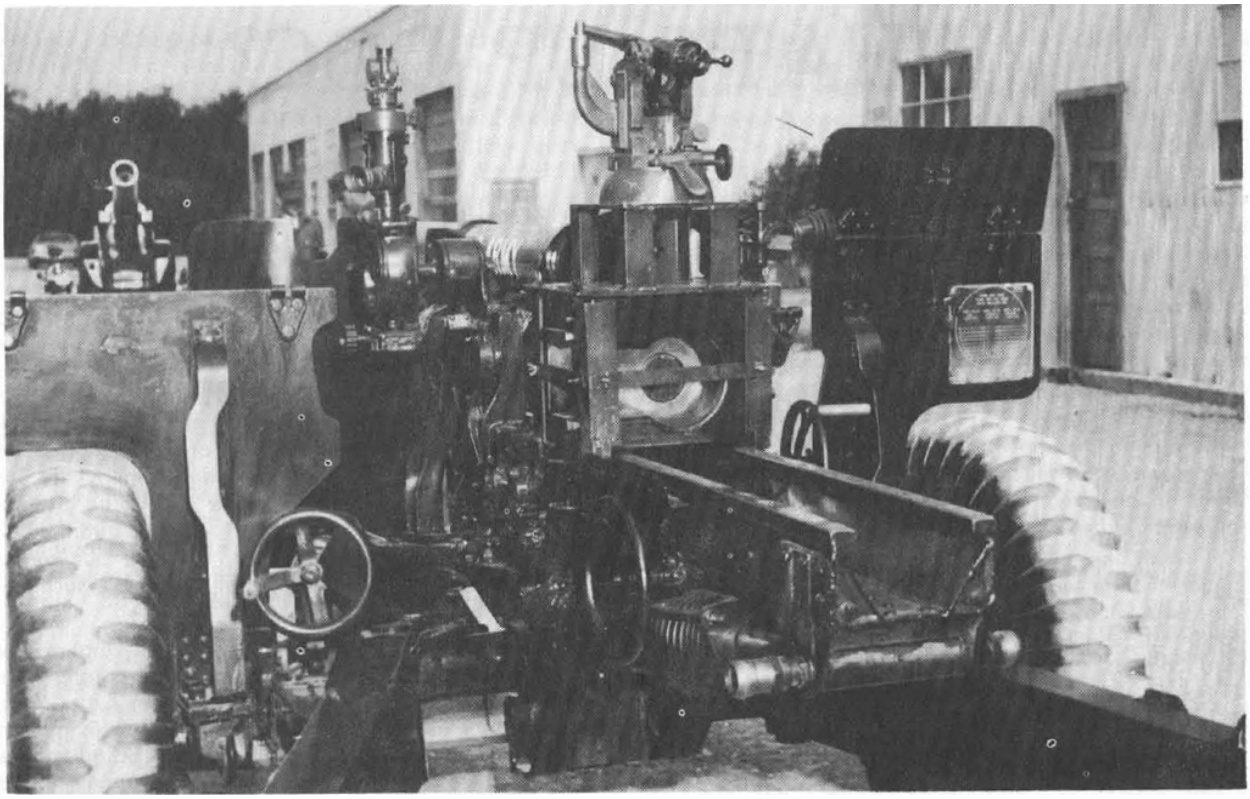
A number of steps must be taken before firing the trainer to insure a smooth, well-executed training event. The first of these steps is to brief the students on the two-man, two-sight system of delivering direct fire as out-lined in table III of FM 6-75. It is essential at this time to point out to the students that duties performed by key members of the howitzer crew when firing the trainer are the same as those performed when firing the 105-mm howitzer with one exception—instead of loading the howitzer, the number 1 man places a 14.5-mm cartridge in the breech of the trainer and the number 4 man closes the bolt and fires the trainer on the gunner's command. The next step is to provide crewmembers with the lead and range conversion factors. These conversion factors must be determined before the field exercise and are computed to compensate for the slower muzzle velocity and shorter range capabilities of the 14.5-mm projectile. Range conversion factors must be based on the optimum range to be used during the exercise. Our computations were based upon an optimum range of 200 meters. For ranges of less than 200 meters, range conversion factors are not necessary; however, for ranges in excess of 200 meters, a scale of 1 to 5 must be aplied. For example, for an actual range of 300 meters a scale range of 1,500 meters would be applied.

The remainder of the steps to be taken before an exercise involves actions necessary to prepare the howitzer-mounted trainer for firing. First, mount the 14.5-mm field artillery trainer M31 to the howitzer. Then, using the test target method, boresight the howitzer. Next, using a distant aiming point, aline the barrel of the trainer with the howitzer tube. To do this, tightly aline strings over the upper and lower muzzle witness marks to form crosshairs on both the howitzer tube and the barrel of the trainer, and traverse the weapon until the vertical string is alined with the distant aiming point. Next, with the M31 trainer loose on its mount, aline the trainer with the distant aiming point by looking through the barrel and physically turning the entire trainer on its base. When the trainer is alined properly, tighten it securely to the mount. If you should occupy a position area in which there is no suitable distant aiming point, use a plumbline to aline the trainer with the howitzer tube. Alining is the most important preparation accomplished by the battery before the exercise. If the trainer is not properly alined, the predetermined lead and range conversion factors will not be applicable and the teaching value of the exercise will be lost.

During a long road march, the trainer may work loose from the mount, causing a misalinement of the trainer barrel and howitzer tube. A method of correcting the alinement is to scribe lines, with a lead pencil, on the base of the trainer and on the mount after boresighting. Then if the trainer should work loose during the march, it can easily be adjusted by alining the scribe lines and again tightening the trainer to the mount.

The final step in preparing the weapon for direct fire is to aline the on-carriage sighting equipment of the 105-mm howitzer with the tube of the 14.5-mm trainer so that the crew, using the howitzer's sights and predetermined range conversion factors, can engage targets. To do this, it is necessary to determine the number of mils that the howitzer tube must be elevated to aline the appropriate range line of the elbow telescope with the target. The 105-mm howitzer tabular firing tables for charge 6 (HE) are used to determine the elevation required to hit a target at a range of 200 meters. The elevation determined (in this case, 15 mils) is then subtracted from the total elevation required to hit a target with the 14.5-mm trainer. Referring to the firing chart table for the 14.5-mm trainer, we find that an elevation of 98 mils is required to hit a target at 200 meters. The howitzer tube elevation is then subtracted from the trainer elevation (98 mils—15 mils=83 mils). Then, the howitzer tube is placed at zero mils elevation and the elevation of 83 mils is applied directly to the trainer by using the gunner's quadrant. The howitzer-mounted trainer will then be alined by to fire using the on-carriage sighting equipment.

In addition to the steps taken to prepare the howitzer crews and 14.5-mm trainers for firing, certain preparatory steps must be taken by the tank crews to avoid unneccessary damage to the tanks. The impact of a 14.5-mm projectile on a tank causes a powder mark 8 to 12 inches in diameter. Occasionally, paint is chipped in the center of the powder burn area. The effect is sufficient to warrant taking some measures to protect vulnerable parts of the



MOUNTED—The M31 trainer mounted on a M101A1 towed howitzer.

tank before the tank is used as a target. For the exercise described above, metal shields were placed over the exposed portions of the range finders and main gun telescope. Headlamps were removed and the hoses on the tank fire simulators were provided additional protection. All externally stowed gear was removed from the tanks before the exercise. During the exercise the tank crews remained "buttoned up" inside the tanks.

The exercise does not specifically require that tanks be used as targets. Armored personnel carriers and the M577 have also been used effectively. Although realism and training flexibility will be diminished significantly, effective training in tracking moving targets can also be gained by using a moving target range if one is available.

The students responded well to the training, and it is likely that this exercise will be around for a long time to come. The sense of urgency noted among the howitzer crewmembers had not previously been achieved when stationary car bodies were used as targets. Realistic training resulted as the students tracked moving tanks, fired the M31 trainers, and actually observed the effects of their firing upon the targets. The training and proficiency of the howitzer crews can be measured by the number of target hits obtained. Minimum range safety requirements, which limit the use of HE or HEAT, are greatly reduced when the M31 trainers are used, since targets can approach as close as 100 meters while the battery continues to deliver direct fire. Because of this, small training areas, not suitable for firing direct fire with HE or HEAT ammunition, can be used effectively to provide training in direct fire with the M31.

An additional advantage of the training is that it focuses attention on a previously little known and unimaginatively used training device with obvious value to all field artillery units.

The exercise described is only one use of the 14.5-mm field artillery trainer. Other uses are limited only by the imagination of the user. It is hoped that this article will stimulate others to explore the many uses of the M31.

BIOGRAPHIC SUMMARY

At the time this article was written, the authors were assigned to the Tactics and Combined Arms Department of USAFAS. Major Sims is presently at CGSC, Captain Blanc is in Hawaii and Captain Schlime is a student at Cameron College, Lawton, Oklahoma.

WHAT'S UP DOC?

by

LTC Clarke M. Brandt

For as long as most of us can remember, the familiar "Doc" has been an institution in our battalions. He took care of our troops, acted as our personal physician, and gave reluctant approval to our periodic desires to avoid sound medical practices that might show that we as officers were also vulnerable to disease and wounds. Thus it was, prior to the recent modification of division units as promulgated in the H series TOEs.

With the publication of the H series TOEs, a major change was made in the Medical Corps staffing throughout the division. The time-honored battalion surgeon has been eliminated from all combat and combat support battalions except the aviation battalion, which was allowed to retain its flight surgeon due to the special medical needs of the flight crews.

But why would anyone want to deprive the combat or combat support battalion of its one and only "Doc"? Several factors influenced the decision to eliminate the battalion surgeon. The individual performing duty as a battalion surgeon has undergone a significant change over the past decade. Whereas the physician entering the Army 10 years ago was primarily a general practitioner, his modern-day counterpart has usually received some training in a medical specialty and is less interested in general practice and more interested in his own specialty. Therefore, we see an entirely different individual, both in training and motivation.

Another significant factor in the elimination of the battalion surgeon is the condition of the modern battlefield itself. Rapid evacuation, particularly by air, has decreased the stay time of patients in the battalion aid station. This short stay time coupled with the limited space and equipment in an aid station essentially negates the need for many of the surgeon's specialized skills. With the wide dispersion of troops on today's battlefield, we find many casualties being taken to the nearest medical facility or bypassing the aid station in favor of a medical unit that can offer more advanced care. In these instances, the battalion surgeon can no longer exercise his total medical knowledge and skill but can only stand on the ground and watch his aid station being overflown. This is a poignant reminder that his traditional role of battalion surgeon is being downgraded.

Even though it was decided that the talents of a Medical Corps officer were no longer fully exploited at battalion level, it was recognized that someone was needed to make diagnoses, to provide a basic level of medical treatment, and to supervise the technical aspects of the assigned enlisted medics. A study was undertaken by the Surgeon General to determine how this could best be met. It was decided that a person qualified in medical matters was required, but that our current health care system did not provide such an individual.

This recognized need gave birth to what is now known as the Physicians Assistants Program. The physicians' assistants, or PAs, as they are more commonly referred to, have a precedence in military medicine. Other armies have used battalion-level medical personnel who had special training in patient care but who were not physicians. The Russian Army is a prime example of this approach to battalion-level medical support. Such an approach is new to the US Army; however, it was adopted because it offered certain advantages.

As any leader will testify, the individual who is not challenged and who is not able to function at his maximum capacity in his field will soon become bored and uninterested in his job. This affliction has struck many of our battalion surgeons because of the limitations previously discussed. The physicians' assistants, on the other hand, will not be faced with such a situation as their training and duties will be such that they will gain job satisfaction, something that is usually denied the Medical Corps officer.

To this point we have made no mention of the selection and training of the physicians assistants. Their selection and subsequent training are vital steps in preparing them to undertake the responsibilities involved in providing health care for the men of the combat and combat support battalions.

Current criteria for entrance into the Army's Physicians' Assistant program requires three years of military medical experience. Graduation from the program carries with it a four year service obligation. What does this mean to the battalion commander? Because of these two requirements, the commander will get an individual who has had

military experience, both as an enlisted man and as a medic, and who is motivated for further military service. These characteristics were generally not found in the two-year Medical Corps officers recently assigned to our battalions. With a military background, the physicians' assistants should be readily accepted by battalion commanders as members of the Army Medical Department team and as members of their battalions.

An individual applying for the Physicians Assistants Program must be a high school graduate, have a GT score of 110, be recommended by both his commanding officer and a Medical Corps officer, and possess good moral character. After the initial evaluation of the candidate's applications, an examination entitled "The USA MFSS Physicians Assistant Clinical Proficiency Test" is given to test the applicants' knowledge of medical subjects and techniques. After another screening, the top 200 candidates for that year's spaces are sent TDY to Medical Field Service School for interview and further testing. Here they undergo aptitude and psychological testing and go before a board of two Medical Corps officers. Upon completion of all examinations and evaluations, the top 120 candidates are selected for training. This thorough selection method insures that commanders receive the "cream of the crop" as their PAs.

Classes are limited to 60 students and are conducted twice a year. Training is exacting and lengthy. The aspiring physicians' assistants receive five weeks of training in military and introductory clinical subjects as they enter the course. This training is followed by 43 weeks of intensive clinical studies during which the students are taught clinical medicine as well as medical administration and preventive medicine. Many hours are spent in Brooke General Hospital learning patient care under the expert tutelage of a Medical Corps officer. The ratio of one instructor to five students cannot be matched in any other Army training program. This academic phase is followed by 24 weeks of clinical application in an Army hospital under the supervision of a preceptor. At the end of the 72-week training program, the candidates take a comprehensive final examination and each successful graduate is appointed a warrant officer, W-1, in the Medical Corps and is granted an Associate of Science degree from Baylor University.

From a description of the selection and training process, the commander can be assured of receiving a motivated and highly trained physicians' assistant. For his part, the battalion PA will be able to provide general medical care for the sick and wounded, to include diagnosis and treatment. He will be able to identify those patients requiring the attention of a physician and will arrange for such consultation. Basic preventive medicine measures will be supervised, including inspection and evaluation of dining facility operations and preparation of the Command Health Report. All these activities contribute to maintaining the health of the command just as if a battalion surgeon were assigned.

The H series TOEs retained the surgeon in the division artillery organization. Because of the principle that every physicians' assistant must be supervised by a physician, the division artillery surgeon will be assuming a greater role in the health care of members of the division artillery. In addition to his traditional roles as physician of the division artillery headquarters and staff advisor in health care matters, the division artillery surgeon will now become the professional consultant to the battalion PAs. It will be up to him to guide the PAs in their approach to patient care and to evaluate patients referred from the battalions. The increase in clinical responsibilities should enhance the professional satisfaction of the individual performing duty as division artillery surgeon.

While utilization of well-trained nonphysicians in a primary health care role seems to be an improvement in field medical support, no one should consider this an instant solution or a panacea for all our problems. There are still hurdles to cross. Because of the length of the Physicians' Assistants Program, the first PAs will not be ready for assignment to units until mid-1973, and with an annual output scheduled of only 120 PAs, it will be several years before all divisional units are staffed. There are still "bugs" in the relationship between Medical Corps officers and physicians' assistants, but these difficulties are being resolved.

The Physicians' Assistants Program is a new and dynamic attempt to provide better all-round medical support in the field by maximizing the talents of Medical Corps officers without sacrificing sound medical care at battalion level. If the program is a success, we can expect to see it expanded to nondivisional artillery units as well as other combat support battalions outside the division structure. With a positive attitude by Medical Corps officers, physicians assistants, and commanders, the program should be a success.

