# 2009 NTSB REPORTS

NTSB Identification: **WPR09CA110**
14 CFR Part 91: General Aviation
Accident occurred Wednesday, February 04, 2009 in Whitehall, MT
Probable Cause Approval Date: 05/12/2009
Aircraft: Ercoupe 415D, registration: N87349
Injuries: 1 Uninjured.
NTSB investigators used data provided by various entities, including, but not limited to, the Federal Aviation Administration and/or the operator and did not travel in support of this investigation to prepare this aircraft accident report.

The pilot touched down beyond his point of intended landing and bounced. He added power, regained level flight, reduced power, and landed again. As he applied the brakes, he realized that the landing roll would exceed the amount of runway remaining available. He turned hard right to avoid a fence and a ditch. However, the left wing contacted the ground, and sustained substantial damage.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's failure to attain the proper touchdown point and his failure to abort the landing.

WPR09CA110

The pilot touched down beyond his point of intended landing and bounced. He added power, regained level flight, reduced power, and landed again. As he applied the brakes, he realized that the landing roll would exceed the amount of runway remaining available. He turned hard right to avoid a fence and a ditch. However, the left wing contacted the ground, and sustained substantial damage.

NTSB Identification: **WPR09CA126**
14 CFR Part 91: General Aviation
Accident occurred Thursday, February 19, 2009 in Camas, WA
Probable Cause Approval Date: 05/12/2009
Aircraft: Ercoupe 415-E, registration: N94805
Injuries: 1 Uninjured.
NTSB investigators used data provided by various entities, including, but not limited to, the Federal Aviation Administration and/or the operator and did not travel in support of this investigation to prepare this aircraft accident report.

The purpose of the flight was for the student pilot to practice landings. While maneuvering on a normal traffic pattern to the runway, he noted that the airplane was higher and faster than he was accustomed to. The pilot recalled that he flared too high resulting in the airplane landing hard. Following the touchdown, the airplane bounced and landed hard again. The airplane sustained damage to the firewall. The pilot stated that there were no preimpact mechanical malfunctions or failures with the airframe or engine.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's misjudged landing flare and inadequate recovery from a bounced landing.

NTSB Identification: **CEN09FA243**
14 CFR Part 91: General Aviation
Accident occurred Saturday, April 11, 2009 in Sandwich, IL

Probable Cause Approval Date: 11/09/2009
Aircraft: Engineering and Research 415C, registration: N87384
Injuries: 2 Fatal.
NTSB investigators either traveled in support of this investigation or conducted a significant amount of investigative work without any travel, and used data obtained from various sources to prepare this aircraft accident report.

Numerous witnesses reported that the airplane was flying at a very low altitude just above tree top level as it flew over a small lake and golf course on an easterly heading. The witnesses reported that the engine was sputtering and not operating normally. The airplane hit the tops of some hardwood trees located at the eastern edge of the golf course. The airplane impacted a field in a steep nose down attitude and immediately burst into flames. The inspection of the airframe revealed no preexisting anomalies. The engine inspection revealed drive train continuity and compression on all cylinders. The accessories could not be tested due to impact forces and the post impact fire that consumed much of the engine accessories and airframe. Numerous hardwood tree branches were found at the impact site. Several open fields were located along the flight path that offered suitable landing sites for a forced landing, and that were closer than the field where the airplane was found. Toxicology results were consistent with use of Bupropion, a prescription antidepressant also used for smoking cessation. The medication does not impair flying performance, and though there is an increased risk of seizures with the medication, the circumstances of the accident were not consistent with a seizure event.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's failure to execute an immediate forced landing to a suitable field and the engine's partial loss of power for an undetermined reason.

CEN09FA243

HISTORY OF FLIGHT

On April 11, 2009, at 1450 central daylight time, an Engineering and Research 415C (Ercoupe), N87384, was destroyed by a post crash fire after it impacted terrain about one mile north of the Woodlake Airport (IS65), located in Sandwich, Illinois. The sport pilot and passenger received fatal injuries. The airplane was being operated in the Light Sport Category. The 14 CFR Part 91 personal flight departed IS65 about 1435 on a local flight. Visual meteorological conditions prevailed at the time of the accident, and no flight plan was filed.

