



Aviation Investigation Factual Report

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| Location: | McAlester, Oklahoma | Accident Number: | FTW01FA151 |
| Date & Time: | June 24, 2001, 15:00 Local | Registration: | N3962H |
| Aircraft: | Ercoupe (Eng & Research Corp.) 415-CD | Aircraft Damage: | Destroyed |
| Defining Event: | | Injuries: | 1 Fatal |
| Flight Conducted Under: | Part 91: General aviation - Personal | | |

Factual Information

HISTORY OF FLIGHT

On June 24, 2001, approximately 1500 central daylight time, an Ercoupe (Eng & Research Corp.) 415-CD airplane, N3962H, was destroyed when it impacted terrain under unknown circumstances near the McAlester Regional Airport (MLC), McAlester, Oklahoma. The airplane was registered to and operated by the pilot. The private pilot, sole occupant of the airplane, sustained fatal injuries. Visual meteorological conditions prevailed and no flight plan was filed for the 14 Code of Federal Regulations Part 91 personal flight. The cross-country flight was originating at the time of the accident and was destined for Ozawkie, Kansas.

According to personnel at the Terrell Aviation fixed base operator (FBO), located at the Terrell Municipal Airport, Terrell, Texas, on June 23, 2001, approximately 0700, the pilot was seen at an Ercoupe airplane convention. Approximately 1400, the pilot was driven back to his hotel by a courtesy van driver with the following symptoms: "red faced, flushed, kinda hot." The pilot had stated that he "didn't feel well." Airport personnel reported that some of the hangars that were being used for the convention were air conditioned, and some were not. On June 24, 2001, the pilot had Terrell Aviation FBO personnel top off the airplane's fuel tanks. Subsequently, he departed approximately 1100.

According to personnel from BrenAir Aviation Services FBO, located at MLC, approximately 1430, the airplane's fuel tanks were topped off with 7.9 gallons of 100LL fuel. Personnel asked the pilot if he needed oil and the pilot responded that he would be adding "some," but that he had his own oil and did not need to purchase any. There was no further contact with the pilot, there were no witnesses to the accident, and no distress calls were received.

On June 25, 2001, at 0930, the airplane, which had not been reported missing, was spotted by a helicopter that departed MLC on an unrelated business flight. The helicopter crew maneuvered the helicopter near the airplane and observed the accident site approximately .25 miles southeast of the airport among trees and rolling terrain.

PERSONNEL INFORMATION

On August 6, 1993, the pilot was issued a private pilot certificate (single-engine land). On the pilot's last FAA medical certificate application, which was dated April 15, 2000, he reported that he had accumulated a total of 275 flight hours.

He held an FAA third class medical certificate dated April 15, 2000, which contained the following stipulation; "holder shall possess correcting glasses for near vision while exercising the privileges of his airman certificate."

AIRCRAFT INFORMATION

The 1947-model airplane was equipped with a 75-horsepower Teledyne Continental C-75-12 engine and a 2-bladed McCauley fixed pitch propeller. On June 10, 1990, the engine underwent its most recent overhaul. On September 20, 2000, the airframe and engine underwent their most recent inspections. The final maintenance entry in the engine logbook, dated November 20, 2000, stated "replaced rocker box gaskets with new silicon gaskets, replace oil tank & generator gaskets also replace generator drive rubber bushing as per 49-50-00." At the time of the accident, the airframe had accumulated 1,864.2 total hours and the engine had accumulated 132.5 hours since major overhaul.

The pilot took possession of the airplane on March 17, 2001. Starting on that date he kept an additional flight/maintenance log on a pad. Multiple entries revealed consistent engine oil consumption of approximately 1 quart per flight hour. The final entry on June 21, 2001, indicated that the engine had "used 1 qt. [of oil] in 2.5 hrs." He added "1qt to bring back to 4.5 qts."

The Ercoupe was originally designed with a rudder system that was interconnected to the ailerons. However, the accident airplane was equipped with an independent rudder system that was not interconnected to the aileron system.

An emergency locator transmitter (ELT) was not located at the accident site. Additionally, the airplane was not equipped with shoulder harnesses.

