Aviation Investigation Final Report

Location:	IDAHO FALLS, Idaho	**Accident Number:**	SEA01FA017
Date & Time:	November 10, 2000, 12:15 Local	**Registration:**	N41054
Aircraft:	Cessna 425	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation		

Analysis

The accident aircraft had recently had maintenance work performed on its autofeather system pressure sensing switches, due to reports of the left engine not autofeathering properly in flight. The purpose of the accident flight was to verify proper inflight operation of the autofeather system following the maintenance work on the autofeather pressure sensing switches and a successful ground check of the autofeather system. Air traffic control (ATC) communications recordings disclosed that the pilot called ready for takeoff from runway 2 approximately 1207, and requested to orbit above the airport at 8,000 feet (note: the airport elevation is 4,740 feet.) The pilot subsequently reported established in a hold above the airport at 8,000 feet approximately 1213, and was instructed by ATC to report leaving the hold. Approximately 1215, an abbreviated radio transmission, "zero five four," was recorded. The Idaho Falls tower controller responded to this call but never got a response in return from the accident aircraft, despite repeated efforts to contact the aircraft. Witnesses reported that the aircraft banked to the left, or to the west, and that it entered a spiral from this bank and crashed (one witness reported the aircraft was flying at 200 to 300 feet above ground level when it entered this bank, and that it performed a "skidding" or "sliding" motion part way through the bank, about 1 second before entering the spiral.) The aircraft crashed about 2 miles north of the airport. On-site examination disclosed wreckage and impact signatures consistent with an uncontrolled, relatively low-speed, moderate to steep (i.e. greater than 22 degrees) angle, left-wing-low impact on an easterly flight path. No evidence of flight control system malfunction was found, and a large quantity of jet fuel was noted to be aboard the aircraft. Post-accident examination of the aircraft's engines indicated that the left engine was most likely operating in a low power range and the right engine was most likely operating in a mid to high power range at impact, but no indications of any anomalies or distress that would have precluded normal operation of the engines prior to impact was found. Post-accident examination of the aircraft's propellers disclosed indications that 1) both propellers were rotating at impact, 2) neither propeller was at or near the feather position at impact, 3) both propellers were being operated with power at impact (exact amount unknown), 4) both

propellers were operating at approximately 14º to 20º blade angle at impact, and 5) there were no propeller failures prior to impact. Post-accident examination of the autofeather pressure-sensing switches disclosed evidence of alterations, tampering, or modifications made in the field on all but one switch (a replacement switch, which had been installed just before the accident flight during maintenance) installed on the aircraft at the time of the accident. All switches except for the replacement switch operated outside their design pressure specifications; the replacement switch operated within design pressure specifications. Examination of the switches indicated that all switches were installed in the correct positions relative to high- or low-pressure switch installations. Engineering analyses of expected autofeather system performance with the switches operating at their "as-found" pressure settings (vice at design pressure specifications) did not indicate a likelihood of any anomalous or abnormal autofeather system operation with the autofeather switches at their "as-found" pressure settings. Also, cockpit light and switch evidence indicated that the autofeather system was not activated at the time of impact. The combination of probable engine power and propeller pitch on the left engine (as per the post-accident engine and propeller teardown results) was noted to be generally consistent with the "zero-thrust" engine torque and propeller RPM settings specified for simulated single-engine practice in the aircraft Information Manual.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot-in-command's failure to maintain adequate airspeed with an asymmetric thrust condition, resulting in a loss of aircraft control. A factor was an asymmetric engine thrust condition, which was present for undetermined reasons.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: UNKNOWN

Findings
1. (F) MISCELLANEOUS,ENGINE - ASYMMETRICAL
2. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
3. PROPELLER SYSTEM/ACCESSORIES,AUTO-FEATHER SYSTEM - OUT OF CALIBRATION

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

HISTORY OF FLIGHT

On November 10, 2000, approximately 1215 mountain standard time, a privately owned Cessna 425, N41054, was substantially damaged in a collision with terrain approximately 2 miles north of Fanning Field, Idaho Falls, Idaho. The airline transport pilot-in-command and a second airline transport pilot aboard for the flight were fatally injured in the accident. The local flight, which was a maintenance test flight, departed from Fanning Field approximately 1208, and was conducted under the provisions of 14 CFR 91. Visual meteorological conditions prevailed in the area at the time of the accident, and no flight plan had been filed for the flight.

