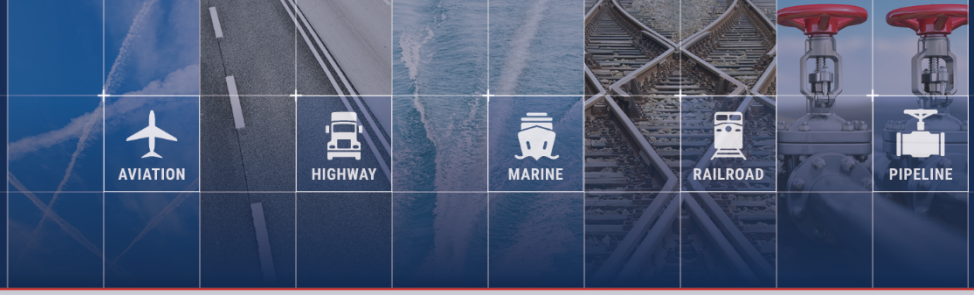

Aviation Investigation Final Report

Location:	Oberlin, Kansas	**Accident Number:**	CEN23LA344
Date & Time:	July 20, 2023, 12:36 Local	**Registration:**	N36900
Aircraft:	Beech A36	**Aircraft Damage:**	Substantial
Defining Event:	Fuel starvation	**Injuries:**	1 Minor, 1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that while in cruise flight over a cloud layer, the engine lost power as if it were out of fuel. The pilot attempted to restore engine power by switching to the right fuel tank and activating the starter but was unsuccessful. As the airplane descended through the cloud layer, the pilot switched back to the left fuel tank and then focused his attention on maintaining airplane control. The airplane descended below the cloud layer and the pilot maneuvered the airplane for a forced landing to a road. During the forced landing, the airplane impacted terrain, resulting in substantial damage to the left wing and fuselage.

Examination of the fuel system revealed that the fuel venting system on the left-wing fuel tank was obstructed by what appeared to be insect debris. No other anomalies were noted during the examination of the airframe and engine that would have precluded normal operations.

The circumstances of the power loss are consistent with an interruption of fuel flow from the left fuel tank due to inadequate venting of the fuel tank.

During the attempt to restore engine power, the pilot did not engage the auxiliary fuel pump as stated in the emergency procedures checklist, which may have aided in restoring engine power.

Probable Cause and Findings

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

The blockage of the left fuel tank vent, which resulted in a total loss of engine power due to fuel starvation. Contributing to the accident of the pilot's failure to use his checklist to address the loss of engine power.

Findings

Aircraft	(general) - Malfunction
Personnel issues	Use of checklist - Pilot

Factual Information

History of Flight

Enroute-cruise	Sys/Comp malf/fail (non-power)
Enroute-cruise	Fuel starvation (Defining event)

On July 20, 2023, about 1236 central daylight time, a Beech A36 airplane, N36900, sustained substantial damage when it was involved in an accident near Oberlin, Kansas. The pilot was not injured and the passenger sustained minor injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

About 0900 mountain daylight time, the airplane departed from Northeast Wyoming Regional Airport (GCC), Gillette, Wyoming, and was en route to Dalhart Municipal Airport (DHT), Dalhart, Texas. The pilot reported that while in cruise flight over a cloud layer near Oberlin, the airplane sustained a loss of engine power as if it were out of fuel. The pilot attempted to restore engine power by switching to the right fuel tank and activating the starter using the ignition key; however, the attempts to restart the engine were unsuccessful. As the airplane descended through the cloud layer, the pilot switched back to the left fuel tank and focused his attention on the airplane instruments to maintain airplane control.

The airplane descended through the clouds and the pilot regained visual ground reference about 1,500 ft above ground level. The pilot maneuvered the airplane for a forced landing to a road. Upon touchdown the right main landing gear traveled onto the shoulder of the road and the airplane exited the road and collided with an embankment. The airplane sustained substantial damage to the left wing and fuselage.

According to the Federal Aviation Administration inspector who responded to the accident, both fuel tanks had visible fuel and both fuel caps were attached and in place.

The pilot reported that the loss of engine power was due to a broken fuel pump shaft. However, during the postaccident examination, the engine-driven fuel pump shaft and drive coupler were found to be intact. The fuel pump was operationally checked and no anomalies or malfunctions were noted with its operation.

The National Transportation Safety Board performed a postaccident examination of the airframe and engine. The examination revealed an obstruction in the left tank fuel vent. The one-way check valve in the fuel vent was observed stuck in the closed position, not allowing air through. When the fuel vent line was pressure tested the obstruction became dislodged. Further examination of the check valve revealed debris inside consistent with insect debris (Figure 1). No other mechanical anomalies were noted during the examination that would have precluded normal operation.