BIOGRAPHIC SUMMARY

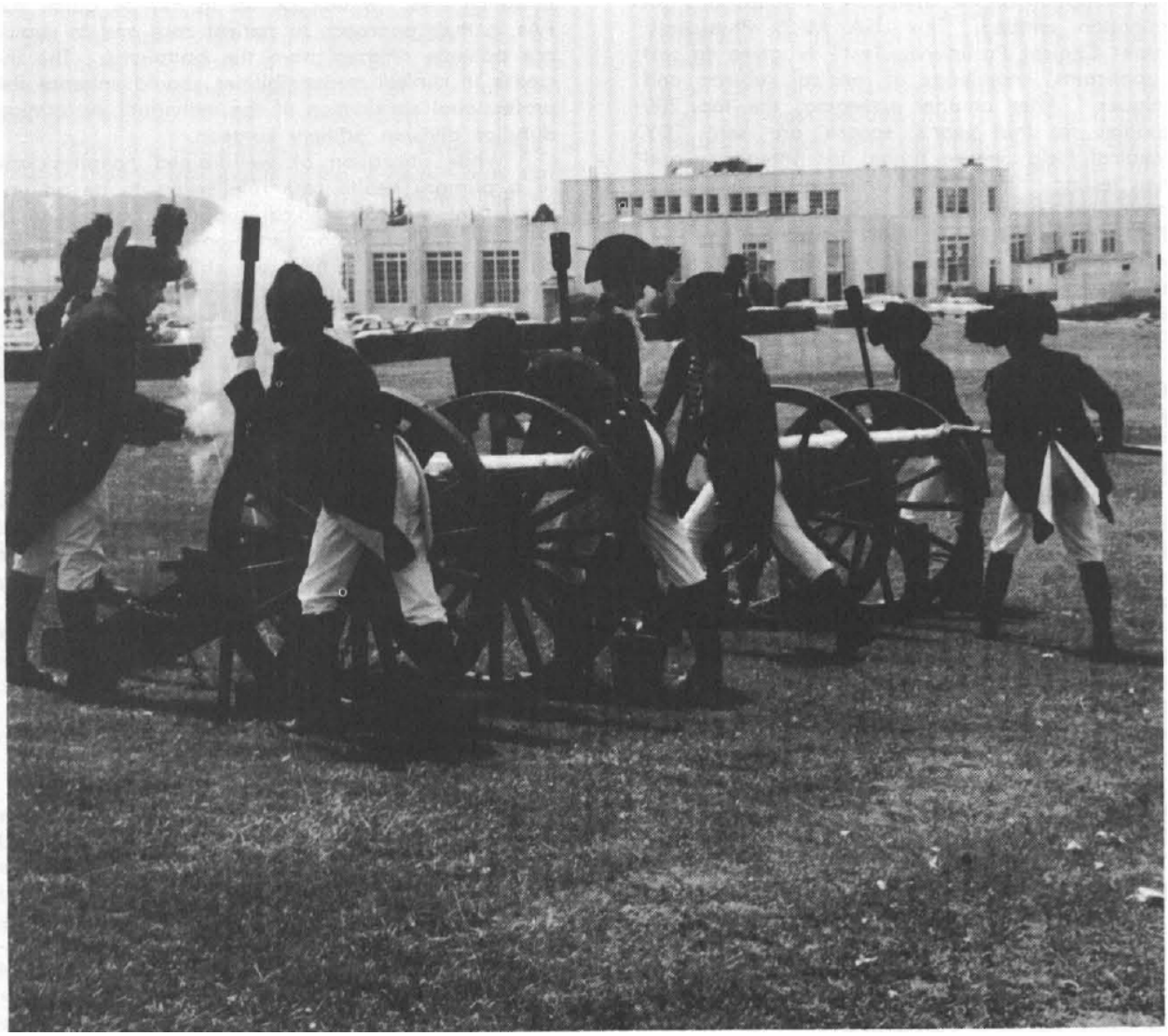
Lt. Col. Clarke M. Brandt is an officer in the Medical Service Corps. He is a 1953 Distinguished Military Graduate of New Mexico Military Institute and a graduate of the U. S. Army Command and General Staff College. He has served in a variety of assignments in the Army Medical Department including a tour as Commanding Officer, 5th Medical Battalion. Lieutenant Colonel Brandt was the senior medical instructor at the U. S. Army Field Artillery School from June 1969 to August 1972 as well as the Chief, Combat Service Support Branch, Tactics and Combined Arms Department. He is currently doing graduate work in educational media at the University of Northern Colorado.

NEWPORT ARTILLERY COMPANY

by

Ensign Donald G. White

US Naval Reserve



Newport Artillery Company fires a salute at one of the many functions in which it participates.

Editor's Note:

From the time it was chartered in 1741 by King George II until it marched in President Nixon's second inaugural parade, the Newport Artillery Company has had a long and intriguing history. On February 1, 1973 it entered its 232d year of continuous service. This article has been reprinted by permission of Naval War College Review.

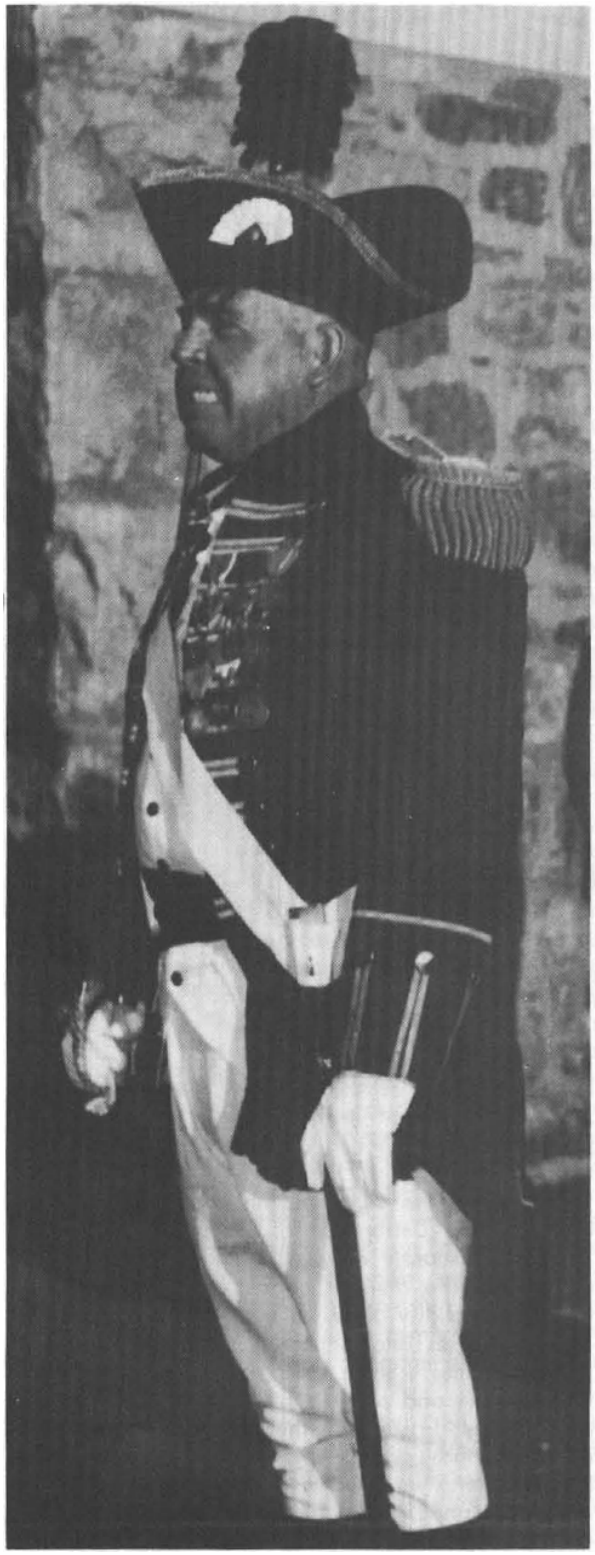
The Newport area has a long and interesting local history which has seen the passing of many important people and events across its stage. Since 1741 the town's tradition has included the Newport Artillery Company, which is acknowledged to be the oldest continuous commissioned military unit in the United States.

The company was formed under the terms of a charter granted by King George II of England, who was at that time aligned against the French in Europe in the War of Austrian Succession. The formation of the company was in keeping with the colonial pattern of local defense forces, an expedient made necessary by the initial British policy of "salutory neglect" of the colonies. The original company consisted of 18 of the prominent landowners and merchants of the town, commanded by the wealthy Jahleel Brenton.

The Brenton family was a prominent one in Rhode Island. Its founder, William Brenton, emigrated from England to Boston in 1633 with a commission to survey land for Charles I. Finding Boston's religious atmosphere too intolerant, Brenton continued on to Providence, where he purchased the Island of Rhodes (Aquidneck) from the Indians through the agency of Roger Williams. Brenton established the town of Newport, which soon became a prosperous trading community. His grandson, Jahleel, who held 2,000 acres of land on Brenton's Neck and who participated extensively in Newport's profitable commercial enterprises, was one of its most prominent citizens. The Brenton family estate was named Hammersmith, recalling the original Brenton estate in Hammersmith, England. This estate is presently owned and occupied by Mr. and Mrs. Hugh Auchincloss, Mrs. Auchincloss being the mother of Jacqueline Kennedy Onassis.

Jahleel Brenton remained with the Newport Artillery Company for 7 years. During that time the company expanded its activities to include a watch on Castle Hill to warn the town and fort (Fort George on Goat Island) of approaching enemy vessels. This watch commenced in 1746, at the height of the War of Austrian Succession.

The commencement of the French and Indian War in the colonies, which was fought in concurrence with the Seven Years' War in Europe, resulted in the Newport Artillery Company being requisitioned



COL Howard E. St. John of the Newport Artillery Company in Revolutionary War uniform.

Uniforms of the Newport Artillery Company depicting the various wars in which members have served.

to furnish men for the attack on Crown Point. Eleven members of the company, which comprised about a quarter of its membership at that time, participated in the campaign and acquitted themselves well.

Between the close of the French and Indian War and the Declaration of Independence, Rhode Island was sharply divided into Royalist and Radical blocs. The division originated over the British desire to solidify their colonial administration by assessing taxes and stationing permanent garrisons in the colonies. Some of the colonists, accustomed to local rule and relieved of the French threat, desired neither. In general, the prominent landowners, especially those whose holdings were based on royal charters, remained loyal to the King, while the merchants and small farmers gathered in the opposite camp. This division extended into the ranks of the Newport Artillery Company, itself a product of a royal charter.

The Rhode Islanders were especially irritated by the British customs laws and the efforts to enforce them. The British Government stationed the sloop Gaspee in Newport harbor, and this vessel proceeded to collect the allotted taxes at gunpoint from every vessel which entered the harbor. Thoroughly aroused, the townspeople attacked and burned the ship in 1772. The British responded by stationing still other warships in the harbor and initiating the practice of requisitioning supplies without compensation. Their sailors kept the townspeople in continual alarm with their foraging and other indignities.

The Newport Artillery Company was caught in the middle of this conflict. Its membership divided over the issue of loyalty to the king, the company dismissed its clerk in 1775, and discontinued its meetings. According to the records, there is no evidence of another meeting until 1792, although persistent local tradition credits them with escorting General Washington during his visit to Newport in 1790. Their activities during these years can only be conjectured, but the fact that they held a royal charter was doubtless an embarrassment during these revolutionary years.

In 1792 the Newport Artillery Company moved to solve the problem of their charter by asking the State legislature to ratify the old charter, and in that year the company's meetings and records began again, to proceed uninterrupted down to the present day. Two years after this important date in its history, the company obtained the most important document presently contained in its museum. In 1794 a letter was written to President George Washington, congratulating him on his birthday. No reply was expected, but Washington, apparently remembering his trip in 1790, did in fact reply, and his letter is today on display at the old gunhouse.

No further military service was required of the company until the War of 1812, when they were called upon to contribute to an expedition being organized by Oliver Hazard Perry to gain control of Lake Erie. The volunteers for this enterprise included one William V. Taylor, who was the sailing master of Perry's flagship, the Lawrence. Taylor continued in the naval service after the end of the war, eventually reaching flag rank. A second volunteer was Daniel Turner, who commanded the sloop Caledonia in the battle, and a third was Thomas Breese, who is reputed to have been the last man to have fired a cannon on Perry's disabled flagship. These and other volunteers assisted Perry in his successful attempt to gain control of Lake Erie.

The War of 1812 provided no further opportunities of service for the Newport Artillery Company, but it remained a very active force during the first half of the century. In 1842 the State of Rhode Island was disturbed by a conflict between two gubernatorial aspirants, known in the State as the Dorr Rebellion. In that year Thomas Wilson Dorr contested the incumbent's claim to the gubernatorial chair, and, to enforce his claim, he and his supporters raided an armory in Providence and set up their own government in another building. The incumbent governor responded by calling up the militia, which included the Newport Artillery Company. The militia had little difficulty in dealing with Dorr's party, as they had neglected to take ammunition for their guns when they raided the armory. Dorr himself fled to New Hampshire, where he was captured and arrested. Sentenced to life imprisonment for treason by a Providence court, Dorr was pardoned by the succeeding governor.

During the Civil War the Newport Artillery Company became part of the First Rhode Island Regiment, which was commanded by Ambrose E. Burnside. Burnside later became commander of the Army of the Potomac, but he relinquished that post after his disastrous defeat at the hands of General Lee at Fredericksburg in 1862. Later he became the governor of the State of Rhode Island. During the Civil War the gunhouse of the Newport Artillery Company was used as a recruiting station for the Federal forces, and over 400 men were dispatched for duty from within its walls during the latter years of the war.

After the Civil War the company became part of the large and powerful veterans bloc which influenced Congress in many of its reconstruction policies. It did not see action again, however, until the time of the Spanish-American War. Early in that conflict a panic spread on the Atlantic coast because of the rumor that Admiral Cervara's Spanish Fleet, its whereabouts unknown, was on its way to ravage the American coastline. This fleet, while it remained unobserved, caused a large number of U.S. military units to be retained in coastal areas for maritime defense.

In Newport the excitement was especially intense. The Spanish Minister had visited the town the previous summer for recreational purposes, and this gave rise to a variety of sinister explanations for his presence. In this situation the company was mobilized and sent to Fort Adams to man the defenses there until Federal troops arrived. The entrance to the harbor was mined and new redoubts were excavated, but the Spanish Fleet never appeared. Its detection and subsequent defeat at Santiago in Cuba ended the threat to the Atlantic coast.

The advent of World War I ushered in a lean period in the history of the Newport Artillery Company. The company, in that conflict, offered to join the Federal forces en masse, but the Government refused to accept an organization which had already elected its own officer. Many of the members then joined the American forces on an individual basis, later to return to the company and present it with souvenirs and trophies won in the war. When the war ended the National Guard organization absorbed most of the local militia organizations that still remained, but the Newport Artillery Company was, for some reason, not included. Since it was not a recognized reserve organization, it became difficult to gain new members. The company survived, however, and its members continued to serve their country in wartime on an individual basis. Members of the Newport Artillery Company served in World War II, Korea, and, most recently, in Vietnam. Today the active membership of the company includes 42 men, which comprise Battery A. The company's colonel and commanding officer is Mr. John Lauth.

The company's present location on Clark Street has had a long and interesting history. From its inception to the year 1798 the company met in private homes to conduct its business. In 1798 it initiated the practice of meeting in the Colony House, but according to the records the members did not feel "at ease" there. They then constructed a gunhouse behind the Colony House, where they might store

the guns of their battery. When meetings were planned, the guns would be removed to make room for the members and placed on the lawn of the Colony House.

In 1830 the construction of a street through the land on which their gunhouse was located forced a temporary move to Lakes Corners. In 1833 their present property was presented to the company by Audley Clark, a descendant of Walter Clark, who surveyed the street in 1699. This property the company has retained to the present day.

