

From: Sheehan, Greg P (FAA) [REDACTED]
Sent: Monday, November 2, 2020 4:04 PM
To: Scott Arnold [REDACTED]
Subject: N2074S Teardown Inspection

Arnold,

On 10/29/2020, Henry Soderlund and I performed an airframe and engine teardown inspection of N2074S. The results of our inspection:

1. The flaps and landing gear both appeared to be in the up position.
2. The fuel tank selector valve was removed and inspected. The left fuel tank appeared to be selected, but not detented.
3. The engine driven fuel pump was removed. The drive shaft was intact and not sheared. There was no fuel recovered from the pump.
4. The turbo charger appeared heavily damaged but contained. Damage appears to be attributed to ground impact.
5. The top spark plugs were removed nothing abnormal noted.
6. The valve covers were removed.
7. The propeller was rotated through freely. All valves appeared to be opening and closing normally.
8. All engine cylinders had compression.
9. Both magnetos were removed, and the wires cut down to approx. 1.5 inch. Both magneto shafts were rotated, and all wires sparked.

Observations;

1. Based on this inspection it appears there isn't any reason the engine shouldn't have been running.
2. The condition of the propeller blades indicates the engine was not running. (Post-accident observation)
3. The right fuel tank did not contain any fuel. (Post=accident observation)
4. The last evidence the pilot fueled the aircraft was on 04/30/2020 at 1453 in Granbury Texas (36.5 GALS). The pilot performed 4 flights after fueling totaling approximately 1hr 13 min.
5. The pilot performed a full stop taxi back after the previous two takeoffs. The accident occurred on the 3rd takeoff of the day, 05/07/2020. (Post=accident observation)
6. Aircraft altitude was approximately 363 ft AGL when the pilot declared an emergency. (Field elevation = 687 ft - Aircraft Barometric Altitude = 1050 ft (ADS-B))
7. Witnesses stated the pilot was very focused on building his proficiency in the aircraft and tried to fly everyday even if it was for only one or two takeoffs and landings per flight.
8. 05/02/2020 flight included one full stop taxi back according to ADS-B data. There was evidence the pilot flew the aircraft on 05/06/2020, but no ADS-B data was found.

Theory;

[REDACTED]

[REDACTED]

Let me know if you need anything else.

Best regards,

Greg Sheehan
Aviation Safety Inspector-Avionics
Federal Aviation Administration
8700 Freeport Parkway Suite 225
Irving, Tx 75063

[REDACTED]



Photo 1 – Top spark plugs after removal from cylinder heads (FAA photo)



Photo 2 – Engine cylinder head after spark plug removal (FAA photo)



Photo 3 - Engine cylinder head after spark plug removal (FAA photo)



Photo 4 – Fuel selector valve (FAA photo)



Photo 5 – Fuel selector valve (FAA photo)



Photo 6 – Turbocharger (FAA photo)



Photo 7 – Turbocharger, wastegate, and exhaust manifold (FAA photo)



Photo 8 – The engine and propeller (FAA photo)