



National Transportation Safety Board Aviation Accident Preliminary Report

Location:	Detroit, MI	Accident Number:	CEN20LA028
Date & Time:	12/03/2019, 0833 EST	Registration:	N469RJ
Aircraft:	Bae BAE 125 SERIES 800A	Injuries:	2 None
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled		

On December 3, 2019, about 0833 eastern standard time, a BAE 125 800A airplane, N469RJ, impacted terrain during an instrument landing system (ILS) approach to runway 33 at the Coleman A. Young Municipal Airport (DET), near Detroit, Michigan. The airline transport pilot and copilot were uninjured, and the airplane's right wing sustained substantial damage. The airplane was registered to and operated by Business Jet Managers Inc. as a Title 14 *Code of Federal Regulations* Part 91 repositioning flight for a subsequent Part 135 flight. Day visual meteorological conditions prevailed in the area about the time of the accident, and the flight was operated on an instrument flight rules flight plan. The flight originated from the Willow Run Airport (YIP), near Detroit, Michigan, about 0819, and was destined for DET.

According to initial information from the pilot in command who was flying the accident airplane, the crew was conducting an ILS approach to runway 33. The airplane broke out of the clouds about 1,500 ft above ground level (AGL), and the airplane had picked up rime icing during the flight. The air traffic controller at YIP advised them of the icing conditions present. The airplane had a TKS [Tecalemit-Kilfrost-Sheepbridge Stokes] type weeping wing for deicing. Spots where the weeping wing panels joined had an ice build up. The airplane did not have any airspeed oscillations during the approach, and the crew maintained 140 knots on approach. The flight's calculated Vref speed was 128 knots. The pilot reported that the right wing "dropped" and a stall occurred. He said that there was no shaker activation during the flight.

According to initial information, about 0807, a BAE 125 800A airplane landed at DET. The pilot of that airplane stated that he was in his own airplane on the ramp waiting for passengers and witnessed another 800A exiting runway 33 traveling through the grass and across the taxiway coming to rest in the grass past the taxiway. His airplane's flight to DET lasted approximately 18 minutes. Before entering the clouds, the witness reported the TKS ice protection system, engine heat, and engine ignitions were turned on. The witness, in part, stated, "Soon afterwards our ice detected light came on. We were vectored at 3000 ft for the ILS 33. We reported light ice and outside air temperature was -9 C. ... Approximately 1000 ft AGL we broke out and landed visually. All operations were normal. Our landing weight was 22,500 lbs. We bugged the airspeed indicator for Ref 129 and approach 139. On final our

airspeed varied from 134 to 140 knots. Our touchdown speed was approximately ref minus 8. After landing we had some minor ice on the wing leading edge. The small temperature probe had an umbrella shaped ice formation. The outboard ends of the horizontal stabilizer had the typical "T" ice formation on about the outer 9 inches of both horizontals."

DET, located approximately five miles northeast of downtown Detroit, Michigan, was a publicly owned, towered airport that was owned by the City of Detroit. It was continuously attended by air traffic control. DET's surveyed field elevation was 626 ft above mean sea level. DET was serviced by two runways, 7/25 and 15/33. Runway 7/25 was a 3,714 ft by 100 ft asphalt runway and runway 15/33 was a 5,090 ft by 100 ft, asphalt runway. Runway 15/33 was marked as a precision approach runway and was serviced by a four-light precision approach path indicator on the runway's left side. The airport had 4 published approaches, which included the ILS OR LOC RWY 33 approach.

The airplane was equipped with a magnetic tape cockpit voice recorder (CVR), Fairchild model A100A, serial number 58758, which was removed from the accident airplane and retained for readout and evaluation.

The airplane was equipped with a L3 Communications Avionics Systems, Inc. Landmark TAWS 8000 unit and two digital electronic engine control units. These units were removed from the accident airplane and retained for readout and evaluation.

Aircraft and Owner/Operator Information

Aircraft Make:	Bae	Registration:	N469RJ
Model/Series:	BAE 125 SERIES 800A 800B	Aircraft Category:	Airplane
Amateur Built:	No		
Operator:	Business Jet Managers Inc	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	U48A

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	KDET, 626 ft msl	Observation Time:	0844 EST
Distance from Accident Site:	0 Nautical Miles	Temperature/Dew Point:	-2 °C / -3 °C
Lowest Cloud Condition:		Wind Speed/Gusts, Direction:	8 knots / , 280°
Lowest Ceiling:	Overcast / 1000 ft agl	Visibility:	10 Miles
Altimeter Setting:	29.86 inches Hg	Type of Flight Plan Filed:	IFR
Departure Point:	Detroit, MI (YIP)	Destination:	Detroit, MI (DET)

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	42.409444, -83.010278 (est)

Administrative Information

Investigator In Charge (IIC):	Edward F Malinowski
Additional Participating Persons:	Douglas Peterson; FAA, East Michigan FSDO; Belleville, MI Andrew Hall; Textron Aviation; Wichita, KS Allie Engel; Honeywell Aerospace; Phoenix, AZ Wolfgang Niesing; L3 Harris Aviation Products; Grand Rapids, MI
Note:	The NTSB did not travel to the scene of this accident.