Sport and Recreational Accident Summaries

Sport and Recreational Accident Summaries *is a compilation of reports providing safety information to learn from based on incident and accident summaries relevant to slow simple flight. Reports are collected from FAA and NTSB covering the period between 1983 and the present. Accident date of occurrence is included when applicable. This page will be updated with additional reports on an occasional basis.*

Added May 2010

Porpoising Gyro
The pilot of an FAA-registered Air Command 532 had received only approximately one hour total gyrocopter flight time and approximately 15 minutes of dual instruction and had not been signed off for solo flight. The pilot inadvertently let the gyrocopter porpoise resulting in main rotor rpm slowing and main rotor blade contacting the rotor head and propeller. All control was lost and gyrocopter descended out of control colliding with the ground. The pilot received fatal injuries.
The pilot had an expired medical certificate and no record of having received a biennial flight review. The gyrocopter had no record of having a current inspection. No post crash evidence was found of failure of the structure, flight controls, or engine.
The National Transportation Safety Board determined the probable cause of this accident to be the pilot's decision to attempt to fly the gyrocopter without proper training resulting in the in-flight loss of control and subsequent crash.

Accident occurred April 07, 1990

Not Following Procedures
The pilot of an FAA-registered Avid Flyer elected to land on a roadway. During final approach for landing the pilot inadvertently switched off the magnetos. The subsequent total loss of engine power necessitated a landing short of the planned landing area. The aircraft impacted against fence posts at a cattle guard installed on the roadway. The pilot and passenger were uninjured.

The National Transportation Safety Board determined the probable cause of this accident to be the failure of the pilot to follow published procedures when he inadvertently shut off the magnetos while on final approach.

Lack of Elevator Control?
The pilot of an FAA-registered Rally III reported that after takeoff at about 200 feet AGL, he noticed that the elevator 'continued to require back pressure to maintain level flight.' He elected to make a gentle turn and return for landing when he 'felt the snap on the elevator control breaking.' Control was lost and the airplane impacted the terrain. The pilot and passenger received serious injuries.

On-scene examination revealed no anomalies and all damage was related to impact forces. The non-rated pilot had never received formal flight training.

The National Transportation Safety Board did not determine a probable cause of this accident.

Wing Failure
The Skyseeker Mk II was observed 'bobbing up and down' as the pilot performed maneuvers during the local pleasure flight. Witnesses stated that they heard a bang and saw the outboard section of the right wing fold up before the aircraft descended into the ground. The pilot and passenger received fatal injuries.

The non-certificated pilot/aircraft owner had performed an unauthorized modification to the wing structure of the two-seater ultra-light aircraft. The manufacturer's representative stated that they had advised against the modification as it was considered unsafe and would weaken the structure.

The National Transportation Safety Board determined the probable cause of this accident to be in-flight failure of the outboard section of the wing, and the loss of aircraft control due to the unauthorized structural modification by the pilot/owner.

Accident occurred October 13, 1990

Fuel Filters Blocked
After flying for about one hour, the FAA-registered Kitfox’s engine sputtered several times, and then lost power completely. The pilot performed a forced landing to a field, during which the landing gear collapsed, and the airplane sustained substantial damage. One occupant received serious injuries and the other occupant received minor injuries.

Examination of the engine revealed that the inlet finger screens of both the primary and auxiliary fuel pumps were 80-90 percent blocked with contamination. No additional mechanical deficiencies were noted with the engine. Prior to the accident flight, the airplane had been flown 9-10 times during the previous 14 months. Review of the aircraft and engine logbooks revealed that the last condition inspection was performed 17 months prior to the accident, and the accident engine was installed in the airplane on that date. One additional entry, for a test flight, was observed in the logbooks since the last inspection.

The National Transportation Safety Board determined the probable cause of this accident to be the loss of engine power due to blockage of the fuel filters resulting in fuel starvation. A factor in the accident was the inadequate maintenance inspection.

Pilot Distracted
The pilot of a High Craft Buccaneer was preparing for a landing on the lake when he was "distracted" by people standing on the docks waving to him. He stated that he removed his hand from the throttle to wave back, and the engine rpm decreased momentarily. He then applied power; however, at an altitude of about 40 to 50 feet, he "inadvertently stalled the airplane," and it "pancaked" onto the water. After impacting the water, the seaplane overturned, coming to rest inverted. The pilot received minor injuries.

The pilot additionally stated that he had purchased the seaplane about three weeks prior to the accident, and the accident flight was his first flight in it. He reported no mechanical deficiencies with the seaplane.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot's failure to maintain airspeed during landing, which resulted in an inadvertent stall and subsequent impact with the water. A factor was the pilot's lack of experience in the airplane and his diverted attention.

Added March 2010

Nose Up on Departure
During a cross country flight shortly after take off, the FAA-registered Tierra II was observed in a climbing turn. During the turn the nose of the airplane went up then dropped nearly straight to the ground. The engine was heard to be running to the point of collision. The pilot received fatal injuries.

Examination of the wreckage did not reveal evidence of mechanical failure or malfunction.

The National Transportation Safety Board determined the probable cause of this accident to be that the pilot did not maintain a proper airspeed during the climb to cruise.

Accident occurred April 15, 1990

Lost Directional Control on Landing
The pilot of the FAA-registered Fisher Classic Biplane stated that he lost directional control during his landing roll. The airplane left the runway, rolled into low brush and nosed over. The pilot was uninjured.

The National Transportation Safety Board determined the probable cause of this accident to be the failure of the pilot to maintain directional control of the airplane during the landing roll. The pilot's lack of total aviation experience was a related factor.

