Aviation Investigation Final Report

Location:	Opelousas, Louisiana	**Accident Number:**	CEN18LA357
Date & Time:	August 29, 2018, 11:30 Local	**Registration:**	N956X
Aircraft:	Grumman G164	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (total)	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The private pilot was practicing crop-dusting maneuvers when the engine lost total power; he performed a forced landing in an open, muddy field. The airplane nosed over and sustained substantial damage. Postaccident examination of the engine revealed that two of three bolts that secured the left magneto had come loose and were missing. The safety wire was broken, and the Sims coupling was heavily damaged. The magneto could easily be moved around, which disrupted the spark timing and resulted in a total loss of power.

Probable Cause and Findings

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

The loss of two securing bolts that allowed the left magneto to move around, which disrupted the spark timing and resulted in the engine losing total power.

Findings

Aircraft	Magneto/distributor - Inoperative
Environmental issues	Wet/muddy terrain - Contributed to outcome

Factual Information

History of Flight

Maneuvering	Loss of engine power (total) (Defining event)
Emergency descent	Off-field or emergency landing
Landing	Nose over/nose down

On August 29, 2018, about 1130 central daylight time, a Grumman G-164A airplane, N956X, experienced a total loss of engine power while maneuvering over an open field near Opelousas, Louisiana. The pilot subsequently made an off-airport forced landing in the field. The private pilot was not injured. The airplane sustained substantial damage to the top wings and vertical stabilizer. The airplane was registered to Acadian Dusters LLC, Church Point, Louisiana, and operated by the pilot under the provisions of 14 *Code of Federal Regulations* Part 91 as a personal flight. Visual meteorological conditions were reported at the accident site about the time of the accident, and no flight plan had been filed. The local flight originated from Church Point about 1100.

According to the pilot's accident report, he was practicing crop dusting maneuvers when the engine lost all power. Being at low altitude, the pilot made a forced landing in an open muddy rice field, and the airplane nosed over. Post-accident examination of the engine revealed that two bolts that secure the left magneto had come loose and were missing. This disrupted the spark timing, resulting in a complete power loss. The magneto was identified as an American Bosh SB9RU-3 magneto, serial number BB3829, that was installed on January 13, 1998.

A Federal Aviation Administration inspector examined the airplane. In his e-mail, he reported finding two of the three bolts for the left magneto had come out. The safety wire was also broken. He stated the left magneto was barely holding on. The Sims coupling was heavily damaged as well. He could easily move the magneto around.

Pilot Information

Certificate:	Private	**Age:**	35,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Single
Other Aircraft Rating(s):	None	**Restraint Used:**	4-point
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:**	October 31, 2016
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	April 14, 2017
Flight Time:	208 hours (Total, all aircraft), 15 hours (Total, this make and model), 208 hours (Pilot In Command, all aircraft), 55 hours (Last 90 days, all aircraft), 35 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Grumman	**Registration:**	N956X
Model/Series:	G164 A	**Aircraft Category:**	Airplane
Year of Manufacture:	1968	**Amateur Built:**	
Airworthiness Certificate:	Restricted (Special)	**Serial Number:**	507
Landing Gear Type:	Tailwheel	**Seats:**	1
Date/Type of Last Inspection:	August 8, 2018 Annual	**Certified Max Gross Wt.:**	4497 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	12058 Hrs as of last inspection	**Engine Manufacturer:**	Pratt & Whitney
ELT:	Not installed	**Engine Model/Series:**	R985-14B
Registered Owner:		**Rated Power:**	450 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	Agricultural aircraft (137)
Operator Does Business As:		**Operator Designator Code:**	3ZKG

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KOPL,75 ft msl	**Distance from Accident Site:**	10 Nautical Miles
Observation Time:	11:35 Local	**Direction from Accident Site:**	45°
Lowest Cloud Condition:	Scattered / 2800 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	240°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.1 inches Hg	**Temperature/Dew Point:**	30°C / 21°C
Precipitation and Obscuration:			
Departure Point:	Church Point, LA (6LA5)	**Type of Flight Plan Filed:**	None
Destination:	Church Point, LA (6LA5)	**Type of Clearance:**	None
Departure Time:	11:00 Local	**Type of Airspace:**	Class G

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:**	30.540832,-92.203613

Administrative Information

Investigator In Charge (IIC):	Scott, Arnold
Additional Participating Persons:	Michael P Hall; FAA Flight Standards District Office; Baton Rouge, LA
Original Publish Date:	November 19, 2019
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=98188