

### PARTS INSPECTION

**IMPORTANT: Keep work area clean! Dirt is the greatest enemy of the fuel injection pump.**

Parts are to be washed in a suitable solvent except where noted and then placed in a clean pan containing fresh calibrating fluid.

Discard and replace all O-rings, seals, gaskets and weight retaining ring.

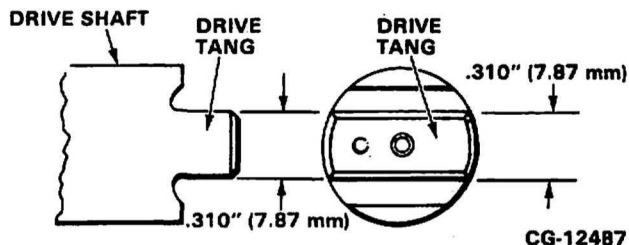
Examine all springs for fretting, wear, distortion or breakage and replace, if necessary.

Clean and carefully check all bores, grooves and seal seats for damage or wear of any kind.

Examine all parts carefully and replace damaged or worn parts as necessary.

1. Measure the distance across flats of drive shaft drive tang which must not be less than .310" (7.87mm) (Figure 3.1).

Shaft diameter in drive shaft seal area must be free of nicks and scratches for seals to function properly. Moderate shaft wear from the seal lips is normal.



**Figure 3.1. Drive Shaft Drive Tang Inspection**

2. Check vent wire assembly (removed from hydraulic head) for freedom of movement. If vent wire is stuck, replace it. Refer to Figure 3.2.

Thoroughly clean all passages in the hydraulic head using clean, dry air.

**IMPORTANT: DO NOT immerse hydraulic head in solvent for extended periods; as sealant damage will result.**

Take note of number printed on bottom of vent wire assembly (Refer to Figure 3.2). The number may be 0, 1, 1.5, 2, 2.5, 3, 4 or 5.

Higher numbered vent wire assemblies have larger diameter vent wires. Larger diameter vent wires allow less volume of return fuel. Vent wire assemblies are changed as necessary when pump is on the flow bench in order to obtain specified amount of fuel return.

