



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Jay, Florida	Accident Number:	ERA19LA246
Date & Time:	August 13, 2019, 11:51 Local	Registration:	N84287
Aircraft:	Cessna 172	Aircraft Damage:	Substantial
Defining Event:	Low altitude operation/event	Injuries:	1 Serious
Flight Conducted Under:	Part 91: General aviation - Positioning		

Analysis

The pilot was operating the airplane on a 40-mile repositioning flight. After takeoff, GPS data showed that the pilot flew over a river at a low altitude for several miles, at some points as low as 30 ft above ground level (agl). As the airplane approached a sharp bend in the river, the pilot briefly climbed a few hundred feet, then subsequently performed a left descending turn and descended back down to the river, following it at an altitudes between 100 and 200 ft agl for an additional 1.5 miles. The airplane subsequently struck power lines spanning the river about 60 ft agl, damaging the airplane's propeller and wings. The airplane subsequently impacted a sandbar and the airframe was substantially damaged.

Postaccident examination of the airplane did not reveal any anomalies consistent with a preimpact failure or malfunction that would have precluded normal operation.

Probable Cause and Findings

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

The pilot's improper decision to fly over a river at a very low altitude, which resulted in a collision with power lines.

Findings

Personnel issues	Decision making/judgment - Pilot
Aircraft	Altitude - Not attained/maintained
Environmental issues	Wire - Awareness of condition
Environmental issues	Wire - Effect on operation

Factual Information

History of Flight

Maneuvering-low-alt flying	Low altitude operation/event (Defining event)
Maneuvering-low-alt flying	Collision with terr/obj (non-CFIT)

On August 13, 2019, at 1151 central daylight time, a Cessna 172K, N84287, was substantially damaged during impact with power lines and collision with terrain near Jay, Florida. The commercial pilot sustained serious injuries. The airplane was registered to a private individual and operated by Brewton Aviation, LLC under the provisions of Title 14 *Code of Federal Regulations* as a part 91 repositioning flight. Visual meteorological conditions prevailed, and no flight plan was filed for the flight that departed Brewton Municipal Airport (12J) Brewton, Alabama, about 1145 and was destined for Pensacola International Airport (PNS) Pensacola, Florida.

The pilot worked for Brewton Aviation, LLC as a pipeline patrol pilot. The pilot was conducting his normal repositioning flight back to his home base in PNS, about 40 nm south of 12J; he was not conducting a pipeline patrol at the time of the accident. The Vice President of the company reported that he received a telephone call from local law enforcement about 1215 reporting that an emergency locator transmitter for the accident airplane was activated. Company witnesses stated the pilot departed 12J about 1145. The Vice President conducted his own aerial search for the accident airplane and found the injured pilot and the accident airplane inverted and damaged on a sandbar bordering the Escambia River near Jay, Florida, about 10 nm southwest of the departure airport. The airplane had struck transmission (power lines) that crossed over the river, then the airplane collided with the sandbar before coming to rest.

A Federal Aviation Administration (FAA) inspector interviewed the pilot in the hospital and reported that the pilot stated he had no memory of the accident, but he remembered takeoff and lining up on final approach with the sandbar for an unknown issue; the pilot was unable to identify what the problem was. The pilot stated that he had performed pipeline patrol the previous day, but poor weather prevented him from flying to 12J to complete his post pipeline administrative task, so he flew to his home base in PNS for a night of rest. On the day of the accident, he departed PNS around 1000 and flew to 12J to complete the previous days administrative work, then returned to PNS because there was nothing else scheduled that day.

When queried about the route he took to PNS, he remembered taking off from runway two-four and stated he normally climbs up to 1,500 ft mean sea level (msl). He did not recall any other specific details after takeoff through lining up for landing. He had flown this route many times and normally flew southwest to avoid the Whiting Field Naval Air Station North (NSE), Milton, Florida, airspace. When queried about the possibility of doing "sightseeing," he stated, "I wasn't ridiculously low," but could not provide any specific details.

After his release from the hospital, about 1 week after the accident, a follow up telephone interview was conducted by a National Transportation Safety Board (NTSB) investigator. The pilot requested that his father attend the interview and assist with questions due to his injuries. His father stated that his son had no memory of the flight or memory of the condition of the airplane during the flight, except for putting the airplane into a landing attitude.

