



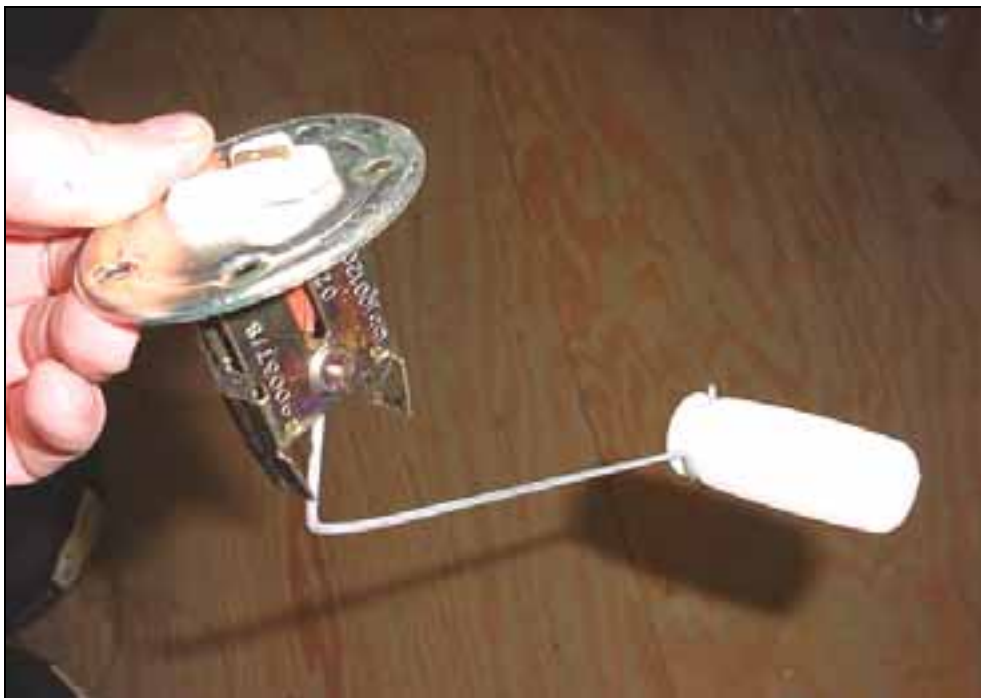
Float type fuel sender unit in supplier box.  
Use VDO Fuel Level Gauge 70-10 Ohms; turn to last page of this section.



