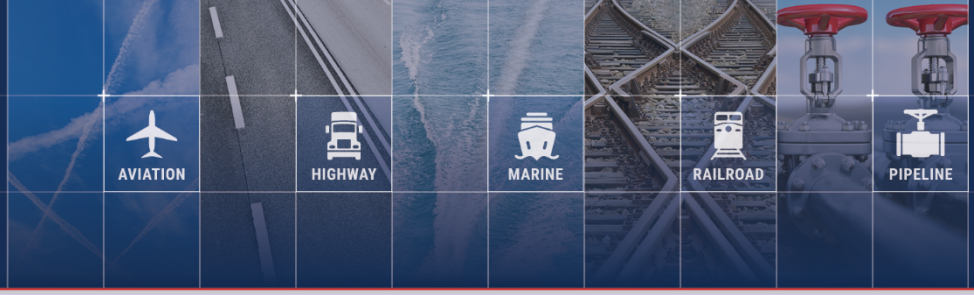

Aviation Investigation Final Report

Location:	Piedmont, Missouri	**Accident Number:**	CEN17LA062
Date & Time:	December 27, 2016, 18:40 Local	**Registration:**	N5499Z
Aircraft:	Piper PA22	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control in flight	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The private pilot reported that he performed several touch-and-go landings at a nearby airport and then returned to his home airport to perform several more touch-and-go landings. As he approached the runway for the third landing, he added throttle to adjust his glidepath; however, the engine did not respond. The pilot added that the engine continued to run but did not produce enough power to maintain altitude. The airplane continued to descend, and its landing gear caught a power line. The airplane then impacted terrain. Fuel was present on site. Examination of the airframe and engine revealed no evidence of preimpact mechanical malfunctions or failures that would have precluded normal operation. The examination noted that the propeller blade tips were bent forward with gouges and chordwise scoring on the leading edges, consistent with the engine producing high power. The pilot reported that he did not apply carburetor heat on the approach; however, weather conditions in the area were conducive to the formation of serious carburetor icing at cruise power settings. Although the pilot did not apply carburetor heat and reported that the engine did not produce enough power to maintain altitude, the postaccident examination did not reveal any airplane mechanical malfunctions or failures, and propeller signatures indicate the engine was producing high power during the accident sequence. Thus, the reason for the pilot's descent below glidepath could not be determined based on the available information.

Probable Cause and Findings

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

The pilot's descent below glidepath, which resulted in the airplane's impact with power lines.

Findings

Aircraft	Descent/approach/glide path - Not attained/maintained
Personnel issues	(general) - Pilot
Environmental issues	Wire - Contributed to outcome
Environmental issues	Conducive to carburetor icing - Not specified

Factual Information

History of Flight

Approach	Loss of control in flight (Defining event)
Approach	Controlled flight into terr/obj (CFIT)
Emergency descent	Collision with terr/obj (non-CFIT)

On December 27, 2016, about 1830 central standard time, a Piper PA22-108 airplane, N5499Z, impacted a power line and terrain near Piedmont, Missouri. The private rated pilot was not injured and the airplane was substantially damaged during the accident. The airplane was registered to and operated by a private individual under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed at the time.

The pilot reported that he had performed several touch-and-go landings at another airfield, and then returned to the Piedmont Municipal Airport (KPYN), for additional touch-and-go's. As he approached the runway for the third landing, he added throttle to adjust his glide path; however, the engine did not respond. He added that the engine continued to run, but did not have enough power to maintain altitude. The airplane continued to descend and then the airplane's landing gear caught a power line. The airplane impacted terrain, coming to rest inverted about a half mile short of the runway.

The Federal Aviation Administration (FAA) inspector found that substantial damage was noted to the airplane's fuselage and wings. Fuel was present on site. Further examination of the airplane revealed that control continuity was confirmed to the respective flight and engine controls. When rotated by hand, engine continuity and compression was established on each cylinder. Inspection of the propeller blade tips found they were bent forward; leading edges were gouged and displayed cord wise scoring. No pre-impact abnormalities were noted during the airframe or engine examination.

The automated weather observation facility located at the Poplar Bluff Municipal Airport (KPOF) located 29 miles southeast of the accident site recorded at 1753, wind from 170 degrees at 3 knots, 10 miles visibility, a clear sky, temperature 40 degrees Fahrenheit (F), dew point 34 F, and a barometric pressure of 30.25 inches of mercury.

The carburetor icing probability chart included in Federal Aviation Administration Special Airworthiness Information Bulletin No. CE-09-35, Carburetor Icing Prevention, indicated that the airplane was operating in an area that was associated with a serious risk of carburetor ice formation at cruise power settings.

The pilot stated that he did not use carburetor heat on the approach; adding that the POH (pilot's operating handbook) doesn't call for the use of carburetor heat when at reduced power settings, only at reduced power settings when carburetor icing conditions are present.

Pilot Information

Certificate:	Private	**Age:**	54,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	June 10, 2016
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	October 26, 2016
Flight Time:	83.3 hours (Total, all aircraft), 33.7 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N5499Z
Model/Series:	PA22 108	**Aircraft Category:**	Airplane
Year of Manufacture:	1962	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	22-9285
Landing Gear Type:	Tricycle	**Seats:**	
Date/Type of Last Inspection:	March 15, 2016 Annual	**Certified Max Gross Wt.:**	1649 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	LYCOMING
ELT:	Installed, not activated	**Engine Model/Series:**	O-290
Registered Owner:	On file	**Rated Power:**	135 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Dusk
Observation Facility, Elevation:	KPOK	**Distance from Accident Site:**	29 Nautical Miles
Observation Time:	17:53 Local	**Direction from Accident Site:**	150°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	3 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	170°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.25 inches Hg	**Temperature/Dew Point:**	6°C / 1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Poplar Bluff, MO (KPOF)	**Type of Flight Plan Filed:**	None
Destination:	Piedmont, MO (KPYN)	**Type of Clearance:**	None
Departure Time:	18:00 Local	**Type of Airspace:**	

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	37.124443,-90.714996

Administrative Information

Investigator In Charge (IIC):	Hatch, Craig
Additional Participating Persons:	Norman Loftsgard; FAA FSDO; St Louis, MO William Grubb; FAA FSDO; St Louis, MO
Original Publish Date:	June 25, 2019
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=94542

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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.