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 perfromed 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.ntsb.gov/Docket?ProjectID=56085