National Transportation Safety Board
Aviation Accident Final Report

Location:	Lytle Creek, California	**Accident Number:**	WPR10FA116
Date & Time:	January 18, 2010, 15:08 Local	**Registration:**	N2217B
Aircraft:	Cessna 340	**Aircraft Damage:**	Substantial
Defining Event:	Controlled flight into terr/obj (CFIT)	**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot was on a cross-country flight near mountainous terrain when he encountered clouds along the flight path. A comparison of recorded radar data and weather reports in the local area indicated that the pilot was maneuvering near the cloud bases in an area with low visibility and ceilings. Based on the erratic and circling flight path, it is likely that the pilot was having difficulty determining his location and desired flight track when the airplane collided with terrain. Postaccident examination of the airframe and engine revealed no mechanical failures or malfunctions that would have precluded normal operation.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's loss of situational awareness while maneuvering under a cloud layer and failure to maintain sufficient clearance from mountainous terrain.

Findings

Personnel issues	Incorrect action selection - Pilot
Aircraft	Altitude - Not attained/maintained
Environmental issues	Clouds - Effect on operation
Environmental issues	Mountainous/hilly terrain - Effect on operation
Personnel issues	Situational awareness - Pilot

Factual Information

HISTORY OF FLIGHT

On January 18, 2010, about 1508 Pacific standard time, a Cessna 340, N2217B, collided with terrain near Lytle Creek, California. The pilot/owner was operating the airplane under the provisions of 14 Code of Federal Regulations (CFR) Part 91. The certified private pilot and one passenger sustained fatal injuries; the airplane sustained substantial damage from impact forces. The cross-country personal flight departed Henderson, Nevada, about 1303, with a planned destination of Compton, California. Visual meteorological conditions prevailed, and no flight plan had been filed.

The pilot was scheduled to return to Compton on Monday, January 18, but his family reported that it was not unusual for him to stay an extra day. The Federal Aviation Administration (FAA) issued a family concerned alert notice (ALNOT) on January 20. The Civil Air Patrol (CAP) launched a search mission at 1750, and discovered the wreckage later that evening.

A review of recorded radar data depicted a target with a secondary 1200 (VFR) beacon code at a mode C reported altitude of 5,600 feet mean sea level (msl) that was 5 nm south of Henderson at 1304:26. The ensuing 1200 beacon code radar target return matched the projected flight path of the accident airplane. It climbed to 10,500 feet, and maintained that altitude about 40 minutes. It flew southwest until 1345:31 at 11,200 msl when target contact was lost. Contact of 1200 was reestablished in the vicinity at 1356:20 at 13,300 feet. The target maneuvered in a westward direction, completing several 360-degree turns until 1450:16 when the target contact was lost at 4,800 feet approximately 8 nm north northwest of the accident site in an area of mountainous terrain.

Recorded radar data from Southern California Terminal Radar Approach Control (SCT) indicated a target at 1454:32 at 2,500 feet msl (500 agl). The target began maneuvering with left and right turns and a circular flight path. The mode C reported altitude varied between 2,400 and 5,700 feet msl. The flight track ended at 1507 at 4,600 feet msl in the vicinity of the accident site.

A witness, who was a certified glider pilot, was heading southbound on the I-15 freeway in his car; he was just past the I-215 junction. He estimated that the time was about 1500, and noted that the visibility was bad. He observed a low flying airplane; he estimated that it was about 200 feet above ground level (agl), and just below the cloud cover. The airplane was a white, low wing twin with four windows, and it had pontoons on the end of the wings. He heard a roar as it went over him with the sound increasing as it approached him and decreasing as it moved away. He thought that the airplane was under full power without distress. He observed no smoke or vapors coming from the airplane. He estimated the speed at 160 knots. At first the airplane was level; then it was pulling up a little bit, and it made a slight left bank.

PERSONNEL INFORMATION

A review of Federal Aviation Administration (FAA) airman records revealed that the 47-year-

old pilot held a private pilot certificate with ratings for airplane single-engine land and multiengine land. He did not possess an instrument rating. He also possessed a mechanic's certificate with ratings for airframe and powerplant.

The pilot held a third-class medical certificate issued on February 24, 2006. It had no limitations or waivers.

In the wreckage, investigators found portions of a pilot's logbook that were torn and fragmented; the remnants were the outer half of the books' pages.

