

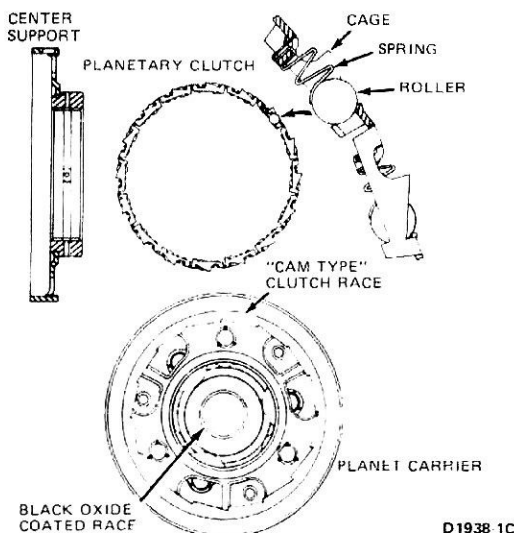


FIG. 23 Planetary Clutch, Planetary Carrier and Center Support

- i. Install the selective thrust washer on the pinion carrier rear pilot. **If the end play was not within specifications when checked prior to disassembly, replace the washer with one of proper thickness.** Refer to the Specifications at end of this Part, for selective thrust washer thicknesses.
- j. Install the output shaft, carefully meshing the internal gear with the pinions.
4. With the center support properly assembled, position the needle bearing and retainer on the rear support (Fig. 17).
5. Position a new rear support to case gasket on the rear support. Retain the gasket with transmission fluid.
6. Install the rear support. As the support is installed, insert the tubes into the case.
7. Position the governor drive ball in the pocket in the output shaft. Retain the ball with transmission fluid.

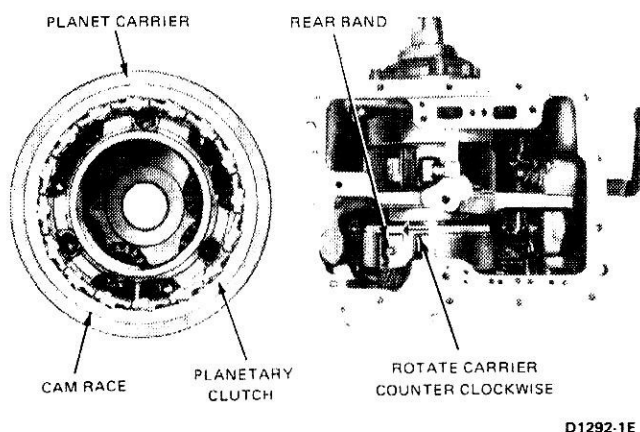


FIG. 24 Planetary Clutch Installation in Carrier

8. Install the governor assembly, aligning the groove with the ball in the output shaft.
9. Install the governor with the governor body plate toward the front of the vehicle (Fig. 16). Install the governor snap ring.
10. Insert the extension housing oil seal replacer and pilot in the housing. Position a new gasket to the extension housing and install the extension housing on the transmission case. Coat the bolt threads with B5A-19554-A sealer and install the extension housing attaching bolts, vacuum tube clip, and external tooth lockwasher. **The lockwashers must be installed with the rolled edge toward the transmission case to insure a tight seal.**
11. Torque the extension housing attaching bolts to specification. Install the lubrication tube.
12. Position a new front pump gasket in the counterbore of the transmission case.
13. Install the front pump, aligning the pump bolt holes with the holes in the case. Install three of the pump attaching bolts and torque to specification.
14. Mount the dial indicator support in a front pump bolt hole. Mount a dial indicator on the support so that the contact rests on the end of the turbine shaft.
15. Use a large screwdriver to pry the front of the clutch drum toward the rear of the transmission. Set the dial indicator at zero.
16. Remove the screwdriver and pry the units toward the front of the transmission by inserting a screwdriver between the large internal gear and the transmission case. Note the indicator reading. End play should be 0.010-0.029 inch (minimum end play is preferred). If the end play is not within specifications, a new selective thrust washer must be used.
17. Remove the indicator and the tool from the extension housing.
18. Install the one remaining front pump attaching bolt. Torque bolt to specification.
19. Position the front band forward in the case with the band ends up.
20. Position the front servo strut with the slotted end aligned with the servo actuating lever, and with the small end aligned with the band end. Rotate the band, strut, and servo into position, engaging the anchor end of the band with the anchor pin in the case.
21. Locate the servo on the case, and install the attaching bolts. **Tighten the attaching bolts only two or three threads.**
22. Install the servo release tube.
23. Position the rear servo anchor strut, and rotate the rear band to engage the strut.
24. Position the rear servo actuating lever strut with a finger, and then install the servo and attaching bolts. Move the rear servo (with reasonable force)

toward the centerline of the transmission case, against the servo attaching bolts. While holding the servo in this position, torque the attaching bolts to specification.