Struck Telephone Cable
At about 1,000 feet AGL the FAA-registered WindRyder gyroplane owner/builder/pilot experienced a total power loss. During the emergency descent to the forced landing the aircraft cleared power lines and veered left to avoid trees. The rotor blade struck a telephone cable resulting in an uncontrolled descent to ground impact. The pilot received minor injuries.

Investigation revealed that the spade lug connected to the ignition damping box disconnected due to improper crimping, causing loss of ignition.

The National Transportation Safety Board determined the probable cause of this accident to be power loss due to failure of the ignition system due to improper installation by the operator. A factor was the wire struck during the emergency descent.

Too Low For Air Brakes
The pilot of an FAA-registered Marco J-5 departed from runway 15 and remained in a closed left traffic pattern. Witnesses observed the airplane on an extended downwind above a residential area between 50 and 150 feet AGL. The airplane was observed to make a left turn with an estimated angle of bank between 45 and 75 degrees. The nose

pitched down 45 degrees and the airplane descended rapidly. The left wing tip collided with a roof top prior to the airplane crashing on the roof. The pilot received fatal injuries.

Investigation revealed the flaperons and air brake were extended.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot's inadvertent deployment of the air brakes at a low altitude.

Accident occurred October 02, 1990

Landed Long and Out of Room
The pilot of an FAA-registered Avid Flyer STOL attempted to land the amateur built aircraft on a short runway. The aircraft did not touch down at the intended touchdown point and the pilot initiated a go-around. The aircraft failed to clear trees at the departure end of the runway. The pilot was uninjured.

The pilot reported that he should have been more familiar with the aircraft and should have practiced more landings on longer runways.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot's failure to obtain a proper touchdown point and his delay in initiating a go-around.

Failure to Secure Fuel Line
According to the pilot, he stated that prior to the flight he made adjustment on the FAA-registered Kitfox’s exhaust gas temperature (EGT) gauge. The main fuel flow line had been removed to access the area of the EGT gauge. During climb out through 300 feet, the EGT gauge was reading above the maximum temperature, and the engine quit. While maneuvering for the emergency landing the right wing collided with a tree. The pilot received minor injuries.

Examination of the airplane revealed the fuselage was buckled. Examination of the flight control system did not reveal any mechanical anomalies. Examination of the engine compression, and the ignition system of the engine revealed no mechanical anomalies. Approximately five gallons of fuel was recovered from the fuel system. Further examination of the fuel system revealed that the main fuel line was separated from the fuel input port on the carburetor.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot's inadequate installation, and his failure to secure the main fuel line, which resulted in fuel starvation.

Missed the Windsock in the Dark, but…
Witnesses at the airport stated that it was dark outside and that the runway was not equipped with runway edge lights. The witnesses aligned their cars along the end of the runway and turned on their headlights. The non-certificated pilot made three low approaches to runway 21 in the FAA-registered RANS S-12, but on the third approach, the pilot banked the airplane to the left to avoid a collision with the wind sock. The airplane descended and witnesses lost sight of the airplane. Witnesses next reported hearing the on-board ballistic rocket system detonating followed by a power line transformer explosion. The pilot received fatal injuries.

The airplane was located 275 feet, southeast of the airport in a nose low vertical attitude. Examination of flight controls revealed continuity. There were paint smears on the back spar and the propeller blade. The two fuel tanks were not ruptured and over six gallons of fuel were recovered. The toxicology report revealed that the pilot had a blood alcohol level of .074%. Fluoxetine (a prescription antidepressant) was also detected in the pilot's blood.

The National Transportation Safety Board determined the probable cause of this accident to be the unqualified person's poor judgment and his failure to maintain clearance from power lines and trees while maneuvering for a landing which resulted in the in-flight collision with trees and power lines. Factors were the dark night and the unqualified person's physical impairment due to alcohol consumption.

Accident occurred May 05, 2004

Added January 2010

Fuel Drain Leaking
The pilot of an FAA-registered Zenair CH701 experimental, home built aircraft was conducting a round-robin cross country flight. On the last leg of the flight the engine suffered a total power loss and a forced landing was made on soft terrain. On touchdown the aircraft sustained substantial damage. The pilot reported no injuries.

Subsequent investigation revealed that the fuel drain was unable to restrain the fuel and a quantity of the fuel had leaked out during flight.

The National Transportation Safety Board determined the probable cause of this accident to be the manufacturer's inadequate design of the fuel drain. Contributing was the pilot-in-command's disregarding the fuel supply which resulted in fuel exhaustion.

Lost its Cool
During cruise flight about 500 ft offshore, the pilot of an FAA-registered Air Command 532 Elite reported that the engine coolant and oil temperature began rising. He attempted to land on the beach but was unable and landed just offshore. After touchdown, the main rotor mast separated. The pilot was uninjured.

Exam of the engine revealed that a liquid coolant line separated from the radiator due to vibration. This allowed the coolant to drain. According to an FAA inspector, there was no airworthiness certificate nor engine and aircraft logbook. The pilot held a student pilot certificate but neither it nor his pilot logbook was endorsed authorizing solo flight.

The National Transportation Safety Board determined the probable cause of this accident to be loss of power due to the overheated engine caused by a separated liquid coolant line which allowed the coolant to drain, resulting in the forced landing.

Rivets Shear on Substitute Control Stick
The pilot of an FAA-registered Mono Fly had completed several touch and go landings. During the last landing, the right wing was lifted by a crosswind gust. Right aileron was applied without effect. Since the airplane was in the landing flare, the airspeed was too slow for rudder effectiveness. Full power had already been applied for the go-around, so

the airplane veered left. The left wheel struck a berm which catapulted the airplane onto its nose. The pilot was uninjured.

