Aviation Investigation Final Report

Location:	Bellingham, Washington	**Accident Number:**	WPR15LA235
Date & Time:	August 6, 2015, 20:00 Local	**Registration:**	N917AB
Aircraft:	CLEVELAND ALLAN B NIEUPORT 11#	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (partial)	**Injuries:**	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The commercial pilot reported that the accident flight was the first flight following replacement of the experimental engine. During takeoff/initial climb, the engine began to lose power, so he attempted to land on the runway opposite the departure runway, likely due to a large body of water straight ahead. During the 180° turn, the pilot realized that the airplane would not reach the runway, so he decided to land on one of the airport's closed runways. The airplane landed short of that runway and nosed over.

A postaccident examination of the engine revealed no evidence of any preexisting mechanical malfunctions that would have precluded normal operation. The reason for the partial loss of engine power could not be determined.

Probable Cause and Findings

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

A partial loss of engine power for reasons that could not be determined because postaccident examination revealed no mechanical malfunctions or anomalies that would have precluded normal operation.

Findings

Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Initial climb	Loss of engine power (partial) (Defining event)

On August 6, 2015, about 2000 Pacific daylight time, an experimental amateur-built Cleveland Nieuport #11 airplane, N917AB, experienced a partial loss of engine power during a maintenance check flight and landed short of a closed runway at Bellingham International Airport, Bellingham, Washington. The commercial pilot sustained minor injuries. The airplane was substantially damaged. The airplane was registered to and operated by the pilot under the provisions of Title 14 *Code of Federal Regulations* Part 91 as a personal flight. Visual meteorological conditions prevailed, and no flight plan had been filed for the local flight, which was originating at the time of the accident.

The pilot reported that the engine had just been replaced during a recent condition inspection. Prior to the flight, the engine had been run 5 times, which included the initial run, test run, engine tuning, taxi test and subsequent high-speed taxi test. The pilot stated that he intended to fly over the airport to remain within gliding distance of the runway. Just after takeoff from runway 16, at an altitude of 700 ft above ground level, a reduction in engine rpm was observed despite the throttle being at full power. The pilot noted that the engine rpm was still decaying, that he heard no unusual sounds from the engine, and that it was not running rough. The pilot further reported that he notified the tower controller that he was having engine problems and was subsequently cleared to land runway 34.

While the engine rpm continued to decrease, the pilot realized that he was unable to reach runway 34 and attempted to land on a closed runway, while observing that the engine rpm had decreased from 3,000 to 2,500, then down to 2,000, which was an rpm setting for a power off approach to landing. The pilot then observed a stand of trees directly in front of his position, at which time he maneuvered to avoid striking them, along with an adjacent airport perimeter fence. Subsequently, the airplane landed hard and nosed over in a grassy area short of the runway.

The airplane was powered by a Hummel, 76 HP, Volkswagen 2180 cc engine with dual weber carburetors, and a single point electronic ignition system. Examination of the airplane was performed by the pilot, an airframe and powerplant mechanic, and a Federal Aviation Administration (FAA) inspector. The FAA inspector reported that the examination revealed that the fuel system appeared to be in operable condition. Further examination revealed that the fuel tank was void of any fuel, and that a vent line at the top of the fuel tank was separated from the tank as a result of the accident. The fuel lines were intact to the fuel pump, which was a stock Volkswagen style fuel pump. The pump was removed and operated normally when actuated by hand. The carburetor throats were clear and clean. The throttle linkages were not damaged and moved freely. The idle and full throttle stops were intact, and the throttle linkage moved to both stops.

The Volkswagen style ignition system featured a Bosch distributor with stock ignition wires and spark plugs. In addition, the ignition coil was also stock. The FAA inspector stated that the original points and condenser were replaced when the engine was equipped with an electronic type automotive ignition system. The ignition system revealed evidence of damage.

The engine was rotated in the direction of rotation and the distributor shaft rotated correctly with a slight amount of delay. The drive gear revealed some backlash, which according to a mechanic, was normal for the engine.

Engine valve train continuity was established throughout the engine. The FAA inspector reported that they did not observe any evidence of mechanical anomalies with the airframe or engine.

Pilot Information

Certificate:	Commercial; Private	**Age:**	69
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Single
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane; Helicopter	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Helicopter; Instrument helicopter	**Toxicology Performed:**	No
Medical Certification:	Sport pilot	**Last FAA Medical Exam:**	November 1, 2007
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	10000 hours (Total, all aircraft), 135 hours (Total, this make and model), 7500 hours (Pilot In Command, all aircraft), 2 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	CLEVELAND ALLAN B	**Registration:**	N917AB
Model/Series:	NIEUPORT 11# NO SERIES	**Aircraft Category:**	Airplane
Year of Manufacture:	2002	**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental light sport (Special)	**Serial Number:**	010
Landing Gear Type:	Tailwheel	**Seats:**	1
Date/Type of Last Inspection:	August 6, 2015 Annual	**Certified Max Gross Wt.:**	850 lbs
Time Since Last Inspection:	0 Hrs	**Engines:**	Reciprocating
Airframe Total Time:	346 Hrs as of last inspection	**Engine Manufacturer:**	VW- Hummel
ELT:	Not installed	**Engine Model/Series:**	Type 1- 2180
Registered Owner:	On file	**Rated Power:**	85 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:	KBLI,149 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	03:19 Local	**Direction from Accident Site:**	28°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.04 inches Hg	**Temperature/Dew Point:**	19°C / 11°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Bellingham, WA (BLI)	**Type of Flight Plan Filed:**	None
Destination:	Bellingham, WA (BLI)	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	Class D

Airport Information

Airport:	BELLINGHAM INTL BLI	**Runway Surface Type:**	
Airport Elevation:	170 ft msl	**Runway Surface Condition:**	Soft
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**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:**	48.787776,-122.541946(est)

Administrative Information

Investigator In Charge (IIC):	Jones, Patrick
Additional Participating Persons:	Sean Roukema; Federal Aviation Administration; Seattle, WA
Original Publish Date:	July 16, 2018
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=91725