The accident flight was the second flight of the day. On the first flight, the pilot took a passenger for a flight that lasted about an hour. The passenger on that flight reported that the airplane flew normally and did not exhibit any problems. Soon after the first flight landed, the pilot departed on the second flight with another passenger. Witnesses reported watching the airplane depart from IS65 on the accident flight. The airplane departed to the northwest and the engine sounded normal.

Witnesses reported seeing the airplane flying from west to east at a very low altitude about fifteen minutes after the airplane departed IS65. One witness, who lived about 2 miles northwest of the IS65, reported that he observed the airplane in a descending turn and losing altitude. The airplane flew directly over his house and then proceeded to fly east over the middle of Buck Lake. He stated that the engine was “spitting and sputtering” and the airplane was flying very low.

Numerous golfers, who were playing at the Edgebrook Golf Club, located just east of Buck Lake, reported that they observed the airplane flying very low over the golf course just above tree top level. They reported that the engine was sputtering and not producing normal power. One witness stated that the airplane’s wings were going up and down. Some witnesses reported that they saw the airplane hit the top of some trees that were located in the woods just east of the golf course. The airplane pitched up and then impacted the field in a steep nose down

attitude with the nose facing the south.

A homeowner, who lived about 200 yards north of the accident site, reported that he heard the airplane approaching. He reported that the engine sound was not normal and that it was making popping noises. He heard the airplane hit the trees and observed it as it hit the ground. The airplane hit the ground in a steep nose down attitude. He reported that the airplane started on fire immediately after the impact. He stated that the wing's fabric was consumed by fire, and eventually the tail of the airplane fell back to the ground.

PERSONNEL INFORMATION

The 53-year-old pilot held a sport pilot certificate with a single-engine land rating. The pilot's logbook was on board the airplane and was partially consumed by fire. The last three pages of the logbook indicated that he had a total of about 163 flight hours. The pilot was flying under Sport Pilot rules, and did not have (and was not required to have) an FAA medical certificate.

AIRCRAFT INFORMATION

The airplane was a single-engine Engineering and Research 415C (Ercoupe), serial number 557, manufactured in 1946. It was equipped with an 85 horsepower Continental C-85-12F engine. The two seat airplane had a maximum gross weight of 1,260 pounds. The airplane was manufactured without rudder pedals.

The pilot purchased the airplane in April 2005. The airplane's logbook indicated that the engine was overhauled in June 2006. The right wing fuel tank was repaired in September 2006. The last annual maintenance inspection was conducted on June 5, 2008. The total time on the airframe at the time of the inspection was 1,951 hours. The total time on the engine at the time of the inspection was 1,824 hours with 193 hours since major overhaul. The number of flight hours flown since the maintenance inspection was not determined due to fire damage.

METEOROLOGICAL CONDITIONS

At 1452, the surface weather observation at the Aurora Municipal Airport (ARR), located 11 miles northeast of the accident site, was: Winds 200 degrees at 7 knots, visibility 10 statute miles, sky clear, temperature 11 degrees Celsius (C), dew point -6 degrees C, altimeter 30.31 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

The airplane impacted an east/west running field that was about 3/4 mile in length. The impact site was about 90 feet east of the woods located on the east side of the golf course. The airplane wreckage was all located at the initial impact point, and the fuselage was oriented on a 210 degree magnetic heading. The post impact fire consumed much of engine compartment, the cockpit, and the fabric that covered the wings. The fuselage fuel tank was found on the ground next to the engine.

The right wing's leading edge exhibited aft crushing along the length of the span and the wing spar was bent aft. The aileron and flap exhibited flight control cable continuity. The right landing gear remained attached to the wing. The right wing fuel tank remained attached to the wing and exhibited fire damage.

