



# Aviation Investigation Final Report

<b>Location:</b>	Oldenburg, Indiana	<b>Accident Number:</b>	CEN18FA053
<b>Date &amp; Time:</b>	December 16, 2017, 20:57 Local	<b>Registration:</b>	N761YZ
<b>Aircraft:</b>	Cessna T210M	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>	Powerplant sys/comp malf/fail	<b>Injuries:</b>	3 Fatal
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The airline transport pilot and two passengers, one of whom was pilot-rated, were conducting a cross-country flight in dark, night visual conditions. During an en route climb to the assigned cruise altitude, the airplane experienced a loss of engine power about 6,600 ft above ground level (agl). The pilot identified a diversionary airport located about 4 miles northeast of the airplane's position and subsequently established a course toward that airport. The air traffic controller immediately informed the pilot that the airport was closed. However, based on the pilot's stated intention to divert to the airport, the controller provided radar vectors to assist the pilot. The airplane subsequently overflew the airport about 3,000 ft agl. However, instead of circling the airport, the pilot continued about 1 1/2 miles north and entered a right gliding turn until the airplane impacted trees and terrain about 2 miles north of the airport.

A postaccident airframe examination did not reveal any anomalies consistent with an airframe structural failure or a malfunction of the flight control system. An engine examination revealed that the No. 4 piston had failed. Specifically, the perimeter of the No. 4 piston crown had separated, resulting in the separation of the upper compression ring and compression ring insert. Metallurgical examination determined that the piston failure was caused by the disbonding of the upper piston ring insert from the piston body. Lead deposits were present on parts of the piston body that formed an interface with the insert. The deposits were abraded in areas exposing the underlying piston material. The abraded areas where the deposits had been worn away could only have occurred if the upper piston ring insert had disbonded from the piston body before the piston failed. The disbonding of the insert was likely caused by a manufacturing anomaly; however, due to the extensive damage to the piston and the insert, it was not possible to determine with any more precision where the failure started or the nature of the defect that might have caused it.

An airplane performance study revealed that no airports other than the diversionary airport were within the power-off glide range of the airplane at the time of the loss of engine power. Thus, the location of the airplane at the time of the loss of engine power presented the pilot with limited options for a forced landing. Furthermore, the pilot's ability to discern a suitable off-airport landing area was hindered by the

dark night lighting conditions. Although, an interstate highway was below the airplane, attempting to execute a forced landing on an unlighted roadway at night presented significant hazards. In contrast, approach paths to an airport are generally free of obstructions. Therefore, the pilot's decision to alter course toward the diversionary airport, even though it was closed and unlighted, was understandable. However, once the airplane was positioned over the airport, the pilot did not circle but continued to fly north into an area with more limited opportunities for a successful forced landing.

A review of the available medical information did not reveal the presence of any condition or medication that would have led to an incapacitation or impairment of the pilot. However, the pilot was likely fatigued at the time of the accident due to the length of time he had been awake, and the significant amount of flight time completed on the day of the accident. This may have narrowed the pilot's attention during the emergency. Additionally, situational stress imposed by the engine failure and the necessity to find a forced landing site in dark night conditions further reduced the pilot's ability to maintain situational awareness.

The pilot-rated passenger's medical history included conditions and medications that, while unlikely to cause any sudden incapacitation, could potentially be impairing. However, the investigation was unable to determine the extent of impairment, if any, that might have been present at the time of the accident.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A total loss of engine power due to the failure of the No. 4 piston, which resulted in an attempted forced landing in dark night conditions and a subsequent in-flight collision with trees and terrain. Contributing to the accident were the pilot's situational stress and fatigue, both of which degraded his performance.

Findings	
Aircraft	Recip eng cyl section - Damaged/degraded
Aircraft	Recip eng cyl section - Failure
Personnel issues	Decision making/judgment - Pilot
Environmental issues	Dark - Effect on personnel
Personnel issues	(general) - Pilot
Personnel issues	Stress - Pilot

# Factual Information

## History of Flight

Enroute-climb to cruise	Powerplant sys/comp malf/fail (Defining event)
Enroute-climb to cruise	Loss of engine power (partial)
Emergency descent	Loss of engine power (total)
Emergency descent	Off-field or emergency landing
Emergency descent	Collision with terr/obj (non-CFIT)

On December 16, 2017, at 2057 eastern standard time, a Cessna T210M airplane, N761YZ, impacted trees and terrain following a loss of engine power near Oldenburg, Indiana. The pilot, pilot-rated passenger, and passenger were fatally injured. The airplane was destroyed by impact forces and a postimpact fire. The airplane was registered to N761YZ LLC and was operated by the pilot as a Title 14 *Code of Federal Regulations (CFR)* Part 91 personal flight. Dark night visual meteorological conditions prevailed along the route of flight, and the flight was operated on an instrument flight rules (IFR) flight plan. The flight originated from the Columbus Municipal Airport (BAK), Columbus, Indiana, at 2039 and was destined for the Frederick Municipal Airport (FDK), Frederick, Maryland.

