

- (14) With stop plate held in vise, tighten nut to proper value as specified in Torque Chart, Section XI. Then, bend tab of washer against flat of nut.

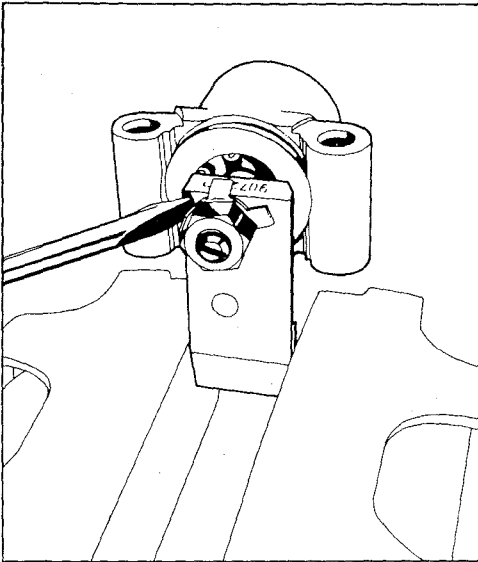


FIGURE 2-161
BENDING WASHER TAB AGAINST FLAT OF NUT

6. Puff Limiter Cover Assembly With Aneroid Diaphragm

6.1 Disassembly

- (1) Remove the four screws and lockwashers from aneroid diaphragm cover.

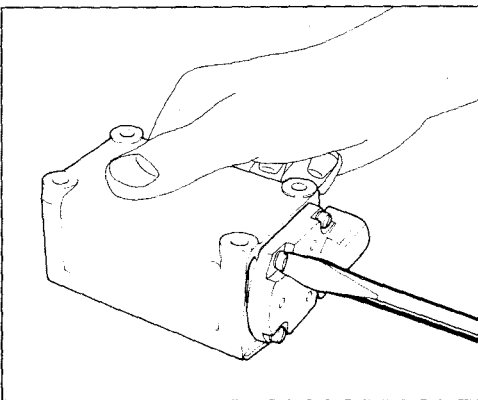


FIGURE 2-162
REMOVING SCREWS AND LOCKWASHERS

- (2) Remove the cover and slide the diaphragm, pistons, and piston rod out as an assembly.

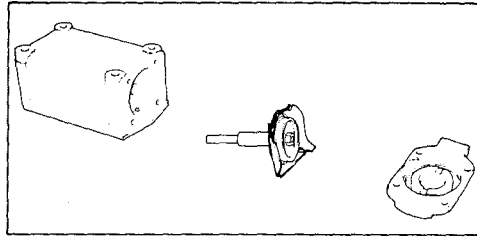


FIGURE 2-163
ANEROID DIAPHRAGM, PISTONS AND ROD REMOVED

- (3) Engage $\frac{1}{4}$ " open end wrench to piston rod flats and remove locknut from rod with $\frac{3}{8}$ " wrench.

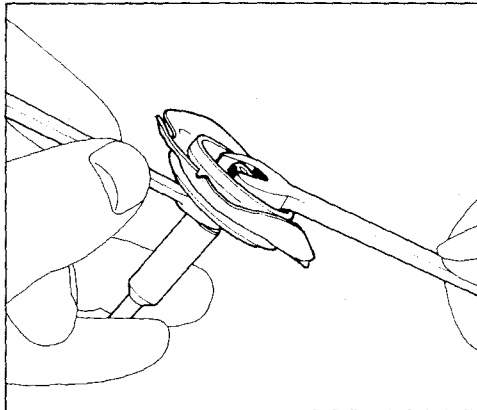


FIGURE 2-164
REMOVING LOCKNUT

- (4) Remove pistons, diaphragm and lockwasher from rod.

