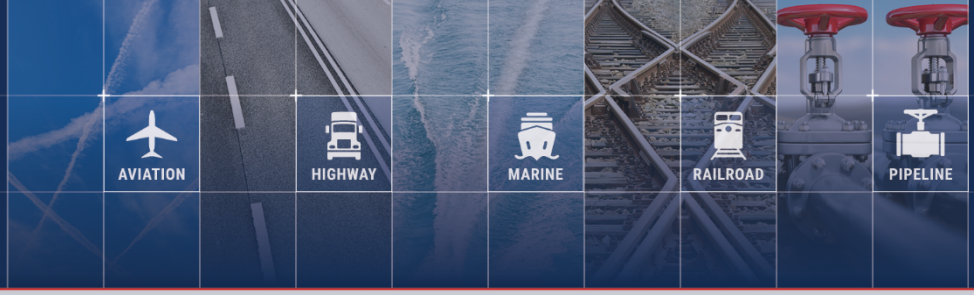

Aviation Investigation Final Report

Location:	Paris, Idaho	**Accident Number:**	LAX07LA108
Date & Time:	March 14, 2007, 20:40 Local	**Registration:**	N7169Y
Aircraft:	Piper PA-30	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane collided with the ground during a forced landing following a loss of power in one engine. The airplane was cruising at 15,000 feet, when the right engine lost power. The pilot's attempt to restart the engine was not successful. He feathered the propeller, and notified air traffic control (ATC) that he had an engine failure. ATC gave him vectors to the closest airport, which was approximately 22 miles away. The pilot positioned the right fuel selector to crossfeed, and attempted a second engine restart, which was successful, but it only ran for a few seconds. He was unable to maintain the airplane's altitude. As they passed through 7,100 feet (about 1,110 feet above ground level), he successfully restarted the engine. He pushed all the engine control levers forward, and the engine ran for about 30 seconds before it lost power. The right propeller had moved out of the feathered position, and the rate of descent increased. The pilot decided to land in a field just short of the airport. Fuel was visually identified in 3 of the 4 fuel tanks. Mechanical continuity of the right engine was confirmed. Subsequent examination of the fuel selectors, the right fuel boost pump, and right engine throttle body servo revealed no mechanical malfunctions or failures.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: a loss of power in the right engine for undetermined reasons.

Findings

Occurrence #1: LOSS OF ENGINE POWER(PARTIAL) - NONMECHANICAL
Phase of Operation: CRUISE - NORMAL

Findings
1. 1 ENGINE
2. (C) REASON FOR OCCURRENCE UNDETERMINED

Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings
3. AIRCRAFT PERFORMANCE,ENGINE OUT CAPABILITY - EXCEEDED
4. PRECAUTIONARY LANDING - ATTEMPTED - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings
5. TERRAIN CONDITION - GRASS

Factual Information

HISTORY OF FLIGHT

On March 14, 2007, at 2040 mountain daylight time, a Piper PA-30, N7169Y, collided with terrain during a forced landing 0.4 miles south of the Bear Lake County Airport, Paris, Idaho. The pilot operated the airplane under the provisions of 14 CFR Part 91. The airline transport pilot and passenger sustained minor injuries; the airplane was substantially damaged. Visual meteorological conditions prevailed, and an IFR flight plan had been filed. The airplane departed from Troutdale Airport, Troutdale, Oregon, about 1630, en route to Rawlings, Wyoming.

The pilot reported to the National Transportation Safety Board investigator-in-charge (IIC) that the airplane was cruising at 15,000 feet, eastbound direct to Rawlings when the right engine lost power. The pilot's attempt to restart the engine was not successful. He feathered the propeller, and notified ATC that he had an engine failure. ATC gave him vectors to Bear Lake County Airport, which was approximately 22 miles away. As the airplane descended through 10,500, ATC informed him that he was below the minimum vectoring altitude. The pilot positioned the right fuel selector to crossfeed and attempted a second engine restart, which was successful, but the engine only ran for a few seconds. He was unable to maintain the airplane's altitude. As they passed through 7,100 feet (about 1,110 feet above ground level), he successfully restarted the right engine. He pushed all the engine control levers forward, and the engine ran for about 30 seconds before it quit. The right propeller was not feathered, and the airplane's rate of descent increased. The pilot decided to land in a field just short of the airport. The pilot and passenger were able to evacuate the airplane, and called for assistance using a cell phone.

PERSONNEL INFORMATION

A review of Federal Aviation Administration (FAA) airman records revealed that the pilot held an airline transport pilot certificate with an airplane multiengine land rating and commercial privileges for airplane single engine land.

The pilot held a first-class medical certificate that was issued October 20, 2006, with the limitation that he must wear glasses to correct for distant vision.

The pilot reported to the Safety Board IIC that he had accumulated 9,284 hours of total flight time, and 5.3 hours in the make and model of the accident airplane.

AIRCRAFT INFORMATION

The airplane was a 1963 Piper Twin Comanche, a conventional twin-engine airplane capable of carrying four occupants. A review of the airplane's logbooks revealed that the airframe total time was 5,357.0 hours documented at the last 100-hour inspection on September 1, 2006. Both engines were Lycoming IO-320-B1A, capable of producing 160-horsepower each. The right engine, serial number L-488-55, was overhauled on August 8, 1980, and the most recent documented 100-hour inspection was completed on September 9, 2006, at 2,294.5 hours since maintenance overhaul (SMOH). The left engine, serial number L-508-55, was overhauled on August 8, 1980, and the most recent 100-hour inspection was completed on September 1, 2006, at 2,294.5 hours SMOH. The propellers were two bladed constant speed propellers manufactured by Hartzell Propeller. The right propeller, hub serial number 801E, was disassembled and all seals were replaced on March 24, 2004. On September 1, 2006, a 100-hour inspection was completed at 201.1-hours SMOH. The left propeller, hub serial number BG214E, was disassembled and all seals were replaced on March 25, 2004. On September 1, 2006, a 100-hour inspection was completed at 201.1-hours SMOH.