**P/N 221-012D**



**FUEL SENDER  
INSTALLATION KIT  
P/N 226-451D**

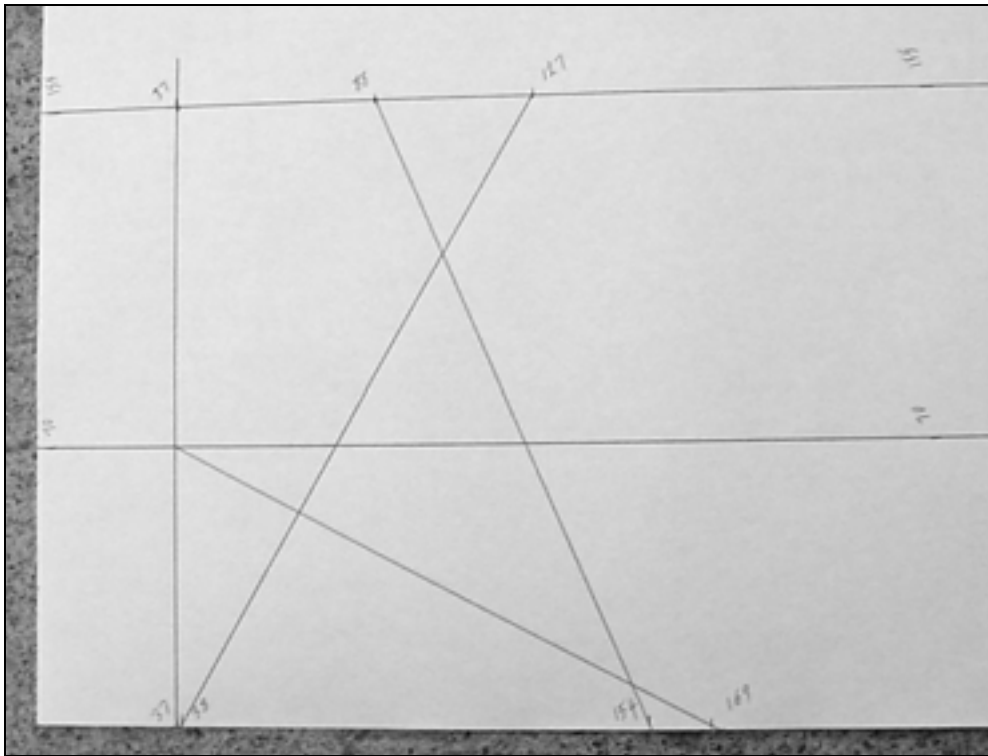


As supplied the fuel sender unit is ready for top mount installation.  
When installed on the inboard end of the tank, the float arm must be bent.



**IMPORTANT:** Do not adjust or modify the position of the stops.

Note: fuel sender shown with the float in the empty position.



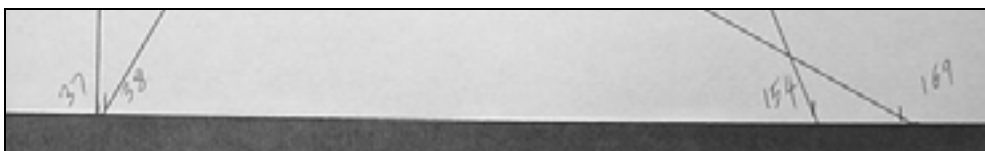
Pivot = intersection of horizontal 70mm line with vertical 37mm line.

On a standard letter size sheet 8.5"x11"  
 Layout two horizontal line. ref. bottom of page:  
 70mm and 155mm



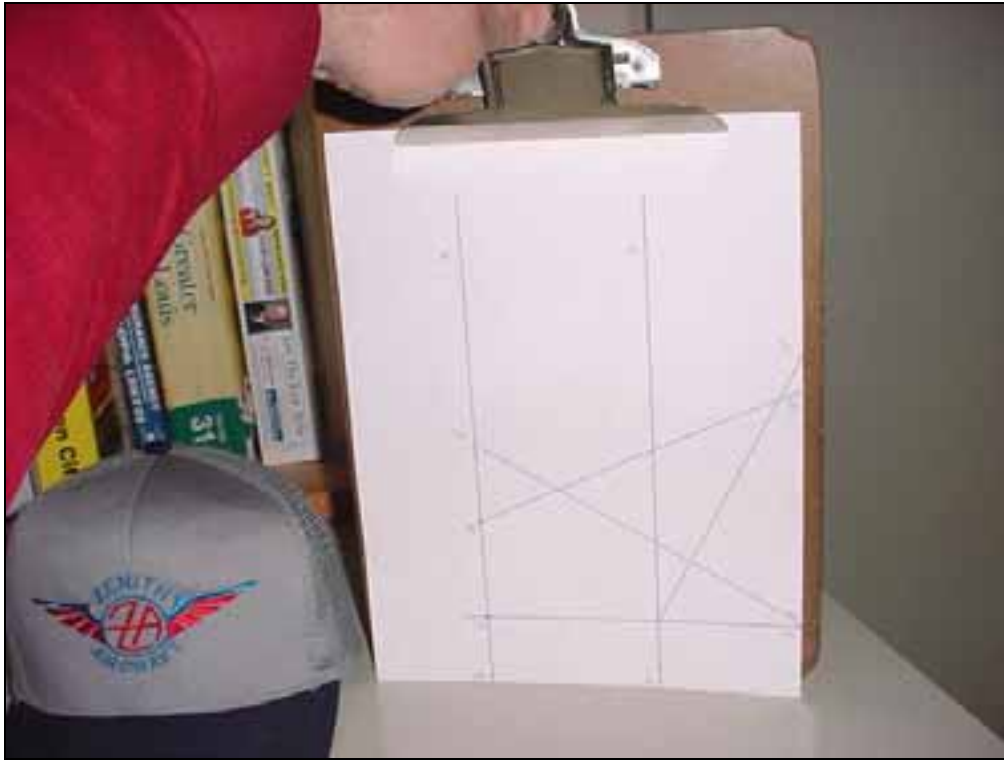
Layout detail of top horizontal line.

