

Product: TRACK-TYPE TRACTOR

Model: D5H TRACK-TYPE TRACTOR 7NC

Configuration: D5H & D5H LGP TRACTORS / DIRECT DRIVE / 7NC00001-03999 (MACHINE) POWERED BY 3304 ENGINE

Disassembly and Assembly

3304 MACHINE ENGINE FOR D4H SERIES III AND D5H SERIES II TRA

Media Number -SEN3253-01

Publication Date -01/09/1992

Date Updated -20/07/2010

SEN32530011

Governor

SMCS - 1264-015; 1264-016

Disassemble Governor

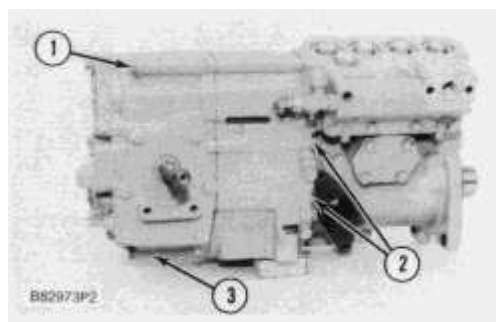
Tools Needed		A	B	C
1P510	Driver Group	1		
1P1855	Retaining Ring Pliers		1	
6V2163	Compressor Group*			1

*Part of 6V4095 Pump And Governor Reconditioning Tool Group.

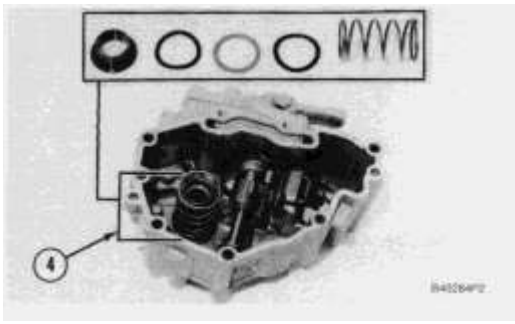
Start By:

- a. remove fuel injection pump housing and governor
- b. remove fuel transfer pump

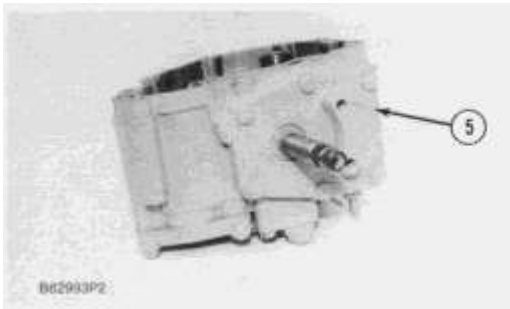
NOTE: If it is desired to remove only the governor so the fuel injection pump housing can be disassembled, do only Steps 1, 13, 19, 23, 24, 25, 26, 29, 31, 32 and 35.



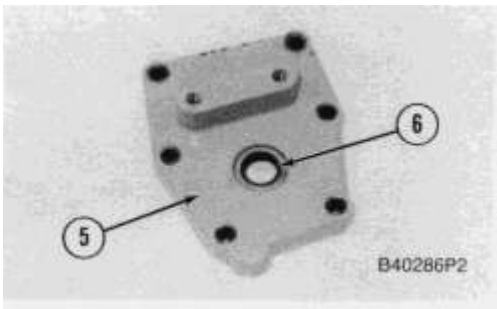
1. Remove seven bolts (1), two bolts (2), housing (3) and the gasket.



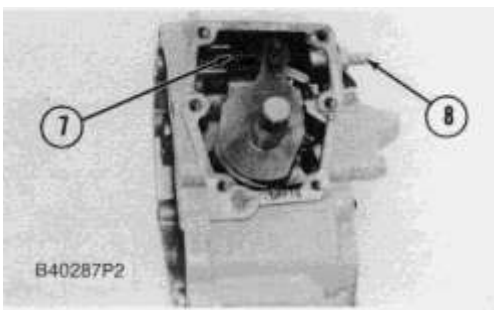
2. Remove governor spring (4), the two wave washers, one flat washer and seat from the guide in the housing.



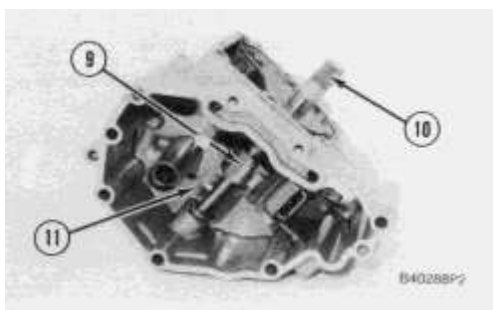
3. Remove the bolts, cover assembly (5) and the gasket.



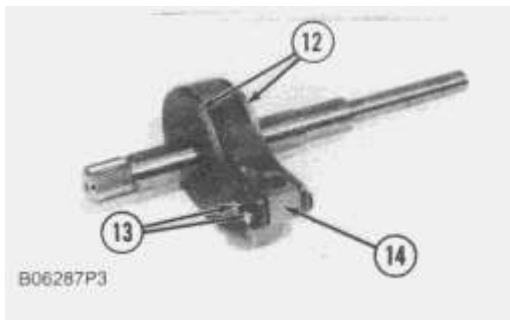
4. Use tooling (A) to remove seal (6) from cover (5).