The stone for the first gunhouse on the new property was donated by Dr. Enoch Hazard, and with this help it was completed on 29 April 1836. In the late 1870's the present eagle front was added, this front having been salvaged from the New York steamer Metropolis which was then being broken up in the Newport yards. The building remained standing intact for the rest of the century, and the company today holds the first photographs taken of it.

In the 20th century two fires destroyed many of the possessions of the company. In 1906 a major fire engulfed the building, sparing only a few of its most precious artifacts. The company utilized this opportunity to add a second story to the building, so that it appears today much as it did then. In 1931 a second fire damaged the interior, and again the house was repaired. In 1960 the building was converted into a museum, and the relics which the members of the company have brought back from the Nation's wars are now displayed there.

The town of Newport has a long and interesting past. An important part of that past is preserved by the Newport Artillery Company, which today serves to recall the times when the town was open to bombardment by brass cannon from the sea. Today the Navy has usurped the company's role as protector of the town of Newport, but it can never fully replace the great tradition which the company represents.

BIOGRAPHIC SUMMARY

Ens. Donald G. White, U.S. Naval Reserve, holds a B.A. degree from Kentucky Southern College and a master's degree in military and naval history from Duke University. At Duke he prepared his thesis under the guidance of Dr. Theodore Ropp, who held the Ernest J. King Chair of Maritime History at the Naval War College during the 1962-1963 academic year. Ensign White is presently assigned as Research Editor of the Naval War College Review.

Five members of the Newport Artillery Company behind the cannons in the company's museum.

TROOPING THE LINE

EDITOR'S NOTE: We consider this section of *The Field Artillery Journal* to be an innovation from the standpoint of enlisted career development. Other service and service school publications we have seen contain career notes of a general nature that apply across the board to most MOS'.

To the maximum extent possible we intend to reserve this space for information specifically concerning *enlisted field artillerymen of all ranks*.

Two things help make this possible:

First of all we have access to the Office of Combat and Training Developments within the School. This is the organization responsible for, among other things, the development and review of field artillery proponent MOS' and MOS tests.

Secondly, Department of the Army has established an FA/ADA enlisted branch within the Military Personnel Center (MILPERCEN). The mission and functions of the new organization are explained in the article below.

FA/ADA BRANCH'S NEW "CAREER HOME"

From
The Director of
Enlisted Personnel

Headquarters, Department of the Army, recently announced in DA Circular 600-91, dated 12 Jan 73, the establishment of the Military Personnel Center (MILPERCEN). The establishment of MILPERCEN provides for consolidation of military personnel operational functions under one manager and will result in streamlined organization to serve the soldier and the Army.

The MILPERCEN organizational chart shows the Combined Arms Division under The Assistant Director for Enlisted Career Management.

The Enlisted Personnel Directorate (EPD) is the enlisted personnel operator for MILPERCEN. The Directorate's mission is to get qualified people to the right place at the right time in the right numbers. The directorate functions range from service entry and initial training, through distribution, evaluation professional management, reclassification, and reenlistment.

The Assistant Director for Enlisted Career Management directs the Armywide assignment of all enlisted personnel and controls overall career management. He supervises the Combined Arms Division, which is one of five branch or specialty-oriented divisions.

The Combined Arms Division assigns and manages all enlisted personnel assigned to the Field Artillery, Air Defense Artillery, Infantry and Armor branches and all soldiers. performing as Drill Sergeants.

The FA/ADA Branch has overall responsibility for all FA and ADA enlisted personnel. The branch now has career management files on those Sergeants First Class and Specialists 7 (E7) through Sergeants Major (E9) that it manages. The branch is now gathering files on Field Artillerymen and Air Defense Artillerymen Staff Sergeants and Specialists 6 (E6). Files for those in the rank of Sergeant and Specialist 5 (E5s) will be assembled at a later date.

The FA section has the responsibility for over 36,000 Field Artillerymen. The Air Defense section manages over 23,000 ADA soldiers. Each section is further divided into teams of assignment managers dealing with specific Military Occupational Specialties (MOS). This is where each soldier is selected for assignment.

The FA/ADA Branch is now located in rooms 1C728 and 1C726 in the Pentagon, but will be moving to Hoffman Building I, Alexandria, Virginia in the near future.

The personnel assigned to the branch are dedicated to providing a "career home" for all Artillerymen. They will "tell it like it is", and help to insure that each soldier receives personal and equitable consideration of his assignment and professional development problems.

"TRACKED" MOS TEST

The day may come in the future when a portion of your MOS test will consist of questions that deal directly with the weapon, special skill requirement or particular equipment assigned to your unit.

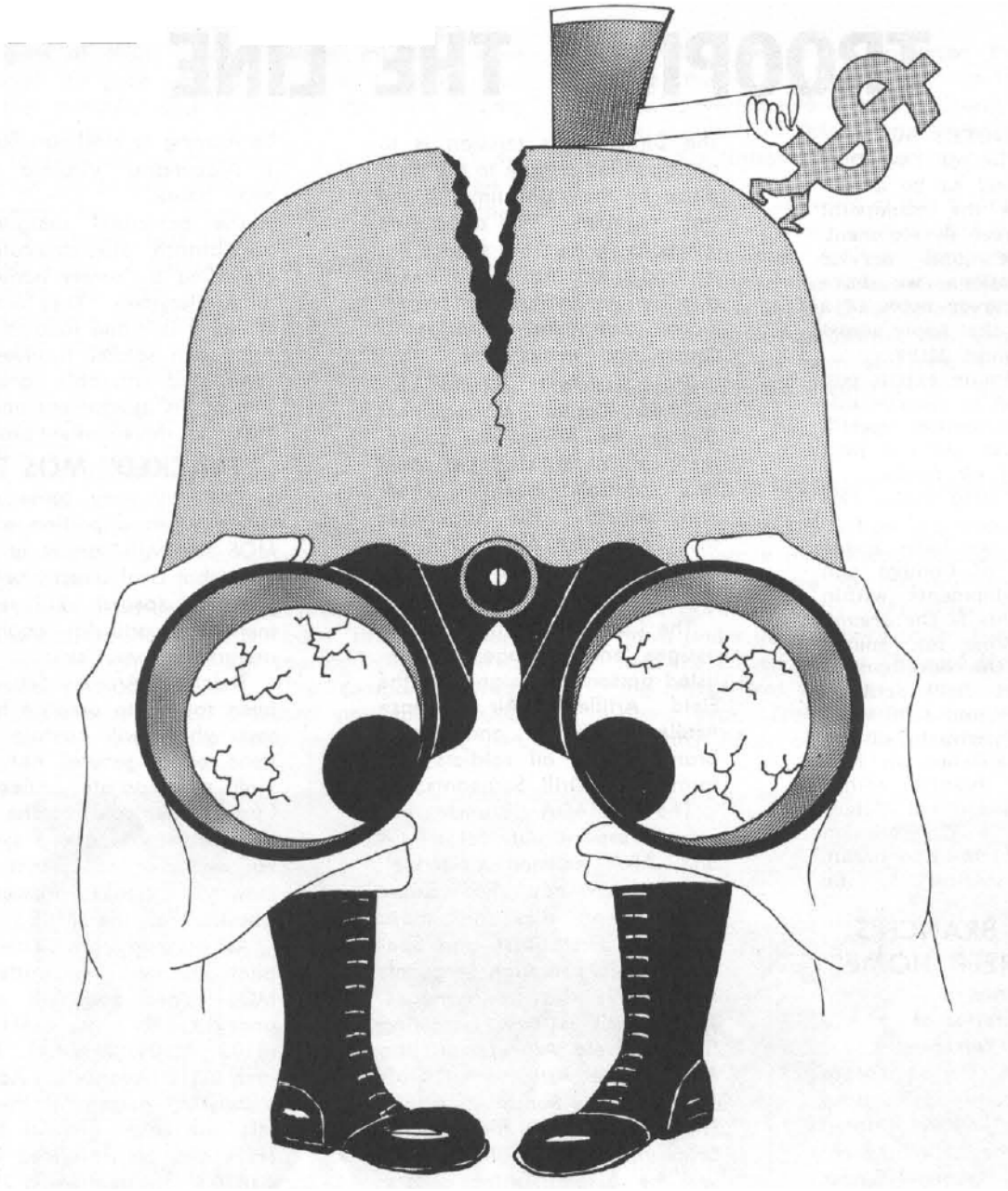
The Field Artillery School has been tasked to prepare a pilot test which will contain questions of a general nature as well as separate annexes or "tracks" dedicated to the major field artillery weapons systems. For example, a 105-mm M102 crewman would answer the questions on the M102.

As presently envisioned, the pilot test will be written for MOS 13B40 and will include annexes for the M101A1, M102, M109, M114A1, M107, and M110 weapons. Approximately 75 percent of the pilot test will cover general knowledge and be answered by all 13B40's. The remaining 25 percent of the test will cover the specific weapon appropriate for each individual.

The pilot test will also include at least one annex for an Additional Skill Identifier (ASI), probably R-6, Redeye Operations.

The Field Artillery School forwarded the proposed pilot test to CONARC in May 73. Plans call for the US Army Enlisted Evaluation Center to assist in the review and field test of the new "tracked" concept.

THE "GAP"



IN

TARGET ACQUISITION

by Maj Glen Coffman

"In the days of old when Redlegs were bold," artillery was deployed on the front lines, allowing the gun crew to adjust its own fire and acquire its own targets. The greatest effect was achieved by locating the artillery hub-to-hub and massing fire on a single target. It was not until World War I that artillery was used extensively in the indirect fire role. This new tactic brought about changes in equipment and organization—no longer was the gun crew in the position to acquire the target and adjust fire on it. Although balloons and some aircraft were used to acquire targets, it was at this time that the forward observer came into the limelight as the eyes and ears of the field artillery.

With both friendly and enemy artillery using this new tactic, the Allies realized the need was greater than ever before to find and destroy the enemy artillery. Great emphasis was placed on target acquisition. Sound ranging and flash ranging platoons were organized by the French and British to find and destroy the German "big guns." When the US entered the war, target acquisition was an established element and the US lost no time in training and fielding its own units, first using French and British and later our own sound and flash equipment.

When World War I, the "war to end all wars," ended, the resulting cutback in funds and forces led to the decision to discontinue target acquisition research. We left the job of locating targets to the "scourge of the battlefield"—the forward observer.

There was to be no end to wars; in 1941 we again found ourselves fighting the enemy. Although we had the ability to "move, shoot, and communicate," we had only a limited ability to locate targets. Commanders soon became unhappy with the enemy's ability to place accurate fire on their positions. It was soon obvious that, as in the previous war, accurate location of long-range targets was a must. Target acquisition personnel were recalled from retirement and from other artillery assignments, and new equipment was developed to staff and organize target acquisition units. The need was so great that at the peak of the war, there were 25 observation battalions and five separate sound ranging platoons supporting US operations.

Again, the war was over and target acquisition, just as in the post-World War I era, took a back seat to "move, shoot, and communicate." We were not so gullible as to believe wars would stop, but we were not so intelligent as to realize we must continue to train in all aspects of artillery. In 1950, we were designing new radios, new vehicles, and more powerful cannons but were still using World War II target acquisition equipment.

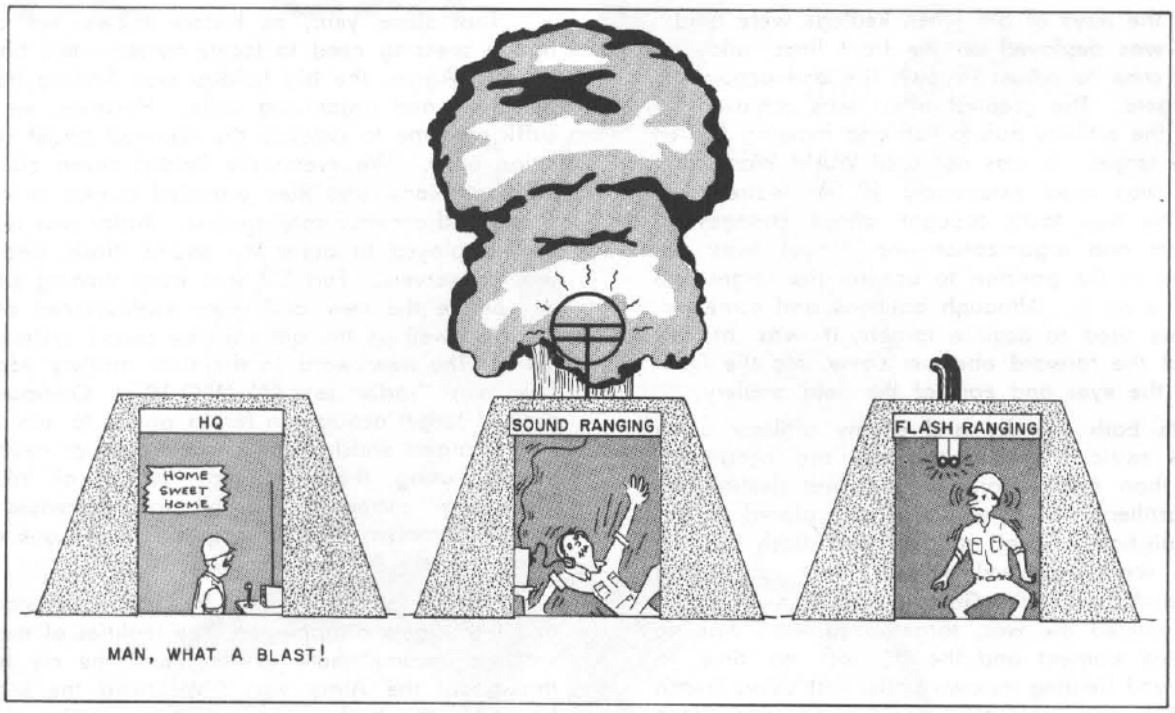
The priority of target acquisition was so low that only one observation battalion was still active in the Army in 1950.

That same year, as history shows, we again had a pressing need to locate targets—this time in Korea. Again, the big holdup was finding trained personnel and organizing units. However, we had sufficient time to produce the required target acquisition units. We eventually fielded seven observation battalions, and they provided targets to move, shoot, and communicate against. Radar was refined and employed to assist the sound, flash, and forward observers. Fort Sill was busy training people to operate the new and more sophisticated equipment as well as the old standby sound system, the GR-8. The new word in the field artillery vocabulary was "radar set AN/MPQ-10." Commanders praised target acquisition for its ability to accurately locate targets which could be destroyed or neutralized by using the minimum number of rounds. The radar increased morale and decreased the logistics problem. Target acquisition had one of its finest hours. But not for long.

History repeated itself; the war was stopped and the targets disappeared. The realities of modern warfare became more evident, and the cry heard throughout the Army was, "We need the biggest bang for the buck." To get it we designed and built a complete family of self-propelled weapons, we had new and better versions of all weapons on the drawing board, and we fired an atomic round from a cannon. It cost a few bucks, but it was a big bang. We built new trucks and a new jeep. The helicopter, which had proved itself in Korea, was built in assorted sizes to do different jobs. Most important, though, people tried so hard to find the biggest bang that they failed to consider using fewer bangs. The real need was a closer bang rather than a bigger bang: The more accurate the location of the target, the fewer rounds needed and the fewer rounds to be transported, stored, and handled.

Everyone got new equipment. Well, almost everyone. Target acquisition didn't get anything but a few more radars and some replacement parts for the old, but reliable, GR-8 sound sets used in World War II. After all, the only targets we needed to locate were on the west range of Fort Sill and were to be used in demonstrating our new weapons and that really new and revolutionary fire direction system—FADAC. We knew where those targets were; we were really moving along! We could compute a mission faster than ever before and could fire on the target with better weapons than ever before. But where was the target?

