



National Transportation Safety Board Aviation Accident Factual Report

Location:	LANGLEY AFB, VA	Accident Number:	IAD98FA032
Date & Time:	03/01/1998, 0936 EST	Registration:	N62082
Aircraft:	Cessna 172P	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

HISTORY OF FLIGHT

On March 1, 1998, at 0936 eastern standard time, a Cessna 172P, N62082, was destroyed when it descended and collided with terrain and a building, while maneuvering at Langley Air Force Base (LFI), Virginia. The certificated commercial pilot and private pilot were fatally injured. Instrument meteorological conditions prevailed for the local personal flight that originated at LFI, at 0933. A visual flight rules flight plan was filed for the flight conducted under 14 CFR Part 91.

At 0933:48, N62082 was cleared for takeoff from Runway 08 at LFI. At 0935:02, the pilot transmitted: "Langley tower this is 62082, uh...we're going to come back for landing...uh...the ceiling is lower than we thought." The tower controller acknowledged the call and instructed N62082 to report when it reached the base leg of the traffic pattern.

The tower controller stated the airplane was over the departure end of Runway 08 when he acknowledged the radio call. He observed the airplane enter a climbing left turn and disappear from view. The controller said the radar display indicated the airplane was at 500 feet. The controller attempted to regain visual contact with the airplane by alternately scanning the radar display and the sky over the northern end of the airfield.

At 0935:40, the controller heard unintelligible cries over the tower frequency. He stated:

"A 'whoop' sound was made by the [aircraft]. I attempted communication with the [aircraft] on tower frequency and on VHF Emergency Frequency (Guard). I still could not physically see the [aircraft] and the target on the radar went from 500 feet to 300 feet, to no target at all almost instantly."

Several witnesses in proximity to the crash site reported they heard the airplane overhead. They reported the airplane could not be seen through the low cloud cover.

An Air Force Sergeant and his family were in the parking lot adjacent to the crash site. According to the Sergeant:

"I heard the noise of a plane much louder than a normal plane. It was very low but I couldn't see it. The fog was maybe 4 or 5 floors above the 10 story building. When the plane came out of the clouds she was in somewhat of a vertical drop."

According to his wife, "We could really hear a plane. It was loud. You knew it was low but the clouds were really dense, really thick. You could put maybe another one-quarter of the [10 story] building on top before reaching the clouds. The engine was running when it came out of the clouds. It sounded like it was too loud. I knew it was going to crash because it was in an awkward position. It never rotated, it came right on down. They must have been totally dependent on their instruments because they couldn't have seen anything."

Witness accounts differed in regard to the cessation of engine noise. Several witnesses described hearing the engine run until the sound of impact. Several more said the engine stopped just prior to impact. Two witnesses said they heard the engine sputter.

The accident occurred during the hours of daylight approximately 37 degrees, 5 minutes north latitude, and 76 degrees, 21 minutes west longitude.

PILOT INFORMATION

The first pilot listed herself as pilot-in-command on the DD Form 175 (Military Flight Plan). She was seated in the left seat and held a private pilot certificate with a rating for airplane single engine land. The first pilot was not instrument rated. She was issued a third class medical certificate February 21, 1996. According to a written statement from a Federal Aviation Administration (FAA) Principal Operations Inspector, a search of FAA records revealed "...[the] pilot in command of Cessna 172, N62082, did not have a current and valid medical certificate."

A review of the first pilot's logbook revealed she had 146 hours of total flight experience, of which 39 hours were in make and model. Further examination revealed she had approximately 4 hours of simulated instrument flight experience and no actual instrument flight experience.

The second pilot, seated in the right seat, held a commercial pilot certificate with ratings for airplane single engine land and instrument airplane. She was issued a second class medical certificate on May 13, 1997. A review of the second pilot's logbook revealed she had 448 hours of total flight experience, of which 105 were in make and model. Further examination revealed a total of 133.6 hours of simulated instrument flight experience, 2.5 hours of which were in the 30 days prior to the accident. The second pilot recorded 17.4 hours of actual instrument flight experience. In the 90 days prior to the accident, she recorded 1 hour of actual instrument flight experience, of which .2 hours were logged in the 30 days prior.