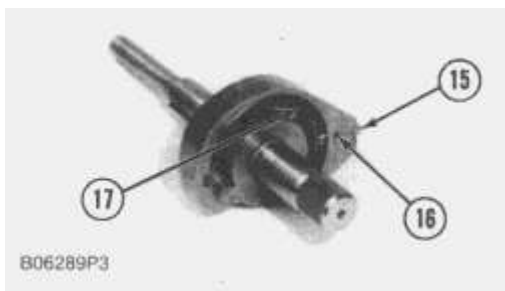
5. Remove low idle adjustment screw (8) and spring (7) from the housing.



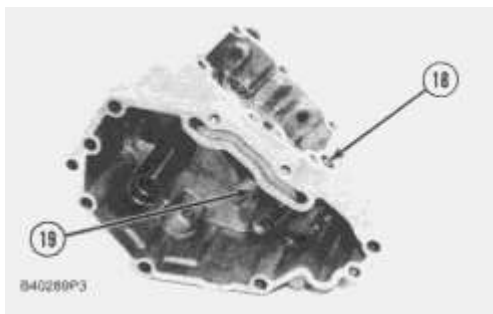
6. Remove shaft assembly (10), lever (9) and lever (11) from the housing.



7. Remove two snap rings from pins (13), and remove pins (13). Remove plates (12) and stop (14) from the shaft assembly.



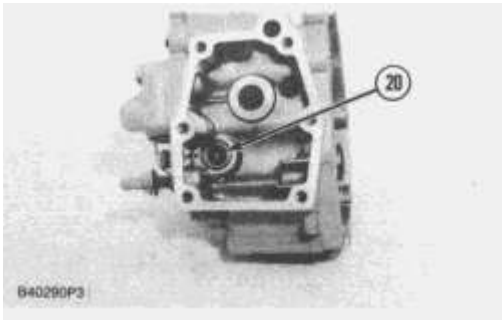
8. Remove pin (16), pin (15) and spring (17) from the shaft assembly.



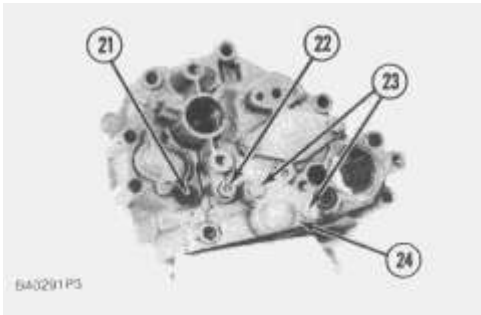
9. Remove shaft (18) and lever (19) from the housing.

NOTICE

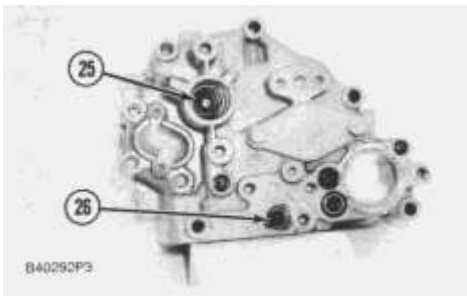
Remove check valve (20) only if a replacement is necessary, because the check valve will be damaged during the removal.



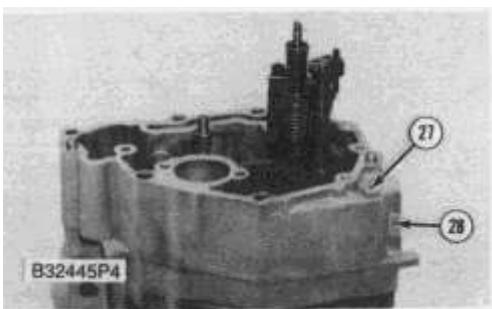
10. Remove check valve (20) if a replacement is necessary.



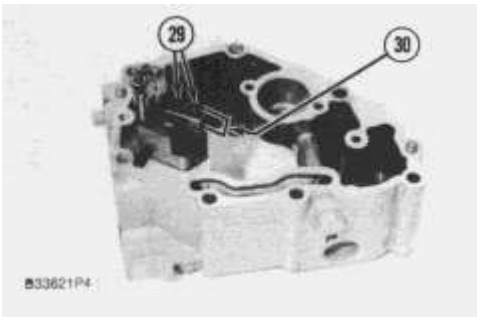
11. Remove contact (21) and body (22) for the governor dashpot adjustment screw from the housing. Remove bolts (23), cover (24) and the gasket from the housing.



