



# Aviation Investigation Final Report

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<b>Location:</b>	Hollywood, Alabama	<b>Accident Number:</b>	ERA17LA006
<b>Date &amp; Time:</b>	October 6, 2016, 10:15 Local	<b>Registration:</b>	N8560P
<b>Aircraft:</b>	Piper PA24	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of engine power (total)	<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Instructional		

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## Analysis

The commercial pilot was accomplishing a flight review with his flight instructor seated in the right cockpit seat. Ground operations and the engine run-up were normal. After climbing to 3,000 ft mean sea level, the pilot retarded the throttle and the engine lost total power, with no pressure observed on the fuel pressure gauge. The flight instructor assumed the controls, established best glide speed, and performed a forced landing in a field. After touchdown, the airplane struck an embankment before coming to rest on a dirt road. Examination of the wreckage did not reveal any evidence of a preimpact mechanical malfunction or failure of the engine that would have precluded normal operation. All fuel tanks contained an adequate supply of fuel. However, examination of the fuel tank selector valve revealed that the valve was stuck in the partially closed position, which would have restricted fuel flow to the engine. Moving the tank selector handle did not open the valve.

## Probable Cause and Findings

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

A failure of the fuel tank selector valve in a partially closed position, which resulted in fuel starvation to the engine and a total loss of engine power.

## Findings

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<b>Aircraft</b>	Fuel selector/shutoff valve - Malfunction
<b>Environmental issues</b>	(general) - Contributed to outcome

## Factual Information

### History of Flight

<b>Enroute-cruise</b>	Loss of engine power (total) (Defining event)
<b>Emergency descent</b>	Off-field or emergency landing
<b>Landing-landing roll</b>	Collision with terr/obj (non-CFIT)

On October 6, 2016, about 1015 central daylight time, a Piper PA-24-260, N8560P, was substantially damaged following a total loss of engine power and forced landing near Hollywood, Alabama. The commercial pilot and a flight instructor were not injured. The airplane was operated by the pilot under the provisions of 14 *Code of Federal Regulations* Part 91 as an instructional flight. Day, visual meteorological conditions prevailed at the time, and no flight plan was filed. The local flight originated from Scottsboro Municipal Airport (4A6), Scottsboro, Alabama, about 1000.

The pilot reported that he was accomplishing a flight review and his flight instructor was in the right cockpit seat. Ground operations and the engine run-up were normal. The pilot performed the takeoff and continued on runway heading to 3,000 ft mean sea level. Once level at 3,000 feet, the pilot retarded the throttle to 22-23 inches of manifold pressure. Immediately after retarding the throttle, the engine lost all power. The electric boost pump was turned on; however, the engine did not recover. There was no pressure observed on the fuel pressure gauge. The flight instructor assumed the controls and established best glide speed. A field was chosen for a forced landing and the flight instructor landed the airplane. After touchdown, the airplane struck an embankment before coming to a stop on a dirt road. The pilot and flight instructor exited the airplane and were met by first responders.

An inspector with the Federal Aviation Administration responded to the accident site and examined the wreckage. There was structural damage to the wings and the engine firewall. One propeller blade was straight and the other was bent aft.

The inspector examined the engine and found no evidence of a mechanical failure or anomaly. Internal engine continuity was confirmed. Compression and suction were observed on all cylinders and valve action was correct. There was an adequate supply of oil in the engine case.

All fuel tanks contained an adequate supply of fuel. Examination of the fuel selector valve revealed that the valve was stuck in the partially closed position, restricting fuel flow to the engine. Moving the tank selector handle did not open the valve.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	47, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	3-point
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 With waivers/limitations	<b>Last FAA Medical Exam:</b>	October 5, 2016
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	946 hours (Total, all aircraft), 638 hours (Total, this make and model)		

## Flight instructor Information

<b>Certificate:</b>	Airline transport; Flight instructor	<b>Age:</b>	73, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>		<b>Restraint Used:</b>	3-point
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane multi-engine; Airplane single-engine	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	January 6, 2016
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	December 13, 2015
<b>Flight Time:</b>	23000 hours (Total, all aircraft), 100 hours (Total, this make and model)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Piper	<b>Registration:</b>	N8560P
<b>Model/Series:</b>	PA24 260	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1964	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	24-4017
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>		<b>Certified Max Gross Wt.:</b>	3201 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	4076 Hrs at time of accident	<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Installed	<b>Engine Model/Series:</b>	IO-540-D4A5
<b>Registered Owner:</b>	On file	<b>Rated Power:</b>	260 Horsepower
<b>Operator:</b>	On file	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	4A6,650 ft msl	<b>Distance from Accident Site:</b>	4 Nautical Miles
<b>Observation Time:</b>	10:35 Local	<b>Direction from Accident Site:</b>	30°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	4 knots /	<b>Turbulence Type Forecast/Actual:</b>	/ None
<b>Wind Direction:</b>	80°	<b>Turbulence Severity Forecast/Actual:</b>	/ N/A
<b>Altimeter Setting:</b>	30.17 inches Hg	<b>Temperature/Dew Point:</b>	23°C / 14°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Scottsboro, AL (4A6 )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Scottsboro, AL (4A6 )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	10:00 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	Scottsboro Municipal 4A6	<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>	650 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>		<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	Forced landing

## Wreckage and Impact Information

<b>Crew Injuries:</b>	2 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 None	<b>Latitude, Longitude:</b>	34.692222,-86.010002(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Hicks, Ralph
<b>Additional Participating Persons:</b>	Joel Clark; FAA/FSDO; Birmingham, AL
<b>Original Publish Date:</b>	March 18, 2019
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	The NTSB did not travel to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=94169">https://data.ntsb.gov/Docket?ProjectID=94169</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).