A handheld Garmin GPSmap 496 was recovered from the wreckage and forwarded to the NTSB for data download. GPS data were successfully downloaded and contained altitude, heading, airspeed, and position data (See Figure 1). Review of the data revealed that the flight departed runway 24 at PNS and climbed up to 250 ft msl before turning northwest and continued a climb up to 700 ft msl. The airplane made a climbing left turn to the south up to 900 ft msl before turning southwest on a heading of about 251° as it continued to climb up to 1,294 ft msl and 104 knots. The airplane then descended to 333 ft msl, when it made a left descending turn to about 198°, where it arrived directly over the Escambia River at 76 ft msl and 92 knots. The airplane flew over the river for 1.5 miles at an altitude between 76 ft msl and 160 ft msl. The airplane briefly climbed up to 380 ft msl on a heading of about 205° at a sharp bend in the river, then made a climbing left turn to 485 ft msl, before descending to 368 ft msl on a heading of 301° where it rejoined the path of the river. The airplane continued to descend and follow the path of the river down to 117 ft msl, and 110 knots, about 700 ft before the power lines. Immediately before impact with the power lines, the airplane was at 105 ft msl, on a heading of about 228° at 87 knots. The last recorded altitude, airspeed, and heading data shows an altitude of 188 ft msl, airspeed of 57 knots and a heading of about 224°. From the moment the airplane became established directly over the river until impact with the power lines, it had flown over the river for about 4.5 nm.

The elevation of the river at the power lines is about 45 ft msl and the power lines were about 60 ft above ground level.

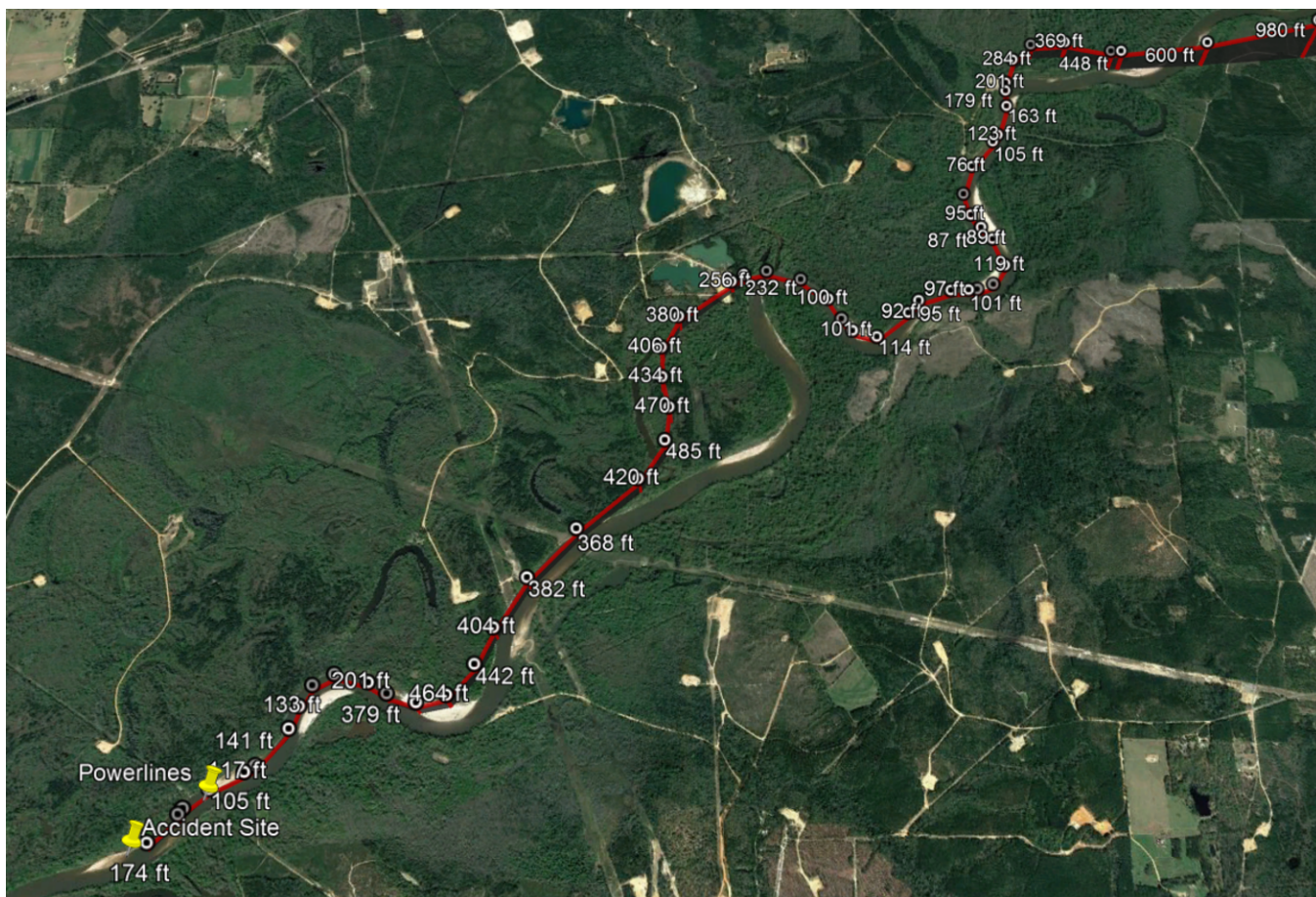


Figure 1. Altitude and Flight Track of Accident Flight

According to FAA airmen records, the pilot held a commercial pilot and flight instructor certificate and had ratings for airplane single-engine land, airplane multiengine land, and instrument airplane. He was issued an FAA first class-class medical certificate on December 26, 2018. FAA review of the pilot's logbook revealed that he had 1,012 hours total time, with 798 in the accident airplane make and model. In the last 90 days, he accumulated 407 hours total time.

