



Aviation Investigation Final Report

Location:	Bulberde, Texas	Accident Number:	GAA18CA233
Date & Time:	April 19, 2018, 16:55 Local	Registration:	N3535X
Aircraft:	Mooney M20F	Aircraft Damage:	Substantial
Defining Event:	Fuel starvation	Injuries:	4 None
Flight Conducted Under:	Part 91: General aviation - Ferry		

Analysis

According to the pilot who occupied the right front seat, during the flight, the engine started to run roughly. He added that, during landing, the airplane was fast and high, and it touched down about 1,200 ft past the approach end of the 2,890-ft-long runway. A pilot-rated passenger occupied the left front seat, which was the only position configured with brakes. The pilot-rated passenger applied the brakes during the landing roll, and the pilot maneuvered the airplane to exit the left side of the runway to avoid a runway overrun and impact with a fence. The airplane exited the left side of the runway, the right main landing gear collapsed, and the airplane subsequently skidded to a stop in the grass safety area.

The airplane sustained substantial damage to the aft section of the fuselage.

During an interview with the National Transportation Safety Board investigator-in-charge, a flight instructor, who was seated in the rear of the airplane during the flight, reported that the airplane touched down about 100 knots with between 40 and 60 percent of the runway remaining.

According to the manufacturer's airplane operator manual, the minimum runway landing roll distance at sea level is 785 ft when the ground speed is 70 knots.

The METAR at the airport reported that, about the time of the accident, the wind was from 07° at 12 knots, gusting to 17 knots. The airport field elevation was 789 ft, and the pilot landed the airplane on runway 34.

Probable Cause and Findings

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

The pilot's unstabilized approach, which resulted in the airplane landing long and fast, and the pilot's subsequent decision to steer the airplane off the side of the runway to avoid a runway overrun.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	Descent/approach/glide path - Not attained/maintained
Aircraft	Airspeed - Not attained/maintained

Factual Information

History of Flight

Enroute	Fuel starvation (Defining event)
Landing-landing roll	Runway excursion

Pilot Information

Certificate:	Commercial	Age:	50, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 None	Last FAA Medical Exam:	May 1, 2018
Occupational Pilot:	No	Last Flight Review or Equivalent:	August 12, 2017
Flight Time:	(Estimated) 1228.1 hours (Total, all aircraft), 308 hours (Total, this make and model), 1114 hours (Pilot In Command, all aircraft), 24 hours (Last 90 days, all aircraft), 13.5 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Pilot Information

Certificate:	Private	Age:	17, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	March 1, 2018
Occupational Pilot:	No	Last Flight Review or Equivalent:	April 5, 2018
Flight Time:	70 hours (Total, all aircraft), 1 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Mooney	Registration:	N3535X
Model/Series:	M20F NO SERIES	Aircraft Category:	Airplane
Year of Manufacture:	1966	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	670072
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	January 31, 2018 Annual	Certified Max Gross Wt.:	2740 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	4475 Hrs at time of accident	Engine Manufacturer:	LYCOMING
ELT:	C126 installed, not activated	Engine Model/Series:	IO-360-A1A
Registered Owner:	Zulu Aviation Corp.	Rated Power:	200 Horsepower
Operator:	Zulu Aviation Corp.	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KSAT,789 ft msl	Distance from Accident Site:	12 Nautical Miles
Observation Time:	21:51 Local	Direction from Accident Site:	188°
Lowest Cloud Condition:	Scattered / 25000 ft AGL	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	12 knots / 17 knots	Turbulence Type Forecast/Actual:	/ None
Wind Direction:	70°	Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	30.2 inches Hg	Temperature/Dew Point:	25°C / 2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Fort Worth, TX (FTW)	Type of Flight Plan Filed:	IFR
Destination:	Bulberde, TX (1T8)	Type of Clearance:	None
Departure Time:	15:15 Local	Type of Airspace:	Class E

Airport Information

Airport:	BULVERDE AIRPARK 1T8	Runway Surface Type:	Asphalt
Airport Elevation:	1080 ft msl	Runway Surface Condition:	Dry
Runway Used:	34	IFR Approach:	None
Runway Length/Width:	2890 ft / 40 ft	VFR Approach/Landing:	Forced landing;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	2 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	4 None	Latitude, Longitude:	29.739166,-98.45111(est)

Administrative Information

Investigator In Charge (IIC):	Hicks, Michael
Additional Participating Persons:	Victor Lopez; FAA; San Antonio, TX
Original Publish Date:	March 18, 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=97113

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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](#).