The left wing's spar was not bent aft. The left wing leading edge had a large dent approximately 50 inches from the outboard edge of the left wing fuel tank to center, 23 inches long, and 12 inches deep. The aileron and flap exhibited flight control cable continuity. The left landing gear remained attached to the wing. The left wing fuel tank remained attached to the wing and exhibited fire damage. A fuel sample was captured from the tank during aircraft wreckage recovery. The fuel color was consistent with 100 low lead aviation fuel, and it contained minimal amounts of sediment and water contamination.

The empennage was not consumed by fire and exhibited minimal impact damage. The horizontal stabilizer and

twin vertical stabilizers remained intact and did not exhibit impact damage. The left rudder control cable exhibited continuity. The right rudder control cable exhibited continuity, but the rudder control tube was found broken.

The inspection of the engine revealed that it rotated when the propeller was turned. There was compression and suction on all four cylinders and the drive train exhibited continuity. The right magneto was completely melted. The spark plug wires were consumed by fire. The top four spark plugs were removed and no anomalies were noted. The carburetor was broken by impact forces and no test could be performed.

Numerous hardwood tree branches were located at the accident site. The branches were about 1.5 inches in diameter. Some of the branches were charred by the post impact fire. There were broken tree limbs at the tops of the trees at the edge of the tree line 90 feet east of the impact site.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy of the pilot was conducted on April 13, 2009, in Sycamore, Illinois. The “Cause of Death” was noted as “Carbon monoxide intoxication and thermal injuries due to inhalation of smoke and soot sustained as the pilot of an airplane involved in an airplane mishap.” A Forensic Toxicology Fatal Accident Report was prepared by the Federal Aviation Administration Civil Aeromedical Institute. The report stated that 39% carbon monoxide, 0.92 (ug/mL) cyanide, and no ethanol was detected in the blood. 0.199 (ug/mL, ug/g) Bupropion was detected in the blood. Bupropion and Bupropion metabolite were detected in the liver. 0.792 (ug/mL, ug/g) Bupropion metabolite was detected in the blood.

TESTS AND RESEARCH

The fractured right rudder control tube was sent to the National Transportation Safety Board’s Materials Laboratory for inspection. The inspection revealed that the fracture surface had a faceted appearance consistent with intergranular fracture along the grain boundaries. There were no features consistent with fatigue.

ADDITIONAL INFORMATION

A map study of the terrain near the flight path of the airplane as it was observed by the witnesses on the ground revealed that there were open fields to the north, south, and west of the flight path. The open fields were suitable for an emergency forced landing, and were closer than the field where the airplane was found.

NTSB Identification: **CEN09LA291**
14 CFR Part 91: General Aviation
Accident occurred Tuesday, May 12, 2009 in Brighton, MI
Probable Cause Approval Date: 12/29/2009
Aircraft: Univair Ercoupe, registration: N99811
Injuries: 2 Uninjured.
NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

The pilot attempted to land, but had to execute a go-around because the airplane was too fast and far down the runway. During the second landing attempt, the airplane touched down about half way down the runway and bounced. As the airplane reached the departure end of the runway, the pilot steered the airplane off into vegetation which resulted in substantial damage to the fuselage, wings, and empennage.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's failure to attain the proper touchdown point, and his failure to initiate a go-around.

CEN09LA291

HISTORY OF FLIGHT

On May 12, 2009, at 1110 eastern daylight time, a Univair Ercoupe 415-C, N99811, piloted by a sport pilot, departed the runway surface during landing and struck a lilac bush at Brighton Airport (45G), Brighton, Michigan. The airplane sustained substantial damage on impact with the bush and terrain. Visual meteorological conditions prevailed at the time of the accident. The 14 CFR Part 91 personal flight was not operating on a flight plan. The pilot and the passenger on board were uninjured. The local flight originated at 1051.

