



Aviation Investigation Final Report

Location:	Independence, Missouri	Accident Number:	CEN20LA288
Date & Time:	July 16, 2020, 17:20 Local	Registration:	N630JL
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 the initial climb, the pilot noted a rising cylinder head temperature which shortly after led to the airplane oscillating back and forth and responding slowly. The pilot set up for a forced landing and the airplane began to shake and was unable to hold altitude. During the approach to landing, the engine quit, and the pilot minimized his bank angle to stay out of a stall situation. When the airplane touched down, the pilot lost directional control and the airplane skidded off the road into a grassy area. The airplane sustained substantial damage to the wings and fuselage.

The pilot reported that on the previous flight, he was in cruise flight at 8,000 ft when he noted that the airplane began “moving back and forth.” He scanned the instruments and saw the cylinder head temperatures (CHT) for the Nos. 5 and 6 cylinders were “running in the red” along with oil temperature. The pilot diverted and landed uneventfully. During the descent for landing, the engine temperatures returned to normal, and he landed uneventfully.

The pilot called the owner and discussed what had occurred. The owner suggested that if the pilot was comfortable, he should return to the home airfield. The pilot agreed to return if the taxi and engine run-up checked normal. The engine run-up was normal, and the pilot departed the airport without incident.

Postaccident examination of the engine found that the No. 5 cylinder head and piston ring had failed with signatures of denotation. Additionally, the turbocharger oil seal had failed. The pilot stated that he was not running the engine lean with fuel.

Probable Cause and Findings

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

Failure of the No. 5 piston head and ring, which resulted in a total loss of engine power and the pilot's decision to takeoff with a known mechanical issue.

Findings

Aircraft	Recip eng cyl section - Failure
Personnel issues	Decision making/judgment - Pilot

Factual Information

History of Flight

Enroute-cruise

Loss of engine power (total) (Defining event)

On July 16, 2020, about 1720 central daylight time, a Beech 36 airplane, N630JL, was substantially damaged when it was involved in an accident near Independence, Missouri. The pilot was not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot recalled that on the previous flight, he was in cruise flight at 8,000 ft when he noted that the airplane began “moving back and forth.” He scanned the instruments and saw the cylinder head temperatures (CHT) for the Nos. 5 and 6 cylinders were “running in the red” along with oil temperature. The pilot diverted to the nearest airport. During the descent for landing, the engine temperatures returned to normal, and he landed uneventfully.

The pilot called the owner and discussed what had occurred. The owner suggested that if the pilot was comfortable, he should return to the home airfield. Since the engine temperatures returned to normal during the descent and landing, the pilot agreed to return if the taxi and engine run-up checked normal. The engine run-up was normal, and the pilot departed the airport without incident.

During the initial climb, about 4 miles from the airport, the No. 4 CHT increased significantly above the rest of the cylinders. The pilot continued the climb, and the airplane began moving back and forth again and began to respond “sluggishly.” The airplane shook and the pilot was unable to maintain altitude, so he set up for a forced landing to a road. During the approach to landing, the engine quit, and the pilot minimized his bank angle to stay out of a stall situation. When the airplane touched down, the pilot lost directional control and the airplane skidded off the road into a grassy area. The airplane sustained substantial damage to the wings and fuselage.

Examination of the engine found that the No. 5 cylinder head and piston ring had failed with signatures of denotation. Additionally, the turbocharger oil seal had failed. The pilot stated that he was not running lean of peak with fuel.

Pilot Information

Certificate:	Commercial; Private	Age:	47, 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:	
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	September 25, 2020
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	1470 hours (Total, all aircraft), 40 hours (Total, this make and model), 555.6 hours (Pilot In Command, all aircraft), 264.4 hours (Last 90 days, all aircraft), 86.3 hours (Last 30 days, all aircraft), 4.5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	Registration:	N630JL
Model/Series:	36 A36	Aircraft Category:	Airplane
Year of Manufacture:	1976	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	E-821
Landing Gear Type:		Seats:	
Date/Type of Last Inspection:		Certified Max Gross Wt.:	3651 lbs
Time Since Last Inspection:		Engines:	
Airframe Total Time:		Engine Manufacturer:	
ELT:		Engine Model/Series:	
Registered Owner:	Strategos International Llc	Rated Power:	
Operator:	Strategos International Llc	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KLXT,997 ft msl	Distance from Accident Site:	10 Nautical Miles
Observation Time:	16:53 Local	Direction from Accident Site:	190°
Lowest Cloud Condition:	Scattered / 3700 ft AGL	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	100°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.04 inches Hg	Temperature/Dew Point:	29°C / 21°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Independence, MO	Type of Flight Plan Filed:	None
Destination:	Lee's Summit, MO (KLXT)	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class E

Airport Information

Airport:	MIDWEST NTL AIR CENTER GPH	Runway Surface Type:	
Airport Elevation:	777 ft msl	Runway Surface Condition:	
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	39.125278,-94.331947(est)

Administrative Information

Investigator In Charge (IIC):	Aguilera, Jason
Additional Participating Persons:	David S Johnson; FAA FSDO; Kansas City, MO
Original Publish Date:	June 28, 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=101617

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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](#).