One side contained data columns for date, aircraft make and model, aircraft identification, points of departure and arrival, and the left portion of the remarks column. The last page recovered began on April 12, 2009; it had 10 entries for 2009, and the latest entry was on May 8. It had one entry after that, which was dated January 10.

The opposing pages recovered contained data columns for dual received, pilot-in-command (PIC) time, total flight time, and a portion of instrument time.

The page with the lowest flight time recorded 303.5 hours total time; 204.1 PIC; 110.3 dual received; 10.6 simulated instrument time; and 3.6 actual instrument time. The pages continued with sequential total flight times of 319.9, 354.7, 374.1, 393.1, and 412.3, which also indicated 261.2 total PIC time and 163.0 dual received. The next completed page's entries were not totaled; for this page, the IIC computed 34.7 hours total time, 33.2 PIC, and 1.5 dual received. The last page contained 11 entries; for this page, the IIC computed the total time as 27.3 hours, which were all PIC time.

Total time as of the last entry was about 474 hours with 321 hours as PIC.

A biennial proficiency check flight could not be identified.

AIRCRAFT INFORMATION

The airplane was a Cessna 340, serial number 340-0532. A review of the airplane's logbooks revealed that the airplane had an annual inspection on May 2, 2009. Total airframe time was 3,105 hours at that inspection; the Hobbs hour meter read 1,831. The last maintenance recorded in the airframe logbook was replacement of the wing locker fuel transfer pump on October 7, 2009, at a Hobbs time of 1,883.3 hours.

The left engine was a Teledyne Continental Motors TSIO-520-NcJ, serial number R-514510. Total time recorded on the engine at the last annual inspection was 367.7 hours since a rebuild by Western Skyways, Inc., Montrose, Colorado, on August 31, 2000. The engine was installed on N2217B on March 10, 2005. The last maintenance recorded was an oil and filter change on September 29, 2009, at a Hobbs time of 1,883.3 hours.

The right engine was a Teledyne Continental Motors TSIO-520-KcJ, serial number R-504251. Total time recorded on the engine at the last annual inspection was 3,157.3 hours. Time since major overhaul was 1,401 hours. The last maintenance recorded was an oil and filter change on

September 29, 2009, at a Hobbs time of 1,883.3 hours.

Fueling records at Henderson Executive Airport established that the airplane was last fueled on January 16, 2010, with the addition of 73.9 gallons of 100-octane low lead aviation fuel. The receipt indicated tips only per customer request; on the Cessna 340, the wingtip fuel tanks are the main fuel tanks.

METEOROLOGICAL INFORMATION

Investigators found no evidence that the pilot obtained a preflight weather brief, and no flight plan was filed.

The closest official weather observation station was San Bernardino International Airport (KSBD), San Bernardino, California, which was 11 nautical miles (nm) southeast of the accident site. The elevation of the weather observation station was 1,159 feet mean sea level (msl).

An aviation routine weather report (METAR) for KSBD was issued at 1453 PDT. It stated: winds from 150 degrees at 19 knots gusting to 31 knots; visibility 2 miles in rain and mist; skies 2,200 feet scattered, 5,000 feet broken, 6,500 feet overcast; temperature 12/54 degrees Celsius/Fahrenheit; dew point 11/52 degrees Celsius/Fahrenheit; altimeter 29.66 inches of mercury; and 94 percent relative humidity.

Ontario, California (KONT), was 12 nm southwest of the accident site. The elevation of the weather observation station was 944 feet mean sea level (msl).

An aviation routine weather report (METAR) for KONT was issued at 1453 PDT. It stated: winds from 220 degrees at 9 knots; visibility 3 miles; skies 600 feet scattered, 1,300 feet broken, 2,500 feet overcast; temperature 13/55 degrees Celsius/Fahrenheit; dew point 12/54 degrees Celsius/Fahrenheit; altimeter 29.69 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

Investigators from the NTSB, the FAA, Cessna Aircraft Company, and Teledyne Continental Motors (TCM) examined the wreckage on scene.

The first identified point of contact (FIPC) was a ground scar near the upper end of a draw, which opened up and went downhill to the north-northwest. The debris field was about 500 feet long and 150 feet wide on a magnetic bearing of 340 degrees, and the elevation was about 2,490 feet as depicted on a handheld global positioning satellite (GPS) unit. Both sides of the draw sloped about 60 degrees, and the FIPC was near the top of the left slope in the direction of flight.

