



Aviation Investigation Final Report

Location:	McFarland, California	Accident Number:	LAX08FA028
Date & Time:	November 9, 2007, 12:00 Local	Registration:	N6895Z
Aircraft:	Piper PA-60-602P	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	3 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The accident flight was the pilot's first 700 nm cross-country flight in the newly purchased airplane. Prior to departing he had the airplane refueled with the airplane on a slope. The individual who refueled the airplane estimated that the left wing tip was 12 to 14 inches lower than the right wing tip. He stated that the pilot was very concerned about getting as much fuel in the airplane as possible because of his up-coming flight. After climbing to his assigned cruising altitude of 21,000 feet and about two hours into the flight the pilot reported to ATC that he needed to divert. During the descent the pilot reported that he was experiencing a fuel problem and that one engine was sputtering. Two minutes later the pilot declared an emergency and reported that both engines were sputtering. The pilot reported at that time that he had 15 total gallons of fuel remaining. A witness to the accident reported that he saw the airplane flying southbound and that the wings were rocking side-to-side. The airplane then rolled to the right before crashing into the citrus grove. Examination of the airframe revealed no pre-impact failure to any flight control surface or control system component. The power plant investigation did not disclose any pre-impact mechanical failure of any rotating or reciprocating component of the engine. Interviews with pilots who had flown with the accident pilot indicated that this was his first flight above 13,000 feet in the accident airplane, and was probably his longest distance attempted flight since he had purchased the airplane. According to information contained within the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual (VB-1190), "The full amount of usable fuel is based on the airplane sitting on a level ramp, laterally level, and longitudinally (approximately 1 1/2 degree nose up) with each tank fueled to 0.6 inches below filler neck. The wing tanks are extremely sensitive to attitude and if not level, they cannot be fueled to the full usable capacity." This information is also included in the FAA Type Certificate Data Sheet No. A17WE under the section Data Pertinent to All Models, Note 1.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate preflight preparation and improper fueling procedures that led to fuel exhaustion.

Findings

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

Findings

1. (C) FLUID,FUEL - EXHAUSTION
2. (C) PROCEDURES/DIRECTIVES - NOT FOLLOWED - PILOT IN COMMAND
3. (C) PREFLIGHT PLANNING/PREPARATION - INADEQUATE - PILOT IN COMMAND

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

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

Findings

4. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On November 9, 2007, about 1200 Pacific standard time, a Piper Aerostar PA-60-602P, N6895Z, collided with terrain in a citrus grove during an attempted emergency landing near McFarland, California. The owner/pilot was operating the airplane under the provisions of 14 Code of Federal (CFR) Part 91. The private pilot and two passengers were killed; the airplane was destroyed. The cross-country personal flight departed Roseburg Regional Airport (RBG), Roseburg, Oregon, about 0915 with a planned destination of Mc Clellan-Palomar Airport (CRQ), Carlsbad, California. Visual meteorological conditions prevailed, and an instrument flight rules (IFR) flight plan had been filed.

After departing from RBG, the flight climbed to flight level 210. About two hours into the flight, the pilot contacted Air Traffic Control (ATC) and requested to divert to Meadows Field Airport (BFL), Bakersfield, California to make a fuel stop. ATC approved the diversion. Twenty minutes elapsed before the pilot requested to start his descent which was about 20 nm north of Fresno, California. Twenty-eight minutes later the pilot reported to ATC that he had a fuel problem and one of the engines was "sputtering." Two minutes later the pilot declared an emergency and advised ATC that both engines were sputtering. During the last transmission from the pilot, he advised ATC he was at 1,000 feet, with a speed of 110 knots and slowing.

Witnesses near the accident site observed the airplane flying southbound with the wings rocking side-to-side. The airplane then rolled to the right before crashing into the citrus grove.

PERSONNEL INFORMATION

A review of Federal Aviation Administration (FAA) airman records revealed that the 60 year old pilot held a private pilot certificate with ratings for airplane single-engine land, multi-engine land, and instrument airplane.

The pilot held a third-class medical certificate issued in March 2006. It had no limitations or waivers.

The available personal flight records for the pilot did not report the pilot's total flight time. The pilot reported to his insurance company that, as of October 2007, he had a total flight time of 1,210 hours. He logged 475 hours in multi-engine airplanes and 15 hours in the accident airplane make and model.

A close friend of the pilot reported that the pilot had begun flying about 12 years ago. He stated that the pilot most recently owned a Beechcraft King-Air, which he sold in October 2005.