The owner/builder subsequently found that the control stick had separated from the aileron bell crank. He had substituted the stick for the control wheel, attaching the aileron bell crank to the stick with rivets. The rivets had sheared which resulted in a loss of aileron control.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot/builder's failure to ensure that the substituted control stick was adequately attached to the aileron bell crank.

Late Decision to Go Around

The private pilot of an FAA-registered Kitfox homebuilt aircraft said that he had too much airspeed on final approach and decided to make a go-around. He said that he made a late decision and was unable to clear obstacles at the end of the private strip. The aircraft collided with a gate then careened into a corn field. The pilot was uninjured. The left landing gear and wing sustained substantial damage.

The National Transportation Safety Board determined the probable cause of this accident to be a go-around delayed by the pilot in command.

Fully Extended Flaperons Effect Roll Rate

At about 100 feet AGL on final approach, the pilot of an FAA-registered Avid Flyer had the flaperons fully extended and encountered a gust. Control was lost and the pilot attempted to land in an adjacent field. The airplane stalled and impacted right landing gear first and nosed over. The pilot received minor injuries.

The pilot/builder reported that the airplane flight manual recommended full flaperons be used at 20 feet AGL or less. He further related that he was not accustomed to the slower roll rate with full flaperons extended.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot's improper compensation for the wind conditions and the resultant inadvertent stall. Factors related to the accident were the gusty crosswind condition and the pilot's extension of full flaperons before descending to the proper altitude.

Sharp Pitch-Up Snaps Off Wing

A witness stated that he was flying his ultralight aircraft in close proximity to the accident aircraft, a Quad City Challenger II, and he observed the accident aircraft enter about a 45-degree dive from an altitude of about 500 feet. He further stated that he was behind the accident aircraft and he observed it as it dove toward the ground. From his position, he said he saw the attitude of the aircraft change abruptly, as if to recover from the dive at an altitude of about 50 feet above the ground. As the nose pitched up, the witness stated that he saw the right wing separate, and the aircraft then impacted the ground. The pilot and passenger received fatal injuries.

The witness also said that he had observed the accident aircraft during one other such dive and recovery maneuver immediately preceding the maneuver during which the accident occurred.

Post-crash examination of the right wing spar attach bracket by an aircraft builder/ultralight mechanic, who observed the accident, revealed that the bracket had separated consistent with overstress.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot in command's abrupt pull up, which resulted in an overload of the right wing, right wing separation, an uncontrolled descent, and impact with terrain.

Accident occurred March 06, 2004.

Fuel had “Gel-Like” Consistency
A witness stated that he heard the Buccaneer’s engine cease operating and saw a turn being initiated to reverse course and land on the runway. According to the witness, the nose of the aircraft lowered, and the sink rate increased as the turn was tightened to turn back to the runway. The pilot received fatal injuries.

An FAA licensed airframe and powerplant mechanic who examined the engine stated that he found fuel in the airplane which had aged and had a "gel-like" consistency. In addition, he said he one of the pistons had become seized, and there was evidence that detonation had occurred.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot’s improper preflight preparation resulting in loss of engine power due to contaminated fuel and his failure to maintain airspeed while attempting to reverse direction to land resulting in an inadvertent stall, uncontrolled descent, and impact with terrain.

Accident occurred April 04, 2004

Brake is a Drag
The pilot of an FAA-registered VM-1 Esqual attempted a takeoff in the homebuilt airplane. During the takeoff roll, the airplane veered off the left side of the runway, struck runway lights, and went into a creek. The pilot received minor injuries.

A post-accident examination of the airplane revealed that it was equipped with a free-castoring nose wheel and motorcycle brakes. It was found that the left brake dragged due to a lack of clearance between the brake pad and brake rotor. The lack of clearance was attributable to the design of the brakes and their adaptation from a motorcycle to an airplane.

The National Transportation Safety Board determines the probable cause of this accident to be the pilot's failure to maintain directional control. A factor was the inadequate brake system installed on the airplane.

Added November 2009

Unapproved Carburetor Setup
An FAA-registered Avid Flyer C on its initial flight experienced engine stoppage during departure from the field. The private pilot stated he restarted the engine and returned to

home field. He commenced an approach with another airplane on the runway for takeoff. He was making a turn for displacement when the engine quit again. The other airplane rolled and the accident pilot resumed his approach.

The accident airplane landed in a left bank, angled off the runway and struck a ditch. The pilot received serious injuries.

Examination of the engine showed the twin carburetors modified to a configuration and jetting not approved by the engine manufacturer and for which no test or engineering data was available.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot's failure to attain proper runway alignment prior to touchdown. A factor in the accident was the builder's improper modification of the carburetors.

Shoulder Harness May Have Saved Him
The 86 year old pilot of an FAA-registered Falcon XP experienced a partial engine failure and crashed into a tree while attempting to return to the airstrip. The pilot did not use the shoulder harness and was fatally injured. The passenger received minor injuries.

Witnesses heard the engine sputtering and saw the wings wobble back and fourth prior to the crash. Examination of the engine revealed no mechanical problems. The engine fuel pump, fuel lines, fuel tank and carburetor were destroyed by fire.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot’s loss of control while attempting to return to the airstrip after experiencing a partial loss of engine power.

Accident occurred March 31, 1990

Not Endorsed for Solo Flight
During takeoff, the Air Command 532 gyroplane was seen climbing in a steep attitude, followed by oscillations about the lateral axis. These excursions increased in severity and the rotor blade rpm deteriorated. After about three oscillations, the gyroplane rolled to the left and tumbled to the ground from an approximate height of 125 ft. The pilot received fatal injuries.

Inspection of the wreckage revealed evidence of downward rotational flapping motion of the rotor blades. Corresponding impact marks showed that the rotor blades struck the tips of the propeller blades and the vertical stabilizer/rudder. The vertical stabilizer/rudder had separated in flight and was found about 75 ft from the main wreckage.

