

## Installation Details for the McFarlane Fuel Vent Lines

- **Double Check Eligibility** – Before starting any work, verify that you have the right part for your aircraft. Part eligibility information can be found on our website. Visual identification alone may be misleading. By design, the McFarlane parts have the same dimensions as the original vent tube except there is a fuel trap bent upward into the line. The attachment at the tank and where it goes out the wing should be the same as the original part. Note that vent lines for long range tanks and the standard range tanks are different.
- **Follow the directions of the ICA** – A copy of the FAA approved Instructions for Continued Airworthiness (ICA) was packaged with the part. If necessary, an online copy is available on the McFarlane website; click on the "Reference" tab or under the P/N you purchased. This document explains all the ways that the installation of the McFarlane part differs from the Cessna service and maintenance information.
- **Access** – Remove the access panels on the lower wing skin just out board of the fuel tank and between the wing spars. Removing the fuel vent line takes some patience as you are working inside the wing. Aircraft with a metal fuel tank have a flare fitting nut ("B" nut) that attaches the vent tube to the tank fitting. This "B" nut fitting sits in the wing rib. The actual position of the "B" nut to the wing rib varies by the minor differences in the fuel tank installation in the wing. Normally you can remove the "B" nut with an angle wrench or crow's foot setup from the opened lower wing access holes. If the "B" nut is closer to the tank side of the wing rib hole, it might be necessary to remove the wing tank cover for better access.
- **Remove the Grommet** – The fuel vent line is much easier to install and adjust without the wing skin grommet installed. Unseat and remove it before attempting to install the vent line.
- **New Part Geometry** – The McFarlane vent lines have a flow-prevention feature added. This 'hump', close to the vent line fitting, helps keep fuel from dribbling from the vent line, but it also makes installation a bit more of a challenge. Be patient and aware of the new feature when deciding the best approach to sliding the vent line into the wing. You might need to experiment with different angles to get the line in position in the wing.
- **Metal Fuel Tank Fitting** – The fitting on the fuel tank to which the fuel vent line attaches has indexing flats that mate to flats in the tank. The flats properly locate the check valve inside the tank and prevent rotation while the tube flare nut is being loosened or re-tightened. Investigate any rotation of the fitting.
- **Bend the Vent Line** – Bending the new tube to fit is a normal process... some of the original Cessna parts are shipped with no bends at all. Although McFarlane Aviation has modeled these parts as closely as possible to fit 'as it', there is too much variation from plane to plane for one part to perfectly fit all. Some minor hand bending may be required.
- **Do Not Kink** – The fuel vent line is only functional when the passage from the inlet to the tank is unobstructed. If the tube gets kinked, it cannot be used.
- **Tightening the "B" Nut (Metal Tank Only)** - Use caution when starting the nut back on to the tank fitting. The tank fitting is a welded assembly from the factory and the welding process has made the aluminum fitting much softer than a standard flare fitting and it is not anodized. It will cross thread or gall very easily. Lubricate the fitting and nut, and carefully align the new vent tube to the fitting before starting the nut. Be sure not to cross-thread or over tighten the nut as you can easily damage the threads on this fitting.
- **Aircraft with Bladder Tanks** – Remove the hose clamps and carefully twist the vent line back and forth while pulling the line out of the tank rubber nipple. Always replace the clamps. Follow the Cessna Service Manual instructions.