The pilot stated that the accident landing was his second attempt to land on runway 04 (3,120 feet by 24 feet, asphalt). On the first landing attempt, the airplane was a little fast and long so he aborted the landing attempt. He flew the airport traffic pattern at an indicated speed of 80 miles per hour (mph) and touched down about ½ down the runway and 10 mph too fast. He thought he could land so he did not abort the landing. While landing, the brake pedal arm broke while he was applying pressure on the arm. When the airplane reached the displaced threshold at the approach end of runway 22, he steered the airplane to the right and off the runway. The airplane then traveled through the grass, across the parallel taxiway, and back onto the grass adjacent to the northeast side of the runway. The leading edge of the left wing struck a lilac bush turning the airplane sideways. The airplane then rolled down an embankment and onto a gravel access road where the right main landing gear separated from its mount. The airplane fell striking the right wing, right vertical stabilizer, and rudder onto the ground.

PERSONNEL INFORMATION

The pilot held a sport pilot certificate with a rating/limitation for 415 Ercoupe without rudder pedals. The pilot's last logbook entry was dated May 5, 2009, at a total flight time of 137.4 hours.

The pilot's first logged flight was an instructional flight on January 15, 2005, in a Cessna 172S, provided by a flight instructor who would provide the pilot with flight instruction until 2006. The flight instructor stated the pilot later bought the Ercoupe and seemed to be focused on receiving an endorsement to land at 45G, which was where the pilot wanted to keep the airplane. The flight instructor told the pilot that landing at 45G was for experienced pilots and that his experience level was not at that level. The flight instructor refused to provide an endorsement for landings at 45G.

On January 10, 2006, the pilot was involved in an unreported landing accident while flying the Ercoupe at Livingston County Spencer J. Hardy Airport (OZW), Howell, Michigan, that was discovered during the course of this accident investigation. After the airplane was repaired and returned to service, the pilot changed flight instructors.

The second flight instructor stated the pilot had difficulty in obtaining the proper landing picture during approach. The pilot seemed to have problems managing power, speed, and altitude, but the second flight instructor worked with the pilot so that he eventually became proficient enough to be recommended for a sport pilot practical test.

On April 21, 2007, the pilot was involved in an accident while flying the Ercoupe. The accident was investigated by the National Transportation Safety Board as case CHI07CA110. The probable cause for the accident was "The student pilot's failure to maintain proper glidepath to the runway. Contributing factors to the accident included the passenger vehicle, the rising embankment, and the airport perimeter fence."

On August 2, 2008, the pilot was issued a sport pilot certificate with the following rating/limitation: "415 Series Ercoupe Without Rudder Pedals Only Holder Does Not Meet ICAO Requirements." The designated pilot examiner (DPE), who provided the sport pilot examination and issued a temporary airman certificate to the pilot, stated that during the practical portion of the exam, the pilot performed three landings, of which two were at OZW and one was at 45G. The duration of the flight portion of the examination was 1.0 hours. FAA records of the DPE's pass/fail rate showed a 100 percent pass rate for sport pilot examination.

AIRPLANE INFORMATION

The 1946 Univar Ercoupe 415-C, serial number 2434, airplane was registered to and operated by the pilot. The airplane was powered by a Continental C-85-12F, serial number 1596-6-12-CL30, engine. The airplane was issued a supplemental type certificate (STC) for the use of automotive gasoline.

The Model 415C Flight Manual was not located in the airplane. The Model 415D flight manual with operating limitations for the installation of the C-85-12F engine was also not in the airplane, and the pilot did not know if it was required. The pilot later provided a manual to the FAA but that manual was not the approved manual for the airplane and he also did not have the automotive gasoline STC flight manual supplement.

The operating limitations with the installation of a Continental C-85-12F engine lists the converted airspeed indicator green arc from 58-114 mph, but the installed airspeed indicator had a green arc from 50-120 mph. The converted airspeed indicator's yellow arc is 114-144 mph, but the installed airspeed indicator had a yellow arc from 120-144 mph. The converted oil pressure green range is 30-40 psi but the gauge had a green range from 30-60 psi. The converted oil pressure yellow range is 30-40 psi, but the installed gauge had a yellow range from 30-60 psi. The converted oil pressure gauge red line is 50 psi, but the installed gauge had a red line of 60 psi.

