



# Aviation Investigation Final Report

<b>Location:</b>	Brenham, Texas	<b>Accident Number:</b>	CEN17LA093
<b>Date &amp; Time:</b>	January 30, 2017, 15:48 Local	<b>Registration:</b>	N7039H
<b>Aircraft:</b>	Piper J3C	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of engine power (partial)	<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The student pilot and flight instructor were conducting a personal flight. The flight instructor reported that the pretakeoff checks were "normal" but that, during the takeoff, the engine felt "weak" and that the engine lost power during the initial climb. The flight instructor conducted a forced landing to a field, during which the airplane impacted the top of a tree and then the ground.

Examination of the airplane revealed that the exhaust valve for the No. 4 cylinder was stuck in the "open" position possibly due to excessive deposits from the combustion process. It is likely that the stuck exhaust valve resulted in the partial loss of engine power reported by the flight instructor.

## Probable Cause and Findings

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

The reciprocating engine's exhaust valve being stuck in the "open" position, which resulted in a partial loss of engine power during initial climb.

## Findings

<b>Aircraft</b>	Recip engine power section - Not specified
<b>Environmental issues</b>	Tree(s) - Contributed to outcome



## Factual Information

### History of Flight

<b>Initial climb</b>	Loss of engine power (partial) (Defining event)
<b>Landing</b>	Collision with terr/obj (non-CFIT)

On January 30, 2017, about 1538 central standard time, a Piper J3C airplane, N7039H, sustained substantial damage during a forced landing following a partial loss of engine power during initial climb after takeoff near Brenham, Texas. The student pilot and flight instructor were not injured. The airplane's fuselage and wings were damaged during the forced landing. The aircraft was registered to and operated by the student pilot under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed for the flight, which was not on a flight plan. The flight was originating at the time of the accident for an unconfirmed destination.

The flight instructor reported that pre-takeoff engine checks were normal. He noted that during the takeoff he and the student pilot noticed that the engine felt "weak" but thought it was due to being unaccustomed to the airplane. The flight instructor said that he verified that the magneto switch was in the both position, the primer was locked, and the carburetor heat was off. By this time the remaining usable runway had been exhausted and the airplane was sinking with full throttle applied. He selected a field in which to execute a landing but the airplane impacted the top of a tree and then the ground during the forced landing.

Examination of the airplane by a Federal Aviation Administration Inspector revealed that the exhaust valve for the No. 4 cylinder was stuck in the open position due to excessive deposits from the combustion process.

## Flight instructor Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	36, Male
<b>Airplane Rating(s):</b>	Single-engine land; Single-engine sea; Multi-engine land	<b>Seat Occupied:</b>	Rear
<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>	Airplane single-engine; Instrument airplane	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	May 23, 2012
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>			

## Student pilot Information

<b>Certificate:</b>	Student	<b>Age:</b>	41, Male
<b>Airplane Rating(s):</b>	None	<b>Seat Occupied:</b>	Front
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	3-point
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	December 5, 2016
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>			

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Piper	<b>Registration:</b>	N7039H
<b>Model/Series:</b>	J3C	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	4601
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	July 4, 2016 Annual	<b>Certified Max Gross Wt.:</b>	
<b>Time Since Last Inspection:</b>	27 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	6749 Hrs as of last inspection	<b>Engine Manufacturer:</b>	CONT MOTOR
<b>ELT:</b>		<b>Engine Model/Series:</b>	A75-8F(C)8
<b>Registered Owner:</b>	On file	<b>Rated Power:</b>	75 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>	11R,318 ft msl	<b>Distance from Accident Site:</b>	0 Nautical Miles
<b>Observation Time:</b>	19:35 Local	<b>Direction from Accident Site:</b>	0°
<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>	9 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	240°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.18 inches Hg	<b>Temperature/Dew Point:</b>	25°C / -4°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	BRENHAM, TX (11R )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Waco, TX	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>		<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	BRENHAM MUNI 11R	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	317 ft msl	<b>Runway Surface Condition:</b>	Vegetation
<b>Runway Used:</b>	16	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	6003 ft / 75 ft	<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>	30.219722,-96.374443

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Brannen, John
<b>Additional Participating Persons:</b>	Rick Bolton; FAA Houston FSDO; Houston, TX
<b>Original Publish Date:</b>	September 6, 2017
<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.nts.gov/Docket?ProjectID=94671">https://data.nts.gov/Docket?ProjectID=94671</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](#).