About this same time, we got some good advice from advisors to the Republic of Vietnam (RVN) who were using some of the new equipment and new doctrine in a new and different combat role. This new counterinsurgency warfare required new ideas and concepts, and "airmobile" became the byword.



Get there first with the most. Soon we were committing division-size units and more artillery than ever before.

We developed a new airmobile artillery weapon and a fleet of helicopters to deliver it along with the gun crew. We also developed a new family of radios to communicate over long ranges and new vehicles to support ground operations. All this gave us a better means than ever to move, shoot and communicate. What about target acquisition? We got a radar from the French much as we got sound ranging from the French and British in World War I.

We did get one very important boost to target acquisition from operations in Vietnam. The field artillery commander found a member of his staff who could do more than check safes and send out invitations. He found that in combat, the S2 is actually about the most important member of the staff. He gets the targets! It is the S2, or targeting officer, who analyzes the information received to accurately locate targets. He finds the enemy artillery before it can find him. He can coordinate all target acquisition means to insure full coverage of the area of operation. He must know the capabilities and limitations of all target acquisition means to include the forward observer. The biggest problem the S2 now faces is the same one that target acquisition has faced after every conflict: Will the targeting officer continue to improve himself and his section for employment in the next conflict, or will he be detailed to checking safes and sending out invitations?

During the Vietnam era, target acquisition got people interested enough to see the need for new target locators. The AN/TPQ-36 countermortar radar and the AN/MPQ-37 artillery-locating radar are under development but may not be fielded for another 10 years. The North Vietnamese offensive in the spring of 1972 caused an increased interest in target acquisition, as artillery fire in large quantities and with devastating accuracy was coming into fire bases instead of going out. Everyone wanted the enemy artillery located "now." This interest caused funds to be diverted back into the sound ranging program to build a modern replacement for the GR-8 system still being used. Again, it will be some time before anything gets to the field. Of course, there is always the fear that with the phaseout in Vietnam, there will be a withdrawal of money from target acquisition projects. Even now, some people are saying, "Why buy it when we don't need it?" However, the men on fire bases in Vietnam getting incoming artillery were saying, "Where are you, target acquisition, when we need you most?"

Now that we see how far behind target acquisition is in comparison to "move, shoot, and communicate," what can we do to close the "generation gap?"

One thing is to convince the holders of the purse strings that now is the time to develop new and better target acquisition systems and to include target acquisition in present and future field artillery systems. A boxer doesn't wait until he gets into the

ring to train for the fight. The crash programs for updating old equipment cost much more than the detailed development of new systems to insure the best equipment available is ready at the start—not the finish. We need to think in terms of a completely integrated field artillery system, not of separate weapons or fire control systems. Even with the modern weapons and TACFIRE for control, we can shoot only when the target has been located. Why spend money to develop equipment that can be used only to fire demonstrations on targets surveyed in at Fort Sill? Even now, there is no on-line interface between target acquisition devices and TACFIRE.

To close the gap, we can do many things that do not cost money. We can capitalize on the "discovery" of the S2 as the targeting officer and give him the training he needs to perform his job. He must get the best education in the employment of both friendly and enemy artillery and be elevated to his true importance on the field artillery commander's staff. To assist him in his duties, we need to provide him with a trained and functioning section in order to establish a counterbattery information center (CBIC). This center is the hub of targeting activities. The need for this type of organization was so great in Vietnam during the NVA offensive in 1972 that advisors made a special effort to advise ARVN on the establishment and operations of the CBIC.

We can also further develop that two-legged target acquisition device known as the forward observer. With the continued emphasis on accurate first-round data, he will be the locator—not just the adjuster. He must now, more than ever, fulfill his mission as the eyes and ears of the field artillery.

We need also to train the forward observers helpers, the members of the maneuver unit. These men can be a very good means of acquiring targets if they are trained to do so. One of the basic means of locating enemy artillery is shell crater analysis. Each maneuver unit should have crater analysis teams designated and trained in order to rapidly report shelling incidents to the field artillery forward observers and the targeting officer. The training of maneuver element personnel down to the lowest level is an important extension of the target acquisition capabilities.

The most important thing we can do to close the target acquisition generation gap is to think of the FOUR missions of the field artillery: ACQUIRE TARGETS, move, shoot, and communication. With only "move, shoot, and communicate," you can "place" or "show"; when you add target acquisition, you "win."

AN ISLAND OF RED IN A SEA OF BLUE

Fort Benning, Georgia, home of the Infantryman, is also the home of a group of dedicated field artillerymen serving as members of the Artillery Committee of the US Army Infantry School. The Artillery Committee has sometimes been described as "an island of red in a sea of blue."

The Artillery Committee is an integral part of the Infantry School's instructional organization and operates with the same close working relationship that exists between the field artillery and infantry throughout the US Army. Although no direct formal link exists between the Field Artillery School and the Artillery Committee, the chairman of the committee functions informally as the representative of the Commandant, United States Army Field Artillery School to the Infantry School. The committee chairman serves as the principal adviser to the Commandant and Assistant Commandant of the Infantry School on all matters pertaining to field artillery.

The committee is chaired by a lieutenant colonel and is currently authorized 10 majors, 6 captains, and 4 noncommissioned officers. All personnel assigned to the committee attend the instructor training course and upon successful completion are designated as instructors. Each instructor becomes expert in the many subject areas of field artillery taught by the committee so that he is capable of teaching all subjects at any appropriate level of instruction. The committee presents instruction to virtually every leader course offered at the Infantry School and provides the field artillery with an excellent opportunity to create a closer "supporter to supported" relationship founded upon an understanding of the tactics and techniques of field artillery.

Infantrymen need to understand and appreciate the procedures by which they receive fire support just as field artillerymen must understand and appreciate the requirements of the ground-gaining arms. The primary goal of the committee is to enhance the close working relationship of the two branches while providing the infantry student with sufficient artillery skills to accomplish his primary job. Emphasis is placed on integration of firepower and maneuver, and all instruction is geared toward insuring that fire support is as common to the infantryman's vocabulary as maneuver.

Artillery instruction at Fort Benning currently exceeds 15,000 platform manhours per year and is classified as "pure" or "integrated." Pure instruction refers to those classes presented solely by the Artillery Committee which are a formal part of a course program of instruction. Integrated instruction pertains to instruction presented by artillery instructors during another committee's class. For example, many tactical problems incorporate fire support requirements or practical exercises that require presentation by an artillery instructor. This technique provides reinforcement of pure instruction and insures that fire support is continually emphasized through the course.

The Infantry Officer Advanced Course is the largest and probably the most important single block of instruction presented by the committee. Course content runs the gamut from organization to trends. After an introductory class on artillery organization, the advanced course student is exposed to the "mysteries" of field artillery including position area

selection, survey, meteorological data, registrations, probable errors, sheaves, and method of engagement. The "mysteries" are explained in sufficient detail for the infantry officer to clearly understand the techniques used by the artilleryman in improving the accuracy and responsiveness of supporting fires. This block of instruction also gives the infantryman his first insight into the phenomenon of dispersion and how he can use it to his advantage.

This class is followed by instruction on the employment of field artillery and a detailed explanation of the standard tactical missions with their inherent responsibilities. The class culminates in a practical exercise which emphasizes maneuver responsibilities in organizing artillery for combat. In a fire planning class, the student is taught the fire planning process and channels and is provided a basis of knowledge which will enable him to insure that fire plans will support his scheme of maneuver or plan of defense. In addition, the student learns the reasons for target selection; the obligations of the maneuver commander in decisions involving registrations, preparations, and counter-preparations; and the duties of the maneuver staff in the planning procedures leading up to the commander's decision. The capstone of instruction to the advanced course student is a class entitled "Fire-power and Maneuver." The class is oriented toward fire support coordination and uses an "actions and orders" format in a series of fire support problems designed to enhance the student's appreciation and comprehension of the fire support coordination problem. The students are placed in positions of maneuver commanders or staff officers as well as fire support coordinators and are tasked with solving specific fire support coordination problems. Class interest, participation, and receptiveness is always high and lively discussions are the order of the day. The advanced course instruction provides the infantry officer with his first real opportunity to get in-depth answers to all his questions about artillery.

Instruction to the Infantry Officer Basic Course is primarily oriented toward adjustment of indirect fires. The student is first taught adjustment procedures using 14.5-mm trainers. He then concludes his training with a live fire exercise using 105-mm howitzers. In addition to basic adjustment procedures, the student is provided instruction on orientation rounds, sound adjustment, and adjustment of close-in overhead fires. The latter mission is accomplished using reinforced bunkers, and rounds are adjusted using danger close criteria. Fire planning techniques at company level are taught by integrating artillery instruction during field tactical problems. Artillery instructors accompany the maneuver elements during the problems to provide advice and assistance and to critique the students on fire planning or use of fire support during these field exercises.

The Infantry Officer Candidate Course students receive more artillery instruction than the Basic Course students. In addition to training in adjustment of fire, formal instruction on artillery organization, fire planning, and fire support coordination is included. Artillery subjects are integrated into tactical field problems to reinforce previous instruction with particular emphasis on the responsibilities of the infantry officer in fire planning.

Other courses which include artillery instruction are the basic and advanced NCOES courses, the Ranger Course, and the Pathfinder Course. Also, reserve components receive artillery classes in the Infantry Field Grade Officer, Officer Advanced, Officer Basic, and Officer Candidate course, and a recently designed Airmobile Training Course.

In all instruction presented by the Artillery Committee certain themes are prevalent and always constant. The direct support battalion is highlighted as the agency which can provide or obtain all the fire support needs of the maneuver force. Fire support coordination and the integration of fire support with maneuver are recurring topics in all classes to insure that these subjects are ever present in the planning and execution process of the maneuver elements. Efficient and effective fire planning and proper adjustment of fire techniques are stressed whenever possible.

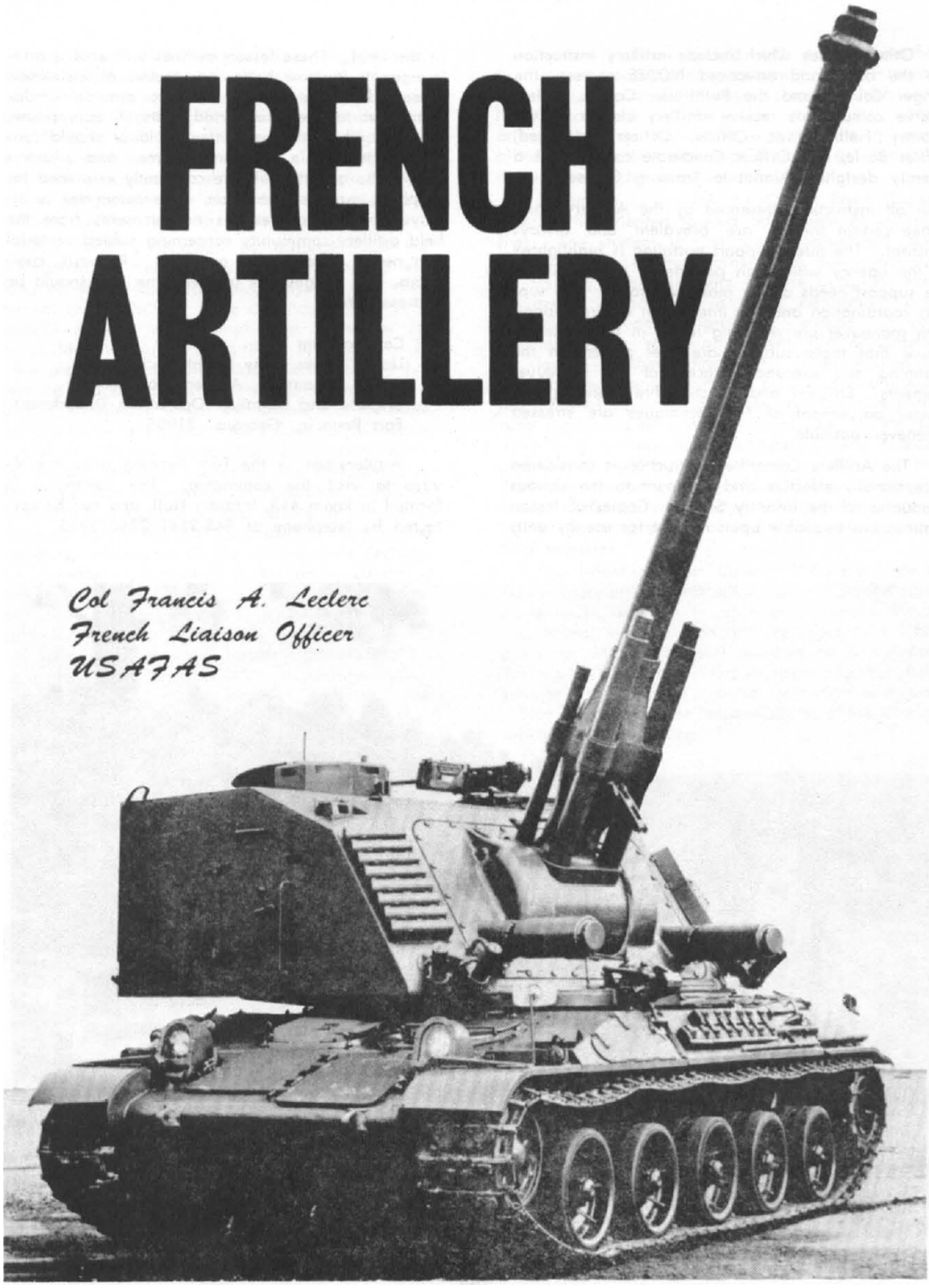
The Artillery Committee instruction is considered exceptionally effective and pertinent to the various graduates of the Infantry School. Copies of lesson outlines are available upon request for use by units in the field. These lesson outlines will enable artillerymen to gain a better perspective of instruction presented to the infantry and to provide similar instruction to their supported units if appropriate. Areas in which the committee could or should concentrate to enable both artillery men and infantrymen to do a better job are constantly examined for ways to improve instruction. The committee is always open to suggestions or comments from the field artillery community concerning subject material that needs more or less emphasis. Requests, comments, and suggestions are welcome and should be addressed to:

Commandant
United States Army Infantry School
ATTN: Chairman, Artillery Committee
Brigade and Battalion Operations Department
Fort Benning, Georgia 31905

Artillerymen in the Fort Benning area are invited to visit the committee. The committee is located in Room 413, Infantry Hall, and can be contacted by telephone at 545-2841/2760/3915.

FRENCH ARTILLERY

Col Francis A. Leclerc
French Liaison Officer
USAFAS



Editor's Note:

The following article is published with the authorization of the French Ministry of National Defense.

Organized according to the fire support needs of an army destined primarily to fight in a European theater of operations and under nuclear threat, the French artillery includes:

* Conventional field artillery.
* Nuclear field artillery.
* Air defense artillery.

All artillery units include three elements: command, firing, and technical. The command and technical elements are similar in all units; only the firing element varies with the type of unit. Depending on its firing element, a French artillery unit will be either a conventional field artillery regiment, a field artillery missile regiment, or an air defense regiment.

Conventional Field Artillery

The conventional field artillery consists of regiments, each one composed of:

* One headquarters, headquarters and service battery.
* Three field artillery batteries, each with five gun sections.

There are two types of regiments: the field artillery regiment, self-propelled 155-mm gun, which is organic to each maneuver brigade, and the general reserve field artillery regiment, towed, 155-mm howitzer which is usually attached to an army corps. No provision is made for assigning conventional field artillery units at division level.

