



National Transportation Safety Board Aviation Accident Final Report

Location:	Bowie, AZ	Accident Number:	WPR18FA011
Date & Time:	10/19/2017, 0834 MST	Registration:	N259L
Aircraft:	Peterson Lancair Legacy	Aircraft Damage:	Substantial
Defining Event:	Birdstrike	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The pilot had planned to make a 745-nautical mile (nm) cross-country flight. A flight plan found in the wreckage indicated the pilot's intention to fly to the southeast and reach two checkpoints along the route of flight. Radar data revealed that, after the airplane reached the first planned checkpoint, the radar returns were equidistant as the airplane continued flying to the southeast. The last minute of radar data showed that the airplane descended about 2,300 ft while northwest of the second planned checkpoint, with the last radar return off the anticipated route. A witness located near the accident site stated that he observed the airplane circling toward the ground. The wreckage was found 17 nm northwest of the second planned checkpoint.

A postaccident examination of the wreckage revealed no evidence of any mechanical malfunctions or failures that would have precluded normal operation. Numerous pieces of windscreen and airplane were examined by the Smithsonian Institution's Feather Identification Lab. Of the 38 microslides that were prepared, 6 microslides contained bird feather fragments. Thus, given these results as well as the airplane's rapid descent from cruise flight, it is likely that a bird impacted the windscreen and caused the pilot to lose control of the airplane. It could not be determined from the available evidence if the bird strike hindered the pilot's ability to maneuver controls and/or incapacitated the pilot. The type of bird could also not be determined.

Probable Cause and Findings

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

An in-flight loss of control due to a bird strike.

Findings

Personnel issues	Aircraft control - Pilot (Cause)
Environmental issues	Animal(s)/bird(s) - Effect on operation (Cause) Animal(s)/bird(s) - Ability to respond/compensate (Cause)

Factual Information

History of Flight

Enroute-cruise	Birdstrike (Defining event) Loss of control in flight
Uncontrolled descent	Collision with terr/obj (non-CFIT)

On October 19, 2017, at 0834 mountain standard time, a Peterson Lancair Legacy 2000, N259L, departed controlled flight and collided with desert terrain near Bowie, Arizona. The commercial pilot was fatally injured, and the airplane was substantially damaged. The pilot, who built the airplane, was operating the airplane as a Title 14 *Code of Federal Regulations* (CFR) Part 91 personal flight. The cross-country flight departed from Eagle Roost Airpark, Aguila, Arizona, about 0810 with a planned destination of Garner Field, Uvalde, Texas. Visual meteorological conditions prevailed at the time of the accident.

The pilot had planned to fly the airplane from its base in Aguila to Uvalde, about 745 nautical miles (nm) to the southeast to attend a fly-in. A flight plan outlining the pilot's intended route of flight was found in the wreckage. The flight plan showed that the pilot planned to depart at 0810 and reach the Buckeye VORTAC at 0839 and the San Simon VORTAC located about 210 nm southeast of the Buckeye VORTAC.

Federal Aviation Administration (FAA) radar data revealed that the airplane flew southeast at a cruising altitude of about 10,000 ft mean sea level (msl). The last nine radar returns occurred between 0833:16 to 0834:13. During that time, the airplane's altitude decreased from 9,850 to 7,550 ft msl. The last radar return was located about 100 ft east of the accident location (see figure 1). The airplane wreckage was located about 17 nm northwest of the San Simon VORTAC.

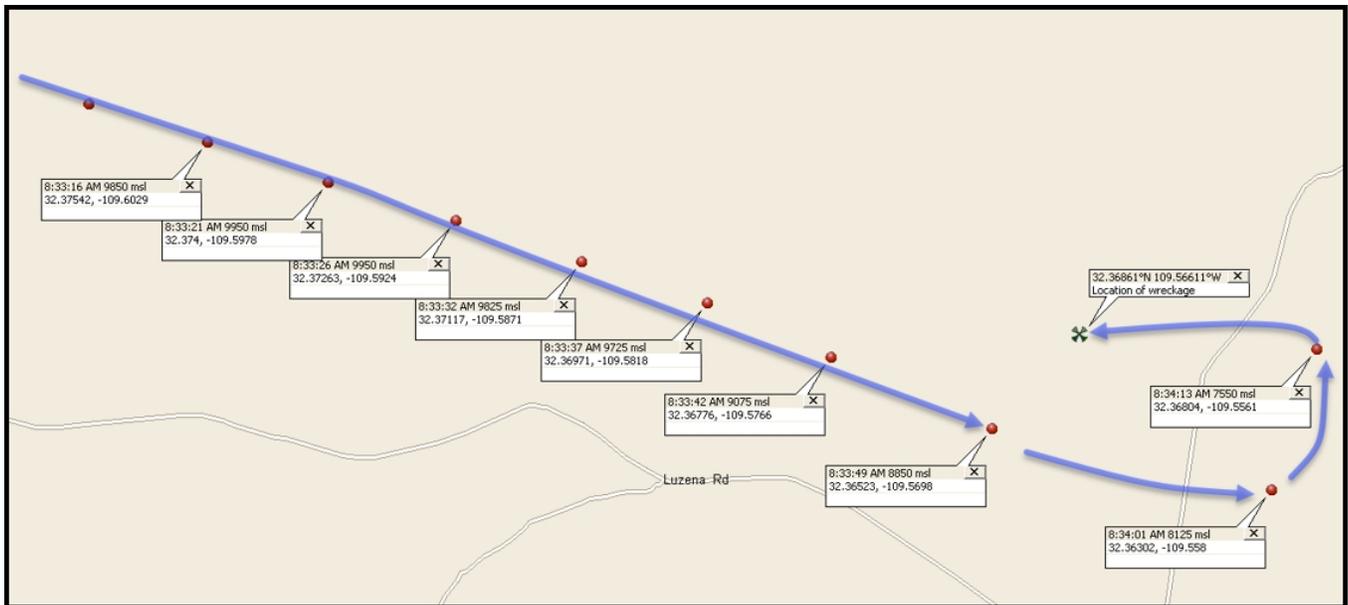


Figure 1. Last radar returns for the accident flight.