METEOROLOGICAL INFORMATION

At 1453, the weather observation facility at MLC reported the wind from 200 degrees at 9 knots gusting to 14 knots, visibility 10 miles, clear skies, temperature 90 degrees Fahrenheit, dew point 62 degrees Fahrenheit, and an altimeter setting of 30.10 inches of Mercury. The density altitude was calculated to be 2,802 feet.

WRECKAGE AND IMPACT INFORMATION

Examination of the accident site revealed that the airplane was on a private ranch approximately 0.25 miles southeast of the departure end of runway 19 at MLC. A global positioning system (GPS) recorded the accident location at latitude north 034 degrees 52.349 minutes and longitude west 095 degrees 46.868 minutes. The airplane came to rest on a heading of 210 degrees magnetic. The initial impact scar consisted of a crater and two linear scars that emanated outward from the crater. The linear scars were consistent with the leading edge dimensions of each wing. The leading edges of both wings were compressed rearward. Examination of the trees surrounding the accident site revealed that the only trees with freshly severed limbs were located directly above the airplane.

Both wings were partially separated at the wing root. The tailcone, which was buckled, and the tail section remained attached to each other. Flight control continuity was established for the rudder, elevator, elevator trim, and aileron control systems. The elevator trim tab was found in the tab up position.

The cockpit was examined. The airspeed indicator needle indicated 100 mph, the tachometer's needle indicated 1,400 rpm, the turn coordinator indicated needle to the right and ball to the left, and the vertical speed indicator indicated a 4,500 feet per minute descent. The throttle was found in the midrange position, the mixture was in the full rich position and the carburetor heat control was in the cold position. The primer was in-and-locked and the fuel selector was in the "on" position.

The propeller assembly remained attached to the engine and the engine remained attached to the airframe; however, the engine was displaced rearward through the cockpit instrument panel. One propeller blade was bent rearward 90 degrees at midspan and the second propeller blade was bent rearward 45 degrees at midspan. The propeller's spinner did not display evidence of rotation.

The engine was examined at the accident site. The crankshaft could not be rotated. All of the cylinders were undamaged, except for the number 4 cylinder and cylinder head which sustained impact damage. Furthermore, both of the number four valve stems were bent. The carburetor was separated from the engine, the alternator sustained damage and the oil sump was crushed upwards. Both magnetos and the fuel pump remained attached to the engine. The engine was removed from the accident site and examined at the BrenAir Aviation Services FBO at MLC.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed by the Office of the Chief Medical Examiner, Tulsa, Oklahoma. The probable cause of death was "multiple blunt trauma." Toxicological test results, provided by the FAA's Civil Aeromedical Institute of Oklahoma City, Oklahoma, were negative for cyanide and drugs. The following was reported:

51 (mg/dL, mg/hg) Ethanol detected in blood
17 (mg/dL, mg/hg) Ethanol detected in brain
59 (mg/dL, mg/hg) Ethanol detected in kidney
1 (mg/dL, mg/hg) Methanol detected in blood
17 (mg/dL, mg/hg) Acetaldehyde detected in blood
1 (mg/dL, mg/hg) Acetaldehyde detected in brain
10 (mg/dL, mg/hg) Acetaldehyde detected in kidney
6 (mg/dL, mg/hg) N-Propanol detected in blood
5 (mg/dL, mg/hg) N-Propanol detected in brain
4 (mg/dL, mg/hg) N-Propanol detected in kidney

The levels of ethanol, methanol, acetaldehyde and n-propanol detected are consistent with postmortem production.

The pilot's family reported that "the pilot was in good health with no known health problems."

TESTS AND RESEARCH

The examination of the engine continued at MLC. The cylinders and pistons were removed from the engine. Each of the cylinder barrels exhibited scoring and contained deposits of a ferrous material. The piston rings were in place and lubricated. After the pistons were removed, the crankshaft was free to rotate. Furthermore, the connecting rods were in place and secured between the crankshaft and their pistons. Oil was present throughout the crankcase and no thermal damage was evident. The oil screen was removed and a ferrous debris was observed; however, the material did not completely obstruct the filter. The carburetor's throttle and mixture control arms were attached and free to move. Its fuel screen was removed and debris, which resembled corrosion, was observed. The carburetor was disassembled and no fuel was present. The metal float was attached to the needle valve and was free to move. The magnetos were removed and each lead produced a spark when the drive couplings were rotated by hand. Fuel was found in the fuel inlet line to the carburetor and in the engine driven fuel pump. The engine driven fuel pump's screen was removed and debris, which resembled corrosion, was present.