The pilot was not rated in gyroplanes or rotorcraft; he had received 2 hours of dual instruction in a gyroplane over six months prior to the accident; he had not been endorsed for solo flight. Although the aircraft weight and speed placed it in the category of an aircraft, it was not registered.

The National Transportation Safety Board determined the probable cause of this accident to be failure of the pilot to maintain aircraft control and rotor rpm. Factors related to the accident were: the pilot's lack of instruction and experience in rotorcraft.

Accident occurred April 07, 1990

Maiden Flight Jitters?
The accident occurred during the maiden flight in an FAA-registered Maxair MU532. The pilot made a local flight and was attempting to land when the accident occurred. He stated that the airspeed was little high during the landing and the aircraft bounced. During the bounce the aircraft veered to the left. The pilot applied right rudder and power at which time the aircraft veered sharply to the right and traveled off the right side of the runway and came to rest after contacting guard posts. The pilot received serious injuries.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot's improper remedial action to regain directional control during the landing.

Owner-Modified Propeller
The FAA-registered J6 Karatoo collided with terrain during an emergency descent after a blade tip came off the propeller during initial climb. The pilot in the right seat stated that he assumed control of the airplane after the propeller failure. He also stated that the airplane stalled during a turn to return to the airport and descended into the ground. The pilot in the left seat does not remember the accident. One occupant received serious injuries and the other occupant received minor injuries.

The investigation disclosed that the propeller had been modified (shortened) and new tips fabricated and installed by one of the owners of the airplane.

The National Transportation Safety Board determined the probable cause of this accident to be the propeller blade separation during initial climb, and the failure of the pilot in command to maintain flying speed during the emergency descent.

Not Looking
The pilot of an FAA-registered Pietenpol Air Camper flew past a road-grading crew level about 30 feet above ground. The road crew waved and remarked the pilot continued to look at them until just prior to colliding with a utility pole. The pilot received fatal injuries.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot's inattention to visual lookout.

Accident occurred August 07, 1990

Nose Gear Sheared Off
The Slip Stream Revelation impacted the ground in an uncontrolled descent during a go-around. While landing, the aircraft touched down hard upon the landing strip, and the nose gear sheared off. The pilot performed a go-around and during the turn from the crosswind leg to the downwind leg of the airport traffic pattern, the aircraft slowed and entered a spiraling turn to the ground. The pilot received fatal injuries.

The entire aircraft was at the accident site excluding the nose gear, and the damage was consistent with a nose-down impact. The nose gear was located about 1/4-mile from the accident site.

According to the supplier of the aircraft, loss of the nose gear would not result in a center of gravity shift that exceeded limits. Control system continuity was established during an examination of the wreckage. No preimpact anomaly was found with the engine or propeller.

The aircraft exceeded the ultralight weight limitations in 14 CFR Part 103, and the pilot did not hold a flight training exemption.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot's failure to maintain an adequate airspeed during a go-around, which resulted in a stall/spin.

Accident occurred January 15, 2005

Added September 2009

Chafed Fuel Line
Shortly after takeoff at 100 feet AGL, the pilot of an FAA-registered Buccaneer II reported that the engine lost power, then quit. During the forced landing, the aircraft collided with trees then crashed to the ground. The pilot was uninjured.

Exam of the engine revealed that a fuel line on the suction side of the fuel filter had a small hole chafed in it. This resulted in the loss of power. According to FAA personnel in Oklahoma City, Oklahoma, the pilot’s medical certificate had expired.

The National Transportation Safety Board determined the probable cause of this accident to be engine failure due to a hole that chafed in a fuel line on the suction side of the fuel filter due to poor maintenance.

Circling Sister’s House
The passenger of a Maxair MU532 reported they were flying low and slow while circling his sister’s house when the accident occurred. He reported being in a left turn when the aircraft descended rapidly to impact with the terrain. The pilot and passenger received serious injuries.

A witness reported the pilot was making steep turns, diving and climbing prior to the accident. The student pilot had approximately 12 hours of flight time.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot's failure to maintain adequate airspeed while performing maneuvers.

Possible Lack of Experience in Make and Model
The pilot of an Air Command 447 gyroplane lost control of the aircraft shortly after taking off. The pilot received fatal injuries.

It was the pilot's first flight in the aircraft after he had rebuilt it, however, it had been test flown by another individual. The pilot had accumulated a total of 6.5 hours in gyroplanes and received an endorsement to his private license.

Examination of the wreckage did not reveal any reason for the loss of control. Pilot witnesses, who were familiar with gyroplane operations, stated that the pilot lost control due to 'improper pilot technique'.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot's loss of control for undetermined reasons. A factor was the pilot's lack of total experience in the accident make and model.

Accident occurred February 17, 1990.

Misjudged Sloping Terrain When Landing
The pilot of an FAA-registered Kolb Twinstar stated he was descending in a 270 degree right turn to land on top of a hill when he let his airspeed drop too much. The aircraft collided with the hill on the upslope side. The pilot and passenger received serious injuries.

The aircraft had no registration or airworthiness certificate. There was fuel on board at the time and evidence indicated the engine was operating before the accident.

The National Transportation Safety Board determined the probable cause of this accident to be failure of the pilot to maintain adequate airspeed and altitude.

Vertical Stabilizer Separates
According to witnesses, the pilot of an FAA-registered Hummel Bird made a normal takeoff. When the aircraft had climbed to about 700 feet, the vertical stabilizer separated. The aircraft then went out of control and impacted the ground on the east side of the airport. The pilot received fatal injuries.

An investigation revealed the rudder attach bolt had failed.