# SERVICE MANUAL

## INSPECTION

Section 3  
Page 2

### PARTS INSPECTION (Continued)

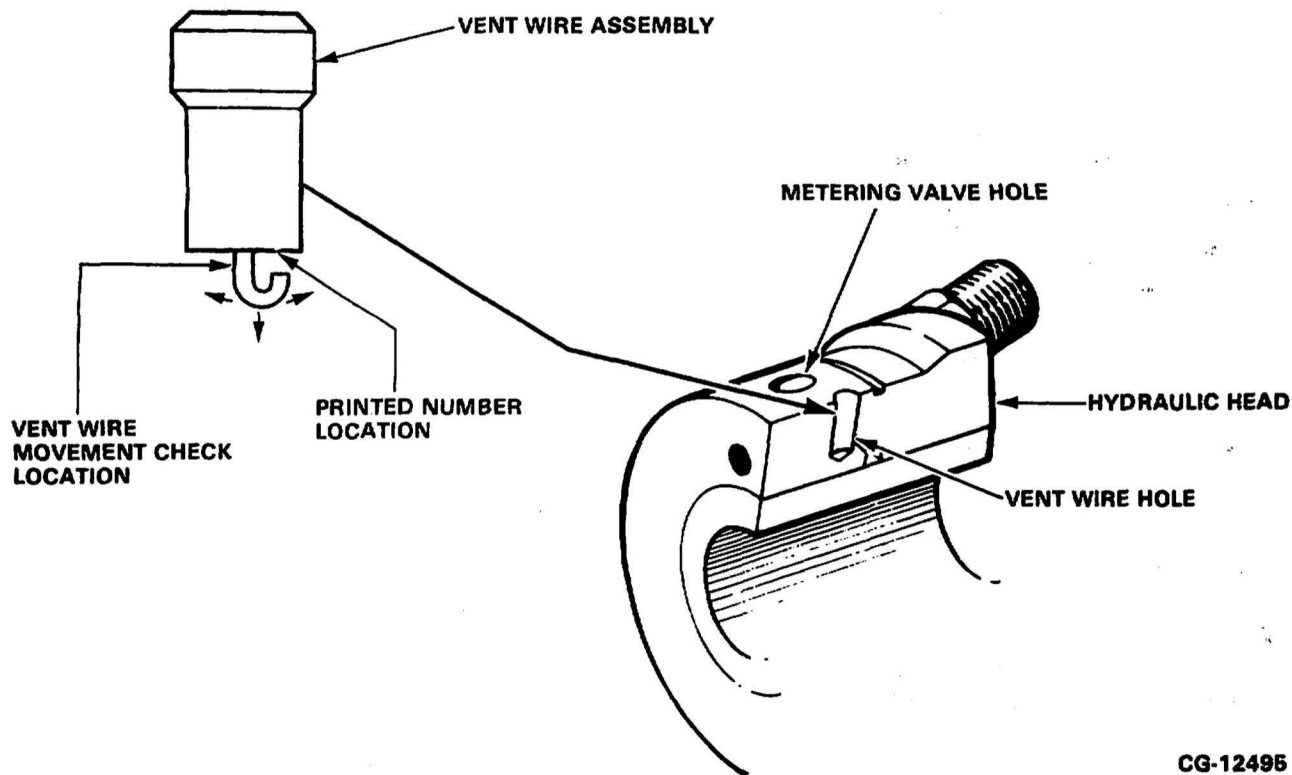


Figure 3.2. Vent Wire Inspection

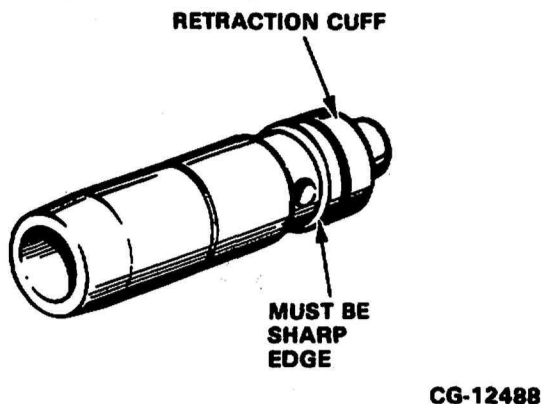
3. On the distributor rotor, examine the radii contacted by the leaf spring and the tang slot, for excessive wear. Check all slots, charging ports and discharge ports for chipping of edges or dirt, and the rotor shank for scratches. Slight erosion on the edge of the discharge port is considered normal. If damage or excessive wear is apparent, the head and rotor must be re-

placed as a matched unit. Final check for excessive wear on the rotor should be performed on the test stand by checking for minimum cranking delivery.

4. Inspect delivery valve retraction cuff for chipping or erosion of edges. Refer to Figure 3.3.

CG-12495

### PARTS INSPECTION (Continued)

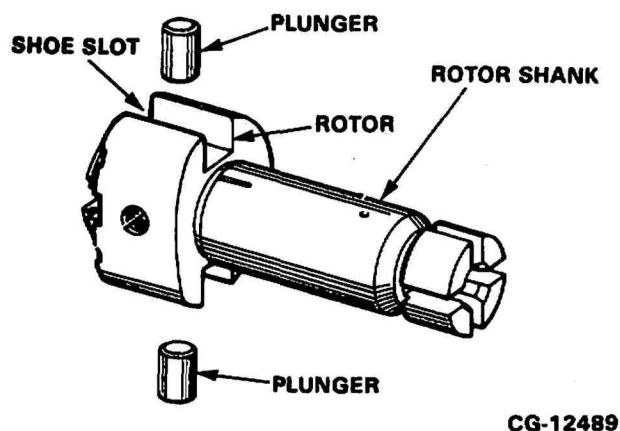


**Figure 3.3. Delivery Valve Retraction Cuff Inspection**

5. Hold rotor under clean oil and insert plungers into their bore. Refer to Figure 3.4.

With thumb and forefinger over shoe slots, tilt rotor and check for freedom of plunger movement in bore. Interchanging or reversing their initial positions may be necessary, as these are matched parts.