The airplane had a maximum gross weight of 1,260 lbs and an empty weight of 988.5 lbs. There was 20 gallons of fuel aboard. The pilot weight was 180 lbs and the passenger weight was 120 lbs. The airplane weight and balance form showed the installation of a Sensenich wood propeller in 2006, but a McCauley metal propeller was installed weighing an additional 10 pounds. This weight increase was not updated in the airplane's weight and balance data. Calculations determined the airplane was about 158 pounds over maximum gross weight at the time of the accident.

On May 8, 2006, at an airplane total time of 2,002.95 hours and a tachometer time of 182.95 hours, a maintenance entry states that airworthiness directives (AD) 93-22-05 and 81-07-06 were not complied with during a sudden stoppage inspection and that they "are to be accomplished by installer." AD 93-22-05 does not apply to model 415C airplanes. There are no entries for compliance with the ADs.

On April 10, 2009, the airplane received its last annual inspection, at an airplane total time of 2,176.0 hours and a tachometer time of 256.08 hours. ADs 2003-21-01, 59-25-05, and 57-02-01 were signed off but their revision date, method of compliance, and date/time next due as required by Federal Aviation Regulation (FAR) 91.417(2)(v) were not included.

There was no record of FAA Form 337, Major Repair and Alteration, for the installation of large rear window and baggage compartment on N99811.

The transponder test and inspection required under FAR 91.143 was last accomplished April 2007 and was due April 2009.

WRECKAGE AND IMPACT INFORMATION

The airplane damage included the left wing leading edge, which had several dents, and damage to the lower left wing skin. The left side of the fuselage, aft of the rear window, was dented and distorted. The empennage was dented and distorted. The lower right side of the vertical stabilizer was bent inwards near the horizontal stabilizer. The bottom horizontal stabilizer skin was damaged. The center section of the forward right lower wing spar was damaged. Three ribs on the outboard right wing were damaged.

Examination of the airplane confirmed flight control continuity. The brake drum actuated at both wheels while the brake system was actuated several times. The brake actuating rod (between the brake arm and master cylinder) was adjusted for minimal brake arm travel and was adjusted for minimal brake arm travel and was found bent. The

pilot stated that he used the parking brake handle to pull himself up out of the seat to exit the airplane after the accident. The parking brake handle was extended about 2.5 inches. The brake pedal arm separated just forward of the mounting bracket underneath the floor.

Examination of the brake pedal arm fracture surface was consistent with overload. No areas of fatigue were noted.

NTSB Identification: **WPR09LA251**
14 CFR Part 91: General Aviation
Accident occurred Friday, May 15, 2009 in San Manuel, AZ
Probable Cause Approval Date: 04/28/2011
Aircraft: ERCOUPE 415C, registration: N2339H
Injuries: 1 Uninjured.
NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

The student pilot reported that while en route on the solo cross-country flight, the engine began to lose power and subsequently quit. He was able to restart the engine, but not able to maintain altitude due to the low power it was producing. The pilot performed an off airport landing and during the landing roll, the airplane struck desert vegetation, which resulted in substantial damage to the fuselage and wings. A postaccident inspection of the engine revealed no mechanical problems that would have precluded normal operation.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

A loss of engine power during cruise flight for undetermined reasons, which resulted in a forced landing and impact with terrain.

WPR09LA251

On May 15, 2009, about 1140 mountain standard time, an Engineering and Research (Ercoupe) 415C, N2339H, experienced a total loss of engine power during cruise flight and the pilot made a forced landing on a rough dirt strip near San Manuel, Arizona. The student pilot/owner, the sole occupant, was not injured. The airplane sustained substantial damage to the fuselage and wings during the landing roll out and subsequent impact with desert vegetation. Visual meteorological conditions prevailed for the 14 Code of Federal Regulations (CFR) Part 91 cross-country flight that departed a private dirt strip in Punkin, Arizona. No flight plan had been filed for the flight that was destined for San Manuel Airport (E77), San Manuel.