Layout along top horizontal line: 37mm, 88mm, 127mm



Layout along bottom of page: 37mm, 38mm, 154mm 169mm

Connect: 37 and 37 marks with a vertical line (see photo top of page)  
 Diagonal lines: 88mm to 154mm  
 38mm to 127mm  
 Pivot to 169mm

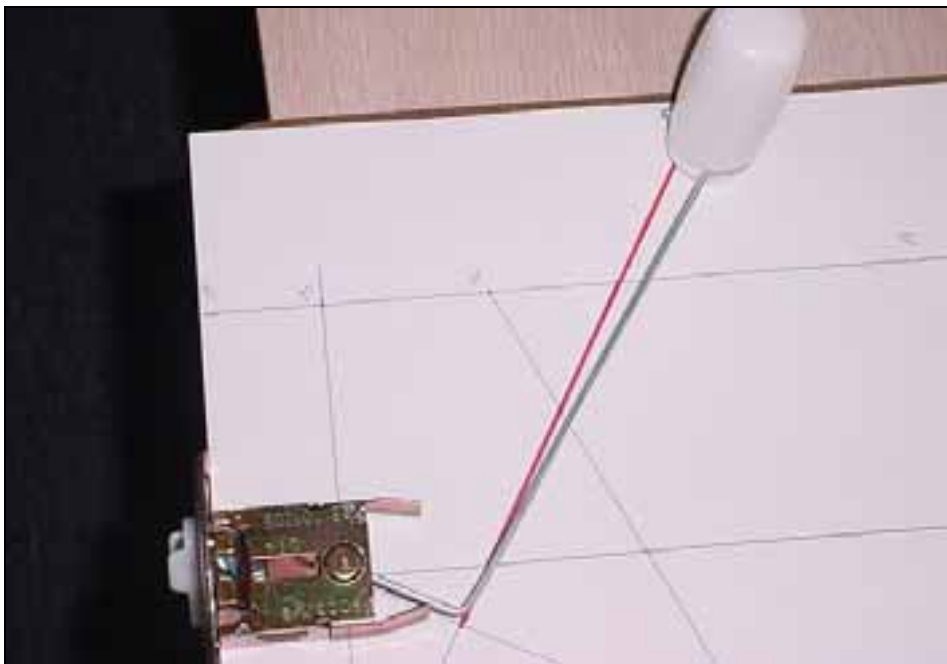


Position sheet on a clip board with the 37mm line towards the bottom. Open the clamp and let rest on the table.



Fuel sender after the arm is bent. The wire is bent to follow over the lines.

(right tank).



Position the fuel sender along the bottom of the clip board with the pivot over the bottom horizontal line.

Bend the float arm (wire) approximately 90 degrees (diagonal line 38 to 127)  
 REMINDER: When bending the wire do not push against the stops, hold the wire with pliers.



Hold the wire with pliers.



Push against the pliers to bend the wire.

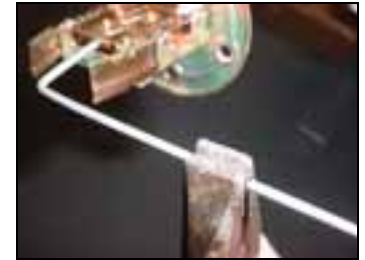


Reference: end of ruler on the wire.



Layout 65mm

Remove the plastic float to make it easier to hold the ruler along the float arm.