12. Remove seal (25) and adjustment screw (26) for high idle.

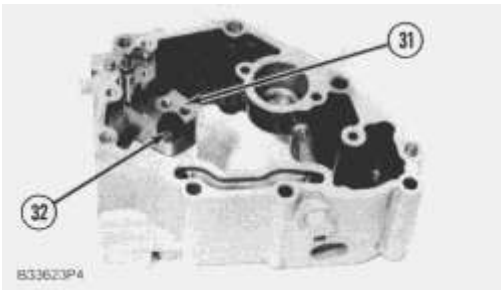


13. Remove two bolts (27), housing (28) and the gasket from the fuel injection pump housing.

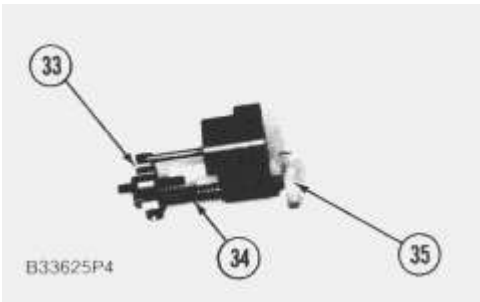


14. Remove bolts (29) and torque control group (30).

15. Disassemble the torque control group and inspect the spacer, spring and insulator for damage or wear.

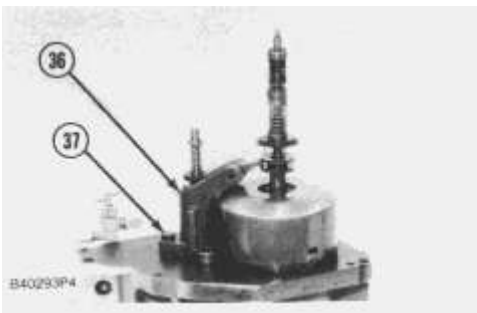


16. Remove bolts (32) and block (31) for the full load stop from the housing.

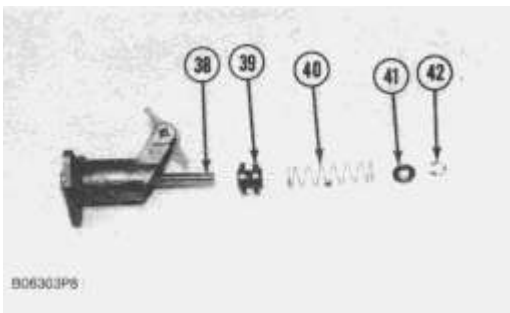


17. Remove the bolt that holds collar (33) to bolt (35). Remove collar (33) and spring (34) from bolt (35). Remove bolt (35) from the block.

18. Remove the power adjustment screw from collar (33), if a replacement is necessary.

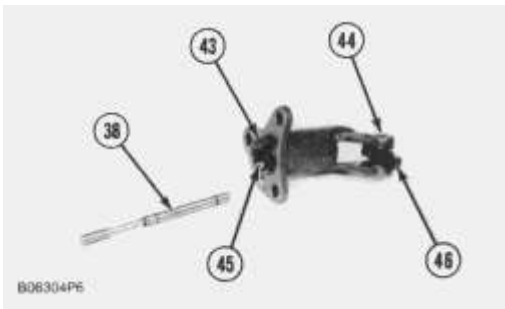


19. Remove bolts (37) and governor servo (36) from the fuel injection pump.



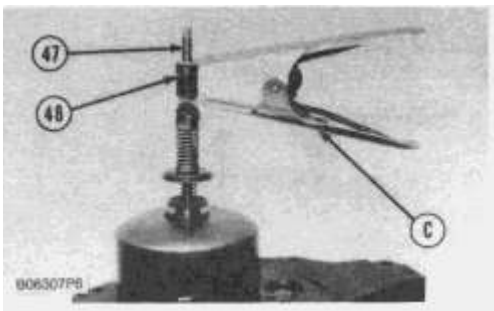
NOTE: The groove in the bottom of valve (38) must be in alignment with the servo body to permit removal from the fuel rack.

20. Remove locking (42), seat (41), spring (broken link spring) (40) and sleeve (39) from valve (38). Remove the other locking (42) from the groove in the center of valve (38).



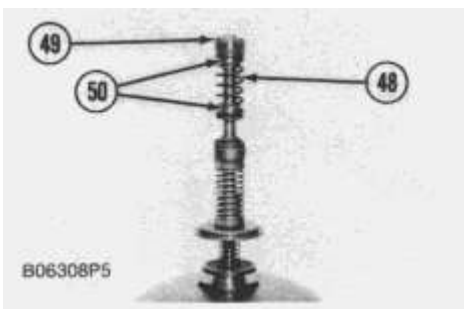
21. Remove valve (38), sleeve (43) and piston (45) from the governor servo. Remove the O-ring seal from sleeve (43).

22. Remove pin (44) and lever (46) from the governor servo.

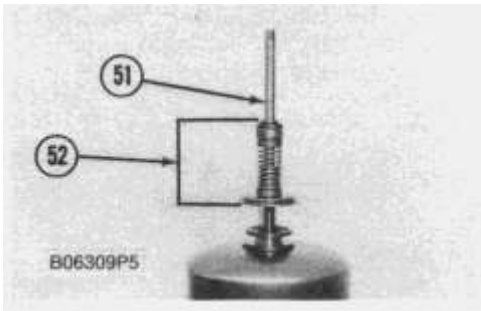


23. Use tool (C) to hold spring (48) in compression so ring (47) can be removed. Spring (48) is used to put a preload on the thrust bearing for the camshaft in the fuel injection pump housing.

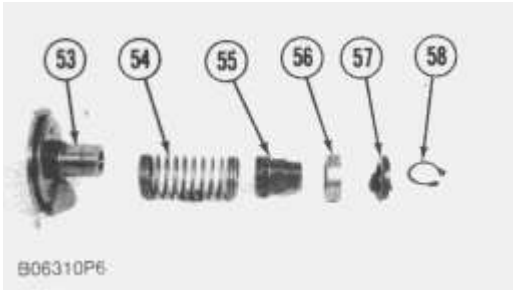
24. Remove ring (47), and remove tool (C).