Flight tracking data indicated that the airplane departed FDK about 0723 on the morning of the accident and arrived at BAK about 1059. Fixed base operator (FBO) fueling records revealed that an individual associated with the accident airplane purchased fuel at 1202. The airplane departed BAK about 1207 and arrived at the Charles B Wheeler Downtown Airport (MKC), Kansas City, Missouri, about 1542. (All times presented in this report are eastern standard time.)

About 1632, the pilot obtained preflight weather briefings and filed IFR flight plans using ForeFlight Mobile for the routes from MKC to BAK, and from BAK to FDK. Flight tracking data indicated that the airplane subsequently departed MKC about 1657 and arrived at BAK about 1927. Fueling records revealed that an individual associated with the accident airplane purchased fuel at 2032.

Federal Aviation Administration (FAA) air traffic control (ATC) automatic dependent surveillance – broadcast (ADS-B) and radio communications data were reviewed. The pilot-rated passenger was handling radio communications during the initial portion of the flight. The pilot handled the radio communications after the initial report of the emergency.

The flight departed BAK from runway 23. After takeoff, the airplane turned left and proceeded on an easterly course. The controller instructed the pilot to climb and maintain 11,000 ft mean sea level (msl). About 2052, the airplane reached an altitude of about 7,450 ft msl before beginning a gradual descent. The airplane was about 26 miles east of BAK and 4 miles southwest of the Batesville Airport (HLB), Batesville, Indiana, at that time.

At 2052:14, the pilot-rated passenger informed the controller, "we are having an emergency." The controller was coordinating with another controller at the time of that transmission and did not reply. At

2052:30, the pilot transmitted "mayday, mayday, mayday" and informed the controller that they were experiencing a "partial engine failure." The pilot also asked about diverting to HLB, which he noted was 3.6 miles from the airplane's current position. The controller confirmed that HLB was the closest airport, but also informed the pilot that the airport was listed as closed.

About 2053, the airplane began a gradual left turn toward HLB. At 2053:11, the pilot asked about turning on the runway lights. The controller replied that he would look up the frequency but noted, "I'm not sure if they are working, the airport is listed as closed." At 2053:23, the pilot transmitted, "we're not gonna make it we're not gonna make it ah but two point three miles that's all we have that's all we have." The airplane was about 5,700 ft msl at that time. At 2053:30, the controller informed the pilot that HLB was ahead and to his left, at a 9 to 10-o'clock position and 3 miles. The controller added that if the pilot turned "due north now" the airplane would be lined up with runway 36, but likely a "little high." The pilot responded that it didn't matter; he could circle. At 2053:52, the controller informed the pilot that the airplane was about 1 mile south of HLB.

About 2054:46, the airplane flew past HLB northbound about 4,000 ft msl. At 2054:55, the controller informed the pilot that the airplane was "directly over" the airport. At 2055:21, the controller provided the pilot the common traffic advisory frequency (CTAF) for HLB and added, "see if that can turn on the lights sir." The airplane subsequently proceeded about 1-1/2 miles north of the airport and entered a right turn. At 2056:00, during the turn, the controller advised the pilot that the airplane was about 3 miles north of the airport and suggested turning south at that time. The controller also reissued the HLB CTAF. The airplane briefly became established on an east-southeast course before entering a right turn to a westerly course. At 2056:43, the controller informed the pilot that the airplane was 2 miles northeast of the airport. The pilot replied, "I am southwest now sir." No further transmissions were received from the pilot. At 2056:57, the controller informed the pilot that the airport was at a 2 to 3-o'clock position and 2-1/2 miles. The airplane subsequently impacted trees and terrain.

The final ADS-B data point was recorded at 2057:28 and located about 1-1/2 miles northeast of the HLB runway 18 approach threshold; this was about 2/3 mile southeast of the accident site. The altitude associated with the final data point was 1,200 ft msl.

A witness reported that he had observed the airplane fly past his house at a low level. He recalled that it was "quiet" with no engine noise. The airplane appeared to be level and intact at the time, and the airplane's lights were illuminated. He was about 1/3 mile south-southeast of the accident site. Shortly afterward, he heard the sound of the impact.