The incident was upgraded to an accident on May 19, 2009, following an inspection of the airplane by a Federal Aviation Administration (FAA) airworthiness inspector. The FAA inspector reported that the engine mounts had broken, the firewall and fuselage were wrinkled, and there was deformation of the both wings.

In an interview with the FAA inspector, the pilot reported that he was on a solo flight when the engine lost power. He made the emergency landing on an abandoned dirt airstrip, and the airplane received substantial damage due to the rough, uneven terrain, and impact with desert vegetation.

The student pilot returned the Safety Board Pilot/Operator Aircraft Accident/Incident Report (NTSB Form 6120.1); however, the report did not include a written statement as to the circumstances surrounding the accident. The pilot did however, provide a written statement to his insurance adjuster reporting that the engine lost partial power and then quit. According to that report, the pilot was able to restart the engine, but it only achieved 1,000 rpm's.

FAA inspectors reviewed the student pilot's logbook and his student pilot certificate. Both the logbook and certificate showed the same endorsements; a solo flight in the accident airplane on September 20, 2008, and a

solo cross-country flight on September 29, 2008.

According to the maintenance records, the last annual inspection of the airplane, and the last 100-hour inspection performed on the engine, was on May 9, 2006.

An inspection of the engine was performed by a National Transportation Safety Board (NTSB) investigator, and a participant from Teledyne Continental Motors.

During the inspection, no obvious mechanical problems were noted. The propeller assembly along with the propeller blades sustained damaged. The induction system separated from the engine, and the fuel strainer was about 80 percent full with a cloudy liquid. Mechanical continuity was established throughout the engine. Crankshaft rotation produced thumb compression in each cylinder, with accessory gear and valve train continuity established. Both magnetos remained attached at their respective mounting pads. During rotation of the crankshaft, investigators noted impulse coupling engagement and spark visible at the terminal ends; they also reported that the ignition harness was not damaged. The fuel pump was disassembled, with no damage to the diaphragm present.

The upper spark plugs were removed and the cylinders were borescoped. The upper spark plugs exhibited light gray deposits consistent with normal operation. The combustion chambers and piston heads showed a heavy white deposit. The valve heads were not damaged, and no signs of abnormal thermal discoloration were noted. The carburetor was removed and disassembled. Manual operation of the carburetor throttle and mixture linkage arms revealed no binding. The inlet screen was removed with a light amount of debris noted; the bowl was free of debris. The fuel filter was also removed and had some restriction when air was blown into it. According to the engine manufacturer, there were no abnormalities found during the engine inspection that would have precluded normal operation.

NTSB Identification: **CEN09CA302**
14 CFR Part 91: General Aviation
Accident occurred Saturday, May 16, 2009 in Gallup, NM
Probable Cause Approval Date: 11/09/2009
Aircraft: ERCOUPE 415-C, registration: N94300
Injuries: 2 Minor.
NTSB investigators used data provided by various entities, including, but not limited to, the Federal Aviation Administration and/or the operator and did not travel in support of this investigation to prepare this aircraft accident report.

The pilot and passenger departed in a single-engine, 85-horsepower airplane from an airport with a density altitude that was later calculated to be about 8,666 feet. When the airplane was approximately 300 feet above ground level, the airplane experienced a loss of lift. Unable to maintain altitude, the pilot selected a dirt road as a possible landing site; however, the airplane impacted terrain before reaching the road. The airplane came to rest in an upright position and the pilot and passenger were able to exit the airplane unassisted. An examination of the engine revealed no pre impact anomalies.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's inadequate preflight planning. Contributing to the accident was the high density altitude.

CEN09CA302

The pilot and passenger departed in an 85-horsepower, single-engine airplane from an airport with a density altitude that was later calculated to be about 8,666 feet. When the airplane was approximately 300 feet above ground level, the airplane experienced a loss of lift. Unable to maintain altitude, the pilot selected a dirt road as a

possible landing site; however, the airplane impacted terrain before reaching the road. The airplane came to rest in an upright position and the pilot and passenger were able to exit the airplane unassisted. An examination of the engine revealed no preimpact anomalies.

