



July 23, 2025

**IN REPLY REFER TO:
L-175-25-020**

Ryan M. Enders
Aviation Accident Investigator
National Transportation Safety Board
Eastern Region, Aviation Safety
Cell: ([REDACTED])

**RE: 1978 Cessna TU206G; Serial Number: U20604105; REG: N27GP
Location: Orlando, FL; D/A: 03-12-25
NTSB Report Number: ERA25FA142**

Dear Mr. Enders,

With regards to your POH questions regarding the electric auxiliary fuel pump, please see below Textron Aviation responses:

Your Question:

As I read this, the boost pump is only turned on for starting the engine or for emergency scenarios and is typically "OFF" during cruise flight, correct?

Textron Aviation Response:

Yes, according to the applicable aircraft POH, there are different scenarios/conditions/reasons for turning ON the electric auxiliary fuel pump and it is typically in the OFF position for normal cruise flight.

Your Question:

Turning the boost pump on would introduce extra fuel pressure into the system and could flood the engine. Would you agree?

Textron Aviation Response:

Yes, according to the applicable aircraft POH, it is possible to flood the engine with an operational engine-driven fuel pump and the electric auxiliary fuel pump in the ON position. Please note that according to the applicable aircraft POH, Fuel System, pages 7-29 through 7-30, it describes the auxiliary fuel pump:

The auxiliary fuel pump switch is located on the left side of the instrument panel and is a yellow and red split-rocker type switch. The yellow right half of the switch is labeled START, and its upper ON position is used for normal starting, minor vapor purging and continued engine operation in the event of an engine-driven fuel pump failure. With the right half of the switch in the ON position, the pump operates at one of two flow rates that are dependent upon the setting of the throttle. With the throttle open to a cruise setting, the pump operates at a high enough capacity to supply sufficient fuel flow to maintain flight with an inoperative engine-driven fuel pump. When the throttle is moved toward the closed position (as during letdown, landing and taxiing), the fuel pump flow rate is automatically reduced, preventing an excessively rich mixture during these periods of reduced engine speed.

NOTE

If the engine-driven fuel pump is functioning and the auxiliary fuel pump switch is placed in the ON position, an excessively rich fuel/air ratio is produced unless the mixture is leaned. Therefore, this switch should be turned off during takeoff.

NOTE

If the auxiliary fuel pump switch is accidentally placed in the ON position with the master switch on and the engine stopped, the intake manifolds will be flooded.

The red left half of the switch is labeled EMERG, and its upper HI position is used in the event of an engine-driven fuel pump failure during take-off or high power operation. The HI position may also be used for extreme vapor purging. Maximum fuel flow is produced when the left half of the switch is held in the spring-loaded HI position. In this position, an interlock within the switch automatically trips the right half of the switch to the ON position. When the spring-loaded left half of the switch is released, the right half will remain in the ON position until manually returned to the OFF position.

Under hot day-high altitude conditions, or conditions during a climb that are conducive to fuel vapor formation, it may be necessary to utilize the auxiliary fuel pump to attain or stabilize the fuel flow required for the type of climb being performed. In this case turn the auxiliary fuel pump on, and adjust the mixture to the desired fuel flow. If fluctuating fuel flow (greater than 1 gal/hr) is observed during climb or cruise at high altitudes on hot days, place the auxiliary fuel pump switch in the ON position to clear the fuel system of vapor. The auxiliary fuel pump may be operated continuously in cruise, if necessary, but should be turned off prior to descent. Each time the auxiliary fuel pump switch is turned on or off, the mixture should be readjusted.

If it is desired to completely exhaust a fuel tank quantity in flight, the auxiliary fuel pump will be needed to assist in restarting the engine when fuel exhaustion occurs. Therefore, it is recommended that proper operation of the auxiliary fuel pump be verified prior to running a fuel tank dry by turning the auxiliary fuel pump ON momentarily and checking for a slight rise in fuel flow indication.

To ensure a prompt engine restart in flight after running a fuel tank dry, immediately switch to the tank containing fuel at the first indication of fuel pressure fluctuation and/ or power loss. Then place the right half of the auxiliary fuel pump switch in the ON position momentarily (3 to 5 seconds) with the throttle at least 1/2 open. Excessive use of the ON position at high altitude and full rich mixture can cause flooding of the engine as indicated by a short (1 to 2 seconds) period of power followed by a loss of power. This can later be detected by a fuel flow indication accompanied by a lack of power. If flooding does occur, turn off the auxiliary fuel pump switch, and normal propeller windmilling should start the engine in 1 to 2 seconds.

If the propeller should stop (possible at very low airspeeds) before the tank containing fuel is selected, place the auxiliary fuel pump switch in the ON position and advance the throttle promptly until the fuel flow indicator registers approximately 1/2 way into the green arc for 1 to 2 seconds duration. Then retard the throttle, turn off the auxiliary fuel pump, and use the starter to turn the engine over until a start is obtained.

If further assistance is required, please contact me or another member of our Air Safety Investigations Department.

Sincerely,



Ernest C. Hall
Senior Air Safety Investigator
Textron Aviation Air Safety Investigations
Email: 