An NTSB airplane performance study was conducted. The study assumed a total loss of engine power (zero thrust condition) beginning at the location of the maximum altitude recorded in the ADS-B data. The exact airplane weight at the time of the accident was not available; a maximum gross weight of 3,800 lbs. was used for the study. The glide calculations were performed at two airspeeds: the best glide speed of 85 knots as published by the airframe manufacturer (85 knots); and a representative value of the actual airspeed as flown during the descent (105 knots). The study revealed that the glide performance at 105 knots was about 8% less than at the best glide speed of 85 knots. However, regardless of whether the glide was performed at 105 or 85 knots, the airplane was not within power-off glide range of any airport other than HLB.

## Pilot Information

<b>Certificate:</b>	Airline transport; Flight instructor	<b>Age:</b>	63, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	3-point
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane multi-engine; Airplane single-engine; Instrument airplane	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 2 With waivers/limitations	<b>Last FAA Medical Exam:</b>	August 30, 2016
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	July 27, 2016
<b>Flight Time:</b>	2986 hours (Total, all aircraft), 2902 hours (Pilot In Command, all aircraft), 31 hours (Last 90 days, all aircraft), 12 hours (Last 30 days, all aircraft), 10 hours (Last 24 hours, all aircraft)		

## Pilot-rated passenger Information

<b>Certificate:</b>	Commercial; Flight instructor	<b>Age:</b>	65, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	3-point
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane single-engine; Instrument airplane	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 3 With waivers/limitations	<b>Last FAA Medical Exam:</b>	October 28, 2015
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	April 2, 2016
<b>Flight Time:</b>	2136 hours (Total, all aircraft), 1998 hours (Pilot In Command, all aircraft)		

### *Pilot*

The pilot held an airline transport pilot certificate with single and multi-engine land airplane ratings. He also held a flight instructor certificate with single and multi-engine airplane, and instrument airplane ratings. He was issued a second-class airman medical certificate on August 30, 2016, with a limitation for corrective lenses. According to the pilot's logbook, his most recent flight review was completed on July 27, 2016.

The pilot's final logbook entry was dated November 18, 2017. He had logged a total of 2,986.0 flight hours, with 2,902.8 hours as pilot-in-command and 1,363.9 hours as flight instructor. Of that total flight time, 2,006.4 hours were logged in single-engine airplanes, 979.6 hours in multi-engine airplanes, 291.2 hours as night flight time, 318.6 hours in actual instrument conditions, and 152.2 hours in simulated instrument conditions.

During the 2-year period preceding the accident, the pilot had logged 35.8 hours in the accident airplane. He had accumulated about 10 hours additional flight time on the day of the accident; all in the accident airplane.

The pilot was listed as the pilot-in-command for each flight on the day of the accident, including the

accident flight. FAA regulations (14 *CFR* 91.3) stated that "in an in-flight emergency requiring immediate action, the pilot in command may deviate from any rule contained of this part to the extent required to meet that emergency."

#### *Pilot-rated Passenger*

The pilot-rated passenger held a commercial pilot certificate with single-engine land airplane and instrument airplane ratings. He held a current flight instructor certificate with single-engine airplane and instrument airplane ratings. He also held a ground instructor certificate with advanced and instrument ratings. His was issued a medical certificate on October 28, 2015, with a limitation for near vision corrective lenses. The certificate had expired on October 31, 2017. FAA records indicated that he had not applied for a subsequent medical certificate, nor had he applied for BasicMed. According to the pilot-rated passenger's logbook, his most recent flight review was completed on April 2, 2016.

The pilot-rated passenger's final logbook entry was dated October 30, 2017. He had logged a total of 2,136.7 hours flight experience, with 1,998.0 hours as pilot-in-command and 782.6 hours as flight instructor. Of that total flight time, 2,085.2 hours were logged in single-engine airplanes, 265.2 hours as night flight time, 31.0 hours in actual instrument conditions, and 516.1 hours in simulated instrument conditions.

The pilot-rated passenger was not a required flight crew member. As a result, there was no requirement for him to maintain medical currency as a passenger.