On August 30, 1997, the second pilot enrolled in an FAA approved Part 141 flight instructor certification course. An examination of the Flight Instructor Record Folder revealed the second pilot received 68.3 hours of flight instruction in that curriculum prior to the accident. Two of the training flights were dedicated to instrument flight and instrument flight maneuvers. The first was October 25, 1997, and was 1.7 hours in duration. The second instrument training flight occurred February 21, 1998, and was 2.0 hours in duration.

METEOROLOGICAL INFORMATION

Weather reported at LFI at the time of the accident was: measured ceiling 300 feet overcast and 4 miles visibility with mist. Winds were from 060 degrees at 10 knots. The temperature was 50 degrees and the dewpoint was 48 degrees.

In a written statement, the tower operator said: "The weather was really foggy almost immediately after the [aircraft] went down. The weather was nice prior to the [aircraft] calling and stating the weather was not what they expected. It was nice and clear in all quadrants with a little overcast/light fog to the east."

In a written statement, a weather observer said he went outside at 0930 to record the local observation. He said that he observed clouds approach from the northeast and that the ceiling was down to 300 feet. According to the observer, "I was aware of the forecast and I knew that these conditions were unexpected."

According to a copy of the local VFR flight plan filed by the first pilot, a weather briefing was received at 0800. Conditions reported at LFI at that time were VFR. The weather observation taken just prior to departure, at 0855, reported: few clouds at 500 feet with ceilings broken at 4,300 feet and 20,000 feet respectively.

The twenty-four hour forecast for LFI at 0800 was: visibility greater than 3 miles in mist with ceilings 3,500 feet broken and 5,000 feet overcast. At 0900, the forecast was amended for the hour between 0900 and 1000 to be: visibility approximately 4 miles in mist with a scattered layer of clouds at 200 feet. Forecast ceilings were for an overcast layer at 500 feet.

AERODROME INFORMATION

Langley Air Force Base was served by a concrete runway that was 10,000 feet long and 150 feet wide and oriented 080 and 260 degrees magnetic. The installation was situated on a peninsula bordered by the Chesapeake Bay immediately to the east and the James River to the south and west. The airport was controlled by a tower and shared Class D airspace with the Newport News/Williamsburg International Airport.

WRECKAGE INFORMATION

The wreckage was examined at the site on March 1, 1998, and all major components were

accounted for at the scene. Examination of the wreckage site revealed that the airplane collided with terrain and an electrical sub-station building in a residential area of the installation, approximately 1 mile from the center of the runway, in the vicinity of the downwind leg of the traffic pattern. The wreckage path was oriented 290 degrees and covered a distance of approximately 260 feet. The wreckage path was divided into 1 foot increments called wreckage points (WP).

The initial ground scars (3) were in line, centered on, and perpendicular to the wreckage path. The distance from the far left scar to the far right scar was approximately 8 feet 6 inches. At WP 1, immediately on top of the center scar, was a crater approximately 6 feet long, 5 feet wide, and 1 foot deep. A linear ground scar perpendicular to the wreckage path extended approximately 12 feet right of centerline.

The right aileron was found entangled in a tree at WP 18, approximately 6 feet right of centerline. The right door post was found at WP 33. The right main landing gear and the inboard section of the right wing were found at WP 39, 3 feet and 10 feet right of centerline respectively. The outboard section of the right wing was at WP 53.

The corner of the sub-station building struck by the airplane, and the main wreckage, were at WP 60. The corner of the building was destroyed and the engine was inside the building. Control cable continuity from the flight control quadrant to the rudder and elevators was confirmed. Cable continuity was also established to the point of left and right wing separation, where the cables appeared to fail in overload.

