# Aviation Investigation Final Report

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| **Location:** | Los Alamos, New Mexico | **Accident Number:** | CEN14FA077 |
| **Date & Time:** | December 8, 2013, 08:10 Local | **Registration:** | N80MF |
| **Aircraft:** | AVIAT AIRCRAFT INC A-1C-200 | **Aircraft Damage:** | Destroyed |
| **Defining Event:** | Loss of control in flight | **Injuries:** | 2 Fatal |
| **Flight Conducted Under:** | Part 91: General aviation - Personal | | |

## Analysis

The pilot and passenger were on a cross-country flight and stopped at an en route airport. After waiting for weather to improve, they took off to the west. A witness reported seeing the airplane depart the runway and then enter a steep left turn, before descending and impacting terrain. The airport directory noted that all landings are to the west, and all takeoffs to the east. A commuter pilot reported that the accident pilot asked him if east takeoffs and west landings were mandatory. The commuter pilot responded that he believed it was but that the commuter crew had permission from the airport manager to depart to the west, if needed. The commuter pilot added that if they departed to the west, they would make a turn before the terminal building. The automated weather reporting station, located on the field recorded about 5 minutes after the accident, the wind from 270 degrees at 12 knots, gusting to 23 knots. An examination of the wreckage did not reveal any preimpact abnormality with the engine or airframe.

## Probable Cause and Findings

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

The pilot's loss of airplane control while maneuvering after takeoff in gusty wind conditions.

## Findings

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| **Personnel issues** | (general) - Pilot |
| **Environmental issues** | Gusts - Effect on operation |
| **Aircraft** | (general) - Not attained/maintained |

# Factual Information

## History of Flight

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| **Takeoff** | Other weather encounter |
| **Takeoff** | Loss of control in flight (Defining event) |
| **Uncontrolled descent** | Collision with terr/obj (non-CFIT) |

On December 8, 2013 about 0810 mountain standard time (MST), an Aviat Aircraft Inc., "Husky", A-1C-200 airplane, N80MF, impacted terrain near the Los Alamos County Airport (KLAM), Los Alamos, New Mexico. The private pilot rated pilot and passenger were fatally injured. The airplane was destroyed. The airplane was registered to Blackhawk Leasing LLC, Harmony, Minnesota, and operated by a private individual. Visual meteorological conditions prevailed and a flight plan was not filed for the 14 Code of Federal Regulations Part 91 cross-country flight. The flight was originating from KLAM at the time of the accident.

The flight originally departed from Harmony, Minnesota, three days earlier, with a planned stop in Iowa, to pick up the passenger, before going to Denver, and then to their final destination of Chandler, Arizona. The flight landed at KLAM due to poor weather en route.

Refueling records indicated that the airplane was filled with 32 gallons of fuel on the afternoon of December 7, 2013.

The crew of a small commuter plane reported talking to the accident pilot and passenger the morning of the accident flight. The commuter crew reported arrived on the morning of December 8, and that the runway had ½ to 1 inch of snow on it. While getting ready for their departure, the commuter pilot recalled that accident pilot asked via radio, if the east takeoff and west landings were mandatory. The commuter pilot responded that he believed it was, but that the commuter crew had permission from the airport manager to depart west, if needed. The commuter pilot added if they departed to the west, they would make a turn before the terminal building. The accident pilot responded, "that makes sense, thank you". Shortly after their departure, the commuter crew heard the accident pilot announce his taxi on runway 27.

There were no reported distress calls from the pilot.

Two witnesses reported seeing the airplane. The first witness reported seeing the airplane appear out of whirling snow and then make a 180-degree turn. The other witness reported seeing the airplane about 100 feet in the air; it then made a steep left bank turn before disappearing from sight.

## Pilot Information

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| **Certificate:** | Private | **Age:** | 51 |
| **Airplane Rating(s):** | Single-engine land | **Seat Occupied:** | Front |
| **Other Aircraft Rating(s):** | None | **Restraint Used:** | Unknown |
| **Instrument Rating(s):** | None | **Second Pilot Present:** | Yes |
| **Instructor Rating(s):** | None | **Toxicology Performed:** | Yes |
| **Medical Certification:** | Class 3 Unknown | **Last FAA Medical Exam:** | January 7, 2011 |
| **Occupational Pilot:** | No | **Last Flight Review or Equivalent:** | |
| **Flight Time:** | (Estimated) 500 hours (Total, all aircraft), 100 hours (Total, this make and model) | | |

## Pilot-rated passenger Information

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| **Certificate:** | Private | **Age:** | 52 |
| **Airplane Rating(s):** | Single-engine land | **Seat Occupied:** | Rear |
| **Other Aircraft Rating(s):** | None | **Restraint Used:** | Unknown |
| **Instrument Rating(s):** | None | **Second Pilot Present:** | Yes |
| **Instructor Rating(s):** | None | **Toxicology Performed:** | Yes |
| **Medical Certification:** | Class 3 Without waivers/limitations | **Last FAA Medical Exam:** | June 5, 2013 |
| **Occupational Pilot:** | No | **Last Flight Review or Equivalent:** | |
| **Flight Time:** | (Estimated) 151 hours (Total, all aircraft) | | |

The pilot held a private pilot certificate with a rating for airplane single engine land. The pilot's last class 3 medical exam was conducted on January 7, 2011, and had the limitation "must have available glasses for near vision." At the time of the exam, the pilot reported his flight experience as 500 total and 100 hours in last six months.

The passenger held a private pilot certificate with a rating for airplane single engine land. The passenger's last class 3 medical exam was conducted on June 5, 2013. At the time of the exam, the passenger reported his flight experience as 151 total hours and 2.5 hours in last six months.

## Aircraft and Owner/Operator Information

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| **Aircraft Make:** | AVIAT AIRCRAFT INC | **Registration:** | N80MF |
| **Model/Series:** | A-1C-200 | **Aircraft Category:** | Airplane |
| **Year of Manufacture:** | 2012 | **Amateur Built:** | |
| **Airworthiness Certificate:** | Normal | **Serial Number:** | 3156 |
| **Landing Gear Type:** | Tailwheel | **Seats:** | 2 |
| **Date/Type of Last Inspection:** | Unknown | **Certified Max Gross Wt.:** | |
| **Time Since Last Inspection:** | | **Engines:** | 1 Reciprocating |
| **Airframe Total Time:** | | **Engine Manufacturer:** | LYCOMING |
| **ELT:** | Installed | **Engine Model/Series:** | IO-360-A1D6 |
| **Registered Owner:** | BLACKHAWK LEASING LLC | **Rated Power:** | 200 Horsepower |
| **Operator:** | BLACKHAWK LEASING LLC | **Operating Certificate(s) Held:** | None |

Aviat Husky is a tandem two-seat, high wing airplane. The structure is steel tube frame and fabric covered fuselage. The airplane was powered by 200 horsepower (hp) Lycoming IO-360-A1D6 reciprocating engine, driving an MT, 3 bladed constant speed propeller. Flight controls are installed at each seat. The accident airplane was manufactured in 2012, and received its standard airworthiness certificate on July 2, 2012. A review of Federal Aviation Administration (FAA) records revealed the pilot purchased the airplane on July 2, 2012.

## Meteorological Information and Flight Plan

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| **Conditions at Accident Site:** | Visual (VMC) | **Condition of Light:** | Day |
| **Observation Facility, Elevation:** | KLAM | **Distance from Accident Site:** | |
| **Observation Time:** | 08:15 Local | **Direction from Accident Site:** | |
| **Lowest Cloud Condition:** | Clear | **Visibility** | 10 miles |
| **Lowest Ceiling:** | None | **Visibility (RVR):** | |
| **Wind Speed/Gusts:** | 12 knots / 23 knots | **Turbulence Type Forecast/Actual:** | / |
| **Wind Direction:** | 270° | **Turbulence Severity Forecast/Actual:** | / |
| **Altimeter Setting:** | 29.78 inches Hg | **Temperature/Dew Point:** | -3°C / -13°C |
| **Precipitation and Obscuration:** | | | |
| **Departure Point:** | Los Alamos, NM (KLAM) | **Type of Flight Plan Filed:** | Unknown |
| **Destination:** | Chandler, AZ | **Type of Clearance:** | None |
| **Departure Time:** | 08:10 Local | **Type of Airspace:** | |

At 0815, the automated weather observation facility located at KLAM, reported wind from 270 degrees at 12 knots, gusting to 23 knots, visibility 10 miles, a clear sky, temperature 26 Fahrenheit (F), dew point 14 F, and a barometric pressure of 29.78 inches of mercury.