NTSB Identification: **WPR09LA337**
14 CFR Part 91: General Aviation
Accident occurred Saturday, July 11, 2009 in Corona, CA
Probable Cause Approval Date: 05/11/2010
Aircraft: ENGINEERING & RESEARCH 415C, registration: N87295
Injuries: 1 Minor.
NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

The pilot reported that the airplane's engine began to experience a degradation of power about 15 minutes after takeoff and he maneuvered the throttle to full power in an effort to recover the power loss. The engine rpm increased temporarily and then decreased again, with an eventual total loss of power. During the forced landing, the airplane collided with a house and had come to rest in a field 30 feet from the initial impact. The post accident investigation revealed several anomalies with the engine and modifications that were not in accordance with engine manufacturer's recommended maintenance practices. The owner/pilot reported that the airplane had undergone an annual inspection about eight months prior to the accident and had only flown a couple of hours since. At the conclusion of the examination, the exact cause of the engine failure could not be definitively identified.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

A total loss of engine power during cruise flight for undetermined reasons.

WPR09LA337

HISTORY OF FLIGHT

On July 11, 2009, about 1220 Pacific daylight time, an Engineering and Research 415C, N87295, experienced a loss of power and collided with terrain near Corona, California. The private pilot, the sole occupant, sustained minor injuries; the airplane was substantially damaged. The pilot was operating the airplane under the provisions of 14 Code of Federal Regulations Part 91. The personal flight departed from Flabob Airport, Rubidoux, California, about 1200, with a planned destination of Oceanside, California. Visual meteorological conditions prevailed, and a flight plan had not been filed.

In a written statement, the pilot reported that about 15 minutes after departure, the engine began to experience a degradation of power. He maneuvered the throttle to full power in an effort to recover the power loss. The engine rpm increased temporarily and then decreased to a partial power position. The engine eventually experienced a total loss of power and the pilot maneuvered the airplane to an undeveloped area south of a housing development. Despite his attempts, the airplane did not have enough altitude and collided with the last house in the area (about 1 foot below the roof). The airplane came to rest in a field, about 30 feet from the house, and at the perimeter of the area he was attempting to land.

According to the pilot, the airplane's last annual inspection was completed on November 04, 2008. He stated that the airplane had flown few hours since then and was kept stored in a hangar. A week prior to the flight, he had started the engine and noticed the airplane's gauges did not indicate there was oil pressure. He took the airplane to a mechanic, who apparently fixed the problem. The receipt for the maintenance indicated that three days prior to the accident, a mechanic had performed the following maintenance: replaced the brake pads, replaced the oil temperature sender, added three washers to the oil pressure relief valve, changed the oil filter, and tested the

engine "pressure for leaks."

TESTS AND RESEARCH

Following the accident, a Safety Board investigator examined the wreckage at facilities in Chino, California on October 29, 2009 with a representative from Teledyne Continental Motors (TCM). According to the data plate affixed to the crankcase, the powerplant of the accident airplane was a Continental C-90-12, serial number 45340-7-12F.

An external examination was performed of the engine and accompanying accessories. The engine was partially attached to the fuselage and appeared intact. The lower right engine bolt was in place but the rubber mount bushing and associated washer were missing. Signatures on the mount were consistent with the bushing and washer not being in place at the time of the accident.

Visual examination revealed that the carburetor was not attached to the intake manifold. The throttle linkage arm had separated from the carburetor, though remained attached to the control cable. The mixture cable separated from the mixture linkage arm. The mixture cable was affixed to the engine baffling with a fabricated alloy bracket. The bracket was affixed to the carburetor by a single bolt. The baffle had become separated from the single bolt, with the fracture surfaces obscured with a dark oil-like residue. The oil sump had sustained damage to its forward facing side, consistent with impact. The oil filter element had "7-10-2009" written on its side indicating that was the date of the engine last oil change.