25. Install the front servo apply tube.
26. Install the pressure regulator body and attaching bolts. Torque the bolts to specification.
27. Install the control and converter valve guides and springs. Install the spring retainer.
28. Install the control valve assembly, carefully aligning the servo tubes with the control valve. Align the inner downshift lever between the stop and the downshift valve. Shift the manual lever to the 1 position. **Align the manual valve with the actuating pin in the manual detent lever. Do not tighten the attaching bolts.**
29. Move the control valve body toward the center of the case, until the clearance is less than 0.050 inch between the manual valve and the actuating pin on the manual detent lever.
30. Torque the attaching bolts to specification. Be sure that the rear fluid screen retaining clip is installed under the valve body bolt as shown in Fig. 8.
31. Install the main pressure oil tube. **Be sure to install the end of the tube that connects to the pressure regulator assembly first. Then, install the other end of the tube into the main control assembly by tapping it gently with a soft hammer.**
32. Install the small control pressure compensator tube in the valve body and regulator.
33. Turn the manual valve one full turn in each manual lever detent position. If the manual valve binds against the actuating pin in any detent position, loosen the valve body attaching bolts and move the body away from the center of the case. Move the body only enough to relieve the binding. Torque the attaching bolts to specification. Check the manual valve for binding.
34. Torque the front servo attaching bolts to specification.
35. Adjust the front and rear bands as outlined in this Part.
36. Position the control rod in the bore of the vacuum diaphragm unit and install the diaphragm unit. **Make sure the control rod enters the throttle valve as the vacuum unit is installed.**
37. Torque the diaphragm unit to specification.
38. Position the fluid screen on the rear clip so that the tang enters the hole in the screen flange. Then, rotate the screen (clockwise) until the grommet is over the pump inlet port of the valve body regulator and press the screen down firmly. Install the screen retaining clip.
39. Place a new gasket on the transmission case and install the pan. Install the attaching bolts and lockwashers. Torque the bolts to specification.

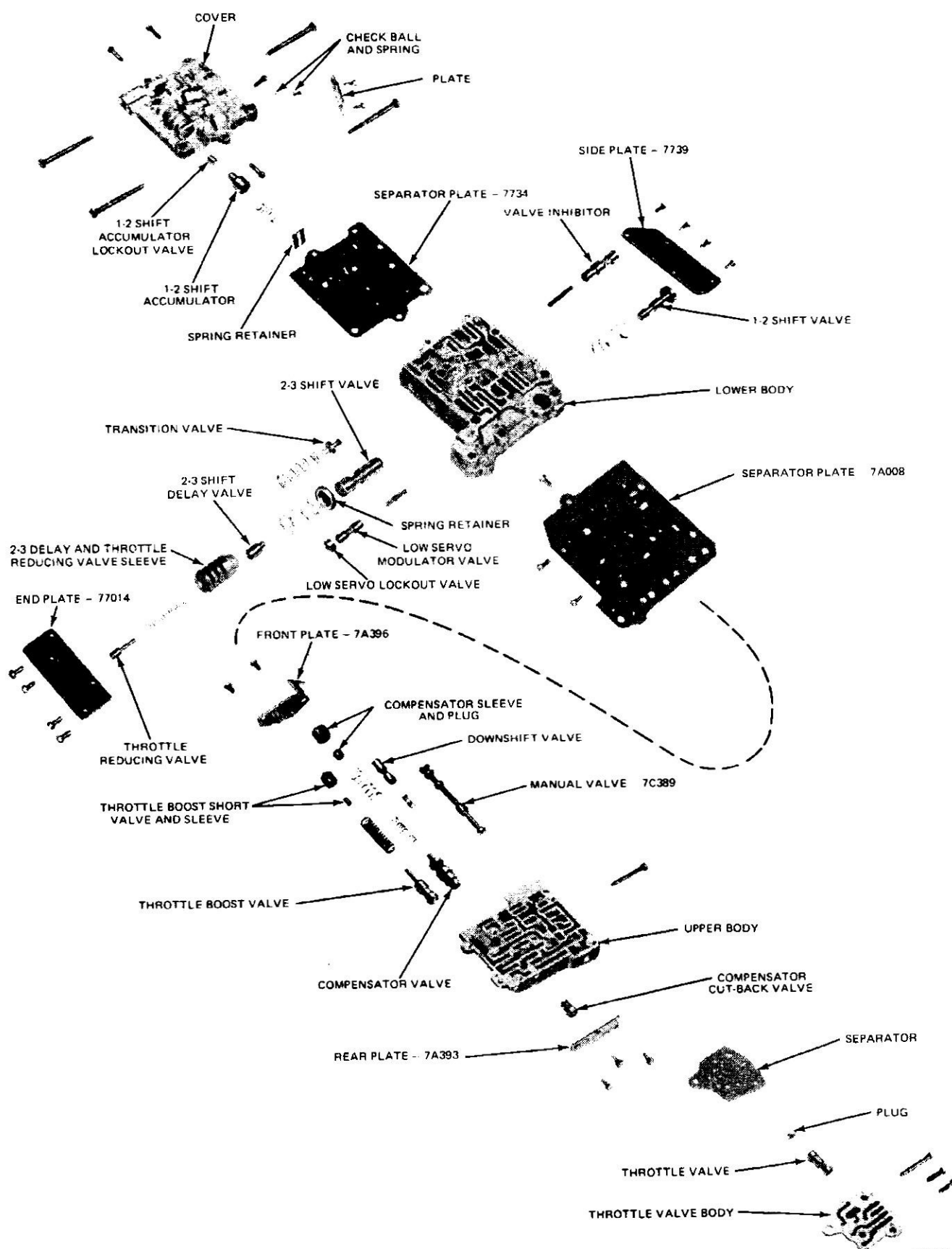
If the converter and converter housing were removed from the transmission, install these components. Position the transmission assembly on the transmission jack, and refer to transmission installation procedures outlined in this Part.

