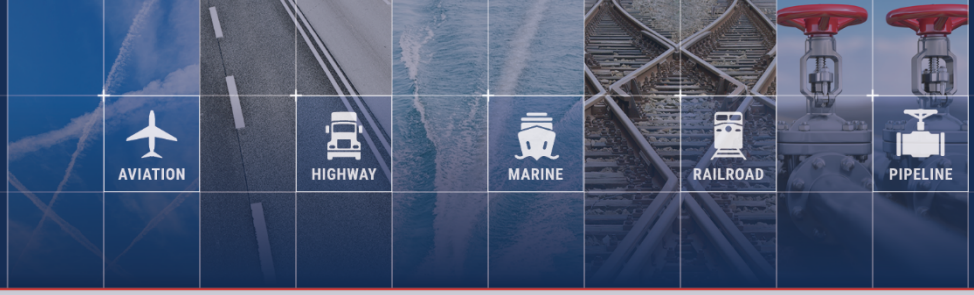

Aviation Investigation Final Report

Location:	Cincinnati, Ohio	**Accident Number:**	CEN20LA148
Date & Time:	April 16, 2020, 11:45 Local	**Registration:**	N66FN
Aircraft:	Beech 36	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (total)	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

During a descent to his destination, the pilot noticed an "unusual" vibration. After checking the engine analyzer, he noticed that one of the engine cylinders was not producing an exhaust gas temperature (EGT) reading. A few moments later, another cylinder EGT dropped offline, then a third cylinder. Cylinder EGTs continued to drop offline then the engine "quit." The pilot maneuvered the airplane over a populated area and landed on a roadway. Upon landing, the airplane struck obstacles along the roadway and came to rest underneath a concrete overpass. The wings and fuselage sustained substantial damage.

Examination of the engine revealed that both the fuel inlet and fuel return line fittings on the fuel pump were loose and could be turned by hand. No adjacent impact damage was noted around the loose fittings. The fuel pump had been removed and replaced 2 days prior to the accident. The loose fuel inlet fitting likely resulted 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:

A loose fuel inlet fitting on the fuel pump due to improper maintenance, which resulted in a total loss of engine power.

Findings

Personnel issues	Replacement - Maintenance personnel
Aircraft	(general) - Incorrect service/maintenance

Factual Information

History of Flight

Enroute-cruise	Loss of engine power (total) (Defining event)

On April 16, 2020, about 1145 Eastern standard time, a Beech A36, N66FN, sustained substantial damage when it was involved in an accident near Cincinnati, Ohio. The pilot was not injured. The airplane was operated as a Title 14 *Code of Federal Regulations (CFR)* Part 91 personal flight.

The pilot reported that he was flying the airplane from Indianapolis, Indiana (UMP), to Cincinnati, Ohio (LUK), where maintenance was to be performed. During the flight, the pilot was performing an altitude leaning schedule to attempt to diagnose high exhaust gas temperature (EGT) readings. Enroute, the pilot performed step-up climbs to 14,000 ft to record power settings. After completing the schedule of tests, the pilot was descending to about 2,500 ft and noticed an "unusual" vibration that he had not experienced before. After checking the engine analyzer, he noticed that one of the engine cylinders was not producing an EGT reading. A few moments later, another cylinder EGT dropped offline, then a third cylinder. Cylinder EGTs continued to drop offline then the engine "quit."

The pilot was not able to restart the engine and declared an emergency. The airplane was over a heavily populated area just north of downtown Cincinnati, so the pilot maneuvered the airplane for an emergency landing on a roadway. Upon landing, the left wing struck a wooden post along the edge of the roadway. The nose pitched to the left and the airplane landed hard on the right main landing gear and the nose landing gear, resulting in a landing gear collapse. The airplane then pitched right and struck another wooden post on the opposite side of the roadway with the right wing. The nose of the airplane contacted a concrete bridge abutment and the airplane slid under an overpass. The pilot secured the fuel and master switch and exited the airplane.

A postaccident examination of the airplane and engine was conducted. The top spark plugs were removed, and compression was verified to the cylinders. The air intake hoses and clamps were verified secure and tight, and no obstructions were noted. The magnetos were verified to spark at all terminals. The engine controls were checked to be free and had full travel. The mixture control screen was removed and found to be free of debris. The fittings and hoses were checked for security on the mixture control, fuel manifold valve, and fuel pump. Both the fuel inlet and fuel return line fittings on the fuel pump were found to be loose and could be turned by hand. No adjacent impact damage was noted around the loose fittings. According to maintenance records, the fuel pump had been removed and replaced on April 14, 2020, 2 days prior to the accident. According to the engine manufacturer, a loose inlet fitting could result in a loss of engine power.

Pilot Information

Certificate:	Commercial	**Age:**	60,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 With waivers/limitations	**Last FAA Medical Exam:**	May 10, 2019
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	April 7, 2018
Flight Time:	1557 hours (Total, all aircraft), 318 hours (Total, this make and model), 1448 hours (Pilot In Command, all aircraft), 23 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N66FN
Model/Series:	36 A36	**Aircraft Category:**	Airplane
Year of Manufacture:	1996	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	E-2981
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	February 28, 2020 Annual	**Certified Max Gross Wt.:**	3651 lbs
Time Since Last Inspection:	40 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	1204 Hrs at time of accident	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	IO-550B
Registered Owner:	On file	**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:**	Day
Observation Facility, Elevation:	LUK,483 ft msl	**Distance from Accident Site:**	7 Nautical Miles
Observation Time:	11:20 Local	**Direction from Accident Site:**	350°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	10 knots /	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	240°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.36 inches Hg	**Temperature/Dew Point:**	7°C / -6°C
Precipitation and Obscuration:			
Departure Point:	Indianapolis, IN (UMP)	**Type of Flight Plan Filed:**	None
Destination:	Cincinnatti, OH (LUK)	**Type of Clearance:**	None
Departure Time:	10:45 Local	**Type of Airspace:**	Class E

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	39.210834,-84.459999

Administrative Information

Investigator In Charge (IIC):	Lemishko, Alexander
Additional Participating Persons:	Joe Schott; FAA FSDO; Cincinnatti, OH Kurt Gibson; Continental Engines; Mobile, AL
Original Publish Date:	May 3, 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=101171