

5/15/2015

Inspector Statement

On 5/14/2015 inspectors RIO and DJM travelled the STL FSDO to a farm field near [REDACTED] Columbia, IL and met with the pilot Joshua Shiver of aircraft N165RV, a R-44-II rotorcraft. A PBR was issued and signed by Joshua Shivers. Upon arrival the aircraft was located approximately 200 yards deep into a wheat field. The wheat was approximately 3 feet tall. Josh stated he had been conducting spraying operations when he lost engine power and executed a "run on" landing.

We walked out to the aircraft location and proceeded to document the accident by taking numerous pictures with a digital camera. It was noted the tail rotor assembly was separated from the aircraft and located approximately 25 yards from the aircraft. The tail fin section was separated and located approximately 10 yards from the aircraft. The spray boom(s) were both broken and lying next to the aircraft right side. The aircraft was in an upright position and resting on its landing skids. The rotor blades both showed impact damage. The tail boom section was bent and torn.

A fuel sample was taken using a clean mason type jar. Debris was noted to be at the bottom of the jar. No evidence of water was found. The jar was sealed, identified and taken back to the FSDO. The oil dipstick was removed and photographed. Oil showed at or above the normal indicating mark on the stick. Inspector DJM physically saw fuel in the right hand tank that was approximately 1/3 full and was not able to physically reach the left hand tank for viewing.

The engine doors were opened by the pilot. No obvious defects could be seen through the doors. The lower portion of engine cowl (bay) appeared in a good/clean condition.

At our arrival of the cockpit area, the fuel selector was in the off position, the magneto switch (key) was in the off position, the master power switch was in the off position and the mixture control was in the full pushed in position.

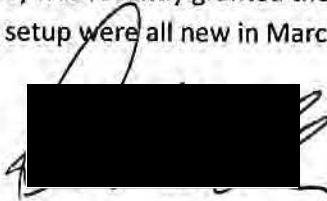
Inspectors RIO, DJM and pilot Joshua Shivers left the scene and went to a local McDonalds restaurant to further debrief the accident.

During the debrief Joshua stated he had a normal night's sleep the previous night of accident. Prior to starting operations for the day of 5/13/2015 a weather brief was obtained from "weather.GOV" website and a preflight check of the aircraft was done. The day of the accident he had been operating the aircraft in AG spraying operations for approximately 1 to 2 hours near New Athens, IL. Once finished in New Athens he re-positioned the aircraft to [REDACTED] Columbia, IL to conduct more AG spraying operations. Several more spraying ops were completed. After the last fuel stop he had been spraying for a "few minutes" when the engine RPM went to zero and the Low Rotor RPM light came on. Due to the low operation height of spraying, Josh executed the "Run On" landing maneuver. The aircraft contacted ground and slid in a forward motion approximately 15-20 feet then "hopped" and turned 90 degrees

before coming to rest on its landing skids. Joshua thinks the main rotor struck the tail boom when the aircraft hopped and landed at 90 degrees to the original direction of travel.

Joshua stated a fuel sump check was done prior to first flight of the day and complete pre-flight accomplished. During the AG operations Joshua said it is normal to fuel the aircraft with 10 to 15 gallons fuel, perform AG spraying and return shortly to re-fuel again – over and over several times throughout a day's work. The Aircraft is refueled via a 70 gallon tank on a trailer owned by the operator (8PRG) and located near the area of operations (the land owners home). At each refueling the aircraft is shut down, re-fueled and started up again. Prior to each liftoff a magneto check is performed. Joshua said nothing outside of normal was noted.

Prior to the accident Joshua stated the oil had been recently changed and maybe some minor maintenance performed. Aircraft and engine logs were not available to us at this time. The operator (8PRG) was recently granted their certificate in March/2015. The AG spraying equipment and re-fueling tank setup were all new in March/2015.