According to FAA records, the airplane was issued a standard airworthiness certificate in the normal category on June 24, 1969. It was a four-place, externally braced high-wing airplane, that was equipped with fixed tricycle landing gear, and a Lycoming O-320-E2D, 160-horsepower engine driving a two-blade metal fixed pitch propeller.

The weather conditions reported at NSE, located about 20 miles south of the accident site, at 1156 included wind variable at 3 knots, visibility 1 1/2 statute mile and rain, scattered clouds at 2,500 ft, temperature 32° C, dew point 27° C, and an altimeter setting of 29.92 inches of mercury.

Examination of the airplane by an FAA inspector revealed that the airplane was inverted. The flaps were in the stowed position. Both wings were severely deformed, the nose landing gear was sheared off, the main landing gear was bent aft, and there were multiple fractures and buckling along the length of the fuselage. The propeller spinner was uniformly crushed and one of the propeller blades exhibited s-

bending and had multiple areas of polishing and scuff marks consistent with impact with the transmission power line. The opposing blade was slightly bent, and the tip of the blade contained a gouge. In addition, there were multiple indications on the left leading edge of the wing where contact was made with a powerline that was severed during the impact.

Additional examination of the wreckage showed both cockpit control yoke handles were attached to the control column. The aileron control cables exhibited signs of tensile overload, but were traced to their respective locations and were connected. All the control cables were attached to their respective control surfaces to the rudder, elevator and ailerons and control continuity was confirmed. Engine drivetrain continuity was established, and the intake valves and exhaust valves on all four cylinders were functional. Thumb compression was present on all four cylinders, and internal examination using a borescope revealed no anomalies. The top spark plugs were examined, and the electrodes appeared normal; the No. 1 spark plug was oily. Both magnetos were functional and produced healthy spark from all leads. There were no anomalies discovered with the engine or engine components.

FAA regulations (14 Code of Federal Regulations 91.119) prohibit operation of an aircraft less than 500 feet above the surface in uncongested areas unless approaching to land or taking off, and at least 1,000 feet from obstacles in congested areas. Additionally, 14 *Code of Federal Regulations* 91.13 prohibit operations in a reckless manner that endanger the life or property of another.

The Advisory Circular (AC No. 70/7460-1L) sets forth standards for marking and lighting obstructions that have been deemed to be a hazard to navigable airspace and according to the AC, markers were not required on the power lines. The VFR Aeronautical Chart at the site of the accident is represented with a "power transmission Line" symbol.

Pilot Information

Certificate:	Commercial	Age:	26, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	4-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	December 26, 2018
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	September 25, 2018
Flight Time:	1012 hours (Total, all aircraft), 798 hours (Total, this make and model), 407 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N84287
Model/Series:	172 K	Aircraft Category:	Airplane
Year of Manufacture:	1969	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	17258409
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	July 12, 2019 Annual	Certified Max Gross Wt.:	2299 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	8147.94 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	C126 installed, activated, aided in locating accident	Engine Model/Series:	O-320-E2D
Registered Owner:	Mccall Freddie W	Rated Power:	160 Horsepower
Operator:	Brewton Aviation LLC	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	NSE,199 ft msl	Distance from Accident Site:	20 Nautical Miles
Observation Time:	11:56 Local	Direction from Accident Site:	330°
Lowest Cloud Condition:	Scattered / 2500 ft AGL	Visibility	1.5 miles
Lowest Ceiling:	Broken / 25000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:		Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.92 inches Hg	Temperature/Dew Point:	32°C / 27°C
Precipitation and Obscuration:	Moderate - None - Rain		
Departure Point:	Brewton, AL (12J)	Type of Flight Plan Filed:	None
Destination:	Pensacola, FL (PNS)	Type of Clearance:	None
Departure Time:	11:45 Local	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	30.969722,-87.20639

Administrative Information

Investigator In Charge (IIC):	Mccarter, Lawrence
Additional Participating Persons:	Peter D Rose; FAA; Birmingham, AL Andrew Hall; Textron; Wichita, KS Troy Helgeson; Lycoming; Williamsport, PA
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.nts.gov/Docket?ProjectID=100052

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](#).