



Aviation Investigation Final Report

Location:	Orange, Texas	Accident Number:	CEN19LA331
Date & Time:	September 14, 2019, 16:20 Local	Registration:	N200Z
Aircraft:	Cirrus SR20	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (total)	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

While in cruise flight, the airplane’s engine lost total power. The pilot deployed the airframe parachute and the airplane descended under canopy to a marsh, resulting in substantial damage. Examination of the engine found that a fuel line from the fuel manifold to the No. 1 cylinder failed in fatigue near the manifold, resulting in the loss of engine power.

The failed fuel line was replaced postaccident and the engine was test run with no anomalies noted. Although the fuel manifold bracket was replaced twice in the approximate 2.5 years before the accident, the extent to which this may have been related to the failure of the fuel line was not determined.

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 a fatigue failure of the fuel line from the fuel manifold to the No. 1 cylinder.

Findings

Aircraft	Fuel divider - Fatigue/wear/corrosion
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Factual Information

History of Flight

Enroute	Loss of engine power (total) (Defining event)
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On September 14, 2019, about 1620 central daylight time, a Cirrus SR20 airplane, N200Z, was substantially damaged when it was involved in an accident near Orange, Texas. The pilot and passenger were not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

While in cruise flight, the engine lost total power. Due to a lack of suitable areas for a forced landing, the pilot deployed the Cirrus Airframe Parachute System (CAPS). The airplane descended under canopy and came to rest in a cypress marsh, resulting in substantial damage to the fuselage. During recovery, fuel staining was found on the engine cowling and engine. Examination of the engine found the fuel line from the fuel manifold to the No. 1 cylinder was fractured near the manifold.

Examination of the fuel line revealed evidence consistent with fatigue failure, and no material anomalies of the line. The broken fuel line was replaced, and a test run of the engine revealed no anomalies. The engine had accrued about 1,700 hours and about 35 hours since its most recent inspection. A review of maintenance logbooks found that the fuel manifold bracket was replaced in February 2017 and again in May 2018. The reason for the bracket replacements and whether the issue was related to the fatigue failure of the fuel line was not determined.

Pilot Information

Certificate:	Private	Age:	61, 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:	No
Medical Certification:	Class 3	Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	750 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cirrus	Registration:	N200Z
Model/Series:	SR20 No Series	Aircraft Category:	Airplane
Year of Manufacture:	2003	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	1365
Landing Gear Type:	Tricycle	Seats:	
Date/Type of Last Inspection:	June 1, 2019 Annual	Certified Max Gross Wt.:	
Time Since Last Inspection:	35 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	1730 Hrs at time of accident	Engine Manufacturer:	Continental
ELT:	Installed	Engine Model/Series:	IO-360-ES-6
Registered Owner:	On file	Rated Power:	
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KORG,13 ft msl	Distance from Accident Site:	6 Nautical Miles
Observation Time:	16:15 Local	Direction from Accident Site:	266°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	7 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	110°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.02 inches Hg	Temperature/Dew Point:	35°C / 21°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Austin, TX	Type of Flight Plan Filed:	None
Destination:	Lake Charles, LA (LCH)	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	30.075277,-93.695274(est)

Administrative Information

Investigator In Charge (IIC):	Aguilera, Jason
Additional Participating Persons:	Michael Hall; FAA FSDO; Baton Rouge, LA
Original Publish Date:	March 4, 2022
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=100313

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](#).