The accident aircraft had recently had maintenance work performed on its autofeather system pressure sensing switches, due to reports of the left engine not autofeathering properly in flight. The maintenance work was performed by Aerohawk Aviation, a maintenance firm based at Fanning Field. According to Aerohawk's owner, the purpose of the accident flight was to verify proper inflight operation of the autofeather system following the maintenance work on the autofeather pressure sensing switches and a successful ground check of the autofeather system. Air traffic control (ATC) communications recordings from the Idaho Falls air traffic control tower disclosed that the pilot called ready for takeoff approximately 1207, and requested to orbit above the airport at 8,000 feet (note: the airport elevation is 4,740 feet.) He was cleared for takeoff on runway 2 at 1208, and his departure was approved by ATC as requested. The pilot subsequently reported established in a hold at the Idaho Falls VOR (collocated with the airport) at 8,000 feet approximately 1213. The Idaho Falls tower controller instructed the pilot to report leaving the hold. Approximately 1215, an abbreviated radio transmission, "zero five four," was recorded. The Idaho Falls tower controller responded to this call but never got a response in return from the accident aircraft, despite repeated efforts to contact the aircraft. At 1227, the Idaho Falls tower controller informed the Boise, Idaho, Automated Flight Service Station (AFSS) that she was receiving reports of an aircraft down about 2 miles north of the airport.

A witness to the accident reported that he first observed the aircraft flying south along Interstate Highway 15 (I-15) at an altitude of 200 to 300 feet above ground level. He stated that the aircraft then started banking left, and that part way throught the bank the aircraft then began a "skidding" or "sliding" motion. This witness reported that the aircraft entered a spiral about 1 second later and crashed. This witness reported he did not observe anything wrong with the aircraft at that time, but could not tell whether or not both of the aircraft's propellers were turning. The second witness reported that the airplane was banking west, and that it then "spiraled straight down and hit the ground." A third witness reported that the airplane was northbound, "banking to the west on its wingtip." This witness reported that the aircraft then went out of sight, and that he then saw a smoke cloud.

The accident occurred during the hours of daylight at approximately 43 degrees 32.2 minutes North latitude and 112 degrees 3.8 minutes West longitude.

PERSONNEL INFORMATION

Both pilots were employed as corporate pilots for local companies in Idaho Falls at the time of the accident. The pilot-in-command, who according to the aircraft's owner was highly experienced in the Cessna 425, was retained by Aerohawk Aviation to conduct maintenance test flights on an ad-hoc basis. He held an airline transport pilot certificate with airplane single-engine land, airplane multiengine land, and airplane single-engine sea ratings, and a Cessna 500 type rating (note: according to the provisions of 14 CFR 61.31(a), a type rating is not required for the Cessna 425). He also held a flight instructor certificate with airplane single-engine, airplane multiengine, and instrument airplane ratings, with a date of issue of October 28, 2000. The pilot held an FAA second-class medical certificate dated November 23, 1999, with a limitation requiring the pilot to possess glasses that corrected for intermediate and near vision. No pilot logbooks for the pilot-in-command were located by, or provided to, the NTSB. However, NTSB investigators recovered documentation of the pilot-in-command's completion of a pilot-in-command proficiency check in the Cessna 500 at SimuFlite, Inc. on March 11, 2000. The pilot indicated on his last FAA medical certificate application that he had 8,000 hours total pilot time, with 250 hours in the last 6 months.