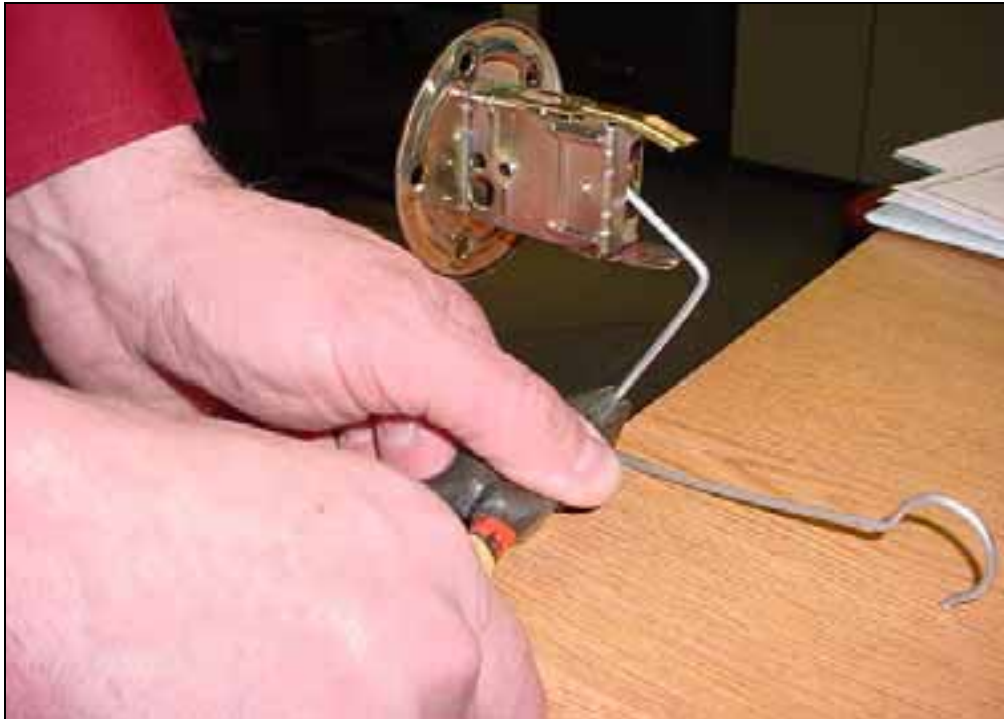


Position the pliers on the sender side of the 65mm mark.



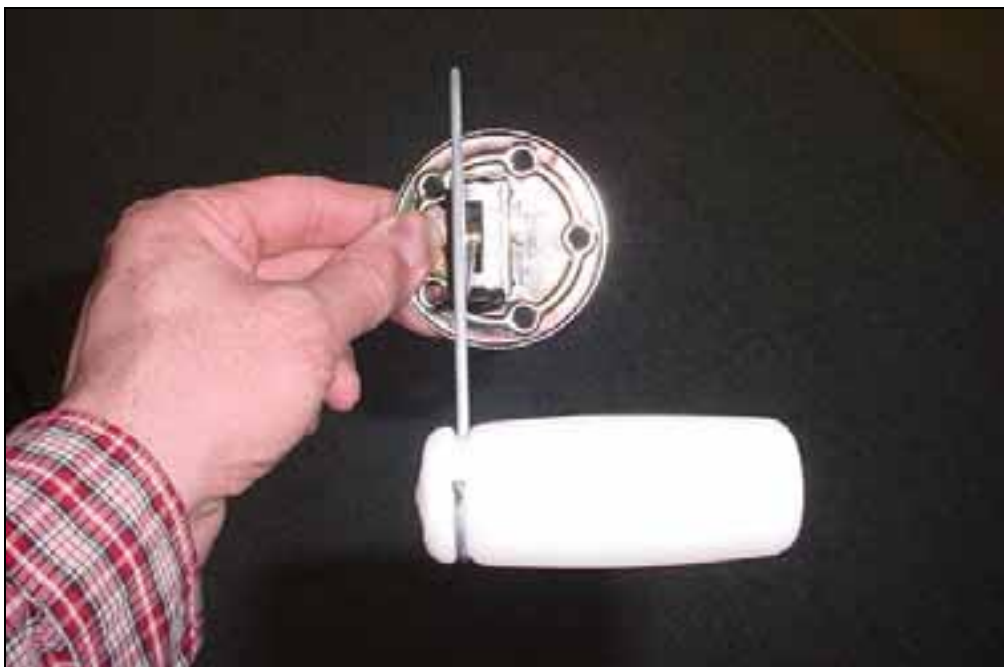
Detail of pliers on the sender side of 65mm line.

Position the pliers on the workbench.  
CHECK: The Pliers are square to the wire.