The cylinders' combustion chambers were examined through the spark plug holes utilizing a lighted borescope. The combustion chambers remained mechanically undamaged, and there was no evidence of foreign object ingestion or detonation. The valves were intact and undamaged. There was no evidence of valve to piston face contact.

The magnetos were affixed to their respective mounting flanges and appeared intact. Upon rotation of the crankshaft, investigators could audibly detect the impulse coupling activating and observe spark at each ignition lead end. Removal of the upper spark plugs revealed that #1 and #3 plugs were light gray in color. The #2 and #4 spark plug electrode areas had an oily residue. According to the Champion AV-27 chart the electrodes showed (normal) erosion.

Investigators disassembled the fuel pump, the diaphragm was observed to contain cracks in the rubber material on the fuel side, with a small amount of debris in the chamber and on the surface of the filter screen. The fuel pump chamber displayed a thick layer of deposits white in coloration. Investigators cut the fuel line (rubber tubing) from the fuel pump to the header tank. The line was hard and not malleable; additionally, the interior surface was noted to be cracked and brittle. Notations on the external surfaces of the fuel line indicated that it was specified for use as a hydraulic line.

The gascolator was disassembled and no fuel was present; the screen contained a trace amount of debris. The rubber bowl seal appeared to have numerous cracks around its circumference. The bowl contained no debris. The carburetor was disassembled and found to contain a yellow residue film around the bowl. A similar colored film was noted around the outlets of the main fuel nozzle, and accelerating pump outlet orifices.

According to a representative from TCM, the overall engine condition was not consistent to that of an engine that had recently undergone an annual inspection. He additionally stated that there were numerous modifications that were not in accordance with TCM recommended maintenance practices.

Probable Cause Approval Date: 12/15/2009
Aircraft: ALON A2, registration: N6363V
Injuries: 2 Uninjured.
NTSB investigators used data provided by various entities, including, but not limited to, the Federal Aviation Administration and/or the operator and did not travel in support of this investigation to prepare this aircraft accident report.

The pilot reported the crosswind landing approach was normal. Just before touching down, the airplane ballooned to an altitude of about 15 feet above the runway. The airplane "mushed hard" onto the runway, then veered off the right side of the runway where it contacted a taxiway light, resulting in substantial damage to the airplane. Local winds were from 340 degrees at 10 knots and the airplane was landing on runway 06.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's failure to maintain control of the airplane during the landing flare.

CEN09CA556

The pilot reported that the crosswind landing approach was normal. Just before touching down, the airplane ballooned about 15 feet above the runway. The airplane "mushed hard" onto the runway, then veered off the right side of the runway where it contacted a taxiway light. Local winds were from 340 degrees at 10 knots and the airplane was landing on Runway 06.

NTSB Identification: **ERA10CA049**
14 CFR Part 91: General Aviation
Accident occurred Wednesday, November 04, 2009 in Germantown, NY
Probable Cause Approval Date: 05/06/2010
Aircraft: ERCOUPE 415, registration: N93659
Injuries: 1 Minor.
NTSB investigators used data provided by various entities, including, but not limited to, the Federal Aviation Administration and/or the operator and did not travel in support of this investigation to prepare this aircraft accident report.

The pilot stated that he had just purchased the accident airplane. After completing a familiarization flight with the previous owner, the pilot had the main fuel tanks topped off and then departed. After flying for 20 minutes, the pilot noticed that the header fuel tank indicator was showing empty. The pilot returned to the departure airport and told the previous owner that something was wrong with the fuel system. The owner informed him that it should be fine, and the pilot refueled the header fuel tank and departed again for his destination. During the flight the engine lost all power and the pilot conducted an emergency landing to a field. During landing the airplane flipped over inverted and was substantially damaged. An examination of the wreckage by a mechanic revealed that the fuel pump to the header tank was not operating at the correct flow rate.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's decision to continue operation of the airplane with a known mechanical deficiency.

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