According to the owner of Aerohawk, the pilot-in-command had invited the second pilot to fly on the accident flight because the company that employed the second pilot was purchasing a Cessna 425. The second pilot held an airline transport pilot certificate with an airplane single-engine land rating, with commercial privileges for airplane multiengine land. He held an FAA first-class medical certificate dated July 27, 2000, with no limitations. No pilot logbooks for the second pilot were located by, or provided to, the NTSB. The second pilot indicated on his last FAA medical certificate application that he had 2,500 hours total pilot time, with 200 hours in the last 6 months.

AIRCRAFT INFORMATION

The aircraft, a Cessna 425, serial number 425-0172, was manufactured in 1982, and was registered to the then-current owner (who was not aboard the aircraft at the time of the accident) on May 28, 1997. The Hobbs meter reading noted at the accident site was 4,027.1 hours, which according to the aircraft logs also corresponded to the airframe total time. The aircraft was on a manufacturer's approved aircraft inspection program. The last documented inspections were phase 2 and 3 inspections signed off by the owner of Aerohawk Aviation on February 10, 2000, at 3,963.5 airframe hours.

The aircraft was equipped with two McCauley 4HFR34C762-H four-bladed propellers, which

according to the propeller logs were installed new on the aircraft on March 15, 1996, at 3,216.5 airframe hours. At the time of this new propeller installation, the aircraft was equipped with two Pratt & Whitney Canada PT6A-112 turboprop engines. The aircraft records indicated that the propellers were installed per FAA Supplemental Type Certificate (STC) SA1491GL (held by McCauley Propeller Systems), which authorizes installation of the McCauley 4-bladed propellers on PT6A-112 engines. Two new Pratt & Whitney Canada PT6A-135A engines, serial numbers PCE-PZ0025 (left) and PCE-PZ0026 (right), were subsequently installed on the accident aircraft by Aerohawk Aviation on September 24, 1999, at 3,937.7 airframe hours. The PT6A-135A installation was accomplished per STC SA622CH, held by Duncan Aviation (formerly Kal-Aero) of Battle Creek, Michigan. The McCauley 4-bladed propellers were removed from the aircraft and reinstalled on the new engines at the time of this engine change. A March 1996 amendment to STC SA1491GL added PT6A-135A engines to the eligibility for installation of the McCauley 4-bladed propellers (the original STC, issued in 1990, listed only PT6A-112 engines as eligible for installation of these propellers.)

The aircraft was equipped with a propeller autofeathering system that provided for automatic feathering of a propeller in the event of loss of the engine. This system was controlled by an arming switch in the cockpit with ARM, OFF, and TEST positions. In the OFF position, the system was deactivated. During nominal system operation with the switch in ARM, the propeller would automatically feather if engine torque dropped below approximately 185 foot-pounds (ft-lb) at power lever positions of 80% gas generator RPM (Ng) or greater. In nominal system operation, autofeathering of one propeller would disarm the system on the other propeller. L and R AUTO-FTHER ARM annunciator lights, located on the instrument panel, would nominally illuminate when the system was armed. TEST was a momentary switch position used to check out system operation with power below 80% Ng. According to the Cessna 425 Information Manual, the autofeather system on the aircraft is primarily intended for use during takeoff and climb. The Normal Procedures checklists in the Information Manual specify setting the autofeather switch to ARM in the "Before Takeoff" check, to OFF in the "Cruise" check, and back to ARM in the "Descent" check.

According to the Cessna 425 maintenance manual, with the autofeather switch in ARM and power levers advanced above 84% Ng, circuits are completed to two oil pressure-sensing switches (a high-pressure switch and a low-pressure switch) on each engine. These switches monitor engine torquemeter oil pressure. The high-pressure switch is designed to actuate under pressures exceeding 9.00 psig, and to deactuate when pressure decreases below 7.75 psig. The maintenance manual states that for serial numbers -0002 through -0186, the low-pressure switch opens with increasing pressure of 4.75 psig, and closes with decreasing pressure of 3.50 psig. For airplanes -0187 and on, the low-pressure switch is specified to open with increasing pressure of 6.00, +0.25, -0.25 psig, and to close with decreasing pressure of 3.00, +0.5, -0.5 psig. During nominal system operation, if an engine fails while the system is armed, engine torque begins to drop off until below the actuating pressure of the high-pressure switch (corresponding to a nominal engine torque of 300, +40, -40 ft-lb). Deactuation of the high-pressure switch on the failed engine closes the circuit to the coil of its respective control relay, which will remain deenergized as long as torquemeter oil pressure exceeds 4.25 psi