25. Remove bearing (49), sleeves (50) and spring (48) from the governor shaft.

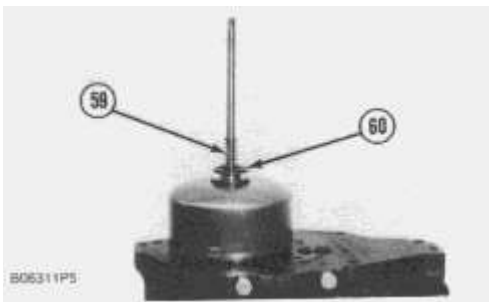


26. Remove ring (51) and dashpot assembly (52) from the governor shaft.

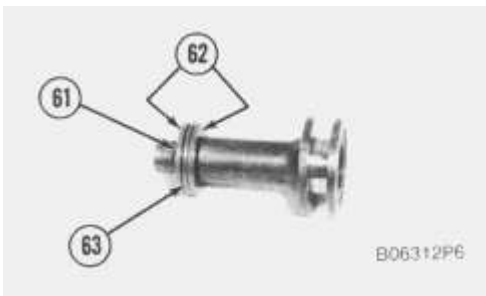


27. Use tool (B) to remove snap ring (58) from seat (55). Remove ring (57) and spool (56) from seat (55).

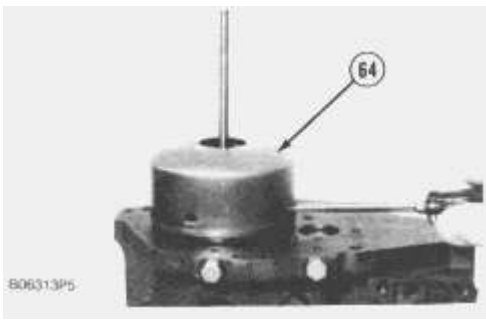
28. Remove seat (55) from spring (54), and remove spring (54) from seat (53).



29. Remove spring (overfueling spring) (59) and riser (60) from the governor shaft.

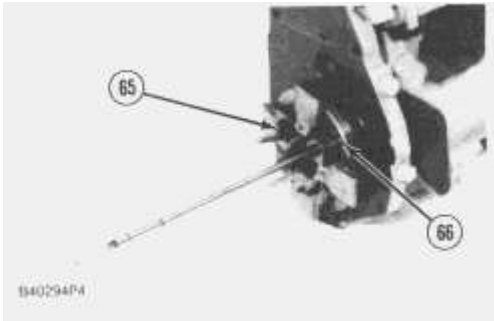


30. Remove ring (61), races (62) and bearing (63) from the riser.

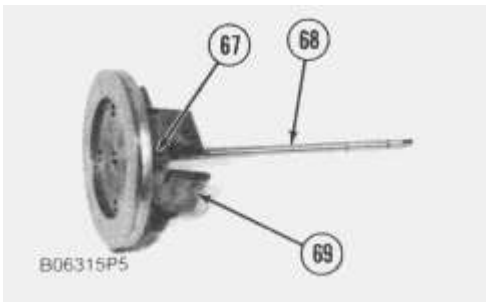


NOTE: Make a replacement of shield (64) any time it is removed.

31. Use a screwdriver to remove shield (64) as shown.

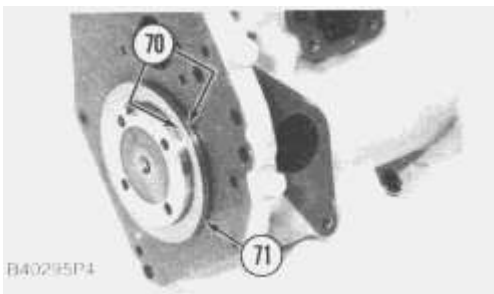


32. Remove bolts (65) and carrier (66) for the governor flyweights.



33. Remove dowels (67) and flyweights (69) from the carrier.

34. Remove shaft (68) from the carrier. Remove the dowel from shaft (68).



35. Remove races (70) and bearing (71) from the camshaft in the fuel injection pump housing.

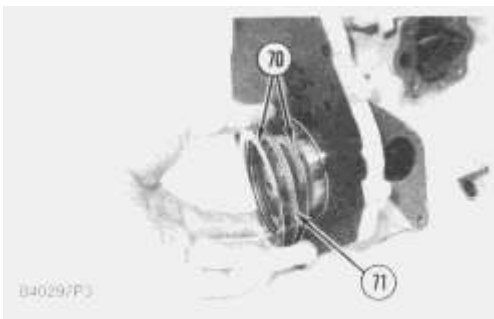
Assemble Governor

Tools Needed		A	B	C	D
1P510	Driver Group	1			
1P1855	Retaining Ring Pliers		1		
6V2163	Clamp Assembly Spring Compressor*			1	
6V2054	Shield Driver*				1

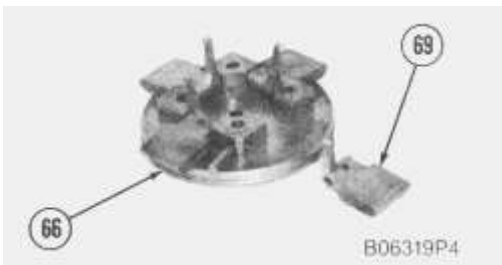
*Part of 6V4095 Pump And Governor Reconditioning Tool Group.

NOTE: If the governor was removed only to permit repair of the fuel injection pump housing, do only Steps 1, 4, 5, 7, 9, 10, 11, 16, 22 and 38.