ADDITIONAL INFORMATION

The airplane was released to the owner's representative on July 17, 2001.

Pilot Information

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|----------------------------------|--|--|----------------|
| Certificate: | Private | Age: | 56,Male |
| Airplane Rating(s): | Single-engine land | Seat Occupied: | Left |
| Other Aircraft Rating(s): | None | Restraint Used: | |
| Instrument Rating(s): | None | Second Pilot Present: | |
| Instructor Rating(s): | None | Toxicology Performed: | Yes |
| Medical Certification: | Class 3 Valid Medical--w/ waivers/lim | Last FAA Medical Exam: | April 15, 2000 |
| Occupational Pilot: | UNK | Last Flight Review or Equivalent: | |
| Flight Time: | 275 hours (Total, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|--------------------------------|---------------------------------------|-----------------|
| Aircraft Make: | Ercoupe (Eng & Research Corp.) | Registration: | N3962H |
| Model/Series: | 415-CD | Aircraft Category: | Airplane |
| Year of Manufacture: | | Amateur Built: | |
| Airworthiness Certificate: | Normal | Serial Number: | 4663 |
| Landing Gear Type: | Tricycle | Seats: | 2 |
| Date/Type of Last Inspection: | September 20, 2000 Annual | Certified Max Gross Wt.: | 1400 lbs |
| Time Since Last Inspection: | 34.9 Hrs | Engines: | 1 Reciprocating |
| Airframe Total Time: | 1864.2 Hrs at time of accident | Engine Manufacturer: | Continental |
| ELT: | Not installed | Engine Model/Series: | C-75-12 |
| Registered Owner: | Jack E. McCall | Rated Power: | 75 Horsepower |
| Operator: | | Operating Certificate(s) Held: | None |
| Operator Does Business As: | N/A | Operator Designator Code: | |

Meteorological Information and Flight Plan

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|---|----------------------------------|---|-------------|
| Conditions at Accident Site: | Visual (VMC) | Condition of Light: | Day |
| Observation Facility, Elevation: | MLC, 750 ft msl | Distance from Accident Site: | |
| Observation Time: | 14:53 Local | Direction from Accident Site: | 90° |
| Lowest Cloud Condition: | Clear | Visibility | 10 miles |
| Lowest Ceiling: | None | Visibility (RVR): | |
| Wind Speed/Gusts: | 9 knots / 14 knots | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | 200° | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 30.1 inches Hg | Temperature/Dew Point: | 32°C / 17°C |
| Precipitation and Obscuration: | No Obscuration; No Precipitation | | |
| Departure Point: | McAlester, OK (MLC) | Type of Flight Plan Filed: | None |
| Destination: | Ozawkie, KS (NONE) | Type of Clearance: | None |
| Departure Time: | 15:00 Local | Type of Airspace: | Class G |

Airport Information

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|-----------------------------|--------------------------------|----------------------------------|----------|
| Airport: | McAlester Regional Airport MLC | Runway Surface Type: | Concrete |
| Airport Elevation: | 770 ft msl | Runway Surface Condition: | Dry |
| Runway Used: | 19 | IFR Approach: | Unknown |
| Runway Length/Width: | 5602 ft / 100 ft | VFR Approach/Landing: | Unknown |

Wreckage and Impact Information

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|----------------------------|---------|-----------------------------|----------------------|
| Crew Injuries: | 1 Fatal | Aircraft Damage: | Destroyed |
| Passenger Injuries: | | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 1 Fatal | Latitude, Longitude: | 34.872501,-95.781112 |

Administrative Information

Investigator In Charge (IIC): Ragogna, Jason

Additional Participating Persons: Gail G Sober; Federal Aviation Administration; Oklahoma City, OK
John T Kent; Teledyne Continental Motors; Seagoville, TX

Report Date: January 28, 2002

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=52554>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).