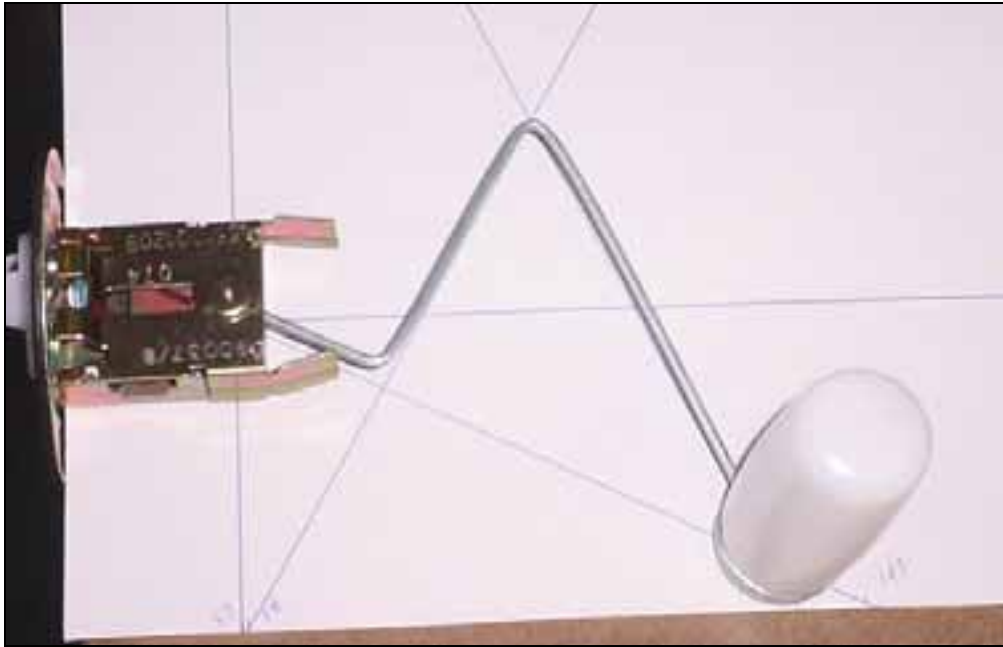
Pliers on sender side of 65mm mark.

Two hands on the pliers, push down and rotate the pliers towards the float. Bend approximately 35degrees closed (past 90), refer to the layout page.



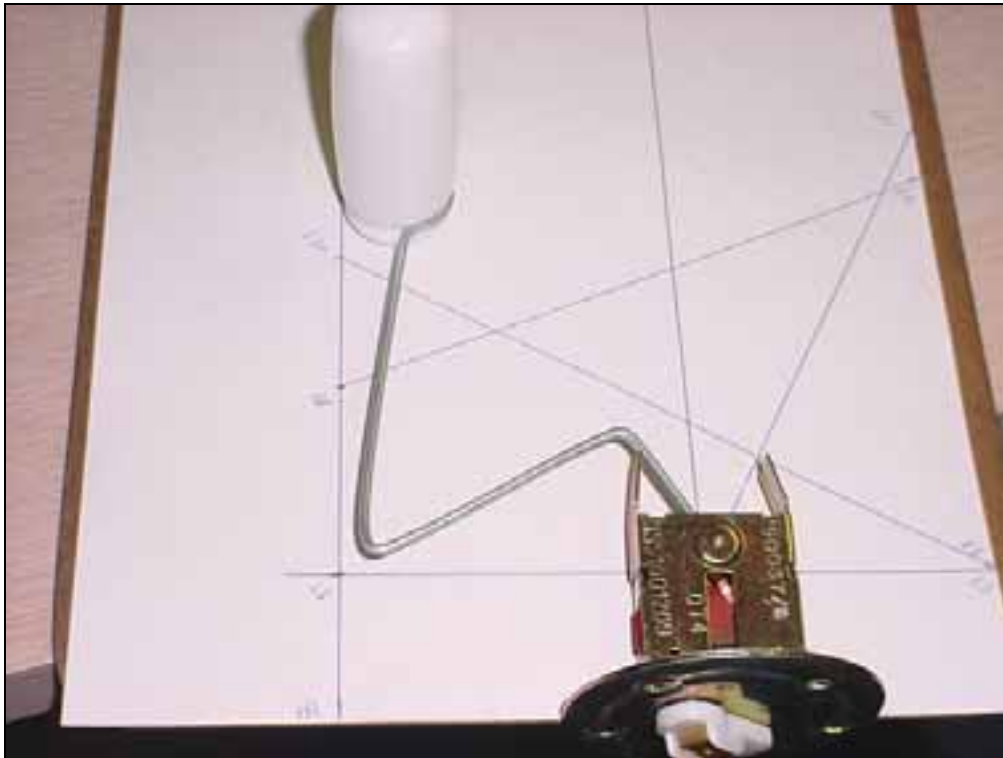
Reinstall the plastic float.

Check: Float is square to the sender. If necessary, hold the wire with the pliers and bend as required to remove any twist.



In the empty position the wire follows diagonal line 88 to 154mm

Keep adjusting the wire until the bottom of the float is even with the bottom of the page.



Check: In the full position, the top of the float is even with the 155mm horizontal line.



Hold the sender unit level, float in the down position = empty



Ohm meter



70 Ohm = empty



Use an Ohm meter to confirm empty and full  
10 Ohm = full



Spade connector = signal



Mark the side of the sender .

