Aviation Investigation Final Report

Location:	Bowie, Maryland	**Accident Number:**	ERA19LA269
Date & Time:	September 12, 2019, 11:20 Local	**Registration:**	N202JB
Aircraft:	Mooney M20J	**Aircraft Damage:**	Substantial
Defining Event:	Collision during takeoff/land	**Injuries:**	2 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot performed a preflight inspection of the airplane and noted no anomalies. The pilot initiated the takeoff roll and noted that the airplane's airspeed never rose above 40 mph. The airplane was about one-third to halfway down the 2,420-ft runway when the pilot elected to abort the takeoff then overran the departure end of the runway. The airplane broke through the airport perimeter fence and struck a car on a highway just off the airport property, which resulted in the left wing separating from the fuselage.

Postaccident examination of the airplane was unable to find any anomalies with the airspeed indicator, pitot tube, or pitot static system between the left-wing root and the airspeed indicator that would have precluded normal operation. Due to the wing's impact damage, investigators were unable to functionally test the portion of the pitot system between the pitot tube and the left-wing root. It is possible that the pitot static system was blocked during the accident flight, preventing the airspeed indicator from displaying airspeeds above 40 mph and leading the pilot to decide to abort the takeoff, then the blockage became dislodged during the accident sequence.

Probable Cause and Findings

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

A blockage of the pitot static system that preclude the airspeed indicator from displaying speeds greater than 40 mph, which led the pilot to abort the landing and overrun the runway.

Findings

Aircraft	Instrument panel - Malfunction
Aircraft	Pitot/static system - Damaged/degraded
Personnel issues	Identification/recognition - Pilot

Factual Information

History of Flight

Takeoff-rejected takeoff	Collision during takeoff/land (Defining event)
Takeoff-rejected takeoff	Runway excursion

On September 12, 2019, about 1120 eastern daylight time, a Mooney M20J airplane, N202JB, impacted a car after aborting a takeoff from Freeway Airport (W00), Bowie, Maryland. The private pilot and pilot-rated passenger sustained minor injuries. The airplane sustained substantial damage. The airplane was operated under the provisions of Title 14 Code of Federal Regulations Part 91. Visual meteorological conditions prevailed, and an instrument flight rules flight plan had been filed for the personal cross-county flight, which was originating at the time of the accident.

According to the pilot, he performed a preflight inspection of the airplane with no anomalies noted. Then, he taxied to the active runway and initiated the takeoff roll; he noted that the airspeed rose to 40 mph. A moment later he looked again, and the airspeed did not rise above 40 mph. The airplane was about one-third to halfway down the 2,420-ft runway when the pilot elected to abort the takeoff, and subsequently overran the departure end of runway 36. The airplane broke through the airport perimeter fence and struck a car on a highway just off the airport property. The airplane's left wing sustained leading-edge impact damage and had separated from the airframe at the wing root. The right wing and fuselage were also substantially damaged.

A Federal Aviation Administration (FAA) inspector performed an examination of the airplane's pitot/static system. The tubing that supplied air to the airspeed indicator was secure to the back of the instrument. Uncalibrated pressurized air was applied to the fractured tubing at the left-wing root and the airspeed indicator moved and indicated up to 95 knots. The pitot tube was undamaged and remained attached to the left wing. It was removed and no debris was noted in the ram-air intake or drainage holes. An attempt was made to run pressurized air from the pitot tube to the left-wing root, however due to impact damage on the wing, air was unable to pass through the tubing.

According to the airframe maintenance logbook, the most recent annual inspection was completed on June 19, 2019, at a total time of 4,405.2 hours. The most recent altimeter/Pitot-static system check was completed August 8, 2018. Maintenance was completed on the instrument panel of the airplane on the day prior to the accident, however, the mechanic stated to the FAA inspector that the work performed was not near the airspeed indicator.

Pilot Information

Certificate:	Private	**Age:**	58,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 3 Without waivers/limitations	**Last FAA Medical Exam:**	December 11, 2018
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	May 12, 2018
Flight Time:	1148 hours (Total, all aircraft), 110 hours (Total, this make and model), 1016 hours (Pilot In Command, all aircraft), 12 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft)		

Pilot-rated passenger Information

Certificate:	Commercial	**Age:**	Male
Airplane Rating(s):	Single-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):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	March 1, 2018
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Mooney	**Registration:**	N202JB
Model/Series:	M20J No Series	**Aircraft Category:**	Airplane
Year of Manufacture:	1978	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	24-0644
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	June 19, 2019 Annual	**Certified Max Gross Wt.:**	2899 lbs
Time Since Last Inspection:	34 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	4439 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	IO-360-A386D
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:	CGS,50 ft msl	**Distance from Accident Site:**	7 Nautical Miles
Observation Time:	11:22 Local	**Direction from Accident Site:**	287°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	11 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	300°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.07 inches Hg	**Temperature/Dew Point:**	32°C / 18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Bowie, MD (W00)	**Type of Flight Plan Filed:**	IFR
Destination:	Charleston, WV (CRW)	**Type of Clearance:**	IFR
Departure Time:	11:20 Local	**Type of Airspace:**	

Airport Information

Airport:	Freeway W00	**Runway Surface Type:**	Asphalt
Airport Elevation:	168 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	36	**IFR Approach:**	None
Runway Length/Width:	2420 ft / 40 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	2 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Minor	**Latitude, Longitude:**	38.944999,-76.77333(est)

Administrative Information

Investigator In Charge (IIC):	Kemner, Heidi
Additional Participating Persons:	Michael Bevin; FAA/FSDO; Baltimore, MD
Original Publish Date:	January 28, 2021
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=100246

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