



Aviation Investigation Final Report

Location:	Ridgeland, South Carolina	Accident Number:	GAA19CA144
Date & Time:	February 22, 2019, 15:30 Local	Registration:	N201AZ
Aircraft:	Mooney M20J	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor in the retractable-landing gear airplane reported that, during final with student at the controls, there were no abnormal weather conditions, but as the airplane passed over the runway threshold, the airplane encountered "severe wind shear" that he believed to be a "microburst." The airplane then pitched up, rolled left, and the instructor and student added full power to go around. During the attempted go-around, the instructor took control of the airplane with the landing gear down, full flaps, and the propeller full forward. He added that the airplane "simply" did not have enough performance to climb. Subsequently, the airplane drifted left of the runway and impacted a gravel hill.

The airplane sustained substantial damage to the fuselage and right wing.

The flight instructor reported that there were no preaccident mechanical failures or malfunctions with the airplane that would have precluded normal operation.

An automated weather observation system about 14 nautical miles from the airport reported that, about the time of the accident, the wind was variable at 3 knots, temperature 73°F, dew point 68°F, altimeter 30.14 inches of mercury, and few clouds at 500 ft. The airplane landed on runway 3. The pilot reported that the weather at the airport was wind light and variable, visibility 10 miles, and few clouds at 2,000 ft. The instructor reported the wind as calm to light and variable, visibility 10 miles, and few clouds at 5,000 ft.

The instructor further reported that, during the go-around, the airplane's configuration with full flaps for landing was not changed. The airplane's Pilot's Operating Handbook, "Go Around (balked landing)," stated that, following establishing a climb, the flaps should be reduced to the takeoff setting.

Probable Cause and Findings

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

The flight instructor's failure to retract the flaps during an attempted go-around and his failure to maintain the runway heading, which resulted in a collision with terrain left of the runway.

Findings

Personnel issues	Aircraft control - Instructor/check pilot
Personnel issues	Use of equip/system - Instructor/check pilot
Personnel issues	Lack of action - Instructor/check pilot
Aircraft	Heading/course - Not attained/maintained
Environmental issues	Mountainous/hilly terrain - Effect on operation

Factual Information

History of Flight

Landing	Loss of control in flight (Defining event)
Landing	Attempted remediation/recovery
Landing	Runway excursion
Landing	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Private	Age:	74, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	September 7, 2018
Occupational Pilot:	No	Last Flight Review or Equivalent:	October 15, 2018
Flight Time:	(Estimated) 1174 hours (Pilot In Command, all aircraft)		

Flight instructor Information

Certificate:	Airline transport; Commercial; Flight instructor	Age:	36, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter; Powered-lift	Restraint Used:	3-point
Instrument Rating(s):	Airplane; Helicopter; Powered-lift	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane single-engine; Powered-lift	Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	October 8, 2018
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	July 3, 2018
Flight Time:	(Estimated) 1521 hours (Total, all aircraft), 42 hours (Total, this make and model), 466 hours (Pilot In Command, all aircraft), 28 hours (Last 90 days, all aircraft), 15 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Mooney	Registration:	N201AZ
Model/Series:	M20J No Series	Aircraft Category:	Airplane
Year of Manufacture:	1978	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	24-0423
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	September 5, 2018 Annual	Certified Max Gross Wt.:	2899 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	3354 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	Installed	Engine Model/Series:	IO-360-A3B60
Registered Owner:	On file	Rated Power:	200 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:	KNBC,38 ft msl	Distance from Accident Site:	14 Nautical Miles
Observation Time:	14:56 Local	Direction from Accident Site:	93°
Lowest Cloud Condition:	Few / 500 ft AGL	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:		Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.18 inches Hg	Temperature/Dew Point:	23°C / 20°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Allendale, SC (AQX)	Type of Flight Plan Filed:	None
Destination:	Ridgeland, SC (3J1)	Type of Clearance:	None
Departure Time:	14:00 Local	Type of Airspace:	Class G

Airport Information

Airport:	RIDGELAND-CLAUDE DEAN 3J1	Runway Surface Type:	Asphalt
Airport Elevation:	79 ft msl	Runway Surface Condition:	Dry
Runway Used:	03	IFR Approach:	None
Runway Length/Width:	2692 ft / 70 ft	VFR Approach/Landing:	Full stop;Go around;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	32.494167,-80.991111(est)

Administrative Information

Investigator In Charge (IIC):	Swenson, Eric
Additional Participating Persons:	Todd Clamp; FAA; West Columbia, SC
Original Publish Date:	September 26, 2019
Last Revision Date:	
Investigation Class:	Class
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=99015

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