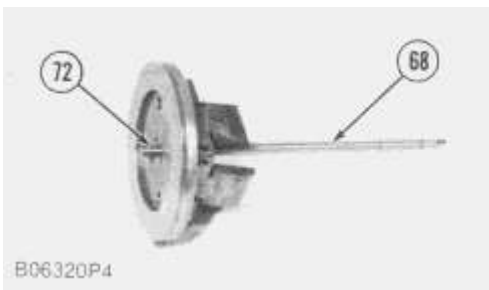
NOTE: Put clean oil on all parts before assembly. Be sure all oil passages are clear.



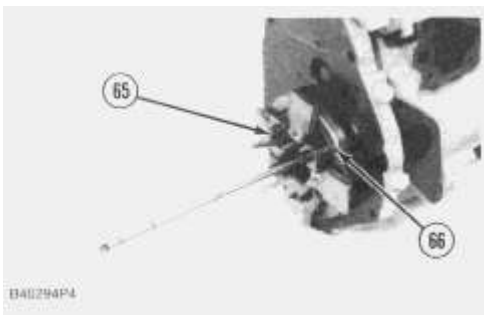
1. Install one race (70), bearing (71) and the other race (70) on the camshaft in the fuel injection pump housing.



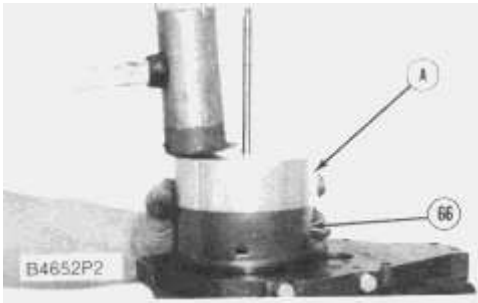
2. Put flyweights (69) in position on carrier (66), and install the dowels to hold the flyweights in place. The flyweights must move freely on the dowels and have **0.010 to 0.23 mm (0.0004 to 0.009 in)** end play.



3. Install dowel (72) in governor shaft (68) and install the governor shaft in the carrier as shown.



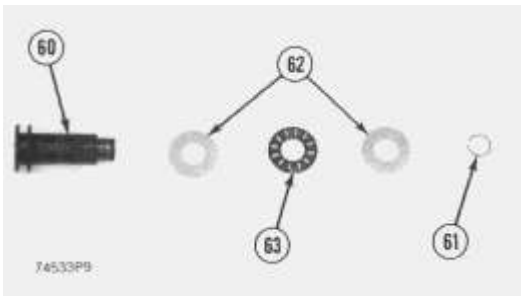
4. Put carrier (66) in position on the camshaft, and install bolts (65) that hold the carrier in place.



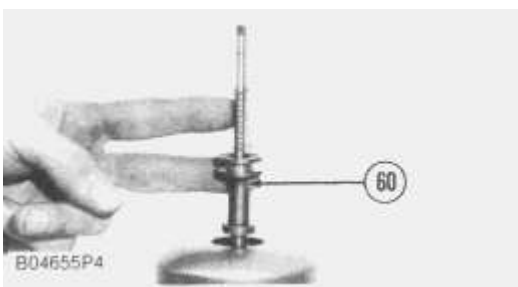
NOTICE

Replace shield (64) with a new part any time it is removed.

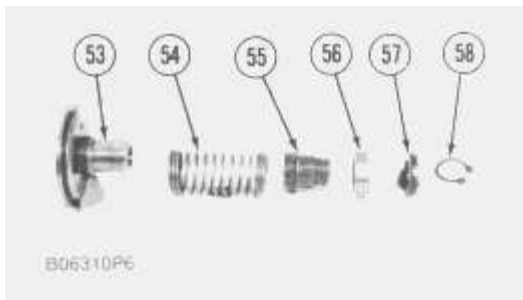
5. Install shield (64) on the carrier, and use tool (D) to push the shield against its seat. Use a hammer and punch to move the metal (stake) two places on the side of the shield $180^\circ \pm 5^\circ$ apart next to the holes in the shield.



6. Install one race (62), bearing (63), the other race (62) and use tool (B) to install ring (61) on riser (60) as shown.



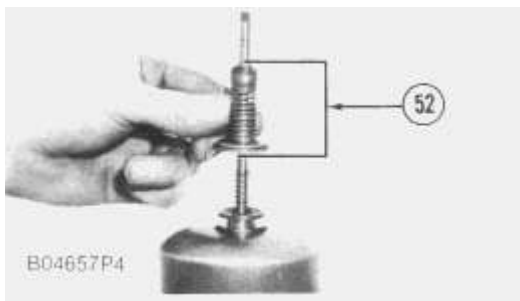
7. Install riser (60) and the spring (overfueling spring) on the governor shaft as shown.



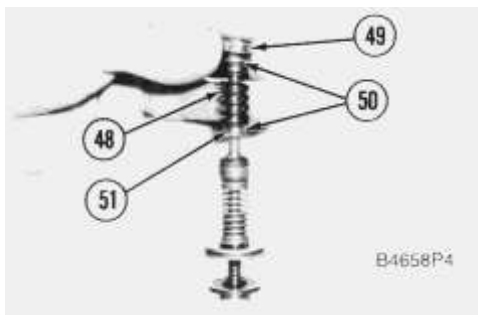
8. Assemble the dashpot as follows:

a. Install spring (54) on seat (53), and install seat (55) in spring (54).

b. Put spool (56) and ring (57) in position on seat (55), and use tool (B) to install snap ring (58) to hold them in place.