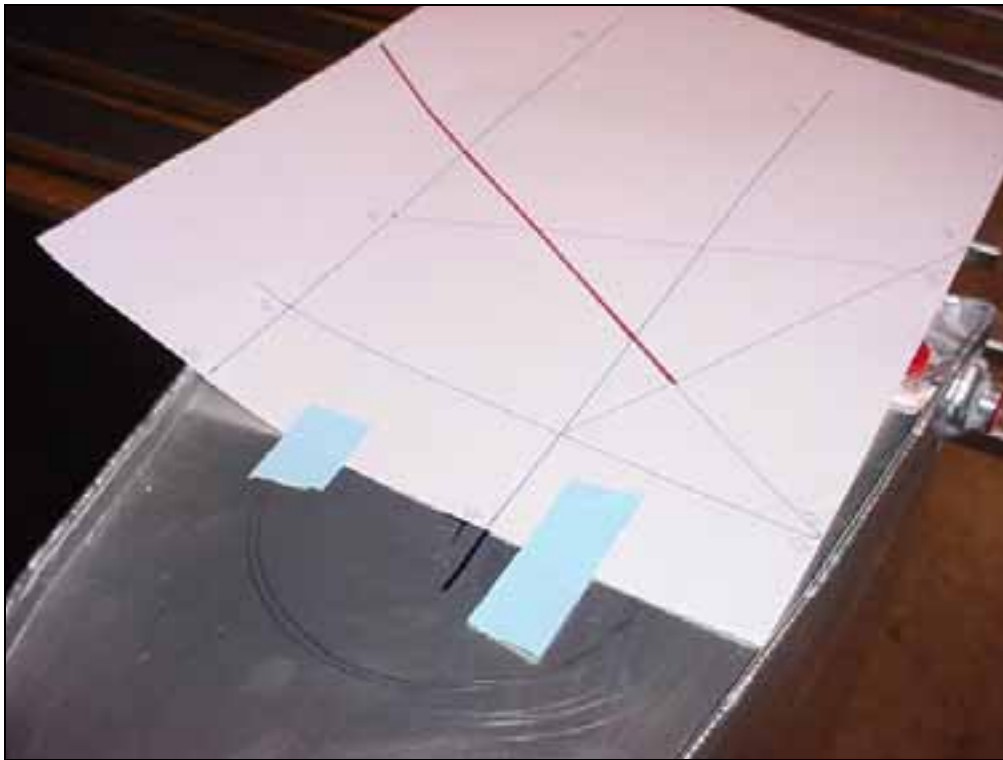


Fuel sender is accessible through the flanged lightening hole.



Trace the flanged lightening hole on the tank.

Locate the position of the fuel sender on the I/B end of the tank.



Tape the paper layout on the tank: center the tanks between the bottom of the page and the 155mm horizontal line. Center 74mm from bottom of tank.



15 gallon wing tank

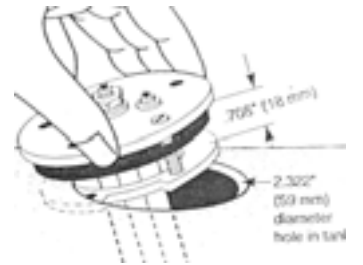




Cut the hole with a fly-cutter. First do a practice piece, the finished diameter of the hole after deburring must be 59mm, there is only approximately 1/8" overlap of the rubber gasket and the skin. After cutting the hole, make sure to flush out all aluminum material from the inside.



Center of sender, 135mm from the back of tank.



Cut a 2.322" (59mm) hole in the end of the tank. The mounting ring 226-451 will fit inside the tank.



