

Folkerts Michael

From: Folkerts Michael
Sent: Thursday, September 15, 2022 9:53 AM
To: Folkerts Michael
Subject: Exam notes

From: Kendall, Donald (FAA)
Sent: Wednesday, July 13, 2022 12:50 PM
To: Folkerts Michael
Subject: FW: N208C Accident in Union, NE

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Mike,

Below is Mr. Czarnecki's summary of the engine examination we performed yesterday.

Regards,
Donald Kendall
Aviation Safety
Principal Avionics Inspector
Lincoln, Nebraska

From: David Czarnecki
Sent: Tuesday, July 12, 2022 4:10 PM
To: Kendall, Donald (FAA)
Cc: vonRenzell, Bernard (FAA)
Subject: RE: N208C Accident in Union, NE

7/12/2022

Powerplant inspection overview

Started inspection at the fuel tank and worked forward from that point, the fuel cap vent appeared to be functioning properly and the cap fit the filler neck correctly. Used video borescope to inspect interior of tank and found nothing of concern (tank was dry). Tank had some physical damage from the wreck itself but appeared sound and the fuel selector valve was in an open position.

Removed the fuel line from the engine driven pump to the carburetor and found no fuel present. Removed carburetor from engine and tested the accelerator pump. It had a small amount of fuel within the pump circuit, enough to produce one to one and a half small shots from the pump nozzle. Removed drain plug and no fuel was present. We further inspected the carburetor by removing the four screws attaching the upper body to the float bowl. Carburetor was completely dry and clean inside with just a small amount of fuel in the accelerator pump cavity. Carburetor has the latest upgrades including the foam float and the one piece venturi. Carburetor had some physical damage that was obviously from the wreck. I found nothing out of order within the fuel system, other than the missing fuel strainer bowl and I was told that was found at the crash site. The line for the fuel pressure gauge was damaged in the accident as well, but was still connected and was surely intact prior to the incident.

We removed all the spark plugs and I found them indicative of a lean condition, they were very light ash colored to white colored in the firing cone area. They did appear to be in average condition and appeared that they would have been in proper working order with some oil residue on the bottom plugs of #1 and #4 which is not out of the norm and especially considering the engine has sat some time since the incident.

The #1 and #3 cylinders had to be removed in order to facilitate turning the engine through. The #1 cylinder had such severe impact damage that it was forced in to the #3 cylinder and the crankcase itself was broken in multiple places, as well as the cylinder base and through stud were bent. After removing the intake, exhaust and other items such as baffle we were able to removed both of the cylinders at once. There appeared to be no issues within the cylinders that could have caused an issue. We removed the magnetos, propellor, ring gear support and the #2 and #4 cylinder rocker box covers so we could rotate the engine through. With those items removed the engine turned freely and the valvetrain was opening and closing without issue on the remaining two cylinders. I did not see anything of concern with the rotating assembly or the cylinders themselves.

The left magneto (impulse coupler equipped) had some physically damage from the impact. Both magnetos appeared to be in good working order as well as the drive gears and impulse coupler. I was able to get spark by hand with both magnetos and believe them to be in good working order.

[REDACTED]
[REDACTED]. I did not find any fuel present within any of the fuel system itself other than the minor amount that was still present within the accelerator pump housing. [REDACTED]
[REDACTED]

David Czarnecki