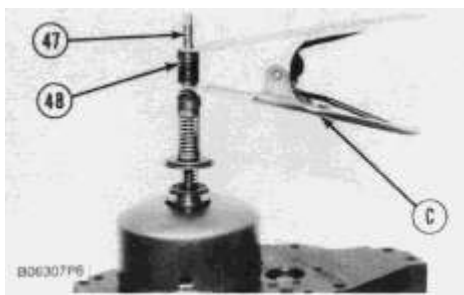


9. Install dashpot assembly (52) on the governor shaft as shown.

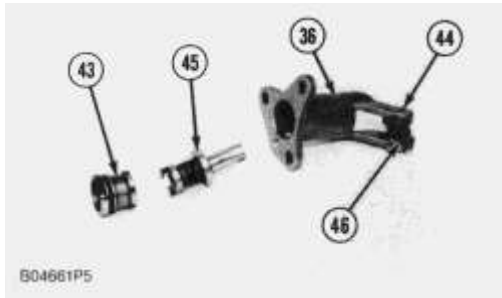


10. Install ring (51) in the lower groove in the governor shaft. Install one sleeve (50), spring (48), the other sleeve (50) and bearing (49) on the governor shaft as shown.

NOTE: Spring (48) is used to put a preload on the thrust bearing on the camshaft in the fuel injection pump housing.

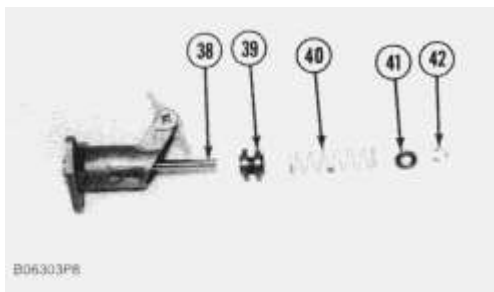


11. Use tool (C) to hold spring (48) in compression, and install ring (47) in the groove in the governor shaft. Remove tool (C).



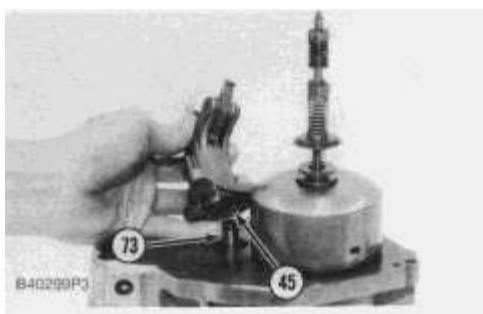
12. Put lever (46) in position on governor servo (36), and install pin (44) to hold the lever in place. Use a hammer and punch to move the metal (stake) four places **90°** apart on the outside surface on both legs of the governor servo to hold pin (44) in place.

13. Install the O-ring seal on sleeve (43). Install piston (45) and sleeve (43) in the governor servo as shown.

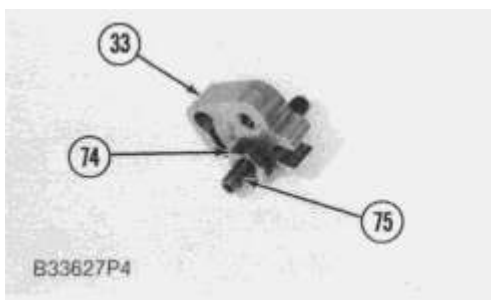


14. Install valve (38) in the governor servo as shown.

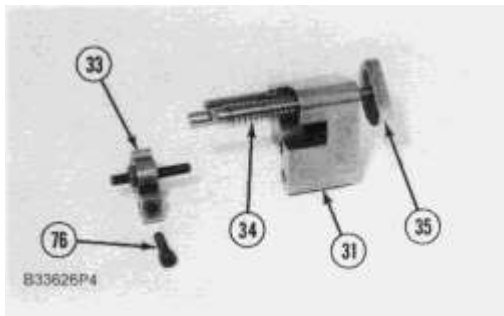
15. Install one lockring (42) in the groove near the center of valve (38). Put sleeve (39), spring (broken link spring) (40) and seat (41) in position on valve (38), and install the other lockring (42) to hold them in place.



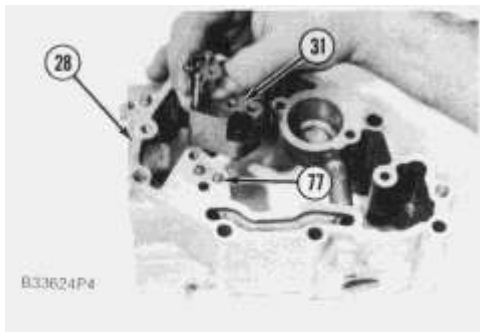
16. Put the governor servo in position on the fuel injection pump housing with piston (45) engaged over rack (73). Install the bolts that hold the governor servo in place.



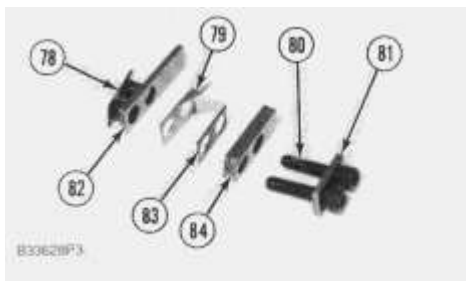
17. Install power adjustment screw (75) and the torque rise adjustment screw (if equipped) in collar (33) as shown, and install locknut (74) on the screw.



