



Aviation Investigation Final Report

Location:	LaPorte, Texas	Accident Number:	CEN18LA340
Date & Time:	August 20, 2018, 06:20 Local	Registration:	N6860W
Aircraft:	Beech B36TC	Aircraft Damage:	Destroyed
Defining Event:	Loss of engine power (total)	Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The student pilot was conducting a local flight. He said that during the initial climb, the engine began to make a "weird very loud sound" and that the engine started to lose power. He stated that the "engine noise started to get louder and power was almost gone." When he activated the auxiliary fuel pump, the engine noise became "real loud" and sounded "very deep." The airplane was descending, and the student pilot performed a forced landing near a housing development. During the landing, the right wing separated and the airplane's cabin collapsed inward. Although a Federal Aviation Administration inspector expressed concerns about the exhaust pipe v-band clamp, the nature of those concerns were not conveyed to the NTSB. The airplane's engine was removed and later examined and test run at the manufacturer. During a postaccident examination, the v-band clamp was found to be loose and could have allowed manual rotation of the turbo outlet collar. However, it could not be determined what effect this may have had on the accident. The examination also revealed that the induction hoses to and from the intercooler were both torn. If the induction hose to the intercooler failed in flight, manifold pressure would have dropped immediately, and the noise the pilot heard could have been turbo discharge pressure escaping through the tear in the hose. When the engine lost turbo pressure, the fuel pump would have continued to operate with a much richer mixture because it would not have sensed a loss of induction pressure. When the pilot turned on the auxiliary fuel pump, the engine would have been flooded with excess fuel. Thus, it is likely that the torn induction hose combined with the excess fuel from activation of the fuel pump led to the engine being flooded resulting in the loss of engine power.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The loss of engine power due to a torn intercooler hose that resulted in an overly rich fuel mixture, which, when combined with the pilot's activation of the auxiliary fuel pump, flooded the engine.

Findings

Aircraft	Fuel oil cooler - Failure
Aircraft	Fuel - Fluid management
Environmental issues	Tree(s) - Contributed to outcome

Factual Information

History of Flight

Initial climb	Loss of engine power (total) (Defining event)
Emergency descent	Controlled flight into terr/obj (CFIT)

On August 20, 2018, at 0620 central daylight time, a Beech B36TC single-engine airplane, N6860W, was destroyed when the engine lost power and the pilot made a forced landing in a wooded area 1/4-mile southeast of La Porte Municipal Airport (T41), La Porte, Texas. The airplane was registered to and operated by RD Airways, Channelview, Texas, under the provisions of Title 14 *Code of Federal Regulations (CFR)* Part 91. Visual meteorological conditions prevailed at the time of the accident, and no flight plan had been filed for local flight. The flight was originating from T41 at the time of the accident.

The pilot reported that after taking off and starting a climb, the airplane began to make a "weird very loud sound and the engine started to lose power." The pilot verified the throttle, mixture, and propeller controls were full forward. The engine noise "started to get louder and power was almost gone." When the pilot activated the auxiliary fuel pump, the engine "just got real loud [and] sounded very deep. I knew I was descending." The airplane continued to descend, and the pilot made a forced landing near a housing development on unsuitable terrain. Both wings were separated from the airplane. The pilot was not injured.

A Federal Aviation Administration (FAA) inspector examined the airplane, and reported "the exhaust section looks like it had been having some issues for a while. Also disturbing is the v-band clamp condition." He also stated an Airworthiness Directive (A.D. 2018-06-11) had been issued in June 2018. That AD added a life limit to the exhaust tailpipe v-band clamp that attaches the exhaust tailpipe to the turbocharger and requires an annual visual inspection of the exhaust tailpipe v-band coupling (clamp).

The engine was sent to Continental Motors, Mobile, Alabama, where, on March 13, 2019, it was functionally tested under the oversight of an FAA inspector. The engine performed with no anomalies. According to Continental Motors, the v-band may have been loose enough to allow manual rotation of the turbo outlet collar. A hose used to connect the aftermarket intercooler was oil-soaked and did not appear to be freshly torn. If the hose failed in flight, manifold pressure would have immediately dropped and the "weird" sound could have been turbo discharge pressure escaping through the tear. When the engine lost turbo pressure, the fuel pump would have continued to operate with a much richer mixture, not sensing the loss of induction pressure to the engine. When the pilot turned on the auxiliary fuel pump, the engine would have been further flooded with excess fuel pressure.

Pilot Information

Certificate:	Student	Age:	39,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	September 14, 2017
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	63 hours (Total, all aircraft), 20 hours (Total, this make and model), 13 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	Registration:	N6860W
Model/Series:	B36TC	Aircraft Category:	Airplane
Year of Manufacture:	1984	Amateur Built:	
Airworthiness Certificate:	Normal; Utility	Serial Number:	EA-411
Landing Gear Type:	Retractable - Tricycle	Seats:	5
Date/Type of Last Inspection:	March 23, 2018 Annual	Certified Max Gross Wt.:	3850 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	3103 Hrs as of last inspection	Engine Manufacturer:	Continental
ELT:	Installed	Engine Model/Series:	TSIO-520UB12B
Registered Owner:		Rated Power:	300 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Dawn
Observation Facility, Elevation:	EFD,32 ft msl	Distance from Accident Site:	7 Nautical Miles
Observation Time:	06:50 Local	Direction from Accident Site:	225°
Lowest Cloud Condition:	Few / 2000 ft AGL	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	170°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	26°C / 26°C
Precipitation and Obscuration:			
Departure Point:	La Porte, TX (T41)	Type of Flight Plan Filed:	None
Destination:	La Porte, TX (T41)	Type of Clearance:	None
Departure Time:	06:20 Local	Type of Airspace:	Class G

Airport Information

Airport:	La Porte Municipal T41	Runway Surface Type:	Asphalt
Airport Elevation:	25 ft msl	Runway Surface Condition:	Dry
Runway Used:	12	IFR Approach:	None
Runway Length/Width:	4165 ft / 75 ft	VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	29.6725,-95.069725

Administrative Information

Investigator In Charge (IIC):	Scott, Arnold
Additional Participating Persons:	Ronald Jacobs; FAA Flight Standards District Office; Houston, TX
Original Publish Date:	June 3, 2020
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=98102

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](#).