The mission of the conventional field artillery is to support the maneuver of friendly forces with fires capable of striking the enemy, either in contact or in the depth of his dispositions, in order to cripple and disperse his units, slow his advance, and inflict casualties. Therefore, the conventional field artillery's basic combat function is fire support, and its mission can be expressed by the area in which fires are applied:

1. Close support fire in support of the operations of the maneuver element.
2. Close-in protection fire against enemy forces which are firing on or directly threatening a friendly maneuver element.
3. In-depth protection fire against enemy forces which are firing on or threatening a friendly maneuver element from a long range. Other missions will also be assigned to the field artillery regiment. These missions can be characterized by the desired effect of the fires:

* Preparation.
* Dispersion (to disperse enemy forces).
* Counterbattery.
* Illuminating.
* Screening (to prevent enemy observation).

Brigade Field Artillery

One field artillery regiment, self-propelled 155-mm gun, is organic to each combat brigade. Its organization is shown in figure 1.

Each regiment is provided with a means of measuring muzzle velocity in the form of the MEDOVIC (the projectile velocity measurement in the field by doppler effect). The regiment is equipped with the 155-mm gun MK F3 mounted on an AMX 13 tank chassis. A tracked armored vehicle accompanies the self-propelled gun for the transport of gunners and ammunition.

The gun weighs about 37,000 pounds and has a maximum range of 21,500 meters and a maximum rate of fire of 4 rounds per minute. The range will be extended to 25,300 meters by the use of a rocket-assisted projectile (RAP), which is currently being tested.

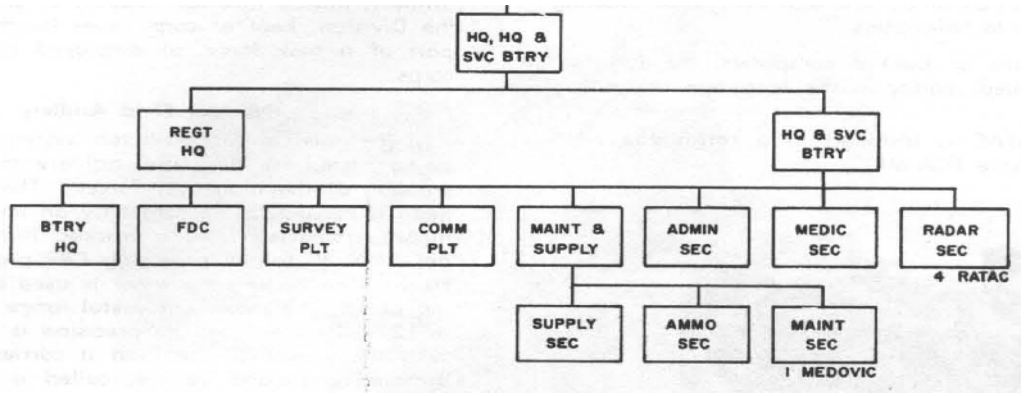


Figure 1. Brigade Field Artillery Organization

Medovic

This weapon is to be replaced by a self-propelled 155-mm gun with a high rate of fire, which is now under experimentation.

The weapon is mounted on the AMX 30 tank chassis equipped with a suspension locking device. Its turret can be hermetically sealed to provide nuclear/biological/chemical protection for the crew. It weighs less than 40 metric tons and has a maximum range of 23,500 meters and a maximum rate of fire of 8 rounds per minute. Its range will be extended to over 30,000 meters with the RAP round. Traverse is 6,400 mils.

Surveillance and target acquisition. Visual observation is supplemented and extended in depth by use of the RATAC (the fire direction radar for field artillery). In English the initial could stand for: **R**egistration, **A**cquisition, **T**racking, **A**ssessment, **C**onformation. The RATAC can perform detection, acquisition, identification, precise location, and automatic tracking of moving targets either on or near the ground. It also insures the adjustment of artillery fire and control of its effectiveness, the guidance and identification of patrols, and assistance (locating and landing) to helicopters.

By means of built-in computers, the information is supplied readily in the language of artillery units.

The RATAC is installed in a cargo-type AMX armored vehicle PCA-MF.

RATAC

The mission of the field artillery regiment organic to the brigade is direct support of the brigade units in contact with the enemy and support to the benefit of the general maneuver of the brigade. The regiment delivers fires deep into the enemy position, on the flanks and between intervals of the friendly positions.

With its means of surveillance and target acquisition, the regiment also plays an important part in the collection of intelligence.

General Reserve Field Artillery

The organization of the general reserve field artillery regiment is identical to that of the brigade field artillery regiment except that it does not include a RATAC platoon. The general reserve regiment is equipped with the towed, double (split) trail, 155-mm howitzer BF 50.

The howitzer weighs about 19,000 pounds. It has a range of 17,700 meters and a maximum rate of fire of 4 rounds per minute. Its range will be extended to 23,300 meters with the rocket-assisted projectile.

155mm gun with crew

The general reserve regiments are placed under the responsibility of the army corps. They may be attached to a division for reinforcement of brigade artillery, placed in direct support of units reinforcing the Division, kept at corps level for the direct support of a task force, or employed directly by the corps.

Nuclear Field Artillery

The medium-range Pluton system (fig 2), now being tested, is the field artillery tactical nuclear weapon of the maneuver forces. The nuclear warhead is carried to the target by an inertially guided missile, launched from a tracked firing vehicle of the AMX 30 family providing CBR protection for its crew. (The vector's container is used as the launching pad.) The maximum useful range of the missile is 120 kilometers and its precision is in accordance with the power of the load it carries. A tracked armored command vehicle, called a computer vehicle, provides the necessary data processing facilities.

ORGANIZATION OF REGIMENTS

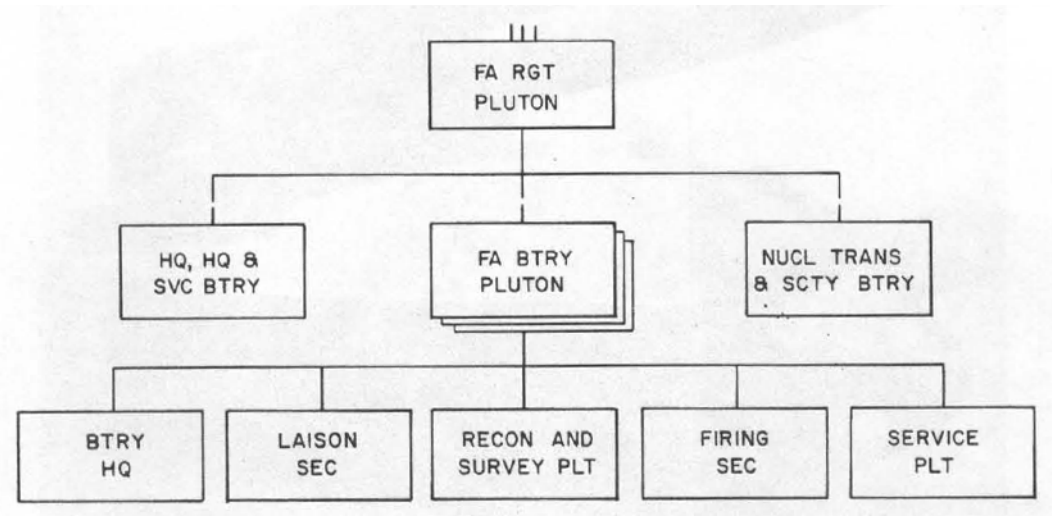


Figure 2. Plution Regiment

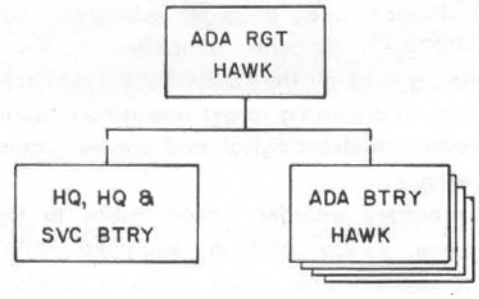


Figure 3. ADA Hawk Regiment

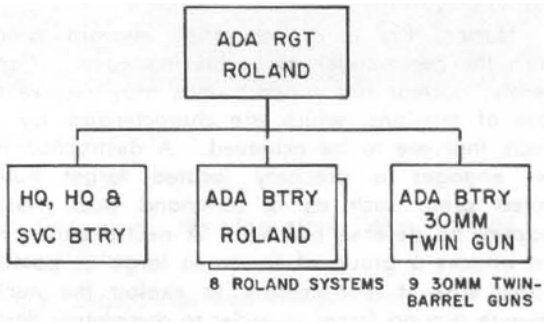
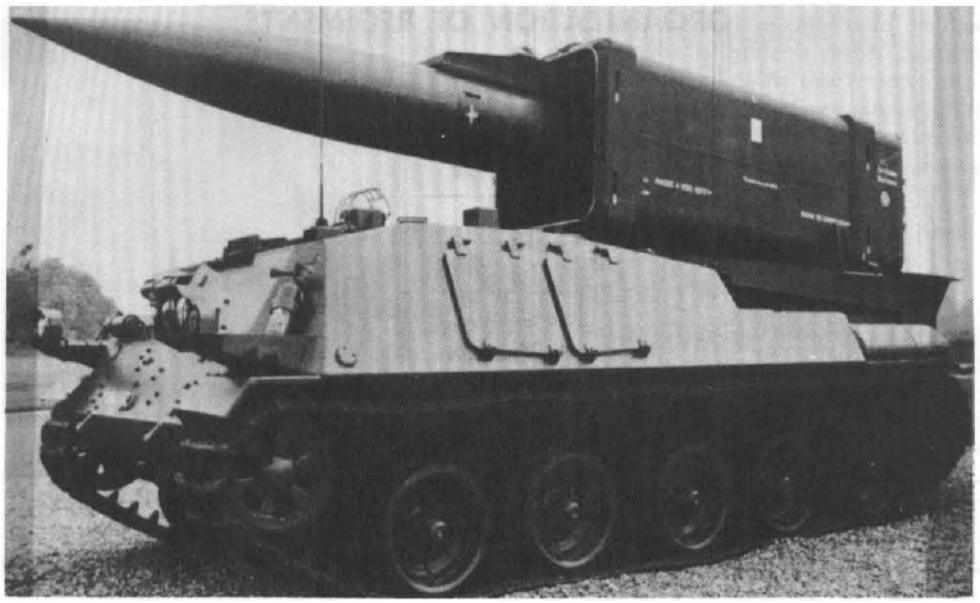


Figure 4. ADA Roland Regiment

Figure 5. R-20 Drone



Pluton Missile System

Each firing battery includes two firing sections with one launcher each.

Nuclear fire is an essential element around which the commander plans his maneuver. Consequently, nuclear fire support units may receive two types of missions, which are characterized by the effects that are to be achieved. A destruction mission engages a precisely located target having limited area, such as a command post, nuclear weapon, air defense site, etc. A neutralization mission attacks a group of forces as large as possible. In this case it is necessary to exploit the nuclear fire with ground forces in order to completely destroy the target.

Air Defense Artillery

A general reserve Hawk regiment (fig 3) attached to the corps will provide medium and high-altitude protection over the entire zone of deployment of the corps. The regiment is organized in the very same manner as the US Army Hawk Battalion.

The low-altitude protection of the corps will be provided by a Roland air defense regiment (fig 4) composed of three firing batteries, each equipped with Roland air defense systems (soon to be fielded) at division level.

The air defense regiment provides low altitude protection to the division and is equipped with two types of air defense weapons: the Roland missile system with a maximum missile range of about 6,000 meters and a warning/surveillance radar range of 15 to 18 kilometers and the twin-barrel self-propelled air defense gun, mounted on an AMX 13 tank chassis, with a surveillance and ranging radar "oeil noir" (for detection of mobile targets up to 15 kilometers).

Target Acquisition

At division level, a target acquisition battery, called "BDAA" (Batterie Divisionnaire d'aide a I'artillerie), groups all the "aids" to the artillery and, in addition to providing target acquisition capability, also provides meteorological and survey support to the division.

The battery includes liaison teams to the division, one survey platoon equipped with the Hydrodist system (the visual airborne locator system—VALS), two radar platoons with two ground surveillance radars DRM.2.A each with a detection range of 15 or 30 kilometers, and one meteorological platoon.

At corps level, a surveillance missile regiment R.20 provides support to the artillery in locating targets in the corps zone of action and assists the commander in the selection of nuclear targets by collecting long-range information on enemy activities.

The surveillance missile regiment R-20 is equipped with four launcher-transport trucks, two tracking and guidance units, and two photographic "cabin" trucks and includes a photo interpretation section. The battlefield surveillance system R-20 (fig 5) makes use of a reconnaissance missile capable of deep and discrete penetration of enemy lines. It has a radius of action of 100 miles at a speed of 450 miles per hour.

Nord Aviation designed the R-20 observation system to provide ground forces with a rapid and precise means of observing the battlefield and locating targets.

French Artillery

155mm MKF3 on AMX13 chassis with crew

BIOGRAPHICAL SUMMARY

COL Leclerc, the French Liaison Officer to the Field Artillery School and to the Field Artillery Board fought with the French Army in World War II, Indo-China and Algeria, and was cited for gallantry numerous times in each conflict, and is an officer of the Legion of Honor.

He as a graduate of the Officers Advanced Course at Fort Sill and the National Security Management Course of the Industrial War College, Ft McNair, VA.

COL Leclerc has had assignments as a battery and battalion commander in France and commanded a French Hawk Missile Detachment at Fort Bliss. Later he served as the French Liaison Officer to the Air Defense School and Fort Bliss.

Antiaircraft Twin 30mm

Roland ADA

AUTOMATIC ARTILLERY

by Captain Jeffrey W. Fisher

"the cliche

'automatic artillery'

must become

a reality"

In foreseeing the employment of TACFIRE systems in the field, the field artilleryman becomes aware that, although fire direction response time will be significantly decreased and human computation error minimized, firing battery operations will remain unchanged. In relation to the total gunnery response from target identification to rounds on target, the firing battery response in terms of emplacement time and "fire command to 'shot' time" must be significantly improved; i.e., the cliche "automatic artillery" must become a reality. To achieve this minimal response time in the firing battery, we must look to new methods of emplacing, fuzing, charge cutting, priming, loading, and orienting. I offer no new systems here; however, I will present a forerunner to firing battery automation by applying certain principles to a familiar weapon, the M109 howitzer. I will describe the application of an automated M109 howitzer with respect to weapon orientation in connection with the yet-to-be-developed battery-level TACFIRE computer, which will treat each weapon as a separate firing element. Then we will take a look at the manual backup capability and a test mode which will require minimum equipment modification on the M109.

The self-propelled 155-mm howitzer M109 is capable of 6400-mil traverse utilizing hydraulics for both elevation and traverse. To this weapon we will apply an electronically operated servocontrol to orient the weapon on its firing azimuth, an electronic elevation control, and a fire command mechanism. The howitzer will orient itself on an input azimuth and elevation, and the term "deflection" will not be used. The weapon will be laid by sighting the direct fire telescope at the orienting station, and the back azimuth read at the aiming circle will be set electronically on the servocontrol. (The panoramic telescope will be eliminated from all operations.) An electronic mercury switch will maintain the zero elevation reference, and the tube will elevate to the quadrant elevation set on the electronic elevation control.

Nonstandard conditions, with respect to this system, are piece displacement and trunnion cant. I will describe the corrections for these conditions when discussing the hardware that is used to perform the correction operation. It should be called to mind that unless we correct for cant, we are necessarily limiting accuracy by not allowing for level trunnions. This was a concern of the earliest artillerymen. As John Muller once stated:

> It is said that the platforms are never rightly level, and if one wheel of the carriage stands higher than the other, the line of direction becomes useless; but I can find no reason for not laying the planks level when the platform is made, since I always have seen a level used; and this may even be done sufficiently exact by the eye without a level, since a small trifle either one side or other cannot cause any great error in the laying of the piece; and in a field engagement, where no batteries are made, it is of no signification, whether the piece points a little to the right or left, provided it is not too high or too low.

