



Aviation Investigation Final Report

Location:	College Station, Texas	Accident Number:	CEN23LA246
Date & Time:	June 18, 2023, 08:43 Local	Registration:	N463HP
Aircraft:	Piper PA46	Aircraft Damage:	Substantial
Defining Event:	Powerplant sys/comp malf/fail	Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

While climbing the airplane to cruise altitude after takeoff, the pilot observed an increase in engine oil temperature above the normal range and requested to return to the departure airport. While receiving vectors for an instrument approach, the pilot saw smoke in the cabin and the engine lost total power. Unable to glide to any runway, the pilot selected a field for the forced landing, during which the airplane sustained substantial damage to the wings and fuselage.

Postaccident examination revealed that about 2 quarts of oil remained in the engine, and the recovered oil displayed evidence of metal contamination. There was evidence of an oil leak in the engine compartment and along the lower fuselage. There was evidence of a crankcase fracture near the oil dip stick port; however, a laboratory examination determined the fracture to be consistent with overload and likely due to impact-related damage. The engine exhibited no evidence of any loose or disconnected oil lines. The oil filter was removed, and the filter material was found to be saturated with metallic particles.

The oil suction screen plug, located on the oil sump, was not secured with safety wire as required per the manufacturer's maintenance manual. There was no evidence that the plug or required safety wire was damaged by other objects. The oil suction screen plug was found to be loose, with engine oil observed below the oil suction screen plug. The crush washer behind the oil screen plug was intact and exhibited no damage.

Laboratory analysis of the metallic debris recovered from the oil suction screen was consistent with connecting rod material as well as steel from fittings, fasteners, and brackets. The metallic debris found in the recovered oil, oil filter, and oil suction screen was likely due to mechanical damage associated with oil starvation.

Eleven days before the accident flight, the pilot observed decreased engine manifold pressure and a partial loss of engine power. He diverted to an airport, where he had the turbocharger replaced by an aviation mechanic. In addition to replacing the turbocharger, the mechanic also drained and replaced the engine oil, which included removal and reinstallation of the oil suction screen plug.

The loss of engine power was likely due to a loss of oil during the flight that led to oil starvation within the engine. The loose oil suction screen plug, the absence of safety wire on the plug, and the evidence of an oil leak beneath the plug were consistent with the mechanic's failure to properly secure the oil suction screen plug during recent maintenance.

Probable Cause and Findings

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

The mechanic's failure to properly secure the oil suction screen plug during recent maintenance, which resulted in an oil leak and subsequent loss of engine power due to oil starvation.

Findings

Personnel issues	(general) - Maintenance personnel
Aircraft	Recip eng oil sys - Incorrect service/maintenance

Factual Information

History of Flight

Prior to flight	Aircraft maintenance event
Enroute	Powerplant sys/comp malf/fail (Defining event)
Enroute	Fire/smoke (non-impact)
Landing-flare/touchdown	Hard landing

On June 18, 2023, about 0843 central daytime time, a Piper PA46-350P airplane, N463HP, was substantially damaged when it was involved in an accident near College Station, Texas. The pilot was not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that, during the climb through 4,000 ft mean sea level (msl), the oil temperature began increasing to 215°F, which was higher than the normal range of 190-200°F. The pilot reduced the airplane's climb rate to increase cooling, but the oil temperature continued to climb to 230°F. At that time, the pilot requested an instrument clearance back to Easterwood Field Airport (CLL), College Station, Texas. While receiving vectors for the RNAV 11 approach at CLL, the pilot descended to about 2,000 ft msl when he noted smoke in the cabin and a loss of engine power. Unable to glide to any runway, the pilot selected a field to perform a forced landing. The airplane sustained substantial damage to the wings and fuselage during the forced landing.

Eleven days before the accident flight, on June 7, 2023, the pilot was conducting a cross-country flight when he observed decreased manifold pressure and a partial loss of engine power. The pilot diverted to CLL, where after troubleshooting, an aviation mechanic told the pilot that the turbocharger required replacement. After the turbocharger was replaced, the mechanic completed an uneventful engine test run. An engine logbook entry dated June 16, 2023, stated that in addition to replacing the turbocharger, the mechanic drained the engine oil, opened the oil filter, and cleaned the oil pickup screen, where a small amount of metal was observed. The oil sump was flushed, and 11 quarts of new oil added to the engine. The maintenance logbook entry noted that after the maintenance, the engine ran normally at 42 inches of manifold pressure.

Postaccident examination of the engine was conducted with the assistance of a technical representative from Lycoming Engines. The engine oil sump contained about 2 quarts of oil, and the recovered oil displayed evidence of metal contamination. The oil filter was removed, and the filter material was found to be saturated with metallic particles. There was no evidence of any loose or disconnected oil lines. Engine crankshaft continuity was established with cylinder compression noted on all cylinders except for cylinder No. 6. The sparkplugs exhibited

signatures of normal operation. The oil suction screen plug located in the oil sump was found not secured with safety wire as required per the manufacturer’s maintenance manual. There was no evidence that the plug or its required safety wire were damaged by other objects. The oil suction screen plug was found loose, with engine oil observed below the oil suction screen plug. The crush washer behind the oil screen plug was found intact with no damage.

A portion of the oil dipstick port and fractured crankcase were submitted for additional metallurgical examination. The laboratory examination revealed no evidence of material defects in the crankcase material, and the observed fracture features were consistent with overload. Additional laboratory analysis of the metallic debris recovered from the oil suction screen was consistent with connecting rod material as well as steel from fittings, fasteners, and brackets.

Pilot Information

Certificate:	Private	Age:	37, 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:	
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	June 12, 2023
Occupational Pilot:	No	Last Flight Review or Equivalent:	January 12, 2023
Flight Time:	1066 hours (Total, all aircraft), 189 hours (Total, this make and model), 1008 hours (Pilot In Command, all aircraft), 101 hours (Last 90 days, all aircraft), 34 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N463HP
Model/Series:	PA46 350P	Aircraft Category:	Airplane
Year of Manufacture:	2002	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	4636335
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	March 22, 2023 Annual	Certified Max Gross Wt.:	4300 lbs
Time Since Last Inspection:	70 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	1871 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	TIO-540-AE2A
Registered Owner:	3 SIBLINGS LLC	Rated Power:	350 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:	KCLL	Distance from Accident Site:	8 Nautical Miles
Observation Time:	08:53 Local	Direction from Accident Site:	
Lowest Cloud Condition:		Visibility	10 miles
Lowest Ceiling:	Overcast / 1500 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	12 knots / 19 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	200°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.77 inches Hg	Temperature/Dew Point:	29°C / 25°C
Precipitation and Obscuration:			
Departure Point:	College Station, TX (KCLL)	Type of Flight Plan Filed:	IFR
Destination:	Anderson, IN (KAID)	Type of Clearance:	IFR
Departure Time:	08:20 Local	Type of Airspace:	Class D

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	In-flight
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	30.683,-96.263(est)

Administrative Information

Investigator In Charge (IIC):	Aguilera, Jason
Additional Participating Persons:	William Stricker; FAA FSDO; Houston, TX
Original Publish Date:	August 29, 2024
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=192399

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](#).