A witness who was in his front yard, located 0.8 nm south-southeast of the accident site, heard the airplane flying overhead. He then observed the airplane circling toward the ground, similar to an air show airplane maneuver. He reported that the sound emanating from the airplane was cutting in and out, as if the engine was sputtering, but he stated that the sound of the engine's rotation could have been echoing from the hills.

WRECKAGE AND IMPACT INFORMATION

The wreckage was located in unpopulated desert terrain at an elevation of about 3,860 ft msl. The debris path at the accident site stretched more than 120 ft along a heading of about 155°.

The left- and right-wing pieces were accounted for at the accident site. Both wings sustained crush deformation, with the leading-edge skin found forward in the debris field and not attached to the main wing section. The fuel caps and their respective flanges were found forward of their respective wings, consistent with fuel inside the wing forcing the cap outward during impact.

The canopy was found within the debris field and was fragmented into multiple sections. The latching mechanisms for both the left and right sides were consistent with the canopy being latched at the time of impact.

Control surface continuity could not be established due to the severe fragmentation of the flight control surfaces and their linkages to the cockpit controls.

The engine had sustained impact damage. The crankshaft could not be rotated despite several attempts to do so. The top spark plugs were removed, revealing a light gray coloration, which was consistent with normal operation. The cylinders were examined through the spark plug holes, revealing that the combustion chambers were mechanically undamaged and that there was no evidence of foreign object ingestion or detonation. The valves were intact and undamaged. There was no evidence of valve-to-piston face contact. The gas path and combustion signatures observed at the spark plugs, combustion chambers and exhaust system components displayed coloration that was consistent with normal operation.

One propeller blade was visible at the accident site and was found relatively straight with no evidence of twisting. The other blade was buried under the engine and had separated with the tip oriented toward the firewall and the hub near the propeller spinner. This blade was twisted at the tip and contained a 4-inch gouge where a portion of the outboard leading-edge piece had become separated; the piece was found buried near the remainder of the blade.

The fuel selector was found with the handle pointing to the left tank position. The position of the fuel selector valve was in the left position. The selector was found in several pieces. The fuel filter was partially disassembled, and the screen was found to be clean. The fuel servo was disassembled and found to contain liquid that had a smell similar to AVGAS, the diaphragms were pliable, and the valve was intact. The transducer was disassembled, and, when air was forced through the inlet, the internal wheel could be heard rotating. Removal of the fuel manifold (spider) revealed no evidence of liquid, the diaphragm was pliable, and the spring was intact.

Postaccident examination of the airframe and engine found no evidence of any mechanical malfunctions or failures that would have precluded normal operation.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy of the pilot was performed by the Pima County Office of the Medical Examiner, Tucson, Arizona. The pilot's cause of death was blunt force injuries. Toxicology testing performed at the FAA Forensic Sciences Laboratory was negative for ethanol and all tested drugs.

TESTS AND RESEARCH

Numerous pieces of windscreen and airplane were sent to the Smithsonian Institution's Feather Identification Lab for examination. DNA analysis was conducted on eight samples of various windscreen pieces. None of the samples contained avian DNA. A microscopic examination was conducted on all of the pieces, and a total of 38 microslides were prepared from the material. Six of these microslides contained bird feather fragments. The feather material consisted of two pennaceous feather parts and four downy feather parts. None of the feather fragments were attributed to a specific bird species or group, but numerous birds could be excluded based on the microscopic structures found in the samples, including ducks, doves, and perching birds.

The Audubon Society chapter closest to the accident location stated that it would be possible to see sandhill cranes or raptors, such as Swainson's hawks, in the area where the accident occurred.

Pilot Information

Certificate:	Commercial	Age:	68, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Unknown
Other Aircraft Rating(s):	None	Restraint Used:	
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:	09/05/2017
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	3500 hours (Total, all aircraft), 184 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Peterson Lancair	Registration:	N259L
Model/Series:	Legacy 2000	Aircraft Category:	Airplane
Year of Manufacture:	2005	Amateur Built:	Yes
Airworthiness Certificate:	Experimental	Serial Number:	L2K-180
Landing Gear Type:	Retractable - Tricycle	Seats:	2
Date/Type of Last Inspection:	07/05/2017, Condition	Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	399 Hours as of last inspection	Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	IO-360-C1D6
Registered Owner:	On file	Rated Power:	200 hp
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	KSAD, 3176 ft msl	Distance from Accident Site:	29 Nautical Miles
Observation Time:	1551 UTC	Direction from Accident Site:	353°
Lowest Cloud Condition:	Clear	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	150°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	23° C / 7° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	AGUILA, AZ (27AZ)	Type of Flight Plan Filed:	VFR
Destination:	UVALDE, TX (UVA)	Type of Clearance:	Unknown
Departure Time:	0710 MST	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	32.368611, -109.566111 (est)

Administrative Information

Investigator In Charge (IIC):	Zoe Keliher	Report Date:	04/20/2020
Additional Participating Persons:	Leon Kelly; Federal Aviation Administration; Scottsdale, AZ Mark Platt; Textron Lycoming; Williamsport, PA		
Publish Date:	04/20/2020		
Note:	The NTSB traveled to the scene of this accident.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=96216		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).