



Aviation Investigation Final Report

Location:	Bixby, Missouri	Accident Number:	CEN20FA003
Date & Time:	October 6, 2019, 08:49 Local	Registration:	N10LG
Aircraft:	Lancair Legacy	Aircraft Damage:	Substantial
Defining Event:	VFR encounter with IMC	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot departed on a visual flight rules (VFR) cross-country flight into marginal VFR weather conditions, and likely encountered instrument flight rules (IMC) conditions shortly thereafter. Radar data indicated that the airplane was flying south-southwest between 2,300 ft mean sea level (msl) and 2,800 ft msl, then entered a descent to about 1,525 ft msl before initiating a climbing, 270° left turn. Witnesses near the accident site reported a thick, low cloud cover and estimated that the airplane was flying within a few hundred feet of the ground. Radar contact with the airplane was lost at a groundspeed of 42 kts and altitude of 1,975 ft msl about 24 minutes after departure. Examination revealed no evidence of any pre-impact mechanical malfunctions or failures that would have precluded normal airplane and engine operation.

Although the pilot was instrument rated and the airplane was equipped for instrument flight, there was no evidence in the pilot's logbook to indicate that he was instrument current or proficient. There was no record of the pilot receiving preflight weather information from an official source. It is likely the pilot's lack of instrument currency and proficiency with his VFR flight into IMC conditions resulted in disorientation. The radar track data, sound witness reports, and wreckage distribution is consistent with a loss of control and the restricted visibility conditions were conducive to the development of spatial disorientation.

Probable Cause and Findings

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

The pilot's continued visual flight rules flight into instrument meteorological conditions, which resulted in a loss of control due to spatial disorientation.

Findings

Personnel issues	Decision making/judgment - Pilot
Environmental issues	Low ceiling - Decision related to condition
Environmental issues	Low visibility - Decision related to condition
Environmental issues	Drizzle/mist - Decision related to condition
Personnel issues	Spatial disorientation - Pilot
Aircraft	(general) - Not attained/maintained
Personnel issues	Aircraft control - Pilot

Factual Information

History of Flight

Enroute	VFR encounter with IMC (Defining event)
Maneuvering-low-alt flying	Loss of control in flight
Uncontrolled descent	Collision with terr/obj (non-CFIT)

On October 6, 2019, at 0849 central daylight time, an experimental, amateur-built Lancair Legacy airplane, N10LG, was destroyed when it was involved in an accident near Bixby, Missouri. The private pilot was fatally injured. The airplane operated as Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot flew the airplane from Texas to Missouri three days earlier to attend the Lancair Owners and Builder Organization's annual meeting; the accident occurred on the return flight. According to the Federal Aviation Administration (FAA), there was no record of the pilot obtaining a weather briefing or filing a flight plan before his departure.

Radar information showed the airplane depart about 0825 and establish a south-southwesterly heading at altitudes between about 2,300 ft mean sea level (msl) and 2,800 ft msl. About 0846, the airplane began a descent and reached a minimum altitude about 1,525 ft msl about 0849. Over the next minute, the airplane entered a climbing, 270° left turn and slowed to a speed of about 42 kts before radar contact was lost at 0849:49, at an altitude of 1,975 ft msl.

A witness about 3 miles from the accident site heard a single-engine airplane and reported that the engine sounded as though it was "revving high." He stated that it was "a bad day to be flying" because of the thick cloud cover and mist. He estimated that when the airplane passed over him, it was a few hundred feet above the ground or lower, and that he could not see it due to the low, thick cloud cover.

Another witness said that she heard a low-flying airplane and then the sound of impact. She described the weather as being overcast and "very low clouds." She added that, if the pilot had been below the clouds, "he would have been flying very low, nearly at tree top at the top of the hills."

The Civil Air Patrol received an emergency locator transmitter (ELT) signal and began an aerial search. The wreckage was located about 1615 about 5 miles south of Bixby, Missouri, in the Mark Twain National Forest.