(because of the open circuit at the low-pressure switch). When the torque of the failed engine falls below the actuating pressure of the low-pressure switch (nominally at an engine torque of 150, +40, -40 ft-lb), the switch returns to its unactuated position, providing a ground return for the control relay of the affected engine. Current through the relay then energizes the autofeather dump valve on the propeller overspeed governor. The autofeather dump valve immediately reduces governor oil pressure to zero, permitting the propeller blades to quickly move to the feathered position on that engine.

According to the owner of Aerohawk, the aircraft had been brought in for maintenance because the pilots had been unable to get one of its engines to feather in flight. Aerohawk's owner stated that he ordered two new autofeather pressure-sensing switches from Corporate Aircraft of Fresno, California, and installed them on the right engine in accordance with the owner's instructions. He stated that the aircraft owner subsequently told him that the problem was actually on the left engine, rather than on the right engine. He stated that he then took the new switches off the right engine, installed them on the left engine, and reinstalled the original right engine autofeather switches back onto the right engine. The aircraft was then flown, and the pilots still could not get the left engine to feather properly. The aircraft was brought back to Aerohawk, and the autofeather pressure switches were swapped left engine to right engine and vice versa. Aerohawk's owner stated that after this swap, the problem "followed the switches" (i.e., transferred to the right engine). The owner of Aerohawk stated that he then placed the "old" low-pressure switch that had been removed from the left engine, back onto the right engine. At this point, the owner of Aerohawk stated, the right engine now had an old low-pressure switch (previously installed on the left engine) and a new high-pressure switch installed, and the left engine had two old switches (originally from the right engine) installed. He stated that with this installation arrangement, the system passed three cycles of ground checks on each engine. The owner of Aerohawk reported that after the aircraft passed the ground checks, he summoned the accident pilot to perform the maintenace test flight, on which the aircraft crashed. (NOTE: The Cessna 425 Maintenance Manual contains a procedure to check the autofeather system on the ground, but does not specify any procedure for an inflight check of the system.)

According to the Cessna 425 Information Manual amplified Normal Procedures section, "Simulated engine failure takeoff and landing practice is most safely done with both propellers set at 1900 RPM [the maximum allowable propeller RPM, according to the operating limitations specified in both the Information Manual and the STC] and the simulated failed engine set at 150 foot-pounds."

METEOROLOGICAL INFORMATION

The 1153 Idaho Falls automated METAR observation reported weather conditions there as follows: wind from 040 degrees true at 8 knots; clear skies with 10 statute miles visibility; temperature -6 degrees C; dewpoint -13 degrees C; and altimeter setting 29.80 inches Hg. The 1253 Idaho Falls METAR observation reported the same conditions, except for winds from 010

degrees true at 6 knots and altimeter setting 29.79 inches Hg.

