

Figure 9-1. Fuel System Diagram (PA-28-140, -150, -160, -180)

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FUEL SYSTEM

9-17. FUEL VALVES.

9-18. FUEL SHUTOFF VALVE. (PA-28-140, -150, -160, -180 and PA-28R.)

9-19. REMOVAL OF FUEL SHUTOFF VALVE.

- a. Remove two screws holding the fuel valve placard plate and the screw holding the fuel shutoff valve handle.
- b. Remove fuel shutoff valve handle and placard plate.
- c. Disconnect right and left fuel inlet lines from fuel valve assembly.
- d. Disconnect fuel outlet line from fuel valve assembly.

e. Remove fuel valve assembly by removing attaching screws.

9-20. DISASSEMBLY OF FUEL SHUTOFF VALVE.

Aircraft equipped with fuel selector valve P/N 11383-04, must be disassembled per Fuel Selector Valve 400 Hour Inspection (see Special Inspections, Procedures). Disassembly of other fuel selector valves is not recommended.

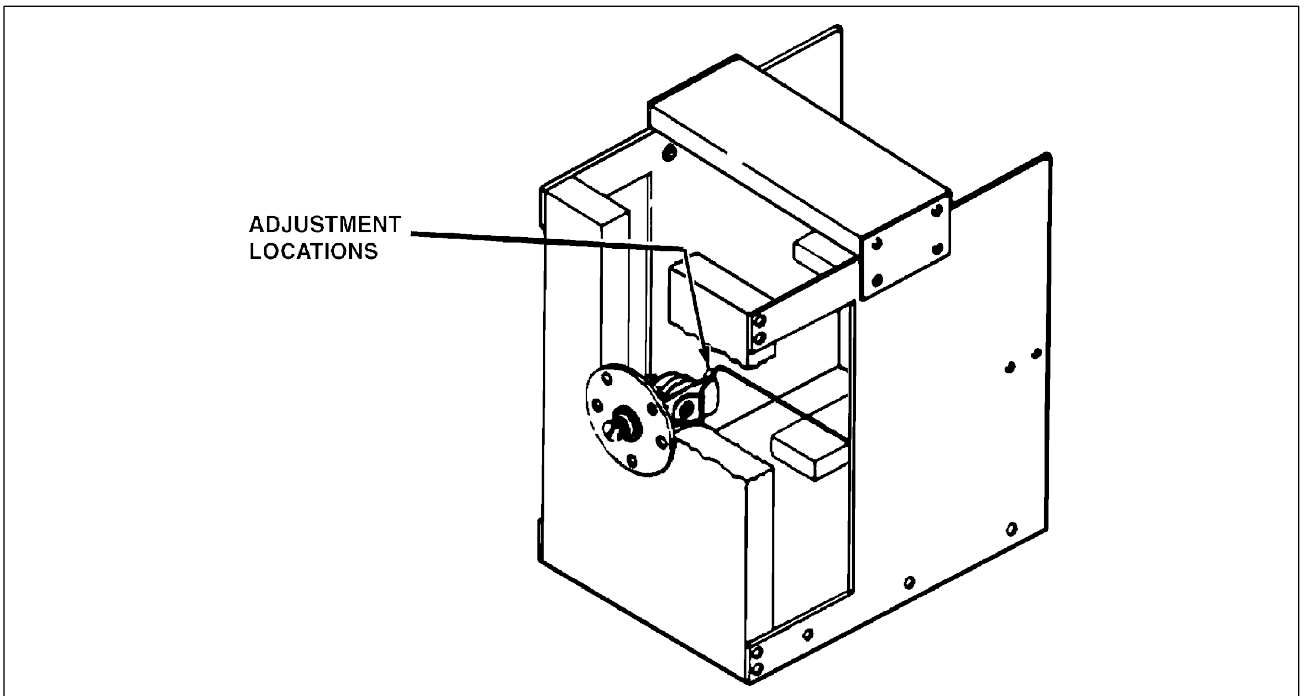


Figure 9-7a. Fuel Quantity Transmitter (P/N 548-671; Rochester Gauges)

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9-21. CLEANING, INSPECTION AND REPAIR OF FUEL SHUTOFF VALVE.

Aircraft equipped with fuel selector valve P/N 11383-04, must be cleaned, inspected, and repaired per Fuel Selector Valve 400 Hour Inspection (see Special Inspections, Procedures). No cleaning, inspection, or repair is recommended for other fuel selector valves.

9-22. ASSEMBLY OF FUEL SHUTOFF VALVE.

Aircraft equipped with fuel selector valve P/N 11383-04 must be assembled per Fuel Selector Valve 400 Hour Inspection (see Special Inspections, Procedures).

9-23. INSTALLATION OF SHUTOFF VALVE.

- f. Secure the valve to the bulkhead attachment plate with attaching screws.
- g. Connect the fuel lines to the valve.
- h. Install the fuel valve placard with attaching screws.
- i. Install the valve control handle with attaching screw.

9-24. FUEL SELECTOR VALVE AND FILTER. (PA-28-235 only.)

9-25. FUEL SELECTOR VALVE OPERATION.