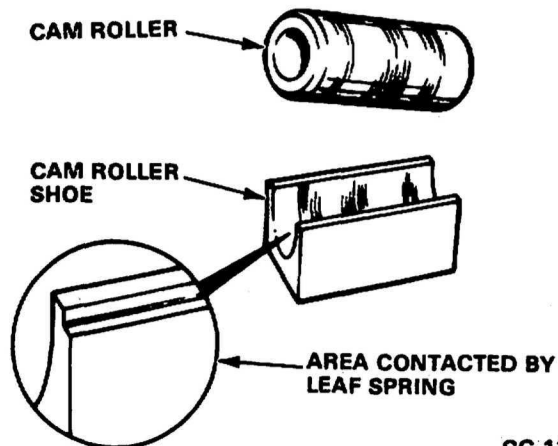
If plungers are sticking, but not visibly damaged, clean both plungers and bore with a soft brush and a solvent such as lacquer thinner or acetone. (Do not force plungers into their bore and do not handle the rotor shank.)



**Figure 3.4. Plunger Inspection**

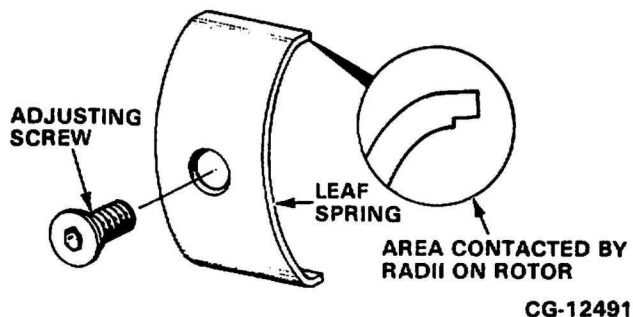
6. Check each cam roller in its shoe for freedom of rotation. Inspect the top edge of

each shoe, where it is retained by the leaf spring, for chipping or excessive wear. Inspect roller and shoe for abrasive wear patterns. Refer to Figure 3.5.



**Figure 3.5. Cam Roller and Shoe Inspection**

7. Check for excessive wear on leaf spring at points where the spring contacts the radii on the rotor and along the steps that retain the roller shoes. Check adjusting screw for tightness in rotor. Refer to Figure 3.6.



**Figure 3.6. Leaf Spring Inspection**

8. Since only the working portions of the cam lobes on the inside diameter are ground, any tool marks between lobes should not be considered as damage. The mottled appearance of the cam is from heat treatment rather than from operation.

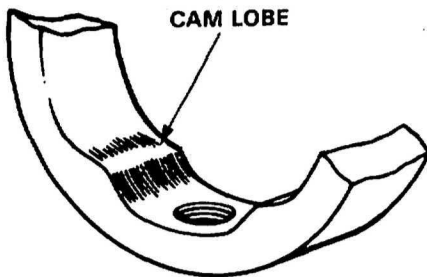
Carefully inspect cam ring lobes and edges of all flat surfaces. If there is evidence of spalling or other surface distress, replace cam. Refer to Figure 3.7.

# SERVICE MANUAL

## INSPECTION

Section 3  
Page 4

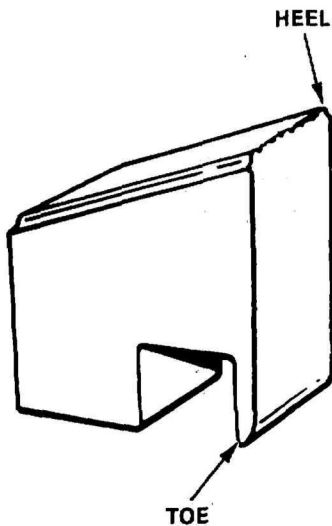
### PARTS INSPECTION (Continued)



