



# Aviation Investigation Final Report

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<b>Location:</b>	Gates Mills, Ohio	<b>Accident Number:</b>	ERA22LA392
<b>Date &amp; Time:</b>	August 30, 2022, 10:55 Local	<b>Registration:</b>	N204BE
<b>Aircraft:</b>	Cessna 172N	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of engine power (total)	<b>Injuries:</b>	1 Serious, 2 Minor
<b>Flight Conducted Under:</b>	Part 91: General aviation - Instructional		

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## Analysis

The pilot, seated in the left seat, said that the instructor pilot, seated in the right seat, asked her to perform a magneto check inflight. During the magneto check, the pilot inadvertently turned the engine ignition key to the off position resulting in a total loss of engine power. As the pilot turned the key to restart the engine, the head of the ignition key broke off. The instructor pilot transferred the controls to the pilot and attempted to move the ignition key but was also unsuccessful. The instructor pilot took the controls and performed an emergency landing into a school football field. The airplane landed hard and sustained substantial damage to the firewall, both wings, engine mount and fuselage. The pilot reported that there were no preaccident mechanical malfunctions or failures with the airplane 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 instructor pilot's decision to perform an inflight magneto check with no suitable area to land. Contributing to the accident was the pilot's failure to correctly perform a magneto check that resulted in a total loss of engine power.

## Findings

Personnel issues	Use of equip/system - Pilot
Personnel issues	Decision making/judgment - Instructor/check pilot

## Factual Information

### History of Flight

<b>Enroute</b>	Loss of engine power (total) (Defining event)
<b>Emergency descent</b>	Off-field or emergency landing

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	27,Female
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Front
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	3-point
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 1 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	August 25, 2022
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	October 12, 2021
<b>Flight Time:</b>	303.1 hours (Total, all aircraft), 59.1 hours (Total, this make and model), 224.4 hours (Pilot In Command, all aircraft), 75.1 hours (Last 90 days, all aircraft), 31.8 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

### Flight instructor Information

<b>Certificate:</b>	Commercial; Flight instructor	<b>Age:</b>	79,Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Front
<b>Other Aircraft Rating(s):</b>		<b>Restraint Used:</b>	3-point
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane single-engine; Instrument airplane	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Unknown Unknown	<b>Last FAA Medical Exam:</b>	
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>			

## Passenger Information

<b>Certificate:</b>		<b>Age:</b>	
<b>Airplane Rating(s):</b>		<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>		<b>Restraint Used:</b>	3-point
<b>Instrument Rating(s):</b>		<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>		<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>		<b>Last FAA Medical Exam:</b>	
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>			

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N204BE
<b>Model/Series:</b>	172N	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1978	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	17271338
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	August 29, 2022 100 hour	<b>Certified Max Gross Wt.:</b>	2300 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	13388 Hrs at time of accident	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	C91A installed, activated, aided in locating accident	<b>Engine Model/Series:</b>	O320D2G
<b>Registered Owner:</b>	PINK SKIES INC	<b>Rated Power:</b>	160 Horsepower
<b>Operator:</b>	PINK SKIES INC	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	KCGF,879 ft msl	<b>Distance from Accident Site:</b>	3 Nautical Miles
<b>Observation Time:</b>	09:45 Local	<b>Direction from Accident Site:</b>	280°
<b>Lowest Cloud Condition:</b>	Scattered / 2300 ft AGL	<b>Visibility</b>	5 miles
<b>Lowest Ceiling:</b>	Broken / 7000 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	6 knots / None	<b>Turbulence Type Forecast/Actual:</b>	None / None
<b>Wind Direction:</b>	210°	<b>Turbulence Severity Forecast/Actual:</b>	N/A / N/A
<b>Altimeter Setting:</b>	29.9 inches Hg	<b>Temperature/Dew Point:</b>	21°C / 19°C
<b>Precipitation and Obscuration:</b>	Light - None - Rain		
<b>Departure Point:</b>	Richmond Heights, OH (CGF)	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Youngstown, OH (YNG)	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	10:50 Local	<b>Type of Airspace:</b>	Class D

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Serious, 1 Minor	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	1 Minor	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>		<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Serious, 2 Minor	<b>Latitude, Longitude:</b>	41.556838,-81.40834(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Hill, Millicent
<b>Additional Participating Persons:</b>	Donald Reid; FAA/FSDO; Cleveland, OH
<b>Original Publish Date:</b>	June 6, 2023
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class 4</a>
<b>Note:</b>	The NTSB did not travel to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=105833">https://data.nts.gov/Docket?ProjectID=105833</a>

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](#).