The National Transportation Safety Board determined the probable cause of this accident to be failure of the rudder attach bolt, which resulted in a loss of aircraft control and an uncontrolled descent to the ground.

Accident occurred June 10, 1990.

Failure to Select Correct Fuel Selector Position
The pilot of an FAA-registered Avid Flyer experienced an engine failure about 15 minutes after takeoff. Attempts to restart failed due to a dead battery that was found during the pre-flight inspection. The pilot received serious injuries.

The fuel system has a header tank downstream of the fuel selector and has a capacity of 3/4 of a gallon. With the fuel selector in the off position the engine will run for approximately 10 to 15 minutes. Examination of the engine revealed no mechanical defect or malfunction, and the pilot reported no mechanical problem prior to the accident.

The National Transportation Safety Board determined the probable cause of this accident to be the failure of the pilot to select the correct position of the fuel selector. Contributing to the accident was operation with a known dead battery.

Midfield Takeoff Length Not Enough
An FAA-registered Quicksilver Sport 2S sustained substantial damage when it overran the departure end of runway 35 (2,100 feet by 70 feet, turf) during takeoff. The pilot and passenger were uninjured.

The certified flight instructor (CFI) reported that the south end of runway 35 was "unusable due to excessive standing water on the runway" so the airplane was positioned about midfield for takeoff. The CFI reported that about 1,100 feet of runway remained for takeoff.

The CFI reported that during the takeoff roll, it was determined that the airplane was "not going to lift off" and that there was "insufficient runway remaining to stop the aircraft." The CFI reported that the airplane overran the north end of the runway and nosed over about 20-40 feet from the departure end of the runway.

The CFI reported that a "northerly departure was chosen due to the favorable terrain north of the airport for an emergency landing if needed." The CFI reported that the winds were 180 degrees at 5 knots.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot's inadequate preflight planning that failed to ensure adequate takeoff performance, and his delay in aborting the takeoff.

Improper Reinstallation of Rear Elevator Locking Collar
Several witnesses reported that the CGS Hawk II Arrow departed runway 19, and immediately climbed to approximately 500 feet above ground level (AGL), while maintaining runway heading. The airplane then turned left onto the crosswind leg of the traffic pattern and maintained a slight climb. One witness, who was in a vehicle, observed the airplane in normal flight on a left downwind for runway 19 at an altitude of 800 to 1,000 feet.

The witness observed the airplane turn left (west) onto the base leg for runway 19 "in normal flight and was descending but not what appeared to be abnormal." The airplane continued its nose-low descent toward the terrain until approximately 200 feet AGL, the airplane began a "steeper" nose-low descent toward terrain. The airplane then impacted terrain in a wings level attitude, bounced, nosed over, and came to rest inverted. The pilot received fatal injuries.

During the descent, the witness did not notice any movement of the elevator or other flight control surfaces, or any in-flight structural failure of the airplane.

The accident flight was the third flight conducted by the pilot since he had completed repairs after sustaining a hard landing with the airplane. In order to complete the repairs to the airplane, the pilot had to remove the elevator and aileron controls located in the boom tube.

NTSB materials laboratory examination of the aileron and elevator controls revealed no features or marks were found at a location of approximately 5/16-inch forward of the original location of the rear locking collar on the torque tube surface, with the exception of two distinct circumferential marks. The featureless surface, confirmed by testing,

indicated that the locking collar was slightly torqued and that the torque tube had moved relatively slowly over this distance, possibly with two stops. The torque required to loosen the rear locking collar screw was measured at 3-inch pounds, representing a minimal snugging of the collar bolt and collar on the torque tube.

According to the manufacturer, a 3/16-inch aft movement of the torque tube would be enough to lose any tension in the elevator control cables. The rear edge of the cutout on the boom tube for the rear control stick displayed three locations where paint had been removed, but there was no material deformation.

The lack of deformation is consistent with light contact by the control stick, which would be expected if the control stick had been pulled rearwards manually. A lightly rubbed area on the aileron crank revealed laterally orientated arced lines on the surface and corresponding laterally orientated smeared surface on the upper front bulkhead tube. No evidence was found to indicate that an inspection mirror had been trapped in the boom tube.

The National Transportation Safety Board determined the probable cause of this accident to be the loss of airplane pitch control resulting from the pilot/owner's improper reinstallation of the rear locking collar on the elevator control torque tube, which allowed the torque tube to move rearward during flight and loosen the elevator control cable tension.

Accident occurred June 27, 2005.

Added February 2009

Disconnected Ignition Lead

During flight, there was a loss of power from one of the cylinders of the FAA-registered Avid Flyer's two cylinder engine. With insufficient power to continue flight, the pilot tried to land in a sod field. However, the aircraft touched down in a plowed field, short of the intended landing area, and nosed over. The pilot and passenger were uninjured.

The pilot believed that one of the spark plug leads may have become disconnected.

The National Transportation Safety Board determined the probable cause of this accident to be an ignition lead that became disconnected from one cylinder, which resulted in a partial power loss. A factor related to the accident was soft terrain in the touchdown area.

Unqualified Pilot

The owner of the FAA-registered Terratorn Tierra II had purchased it from the builder. He possessed neither an FAA medical, nor a pilot certificate, and had no previous flight time in this make and model of aircraft. He told a witness that he intended to taxi it (presumably for familiarization). Subsequently, the aircraft became airborne and remained within about 1/2 mile of the departure end of the runway. Witnesses observed it maneuvering erratically after takeoff. One witness believed the unqualified pilot cross-controlled the aircraft with left rudder and right aileron; the witness said the aircraft nearly hit a hangar. Subsequently, after an apparent power reduction, the aircraft

entered a stall/spin and crashed in a steep nose down attitude. The pilot received fatal injuries.

