



# Aviation Investigation Final Report

<b>Location:</b>	Mesa, Arizona	<b>Accident Number:</b>	WPR20CA088
<b>Date &amp; Time:</b>	February 4, 2020, 15:02 Local	<b>Registration:</b>	N4400F
<b>Aircraft:</b>	Piper PA-28-181	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of control on ground	<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Instructional		

## Analysis

The flight instructor reported that she briefed the soft-field takeoff procedure with the student pilot while holding short for the active runway. After the flight was cleared for takeoff, the student aligned the airplane with the runway centerline, advanced the throttle to the full-power position, and released aft pressure from the yoke. During the ground roll, the instructor briefly lost sight of the runway, and when the runway reappeared, she saw the airplane rapidly veering left. The instructor applied full right rudder and right aileron, but the airplane continued veering left. Unable to stop the turn, the instructor reduced engine power but quickly restored it with the intent of flying the airplane back to the runway because the airplane had become airborne. However, the airplane then rolled left, the stall horn sounded, and the airplane touched down on the taxiway and impacted a parked airplane. The right wing and left aileron sustained substantial damage. The instructor and student reported that there were no preaccident mechanical malfunctions or failures with the airplane that could have precluded normal operation.

# Probable Cause and Findings

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

The student pilot's failure to maintain directional control and the flight instructor's inadequate remediation during a short-field takeoff, which resulted in impact with a parked airplane.

Findings	
Personnel issues	Aircraft control - Student/instructed pilot
Personnel issues	Aircraft control - Instructor/check pilot
Aircraft	Directional control - Not attained/maintained
Personnel issues	Aircraft control - Student/instructed pilot
Environmental issues	Aircraft - Effect on operation

## Factual Information

### History of Flight

Takeoff	Loss of control on ground (Defining event)
Takeoff	Attempted remediation/recovery
Takeoff	Collision with terr/obj (non-CFIT)

### Flight instructor Information

Certificate:	Commercial; Flight instructor	Age:	26,Female
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 single-engine	Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	December 14, 2019
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	July 21, 2019
Flight Time:	679.4 hours (Total, all aircraft), 49.5 hours (Total, this make and model), 584.4 hours (Pilot In Command, all aircraft), 115.9 hours (Last 90 days, all aircraft), 42.4 hours (Last 30 days, all aircraft), 8.1 hours (Last 24 hours, all aircraft)		

### Student pilot Information

Certificate:	None	Age:	23,Male
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	October 25, 2019
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	13 hours (Total, all aircraft), 13 hours (Total, this make and model), 13 hours (Last 90 days, all aircraft), 13 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Piper	<b>Registration:</b>	N4400F
<b>Model/Series:</b>	PA-28-181	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	2019	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	2881139
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	January 30, 2020 AAIP	<b>Certified Max Gross Wt.:</b>	2558 lbs
<b>Time Since Last Inspection:</b>	25 Hrs	<b>Engines:</b>	Reciprocating
<b>Airframe Total Time:</b>	1313.4 Hrs at time of accident	<b>Engine Manufacturer:</b>	Lycoming Engines
<b>ELT:</b>	C126 installed, not activated	<b>Engine Model/Series:</b>	O-360-A4M
<b>Registered Owner:</b>	CAE Oxford Aviation Academy Phoenix	<b>Rated Power:</b>	180 Horsepower
<b>Operator:</b>	CAE Oxford Aviation Academy Phoenix	<b>Operating Certificate(s) Held:</b>	Pilot school (141)

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>		<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>	14:54 Local	<b>Direction from Accident Site:</b>	
<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>	/ None	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>		<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29.94 inches Hg	<b>Temperature/Dew Point:</b>	11°C / -13°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Mesa, AZ (FFZ )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Mesa, AZ (FFZ )	<b>Type of Clearance:</b>	VFR
<b>Departure Time:</b>	15:02 Local	<b>Type of Airspace:</b>	Class D

## Airport Information

<b>Airport:</b>	Falcon Fld FFZ	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	1394 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	22L	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	5100 ft / 100 ft	<b>VFR Approach/Landing:</b>	None

## 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>	33.461112,-111.723892(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Stein, Stephen
<b>Additional Participating Persons:</b>	Daniel Gredlein; Federal Aviation Administration; Scottsdale, AZ
<b>Original Publish Date:</b>	July 27, 2020
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	This accident report documents the factual circumstances of this accident as described to the NTSB.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=100909">https://data.nts.gov/Docket?ProjectID=100909</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](#).