18. Install bolt (35) in block (31) as shown. Install spring (34) on bolt (35) as shown. Put collar (33) in position on bolt (35) with the hole in the collar in alignment with the notch in bolt (35). Install bolt (76) to hold the collar in place.

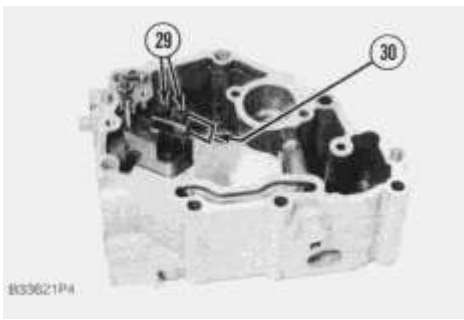


19. Put block (31) in position on housing (28) with the holes in the block in alignment with dowels (77). Install the bolts that hold the block in place.

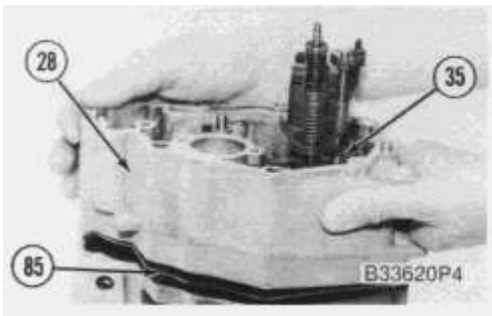


20. Assemble the torque control group as follows:

- a. Install bar (82), contact (79) and spacer (83) on insulator (78) as shown.
- b. Install retainer (81), bar (84) and the insulator assembly on bolts (80) as shown.



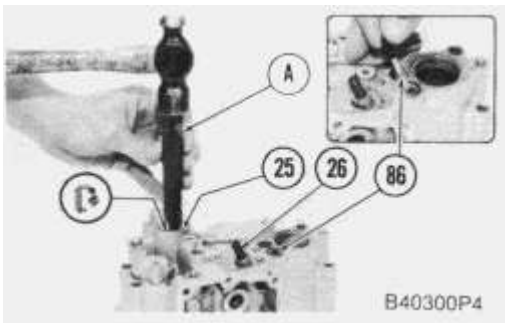
21. Install torque control group (30) on the block as shown. Install bolts (29) that hold it.



WARNING

If housing (28) is installed with the flange on bolt (35) on the wrong side of the dashpot, the riser in the governor will be held in the maximum fuel delivery position. To prevent possible personal injury, make sure housing (28) is installed on the fuel injection pump housing with the flange on bolt (35) behind the dashpot.

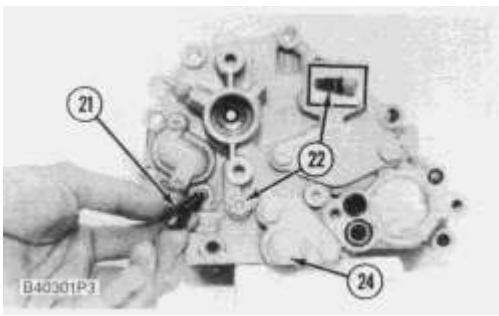
22. Install gasket (85) on the fuel injection pump housing. Put housing (28) in position on the fuel injection pump housing with bolt (35) behind the dashpot as shown. Install the bolts that hold housing (28) in place.



23. Use tooling (A) to install lip-type seal (25) in the governor outer housing with the lip in as shown.

24. Install adjustment screw (26) and the locknut for the high idle adjustment.

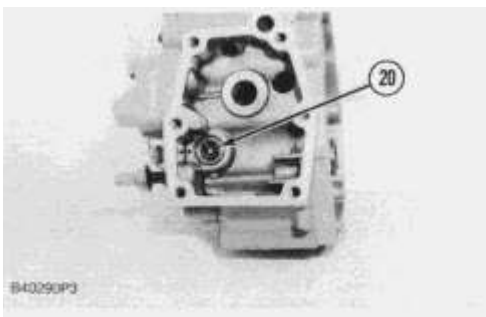
25. Make a replacement of screen assembly (86) and the seal for the fuel ratio control.



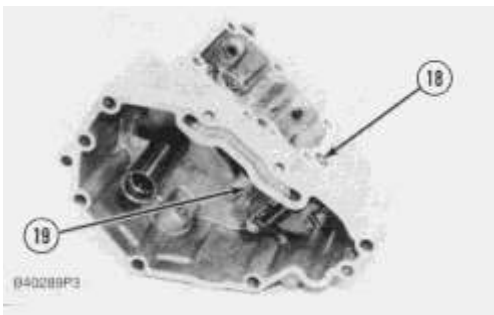
26. Install an O-ring seal on body (22) for the dashpot adjustment, and install the body in the housing.

27. Install gasket and cover (24) on the housing.

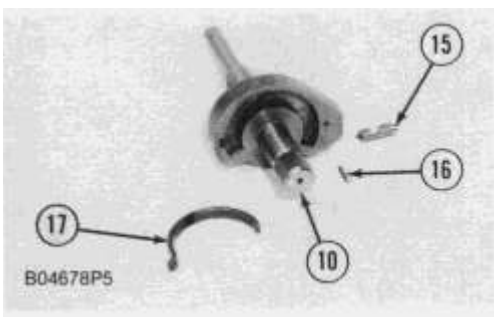
28. Install contact (21) in the housing and tighten it to a torque of $4.5 \pm 0.6 \text{ N}\cdot\text{m}$ ($40 \pm 5 \text{ lb in}$).