Muller's concern for trunnion level can be seen graphically in figure 1 by noting the mil error introduced to firing azimuth for every mil of trunnion cant. In modern self-propelled artillery, we have accepted up to a 20-mil trunnion cant, but the effects can be drastic in high-angle fire, as we can see from the graph. Muller also realized the variable trunnion cant throughout the traverse of an unlevel weapon:

> . . . but tho the platform should be level, it is said the wheels do not always stand exactly in the same place, whereby the line of direction is changed every time; . . .

I will discuss this effect, which exists in our self-propelled artillery, when we examine hardware applications.

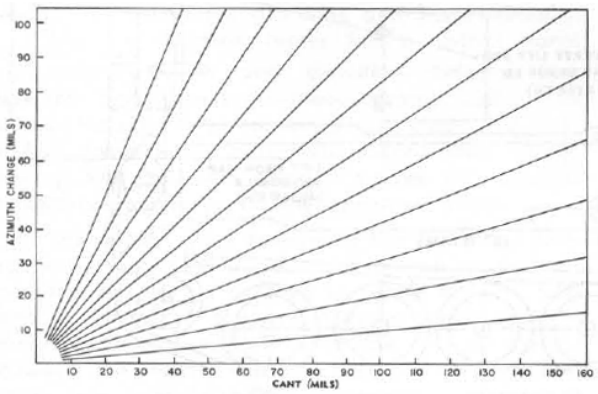


Figure 1. Cant Correction Graph

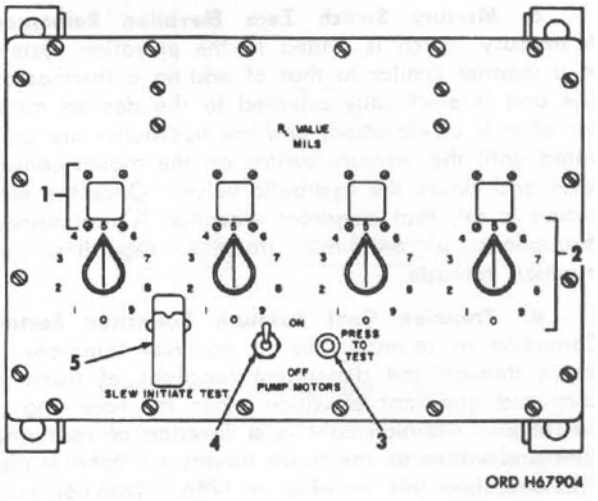


Figure 2. Servocontrol Box

a. Servocontrol. The servocontrol is essentially the same as that on the Sergeant missile launcher (fig 2) and is accurate to 1 mil. It is operated from the FDC by a control unit much simplified from the servocontrol box of the Sergeant launcher firing set. The azimuth drive assembly is installed in the M109 to operate directly in the hydraulic traverse system which mechanically gears with the turret race ring. The MANUALPOWER selector lever on the M109 turret has an AUTO position to facilitate servo operation of traverse. When the weapon is laid, the mil value is electronically set on the servocontrol at the time the telescope is trained on the aiming circle, which is sighted on the direct fire telescope by the battery executive officer. When thus set, the servocontrol maintains tube azimuth. Correction to azimuth necessitated by piece displacement is electronically applied to the servo orientation value by the piece displacement sight.

b. Piece Displacement Sight and Servo correction Factor. On a rear lift point of the M109 is mounted a telescopic sight (fig 3) with a reticle similar to that of a panoramic telescope. This sight, which is used only to detect piece displacement during firing, consists of a traversing telescope and a coaxial servo correction member. The sight is zeroed on a collimator by the gunner at the time the piece is laid. The servo correction member at this point registers no voltage. When an angle is turned on the sight from the zero position to correct for displacement, the angle turned is electrically and inversely applied to the servo orientation value by a signal from the servo correction member. At this time the sight maintains displacement on the collimator alinement, the servo correction member is rezeroed for subsequent corrections, and the servocontrol continually maintains the corrected orientation.

c. Mercury Switch Zero Elevation Reference. A mercury switch is added to the elevation system in a manner similar to that of adding a thermostat. The unit is electrically oriented to the desired number of mils of elevation, and the hydraulics are activated until the mercury switch on the mount senses level and closes the hydraulic valve. Once the elevation is set, that quadrant elevation is maintained throughout a 6400-mil traverse regardless of trunnion attitude.

d. Trunnion Cant Azimuth Correction Factor. Correction in azimuth due to nonlevel trunnions is made through the dependent functions of trunnion cant and quadrant elevation when the race ring is not level. Trunnion cant is a function of race ring cant and varies as the turret traverses. John Muller first described this variable in 1756. Trunnion cant azimuth correction is applied to the fire command azimuth by the TACFIRE battery computer, therefore this correction does not affect the servo ground reference as does the piece displacement correction factor. The computer derives trunnion cant for each set of gun data by applying race ring cant and trunnion cant zero on the servocontrol (both fed into the computer as part of the executive officer's report) and quadrant elevation. Race ring cant is reported after the piece is laid. The gunner levels the tube, places the gunner's quadrant (at zero mils) on the breech perpendicular to the line of fire, and levels the quadrant bubble by traversing the turret toward the high side of the piece. When the bubble is level, the gunner records the value of trunnion cant zero obtained by reading the azimuth counter on the servo. He then traverses the turret 1600 mils and records the race ring cant obtained by using the gunner's quadrant. From this time the computer can derive trunnion cant for any programmed azimuth. (For 1 mil of traverse from trunnion level, trunnion cant equals race ring cant.)

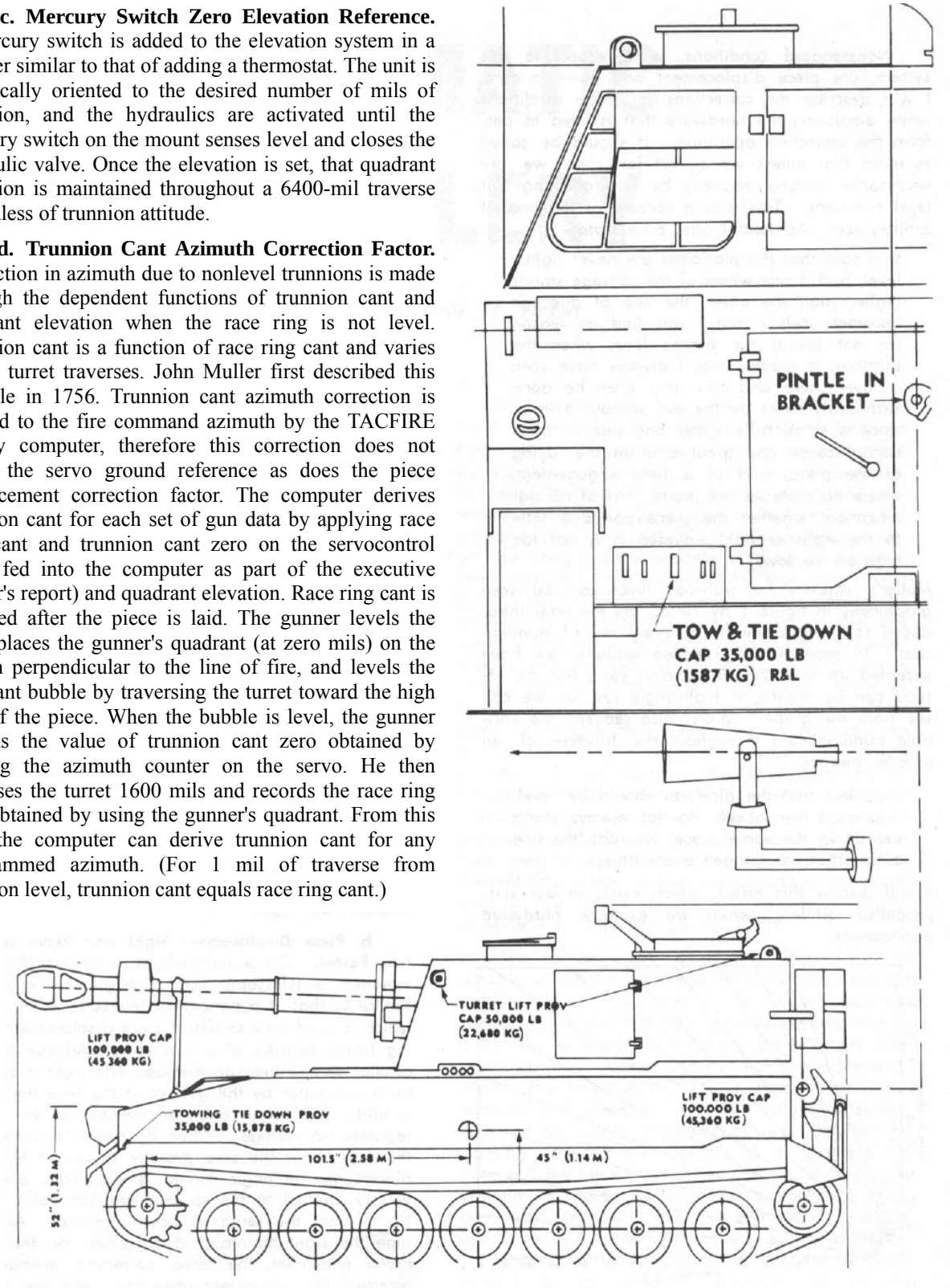


Figure 3. Piece Displacement Sight Mount

Now that the computer has trunnion cant and quadrant elevation for a given azimuth of fire, it applies an azimuth correction factor. The azimuth correction factor equals the tangent of the angle of trunnion cant multiplied by quadrant elevation. For our purposes, the angle of trunnion cant will be called "X." Since the TACFIRE computer cannot store the tables for tangent functions of angles, tan X is derived from the computer by using sin X and applying the following comparison:

$$\tan X \text{ — } \frac{\sin X}{\sin (1600 \textit{mils} - X)}$$

sin X is derived from the infinite series—

$$\sin X = X - \frac{X^3}{3!} + \frac{X^5}{5!} - \ldots + (-1)^{n-1} \frac{X^{2n-1}}{(2n-1)!} \ldots$$

The series is carried out to the accuracy required of the trunnion cant correction factor. This correction factor is applied inversely to direction of traverse from the azimuths of trunnion level zero. (Azimuth of trunnion level has a level position on its back azimuth, and the trunnion cant correction is applied from both level positions.)

e. Piece Ready Notification. When the servocontrol has rested on a programmed azimuth of fire, it enables an electrical firing link between the FDC and the primer. There is another breaker in that firing circuit which is closed by the section chief when the peace is loaded and is safe to fire. The closure of these two switches lights the PIECE IS READY lamp on the FDC control panel while enabling the firing circuitry.

The executive officer lays the battery by having all pieces refer to his aiming circle. Each piece sights its direct fire telescope on the circle, and the executive officer reads a back-azimuth to the FDC, which electrically sets the value on that howitzer's servocontrol. The piece is then laid. A further check on the lay is accomplished in the same manner with the aiming circle, but any two howitzers may be layed reciprocally, scope on scope, and the FDC can verify their respective azimuths and back-azimuths.

The fire direction center has a control panel with one azimuth and elevation indicator per howitzer and three simultaneous control dials. The panel includes fire command switches, PIECE IS READY lamps, and a communications link. When laying, the FDC sets azimuth values for separate howitzers announced by the executive officer.

The section chief boresights the direct fire telescope by means of a calibrated aluminum test target arm shaped as outlined in figure 4. The tube end of the target arm has a fitting which seats in the howitzer counterbore when the arm is inserted through the muzzle brake. Four pins on the arm seat into corresponding boresight indentations

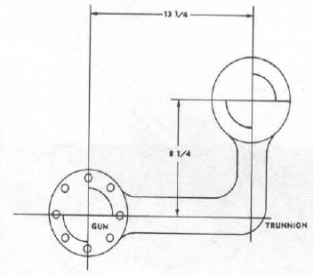


Figure 4. Boresighting Target

enscribed by ordnance on the end of the tube. This orients the arm around the center line of the bore. The sight end of the target arm has a translucent reticle for alining the direct fire scope. The reticle is illuminated for boresighting at night. The piece is then laid with the direct fire telescope. When the azimuth value is set, the section chief zeroes the trunnion level and orients the piece displacement sight on the collimator. Piece displacement and trunnion cant zero are checked periodically.

Foreseeing power failure, the gun crew can manually operate the turret by taking the azimuth fire command from the FDC and setting that value on the azimuth counter. The piece displacement factor is manually set on the counter.

To eliminate extensive equipment modification for an experimental mode, a tape recorder-type counter is used. When the piece is laid by use of the direct fire telescope, the back-azimuth read by the executive officer is set on the azimuth counter, which will maintain 6400-mil orientation with traverse. The piece displacement sight may be an M2 aiming circle on a fabricated mount fitted into the machined surface of the lift eye bracket on the rear of the howitzer.

This automated adaptation to the M109 is described to alert field artillerymen to future firing battery problems that may be incurred with artillery automation. It is possible that we may have to adapt present weapon systems to an automated environment due to monetary restraints. Whatever the course of our weapon system development, our aim must be to eliminate nonstandard conditions whenever possible, to adjust for them when their elimination is not possible, and to minimize time loss in transporting, emplacing, and servicing the piece. Here we have discussed adaptability of a present weapon to a highly mobile and versatile system of the future. But let us also keep our planning adaptable and resolve that we will not limit our weapons of the future by applying the limitations of the past or by forgetting the lessons of our ancestral artillerymen.

HAVE GUNNERS WILL TRAVEL. . .

by

2LT David N. Compton

Take 100 Field Artillery Officer Advanced Course students; mix with six days of travel; fold in 12th Air Force instruction, a pinch of amphibious warfare displays, and a splash of Naval gunfire and you have the first Fire Support Coordination field trip.

On February 25, 1973 class 6-72 FAOAC departed Fort Sill for Bergstrom Air Force Base, Texas, and the Naval Amphibious Warfare School, Coronado, California, on the first Fire Support Coordination trip. The six-day trip was designed to give students a broader outlook on Fire Support by viewing first hand tactical air support and naval gunfire. Students learned by talking with pilots involved in a simulated mission and observed and directed Naval gunfire.

A secondary goal was to foster interservice relationships by seeing how the Air Force and Navy operated, questioning their procedures, and talking with crews and personnel that they might never meet except in a battlefield situation. Frank discussions were held with Air Force pilots and naval personnel in classrooms, wardrooms, on buses, and in the officers club. Perhaps one result was the reaffirming of the students that they were glad they were Army, and proud to be Field Artillerymen.

The idea of a field trip originated with BG Koch, Assistant Commandant of USAFAS. His experiences and observations in Vietnam indicated that something was needed to enhance fire support coordination instruction. A field trip would enable students to put theory into practice. Initial planning began in September 1972. CONARC approved the plan on 15 November 1972 and allocated funds for FAOAC classes 6-72, 1-73, and 2-73.

Plans for the trip called for two days training at Bergstrom Air Force base on the Tactical Air Control System and two days at Coronado Amphibious Warfare School on naval gunfire and amphibious landings.

The majority of the instruction was "hands on." At Bergstrom students manned the phones in an exercise at the Tactical Air Control Center, talking with pilots and watching a simulated operation develop. At Coronado they toured the USS Hamner and slept aboard the USS Tripoli. Later they visited San Clemente Island and participated in the adjustment of naval gunfire.

The field trip began about noon, February 25, as the students boarded four CH-47 Chinook helicopters for a three-hour flight to Bergstrom AFB, with a short stop at Carswell AFB for refueling. Upon arrival at Bergstrom students were given a short briefing at 12th Air Force Headquarters, a supper, and departed for Camp Mabry for the night. The quarters at Camp Mabry belonged to the Texas Army National Guard and were formerly used as an Officers Candidate School.

