



Aviation Investigation Final Report

Location:	Elba, Alabama	Accident Number:	ERA19LA031
Date & Time:	October 28, 2018, 15:00 Local	Registration:	N20BK
Aircraft:	Cessna 182	Aircraft Damage:	Substantial
Defining Event:	Sys/Comp malf/fail (non-power)	Injuries:	3 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

During the takeoff roll on an instructional flight, the instructor noticed that the airspeed was not increasing above 50 knots. He aborted the takeoff, during which the airplane overran the runway end and collided with a berm, resulting in substantial damage. The airplane was recovered for examination and a pitot-static system test revealed significant errors in airspeed indication due to a leak in the system. The airplane's maintenance logs were not provided for review, and the maintenance history of the pitot-static system could not be determined.

Probable Cause and Findings

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

A leak in the pitot-static system for reasons that could not be determined based on the available information, which resulted in an airspeed indication error, an aborted takeoff, and a subsequent runway overrun.

Findings

Aircraft	(general) - Malfunction
Environmental issues	(general) - Contributed to outcome

Factual Information

History of Flight

Takeoff-rejected takeoff	Sys/Comp malf/fail (non-power) (Defining event)
Takeoff-rejected takeoff	Runway excursion

On October 28, 2018, about 1500 central daylight time, a Cessna 182Q, N20BK, sustained substantial damage when it was involved in an accident near Elba, Alabama. The flight instructor, the commercial pilot receiving instruction, and a passenger were not injured. The airplane was operated as a Title 14 *Code of Federal Regulations Part 91* instructional flight.

According to the flight instructor, all three occupants boarded the airplane for departure after a preflight inspection. An engine run-up revealed no anomalies. When the airplane neared the midpoint of the 3,050-ft-long runway, he noticed that the airspeed was 50 knots and was not increasing. He immediately reduced engine power to idle, aborted the takeoff, and applied the brakes. The airplane overran the runway and collided with a berm about 1,000 ft past the runway end.

Examination of the airplane by a Federal Aviation Administration (FAA) inspector revealed that the nose landing gear broke away from the strut and that the engine firewall was buckled. The airplane's maintenance logs were not made available for review.

A postaccident test of the pitot static system revealed a leak within the system; the airspeed indicator read 40 knots when tested at 70 knots, and 60 knots when tested at 100 knots.

Flight instructor Information

Certificate:	Airline transport; Flight instructor	Age:	48, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	February 19, 2018
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	January 19, 2018
Flight Time:	(Estimated) 6400 hours (Total, all aircraft), 6 hours (Total, this make and model), 4850 hours (Pilot In Command, all aircraft), 55 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft)		

Student pilot Information

Certificate:	Commercial; Military	Age:	41,Male
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	3-point
Instrument Rating(s):	Helicopter	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	September 29, 2018
Occupational Pilot:	No	Last Flight Review or Equivalent:	August 23, 2018
Flight Time:	(Estimated) 3389 hours (Total, all aircraft), 2356 hours (Pilot In Command, all aircraft), 36 hours (Last 90 days, all aircraft), 29 hours (Last 30 days, all aircraft)		

Passenger Information

Certificate:		Age:	Male
Airplane Rating(s):		Seat Occupied:	Rear
Other Aircraft Rating(s):		Restraint Used:	Lap only
Instrument Rating(s):		Second Pilot Present:	Yes
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:		Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N20BK
Model/Series:	182 Q	Aircraft Category:	Airplane
Year of Manufacture:	1978	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	18266347
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	February 14, 2018 Annual	Certified Max Gross Wt.:	2348 lbs
Time Since Last Inspection:	10 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	7071 Hrs as of last inspection	Engine Manufacturer:	Continental
ELT:	C91A installed, activated, did not aid in locating accident	Engine Model/Series:	O-470 SERIES
Registered Owner:		Rated Power:	230 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:	KLOR,360 ft msl	Distance from Accident Site:	18 Nautical Miles
Observation Time:	20:44 Local	Direction from Accident Site:	170°
Lowest Cloud Condition:	Clear	Visibility	8 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	9 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	230°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.04 inches Hg	Temperature/Dew Point:	26°C / 11°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Elba, AL (14J)	Type of Flight Plan Filed:	None
Destination:	Jackson, TN (MKL)	Type of Clearance:	None
Departure Time:	15:00 Local	Type of Airspace:	Class G

Airport Information

Airport:	Carl Folsom 14J	Runway Surface Type:	Asphalt
Airport Elevation:	258 ft msl	Runway Surface Condition:	Dry
Runway Used:	01	IFR Approach:	None
Runway Length/Width:	3050 ft / 75 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 None	Latitude, Longitude:	31.410833,-86.089996(est)

Administrative Information

Investigator In Charge (IIC):	Alleyne, Eric		
Additional Participating Persons:	Nina A McBride; FAA/FSDO; Vestavia, AL		
Original Publish Date:	August 26, 2021	Investigation Class:	3
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=98566		

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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](#).