#### **Aircraft and Owner/Operator Information**

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N761YZ
<b>Model/Series:</b>	T210M	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1978	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	21062637
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	6
<b>Date/Type of Last Inspection:</b>	June 1, 2017 Annual	<b>Certified Max Gross Wt.:</b>	3803 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	4905 Hrs as of last inspection	<b>Engine Manufacturer:</b>	CONT MOTOR
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	TSIO-520 SER
<b>Registered Owner:</b>	On file	<b>Rated Power:</b>	310 Horsepower
<b>Operator:</b>	On file	<b>Operating Certificate(s) Held:</b>	None

The airplane was issued an FAA normal category, standard airworthiness certificate in July 1978. The current owner purchased the airplane in December 2000. As specified in the FAA type certificate data sheet, the minimum required flight crew was one pilot. A second pilot (co-pilot) was not required for the operation of the airplane. The airplane was not equipped, nor was it required to be equipped, with either a cockpit voice recorder or a flight data recorder.

Maintenance records revealed that the engine was overhauled in June 2007 at 4,655.2 hours total airframe time. New cylinders and pistons were installed at the time of the overhaul. An avionics upgrade that included the installation of a Garmin GNS530W GPS/nav/comm unit with mapping functionality was completed in May 2017. The most recent annual inspection was completed in June 2017 at total airframe and engine operating times of 4,904.9 hours. At the time of the inspection, the engine had accumulated 249.7 hours since overhaul. The tachometer was destroyed by the postimpact fire. As a result, the airframe and engine operating times at the time of the accident could not be determined.

### Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Night/dark
<b>Observation Facility, Elevation:</b>	HLB,975 ft msl	<b>Distance from Accident Site:</b>	2 Nautical Miles
<b>Observation Time:</b>	20:55 Local	<b>Direction from Accident Site:</b>	195°
<b>Lowest Cloud Condition:</b>		<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	Overcast / 7500 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	5 knots / None	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>		<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.1 inches Hg	<b>Temperature/Dew Point:</b>	5°C / -2°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Columbus, IN (BAK )	<b>Type of Flight Plan Filed:</b>	IFR
<b>Destination:</b>	Frederick, MD (FDK )	<b>Type of Clearance:</b>	IFR
<b>Departure Time:</b>	20:39 Local	<b>Type of Airspace:</b>	Class G

The National Weather Service surface analysis chart current at the time of the accident depicted clear skies and winds from the south at 10 knots or less for the station models surrounding the accident site. The surface analysis did not depict any significant weather in the vicinity of the accident site. The regional weather radar mosaic immediately surrounding the time of the accident depicted no significant echoes over the route. No in-flight weather advisories were in effect. The current winds aloft forecast noted southwesterly winds at 36 knots or greater at 3,000 ft msl.

At 2045, the BAK automated weather observing system (AWOS) recorded clear skies, a wind from 190° at 9 knots, and 10 miles visibility.

The HLB automated AWOS remained operational even though the airport was closed. At 2055, the HLB AWOS recorded overcast clouds at 7,500 ft above ground level, variable wind at 5 knots, and 10 miles visibility. The AWOS was not equipped with a precipitation discriminator; as such, no precipitation data were available.

Both the moon and the sun were more than 15° below the horizon and provided no illumination. Dark night conditions existed at the time of the accident.



## Airport Information

<b>Airport:</b>	Batesville HLB	<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>	975 ft msl	<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>		<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	Forced landing

HLB was a privately-owned, non-towered airport served by a single 5,950 ft long north-south asphalt runway. An FAA notice to airmen (NOTAM) indicated that HLB was closed from December 6, 2017, until March 5, 2018. The NOTAM was included with the pre-flight briefing information provided to the pilot. NOTAMs related to instrument approaches at HLB corresponded to special GPS approaches developed for a specific group of pilots. Special approach procedures are not available to the general pilot community and are not included in a GPS database. No instrument approaches were available to the pilot at HLB.

A representative of the airport reported that it had been closed for business reasons after consultation with the Indiana Department of Transportation (IDOT) and FAA personnel. In accordance with IDOT and FAA guidance, the runway pavement was marked with "X's" to indicate that it was closed, and the runway lighting and rotating beacon had been disabled. In addition, equipment was placed on the runway to further indicate the closed status to pilots.

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Fatal	<b>Aircraft Damage:</b>	Destroyed
<b>Passenger Injuries:</b>	2 Fatal	<b>Aircraft Fire:</b>	On-ground
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	3 Fatal	<b>Latitude, Longitude:</b>	39.372501,-85.248054

The accident site was located in a wooded ravine about 2 miles north of HLB. The debris path was oriented on an approximate 315° magnetic course. The initial tree strike was located about 190 ft southeast of the main wreckage. The main wreckage consisted of the fuselage, right wing, and engine. The right-wing tip had separated and was located in a tree at the initial impact point. The left wing, empennage and propeller were separated and located in the debris path. The wing flaps were up and the landing gear was retracted at the time of impact.