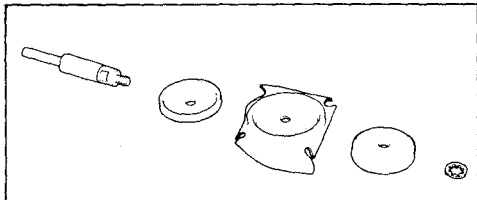


FIGURE 2-165
PISTONS, DIAPHRAGM AND WASHER REMOVED

- (5) Clean components as follows:
- Clean all parts in Varsol or equivalent cleaning agent.
 - Remove all gasket remnants from gasket surfaces. A scraper can be used but care must be taken to avoid scratches.
 - Dry all parts thoroughly and place them on a clean cloth.

6.2 Inspection Of Puff Limiter Cover Assembly — see figure 2-166

PART	INSPECT FOR CONDITION(s)	ACTION REQUIRED
Puff Limiter Cover (1)	Cracks. Damaged gasket surface.	Repair gasket surface if possible. Otherwise replace cover.
Piston Rod (2)	Bent, seized, damaged.	Repair or replace rod.
Pistons (3)	Damaged.	Replace piston.
Aneroid Diaphragm (4)	Leaks, damage.	Replace diaphragm (See Note 1)
Lock Washer (5)	Damaged.	Replace washer.
Locknut (6)	Damaged hex or threads.	Replace nut.
Aneroid Diaphragm Cover (7)	Cracks. Damaged gasket surface.	Repair gasket surface if possible. Otherwise replace cover.
Lockwasher (8)	Damage.	Replace.
Screw (9)	Damage.	Replace.

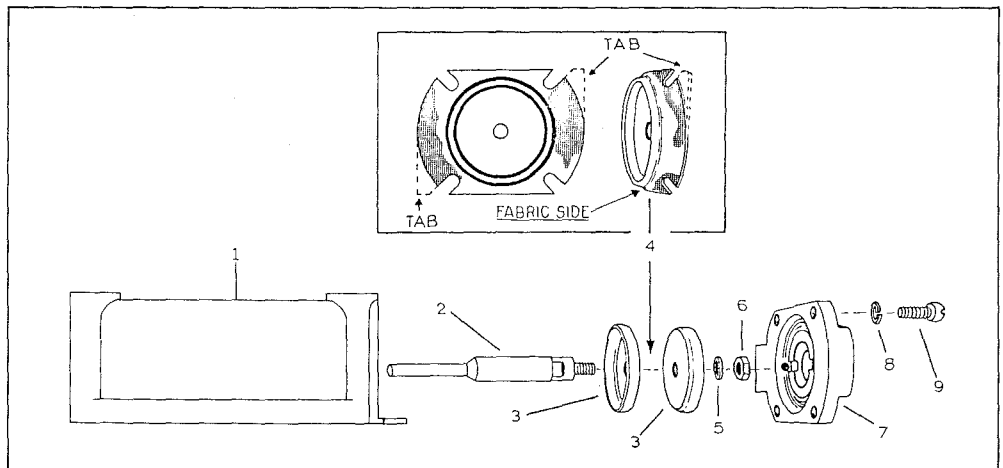


FIGURE 2-166
EXPLODED VIEW OF PUFF LIMITER
COVER ASSEMBLY WITH ANEROID
DIAPHRAGM

6.3 Reassembly

- (1) Assemble one piston to piston rod with cupped end facing rod flats.

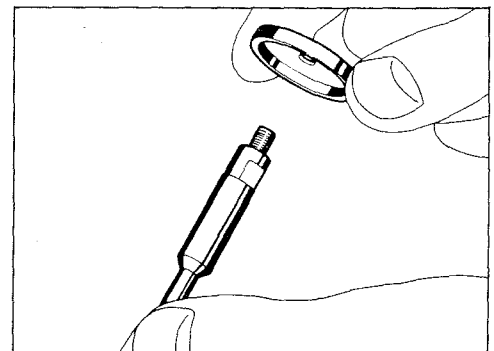


FIGURE 2-167
ASSEMBLING PISTON TO ROD

- (2) Assemble diaphragm and second piston, with flat side toward diaphragm, onto rod.

