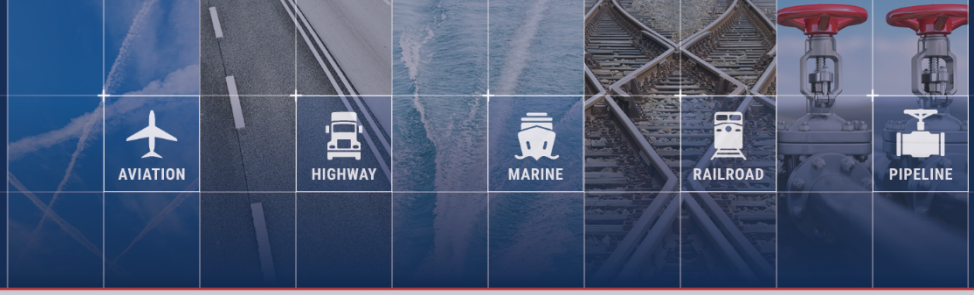

Aviation Investigation Final Report

Location:	Springfield, Kentucky	**Accident Number:**	WPR23LA236
Date & Time:	March 24, 2023, 13:32 Local	**Registration:**	N146MS
Aircraft:	Piper PA-46-310P	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control in flight	**Injuries:**	4 None
Flight Conducted Under:	Part 91: General aviation - Business		

Analysis

The pilot reported that light rain and trace clear air icing were forecast along his intended route of flight, and he encountered those conditions during climb out. As the airplane was climbing through 14,000 ft mean sea level (msl) in instrument meteorological conditions, he noticed the airspeed had decreased 10-15 knots. He checked the wings for ice and did not notice any accumulation but activated the pitot heat at that time as a precaution. After the pitot heat was activated the Primary Flight Display (PFD) and Multi-Function Display (MFD) displayed a red X and went black. Subsequently, the autopilot commanded the airplane to descend. The pilot reported that he was unable to read his standby instruments due to the violent shaking of the airplane during the descent. As the airplane emerged into VMC conditions, the airplane was in an unusual attitude. He disconnected the autopilot and was able to recover the airplane to a level attitude. At this time, the PFD and MFD operation returned. An air traffic controller reported to the pilot that he had lost about 5,000 ft in altitude and airspeed had increased over 200 kts. The pilot responded that his avionics were working again, and that the aircraft was operating normally. He continued with the flight and landed without further incident. Substantial damage was discovered to both wings following the flight.

The airplane's "Before Takeoff checklist" calls for the pitot heat to be activated for flight into icing conditions when visible moisture below +5° C, is anticipated or encountered. A Federal Aviation Administration inspector examined the airplane after the event and verified the pitot heat was operational. The circumstances of the accident are consistent with the pilot failing to activate the pitot heat in a timely manner, which allowed ice to accumulate on the pitot static system. The PFD, MFD, and autopilot subsequently malfunctioned and the pilot lost control of the airplane.

Probable Cause and Findings

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

The pilot's failure to activate the pitot heat in a timely manner during flight into icing conditions, which resulted in a temporary failure of the flight instruments and a subsequent loss of control.

Findings

Personnel issues	Use of equip/system - Pilot
Aircraft	Pitot/static anti-ice - Incorrect use/operation

Factual Information

History of Flight

Enroute-cruise	Loss of control in flight (Defining event)

Pilot Information

Certificate:	Commercial	**Age:**	65,Male
Airplane Rating(s):	Single-engine sea; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	May 23, 2023
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	May 23, 2023
Flight Time:	(Estimated) 8700 hours (Total, all aircraft), 112 hours (Total, this make and model), 4000 hours (Pilot In Command, all aircraft), 114 hours (Last 90 days, all aircraft), 49 hours (Last 30 days, all aircraft), 3.7 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N146MS
Model/Series:	PA-46-310P	**Aircraft Category:**	Airplane
Year of Manufacture:	1984	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	46-8408032
Landing Gear Type:	Tricycle	**Seats:**	6
Date/Type of Last Inspection:	Annual	**Certified Max Gross Wt.:**	4300 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	TIO-520
Registered Owner:	MAGNOLIA PARTNERS AVIATION LLC	**Rated Power:**	310 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:	KLEX,962 ft msl	**Distance from Accident Site:**	28 Nautical Miles
Observation Time:	12:54 Local	**Direction from Accident Site:**	42°
Lowest Cloud Condition:	Few / 8000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:		**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	20°	**Turbulence Severity Forecast/Actual:**	Light /
Altimeter Setting:	30.1 inches Hg	**Temperature/Dew Point:**	27°C / 11°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Mount Sterling, KY (IOB)	**Type of Flight Plan Filed:**	IFR
Destination:	Arkadelphia, AR (ADP)	**Type of Clearance:**	IFR
Departure Time:	13:00 Local	**Type of Airspace:**	Class E

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	3 None	**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	4 None	**Latitude, Longitude:**	37.68,-85.01(est)

Administrative Information

Investigator In Charge (IIC):	Nixon, Albert
Additional Participating Persons:	Danny Brickey; FAA; Little Rock, AR
Original Publish Date:	December 21, 2023
Last Revision Date:	
Investigation Class:	Class 4
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=192427