

N225ML R-44-II

Inspector Statement of Post Accident Aircraft and Engine Inspection 9-8-2024

This inspector traveled to Prairie City Iowa maintenance facility for Seaton Flying Service operator of N225ML.

Hobbs time indicated 1813.7 hours.

Present was Dan Van Donselaar maintenance director for Seaton Flying Service and this inspector.

Aircraft had been relocated with permission of FAA and NTSB from near Bryant Iowa to this location after experiencing what was reported by the pilot to be a decrease in rotor rpm after lifting off from the tender truck. Pilot had been fueled with 4-5 gallons of fuel and 45 gallons of chemical prior to lifting off. Shortly after lifting off pilot reported the loss of lift and decrease in rotor rpm attempting to follow a short waterway downhill by manipulating rudder and cyclic controls. The attempts were not successful, and the left skid contacted the rising terrain on the other side of the waterway. The helicopter then rolled on to its side main rotor struck the tail boom severing the boom and tail rotor from the helicopter.

This inspector traveled to Prairie City IA to document and perform inspection of helicopter airframe and powerplant damage. Find aircraft to be as recovered from accident field, recovered portions of aircraft photographed and documented. Secured aircraft maintenance records for review, along with Engine analyzer for NTSB data review.

Helicopter flight controls rods were attached to main rotor system, extensive damage to the helicopter aft fuselage and cockpit was intact windshield side windows were broken, damage noted to firewall and engine mount engine exhaust tailpipe partially crushed noted that the exhaust deposits were light gray in color.

Supervise operator maintenance personnel in Powerplant inspection check control integrity, oil suction screen and filter for debris, drain engine oil and take sample secure sample and send to Blackstone for oil analysis. Check magneto timing, exhaust tail pipe for obstruction. Noted that main rotor gearbox drive belts were attached drive shaft to tail rotor was bent and broken from impact of main rotor blades. Temperature indicators on gearboxes appeared to be in normal range, fluid was present in site glass. Fuel sample was taken and appeared to be 100LL with no debris noted in fuel strainer screen. Engine controls were attached and correct, Carburetor venturi was unobstructed air filter appeared clean however there was crush damage to the filter and air box.

Check compression, 1-45/80, 2-25/80, 3-70/80, 4-50/80, 5-50/80, 6-15/80 Note: compression readings were taken on the cold engine after it had been on its side with indications of an over speed condition on engine cooling fan (witness marks out of alignment). The low compressions may be misleading as a contributing factor to the accident due to the length of time the engine was inactive after the accident as well as any damage to the cylinders and valve train caused by the accident.

Remove all spark plugs and photograph plugs for condition find plugs to be in typical as run condition except for the lower spark plugs on the 1,3,5 cylinders which were oil fouled due to the roll over.

Review of aircraft, engine and pilot records was accomplished by this inspector and Operations Inspector Mike Massell with no findings. SFAR 73 endorsement was current. Inspections AD compliance and life limited parts also appeared current.

Received a copy of oil analysis report, indications were of normal wear on the engine, no abnormal readings noted based on averages contained in the report from Aviation Labs. Forward copy of report to NTSB. Airframe and Engine inspection documented via photos electronically provided to NTSB Investigator Brian Rutt.

On 10/24/2024 this inspector supervised data recovery from EDM 700 engine analyzer. Data consisted of CHT and EGT information for past flights leading up to accident. Data copied and furnished to NTSB Investigator Brian Rutt via email.

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