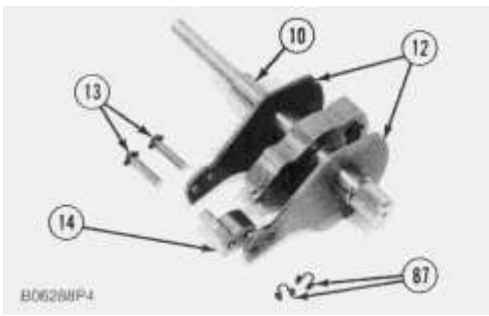
29. Install check valve (20) in the housing as shown.



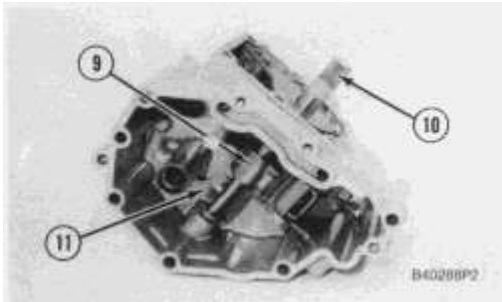
30. Put lever (19) in position in the housing as shown, and install shaft (18) to hold the lever in place.



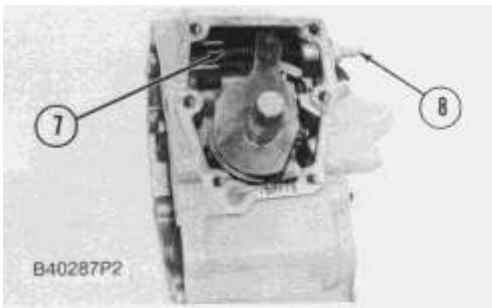
31. Install spring (17) in shaft assembly (10). Install pin (15) in shaft assembly (10) with the tip of the pin engaged in the hole in spring (17). Install pin (16) in the shaft assembly to hold pin (15) in place.



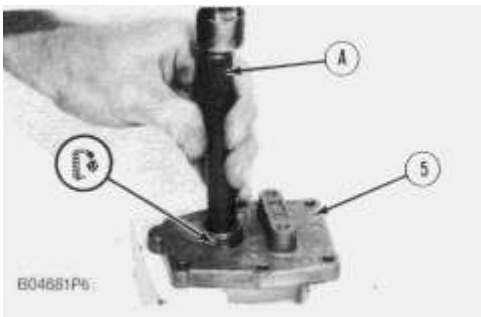
32. Put stop (14) and plates (12) in position on shaft assembly (10), and install pins (13) to hold the plates and stop in place. Install snap rings (87) to hold pins (13) in place.



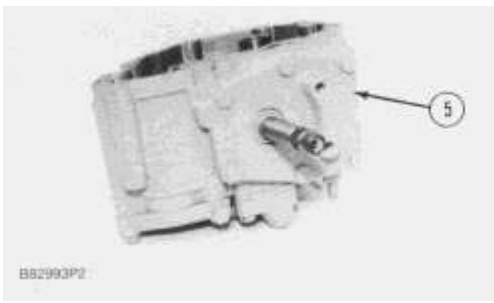
33. Put levers (9) and (11) in position in the housing as shown, and install shaft assembly (10) to hold the levers in place.



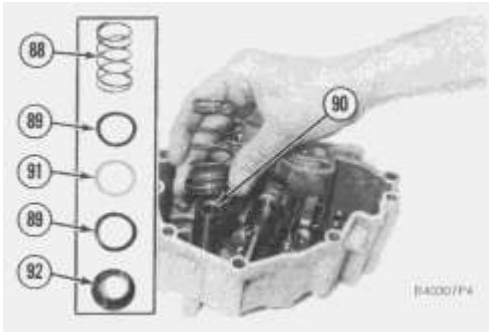
34. Install adjustment screw (8) and the locknut for the low idle adjustment in the housing. Install spring (7) in the hole in the shaft assembly and in the housing.



35. Use tooling (A) to install the lip-type seal in cover (5) with the lip in as shown.



36. Put the gasket and cover (5) in position on the housing, and install the bolts that hold it in place.



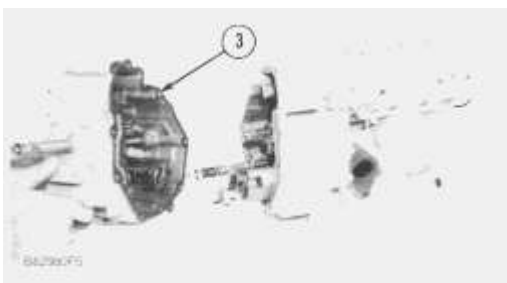
NOTICE

Flat washer (91) must be installed between wave washers (89).

37. Install the governor spring assembly on guide (90) as follows: Install seat (92), one wave washer (89), flat washer (91), the other wave washer (89) and spring (88) on guide (90) as shown.

NOTICE

Make sure the seal, washers and spring are on top of the lever as shown. These parts must be kept in this position when housing (3) is put in position on the inner governor housing.



38. Put the gasket and housing (3) in position on the inner governor housing, and install the nine bolts that hold it in place.

39. Make governor adjustments. See Governor Adjustments in Testing And Adjusting.

End By:

a. install fuel transfer pump

b. install fuel injection pump housing and governor

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