Note: The diaphragm **MUST** be assembled so that the smooth (elastomer) side faces the threaded end of rod and the fabric side faces the rod flats.

New diaphragms have tabs (as shown in figure 2-166) which aid in proper diaphragm installation. Assemble diaphragm and piston rod so that when installed, the "ears" will be at 10 o'clock and 4 o'clock positions with diaphragm cover air inlet hole at the 3 o'clock position as viewed from supply pump end.

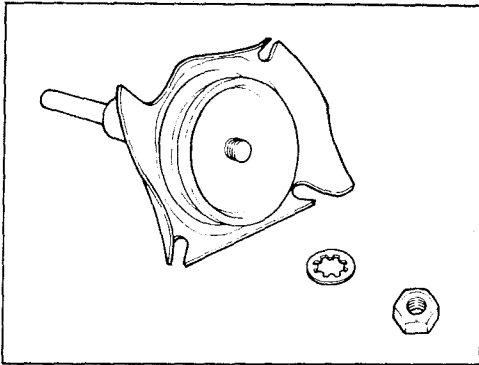


FIGURE 2-168
DIAPHRAGM AND SECOND PISTON
INSTALLED

- (3) Assemble lockwasher and nut to rod. Engage 1/4" wrench to rod flats and tighten retaining nut. (Refer to figure 2-169). Torque retaining nut to value required in Torque Chart, Section XI.

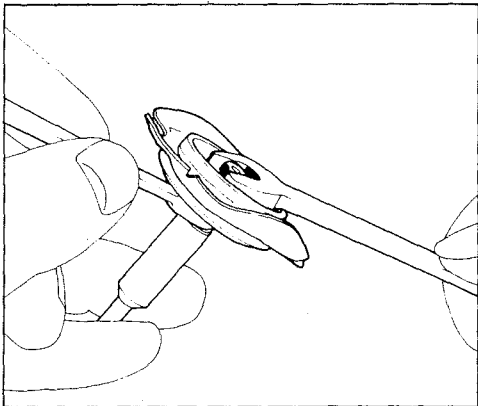


FIGURE 2-169
TIGHTENING RETAINING NUT

- (4) Install rod, diaphragm & piston assembly into puff limiter cover and position aneroid diaphragm so that holes align with screw holes in cover.

Note: The assembly should be installed dry.

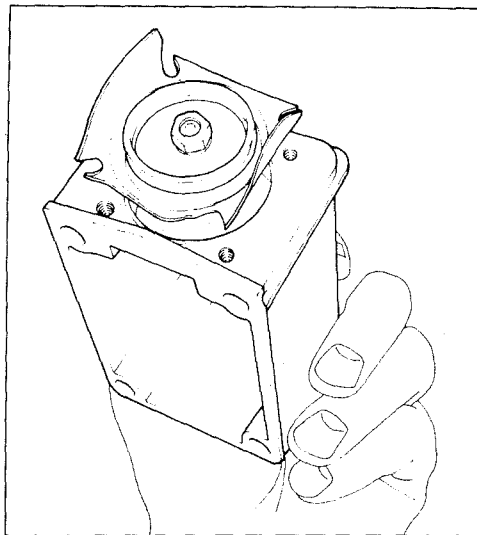


FIGURE 2-170
ROD, DIAPHRAGM AND PISTONS
INSTALLED

- (5) Assemble diaphragm cover, lockwashers and fastening screws so that air inlet hole of cover is toward right side of pump when viewed from governor end. (See figure 2-171). Tighten screws per value listed in Torque Chart, Section XI.

