



Memorandum of Record

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Subject: WPR22LA259, N718TB, Engine Run and Examination Report

A Socata TB-21, N718TB, was involved in an accident in San Marcos, CA, on July 16, 2022. The accident occurred following a reported loss of engine power.

On August 1, 2022, an engine run was attempted with the engine attached to the airframe. Several attempts were made to start the engine using on ship battery power and external fuel plumbed to the engine from the left wing fuel line/port. The first several engine start attempts were unsuccessful and external electrical power had to be applied to the battery. During each unsuccessful engine start attempt fuel was observed flowing out of the overflow/scat tube attached to the mechanical fuel pump when the electric fuel pump was turned on.

The fuel lines were examined and it was determined fuel was able to flow from the external fuel tank, through the fuel selector valve, through the mechanical fuel pump, and reach the intake port on the fuel injection throttle body when the electric fuel pump was activated. Fuel did not initially flow from the throttle body to the fuel divider and the fuel line connection at the fuel divider was found to be finger tight. (It was later determined that FAA inspectors had loosened that connection during a previous inspection.) Fuel subsequently flowed to the fuel divider after all connections were secured.

The engine then started after fuel had been verified at the fuel divider. However, the engine would only run to 1200-1500 RPM. Additionally, the engine would only run when the electric fuel boost pump was turned on. Fuel continued to flow from the mechanical fuel pump scat line after the engine started so the engine run was terminated.

The mechanical fuel pump was removed from the engine. During removal it was noted that the pump's drive shaft had sheared. The male, keyed end of the drive shaft was not located and likely entered the accessory drive case.

The mechanical fuel pump was retained for further examination.