When the fuel selector handle is not in a positive selector detent position, more than one fuel port will be open at the same time. It should be ascertained that the fuel selector is positioned in a detent, which can be easily felt when moving the handle through its various positions.

9-26. REMOVAL OF FUEL SELECTOR VALVE AND FILTER.

CAUTION: NO FIELD DISASSEMBLY OR REPAIR OF FUEL SELECTOR VALVES IS AUTHORIZED. MAINTENANCE IS LIMITED TO REMOVAL AND REPLACEMENT OF THE WHOLE UNIT.

- a. Drain fuel from tanks. (Refer to Draining Fuel System, Section II.)
- b. Remove rear seats, seat belt attachments and floor panel just aft of the main spar by removing the floor attachment screws. Lift the panel and remove.
- c. Remove plate from bottom of the fuselage which covers fuel selector.
- d. Disconnect the fuel lines and selector linkage from valve assembly.
- e. Remove the four mounting screws which hold the fuel selector in place and remove the selector assembly.

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(c) Each 25 Hours

- [] 1) In PA-28R-180 *S/N's* 28R-30001 thru 28R-31266, less 28R-31072, for airplanes which have not installed Piper Kit No. 760-410V per Piper Service Bulletin No. 309, each 25 hours time-in-service conduct "Spinner/Bulkhead 25 Hour Inspection" on page III-51.
- [] 2) In PA-28R-200 *S/N's* 28R-35001 thru 28R-35713, less 28R-35699, 28R-35701, 28R-35703, 28R-35706, 28R-35707, 28R-35708, and 28R-35710; for airplanes which have not installed Piper Kit No. 760-410V per Piper SB No. 309, each 25 hours time-in-service conduct "Spinner/Bulkhead 25 Hour Inspection" on page III-51.

(d) Each 200 Hours

- [] 1) For airplanes with wing flap(s) which have accumulated ten (10) years time-in-service, conduct the following special inspection each 200 hours: Inspect the interior of the wing flap for evidence of dissimilar metal corrosion where aluminum sheet metal is in contact with steel flap brackets. Use a bore scope or other suitable tool. Installation of a new wing flap will relieve this inspection requirement until such time as the replacement wing flap reaches ten (10) years time-in-service.
- [] 2) In PA-28-140 *S/N's* 28-20000 thru 28-7125334; PA-28-150/160/180 *S/N's* 28-1 thru 28-7105126; PA-28-235 *S/N's* 28-10001 thru 28-7110011; PA-28R-180 *S/N's* 28R-30001 thru 28R-7130005; PA-28R-200 *S/N's* 28R-30482 and 28R-35001 thru 28R-7135104; for airplanes with at least 500 hours time-in-service and which have not installed Stabilator Balance Weight Tube P/N 69623-002 or 69623-004 per Piper Service Letter No. 576, upon reaching 500 hours, and each 200 hours time-in-service thereafter, conduct "Stabilator Balance Weight Tube Assembly 200 Hour Inspection." on page III-52.

(e) Each 400 Hours

- [] 1) At every 400 hours of engine operation, remove the rocker box covers and check for freedom of valve rockers when valves are closed. Look for evidence of abnormal wear or broken parts in the area of the valve tips, valve keepers, springs, and spring seats. If any indications are found, the cylinder and all of its components must be removed (including the piston and connecting rod assembly) and inspected for further damage. Replace any parts that do not conform with limits shown in the latest revision for Lycoming Service Table of Limits SSP1776.
- [] 2) In PA-28-140 *S/N's* 28-20002 thru 28-26783 and 28-26945 thru 28-7125595; PA-28-150/160/180 *S/N's* 28-1 thru 28-7105179; PA-28R-180 *S/N's* 28R-30001 thru 28R-7130007; PA-28R-200 *S/N's* 28R-35001 thru 28R-7135163; for airplanes with the original equipment fuel selector valve (P/N 11383-004) still installed: each 400 hours time-in-service, or annually, whichever comes first, conduct "Fuel Selector Valve 400 Hour Inspection" on page III-55.

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a. Fuel Selector Valve 400 Hour Inspection

The following incorporates the recurring inspection requirements of Piper SB 355.

In PA-28-140 S/N's 28-20002 thru 28-26783 and 28-26945 thru 28-7125595; PA-28-150/160/180 S/N's 28-1 thru 28-7105179; PA-28R-180 S/N's 28R-30001 thru 28R-7130007; and PA-28R-200

S/N's 28R-35001 thru 28R-7135163; for airplanes with the original equipment fuel selector valve still installed: each 400 hours time-in-service, annually, or whenever the selector is difficult to rotate, inspect and lubricate the fuel selector valve (P/N 11383-004) as follows:

NOTE: The tapered plug cock is subject to binding or "freezing" unless properly lubricated. Binding is typically caused by (1) fuel coming in contact with the plug cock and gradually dissolving the film of lubricant, (2) presence of foreign material, and (3) hardened or congealed lubricants (usually, wrong type).