CG-12492

**Figure 3.7. Cam Ring Lobe Inspection**

9. Check pivot points (heel and toe) of all governor weights for excessive wear. Refer to Figure 3.8.



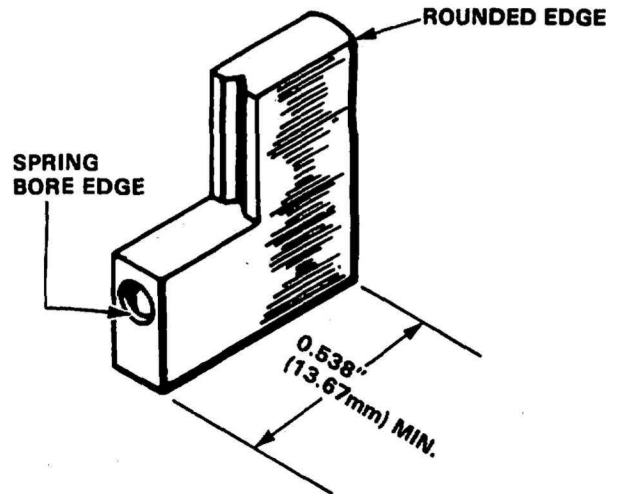
CG-12493

**Figure 3.8. Governor Weight Inspection at Pivot Points**

10. Inspect transfer pump blades for chipping on any of the edges, including spring bore edges, pitting, imbedded foreign particles or scoring on the rounded edges. Refer to Figure 3.9.

Inspect flat surfaces visually for deep scores. If any discrepancies are noted, replace both blade sets and springs.

To determine blade wear, measure the length. Minimum permissible length is 0.538" (13.67mm). Refer to Figure 3.9.



CG-12494

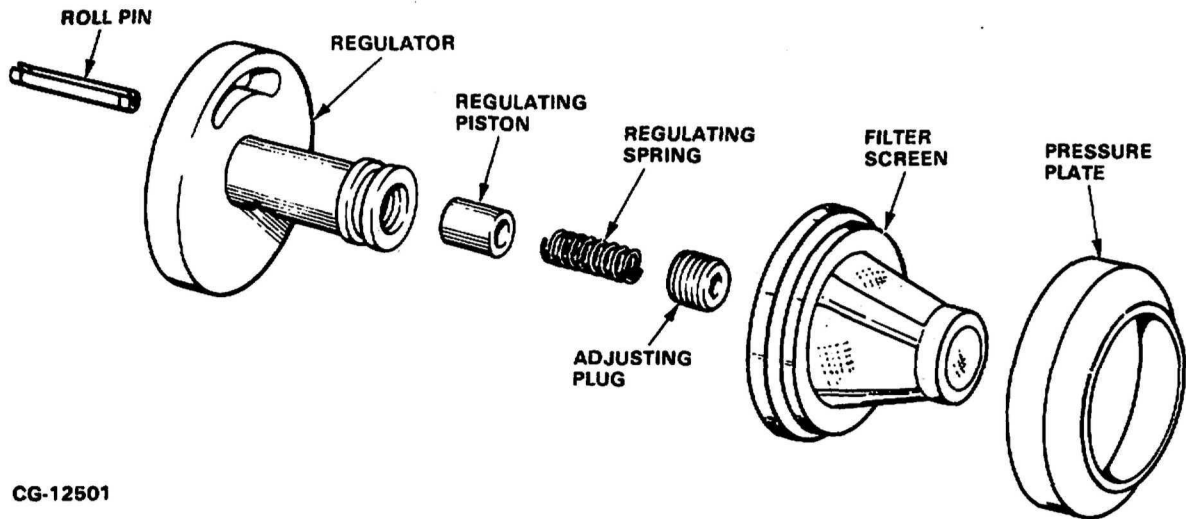
**Figure 3.9. Transfer Pump Blade Inspection**

11. Inspect transfer pump pressure regulating piston for freedom of movement, scoring and wear, (Refer to Figure 3.10) and replace if necessary.

Inspect transfer pump pressure regulating piston spring for fretting, wear, distortion or breakage. Replace if necessary. Refer to Figure 3.10.

Inspect transfer pump filter screen for dirt and foreign particles. Clean filter screen in fresh fuel or calibrating fluid. Refer to Figure 3.10.