During the first day of training at Bergstrom, the students received a briefing on the Strategic Air Command and spent hours climbing over, around and through various displays of Air Force equipment. A good portion of time was spent on communications equipment. The quantity as well as the quality of the equipment was certainly impressive. Allied students toured the capitol in Austin and the Governor's Mansion on Monday before rejoining the class at noon.

On Tuesday, the students spent half of the day working in the plans and air control center of a tactical reconnaissance squadron manning the phones in a simulated invasion of Greece. Displays of equipment and a tour of a photographic reconnaissance and interpretation facility preceded a helicopter flight to Camp Swift to observe the operation of a unit in the field. At Camp Swift RF-4 Phantoms and an A-7 swooped down on the class taking pictures and attempting to drop photo canisters. The students completed their stay at Bergstrom Tuesday night with a tour of the LBJ library in Austin.

Students boarded a chartered Continental 727 shortly before midnight for a three-hour flight to San Diego. Bleary-eyed but still in good spirits the

students discussed their experiences at Bergstrom while the exhausted staff members took a short nap.

As the plane touched down at San Diego, the first rainstorm in months greeted them. It lasted for about thirty minutes, and students arrived aboard the USS Tripoli in the early morning hours with damp baggage and little sleep. It was rise and shine, though, for breakfast at 0600.

At Coronado students literally joined the Navy as they slept and ate aboard the USS Tripoli, a helicopter carrier fondly called a "birdcage." Quarters aboard the ship were much more comfortable than expected. "Navy bunks are the softest," commented one student, "but watch your head."

Students spent Wednesday at the Coronado Amphibious School attending classes on amphibious landings, naval communications, and naval gunfire. A large mock-up depicting an amphibious landing was very impressive as it showed in one overview the whole operation utilizing tiny ships firing, landing craft heading ashore, jets zooming overhead, and helicopters lifting off their carriers. The display was an excellent instructional aid.

Not all of the students were busy in the same way, though, as the Allied students took one day off to tour Disneyland. Orange County Commissioners greeted the Allied students and made them guests of Orange County giving them tickets to Disneyland and their best wishes. At Disneyland the students, somewhat tired, burst with new energy as they tried in six hours to take in all of the huge amusement center.

Thursday was spent in the "field" as half of the class toured the USS Hamner, a destroyer, and the other half flew to San Clemente island to observe the adjustment of naval gunfire. During the tour of the USS Hamner, the students showed particular interest in the onboard computer used to direct naval gunfire and took time out to have a discussion of the Navy with the ship's officers in the wardroom. At San Clemente the students came away somewhat surprised by the firepower of the destroyer and its abilities. One group of students had a chance to do their own adjustment by working as spotters but found they could do no better than the Marines. Thursday night students attended a cocktail party at the Coronado Officers Mess, which continued until plane time.

Once again students boarded the 727 shortly before midnight for a flight of two hours and home.

Shortly after four o'clock the plane touched down at Lawton Municipal airport, and the students dragged to the buses for the ride to Fort Sill. A long trip, packed full of events, was complete. Sleep was the main desire of everyone.

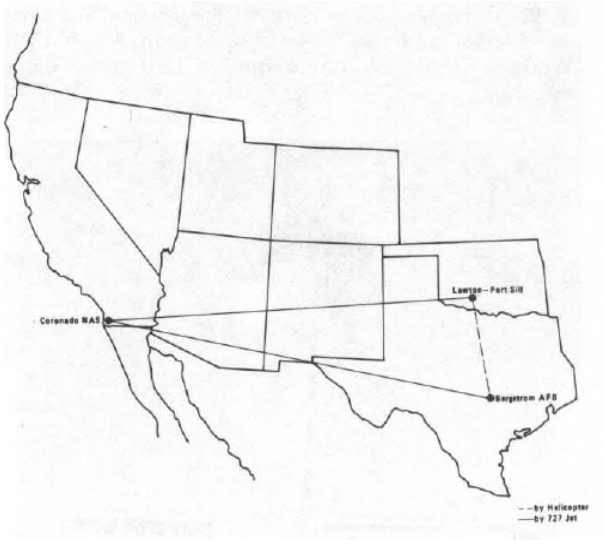
While the student opinions of the trip varied, all agreed that the excursion enhanced their perception of fire support coordination and helped to foster good relations with the sister services.

Many changes are likely, since the field trip was the first of its kind. Naval personnel urged that the time allotted be expanded to make the training more worthwhile. "You just cannot see it all in two days," said one instructor.

"I was aboard the USS Tripoli for two days and all I found was the poop deck, head, and the wardroom," said one student.

"I wanted to see some of San Diego," said another student, "but I was just too tired. My wife will never believe I was in San Diego and that I just went to classes and slept."

"It was like a long exam," concluded another student. "I really enjoyed it. I wanted to spend a lot more time at both places. But, now I'm just glad to be home."



RIGHT BY PIECE

SPIRIT OF '76 MARCHERS

A group of gunners from the 1st Bn, 76th FA, (Spirit of '76) 3d Infantry (MARNE) Division have performed a feat which stands as a challenge to all Redlegs and our infantry cousins as well. Last year fifteen men of the battalion conducted a 370-mile foot march in sixteen days from their headquarters in Kitzingen, Germany to Chateau-Thierry, France, on the Marne River. The purpose of the adventure training was to collect some symbolic rocks from along the Marne River for display in the Division Museum and the Division Artillery and Battalion Headquarters.

The 3d Infantry Division earned its nickname, "The Rock of the Marne" from the bitter fighting that took place there in July, 1918, during the last great German Offensive of World War I. The 76th Field Artillery participated in the gallant defense on the Marne and became the first allied artillery to cross the river in pursuit of the retreating enemy.

The men ate C-rations each morning but took their lunch and supper in French and German restaurants along the river. They averaged approximately 25 miles a day and it is to their credit that not one of them dropped out during the march. The fact that the men completing the march would be given a three-day pass in Paris may have had something to do with this display of stamina and endurance.

The troopers were honored by the mayor and city council of Chateau-Thierry with champagne toasts and a city medallion upon their arrival. In addition the men were recognized at a Division Artillery awards ceremony with certificates of achievements and lifetime memberships in the Marne Association.

14.5 TRAINING

Units of the 3d Infantry Division Artillery are making excellent use of the M31 trainer in Germany.

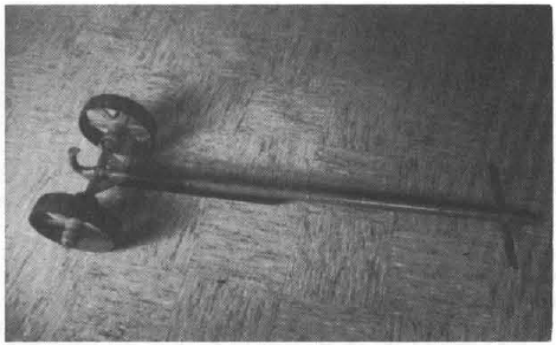
In addition to training themselves, the 3d Division Artillery units are also providing training to the other units of the Division. In a typical program, Redlegs of the 1st Bn, 10th FA set up a 40-hour course for the 1st Brigade, 3d Division. Both units are located in Schweinfurt, Germany. The instructors are the direct support forward observers. The highlight of the course of instruction is a service practice using the 14.5-mm trainer on a 1500 × 1000 meter range constructed by the unit. According to Major Charles Wascom, S3, 1st Bn, 10th FA, the trainer generated a great amount of student interest and is considered to be the best method of teaching the rudiments of indirect fire.

The M31 trainer was mounted on a M109 howitzer as shown in the picture to the right. The targets were brightly painted 55-gallon drums. The forward observers occupy tactical positions, which include foxholes with overhead cover for positions close to the target area.

THE REDLEG EXPRESS

A young lieutenant in Korea has come up with what we believe to be an excellent way of helping to bridge the information gap within his battalion, the 1st Bn, 38th FA, 2d Infantry Division Artillery. 1LT Tom Hronik, Svc Btry, acting on guidance from his Battalion Commander, LTC Charlie Carver, began publishing a battalion newspaper last year for the Redlegs of the 38th Artillery. LT Hronik sent us an excellent article about their paper, The Redleg Express, which, unfortunately, space does not permit us to reprint in full. The Express is mimeographed on 8 1/2 by 11 1/2 inch paper and published weekly on the basis of two for every three redlegs in the battalion. Articles include stories about members of the battalion who have had unusual civilian or military jobs, items of major impact such as the renovation of the battalion mess hall as well as short items of general interest to all.

LT Hronik passed on a few hints for other would-be battalion journalists based on their experience in Korea: 1) Keep the paper emphatically unofficial and strictly within the purview of the publishing unit. Never lose sight of the purpose -- to keep your troops informed. 2) Do not expect a great deal of written copy from your troops, the purpose is served if they merely read it. 3) Every effort should be made to maintain a uniform level of quality by vesting and editing and layout responsibility in one individual. LT Hronik indicates that the job is neither time-consuming nor difficult and is a real morale booster for the Battalion.



EASY WAY TO MOVE A 155

Moving the M114 155 Howitzer in confined areas can be difficult particularly when you only have a few men available. The problem is common for Guard units who generally keep their guns on the drill floor for training and inside storage.

SFC Kenard Moye, Chief of Firing Battery, A Btry, 1st Bn, 49th FA, Gillette, Wyoming, solved the problem with a simple two-wheel cart constructed from scrap materials. With it, three men can spot the unit's howitzers where ever desired, quickly and easily. One lifts the lunette and steers with the cart, and the other two push on the tires. Two men can do the move in a pinch.

Iron wheels sometimes damage painted concrete floors which has been solved by cementing inner tube strips on the wheels. Pneumatic tires would work if substantial enough to take the 522-pound weight of the trails, however the cost is considerably more than the iron wheels which can generally be found in scrap yards at little or no cost. (Contributed by 1-49 FA, Wyoming ARNG.)

CONTACT TEAMS

Troopers from the Second Armored Division (Hell on Wheels) Artillery, Fort Hood, test themselves on their FADAC under the watchful eyes of SFC Heinz Noeding, (second from left) USAFAS Gunnery Department. SFC Noeding, as a member of a Contact Team provided several periods of instruction for the Hells Fires Redlegs. (For further information on Contact Teams see article "View From the Blockhouse.")

FIRING THE CORPS

New FA Branch Directory

	AUTOVON	COMMERCIAL
Chief, FA Branch	221-7890	202-325-7890
XO, FA Branch	221-7891	202-325-7891
Assignments	221-0752	202-325-0752
Personnel Actions and Education	221-0421	202-325-0421

Please post these changes to your FA Officers Pocket Guide.

186 FA Officers Chosen for Schools

186 FA officers were selected to attend the 73-74 Command and General Staff College level schools. They are divided among the various colleges as shown:

Command and General Staff College	147
Armed Forces Staff College	31
Navy Command and Staff College	5
Marine Command and Staff College	1
Air Command and Staff College	2

Selection By Year Groups

YG	64	63	62	61	60	59
Total YG Population (FA Br)	391	377	378	356	382	303
73-74 Selections	20	44	41	22	27	11
Previous Selections from YG	16	41	67	140	148	152
Total % Selected (to date)	9.2	22	29	45	46	56

The year group table should be helpful in assisting each officer make a realistic appraisal of his eventful chances for selection. In this regard, a few points concerning the CGSC Order of Merit List (OML) are appropriate:

a. FA officers attend by year group, (ie the OML reflects an officer's standing among his year group contemporaries for that year's selection process).

b. Only those officers eligible (Advanced Course Graduates, not previously selected for CGSC level schooling, under 41 years of age, and having between 8 and 15 years of Active Federal Commissioned Service) and available (5/6 overseas tour complete, not in certain high priority stabilized CONUS assignments) are included on the OML.

c. The OML developed for a given selection process becomes obsolete with publication of the selection list. Preparation of a new OML for the 74-75 classes will begin in Mar 73. Relative standing in thirds will be available after 1 Aug 73 by calling or writing FA Branch.

The following is a short summary of facts relative to the 73-74 FA selectees:

All officers selected had sustained exceptional/outstanding manner of performance for at least five to seven years. All had successfully commanded battery level units or in the case of aviators, had successfully commanded aviation platoons or equivalent. All had served in Vietnam. Two thirds of the selectees had two or more combat tours. Average age: 33.6 years; Average service: 11 years. The selection process favored an overall younger officer than those selected in previous years.

Because of reduced class sizes, it has become somewhat more difficult to attend CGSC schooling. The FA Branch high of 70% of a given yeaer group attending school several years ago is expected to continue to drop and eventually level off at between 50 and 55%. (MAJ Walter J. Bryde, Jr., AUTOVON 221-0421)

Graduate Schooling

Officers available for reassignment during FY 74 who have current applications on file will automatically be considered for selection to attend graduate school. Eligible officers who have not applied may submit their applications in accordance with AR 621-1. Undergraduate transcripts and the results of the Graduate Record Examination (GRE) should accompany the application. The Admission Test for Graduate Study in Business (ATGSB) is required for application in a business related discipline.

The FY 74 graduate civil school quotas were not available at press time, however, it is anticipated that the list will include the following areas of study. Journalism; ORSA (Bus); Comptrollership; ADP (Bus); Logistics Management; Aeronautical Engineering; Electronics Engineering; Guided Missile Engineering; ADP (Engr); ORSA (Engr); Nuclear Physics; and International Relations. Actual FY 74 quotas will be announced in the next issue. (MAJ Earl S. Greason, III, AUTOVON 221-0421)

Want Ad

The FA Branch has a requirement to furnish a LTC to serve a one year tour as Assistant to the G3 Advisor, US Army Element, USMTMSA, Saudi Arabia. The position requires language proficiency and CGSC or equivalent military education. The report date is Jan 75 with 47 weeks language school enroute. Interested officers should call the LTC overseas desk. (MAJ Keith Painter, AUTOVON 221-0752)

Molly's name has been given to his page because we are devoting the contents to field artillery families, particularly the distaff side. The purpose is to prove a forum for wives as well as the field artillerymen. Our mail tells us that many units are making the extra effort to keep their families informed, and to include them as part of the team. We hope that the Molly Pitcher Page will be a contribution to this effort. The feature will be somewhat unique in that it offers the opportunity of communicating with other women associated with the field artillery world-wide.

The page will be oriented to Army family life in general and field artillery life in particular. Your participation as readers and especially as contributors is heartily encouraged.

This will be your page, girls. Let us hear from you.

Editor

Molly Pitcher

For those of you who are not familiar with the story of Molly Pitcher a brief explanation is in order. Fairfax Downey in his excellent history of the field artillery, Sound of the Guns, eloquently takes us back to that scorching day during the revolutionary War in 1778 near Monmouth, N.J.

Molly Hays Servicing The Gun at The Battle of Monmouth

The Story of Molly Hays

Across that bullet-swept ground a striped skirt fluttered. Molly Hays was earning her nickname by bringing pitcher after pitcher of cool spring water to parched, exhausted men. "Molly Pitcher" also tended the wounded and once, heaving a crippled soldier up on her strong young back, she carried him clear on a redcoat charge. On her next trip with water she found her ex-artilleryman husband back with the guns again, replacing a casualty. While she watched, Hays fell wounded. The piece, its crew now too depleted to serve it. was about to be withdrawn when Molly stepped forward and took the rammer staff from her fallen husband's hands. For the second time on an American battlefield a woman manned a gun. (The first was Molly Corbin during the defense of Fort Washington in 1776. ED.) Expertly she ran through the familiar drill, staying at her post under heavy fire. Washington issued her a warrant as a noncommissioned officer, and the army hailed her admiringly as "Sergeant Molly."

Army Community Service...Why?

Problems are nothing new to military personnel and their families—but do you know where to get help when you need it?