A local CFI reported he had given the pilot approximately four hours of dual instruction during a previous 12 to 24 month period, but the pilot had not shown interest in following a regular/structured program of instruction. During tests, cannabinoids were detected in the pilot’s urine, but none was found in his blood.

The National Transportation Safety Board determined the probable cause of this accident to be the unqualified pilot allowed the aircraft to become airborne while taxiing at high speed, he failed to maintain control of the aircraft, and he inadvertently allowed it to enter a stall/spin and crashed. Factors related to the accident were his failure to follow procedures/directives, and his lack of qualification as a pilot.

Accident occurred Sunday, July 02, 1989

Wrist Pin Bearing Failure
The pilot of an FAA-registered Maxair XP-503 Drifter stated that he took off from the runway and everything seemed to be normal until the aircraft reached an altitude of 150 to 200 feet above the ground. The pilot stated that he had started a left turn to return to the runway and land when the engine failed completely. The aircraft continued its left turn as it made the emergency descent and collided with an aircraft parked on airport property. The pilot received serious injuries.

Post-accident investigation revealed that a wrist pin bearing had failed, which resulted in the piston seizing and the total loss of engine power.

The National Transportation Safety Board determined the probable cause of this accident to be failure of an engine piston wrist pin bearing.

Deteriorated Muffler Baffle Not Discovered During Annual
The FAA-registered Moni powered glider was flown to altitude and the engine secured in search of thermal activity. After the initial engine shutdown, and unpowered glide, the engine was successfully restarted. During the second cycle, the pilot began an unpowered descent to the airport. On final at about 400 feet AGL, the pilot realized that strong headwinds would prevent him from reaching the runway without power. An engine start was not successful and fence/ground impact occurred about 200 feet short of the threshold. The pilot received minor injuries.

Engine disassembly revealed disintegrated muffler baffling, pieces of which were free to block the muffler's exit. An annual inspection had been performed five weeks before, 8 flight hours prior to the accident.

The National Transportation Safety Board determined the probable cause of this accident to be power loss due to the deteriorated muffler baffle which was not discovered in the recent annual inspection. A factor was the pilot's failure to properly analyze and correct for the headwind.

Cracked Impulse Line
During cruise flight, the engine on a Quicksilver MX II lost power and would not restart. The pilot started to land on a highway, but traffic was heavy, so he elected to land

between the highway and a nearby fence. However, he had to maneuver to avoid large signs beside the roadway and subsequently damaged the aircraft during landing. The pilot was uninjured.

An exam revealed that a plastic impulse line on the engine, which operated the fuel pump diaphragm had become cracked, disabling the fuel pump.

The National Transportation Safety Board determined the probable cause of this accident to be a cracked impulse line to the fuel pump, which resulted in an inoperative fuel pump and fuel starvation. Factors related to the accident were the vehicles and high obstructions in the emergency landing area, which necessitated a maneuver to avoid their collision.

Fast Approach, Hard Landing

The FAA-registered Zodiac 601XL was substantially damaged when it impacted the runway while landing. The accident occurred during the third flight of the experimental airplane. The pilot reported that he remained in the traffic pattern after takeoff with the intention of performing several stop-and-go landings. He stated that as he turned final he decided to approach at 90 miles-per-hour (mph) instead of the normal 80 mph approach speed. This was in order to evaluate the airplane's handling characteristics while in ground effect and during the landing flare. The pilot stated: "As I reached the [runway] numbers I reduced power slightly to begin my descent to the runway. The next thing I knew I had hit the runway." The pilot was uninjured.

The pilot reported no mechanical malfunctions of the aircraft related to the accident. Reported winds did not exceed 10 knots.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot's failure to maintain control of the airplane during the landing flare resulting in an in-flight collision with the runway pavement.

False Hope with Surging Engine

During the initial climb after a touch-and-go landing, about 50 feet AGL, the engine of the Kolb Mark III began to slowly lose power and the airplane structure began to vibrate. The pilot elected to return to the airstrip, and performed a 180-degree turn. As the airplane neared the airstrip, the engine regained power, but then subsequently began to surge.

The pilot recalled that in the past, the engine would lose power, but would always regain power a few seconds later. He decided to continue the flight, and after flying over the runway, chose to return back to the runway in case the engine lost total power. During the turn towards the runway, approximately 30-40 feet AGL, the engine again began to lose power. The pilot lowered the nose in an attempt to gain airspeed and level the wings; however, the right wing struck the ground and the airplane cartwheeled before coming to rest. One occupant received serious injuries while the other received minor injuries.

The pilot noted that the engine continued to run for about 1 minute after the accident.

The National Transportation Safety Board determined the probable cause of this accident to be the loss of engine power for undetermined reasons.

Instructor Waits Too Long To Take Action
According to the flight instructor, the student pilot was at the controls of the FAA-registered Rans S-6S and they were making an approach to the runway. On final approach, the instructor noted that the airplane was "starting to get too low and slow." He told the student to add power twice and then told the student to go around. The instructor reported that "full throttle is added, nose pitches up abruptly and steeply. Left wing stalls." The instructor took the controls, momentarily regained control, but then stalled the airplane a second time while attempting to clear terrain. Instructor and student were uninjured.

The student pilot reported, "I let my airspeed get too slow and corrective measures did not prevail."

The National Transportation Safety Board determined the probable cause of this accident to be the flight instructor's inadequate remedial action which resulted in a stall/spin during final approach to land. A contributing factor was the student pilot's failure to maintain adequate airspeed during the landing approach.

Added December 2008

Seized Piston
An engine failure occurred on an FAA-registered Sorrell Hiperlight shortly after takeoff. The pilot was uninjured.

