

C156001-0106 FUEL FILLER CAP MAINTENANCE

- A. It is important that the aircraft owner be aware of and address three potential problem areas which can result from leaking fuel filler caps.
1. A leaking fuel filler cap may allow introduction of water or other contamination into the fuel system if it does not seal when latched.
 2. A leaking fuel filler cap may, of course, produce a loss of fuel in flight. This fuel loss may be of such a magnitude as to effect the duration and safety of flight.
 3. A leaking fuel filler cap may reduce the pressure inside the fuel tank on an airplane equipped with bladder tanks sufficient to collapse the bladder. This may adversely affect the accuracy of the fuel quantity indication system.
- B. It is recommended that owners and operators take the following three steps in addition to their normal pre-flight activity to detect and preclude the conditions described above.
1. Inspect the wing for fuel stains.
 2. Inspect the fuel cap seals for cracking, distortion and general condition which might prevent sealing.
 3. Inspect the fuel filler cap adapter by removing the cap and insuring that the sealing face is not distorted, scratched, marred, or in such a condition as to prevent the cap from sealing.
- C. The following simple test may be used to insure sealing of the fuel filler cap anytime leakage is suspected.
1. Service the aircraft with approved fuel until the tanks are full.
 2. Position the fuel selector OFF.
 3. If the aircraft has a single vent, proceed to step 4. If the aircraft has dual vents, plug one of the vents with a small rubber plug and/or tape.
 4. Connect a rubber hose to the fuel tank vent with a pressure measuring device tee'd into the line as shown on figure 1.
 5. Apply a maximum of .7 psi (20 inches of water on a water manometer, or 1.43 inches of mercury on a manifold pressure gage, or 174 knots on airspeed indicator).

WARNING

Do not inhale fuel vapor while blowing into the rubber hose.

It may take several applications of pressure to bring the tank to the desired pressure level depending on the air space available in the tank and fuel cap leakage.

WARNING

DO NOT APPLY REGULATED OR UNREGULATED AIR PRESSURE FROM AN AIR COMPRESSOR TO THE FUEL VENT. OVER INFLATION AND MAJOR STRUCTURAL DAMAGE WILL OCCUR IF MORE THAN .7 PSI IS APPLIED.

6. Pinch or close the rubber hose to sustain pressure on the fuel tanks.
7. Apply a soap solution to the fuel caps and inspect for leakage around the rubber seal to filler neck junction, the fuel cap vent, and the fuel cap handle stem. Load the cap sideways in all directions by pressing on the fuel cap vent housing by hand.

NOTE

No leakage is permissible. If leaks are present, replace the cap with a new unit or repair in accordance with SE80-59. Re-inspect the cap after replacement or repair.

CAUTION

Depending on the volume of air and fuel present in the fuel system, time may be required for the pressure to bleed off. Consequently, care must be exercised in removing the fuel caps until the system has been depressurized

8. After the inspection is complete and all maintenance has been performed, remove the rubber hose (and opposing vent plug if used) and place the fuel selector in the desired position.

