



Aviation Investigation Final Report

Location:	Dalhart, Texas	Accident Number:	CEN17LA226
Date & Time:	June 9, 2017, 15:05 Local	Registration:	N782SW
Aircraft:	Piper PA 32R-301T	Aircraft Damage:	Substantial
Defining Event:	Powerplant sys/comp malf/fail	Injuries:	1 Minor, 1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane was in cruise flight when the engine's forward main seal (crankshaft seal) began to leak engine oil. Shortly thereafter, the engine lost power, and the pilot subsequently performed a forced landing to a field about 5 miles west of the departure airport.

Postaccident examination of the engine revealed that the bottom half of the crankshaft seal had slipped forward from its placement, which allowed engine oil to leak from the engine. The seal had an approximate time in service of 21 hours since its replacement. It is likely that maintenance personnel installed an improperly sized crankshaft seal, which led to it slipping, allowing the engine oil to leak.

Probable Cause and Findings

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

The failure of the engine's front bearing seal due to maintenance personnel's installation of an improperly sized crankshaft seal, which resulted in oil starvation and a forced landing.

Findings

Personnel issues	Installation - Maintenance personnel
Aircraft	Oil - Fluid level
Aircraft	(general) - Failure
Aircraft	(general) - Incorrect service/maintenance

Factual Information

History of Flight

Enroute-cruise	Powerplant sys/comp malf/fail (Defining event)
Enroute-cruise	Loss of engine power (partial)
Landing	Collision with terr/obj (non-CFIT)
Landing	Off-field or emergency landing

On June 9, 2017, about 1505 central daylight time, a Piper PA-32R-301T, N782SW, experienced a loss of engine power during cruise flight. The airplane impacted terrain during a forced landing to a field near Dalhart, Texas. The airplane received substantial damage. The pilot was uninjured, and the passenger sustained minor injuries. The airplane was operated by the pilot under 14 *Code of Federal Regulations* as a personal flight that was operating on a visual flight rules flight plan. The flight originated from Dalhart Municipal Airport (DHT), about 1456, and was destined to Angel Fire Airport (AXX), Angel Fire, New Mexico.

A National Transportation Safety Board Pilot/Operator Accident/Incident Report was not received from the pilot.

A Federal Aviation Administration inspector reported that the airplane was in cruise flight when the engine's forward main seal (crankshaft seal) began to leak engine oil. The engine lost power shortly afterward, and the pilot performed a forced landing to a field about five miles west of DHT. A post-accident photo of the seal shows that the bottom half of the seal slipped forward from its placement. The airplane exterior was covered with engine oil.

The airplane was powered by a Lycoming TIO-540-S1AD, serial number L-7309-61A, engine. An engine logbook entry dated November 14, 2016, with a tachometer time/total time of 5,995.01 hours, showed an "oversized" front crankshaft seal, part number LW-15628P50, was installed. The next logbook entry was dated March 6, 2017, with a tachometer/total time of 5,998.0 hours, for an annual inspection performed by the same mechanic that installed the crankshaft seal. The airplane accumulated about 22 hours since the replacement of the seal, with a total time of 6,016.8 hours at the time of the accident.

Pilot Information

Certificate:	Private	Age:	50,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Unknown
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	May 24, 2016
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	645 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N782SW
Model/Series:	PA 32R-301T	Aircraft Category:	Airplane
Year of Manufacture:	1983	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	32R-8429001
Landing Gear Type:	Retractable - Tricycle	Seats:	
Date/Type of Last Inspection:	March 6, 2017 Annual	Certified Max Gross Wt.:	3600 lbs
Time Since Last Inspection:	19 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	6016.8 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:		Engine Model/Series:	TIO-540-S1AD
Registered Owner:		Rated Power:	300 Horsepower
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	DHT,3991 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	14:53 Local	Direction from Accident Site:	90°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/ None
Wind Direction:		Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	29.86 inches Hg	Temperature/Dew Point:	35°C / 9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Dalhart, TX (DHT)	Type of Flight Plan Filed:	VFR
Destination:	Angel Fire, NM (AXX)	Type of Clearance:	VFR flight following
Departure Time:	14:56 Local	Type of Airspace:	

Airport Information

Airport:	Dalhart Municipal Airport DHT	Runway Surface Type:	
Airport Elevation:	3991 ft msl	Runway Surface Condition:	Vegetation
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:	1 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor, 1 None	Latitude, Longitude:	36.059864,-102.510032(est)

Administrative Information

Investigator In Charge (IIC):	Gallo, Mitchell
Additional Participating Persons:	Robert Smith; Federal Aviation Administration; Lubbock, TX
Original Publish Date:	November 6, 2018
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=95364

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