Disassembly of the engine revealed the piston had seized with four points of contact along the cylinder wall. The engine had been recently overhauled and had 1.1 total hours at the time of the accident. The two cycle engine (manufactured by Rotax) held no FAA approval by either type certificate or production certificate.

The National Transportation Safety Board determined the probable cause of this accident to be engine failure due to a seized piston.

Failure To Maintain Adequate Airspeed
After initiating a go-around from a VFR approach to land, the FAA-registered Teratorn Tierra II entered a descent and crashed. The pilot and passenger received serious injuries.

Subsequent inspection of the aircraft failed to reveal any anomaly that would have contributed to the event.

The National Transportation Safety Board determined the probable cause of this accident to be failure of the pilot to maintain adequate airspeed during the go-around, which resulted in an inadvertent stall.

A Couple of Screws Missing
Witnesses reported seeing something hanging from the left wing of the FAA-registered Striplin Ranger along with fuel coming from the left wing. Shortly thereafter, the airplane entered a left diving turn and impacted the terrain in a steep nose down attitude. The pilot received fatal injuries.

Examination revealed the left wingtip fuel tank was missing and it was not located. The left wing inboard tank was located approximately 100 feet from the main wreckage. Three flight hours prior to the accident, the left aileron was repaired due to delamination of the skin. The kit manufacturer stated the wingtip tanks should be attached with 6 screws, large washers and nut plates. Reportedly, the wingtip tanks were attached with 4 screws and nut plates with no washers.

The National Transportation Safety Board determined the probable cause of this accident to be the improper installation of the wingtip fuel tank which resulted in its in-flight separation and the subsequent loss of control.

Added October 2008

Initial Test Flight and No Experience in Type
The pilot of an FAA-registered Mini Max II was making his initial test flight. After takeoff, the pilot turned to a downwind leg and leveled-off at 300 feet AGL to gain airspeed. The airplane settled into trees. The pilot was uninjured.

A witness stated that the airplane was climbing steeper than he likes to see, and that the engine was 'screaming' until impact. This was the pilot's first flight in this type airplane.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot's failure to attain adequate airspeed. A contributing factor was the pilot's lack of flight time in the airplane.

Too Low and Too Slow
The pilot of an FAA-registered J-Bird reported that he was maneuvering at "slow airspeed, low altitude" in a river valley. He further reported that the left wing stalled during a left turn. The airplane descended, impacted willow trees, and came to rest on a gravel bar. The fuselage, both wings and the empennage sustained structural damage. The pilot and passenger were uninjured.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot's failure to maintain airspeed while maneuvering at low altitude, which resulted in an inadvertent stall and subsequent collision with terrain. A contributing factor was the pilot's decision to fly at low altitude.

Trying To Fly Through Snow Storm
An FAA-registered Challenger II STD was destroyed when it impacted rough, sloping mountainous terrain heading north, coming to rest on a southerly heading just west of an interstate highway. The pilot and passenger received fatal injuries.

A witness, who was driving north on the interstate, observed the airplane over the freeway, but lost sight of it in the snow and clouds as it proceeded west. A couple of minutes later the witness observed the airplane coming from the west and appeared to be trying to climb as it was being bounced around, then going out of sight due to the poor visibility. The witness subsequently came upon the wreckage a few minutes later,

spotting what appeared to be a wing on the hillside just to the west of the freeway. No pre-impact mechanical malfunctions were found during examination of the wreckage. A National Weather Service area forecast issued earlier in the day revealed that a strong and moist Pacific system was moving into the Pacific Northwest. Wind advisories were also to be issued that afternoon.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot's VFR flight into IMC and his failure to maintain clearance with terrain during cruise flight. Factors were the existing weather conditions that included low ceilings, snow, obscuration, and the mountainous, rising terrain.

Accident occurred March 26, 2005

Jammed Rudder Cable
The pilot of an FAA-registered Searay stated that as he slowly added power to take off, and as the speed increased, it required more right rudder control input to bring the airplane back to the centerline of the runway. At about 45 mph he said he aborted the takeoff, far to the left of the centerline, and the airplane departed the runway and ultimately impacted a tree. The pilot and passenger received serious injuries.

According to an FAA inspector who responded to the accident, the airplane's rudder had jammed full to the left, and the pilot's left rudder control cable was found to have jammed between the upper seat rail structure tube, and the lower rudder foot rest rail structure tube. After the cable was released, full rudder travel was restored in both directions. The inspector further stated that when he examined how the rudder cables had been routed, it appeared to him that the rudder cable on the right side of the airplane had been routed with greater separation between it and the rails, when compared with the left cable, which had jammed.

The National Transportation Safety Board determined the probable cause of this accident to be the airplane builder's improper installation of the left rudder control cable, which resulted in the cable becoming jammed, a loss of directional control during takeoff, and the airplane departing the runway and impacting a tree.

Bounce Breaks Landing Gear
An FAA-registered Allegro 2000 approached Runway 33 with full flaps and the pilot stated he touched down "a little hard" and bounced, then touched down a second time. The left landing gear collapsed and the airplane veered off the left side of the runway and collided into small trees. The pilot and passenger were uninjured.

Examination of the accident site revealed the airplane came to rest approximately 150 feet from where it touched down. Examination of the airplane revealed the left main landing gear collapsed, firewall bent, propeller damaged, cowling crushed and damage to the nose wheel strut and left wing.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot's inadequate recovery from a bounced landing, resulting in a hard landing, and the subsequent on ground collision with trees.

