



Examination Summary

NTSB ACCIDENT NUMBER: ANC22LA020

AIRCRAFT REGISTRATION/AIRCRAFT TYPE: N99640, PA-18-135

ACCIDENT LOCATION: Wasilla, AK

Date of Examinations: March 2, 2022, March 4, 2022, March 15, 2022, and March 18, 2022.

ANC22LA020/Piper PA-18/N99640

Post-Accident Examination Summary

On March 2nd, 4th, and 18th of 2022 the airframe and engine of N99640 was examined at Wasilla, AK by inspectors from the Federal Aviation Administration (FAA). On March 15, 2022, the fuel selector was examined at Trimmer Aviation, Willow, AK with an inspector from the FAA present. The following findings are from the examinations:

Airframe

The wings exhibited extensive impact damage. The fuselage displayed damage at the wing attachment points and was slightly twisted. The empennage was relatively undamaged. Control continuity was established from the cockpit to the rudder and elevator. Control continuity was not established from the cockpit to the ailerons due to impact damage.



Photo 1: Airplane

Engine/Propeller

Engine - Lycoming O-360-A1A S/N L3510-36, normal rated 180 hp @ 2700 RPM.

Type - 4 cylinder, horizontally opposed, air cooled.

Tach time - Indicated as 3,542.20

Carb - Marvel Schebler MA-4-5 p/n 10-3878 normally aspirated

Type of propeller - 2 blade, Catto Build # 10101470, wood core.

Damage - 1 blade completely severed at the hub, the 2nd blade had approximately 18" remaining. Remaining blade was severed at about a 90-degree angle.

Compression

Cylinders - 4 of 4

In correct firing order - Yes

Firing Order - 1-3-2-4

Any weak cylinders - Cold engine thumb compression was verified on all 4 cylinders. The number 2 felt slightly weaker than the other cylinders. The valve cover was removed and the valves appeared to operate as designed while the prop was turned.

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Slight crushing damage was present on the front face of the valve cover, consistent with impact damage.

Magnetos

Left

Impulse Coupling - Yes

Tight to engine - Yes

Ignition harness secure to mag - Yes

Observed spark (how conducted) - Removed the number 2 spark plug wire and held close to the case. Spark observed as the prop was turned and the click of the impulse coupling was heard.

Damage- unknown

Right

Impulse Coupling - No

Tight to engine - Yes

Ignition harness secure to mag - Yes

Observed spark - No

Damage - None observed, but also difficult to fully assess due to the damage to the engine compartment.

Spark Plugs and Wiring

All were secure and undamaged with only a slight grey fouling. No other damage/anomalies noted.

Gascolator

Drained - Yes - completely draining the gascolator yielded approximately 4 ounces of clean, blue tinted fuel.