The accident pilot had not been flying until he purchased the accident airplane in August 2007. The friend also stated that the pilot was new to the Aerostar, with no prior experience in the accident make and model airplane.

The pilot's records, along with statements from other pilots who had flown with him, revealed that the accident flight was his first flight in the Aerostar at an altitude greater than 13,000 feet. In addition, the 700 nm flight was the pilot's longest distance traveled in the accident airplane.

AIRCRAFT INFORMATION

The twin engine, mid-wing, retractable gear, airplane serial number 62P09188165043 was manufactured in 1981. A review of the airplane's logbooks revealed the airplane had a total airframe time of 3,760.2 flight hours at the last annual inspection. The logbooks contained an entry for an annual inspection dated June 1, 2007. The Hobbs hour meter read 3740.2 at the last inspection. The Hobbs hour meter read 3760.1 at the accident site.

The left engine was a Textron Lycoming IO-540-S1A5, serial number L-19159-48A. Total time recorded on the engine at the last annual inspection was 3,337.9 hours, and time since major overhaul was 404.3 hours. Total time on the engine at the time of the accident was 3,357.9 hours, and time since major overhaul was 424.3 hours.

The right engine was a Textron Lycoming IO-540-AA1A5, serial number L-21221-48A. Total time recorded on the engine at the last annual inspection was 2,506.1 hours, and time since major overhaul was 125.9 hours. Total time on the engine at the time of the accident was 2,526.0 hours, and time since major overhaul was 145.8 hours.

Fueling records at Ocean Air Aviation located at Roseburg Regional Airport established that the airplane was last fueled on November 9, 2007, with the addition of 35.8 gallons of 100-octane aviation fuel.

The FAA coordinator contacted Ocean Air Aviation and interviewed the employee who refueled the airplane. The employee stated that when he arrived at the airplane hangar, the pilot had already pulled the airplane out of the hangar. The airplane was parked on a slope. He estimated that the left wing tip was 12 to 14 inches lower than the right wing tip. He said that the pilot was very concerned about getting as much fuel in the airplane as possible because of his up-coming flight to San Diego.

METEOROLOGICAL INFORMATION

The closest official weather observation station was (BFL), which was located 12.5 nautical miles (nm) south of the accident site. The elevation of the weather observation station was 507 feet msl. An aviation routine weather report (METAR) for BFL was issued at 1154 PST. It reported: winds from 320 degrees at 10 knots gusting to 15 knots; visibility 10 miles; skies

clear; temperature 66 degrees Fahrenheit; dew point 46 degrees Fahrenheit; altimeter 30.00 inHg.

COMMUNICATIONS

A review of the communications between the pilot and air traffic controllers disclosed that at 1108 PST and about 77 nm north of Fresno, California (FAT), at an altitude of 21,000 feet, the pilot requested to divert to Bakersfield, California, for a "fuel stop." At 1127 PST, radar data shows the radar track for N6895Z starting a descent from 21,000 feet about 20 nm north of FAT.

At 1155, the tower controller at BFL received a radio call from the accident pilot reporting that he was experiencing a fuel problem and that one engine was sputtering. The pilot advised that he was not declaring an emergency.

At 1157, the pilot advised ATC he was declaring an emergency. ATC personnel requested to know how many souls on board and the fuel remaining. The pilot reported to the controller that there were three occupants and 15 gallons of fuel.

AIRPORT INFORMATION

The nearest airport to the accident site was Poso-Kern County Airport (L73), Famoso, California. L73 was located 1.8 nm south of the accident site. The Airport Facility Directory, Southwest United States, indicated that runway 16 was 3,000 feet long and 60 feet wide. The runway surface was asphalt, and had a displaced threshold of 210 feet.

WRECKAGE AND IMPACT INFORMATION

The wreckage was located in a citrus grove containing plantings of citrus trees spaced approximately 10 feet apart. The trees' heights ranged between 12 and 16 feet. The stands were oriented on a north/south heading and were spaced approximately 24 feet apart.

The wreckage was localized in an area approximately 50 feet wide by 70 feet long. The first identified point of contact (FIPC) was in hardened soil, five feet east of the base of a 15-foot tall tree. The tree displayed no signs of impact damage.

The FIPC was characterized by a five inch semi-circular impression and was surrounded by paint flakes and small red plastic fragments. A crushed fiber glass left wing tip was located six feet south of the impact point.