Pilot Information

Certificate:	Private	Age:	65, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	4-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	February 1, 2016
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	(Estimated) 1590 hours (Total, all aircraft), 1590 hours (Total, this make and model), 33 hours (Last 90 days, all aircraft)		

The pilot held four Repairman- Experimental Aircraft Builder certificates. A partial copy of the pilot's logbook contained entries from October 22, 2018, to September 23, 2019 and indicated that the pilot had logged 108.6 hours in the accident airplane. During that time period, the pilot recorded .5 hrs actual instrument experience in September 2018.

Aircraft and Owner/Operator Information

Aircraft Make:	Lancair	Registration:	N10LG
Model/Series:	Legacy	Aircraft Category:	Airplane
Year of Manufacture:	2018	Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	L2K-343
Landing Gear Type:	Retractable - Tricycle	Seats:	2
Date/Type of Last Inspection:	October 17, 2019 Condition	Certified Max Gross Wt.:	22 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	CONTINENTAL
ELT:	C126 installed, activated, aided in locating accident	Engine Model/Series:	IO-550-N
Registered Owner:	On file	Rated Power:	350 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	Condition of Light:	Day
Observation Facility, Elevation:	KFAM, 946 ft msl	Distance from Accident Site:	
Observation Time:	08:51 Local	Direction from Accident Site:	
Lowest Cloud Condition:		Visibility	10 miles
Lowest Ceiling:	Overcast / 1500 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	300°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.12 inches Hg	Temperature/Dew Point:	16°C / 15°C
Precipitation and Obscuration:			
Departure Point:	Creve Coeur, MO (1HO)	Type of Flight Plan Filed:	None
Destination:	Spicewood, TX (88R)	Type of Clearance:	None
Departure Time:	08:25 Local	Type of Airspace:	Class G

The 0751 weather observation at Lambert-St. Louis International Airport (STL), located 7 miles east of the departure airport, included wind from 020° at 7 knots, 10 miles visibility, scattered clouds at 3,700 ft above ground level (agl), a broken ceiling at 2,000 ft agl, temperature 17°C, dew point 9°C, and an altimeter setting of 30.13 inches of mercury.

About the same time, the weather at Waynesville-St. Robert Regional Airport-Forney Field (TBN), Fort Leonard Wood, Missouri, located about 60 miles west of the accident site, included wind from 030° at 6 knots, 10 miles visibility, an overcast ceiling of 2,000 ft agl, temperature 15°C, dew point 10°C, and an altimeter setting of 30.12 inches of mercury. The cloud ceiling was reported in the remarks section as 1,900 ft agl.

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	37.361389,-91.066947

The airplane impacted heavily-wooded terrain in a flat attitude on a magnetic heading of 263°. Although there were some broken branches in the area, no trees had been toppled. The right wing separated 90° forward at the spar carry-through. The left wing remained attached.

The empennage was displaced to the right but remain attached to the fuselage. The engine remained attached but was displaced to the left. The 3-blade metal propeller separated from the crankshaft and was located next to the engine. One blade was relatively straight, the second blade was bent, and the third blade displayed s-bending and 90-degree chordwise scratches on both the cambered and flat surfaces. The propeller spinner was crushed to the right but remained attached to the hub. Examination of the airframe and engine revealed no anomalies that would have precluded normal operation.

Medical and Pathological Information

Toxicology testing performed by FAA's Forensic Sciences Laboratory found 54 mg/dL and 18 mg/dL ethanol in muscle and brain tissue, respectively. Putrefaction was noted. No drugs were detected in liver tissue.

Administrative Information

Investigator In Charge (IIC):	Scott, Arnold
Additional Participating Persons:	Louie L Bettis; FAA Flight Standards District Office; St. Louis, MO Harold E Aycocock; FAA Flight Standards District Office; St. Louis, MO Christopher N Lang; Continental Motors; Mexico, MO
Original Publish Date:	June 1, 2021
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=100368

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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](#).