



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Waterville, WA	<b>Accident Number:</b>	WPR10LA272
<b>Date &amp; Time:</b>	06/01/2010, 1129 PDT	<b>Registration:</b>	N8815U
<b>Aircraft:</b>	EAGLE Eagle DW-1	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of engine power (total)	<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Positioning		

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## Analysis

The pilot was repositioning the airplane when the engine lost power. He made a forced landing in a soft field, and the airplane nosed over. An examination of the wreckage revealed a worn wire on one magneto. It is likely that the intermittent grounding of the magneto could have caused the engine to surge and lose power.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A worn wire in the magneto system, which allowed intermittent grounding and a loss of engine power.

## Findings

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<b>Aircraft</b>	Ignition system wiring - Fatigue/wear/corrosion (Cause) Engine (reciprocating) - Failure (Cause)
<b>Environmental issues</b>	Soft surface - Contributed to outcome

## Factual Information

On June 1, 2010, about 1129 Pacific daylight time, an Eagle DW-1, N8815U, made an off airport forced landing near Waterville, Washington. The owner was operating the airplane under the provisions of 14 Code of Federal Regulations (CFR) Part 91. The certificated commercial pilot was not injured. The airplane sustained substantial damage to the empennage. The cross-country positioning flight departed Waterville about 1115, with a planned destination of Missoula, Montana. Visual meteorological conditions prevailed, and no flight plan had been filed.

The pilot was positioning the airplane for export, when he encountered a loss of engine power. He made a forced landing in a soft field, and the airplane nosed over.

A Federal Aviation Administration (FAA) inspector examined the wreckage. He discovered an anomaly with wiring on one magneto. The 'P' lead is a shielded wire with the primary grounding wire inside of the insulator which, in turn, is surrounded with a braided shielding wire. The shielding wire is always grounded. The inner 'P' wire is grounded at the ignition switch when the key is off. In this case the inner 'P' lead and the insulation were broken through. The wire was held together by about 1/3 of the shielding wire. As the air and vibration moved the wire around, it caused the inner 'P' lead to intermittently come in contact with the always grounded shielding wire. In turn, that allowed the magneto to intermittently turn on and off, causing the engine to surge and lose power.

## History of Flight

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

## Pilot Information

Certificate:	Airline Transport; Commercial	Age:	27, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	Seat Occupied:	Single
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane Single-engine	Toxicology Performed:	No
Medical Certification:	Class 1 Without Waivers/Limitations	Last Medical Exam:	05/23/2011
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	2500 hours (Total, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Manufacturer:	EAGLE	Registration:	N8815U
Model/Series:	Eagle DW-1	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Restricted	Serial Number:	DW-1-0094-83
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	05/05/2010, Annual	Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	5750 Hours	Engine Manufacturer:	Lycoming
ELT:	Not installed	Engine Model/Series:	IO-540-M1B
Registered Owner:	Philbert Johnson	Rated Power:	300 hp
Operator:	Philbert Johnson	Air Carrier Operating Certificate:	None

## Meteorological Information and Flight Plan

Observation Facility, Elevation:	KEAT, 1249 ft msl	Observation Time:	1055 PDT
Distance from Accident Site:	16 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:	5°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	17°C / 1°C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	10 knots, 320°	Visibility (RVR):	
Altimeter Setting:	29.87 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Waterville, WA	Type of Flight Plan Filed:	None
Destination:	Missoula, MT	Type of Clearance:	None
Departure Time:	1115 PDT	Type of Airspace:	

## Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None		

## Administrative Information

**Investigator In Charge (IIC):** Howard D Plagens **Adopted Date:** 03/28/2012

**Additional Participating Persons:** Mike Robertson; FAA FSDO; Spokane, WA

**Publish Date:** 03/28/2012

**Investigation Docket:** <http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=76183>

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