## Airport Information

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| **Airport:** | Los Alamos Airport KLAM | **Runway Surface Type:** | Asphalt |
| **Airport Elevation:** | 7171 ft msl | **Runway Surface Condition:** | Snow |
| **Runway Used:** | 27 | **IFR Approach:** | None |
| **Runway Length/Width:** | 6000 ft / 120 ft | **VFR Approach/Landing:** | None |

The Los Alamos (KLAM) airport is a public-use, non-towered airport. Pilots are to use the common traffic advisory frequency (CTAF), for communications. The airport has a single 6,000 feet by 120 feet runway aligned east-west (09 and 27). The facility directory notes all landings are to the west and all takeoffs to the east. The airport also has a restricted area (R-5101) on the south side that is continually active from the surface to 12,000 feet mean sea level; as a result, west go-arounds or missed approaches are to turn right, to avoid the restricted area.

## Wreckage and Impact Information

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| **Crew Injuries:** | 1 Fatal | **Aircraft Damage:** | Destroyed |
| **Passenger Injuries:** | 1 Fatal | **Aircraft Fire:** | On-ground |
| **Ground Injuries:** | N/A | **Aircraft Explosion:** | None |
| **Total Injuries:** | 2 Fatal | **Latitude, Longitude:** | 35.877498,-106.269165 |

The accident site was located about 900 feet south of the airport's runway, in a lightly wooded ravine. The wreckage area consisted of several impact/ground scars about 25 feet in front of the wreckage. The airplane came to rest in an upright position, turned about 180-degrees and facing the first impact point; on a westerly heading. A post-crash fire consumed much of the airplane. Control continuity was established at each control surface, except the left side flap cable was broken. The broken section was removed for further examination. Each blade from 3-bladed wood propeller was splintered and separated before the propeller hub. After initial documentation and examination of the wreckage site, the engine was removed for examination at a nearby facility.

## Medical and Pathological Information

The Office of the Medical Investigator, Albuquerque, New Mexico conducted an autopsy on the pilot and pilot rated passenger. The cause of death on both occupants was determined to be, "blunt force injuries".

The FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, conducted toxicologically testing on the on both occupants. The specimens were negative for carbon monoxide and ethanol. The test on the pilot was positive for diphenhydramine in the urine and blood (0.198 ug/ml, ug/g).

Diphenhydramine is a nonprescription antihistamine and is generally used to treat the symptoms of allergies and the common cold. The drug contains a warning that is may impair mental and/or physical ability required for the performance of potentially hazardous tasks (e.g. driving, operating heavy machinery). Diphenhydramine is marketed under the trade name Benadryl.

TEST and RESEARCH

The section of broken flap cable was sent the NTSB Materials Lab, in Washington, D.C. for examination. The exam found the fractured ends were frayed; some of the cable wires exhibited necking and other wires a slant facture. The broken cable was consistent with a tensile over stress fracture, under

a high strain rate.

The engine was removed from the airframe wreckage and examined off site. The engine had sustained both impact and fire damage. Both magnetos were thermally damaged along with the fuel pump, and could not be examined. The engine was rotated by hand; a thumb compression test was done on each cylinder. Engine and valve train continuity was confirmed. Each cylinder was borescoped; no preimpact abnormalities were no found with the engine that would have prevented normal operation.

## Administrative Information

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| **Investigator In Charge (IIC):** | Hatch, Craig |
| **Additional Participating Persons:** | Howard R Dunn; FAA FSDO; Albuquerque, NM<br>Troy Helgeson; Lycoming Aircraft Engines; Denver, CO |
| **Original Publish Date:** | November 17, 2014 |
| **Last Revision Date:** | |
| **Investigation Class:** | Class |
| **Note:** | |
| **Investigation Docket:** | https://data.ntsb.gov/Docket?ProjectID=88525 |