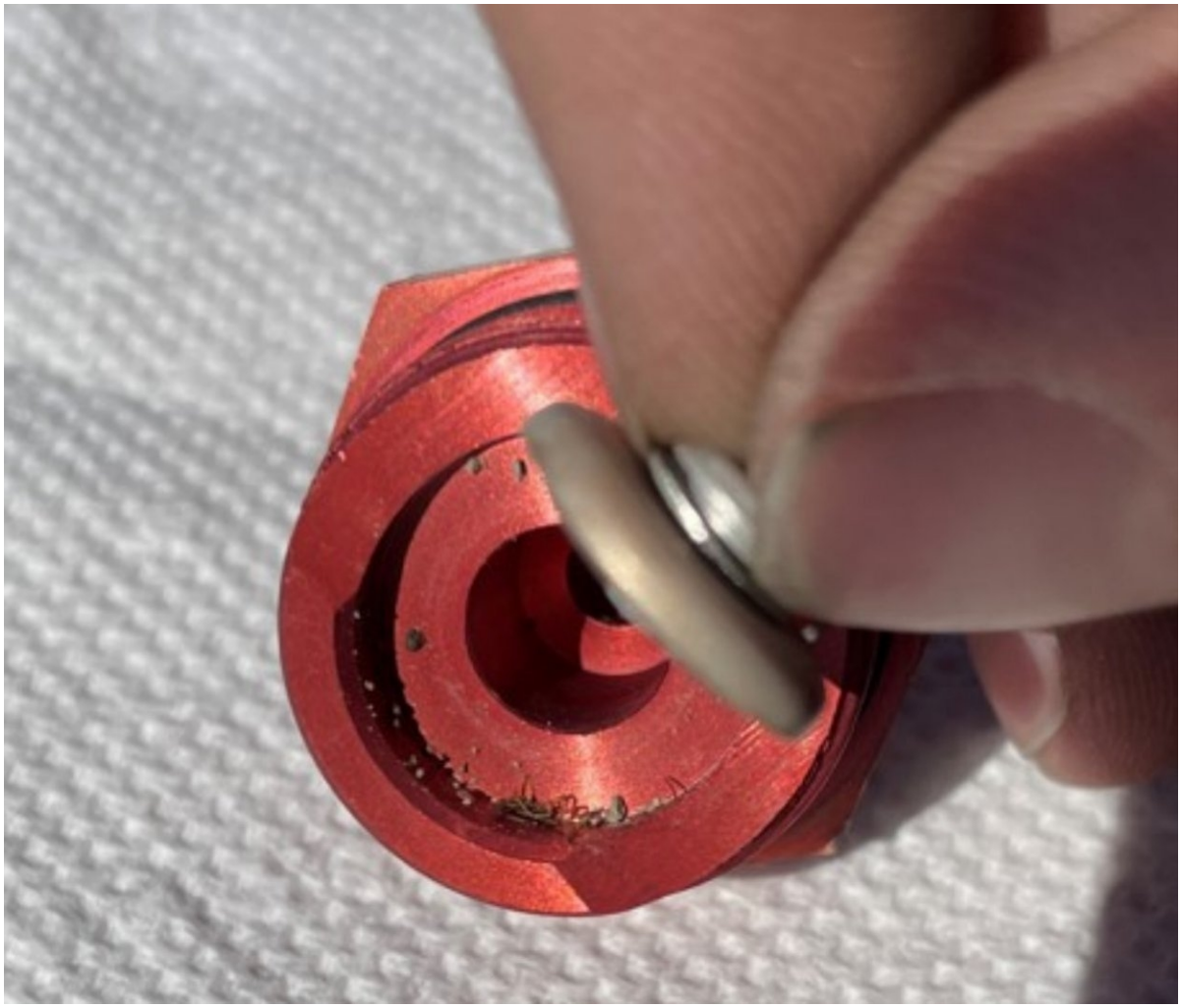

Figure 1: Left tank fuel vent check valve.

The airplane manufacture's emergency procedures checklist for an air start procedure after an inflight engine failure includes selecting the auxiliary fuel pump ON. The pilot did not engage the auxiliary fuel pump during his restart attempts.

Pilot Information

Certificate:	Private	**Age:**	75
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	BasicMed	**Last FAA Medical Exam:**	April 19, 2019
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:	3500 hours (Total, all aircraft), 900 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N36900
Model/Series:	A36	**Aircraft Category:**	Airplane
Year of Manufacture:	1980	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	E-1739
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	June 20, 2023 Annual	**Certified Max Gross Wt.:**	3600 lbs
Time Since Last Inspection:	7.25 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	3300 Hrs at time of accident	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	IO-520-BB
Registered Owner:	On file	**Rated Power:**	285 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:	KOIN,2707 ft msl	**Distance from Accident Site:**	12 Nautical Miles
Observation Time:	12:35 Local	**Direction from Accident Site:**	210°
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Broken / 3200 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	80°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.31 inches Hg	**Temperature/Dew Point:**	25°C / 18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Gillette, WY (GCC)	**Type of Flight Plan Filed:**	None
Destination:	Dalhart, TX (KDHT)	**Type of Clearance:**	None
Departure Time:	09:00 Local	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Minor	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor, 1 None	**Latitude, Longitude:**	39.671297,-100.64721(est)

Administrative Information

Investigator In Charge (IIC):	Rutt, Brian
Additional Participating Persons:	David Gobble; FAA Flight Standards; Wichita, KS
Original Publish Date:	May 14, 2024
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=192781