The Army Community Service Branch is your best answer. ACS is aimed at smoothing out all sorts of problems that plague military families.

Orders to move may come rapidly, or you may arrive on post 30 days before your furniture and dishes. ACS works as a center where even if they cannot solve your problem, they will direct you to someone who can.

ACS operates a community service center that either coordinates or provides services that stretch from baby-sitting to getting you a refrigerator.

Volunteer workers are the back-bone of the community services center. They operate a "loan closet" that furnishes dishes and other household goods. In addition, ACS provides a baby-sitting service, hospitality, emergency service, information on food stamps and Waiting Wives. They also work with the handicapped.

What do the volunteers think of ACS?

Two Fort Sill women have taken the time to give us their thoughts:

Until I volunteered at Army Community Service, most of my volunteering was for P.T.A., Brownies, and Cub Scouts.

This was all very rewarding and satisfying, but it was also expected of me, both by my three children and the community.

When I came into ACS it was only for *me* that I did it. I had lots of time to fill and found that in ACS I could do this in addition to helping families either settle at Fort Sill or help them when they were on their way to another assignment.

I was introduced to the Volunteer Program at a coffee at the USO. The guest speaker was the ACS Chief. Before he was finished speaking I was *SOLD* on becoming a volunteer. Until that coffee I had not heard of the volunteer program. The more I worked at ACS, the more I liked it and the more I became involved.

I have made so many friends among the other volunteers and must mention the highlight of highlights during my one and one-half years with this organization. I was part of a delegation that went to present Mrs. Richard Nixon with the Honorary Supervisor of Volunteers Award at the White House. This is such a warm memory now of a lovely trip. Truly, I have received so much more than I have given.

Joan E. Foster
ACS Volunteer

My whole life was centered around my husband and home. Now I'm no card carrying member of 'women's lib' but I was beginning to feel that I was just observing life instead of participating in it. At a promotion party back in February 1971, I met an Army Community Service Volunteer. I liked her instantly. When she started talking about ACS, I was impressed and felt that this organization was the answer to my needs. I have no special talents, just an interest and concern for people, and I was told that these are the only requirements.

From that time I have not looked back. Being a volunteer with ACS has opened up many avenues to me. I have gained in all areas. I have learned so much about the Army that it now helps me to better understand the problems and pressures my husband experiences and as a person I have grown.

Why Army Community Service?

If you enjoy people, the ACS program provides an excellent means for dependents to serve the military community. How do we help? The bulk of the workload is providing information and assistance. Our job is listening to peoples' problems and providing help in emergencies. Wives of officers and enlisted personnel work together to meet everyone's needs at ACS.

Peggy Kobey
ACS Volunteer
Supervisor

View from the Blockhouse

ATTENTION: VETERANS OF THE 8TH BN, 6TH FA, 1ST INFANTRY DIVISION

A battle scarred veteran of the Vietnam war has joined the instructor staff at Fort Sill.

C24, An M109, 155-mm self-propelled howitzer, a former member of Battery C, 8th Battalion, 6th Artillery, 1st Infantry Division Artillery has been assigned to the RSOP Branch of the Field Exercise Division of the Tactics/Combined Arms Department of the Field Artillery School.

Historical and maintenance records show that this howitzer was with "Charley" Battery during the bitter fighting at Fire Support Base "RITA" in the Republic of Vietnam in November of 1968. After being hit at close range by two RPG rounds, C-24 was declared a combat loss and returned to the United States and put in storage at a U.S. Army Depot in Tooele, Utah.

C-24 was shipped to Fort Sill and is presently being used as a training aid in teaching "Defense of the Battery."

In an effort to obtain further information on the weapon and its crew RSOP Branch requests that personnel assigned to "C" Battery, 8th Bn, 6th FA during the period October-November, 1968, or who were with the unit at Fire Support Base "RITA" please contact the US Army Field Artillery School, ATTN: ATSFA-CA-FE, Fort Sill, Oklahoma 73503.

POSITION AND AZIMUTH DETERMINING SYSTEM (PADS)

The system is being developed to perform 5th order artillery survey. The system is jeep mounted and uses a gyroscopic reference unit coupled with a laser velocimeter, onboard computer, mounting platform and theodolite. The operator, starting at a known battalion survey control point, and driving on to firing batteries or other points requiring control, will be able to stop and instantaneously read out coordinates, direction, and height at each position. The prototype model of the PADS was made available to the Target Acquisition Department during the period 27 November - 1 December 1972. Personnel from Litton Industries and the Engineer Topographic Laboratories accompanied the equipment and conducted briefings and demonstrations for interested Fort Sill personnel. The system has successfully completed contractor and preliminary governmental testing and is now scheduled for military potential tests at the Engineer Topographic Laboratories, Fort Belvoir, Virginia. PADS is designed to provide an all-weather-day-night method of extending survey control to accuracies of 20 meters in position, 0.25 mil in azimuth, and 10 meters in elevation.

SCHOOL REORGANIZATION

As a result of the ongoing Department of the Army reorganization some major changes are taking place within the U.S. Army Field Artillery School. Two new deputy assistant commandant positions have been created and the Artillery Training Center has been incorporated into the School.

The Office of Deputy Assistant Commandant for Combat and Training Development (DAC, CTD) was formed from the amalgamation of the Office of Doctrine Development, Literature, Literature, and Plans (DDLP), and the US Army Combat Developments Command Field Artillery Agency. CTD will be the focal point for coordination between the School and all outside agencies on matters pertaining to field artillery and aerial field artillery organization, materiel development, and future concepts. The major responsibilities of this office include the development and coordination of field artillery doctrine and training literature as well as the review and analysis of studies. COL Lawrence A. Caid, former head of the Field Artillery Agency is to be the new Deputy Assistant Commandant for Combat and Training Developments.

The Deputy Assistant Commandant for Training and Education (DAC, TE) formerly the Director of Instructoion, will remain the center of operations in the School and will continue to supervise and coordinate resident instruction and the preparation of programs of instruction. This office recently assumed responsibility for the operation of the Morris Swett Technical Library and the Editorial Division which was assigned to DDLP. COL Calvin J. Landau is the Deputy Assistant Commandant for Training and Education.

The Army Training Center, Field Artillery has been placed under the control of the Commandant, USAFAS, and has been renamed the 1st Advanced Individual Training Brigade (AIT). The feasibility of merging this organization with the School Brigade is currently being studied.

On April 1, the name of the Nonresident Instruction Department was officially changed to the Army-Wide Training Support Department.

VIETNAM WAR STORIES WANTED

Department of the Army has assigned USAFAS the mission of writing a monograph on the U. S. Army Field Artillery in Vietnam. The paper will be a comprehensive study of the evolution of the Field Artillery's role in Vietnam.

The monograph will cover all phases of American Field Artillery operations in Vietnam from 1954 through the standdown in 1972. Your unit photographs and "documented war stories" are desired to flesh out the official records and documents that are available to the writing team. To qualify your "documented war story" you should have first-hand knowledge of the events, as they transpried. "War Stories" and photographs should be clearly marked with their owner's name, rank and military address so that they may be returned to owner at the completion of the monograph.

Individuals having any photographs or "war stories" believed to be of value to this project are requested to forward them as soon as possible through message center or mail to: USAFAS, ATTN: ATSFA-AW, LTC DeWitt, Fort Sill, Oklahoma 73503; or call 639-4022.

NEW HANDBOOK AVAILABLE

The Army-Wide Training Support Department of the U. S. Army Field Artillery School has developed a "Handbook for Battery Officers." Over the past three years the Field Artillery School has been sending questionnaires to all graduates of the Officer Basic Course and Officer Candidate Course designed to determine the areas where officers felt they needed the most help with their duties. As a result of this study the "Handbook for Battery Officers" was written.

The subjects covered in the handbook are mainly concerned with the day to day administrative problems that arise in running a Field Artillery Battery. The handbook includes chapters on Battery Administration, Battery Supply, Battery Maintenance, Technical Proficiency Inspections, Safety Officer, Military Justice, Leadership, and Current Issues. To obtain a copy write to: Commandant, U. S. Army Field Artillery School, Army-Wide Training Support Department, ATTN: Extension Courses Division, Fort Sill, Oklahoma 73503.

NEW CHRONOGRAPH SOUGHT

The Combat and Training Developments Directorate of USAFAS has recently prepared a Requirement Document seeking development of a lightweight, low cost projectile velocimeter to replace the current M-36 chronograph. The basis of issue of the current M-36 is two per Division Artillery and one per Group and Corps Artillery. This basis of issue is a result of the weight (400 pounds) and cost ($20,000) of the M-36. The proposed replacement projectile velocimeter would be much smaller, lighter, and less costly and thus would have a basis of issue of one per Field Artillery Cannon Battery. Salient characteristics of the projectile velocimeter include:

- Operation by a single individual.
- On-carriage mounted or operated from a tripod.
- Powered by an external 18-32 volt DC power source.
- Capable of measuring from 6-8 projectile velocities per minute at quadrant elevations up to 1200 mils.
- Weigh approximately 45 pounds and will not exceed 2.0 cubic feet in volume.

The device has been recommended for advanced development because of the existence of prototype velocimeters. Approval for development of the Projectile Velocimeter by Department of the Army should result in fielding by approximately 1977.

CONTACT TEAMS AND MOBILE TRAINING TEAM REQUESTS

There has been a change in the staff responsibility for the receipt and coordination of Contact Team requests for active army units. All requests for Contact Training Teams should be forwarded to the USAFAS, Deputy Assistant Commandant for Training and Education, ATTN: ATSFA-TE-RT-C, Fort Sill, Oklahoma 73503. Although units are encouraged to call the School to coordinate the details, it is requested that queries be followed up by a formal request to insure that the training support provided by the School has been properly staffed by the Academic Departments to meet the exact needs of the units in the field. Autovon numbers for the coordination of Contact Team requests are 639-5714/5903.

Requests by reserve component units for Mobile Training Teams will continue to be processed through USAFACFS, ATTN: ALBGC-RC, Autovon 639-1109/4803.

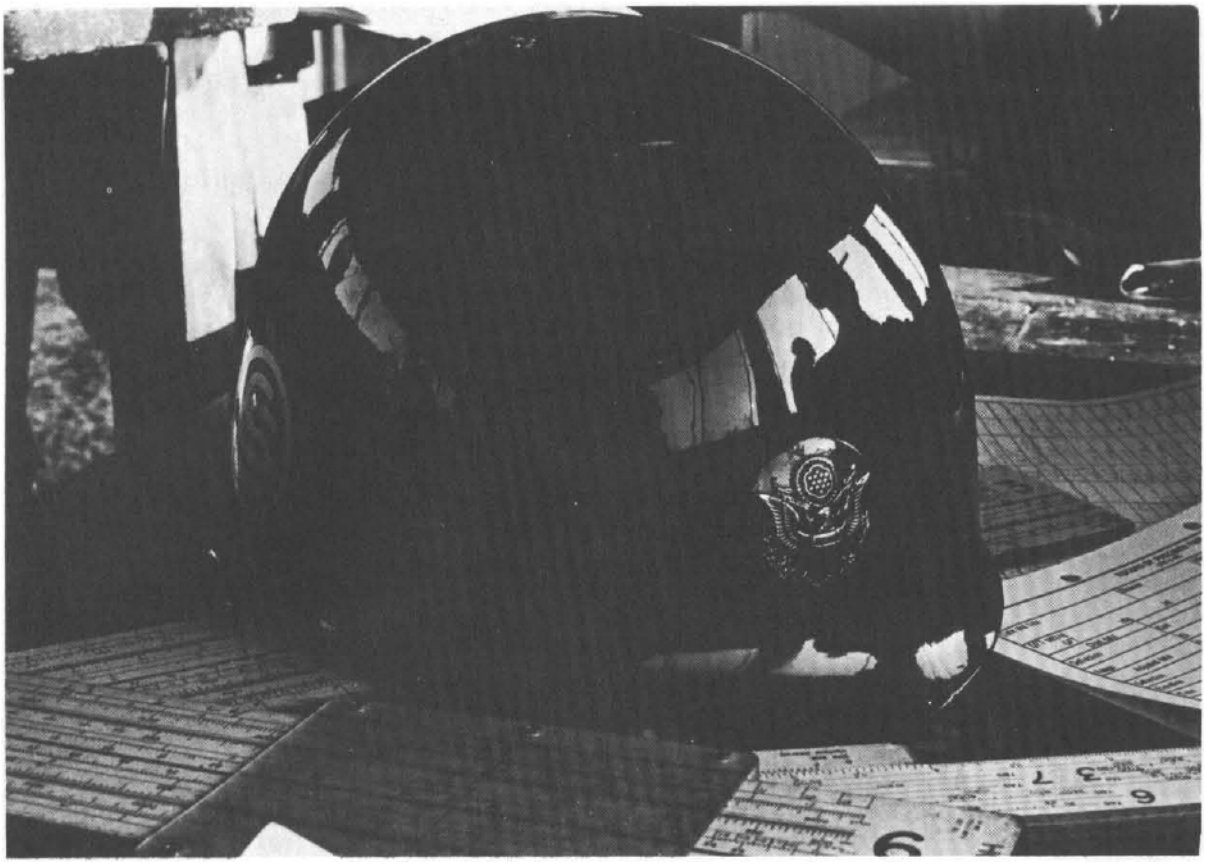
COMPUTATION OF SAFETY FOR THE M728 (M514A1E1) PROXIMITY FUZE BY GUNNERY DEPARTMENT

The M728 (M514A1E1) proximity fuze is intended to replace current M513 and M514 series proximity fuze for all cannon weapon calibers. Two changes in the present method of computing safety are required for this fuze.

a. The M728 (M514A1E1) is armed at 1.9 seconds (minimum arming time) after firing or from three to seven seconds prior to the time set on the fuze, whichever is later (TM 9-1300-203, para 5-77.1d(1)e(2)(e)). Consequently, the minimum safe time for this fuze is the time of flight to the crest or the minimum arming time, whichever is greater, plus seven seconds.

b. As with earlier proximity fuzes, if the time set on the M728 (M514A1E1) is equal to or greater than the minimum safe time, the minimum QE computed for the PD and MTSQ fuzes is used. If, however, the time set on the fuze is less than the minimum safe time, a standard 64-meter vertical clearance should be used for all calibers in low angle fire (TM 9-1300-203, para 5-77.1e(2)(c)). This 64-meter clearance should be increased by 50% (96 meters) for firing over marshy or wet ground and by 100% (128 meters) for firing over water. This standard vertical clearance, applicable to all calibers, is due to a loop antenna which gives a constant height of burst regardless of size of projectile.

The remaining procedures found in FM 6-40, and "Notes for the Battery Executive" concerning proximity safety remain unchanged.



The Field Artillery Officer Candidate School at Fort Sill will close its doors this month, but to the more than 42,000 graduates, the memories will remain.

New Distribution Regulations

Department of the Army is in the process of revising AR 310-1, which governs service school publications. Under the new regulation we will NOT be authorized to continue mailing **The Field Artillery Journal** to individuals free of charge. As it stands the following mailing lists will have to be discontinued: Allied students who have attended USAFAS; FA officers attending civil schooling; FA officers on ROTC duty and nonresident instruction students.

To some extent we will be able to compensate for the reduction in free distribution. We will increase battalion distribution (Active and Reserve component) so more copies of the magazine will be available. We are authorized to forward copies to ROTC detachments and this mailing may be increased, if required. We also make copies available to MAAGs and military missions for the Allied field artillerymen that are interested.

For those of you that desire a personal copy of the magazine, subscriptions are still available through the USAFAS Book Store. Any questions on the revised distribution may be addressed to: USAFAS, ATTN: ATSFA-AWF, **The Field Artillery Journal,** Fort Sill, Oklahoma 73503.

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