CONTROL VALVE BODY

During the disassembly of the control valve assembly, avoid damage to valve parts and keep the valve parts clean. Place the valve assembly on a clean shop towel while performing the disassembly operation. **Do not separate the upper and lower valve bodies and cover until after the valves have been removed.**

Disassembly

1. Remove the manual valve (Fig. 25).
2. Remove the throttle valve body and the separator plate. **Be careful not to lose the check valve when removing the separator plate from the valve body.** Remove the throttle valve and plug.
3. Remove one screw attaching the separator plate to the lower valve body. Remove the upper body front plate. **The plate is spring-loaded. Apply pressure to the plate while removing the attaching screws.**
4. Remove the compensator sleeve and plug, and remove the compensator valve springs. Remove the compensator valve.
5. Remove the throttle boost short valve and sleeve. Remove the throttle boost valve spring and valve.
6. Remove the downshift valve and spring.
7. Remove the upper valve body rear plate.
8. Remove the compensator cut back valve.
9. Remove the lower body side plate (Fig. 25). **The plate is spring-loaded. Apply pressure to the plate while removing the attaching screws.**
10. Remove the 1-2 shift valve and spring. Remove the inhibitor valve and spring.
11. Remove the two screws attaching the separator plate to the cover. Remove the lower body end plate. **The end plate is spring-loaded. Apply pressure to the plate while removing the attaching screws.**
12. Remove the low servo lockout valve, low servo modulator valve, and spring.
13. Remove the 2-3 delay and throttle reducing valve sleeve, the throttle reducing valve, spring, and the 2-3 shift delay valve. The reducing valve sleeve is lightly staked in the valve body bore. To remove the sleeve, use a blunt instrument against the end of the 2-3 shift valve and push the sleeve from its bore. Remove the 2-3 shift valve spring, spring retainer, and valve.
14. Remove the transition valve spring and valve.
15. Remove the plate (Fig. 25) from the valve body cover.