Dennis Mueller

Inspector Statement

On May 15, 2015, at approximately noon (Central Time), Inspector J. Warren Smith and I (Inspector Stephanie Williams) of the Springfield Flight Standards District Office (SPI-FSDO), met with Mr. Jesse Moats, the owner of N165RV, at his base of operations. Mr. Moats was informed that we needed to look at the aircraft's log books and get samples of fuel from the fuel barrel on the trailer that had fueled N165RV.

Upon arrival I had Mr. Moats fill out a Pilots Bill of Rights form. After getting the form signed, I went and retrieved two new glass jars to put fuel samples in. I met Mr. Moats and Inspector Smith at the trailer and got a fuel sample from the filter at the front of the tank. The fuel was clear and blue, and smelled like aviation gasoline. Mr. Moats then used the other glass jar to retrieve a sample of fuel from the hose/nozzle. This sample was clear with a green tint, and did not smell like aviation gasoline.

After retrieving the fuel samples I looked at the aircraft's log books, and photographed several pages from the airframe log book and several pages from the engine log book. I also photographed two AD listing pages.

The above statement is true and accurate to the best of my recollection.

**STEPHANIE V
WILLIAMS**

Digitally signed by STEPHANIE V
WILLIAMS



Stephanie Williams
Principal Maintenance Inspector
SPI-FSDO

Inspector's Statement
N165RV Accident

On June 11, 2015 in support of accident CEN15LA231 occurring on 5/13/2015 and involving a Robinson R44, registration number N165RV, serial number 10165, I traveled to A&S Helicopter, Inc. in Cahokia, IL to witness the removal and inspection of the following items at the request of NTSB Investigator Courtney Liedlor.

1. A fuel sample taken from the gascolator was clean and free of debris.
2. Removed gascolator. The interior of the gascolator was clean and free of any debris.
3. Removed engine inlet air filter element. Filter element had sticky residue on exterior side of filter. Filter element looked clean and free of debris. Operational checked the alternate air source and it moved freely.
Note: Upon removal of the air filter, it was discovered that the lower half of throttle flap and also going down the injector body, was coated an unknown sticky substance.
4. Fuel pressure filter was removed and inspected. Filter was clean with no debris present.
5. Removed engine oil filter and disassembled. Filter was clean and free of any magnetic debris.

All maintenance was performed by Mr. Steve Bortscheller of A&S Helicopter, Inc. No further action was taken at this time.


Lawrence E. Sadowski
Principle Maintenance Inspector
STL-FSDO-03

06/15/2015
Date

Inspector Statement

June 11, 2015.

Accident, N165RV.

Columbia, Illinois.

On June 11, 2015, inspector Clyde Zellers met inspector Larry Sedowski at A&S Helicopters, [REDACTED] Cahokia, Illinois at 09:00. Both inspectors were present to observe the disassembly of several system components of the Robinson R-44 helicopter N164RV to ascertain any obvious indications for an engine failure which resulted in substantial damage to the helicopter while it was conducting agricultural chemical dispensing near Columbia Illinois.

The air induction system was disassembled up to the air control body. Inspection of the fuselage air inlet screen, sceet tubing, air filter, alternate air body and the air control body unit all showed signs of chemical ingestion of some degree. The bottom half of the air control body, where the butterfly valve is located, showed a white powder buildup of residue on the bottom half of the body cavity entrance outside of the butterfly valve. The buildup of residue was not more than 1/32nd of an inch at the thickest point at the very base of the inlet portal.

All engine operating controls were checked for correct freedom of movement and condition. These included the throttle, mixture and fuel shutoff controls. The oil filter was removed, cut open and revealed no contaminants. A sample of fuel from the fuel system gasgolator was taken and revealed clean gasoline liquid of a blue color indicating 100LL fuel. The gasgolator fuel bowl was removed; the contents poured through a clean white paper towel and revealed no debris. The fuel filter was removed and showed no signs of contamination.

Photographs and a preliminary report of the findings were taken by inspector Sedowski. The examination was concluded at 11:15 and I, inspector Clyde Zellers, returned to the STL FSDO.

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