



Aviation Investigation Final Report

Location:	Gaithersburg, Maryland	Accident Number:	DCA15MA029
Date & Time:	December 8, 2014, 10:41 Local	Registration:	N100EQ
Aircraft:	Embraer EMB-500	Aircraft Damage:	Destroyed
Defining Event:	Loss of control in flight	Injuries:	6 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The NTSB's full report is available at <http://www.ntsb.gov/investigations/AccidentReports/Pages/AccidentReports.aspx>. The Aircraft Accident Report number is NTSB/AAR-16/01.

On December 8, 2014, about 1041 eastern standard time, an Embraer EMB-500 airplane (marketed as the Phenom 100), N100EQ, registered to and operated by Sage Aviation LLC, crashed while on approach to runway 14 at Montgomery County Airpark (GAI), Gaithersburg, Maryland. The airplane impacted three houses and the ground about 3/4 mile from the approach end of the runway. A postcrash fire involving the airplane and one of the three houses, which contained three occupants, ensued. The pilot, the two passengers, and the three people in the house died as a result of the accident. The airplane was destroyed by impact forces and postcrash fire. The flight was operating on an instrument flight rules (IFR) flight plan under the provisions of 14 Code of Federal Regulations (CFR) Part 91. Visual meteorological conditions prevailed at the time of the accident.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's conduct of an approach in structural icing conditions without turning on the airplane's wing and horizontal stabilizer deice system, leading to ice accumulation on those surfaces, and without using the appropriate landing performance speeds for the weather conditions and airplane weight, as indicated in the airplane's standard operating procedures, which together resulted in an aerodynamic stall at an altitude at which a recovery was not possible.

Findings

Aircraft	Airfoil anti-ice, deice - Not used/operated
Personnel issues	Lack of action - Pilot
Environmental issues	(general) - Effect on equipment
Personnel issues	(general) - Pilot
Aircraft	(general) - Related operating info
Aircraft	(general) - Not installed/available

Factual Information

History of Flight

Enroute-descent	Structural icing
Approach-IFR final approach	Loss of control in flight (Defining event)
Approach-IFR final approach	Collision with terr/obj (non-CFIT)

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Pilot Information

Certificate:	Airline transport; Flight instructor	Age:	66, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane single-engine	Toxicology Performed:	Yes
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	February 7, 2014
Occupational Pilot:	No	Last Flight Review or Equivalent:	April 28, 2014
Flight Time:	4736.5 hours (Total, all aircraft), 135.8 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Embraer	Registration:	N100EQ
Model/Series:	EMB-500	Aircraft Category:	Airplane
Year of Manufacture:	2009	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	50000082
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	November 14, 2014 Continuous airworthiness	Certified Max Gross Wt.:	10472 lbs
Time Since Last Inspection:		Engines:	2 Turbo jet
Airframe Total Time:	633.8 Hrs as of last inspection	Engine Manufacturer:	P&W CANADA
ELT:	C126 installed, activated, did not aid in locating accident	Engine Model/Series:	PW617F-E
Registered Owner:	SAGE AVIATION LLC	Rated Power:	0 Horsepower
Operator:	SAGE AVIATION LLC	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	Condition of Light:	Day
Observation Facility, Elevation:	GAI	Distance from Accident Site:	
Observation Time:	10:35 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Few / 2100 ft AGL	Visibility	10 miles
Lowest Ceiling:	Overcast / 3200 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	40°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.61 inches Hg	Temperature/Dew Point:	-1°C / -7°C
Precipitation and Obscuration:			
Departure Point:	Chapel Hill, NC (IGX)	Type of Flight Plan Filed:	IFR
Destination:	Gaithersburg, MD (GAI)	Type of Clearance:	IFR
Departure Time:	09:45 Local	Type of Airspace:	

Airport Information

Airport:	MONTGOMERY COUNTY AIRPARK GAI	Runway Surface Type:	Asphalt
Airport Elevation:	538 ft msl	Runway Surface Condition:	Unknown
Runway Used:	14	IFR Approach:	Global positioning system;RNAV
Runway Length/Width:	4202 ft / 75 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	2 Fatal	Aircraft Fire:	On-ground
Ground Injuries:	3 Fatal	Aircraft Explosion:	None
Total Injuries:	6 Fatal	Latitude, Longitude:	39.180278,-77.180557

Administrative Information

Investigator In Charge (IIC):	LeBaron, Timothy
Additional Participating Persons:	Patrick Hempen; Federal Aviation Administration; Washington, DC Earl Chapman ; Transportation Safety Board of Canada Thiago Lirio ; Aeronautical Accidents Investigation and Preventio
Original Publish Date:	June 21, 2016
Last Revision Date:	
Investigation Class:	Class 1
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=90473

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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](#).