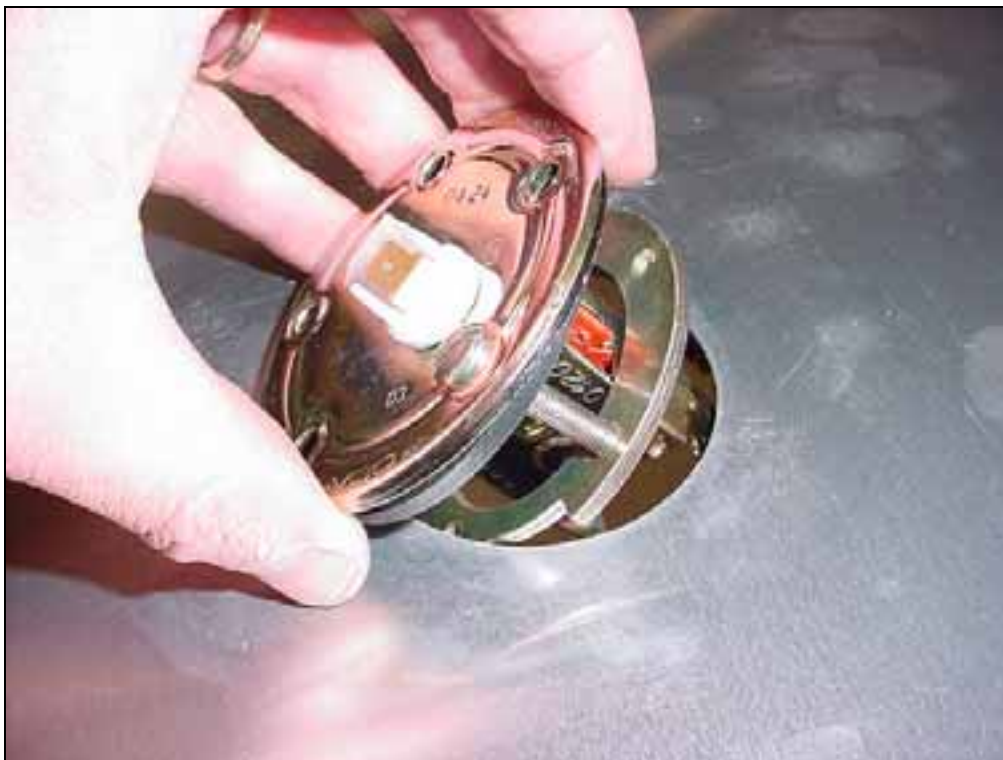
*(This actual hole shown is in a STOL CH 701 Wing Tank)*



Insert a paper washer on each screws. Position the rubber gasket between the sender and the mounting ring, screw in the longest screw.



**IMPORTANT:** Mark the orientation of the float on the front face of the sender.



With only the longest screw in place, insert the mounting ring through the 59mm hole in the tank.



Notch in mounting ring.



Tighten the screw, then add the remaining screws.  
Note: one screw will have a ring terminal to ground the sender unit.



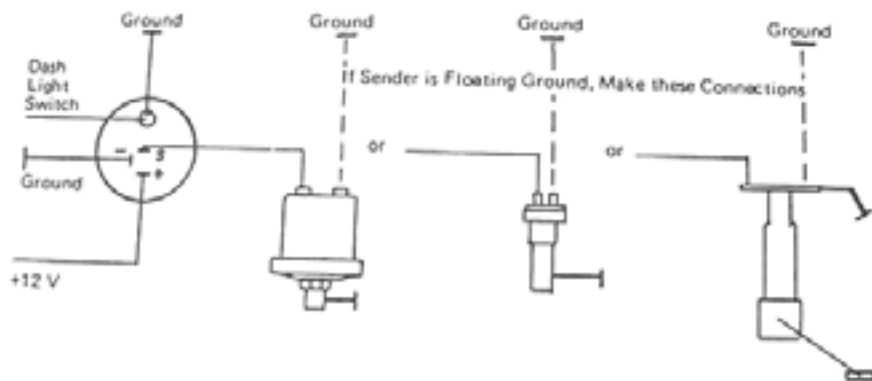
Check the orientation



Ground the tanks and sender to wing.



Float in the full position  
(inside tank)



Ring terminal (ground) over paper washer.

Wiring diagram: fuel gauge is shown on the right side. The terminal on the sender unit connects to the "S" terminal on the gauge. The airframe is ground.

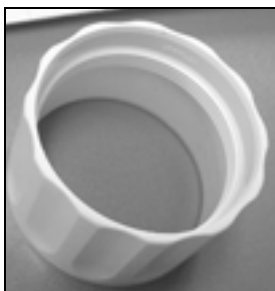


VDO fuel gauge.  
P/N 301-020



The two connectors on black plastic cap is the internal lightening for the instrument (not required). Plug can be removed to expose light bulb.

3 spade connectors on the back of gauge.  
+ (positive), s (signal to sender), - (middle terminal is ground).



Screw on mounting ring.



Adjustment screw: Connect the gauge to the sender, use a plastic screw driver to correct scale reading.