Lycoming Service Instruction 1009AS, dated May 25, 2006, states that the recommended time between overhauls for the IO-320-B series engines is 2,000 hours. Additionally, it states "..all engines that do not accumulate the hourly period of time between overhauls specified in this publication are recommended to be overhauled in the twelfth year."

The pilot operating handbook (POH) for the Twin Comanche states the following for fuel crossfeed operations, "When using fuel from tanks on the opposite side of the operating engine, move the fuel selector for the inoperative engine to the main or auxiliary position, then move the fuel selector for the operating engine to the crossfeed position."

WRECKAGE AND IMPACT INFORMATION

The wreckage was located at 42 degrees 14.829 minutes north latitude and 111 degrees 20.296 minutes west longitude, in open flat grass terrain, between runways 10-28 & 16-34 at Bear Lake County Airport. The nose had buckled below the cockpit windscreen. The right engine propeller was attached to the engine and showed no rotational damage to the blades. The left engine propeller had separated from the drive shaft and laid cocked inboard. The tail section split from the main fuselage along a vertical rivet line slightly forward of the vertical tail dorsal extension. In the cockpit the throttles were aft; the left prop condition lever was forward, the right propeller condition lever was aft, and both mixtures were even at the mid quadrant. The four magneto switches, one switch per magneto, displayed an alternating on, off, configuration, consisting of one right magneto on and one left magneto on. The left outboard fuel tank was empty; the left inboard, right inboard, and right outboard fuel tanks all contained about 4 inches of fuel. The left fuel selector was pointed at the 'main' mark, and the right fuel selector lever was pointed halfway between the 'crossfeed' mark and the 'main' mark. During the removal of the airplane from the field the recovery agent reported that fuel was drained from the airplane but the amount was not documented.

TESTS & RESEARCH

Fuel Selectors

The two cockpit fuel selectors were removed from the airframe by the FAA inspector on-scene and sent to the Safety Board IIC for evaluation. The fuel selectors were examined. Both fuel selector valves were Airborne Mechanisms model 1H7-1. The valve bowls were securely attached to the valve frame with screws and gaskets were present and in good condition on both. Neither valve exhibited visual evidence of fuel leakage. Air was passed through the input orifice and the valve selector was rotated to correspond with the off, main, aux, and crossfeed positions. Air passed through each valve and out the corresponding selected outlet on both valves. When the selector was positioned in an intermediated position between two settings air passed through each of the outlet ports but at a restricted rate depending how close or how far the selector lever was to the one or the other discrete selector positions.

Fuel Pump

The right-hand fuel boost pump was removed by the on-scene FAA inspector and sent to the Safety Board IIC for evaluation. The fuel pump was a Weldon model PF20016Q, and visually appeared to be in good condition with no corrosion or loose connectors noted. A 12-volt dc power source was used to energize the pump motor. The pump was placed in a working fluid of water and was observed to pump the water out at a substantial rate. Nothing unusual was observed during the operational test of the pump.

Throttle Body

The throttle body servo from the right engine, Precision RSA-5AD1, was examined and tested at Precision Airmotive Corporation under the supervision of a Safety Board investigator. The servo was affixed to the test bench and tested in accordance with the manufacturer's engineering specification. The servo flow test resulted in flows that were with in the normal operating limits as reported by the Precision Airmotive technician. The test report is contained in the official docket of this investigation.

ADDITIONAL INFORMATION

The Safety Board IIC released the aircraft wreckage on April 20, 2007.

Pilot Information

Certificate:	Airline transport; Commercial; Flight instructor	**Age:**	51,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):	Airplane multi-engine; Airplane single-engine	**Toxicology Performed:**	No
Medical Certification:	Class 1	**Last FAA Medical Exam:**	October 1, 2006
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	September 1, 2006
Flight Time:	9284 hours (Total, all aircraft), 5 hours (Total, this make and model), 6592 hours (Pilot In Command, all aircraft), 120 hours (Last 90 days, all aircraft), 32 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N7169Y
Model/Series:	PA-30	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	30-190
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	September 1, 2006 100 hour	**Certified Max Gross Wt.:**	3600 lbs
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:	5357 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	IO-320-B1A
Registered Owner:	Peter McKevitz	**Rated Power:**	160 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Night
Observation Facility, Elevation:	KLGU	**Distance from Accident Site:**	
Observation Time:	17:51 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	320°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.07 inches Hg	**Temperature/Dew Point:**	13°C / -6°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Troutdale, OR (KTTD)	**Type of Flight Plan Filed:**	IFR
Destination:	Rawlings, WY (KRWL)	**Type of Clearance:**	IFR
Departure Time:	16:30 Local	**Type of Airspace:**	

Airport Information

Airport:	Bear Lake County K1U7	**Runway Surface Type:**	
Airport Elevation:	5928 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 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Minor	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Minor	**Latitude, Longitude:**	

Administrative Information

Investigator In Charge (IIC):	McKenny, Van
Additional Participating Persons:	Eric McRae; Federal Aviation Administration; Salt Lake City, UT Peter Nelson; Precision Airmotive; Everett, WA
Original Publish Date:	November 29, 2007
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=65430