The first third of the FIPC contained two separated propeller blades from the left engine; the third blade was not located or recovered. The central portion of the FIPC contained the rotating beacon housing (from the top of the vertical stabilizer), battery pieces (from the left wing), the circuit breaker panel (from the left side of the cockpit by the pilot's seat), and the vertical speed indicator (VSI). Downhill from the end of the FIPC were the three separated propeller blades

from the right engine. Both engines were in the creek at the bottom of the draw after the end of the FIPC.

The main wreckage consisted of the aft cabin area and empennage; near this section was a portion of the right wing. These pieces were about midway into the debris field along the debris path centerline. The master switch and magneto control panel (which was positioned immediately forward of the circuit breaker panel in the cockpit) was about 3/4 of the way into the debris field. The pilot and copilot seats were nearby; radios and instruments were the next pieces located. The last piece of debris located was the throttle quadrant with levers for the throttles, propellers, and mixture controls still attached.

MEDICAL AND PATHOLOGICAL INFORMATION

The San Bernardino County Coroner completed an autopsy, and determined that the cause of death was massive blunt force trauma. The FAA Forensic Toxicology Research Team, Oklahoma City, Oklahoma, performed toxicological testing of specimens of the pilot.

Analysis of the specimens for the pilot contained no findings for tested drugs in muscle. They did not perform tests for carbon monoxide or cyanide.

The report contained the following findings for volatiles: 19 (mg/dL, mg/hg) ethanol detected in muscle.

TESTS AND RESEARCH

Investigators examined the wreckage at a hangar in Chino, California, on January 27, 2010. Detailed examination notes are part of the public docket.

Airframe

The airplane was highly fragmented. Both wings separated in multiple locations; the leading edges of both wings were crushed aft. Both horizontal stabilizers and the vertical stabilizer separated from the empennage; they all had aft crush damage on the leading edge.

All flight control surfaces and balance weights were accounted for. Due to the extensive damage, flight control continuity could not be established; the control cables separated in multiple locations in a broomstraw fashion. The control yokes, rudder pedals, trim wheels, control knobs, and the attaching hardware sustained severe crush damage.

All of the landing gear separated and fragmented. The landing gear selector switch and landing gear position lights sustained severe damage. The landing gear actuator unit separated, and sustained heavy crush damage. The actuator gearbox bell-crank was in the gear up position.

Investigators identified no anomalies that would have precluded normal operation.

Left Engine

Investigators found the engine separated from the airframe; it sustained crush damage and partially fragmented. They could see internal components through the breach points.

Investigators identified no anomalies with the engine that would have precluded normal operation.

Right Engine

Investigators found the engine separated from the airframe; it sustained crush damage and partially fragmented. They could see internal components through the breach points.

Investigators identified no anomalies with the engine that would have precluded normal operation.

History of Flight

Maneuvering	Controlled flight into terr/obj (CFIT) (Defining event)

Pilot Information

Certificate:	Private	**Age:**	47,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 Without waivers/limitations	**Last FAA Medical Exam:**	February 24, 2006
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	474 hours (Total, all aircraft), 321 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N2217B
Model/Series:	340	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	340-0532
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	May 2, 2009 Annual	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:	3105 Hrs as of last inspection	**Engine Manufacturer:**	Teledyne Continental Motors
ELT:	Installed, not activated	**Engine Model/Series:**	TSIO-520
Registered Owner:		**Rated Power:**	
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KRAL,819 ft msl	**Distance from Accident Site:**	14 Nautical Miles
Observation Time:	15:01 Local	**Direction from Accident Site:**	350°
Lowest Cloud Condition:	Few / 800 ft AGL	**Visibility**	1 miles
Lowest Ceiling:	Broken / 1500 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.71 inches Hg	**Temperature/Dew Point:**	12°C / 12°C
Precipitation and Obscuration:	N/A - None - Mist		
Departure Point:	Henderson, NV (HEN)	**Type of Flight Plan Filed:**	None
Destination:	Compton, CA (CPM)	**Type of Clearance:**	None
Departure Time:	13:03 Local	**Type of Airspace:**	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	34.207221,-117.433052

Administrative Information

Investigator In Charge (IIC):	Plagens, Howard
Additional Participating Persons:	Jon Weston; Federal Aviation Administration FSDO; Riverside, CA Seth Buttner; Cessna Aircraft Company; Wichita, KS Andrew Swick; Teledyne Continental Motors; Mobile, AL
Original Publish Date:	October 4, 2012
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=75294