



MEMORANDUM FOR RECORD

Todd Gunther
Air Safety Investigator
Eastern Region

Date: March 2, 2022
Subject: NTSB Examination of N3098M
NTSB Case Number: ERA22LA080

On December 15, 2021, the wreckage of N3098M was examined by the NTSB at South Point Airport (95FD), La Belle, Florida. The pilot, as well as Federal Aviation Administration (FAA) Inspector Juan Garcia, were present during the examination.

Fuel System as Designed

The pilot had previously referred to the “right tank” as being the main tank.

According to the Type Certificate holder, the left fuel tank is considered the main fuel tank, and the right fuel tank is the auxiliary fuel tank.

As designed, the left tank (main tank), would directly feed a header tank which fed the gascolator bowl, and carburetor. The left tank selector had to be selected "ON" at all times, as all the fuel feeding the engine, must go through this valve, including the (auxiliary) right tank fuel when selected. The right tank when selected also fed through the left fuel valve because it was plumbed in series with the left tank main selector.

Turning the left fuel selector off would stop all fuel from the left and right tanks from feeding the engine.

A stock PA-12 does not allow the pilot to select left or right tank. It must be operated with the left tank selector always opened, even when the right auxiliary tank is selected. Fuel management would be left tank main “ON” and right tank auxiliary “OFF”, or both left main and right auxiliary “ON”.

Examination of fuel system schematics indicated that you could run the left main tank dry and not select the right auxiliary which would result in fuel starvation, but not the other way around.

You cannot feed directly off the auxiliary tank without it funneling through the left main fuel valve.

Accident Airplane's Fuel System

According to the pilot, he stated that the fuel lines may have somehow gotten "crossed up" (The left tank routed to the right shutoff valve, and the right tank, routed to the left shutoff valve).

Examination of the accident airplane revealed that the fuel system displayed two major areas of fuel leakage. One was around the left fuel tank, which the pilot had originally described as a small leak but displayed evidence of fuel staining on the surrounding structure, tank, and fabric. This had been repaired by the pilot by welding along the aft seam of the tank. When asked about this leak, he advised that it had been leaking for a while before he had fixed it. The second area of leakage was discovered behind the fuel selector panel, after the fabric had been removed to access the fuel selector valves. This area also displayed large areas of staining on the insulation, fabric, and structure. Further examination also revealed that some of the areas were damp to the touch and an odor of gasoline was present.

When questioned about the leak in the area of the fuel selector valves, the pilot advised that he was unaware of the leakage,

A Header tank was also discovered during this portion of the examination, and, when asked about the header tank, the pilot advised that he was unaware that there was one installed, and then pointed out that the fuel lines as he believed, had been "crossed up."

When asked if he knew how the fuel lines had become "crossed up." He advised that it must have happened sometime in the past.

Further examination of the fuel system also revealed that the "crossed up" fuel lines were being held to the fuselage structure with electrical tape, and that the fuel system had been substantially modified, as the right auxiliary fuel tank line had been plumbed directly into the tube in the bottom of the header tank, which led to the left tank selector, and a second tube had been added to the tank body, which was attached to the right tank selector, that the left tank fuel line had been plumbed to. According to the type certificate holder, they were unaware of any supplemental type certificate (STC) that approved this modification.

Additional examination indicated that if the right fuel selector was in the closed or nearly closed position it would stop or severely reduce the flow of fuel from the left fuel tank to the engine.

Review of on-scene photographs taken by Inspector Garcia, indicated that the right fuel selector was discovered to be just out of the "OFF" position.

Examination of both the left and right fuel selectors revealed that they were both functional.

Previous Accident

Review of NTSB accident records revealed that the airplane had been involved in a previous accident on August 10, 2010 (NTSB Case No. WPR10CA380), during a loss of directional control while attempting to avoid a herd of antelope.

FAA and Airplane Maintenance Records

Review of FAA and airplane maintenance records revealed that:

- The last annual inspection occurred on June 26, 2016.
- The last recorded maintenance was installation of a new battery on March 21, 2017.
- The airplane was purchased by the pilot on January 20, 2019.

According to the pilot when he purchased the airplane it was out of annual, and he continued to operate the airplane without annual inspections.

No further entries were discovered in the maintenance records.