



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Kerrville, Texas	Accident Number:	FTW03LA046
Date & Time:	November 6, 2002, 13:00 Local	Registration:	N698VW
Aircraft:	Piper PA-31-350	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

During cruise flight at 6,500 feet msl, the pilot heard a "muffled bang on the right engine." The pilot performed the emergency procedures, shut down the right engine, feathered the propeller, and landed the airplane without further incident. The outboard portion of the right flap, the right gear door, and the right wing locker were destroyed by the in-flight fire. There was thermal deformation of the aft right wing spar. During an examination of the airplane, oil was found from the right engine propeller aft to the right vertical stabilizer. The oil filter was replaced and 8 quarts of oil were added to the engine for an test run. During the 10-minute test run, oil was observed leaking from the forward area of the engine. Following the test run, examination revealed the oil was leaking from the propeller shaft seal.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The propeller shaft seal leak resulting in an in-flight fire.

Findings

Occurrence #1: LOSS OF ENGINE POWER

Phase of Operation: CRUISE

Findings

1. (C) LUBRICATING SYSTEM,OIL SEAL - LEAK
2. (C) FLUID,OIL - FIRE
3. EMERGENCY PROCEDURE - PERFORMED - PILOT IN COMMAND

Occurrence #2: FIRE

Phase of Operation: CRUISE

Factual Information

On November 6, 2002, approximately 1300 central standard time, a Piper PA-31-350 twin-engine airplane, N698VW, was substantially damaged following an in-flight engine fire while in cruise flight near Kerrville, Texas. The airplane was owned and operated by the private pilot under Title 14 Code of Federal Regulations Part 91. The private pilot, sole occupant of the airplane, was not injured. Visual meteorological conditions prevailed for the local flight, and a flight plan was not filed. The personal flight departed Kerrville, Texas, approximately 1230.

On the Pilot/Operator Aircraft Accident Report (NTSB Form 6120.1/2), the pilot reported that during cruise flight at 6,500 feet msl, he heard a "muffled bang on the right engine." The pilot performed the emergency procedures, shut down the right engine, and feathered the propeller. The pilot did not see any evidence of fire. The pilot performed a single-engine landing on runway 30 at the Kerrville Municipal/Louis Schreiner Field Airport, Kerrville, Texas, without further incident.

During an examination of the airplane by the pilot, a mechanic, and the FAA inspector, oil was found from the right engine propeller aft to the right vertical stabilizer. The outboard portion of the right flap, the right gear door, and the right wing locker were destroyed by the in-flight fire. There was thermal deformation of the aft right wing spar. The oil filter was replaced and 8 quarts of oil were added to the engine for an test run. During the 10-minute test run, the engine was operated throughout the power range of the engine, the propeller was operated throughout its range, and a magneto check was performed. During the test run, oil was observed leaking from the forward area of the engine. Following the test run, examination revealed the oil was leaking from the propeller shaft seal for the right engine.

Pilot Information

Certificate:	Private	Age:	60, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	April 17, 2002
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	February 24, 2002
Flight Time:	6917 hours (Total, all aircraft), 6917 hours (Pilot In Command, all aircraft), 56 hours (Last 90 days, all aircraft), 22 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N698VW
Model/Series:	PA-31-350	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	31-7405408
Landing Gear Type:	Retractable - Tricycle	Seats:	7
Date/Type of Last Inspection:	April 25, 2002 Annual	Certified Max Gross Wt.:	7000 lbs
Time Since Last Inspection:	33 Hrs	Engines:	2 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	LTIO-540-J2BD
Registered Owner:	David R. Wilson	Rated Power:	350 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:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	30 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	5 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	325°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Kerrville, TX (ERV)	Type of Flight Plan Filed:	None
Destination:	Kerrville, TX (ERV)	Type of Clearance:	None
Departure Time:	12:30 Local	Type of Airspace:	Class G

Airport Information

Airport:	Kerrville/Schreiner ERV	Runway Surface Type:	Asphalt
Airport Elevation:	1617 ft msl	Runway Surface Condition:	Dry
Runway Used:	30	IFR Approach:	None
Runway Length/Width:	6000 ft / 100 ft	VFR Approach/Landing:	Full stop

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	In-flight
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	29.976667,-99.085556

Administrative Information

Investigator In Charge (IIC):	Roach, Joyce
Additional Participating Persons:	Boyd Kempf; FAA FSDO; San Antonio, TX
Original Publish Date:	May 30, 2003
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=56085

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](#).