



National Transportation Safety Board Aviation Accident Final Report

Location:	SILVER SPRING, PA	Accident Number:	NYC96LA048
Date & Time:	01/01/1996, 1750 EST	Registration:	N1082P
Aircraft:	Piper PA-23-150	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None

Flight Conducted Under: Part 91: General Aviation - Personal

Analysis

The pilot rented a multiengine airplane to fly 70 hours during a 3 week period. The pilot and passenger departed, flew a 4.4 hour flight, and refueled with 73 gallons of fuel. The pilot then flew 2 legs that totaled 3.5 hours, and refueled the airplane with 68.9 gallons. Two days later the pilot departed on another leg that lasted 2 hours. After a brief stop, and no refueling, the pilot departed on the accident leg. About 1.5 hours after takeoff, during night IMC, the right engine lost power, followed by the left engine. The pilot received radar vectors to an airport during the emergency descent and did not feather either propeller. The airplane descended clear of the clouds and landed in an open field, 6 miles short of the airport. Examination of the wreckage revealed 3 quarts of fuel in the right wing tanks, and 1 quart of fuel in the left wing tanks. No fuel stains were noted on the fuselage, wings, or ground. The capacity of the airplane's main and auxiliary fuel tanks were measured and verified during the investigation. The engines were removed, test run, and ran normally. The fuel burn during the tests were consistent with the manual. Based upon the average fuel consumption of the previous legs, about 39 gallons of fuel were unaccounted for at the accident scene.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A loss of engine power as a result of fuel exhaustion.

Findings

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

Findings

1. ALL ENGINES
2. (C) FLUID,FUEL - EXHAUSTION

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

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

Findings

3. LIGHT CONDITION - DARK NIGHT
4. TERRAIN CONDITION - OPEN FIELD

Factual Information

On January 1, 1996, at 1750 eastern standard time (EST), a Piper PA-23-150, N1082P, was substantially damaged during a forced landing near Silver Springs, Pennsylvania. The commercial pilot and passenger were not injured. Instrument meteorological conditions prevailed for the personal flight that originated at Poughkeepsie, New York, at 1621. An IFR flight plan had been filed for the flight conducted under 14 CFR Part 91.

In the NTSB Form 6120.1/2, the owner of the airplane stated that the pilot rented the airplane to fly 70 hours during a 3 week period. The pilot arrived in Kansas City, Missouri, about 1130 EST, December 29, 1995, while the airplane was under going a 100 hour inspection. About 2100 EST, after the inspection was completed, the owner conducted a "2 hour training and check out flight" with the pilot. The owner stated that the pilot flew well, and he "checked him out in the airplane." At 0030 EST, the pilot departed Kansas City in the rented airplane.

In a written statement, the pilot said that he and a passenger departed Kansas City, on December 30, 1995, at 0100 EST. After a 4 hour and 20 minute flight, they landed in Columbus, Ohio, refueled with 73 gallons of fuel, and departed about 0600. The next leg to Gaithersburg, Maryland, was 2 hours in duration. The airplane was not refueled at Gaithersburg, and the passenger was dropped off. The pilot departed Gaithersburg and flew a 1.5 hours flight to Latrobe, Pennsylvania, where the airplane was refueled with 68.9 gallons.

The airplane remained at Latrobe until January 1, 1996, when the pilot departed for the Dutchess County Airport (POU), Poughkeepsie, New York. The flight time was about 2 hours, and the airplane was not refueled at POU. The pilot then departed for Lynchburg, Virginia, with his passenger who had rejoined him at POU.

The pilot stated that about 1.5 hours after takeoff, at 8,000 feet:

"...Approximately 30 minutes after switching from the auxiliaries to the mains, the right engine lost power ...I fully enriched the mixtures and fully advanced the throttle and propeller controls. I turned on the fuel pumps, and held my altitude while slowing the plane to blue line. We adjusted the carburetor heat on the right engine, and the engine momentarily regained power, but then immediately lost power...We advised ATC of the engine failure. About this time (about 3 minutes after the right engine lost power), the left engine lost power. We notified ATC that we had lost both engines, and the controller began turning us towards LRP [Lancaster]...I attempted to restart both engines with the starter, but this did not have any effect. We were descending at about 1,250 feet per minute, and entered the overcast cloud layer at about 7,500 feet. I intercepted the localizer, and was flying towards LRP. We broke out of the clouds at about 4,500 feet, and spotted the beacon for LRP...I determined that we were not going to make it to LRP...I picked a field...at which point we began to manually extend the landing gear. Before the landing gear was fully extended, we touched down in a field..."