WRECKAGE AND IMPACT INFORMATION

An on-site examination of the aircraft wreckage was performed by investigators from the NTSB, FAA, Cessna Aircraft Company, and Pratt & Whitney Canada on November 11, 2000. The aircraft had crashed into a level horse and cattle pasture between Interstate Highway 15 (I-15) and the west bank of the Snake River, with the main wreckage coming to rest upright on the river bank on a heading of 143 degrees magnetic. The complete wreckage pattern was confined to an approximately 140-foot area running generally from west to east. The westernmost point of this pattern was marked by a ground scar. A tree with no visible damage was located directly west of this ground scar. Investigators measured the vertical angle from the ground scar to the treetop at 22 degrees above horizontal. The main wreckage comprised essentially the complete aircraft less the left propeller (which was detached from its engine at the propeller mounting flange and located about 30 feet short of the main wreckage), a single right propeller blade, and a 3-4 foot section of left wingtip which was located about 20 feet south of the main wreckage. The separated right propeller blade was found buried approximately 6 to 8 inches into frozen ground approximately 100 feet short of the main wreckage. A slash was observed generally in line with the right propeller plane of rotation on the right side of the aircraft's nose, which was pushed about 30 degrees to the right of the aircraft longitudinal axis. The entire airframe was accounted for at the accident site, and no evidence of flight control system anomalies was noted. A strong odor of jet fuel was evident at the site, and the only evidence of fire was of a fuel fire on the ground approximately 50 feet short of the main wreckage. A large quantity of fuel also leaked from the aircraft during the on-site examination and subsequent wreckage recovery operations, necessitating containment booms to be placed into the river around the immediate vicinity of the main wreckage for environmental damage mitigation, and a fire guard from the Idaho Falls Fire Department to be posted during wreckage removal to ensure personnel safety. No evidence of fire was noted in the main wreckage. All four blades of the detached left propeller were observed in the feathered position at the site.

Comparison of engine instrument indications, cockpit engine and propeller control positions, and control lever positions on the engines and propeller governors generally did not yield consistent indications, with the following exceptions: 1) the right Ng RPM indicator was observed at 70%, with the right fuel control lever in the cockpit being found in the RUN position; and 2) the left propeller control in the cockpit was in the full forward position, with the left propellor governor control arm also being found in a high RPM position. The right propeller control in the cockpit was found in the full forward position (the right propeller governor control arm was found in a midrange position, with the linkage bent.) The cockpit autofeather switch was found in the OFF position.

At the accident site, the autofeather pressure-sensing switch installed at the low-pressure position on the left engine was observed to have a letter "H" hand-scribed on the switch body.

Investigators tagged each of the four autofeather pressure-sensing switches on the aircraft with their installed location, and removed them from the aircraft for further examination.

MEDICAL AND PATHOLOGICAL INFORMATION

Autopsies on both pilots were conducted at the Eastern Idaho Regional Medical Center Morgue, Idaho Falls, Idaho, on November 12, 2000. The cause of death for both pilots was determined to be massive blunt trauma injuries (deceleration) secondary to the plane crash.

Toxicological tests on both pilots were conducted by the FAA Civil Aeromedical Institute (CAMI), Oklahoma City, Oklahoma. The CAMI toxicology tests screened for carbon monoxide, cyanide, ethanol, and legal and illegal drugs, and did not detect any of these substances in either pilot.

TESTS AND RESEARCH

The left and right annunciator panels from the aircraft's instrument panel were removed from the aircraft at the accident site and sent to the NTSB Materials Laboratory in Washington, D.C., for examination of the filaments of the light bulbs installed in the panels. This examination disclosed that none of the light bulb filaments installed in either annunciator panel showed evidence of hot filament stretching. One light bulb filament in the L AUTO-FTHER ARM indicator was found to be broken, but not stretched. Refer to NTSB Materials Laboratory Factual Report No. 01-060 (attached).

The aircraft's propellers were shipped to the facilities of their manufacturer, McCauley Propeller Systems of Vandalia, Ohio, for a disassembly examination under the supervision of an inspector from the FAA's Cincinnati, Ohio, Flight Standards District Office (FSDO). This examination was conducted from January 16 through January 17, 2001. Based on the findings of this examination, McCauley's report of examination (dated June 8, 2001, text attached) stated the following conclusions:

1. Propeller damage was a result of impact. There were no indications of any type of propeller failure prior to impact.

2. Both propellers were rotating at impact. Neither propeller was at or near the feather position at impact.

3. Both propellers were being operated with power at impact. Exact amount is unknown.

4. Both propellers were operating at approximately 14º to 20º blade angle at impact.

The aircraft's engines were shipped to the facilities of their manufacturer, Pratt & Whitney Canada (P&WC), at St. Hubert, Quebec, Canada, for a disassembly examination under the supervision of investigators from the Transportation Safety Board of Canada. This examination was performed from January 30 through February 1, 2001. Based on the findings of this disassembly examination, P&WC's examination report (P&WC Service Investigation Accident/Incident Report No. 00-106, March 5, 2002, text attached) stated the following conclusions:

> The left hand engine displayed contact signatures to its internal components characteristic of the engine developing power at impact, likely in a low power range.
>
> The right hand engine displayed contact signatures to its internal components characteristic of the engine developing power at impact, likely in a mid to high power range.
>
> There were no indications of any anomalies or distress that would have precluded normal operation of the engines prior to impact.

Six autofeather pressure-sensing switches, comprising the four switches installed on the aircraft at the time of the accident and the two switches that had been removed from the aircraft during maintenance immediately prior to the accident flight, were sent to the NTSB's North Central Regional Office in West Chicago, Illinois, and subsequently taken by an investigator from that office to the facilities of the switch manufacturer, Aerospace Control Products Inc. (ACPI) of Davenport, Iowa, for functional and disassembly examination. This examination was conducted at ACPI facilities in Davenport on May 16, 2001 under NTSB supervision. The examination disclosed that all six switches operated (but, in most cases, not at their factory set points), were wired properly, and had no loose or internally damaged parts apparent to the examination. ACPI reported that all switches, as per their installed positions, were in the proper positions relative to high-pressure or low-pressure switch installations (i.e., the units installed in high-pressure switch positions had higher settings than those found in the low-pressure switch positions on the aircraft.)

During the ACPI exam, all four of the autofeather pressure-sensing switches installed on the aircraft prior to the repair attempts (one of which was removed from the aircraft prior to the accident, and not installed at the time of the accident) showed evidence of what ACPI characterized as "tampering and unapproved field adjustments to higher settings." This evidence included (in addition to the switches operating at pressures outside factory specifications): part numbers being wirebrushed off of the cases, missing safety wire, and in one case, an internal microswitch installed inside the part that ACPI reported was of a type it had never used in any part it had manufactured. Only one switch installed on the aircraft at the time of the accident, the one installed at the high-pressure switch position on the right engine, operated at pressures within factory specifications. This was one of the two "new" switches ordered for repairs, and was also the only switch installed on the aircraft at the time of the

accident that did not display evidence of tampering or alteration. The switch installed at the low-pressure position on the left engine of the accident aircraft (the one found hand-scribed with a letter "H" at the accident site) was found to contain an internal microswitch consistent with the switch originally having been manufactured either as a high-pressure switch, or as an early model low-pressure switch (consistent with the original part number application for the aircraft serial number). This switch was found to operate at pressures between the high-pressure and early-model low-pressure switch specifications, and at lower pressures than the high-pressure switch on the left engine.

The switches installed on the aircraft at the time of the accident were found to operate at the following pressures:

Installed Position	Actuate @ psi (increasing)	Deactuate @ psi (decreasing)
Left Low-Pressure	7.00	6.40
Left High-Pressure	10.60	9.92
Right Low-Pressure	4.00	2.80
Right High-Pressure	8.6	8.1

According to the ACPI exam report, the factory specifications for a high-pressure switch are 9.00 psi maximum (increasing) and 7.75 psi minimum (decreasing). The factory specifications for an early model low-pressure switch (appropriate to the aircraft serial number), according to ACPI, are 4.75 psi (increasing) and 3.5 psi (decreasing). Refer to ACPI report to NTSB North Central Regional Office, dated June 20, 2001, and ACPI letter dated October 2, 2002, attached, for detailed exam findings.