An airframe examination did not reveal evidence of any anomalies consistent with a preimpact structural failure or flight control system malfunction. A teardown examination of the 6-cylinder engine revealed that the No. 4 piston had failed. (A detailed summary of the airframe and engine examinations is included in the docket associated with the investigation.)

The engine examination revealed extensive damage to the No. 4 piston. The cylinders, remaining pistons and valves exhibited mechanical damage consistent with impact (peening) from the piston and ring fragments. Examination of the induction and exhaust system revealed a significant amount of metallic



debris, consistent with piston and piston ring material, in the intake balance tube and the exhaust system. No debris was observed within the oil sump.

The engine pistons were fabricated from a cast aluminum alloy. The upper piston compression ring groove was made from an austenitic cast iron insert. The insert was cast into the piston and then machined. A metallurgical examination of the No.4 piston revealed that the entire perimeter of the piston had separated from the crown to the upper piston ring land. The upper compression ring groove insert was also separated and fragmented. The upper piston compression ring was liberated during the failure sequence and subsequently fractured into multiple smaller pieces. Secondary mechanical damage to the fragments obscured the fracture surfaces and precluded a determination of the cause of most of the fractures. The fracture surfaces that could be examined were consistent with overstress fractures.

Further examination revealed that portions of the piston that had been bonded to the compression ring insert were covered with lead deposits but that those areas had been worn away exposing the underlying material. The lower piston interface that had supported the insert exhibited a 0.004-inch step. None of the other pistons exhibited either the lead deposits or the step. In addition, the No. 4 cylinder wall and the No. 4 piston skirt both displayed corresponding scuff marks on the lower side of the cylinder barrel; neither displayed any scuffing on the upper side.

## Medical and Pathological Information

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### *Pilot*

The Hamilton County Coroner's Office conducted an autopsy on the pilot and determined that the cause of death was multiple blunt force injuries sustained in the accident. The FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, performed toxicology testing on specimens of the pilot that identified atenolol, azacyclonol, and fexofenadine in blood and liver tissue samples. No ethanol was detected in vitreous fluid. The blood sample was not suitable for carbon monoxide testing.

Atenolol is a beta blocker commonly used in the treatment of hypertension. Azacyclonol is the active metabolite of fexofenadine and terfenadine. Fexofenadine is an over-the-counter antihistamine commonly used to manage allergy symptoms.

### *Pilot-rated Passenger*

The Hamilton County Coroner's Office conducted an autopsy on the pilot-rated passenger and determined that the cause of death was multiple blunt force injuries sustained in the accident. The autopsy also revealed that the pilot-rated passenger had significant cancer metastasis. No evidence of thrombus, metastatic brain lesions, or acute coronary or nervous system disease that would be contributory to his death were noted.

The FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, performed toxicology testing on specimens from the pilot-rated passenger that identified: acetaminophen in urine; 0.0024 µg/mL of 11-nor-9-carboxy-delta-9- tetrahydrocannabinol (THC, the main psychoactive

component in marijuana) in blood; 0.0466 µg/mL of 11-nor-9-carboxy-delta-9- THC (an inactive metabolite of THC) in urine; 0.0142 µg/mL of 11-hydroxy-delta-9-THC (an active metabolite of THC) in urine but none in blood; atorvastatin, famotidine, and ranitidine in blood and liver tissue; and 0.099 µg/mL of diphenhydramine in blood.

Acetaminophen is an over-the-counter analgesic medication commonly used for pain management. Atorvastatin is a prescription statin medication commonly used to lower cholesterol. Famotidine and ranitidine are medications commonly used to treat stomach ulcers or severe reflux. These drugs are not generally considered impairing. Diphenhydramine is an over-the-counter sedating antihistamine commonly used to manage allergy symptoms or as a sleep aid.

The pilot-rated passenger's medical history included high cholesterol and known metastatic cancer for which he had had multiple treatments. He was using the prescribed medications to treat his cholesterol and his symptoms from the cancer and the effects of its treatment.

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Sorensen, Timothy
<b>Additional Participating Persons:</b>	Patrick Hempen; FAA Accident Investigation; Washington, DC Ricardo Asensio; Textron Aviation; Wichita, KS Nicole Charnon; Continental Motors; Mobile, AL William Ross; Superior Air Parts; Coppel, TX
<b>Original Publish Date:</b>	July 16, 2019
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	The NTSB traveled to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=96487">https://data.nts.gov/Docket?ProjectID=96487</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).