Not Enough Down Ruddervator
The accident occurred on the maiden test flight of a recently certificated FAA-registered Sandpiper. The pilot/builder reported no problems during high speed taxi runs. After takeoff the pilot encountered problems at slow speeds which decreased as airspeed increased. During landing, the aircraft stalled high and bounced twice on the runway. The pilot initiated a go-around and during climb out was unable to decrease pitch to gain airspeed. The aircraft crashed into trees near the runway. The pilot was uninjured.

The pilot designed and built the aircraft with the exception of the Davis mixing unit which controls pitch and rudder input to the ruddervator. The design plans called for 9 degrees pitch up travel and 8 degrees pitch down travel. Investigation revealed the ruddervator had been installed with 12.5 degrees nose up travel and 4.5 degrees nose down travel, thus limiting the pilot's ability to lower the nose during climb.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot/builders improper installation of the ruddervator and the pilot's improper recovery from a bounced landing. A contributing factor was the failure of the FAA to detect the flaw during the certification of the aircraft.

Rear Piston "Choked"
The pilot had flown the FAA-registered Kitfox about six hours since construction was completed. He stated he was flying near a friend's house at about 100 feet and pulled up into a climb to return home. While passing through about 200 feet, the engine 'choked' and he made a 180 degree turn to land in a field. Just before landing, the right wing struck a tree and the aircraft crashed. The pilot received minor injuries.

An exam of the engine revealed the rear piston had failed for an undetermined reason.

The National Transportation Safety Board determined the probable cause of this accident to be failure of the engine's rear piston. Factors related to the accident were the pilot's lack of altitude for a forced landing and trees in the emergency landing area.

Low Altitude, Steep Climb, Stall – 3 Strikes, You're Out
Witnesses stated that the FAA-registered Volksplane VP-1 was flying at a low altitude and then went into a steep climb. The airplane banked to the left and the nose dipped before spiraling into the ground. The pilot received fatal injuries.

Investigation failed to find any failure/malfunction of the airframe or powerplant.

The National Transportation Safety Board determined the probable cause of this accident to be that the pilot failed to maintain the proper climb rate and inadvertently stalled the aircraft which entered an uncontrolled descent into an open field.

Accident occurred April 02, 1989

Maybe Should Have Chosen A Calmer Day
A student pilot on a first flight in 30 days in an FAA-registered Super Koala encountered a crosswind gust on landing approach. The aircraft entered a right bank which the pilot could not correct. Power was added for an attempted go-around but bank continued to impact. The pilot received minor injuries.

Investigation revealed no evidence of control malfunction.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot's failure to adequately compensate for wind conditions, and the pilot's delay in initiating a go-around. Contributing to the accident were crosswind gusts, and lack of total pilot experience.

High Density Altitude Means Low Performance

The pilot of an FAA-registered Buccaneer II elected to takeoff from an 1100 foot runway on a hot/humid day with the aircraft loaded near its maximum weight limit. He stated that when the speed was adequate, he rotated the aircraft and it lifted off. After lift-off, he realized the aircraft would not clear a tree line near the end of the rwy. He initiated a turn to avoid the trees, which resulted in loss of the vertical component of lift. Subsequently, the aircraft descended, impacted in a vacant field and was damaged. One occupant received minor injuries and the other was uninjured.

The engine operated normally during a post-accident check. The temperature, dew point and elevation at the airstrip were 90 degrees, 73 degrees and 30 feet, respectively. Approximately 25 miles east the density altitude at 96 feet elevation was about 2200 feet.

The National Transportation Safety Board determined the probable cause of this accident to be improper planning/decision by the pilot, which resulted in a subsequent collision with the ground, when the aircraft would not climb after takeoff. The high obstructions (trees) and high density altitude were considered to be contributing factors.

Stuck Stick…?

The flight instructor stated that he and his student were taking off from Runway 22, and the FAA-registered Interplane Skyboy had climbed to about 50 feet altitude when the flight controls stuck in the left position and the airplane descended in a spiral, impacting the ground. Instructor and student both received serious injuries.

The instructor stated that the engine was developing full power the whole time during the flight and that he did not stall the aircraft. An FAA inspector, who responded to the accident site, said that witnesses told him they saw the airplane descend in a left spiral and that after impacting the ground the engine continued operating and had to be secured in order to remove the occupants. According to the inspector, the aircraft was destroyed and the extent of the damage precluded a determination of any flight control related anomalies.

The National Transportation Safety Board determined the probable cause of this accident to be the instructor’s in-flight loss of control due to the flight controls being jammed for undetermined reasons.

Cloud Inside The Canopy

According to the pilot and the owner of an FAA-registered Zodiac CH 601 HDS, shortly after takeoff the engine coolant radiator burst filling the cockpit with what he thought was smoke, The pilot stated that visibility quickly went to zero and he attempted to release the cockpit canopy to clear the smoke but collided with trees before he could get it open. The pilot received serious injuries.

The wings and under carriage were damaged. Examination of the airplane found that the engine coolant radiator tank failed at the forward belly of the airplane. There was no evidence of a fire.

The National Transportation Safety Board determined the probable cause of this accident to be the rupture of the engine's cooling system radiator, which allowed steam to fill the cockpit.

High Strung River Running

The pilot of an FAA-registered Kitfox II reported that he was cruising upstream on a river when the airplane "struck the upper power lines (about 80 feet above water) with prop and left gear leg." The aircraft assumed a nose down attitude and then "released itself from the wires." The pilot attempted to recover, but the airplane "pancaked into the river" where it came to rest upright in "knee deep" water. The pilot and passenger were uninjured.

The left wing sustained structural damage, and the right lift strut was bent.

The National Transportation Safety Board determined the probable cause of this accident to be the pilot's failure to maintain clearance from obstacles while in cruise flight at low altitude, which resulted in an in-flight collision with a power line. A factor was the pilot's decision to fly at low altitude.