- With the valve removed from the aircraft, remove the valve cap and interior parts (see Figure 3-5).
- Inspect position washer to ascertain that it will not allow the valve to rotate beyond its stop positions. Also, inspect position washer inner perimeter surface for indications of extreme wear; should this be evident, replace position washer (P/N 756-645).
- Check condition of plug cock and valve body for scored surfaces. The surfaces, if not badly scored, may be reconditioned by lapping with a fine grinding compound. Clean away all compound after lapping. If plug cock will not seat properly or if scoring remains evident, replace valve.
- Check condition of valve stem in the area where the "O" ring seats. Should the stem be worn or damaged so that the "O" ring will not seal, replace valve.
- With a 10X magnifying glass, inspect valve ports for cracks; if cracks are visible, replace valve.
- Clean valve of all foreign matter, lubricate plug cock with a light film of MIL-G-6032 (Type I) grease, turn the plug several times in its seat and wipe off any excess, especially in the valve ports. Also, lubricate position washer with a light film of MIL-G-6032 (Type I) grease. Reassemble valve with a new "O" ring, P/N 752-822.
- Before reinstalling valve, it may be checked by attaching an air hose and demonstrating that it will hold 50 pounds of air pressure.

III - INSPECTION

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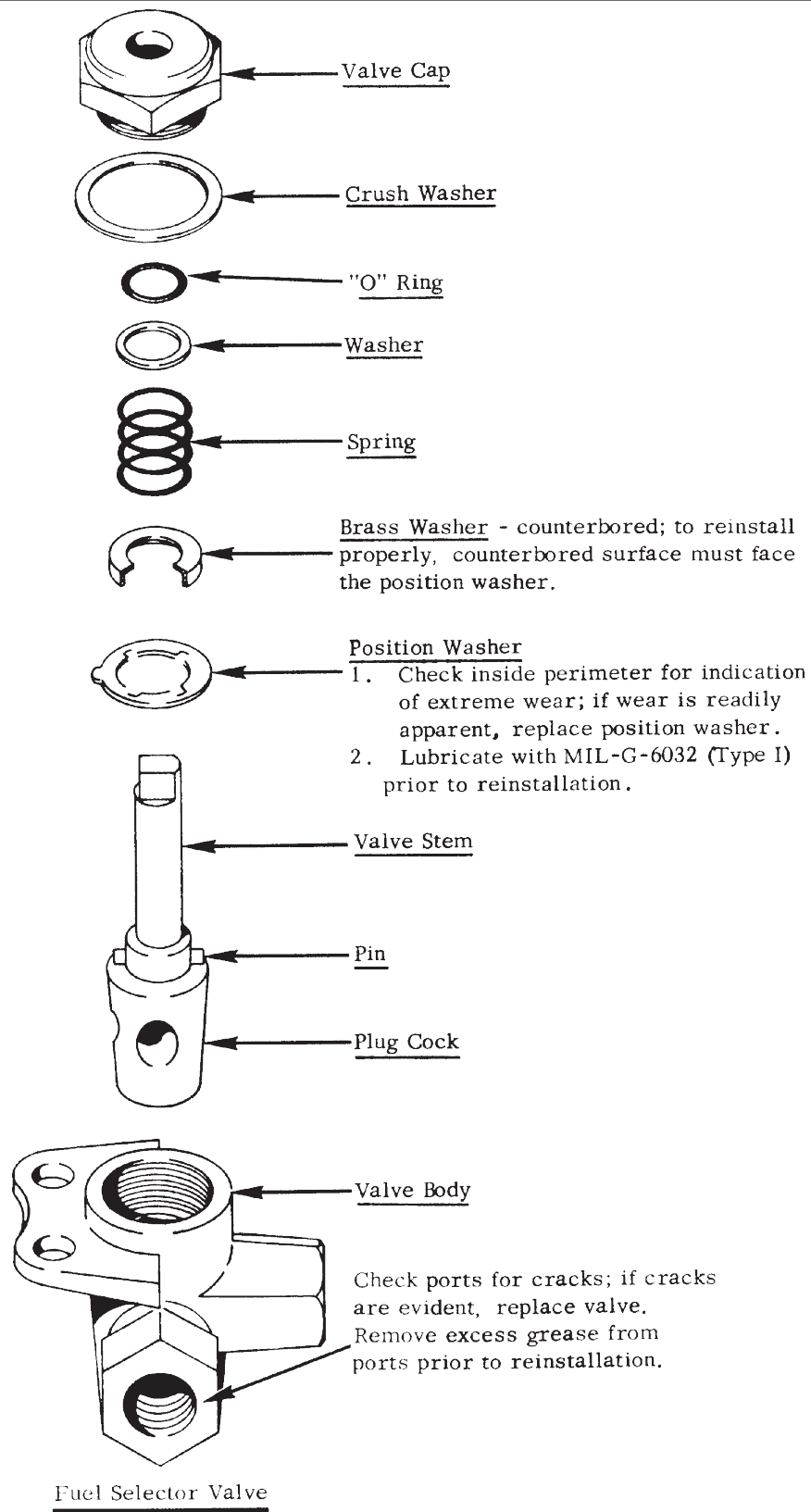


Figure 3-5

Fuel Selector Valve Inspection

III - INSPECTION

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