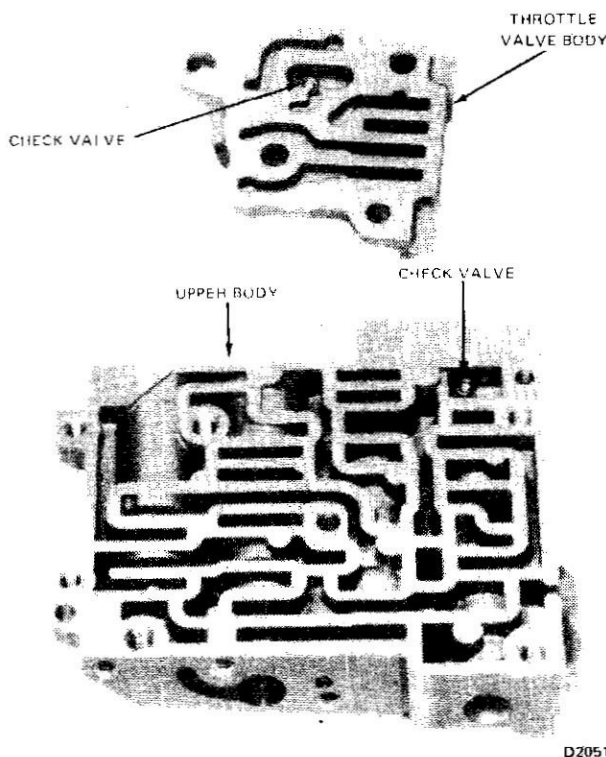
D1743

FIG. 25 Control Valve Body Disassembled

16. Remove the check ball spring and check ball. Remove the 3-2 kickdown control valve spring and valve.
17. Remove the 1-2 shift accumulator valve spring retainer from the cover. Remove the spring, 1-2 shift accumulator valve and 1-2 shift accumulator lockout valve.
18. Remove the through bolts and screws. Then, separate the bodies. Remove the separator plates from the valve bodies and cover. Be careful not to lose the check valves.

Assembly

1. Arrange all parts in their correct positions (Fig. 25). Rotate the valves and plugs when inserting them in their bores, to avoid shearing of soft body castings.
2. Place the check valve in the upper body as shown in Fig. 26. Then, position the separator plate on the body.



D2051-1C

FIG. 26 Check Valve Locations

3. Position the lower body on the upper body, and start **but do not tighten the attaching screws**.
4. Position the cover and separator plate on the lower body. Start the four through bolts.
5. Align the separator with the upper and lower valve body attaching bolt holes. Install and torque the four valve body bolts to specification. **Excessive tightening of these bolts may distort the valve bodies, causing valves or plugs to stick.**
6. Install the check ball and spring in the cover. Install the plate.
7. Insert the 1-2 shift accumulator lockout valve, 1-2 shift accumulator valve, and spring in the cover. Install the valve spring retainer.

8. Install the transition valve and spring in the lower body.
9. Install the 2-3 shift valve spring retainer and spring. Install the 2-3 shift delay valve, spring, and throttle reducing valve in the sleeve. Slide the assembly into position in the lower body. Do not restake the sleeve.
10. Install the low servo lockout valve spring. Install the low servo modulator and low servo lockout valves. Install the lower body end plate.
11. Install the inhibitor valve spring and valve in the lower body.
12. Install the 1-2 shift valve spring and valve. Install the lower body side plate.
13. Install the compensator cutback valve in the upper body. Install the upper body rear plate.
14. Install the downshift valve and spring in the body.
15. Install the throttle boost valve and spring. Install the throttle boost short valve and sleeve.
16. Install the compensator valve, inner and outer compensator springs, and the compensator sleeve and plug.
17. Position the front plate. Apply pressure to the plate while installing the two attaching screws.
18. Install the throttle valve, plug, and check valve in the throttle valve body. Position the separator on the upper body and install the throttle valve body. Install the three attaching screws.
19. Install four screws attaching the cover to the lower body, two screws attaching the separator plate to the upper body, and one screw attaching the separator plate to lower body. Torque the cover and body screws to specification.
20. Install the manual valve.

FRONT SERVO

Disassembly

1. Remove the servo piston retainer snap ring (Fig. 27). The servo piston is spring-loaded. **Apply pressure to the piston when removing the snap ring.**
2. Remove the servo piston retainer, servo piston, and the return piston from the servo body. It may be necessary to tap the piston stem lightly with a soft-faced hammer to separate the piston retainer from the servo body.
3. Remove all the seal rings, and remove the spring from the servo body.
4. Inspect the servo body for cracks, and the piston bore and the servo pistons stem for scores (Fig. 27). Check fluid passages for obstructions.
5. Check the actuating lever for free movement, and inspect it for wear. To replace the actuating lever shaft, it will be necessary to press the shaft out of the bracket. The shaft is retained in the body by serrations on one end of the shaft. These serrations cause a press fit at that end. To remove the shaft, press on the end opposite the serrations. Inspect the adjusting screw threads and the threads in the lever.
6. Check the servo spring and servo band strut for distortion.