Pursuant to the ACPI exam findings on the autofeather pressure-sensing switches, the NTSB investigator-in-charge (IIC) requested engineering analyses of the expected performance of the autofeather system on the accident aircraft, based on the autofeather pressure-sensing switches operating at pressures as observed during the ACPI exam (vice their factory-specified settings). For this assessment, two different scenarios were considered: 1) whether or not a propeller would autofeather properly in the event of a loss of engine power, and 2) whether or not an inadvertent/unscheduled autofeather, without an actual loss of engine power, was possible, e.g. as a result of a normal power reduction. Cessna's Propulsion Engineering Department provided an assessment of the first scenario stating that in the event of an actual engine failure with the autofeather system armed, it was probable that the propeller on that engine would feather, assuming that the engine control system was properly rigged and the aircraft electrical system relative to the autofeather system was correct and operational. To assess the probability of an inadvertent/unscheduled autofeather occurring, McCauley Propeller Systems furnished engineering data from P&WC on the computed engine torque and torque pressure at 80% Ng (the approximate power lever setting below which the autofeather system is deactivated by the power lever switches) with weather conditions as reported in the Idaho Falls METAR observation. For a PT6A-135A engine at 80% Ng, pressure altitude 4,860 feet, and temperature -6 degrees C, the engine torque and torque pressure were

computed to be 602 ft-lb and 17.1 psi, respectively. This computed torque pressure value was noted to be well above the observed deactuation pressures of all four autofeather switches as per the ACPI exam findings.

ADDITIONAL INFORMATION

Final release of the airplane wreckage was given to Mr. Michael Cornia of Intermountain Claims, Incorporated, Boise, Idaho, on October 1, 2002. Mr. Cornia is an insurance adjuster representing the aircraft owner.

Pilot Information

Certificate:	Airline transport; Flight instructor	**Age:**	54,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	November 23, 1999
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	March 11, 2000
Flight Time:	8000 hours (Total, all aircraft)		

Other flight crew Information

Certificate:	Airline transport; Commercial	**Age:**	30,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	July 27, 2000
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	2500 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N41054
Model/Series:	425 425	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	425-0172
Landing Gear Type:	Retractable - Tricycle	**Seats:**	12
Date/Type of Last Inspection:	February 10, 2000 AAIP	**Certified Max Gross Wt.:**	
Time Since Last Inspection:	63.6 Hrs	**Engines:**	2 Turbo prop
Airframe Total Time:	4027.1 Hrs at time of accident	**Engine Manufacturer:**	Pratt & Whitney Canada
ELT:	Installed	**Engine Model/Series:**	PT6A-135A
Registered Owner:	Fred H. Hibberd Jr.	**Rated Power:**	750 Horsepower
Operator:	AEROHAWK AVIATION	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	IDA,4740 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	11:53 Local	**Direction from Accident Site:**	200°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	25°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.79 inches Hg	**Temperature/Dew Point:**	-6°C / -13°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	ID (IDA)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	VFR
Departure Time:	12:08 Local	**Type of Airspace:**	Class D

Airport Information

Airport:	Fanning Field IDA	**Runway Surface Type:**	
Airport Elevation:	4740 ft msl	**Runway Surface Condition:**	Unknown
Runway Used:		**IFR Approach:**	Unknown
Runway Length/Width:		**VFR Approach/Landing:**	Unknown

Wreckage and Impact Information

Crew Injuries:	2 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	43.536388,-112.063056

Administrative Information

Investigator In Charge (IIC):	Nesemeier, Gregg
Additional Participating Persons:	Daron Malmborg; FAA - Salt Lake City FSDO; Salt Lake City, UT Thomas Teplik; Cessna Aircraft Co.; Wichita, KS Thomas Berthe; Pratt & Whitney Canada Corp.; Longueuil,QC,Canada Thomas M Knopp; McCauley Propeller Systems; Vandalia, OH William K Stout; Aerospace Control Products, Inc.; Davenport, IA
Original Publish Date:	January 16, 2003
Last Revision Date:	
Investigation Class:	Class
Note:	
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