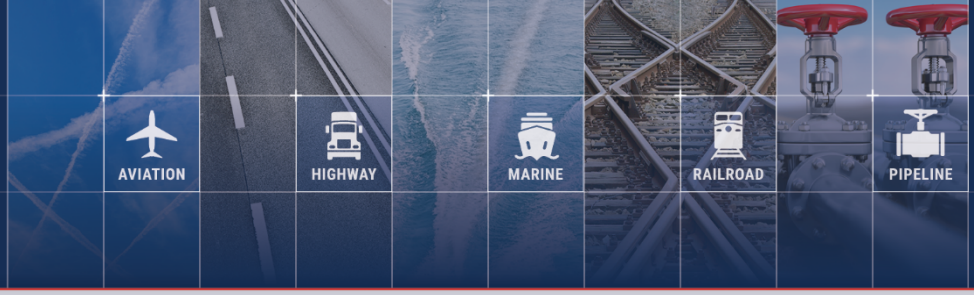

Aviation Investigation Final Report

Location:	Pahrump, Nevada	**Accident Number:**	WPR09LA454
Date & Time:	September 18, 2009, 09:15 Local	**Registration:**	N124LH
Aircraft:	Lewis Jennings NIEUPORT 11	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (total)	**Injuries:**	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

During cruise flight the engine lost all power. The pilot did not have enough time and altitude to perform an engine restart, and during the subsequent forced landing, the airplane nosed over. The airplane was equipped with an automotive engine converted for aviation use. Post accident examination revealed that the engine's only magneto had failed after its rotor was damaged by a loose high tension lead attachment screw. The airplane sustained substantial damage to the fuselage, wings, and vertical stabilizer during the accident sequence.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A total loss of engine power during cruise flight due to a failure of the engine's sole magneto.

Findings

Aircraft	Magneto/distributor - Failure

Factual Information

History of Flight

Enroute	Powerplant sys/comp malf/fail
Enroute	Loss of engine power (total) (Defining event)
Emergency descent	Off-field or emergency landing
Landing-landing roll	Nose over/nose down

HISTORY OF FLIGHT

On September 18, 2009, at 0915 Pacific daylight time, an experimental, amateur-built, Lewis Jennings Nieuport 11 biplane, N124LH, nosed over during a forced landing near Pahrump, Nevada. The pilot was operating the airplane under the provisions of 14 Code of Federal Regulations Part 91. The certificated sport pilot sustained minor injuries. The airplane sustained substantial damage to the fuselage, wings, and vertical stabilizer. The local personal flight departed Calvada Meadows Airport, Pahrump, about 0835. Visual meteorological conditions prevailed, and no flight plan had been filed.

The pilot reported flying the airplane for approximately 40 minutes when the engine lost power. He was at an altitude of approximately 1,000 feet agl, and stated that he did not have sufficient time to perform an engine restart. Prior to losing power he had been monitoring the engine oil pressure and temperature, and reported that they were within normal limits.

AIRCRAFT INFORMATION

The single-seat, experimental airplane, was issued a Special Airworthiness Certificate on January 4, 2007. It was powered by a four-cylinder, air-cooled, 1835 cc Volkswagen automobile engine, and equipped with a two-blade wooden propeller. The pilot reported that the engine was overhauled in February 2009, and installed on the airplane approximately 8 flight hours prior to the accident.

TESTS AND RESEARCH

Engine

A single Taylor Cable Products, Vertex automotive magneto provided ignition for the engine. Post accident examination of the magneto revealed that the high tension cable screw for cylinder number two had become unscrewed from its mounting post within the magneto distributor head. The screw was located within the magneto housing, and signature marks indicated that it had made contact with the rotor arm. The rotor arm was bent downwards, and the rotor case had become disconnected from the shaft. Rotation of the engine did not

produce a corresponding rotation of the rotor.

The design of magneto was such that the high tension leads were held in place within the distributor head with tapered screws. The screws were designed to hold the high tension lead in place, and bridge the inner conductor to its respective contact within the head.

A representative from Taylor Cable Products stated that the magneto was manufactured in January 1996. He further stated that the magneto was designed for automotive use, and as such did not have specific provisions for locking the high tension screws in place.

Pilot Information

Certificate:	Sport Pilot	**Age:**	77,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Single
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:**	January 1, 2005
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	July 3, 2009
Flight Time:	643 hours (Total, all aircraft), 643 hours (Pilot In Command, all aircraft), 5 hours (Last 90 days, all aircraft), 1 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Lewis Jennings	**Registration:**	N124LH
Model/Series:	NIEUPORT 11	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	443
Landing Gear Type:	Tailwheel	**Seats:**	1
Date/Type of Last Inspection:	January 2, 2009 Annual	**Certified Max Gross Wt.:**	930 lbs
Time Since Last Inspection:	41 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	41 Hrs as of last inspection	**Engine Manufacturer:**	Volkswagen
ELT:	Installed, not activated	**Engine Model/Series:**	1835
Registered Owner:	On file	**Rated Power:**	60 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	NV65,3314 ft msl	**Distance from Accident Site:**	21 Nautical Miles
Observation Time:	08:53 Local	**Direction from Accident Site:**	350°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	10 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	110°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.04 inches Hg	**Temperature/Dew Point:**	27°C / 2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Pahrump, NV (NV74)	**Type of Flight Plan Filed:**	None
Destination:	Pahrump, NV (NV74)	**Type of Clearance:**	None
Departure Time:	08:35 Local	**Type of Airspace:**	

Airport Information

Airport:	Calvada Meadows Airport NV74	**Runway Surface Type:**	Asphalt;Gravel
Airport Elevation:	2726 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	33	**IFR Approach:**	None
Runway Length/Width:	5200 ft / 150 ft	**VFR Approach/Landing:**	None

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:**	36.27111,-115.995002(est)

Administrative Information

Investigator In Charge (IIC):	Simpson, Eliott
Additional Participating Persons:	Ronald L Williams; Federal Aviation Administration FSDO; Las Vegas, NV
Original Publish Date:	March 3, 2010
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=74748