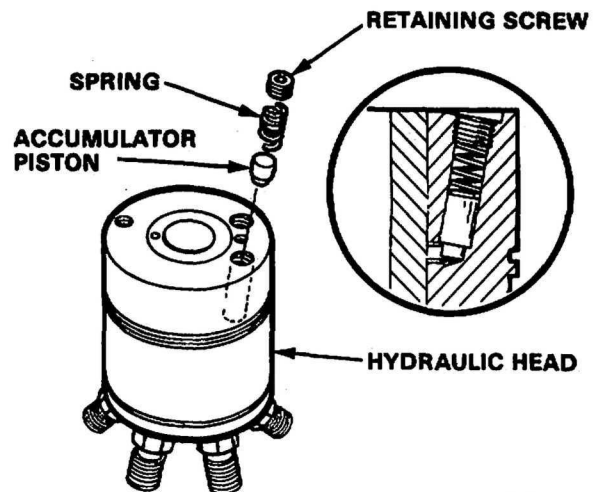
### PARTS INSPECTION (Continued)



CG-12501

**Figure 3.10. Transfer Pump Regulator Assembly**

12. Inspect accumulator piston for scores and for freedom of movement within the hydraulic head. Refer to Figure 3.11.



CG-12502

**Figure 3.11. Accumulator Piston Assembly in Hydraulic Head**

# SERVICE MANUAL

## INSPECTION

Section 3  
Page 6

### PARTS INSPECTION (Continued)

13. Check pump housing pilot tube surface and needle bearing surface for nicks or wear. Refer to Figure 3.12.

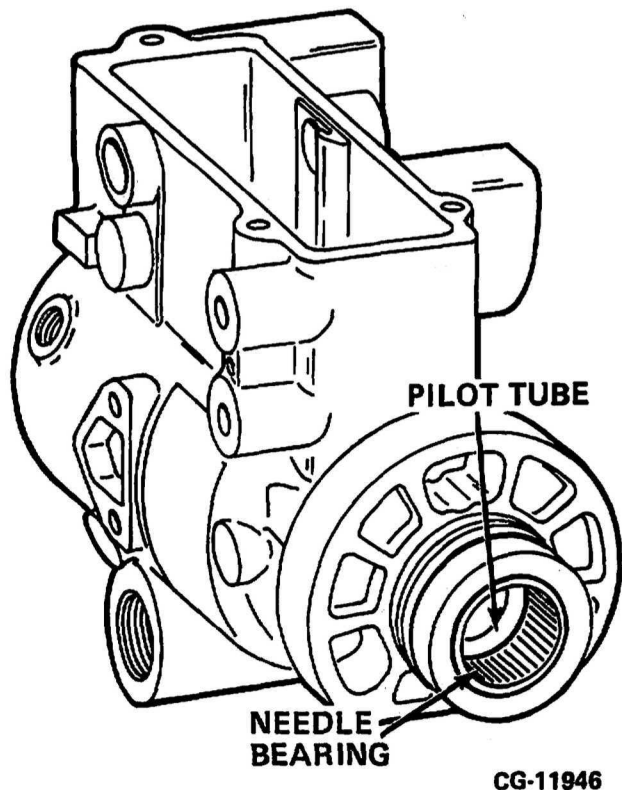


Figure 3.12. Pump Housing Pilot Tube and Needle Bearing Surfaces Inspection

14. Check metering valve body for excessive wear, chips, nicks or scratches. Refer to Figure 3.13.

Make sure metering valve arm is well seated and that there is not radial movement of the arm on the valve.

Check metering valve spring for distortion and the arm pin for wear or looseness.

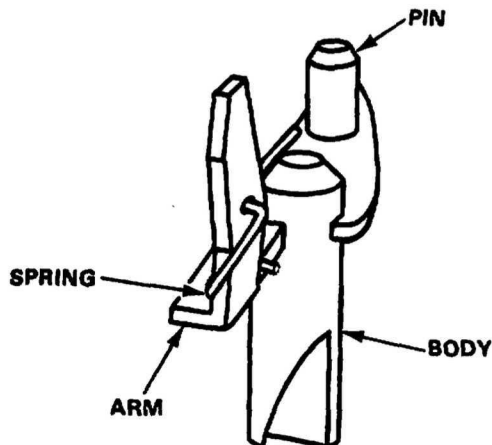


Figure 3.13. Metering Valve Inspection