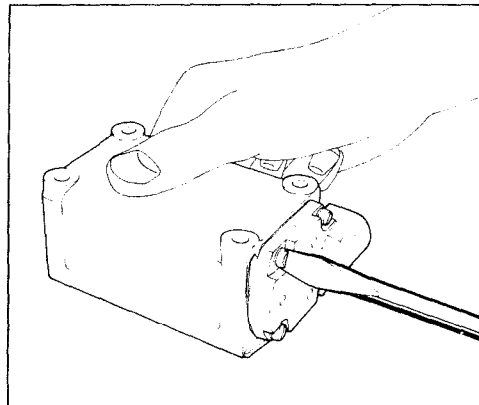


FIGURE 2-171
INSTALLING ANEROID DIAPHRAGM
COVER

6.4 Testing Of Puff Limiter Cover Assembly

(1) Leakage Testing

1.1 The assembly can be tested for leakage with cover removed from pump as follows.

- (a) Connect shop air hose to air inlet of cover with suitable shut-off valve and pressure gage between shut-off valve and cover.

Note: Verify that shut-off valve does not leak before test.

- (b) Apply 20 PSIG (maximum) of filtered, regulated air to the cover.

- (c) Close the air supply off with the shut-off valve which will trap the pressure between the valve and cover assembly. The piston rod should extend to the full length of its travel, and pressure should remain at initial value for 30 seconds.
 - (d) If the gauge indicates a pressure drop, check torque on diaphragm cover screws to determine if leakage is occurring externally. Refer to Torque Chart, Section XI.
 - (e) Retest assembly as indicated above. If leakage still exists, replace diaphragm.
- 1.2 Another Method Of Testing Is As Follows:
- (a) Apply 20 PSIG (**maximum**) of regulated, filtered air to air inlet of cover.
 - (b) Submerge assembly into tank containing calibrating fluid and observe for bubbles.
 - (c) If leakage is occurring between cover and diaphragm, check Torque on diaphragm cover screws per Torque Chart, Section XI.
 - (d) Retest assembly. If leakage still exists, replace diaphragm.
- (2) The following is a test for proper puff limiter — excess fuel device operation which is done with the pump on a test stand after pump has been fully calibrated:
- (a) With 17 PSIG air pressure at top cover inlet and operating lever in full fuel position, record fuel delivery at rated speed. Delivery must be within ± 1 CC/500 strokes of full load delivery set during calibration.
 - (b) Reduce air pressure to 10 PSIG and recheck fuel delivery. Flow should be same as step (a) above. If not, excess fuel device spring preload may require adjustment. Refer to subsection C 5.3, step 8 for checking and adjusting procedure.
 - (c) With 0 PSIG air pressure at top cover inlet, delivery must be within the "Puff Limiter Cutback Delivery Check" listed on applicable Service specification. If not, adjust "A" dimension according to subsection C 5.3, step 7, and re-check fuel delivery.
- Note:** Puff Limiter operation is checked on the test stand during recalibration.

D. Inspection of Governor Components — General

PART	INSPECT FOR FOLLOWING CONDITION(S)	CORRECTIVE ACTION WHEN REQUIRED
Thrust Washer (19)	Excessive wear patterns. Indentations (must not exceed 0.002"). Cracks, scuffing or tracking.	Replace washer(s).
Thrust Bearing (20)	Damaged or worn excessively.	Replace bearing.
Gov. Sleeve Assembly (21)	Scored or excessively worn bushing. Scored or damaged guide slots. Must slide FREELY on weight shaft (18) and on fulcrum lever pivot pins (23).	Replace sleeve assembly.
Governor (or shut-off) shaft (44)	Damaged "O" ring groove. Damaged or worn operating shaft bore.	Replace shaft. (See Notes 1 & 2).
Stop Lever (38)	Excessive indentations from high and low idle adjusting screws — must not exceed 0.025". Damaged threads.	Replace lever.
Spring Plate Assembly (40)	Damaged threads. Excessive wear indentations from torsion spring (41). Bent, damaged or loose.	Replace spring plate assembly.