A second impact point, characterized by a two foot deep crater, approximately two feet by five feet in width, was oriented on a heading of about 100 degrees magnetic, relative to, and 16 feet from, the initial impact point.

Trees adjacent to this crater displayed freshly cut limbs. A third, smaller hole was located 13 feet beyond, on the same heading.

Door fragments, the outboard right wing, and the pilots' seat were located six feet south of the hole.

The right wing fuel tank sustained multiple impact related ruptures. The main wreckage came to rest 20 feet south of the right wing. The tail section aft of the rear cargo door was largely undamaged and came to rest against a tree at a 45-degree, tail-up angle, on a heading of 180 degrees. The passenger cabin area and wing center sections were folded directly upwards, on the same heading, and remained attached to the tail by control cables.

The nose, cockpit, and flight controls displayed high degrees of impact damage and came to rest at the base of the wing center section. Both engines were separated from their mounts and came to rest adjacent to each other, just to the east of the wreckage.

The outboard left wing lay perpendicular to the tail and was observed to have sustained impact damage to the leading edge, two feet inboard from the tip. The right wing fuel tank sustained multiple impact related ruptures.

Fuel caps for the center tank and both wings were accounted for and found to be securely in place on their respective fillers.

MEDICAL AND PATHOLOGICAL INFORMATION

The Kern County Coroner completed an autopsy of the pilot. The FAA Bio-aeronautical Sciences Research Laboratory Forensic Toxicology Research Team, Oklahoma City, Oklahoma, performed toxicological testing of specimens of the pilot.

Analysis of the specimens contained no findings for carbon monoxide, cyanide, and tested drugs.

The report contained the following findings for volatiles: 16 (mg/dL, mg/hg) ethanol detected in muscle, and 30 (mg/dL, mg/hg) ethanol detected in liver.

The autopsy report stated that the ethanol found in this case may potentially be from postmortem ethanol formation, and not from the ingestion of ethanol.

TESTS AND RESEARCH

Investigators examined the wreckage at Aircraft Recovery Service, Littlerock, California, on December 12, 2007.

Examination of the airframe revealed no pre-impact failure to any flight control surface or

control system component. The powerplant investigation did not disclose any pre-impact mechanical failure of any rotating or reciprocating component of the engine.

ADDITIONAL INFORMATION

According to information contained within the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual (VB-1190), "The full amount of usable fuel is based on the airplane sitting on a level ramp, laterally level, and longitudinally (approximately 1 1/2 degree Nose up) with each tank fueled to 0.6 inches below filler neck. The wing tanks are extremely sensitive to attitude and if not level, they cannot be fueled to the full usable capacity. This information is also included in the FAA Type Certificate Data Sheet No. A17WE under the section Data Pertinent to All Models, Note 1.

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:	Yes
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	March 30, 2006
Occupational Pilot:	No	Last Flight Review or Equivalent:	October 30, 2007
Flight Time:	1500 hours (Total, all aircraft), 15 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N6895Z
Model/Series:	PA-60-602P	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	62P09188165043
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	June 1, 2007 Annual	Certified Max Gross Wt.:	6000 lbs
Time Since Last Inspection:	19.9 Hrs	Engines:	2 Reciprocating
Airframe Total Time:	3780.1 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	C91A installed, activated, did not aid in locating accident	Engine Model/Series:	IO-540-S1A5
Registered Owner:	On file	Rated Power:	290 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:	BFL,507 ft msl	Distance from Accident Site:	
Observation Time:	11:54 Local	Direction from Accident Site:	180°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	10 knots / 15 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	320°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.01 inches Hg	Temperature/Dew Point:	19°C / 8°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	ROSEBURG, OR (RBG)	Type of Flight Plan Filed:	IFR
Destination:	BAKERSFIELD, CA (BFL)	Type of Clearance:	IFR
Departure Time:	09:12 Local	Type of Airspace:	

Airport Information

Airport:	POSO-KERN COUNTY L73	Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	2 Fatal	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 Fatal	Latitude, Longitude:	35.626945,-119.135833

Administrative Information

Investigator In Charge (IIC):	Jones, Patrick
Additional Participating Persons:	Harlow Voorhees; Federal Aviation Administration; Fresno, CA Mark Platt; Lycoming; Williamsport, PA Charles Little; Piper Aircraft Company; Vero Beach, FL
Original Publish Date:	January 29, 2009
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=67066

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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](#).