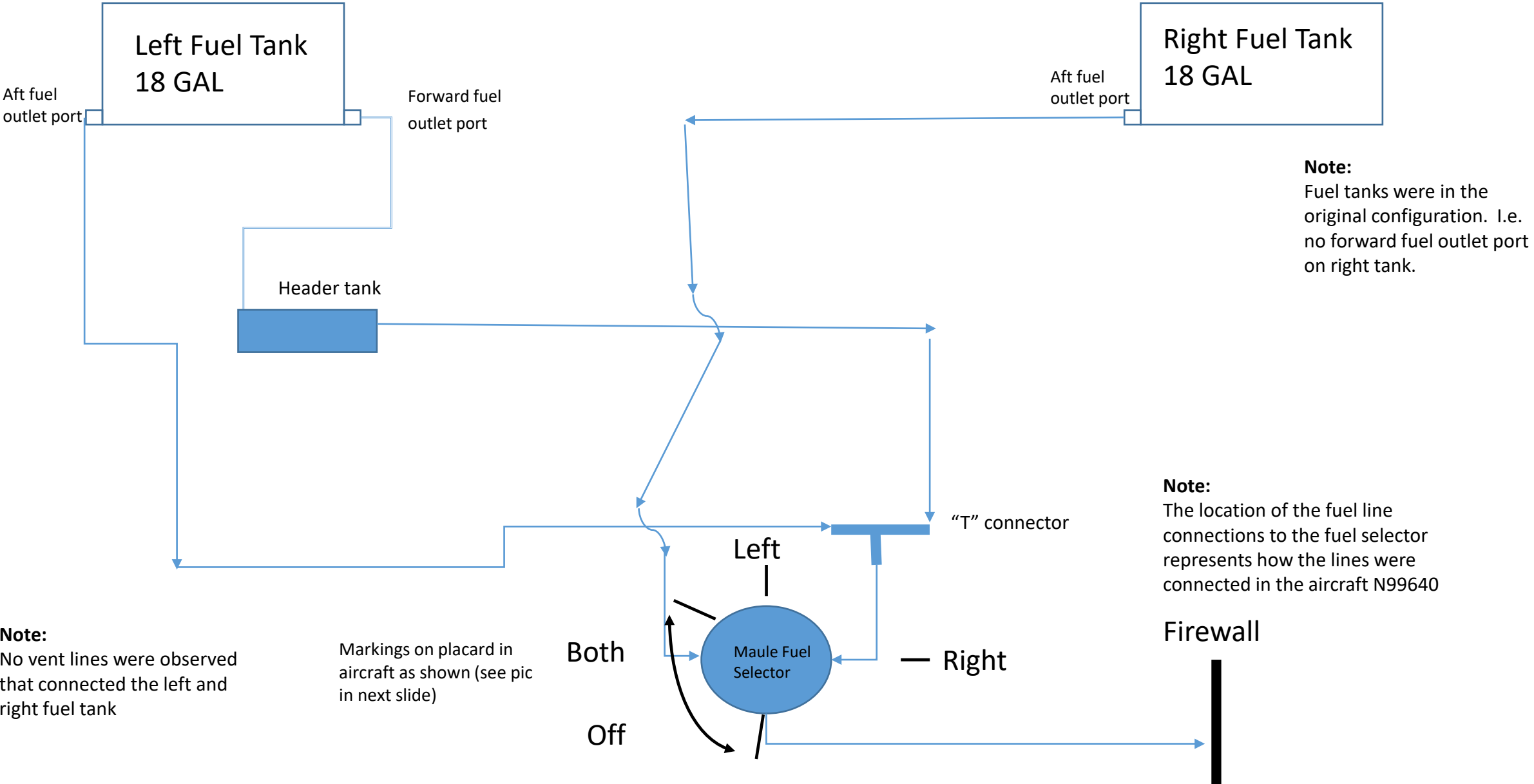
Clean blue fluid was present consistent with 100 LL Avgas -Yes

Evidence of water observed - No

Fuel System

According to the pilot the fuel system had been modified. The rear header tank had been removed due to the installation of a 4 position Maule fuel selector. The front header tank remained and was connected to the left fuel system. A very positive "click" was noted as the fuel selector handle was rotated through the various positions. Both the right and left fuel systems were checked for signs of blockage on 03/18/2022. No indications of blockage were noted to include the finger screen in each wing tank.

N99640



Fuel Selector

During an examination of the fuel selector on 03/15/2022 it was determined that the valve worked correctly. However, all placarding for the fuel selector was incorrect. **Placarded "Both" was actually Right, "Left" was actually Off, "Right" was actually Left, and "Off" was actually Both.** Both the right and left fuel systems were checked for signs of blockage on 03/18/2022. No indications of blockage were noted to include the finger screen in each wing tank.

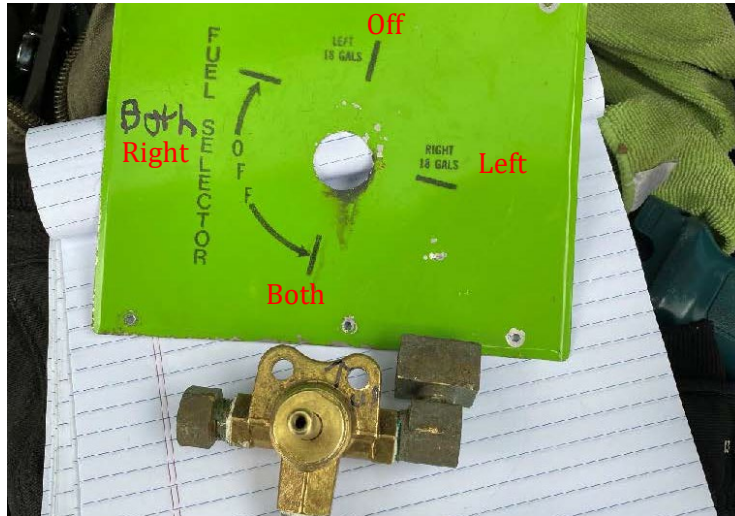


Photo 2: Fuel Selector Valve

Red Letters indicated how the valve was actually installed and should have been placarded.