



Aviation Investigation Factual Report

Location:	Gerrardstown, West Virginia	Accident Number:	ERA12LA293
Date & Time:	April 16, 2012, 15:00 Local	Registration:	N5025G
Aircraft:	PRENDERGAST JOHN/VANS RV-7A	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (total)	Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Factual Information

On April 16, 2012, about 1500 eastern daylight time, an experimental amateur-built Van's Aircraft RV-7A, N5025G, was substantially damaged during a forced landing to an agricultural field in Gerrardstown, West Virginia. The commercial pilot was not injured. Visual meteorological conditions prevailed. No flight plan had been filed for the local flight, which originated at Eastern West Virginia Regional Airport/Shepherd Field (MRB), Martinsburg, West Virginia. The personal flight was conducted under the provisions of 14 Code of Federal Regulations Part 91.

According to the pilot, the airplane departed MRB about 1230, and during the flight, while maneuvering about 3,000 feet, the Mazda 13B rotary engine's coolant temperature rose. The pilot turned the airplane back toward the airport, and the engine seized and would not turn over during an attempted restart. The pilot advised MRB control tower personnel that he would have to land in a field, which included recently-planted apple trees. The pilot was able to land on a flat portion of the field; however, during the landing rollout, the airplane encountered a ditch that caught the nose wheel and bent the nose strut back, and the airplane nosed over.

After the airplane was recovered from the field, the pilot, who was also the builder, disassembled the engine, which he stated had 4 hours of operation since it was rebuilt. The pilot first noted that the water pump, which was newly installed prior to the accident flight, had rust-colored water at the outlet hole from the pump bearing. The pilot also noted that a lot of metal had passed through the engine and the reduction drive, and that the stationary gear/bearing was frozen to the eccentric shaft.

The pilot/builder further noted that during the recent rebuild, he had attempted to fine tune the engine by having the side and intermediate housings undergo lap grinding. The pilot/builder knew the grinding would require wider spacers, which he used, but those used may have been insufficient in width. The insufficient width resulted in bearing oil hole misalignment on the eccentric shaft which blocked oil from reaching rotating engine and reduction drive shaft parts.

Pilot Information

Certificate:	Commercial	Age:	72, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	April 19, 2010
Occupational Pilot:	No	Last Flight Review or Equivalent:	April 19, 2010
Flight Time:	3196 hours (Total, all aircraft), 290 hours (Total, this make and model), 2000 hours (Pilot In Command, all aircraft), 4 hours (Last 90 days, all aircraft), 2 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	PRENDERGAST JOHN/VANS	Registration:	N5025G
Model/Series:	RV-7A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	71591
Landing Gear Type:		Seats:	2
Date/Type of Last Inspection:	April 19, 2011 Condition	Certified Max Gross Wt.:	
Time Since Last Inspection:	60 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	290 Hrs at time of accident	Engine Manufacturer:	MAZDA
ELT:	Installed, not activated	Engine Model/Series:	13B
Registered Owner:	AIRNAV CORP	Rated Power:	146 Horsepower
Operator:	John Prendergast	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	MRB,565 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	14:53 Local	Direction from Accident Site:	60°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	11 knots / 16 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	170°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.94 inches Hg	Temperature/Dew Point:	31°C / 13°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Martinsburg, WV (MRB)	Type of Flight Plan Filed:	None
Destination:	Martinsburg, WV (MRB)	Type of Clearance:	None
Departure Time:	12:30 Local	Type of Airspace:	

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:	39.351665,-78.099723(est)

Administrative Information

Investigator In Charge (IIC): Cox, Paul

Additional Participating Persons: David Garey; FAA/FSDO; Baltimore, MD

Report Date: November 30, 2012

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=83441>

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