According to a Federal Aviation Administration Inspector, the airplane landed in a field about 6 miles southwest of the Lancaster Airport. Examination of the wreckage revealed 3 quarts of fuel in the right wing tanks, and 1 quart of fuel in the left wing tanks. The fuel tanks were not ruptured, and no fuel stains were noted on the fuselage, wings, or ground.

In a written statement, the lineman who refueled the airplane at Latrobe stated, "...fueled the aircraft with 100LL, which topped off all four tanks."

The engines were removed for examination and shipped to the Textron-Lycoming Plant, Williamsport, Pennsylvania. On February 16, 1996, an FAA Inspector observed a test run of both engines. In his statement, the Inspector stated:

"...Both engines ran normally, and the fuel burn was consistent with the manual. No problems were found with the engines that would have contributed to the in-flight engine failure...."

The capacity of the airplane's main and auxiliary fuel tanks were measured during the investigation. In the FAA Inspector's report he stated:

"...I...witnessed the measurement of the fuel capacity of each of the four fuel tanks. The two main fuel tanks held 30 gallons each, and the two auxiliary tanks held 18 gallons of fuel each. The two main tanks should hold 36 gallons...We concluded that the difference was due to the wing being on stands and not in the same position as when it was attached to the complete aircraft..."

The last refueling at Latrobe provided an estimated fuel consumption of 19.7 gallons per hour (GPH). The estimated fuel used during the 3.5 hours of flight since the last refueling was 68.9 gallons. At the time of the accident, fuel unaccounted for since the last refueling was approximately 39 gallons.

During a telephone interview with the pilot, he stated that he did not feather either of the propellers during the emergency.

According to the Piper Owner's Handbook, under engine failure in the emergency procedures section, it stated:

"...While the plane is slowing down to the single engine cruising speed...the propeller on the dead engine should be feathered..."

The Owner's Handbook also stated:

"...The Hartzell feathering propellers can only be feathered while the failed engine is rotating, and not if the engine stops completely..."

The Piper Owner's Handbook did not discuss or list any procedures to follow in the event of a dual engine failure. It also did not list a two engine-out glide speed, or provide an engine-out gliding distance chart.

Manuals for similar weight Cessna and Beech light twin engine airplanes listed procedures to follow in the event of a dual engine out condition. The manuals listed airspeeds and gliding distances with both propellers feathered. The Cessna 310 Information Manual listed the best glide speed as 111 knots, and a glide distance 12 nautical miles from 7,000 feet above the ground. The Beechcraft E55 Pilot's Operating Handbook listed the best glide speed as 120 knots, and a glide distance of approximately 2 nautical miles per 1,000 feet above the ground, or 14 miles from 7,000 feet above the ground.

The National Transportation Safety Board, Office of Research and Engineering, provide a recorded radar study of N1082P. The radar data depicted N1082P at 5,600 feet, 13.5 miles southwest of the Lancaster Airport, flying in a northeast direction. Based upon that data, an estimated glide distance of 11 miles was computed from the Beech E55 best glide distance.

Pilot Information

Certificate:	Commercial	Age:	21, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane Single-engine	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	06/12/1995
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	440 hours (Total, all aircraft), 33 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N1082P
Model/Series:	PA-23-150 PA-23-150	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	23-92
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	12/29/1995, 100 Hour	Certified Max Gross Wt.:	3500 lbs
Time Since Last Inspection:	14 Hours	Engines:	2 Reciprocating
Airframe Total Time:	5070 Hours	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-320-A1A
Registered Owner:	AIR ONE	Rated Power:	150 hp
Operator:	AIR ONE	Operating Certificate(s) Held:	None
Operator Does Business As:	AIR ONE	Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	LPN, 403 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	1650 EST	Direction from Accident Site:	60°
Lowest Cloud Condition:	Partial Obscuration / 0 ft agl	Visibility	1.75 Miles
Lowest Ceiling:	Overcast / 3000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	Calm /	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	2°C / -1°C
Precipitation and Obscuration:			
Departure Point:	POUGHKEEPSIE, NY (POU)	Type of Flight Plan Filed:	IFR
Destination:	LYNCHBURG, VA (LYH)	Type of Clearance:	IFR
Departure Time:	1621 EST	Type of Airspace:	Class E

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	ROBERT L PEARCE	Report Date:	08/20/1996
Additional Participating Persons:	BLAIN R HACKETT; HARRISBURG, PA RONALD HORAK; ALLEGHENY, PA		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).