The black propeller with red spinner attached was separated from the engine. The propeller blades displayed similar bending, twisting, leading edge gouging, and chordwise scratching. The spinner displayed torsional damage. Red and black paint transfers were observed on the sub-station wall. The transfers displayed rotational smearing. Examination of the cockpit area produced no useful information due to impact damage.

The left wing separated from the airframe and came to rest at WP 260.

MEDICAL AND PATHOLOGICAL INFORMATION

Autopsies were performed on both pilots on March 2, 1998, by Dr. Leah L. Bush, of the Office of the Chief Medical Examiner, Norfolk, Virginia.

Toxicological testing reports from the FAA Toxicology Accident Research Laboratory, Oklahoma City, Oklahoma, revealed negative for drugs and alcohol for both pilots.

TESTS AND RESEARCH

The engine was examined at Langley Air Force Base on March 3, 1998. Examination of the engine revealed no pre-impact anomalies. The engine was rotated by hand and valvetrain

continuity was established. Compression was verified using the thumb method. The right magneto was destroyed by impact and the left magneto produced spark through all leads. All eight spark plugs were in good condition and the electrodes were light gray and tan in color.

Examination of the vacuum pump revealed the internal rotor was fractured. The vacuum drive coupling was intact. The internal elliptical diameter of the pump showed rotational marks. Examination of the attitude indicator revealed the internal parts were free in all axis. The internal case displayed rotational scoring.

According to a Recorded Radar Data Study by the National Transportation Safety Board's Office of Research and Engineering, examination of radar data revealed:

"...N62082 taking off from LFI Runway 08 at approximately 09:34:50 Eastern Standard Time (ES), climbing through 300 feet mean sea level (msl) altitude while maintaining runway heading, then entering a climbing left turn at approximately 70 knots groundspeed. The left turn continued until a west-southwest heading was established, then the airplane climbed abruptly to 800 feet msl followed by a rapid descent to the accident site."

ADDITIONAL INFORMATION

According to the weather limitations section of the Langley Aero Club Standard Operating Procedures manual, "The [pilot-in-command] is responsible for determining the current and forecast weather conditions prior to flight. For local VFR flights, the AWDS terminal at the flight planning desk may be used."

The airplane wreckage was released on March 3, 1998, to the manager of the Langley Air Force Base Aero Club.

Pilot Information

Certificate:	Private	Age:	49, Female
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	02/21/1996
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	146 hours (Total, all aircraft), 39 hours (Total, this make and model), 50 hours (Pilot In Command, all aircraft), 3 hours (Last 90 days, all aircraft), 2 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N62082
Model/Series:	172P 172P	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	17275207
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	02/25/1998, Annual	Certified Max Gross Wt.:	2400 lbs
Time Since Last Inspection:	6 Hours	Engines:	1 Reciprocating
Airframe Total Time:	6537 Hours	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-320-D2
Registered Owner:	UNITED STATES AIR FORCE	Rated Power:	160 hp
Operator:	LANGLEY AERO CLUB	Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	LFUV

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Day
Observation Facility, Elevation:	LFI, 11 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	0940 EST	Direction from Accident Site:	0°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	4 Miles
Lowest Ceiling:	Overcast / 300 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	60°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	10° C / 9° C
Precipitation and Obscuration:			
Departure Point:	(LFI)	Type of Flight Plan Filed:	VFR
Destination:		Type of Clearance:	VFR
Departure Time:	0933 EST	Type of Airspace:	Class D

Airport Information

Airport:	LANGLEY AIR FORCE BASE (LFI)	Runway Surface Type:	Concrete
Airport Elevation:	11 ft	Runway Surface Condition:	Dry
Runway Used:	8	IFR Approach:	None
Runway Length/Width:	10000 ft / 150 ft	VFR Approach/Landing:	Traffic Pattern

Wreckage and Impact Information

Crew Injuries:	2 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	BRIAN C RAYNER
Additional Participating Persons:	EDGAR E ROBERTS; RICHMOND, VA ROBERT G FIDDLER (CPT); LANGLEY, VA WILLIAM B WELCH; WICHITA, KS
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .