



National Transportation Safety Board

Aviation Accident Data Summary

Location:	Northport, AL	Accident Number:	ERA16FA289
Date & Time:	08/14/2016, 1115 CDT	Registration:	N447SA
Aircraft:	PIPER PA 31	Injuries:	6 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The private pilot and five passengers departed on a day instrument flight rules cross-country flight in the multiengine airplane. Before departure, the airplane was serviced to capacity with fuel, which corresponded to an endurance of about 5 hours. About 1 hour 45 minutes after reaching the flight's cruise altitude of 12,000 ft mean sea level, the pilot reported a failure of the right engine fuel pump and requested to divert to the nearest airport. About 7 minutes later, the pilot reported that he "lost both fuel pumps" and stated that the airplane had no engine power. The pilot continued toward the diversion airport and the airplane descended until it impacted trees about 1,650 ft short of the approach end of the runway; a postimpact fire ensued.

Postaccident examination of the airframe and engines revealed no preimpact failures or malfunctions that would have precluded normal operation. The propellers of both engines were found in the unfeathered position. All six of the fuel pumps on the airplane were functionally tested or disassembled, and none exhibited any anomalies that would have precluded normal operation before the accident. Corrosion was noted in the right fuel boost pump, which was likely the result of water contamination during firefighting efforts by first responders.

The airplane was equipped with 4 fuel tanks, comprising an outboard and an inboard fuel tank in each wing. The left and right engine fuel selector valves and corresponding fuel selector handles were found in the outboard tank positions. Given the airplane's fuel state upon departure and review of fuel consumption notes in the flight log from the day of the accident, the airplane's outboard tanks contained sufficient fuel for about 1 hour 45 minutes of flight, which corresponds to when the pilot first reported a fuel pump anomaly to air traffic control. The data downloaded from the engine data monitor was consistent with both engines losing fuel pressure due to fuel starvation.

According to the pilot's operating handbook, after reaching cruise flight, fuel should be consumed from the outboard tanks before switching to the inboard tanks. Two fuel quantity gauges were located in the cockpit overhead switch panel to help identify when the pilot should return the fuel selectors from the outboard fuel tanks to the inboard fuel tanks. A flight instructor who previously flew with the pilot stated that this was their normal practice. He also stated that the pilot had not received any training in the accident airplane to include single-engine operations and emergency procedures. It is likely that the pilot failed to return the fuel selectors from the outboard to the inboard tank positions once the outboard tanks were exhausted of fuel; however, the pilot misdiagnosed the situation as a fuel pump anomaly.

Flight Events

Enroute-cruise - Fuel starvation
Approach-IFR final approach - Collision during takeoff/land

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

A total loss of power in both engines due to fuel starvation as a result of the pilot's fuel mismanagement, and his subsequent failure to follow the emergency checklist. Contributing to the pilot's failure to follow the emergency checklist was his lack of emergency procedures training in the accident airplane.

Findings

Aircraft-Fluids/misc hardware-Fluids-Fuel-Fluid management - C
Personnel issues-Task performance-Use of equip/info-Use of checklist-Pilot - C
Personnel issues-Action/decision-Action-Lack of action-Pilot - C
Personnel issues-Experience/knowledge-Training-Total instruct/training recvd-Pilot - F
Personnel issues-Experience/knowledge-Training-Training with equipment-Pilot - F

Pilot Information

Certificate:	Private	Age:	41
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	None
Flight Time:	749.7 hours (Total, all aircraft), 48.7 hours (Total, this make and model), 25.1 hours (Last 90 days, all aircraft), 7 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	PIPER	Registration:	N447SA
Model/Series:	PA 31 325	Engines:	2 Reciprocating
Operator:	On file	Engine Manufacturer:	LYCOMING
Operating Certificate(s) Held:	None	Engine Model/Series:	TIO-540-J2B
Flight Conducted Under:	Part 91: General Aviation - Personal		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	TCL, 186 ft msl	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:	Broken / 3600 ft agl	Wind Speed/Gusts, Direction:	10 knots / 14 knots, 170°
Temperature:	30° C	Visibility	10 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	ORLANDO, FL (ISM)	Destination:	OXFORD, MS (UOX)

Airport Information

Airport:	TUSCALOOSA RGNL (TCL)	Runway Surface Type:	Asphalt
Runway Used:	30	Runway Surface Condition:	Dry
Runway Length/Width:	4001 ft / 100 ft		

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	5 Fatal	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Latitude, Longitude:	33.222778, -87.599722		

Administrative Information

Investigator In Charge (IIC):	Heidi Kemner	Adopted Date:	05/09/2018
Note:	The NTSB traveled to the scene of this accident.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=93824		

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