



Aviation Investigation Final Report

Location:	Wagoner, Oklahoma	Accident Number:	ERA19LA006
Date & Time:	October 4, 2018, 18:30 Local	Registration:	N8495Z
Aircraft:	Cessna 205	Aircraft Damage:	Substantial
Defining Event:	Powerplant sys/comp malf/fail	Injuries:	1 Minor
Flight Conducted Under:	Part 91: General aviation - Flight test		

Analysis

During a post maintenance flight after the airplane's annual inspection, the pilot made about three circuits around the airport area before departing to continue flight maneuvers and performance checks. He started a left turn and then noticed a "very minor engine mis[fire]." As the pilot continued the turn, the "engine mis[fire]" began to increase and the engine began to shake. The airplane was unable to maintain altitude and was descending about 150-300 ft per minute. Although the pilot made multiple attempts to regain engine power, the engine lost total power. The airplane impacted trees and brush; during the landing sequence, the left and right wings buckled.

Following the accident, an engine run was performed; after running for 13 minutes, the engine lost power. Troubleshooting of the magnetos found that the right magneto was firing erratically. The right magneto was replaced with a known-good magneto and the engine was subsequently successfully test run at full power. More detailed testing of both magnetos revealed that they failed the manufacturer's acceptance test procedures due to excessive point gaps and secondary coil resistance. A review of the engine logbooks revealed the magneto points and condensers were replaced about 18 years and about 230 flight hours before the accident flight. Given the available information, it is likely that maintenance personnel did not perform proper maintenance of the magnetos.

Probable Cause and Findings

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

Maintenance personnel's improper maintenance of the magnetos, which resulted in a loss of engine power.

Findings

Aircraft	Magneto/distributor - Not serviced/maintained
Personnel issues	Scheduled/routine maintenance - Maintenance personnel

Factual Information

History of Flight

Maneuvering	Powerplant sys/comp malf/fail (Defining event)
Maneuvering	Loss of engine power (total)
Emergency descent	Collision with terr/obj (non-CFIT)

On October 4, 2018, about 1830 central daylight time, a Cessna 205A, N8495Z, was substantially damaged when it was involved in an accident near Wagoner, Oklahoma. The pilot sustained minor injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 flight test.

According to the pilot, he was performing a post maintenance flight test. After a routine engine run-up with no abnormal indications, he departed Hefner-Easley Airport (H68), Wagoner, Oklahoma. The pilot climbed to about 2,500 ft mean sea level and made about three circuits around the airport area; he stated that the airplane climbed well and that all flight parameters were normal. The pilot announced his intentions of leaving the airport area and turned south to continue flight maneuvers and performance checks. The pilot started a left turn when a “very minor engine mis[fire]” occurred. He scanned the instrument panel, and all engine parameters appeared normal. As the pilot continued the turn, the “engine mis[fire]” began to increase and the engine began to shake. The airplane was unable to maintain altitude and was descending about 150-300 ft per minute. The pilot made multiple attempts to regain engine power, but the engine then lost total power. The pilot slowed the airplane to the minimum controllable airspeed and impacted trees and brush. During the landing sequence, the left and right wings buckled.

A postaccident engine run was performed and revealed that, after running for 13 minutes, the engine lost power and the No. 6 cylinder began to significantly cool. Troubleshooting of the magnetos found that the right magneto was firing erratically. The right magneto was replaced with a known-good magneto and the engine was subsequently successfully test run at full power. The accident magnetos were removed for testing, and both magnetos failed the manufacturer’s acceptance test procedure due to excessive point gaps and secondary coil resistance. Additionally, both magnetos did not produce output until above 3,000 rpm.

A review of the engine logbooks revealed the magneto points and condensers were replaced in both magnetos on September 20, 2000, at a tachometer time of 786.5 hours. There were no logbook entries detailing a magneto 500-hour inspection. Since the repair of the magnetos, the engine had accumulated about 233.3 hours prior to the accident flight.

Pilot Information

Certificate:	Private	Age:	61,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Lap only
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	July 17, 2018
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	September 17, 2017
Flight Time:	1450 hours (Total, all aircraft), 2 hours (Total, this make and model), 1377 hours (Pilot In Command, all aircraft), 26 hours (Last 90 days, all aircraft), 14 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N8495Z
Model/Series:	205 A	Aircraft Category:	Airplane
Year of Manufacture:	1963	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	2050495
Landing Gear Type:	Tricycle	Seats:	6
Date/Type of Last Inspection:	March 31, 2018 Annual	Certified Max Gross Wt.:	3300 lbs
Time Since Last Inspection:	1 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	3862.74 Hrs	Engine Manufacturer:	Continental
ELT:	C91A installed, activated, did not aid in locating accident	Engine Model/Series:	IO-470S
Registered Owner:		Rated Power:	260 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None
Operator Does Business As:	Integrity Airmotive, LLC	Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KTQH,874 ft msl	Distance from Accident Site:	16 Nautical Miles
Observation Time:	00:15 Local	Direction from Accident Site:	90°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	160°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.95 inches Hg	Temperature/Dew Point:	27°C / 20°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Wagoner, OK (H68)	Type of Flight Plan Filed:	None
Destination:	Wagoner, OK (H68)	Type of Clearance:	None
Departure Time:	17:55 Local	Type of Airspace:	Class G

Airport Information

Airport:	Hefner-Easley H68	Runway Surface Type:	Asphalt
Airport Elevation:	598 ft msl	Runway Surface Condition:	Dry
Runway Used:	18	IFR Approach:	None
Runway Length/Width:	3401 ft / 60 ft	VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	35.965557,-95.341941(est)

Administrative Information

Investigator In Charge (IIC):	Alleyne, Eric		
Additional Participating Persons:	Todd A Evans; FAA/FSDO; Oklahoma, OK Kurt Gibson; Continental Motors; Mobile, AL		
Original Publish Date:	March 16, 2022	Investigation Class:	3
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=98434		

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