

28. Install tool 4201-C at the seventh pump mounting bolt (Fig. 13) and check the transmission end play. (See Specification at end of this Part.) Remove the tool. Install the seventh mounting bolt and torque to specifications.
29. Install the main control on the case, making sure that the levers engage the valves properly. Install the primary throttle valve, rod, and the vacuum diaphragm in the case.
30. Install a new pan gasket and the pan. Torque the bolts to specifications.
31. Install the converter assembly.
32. Install the transmission in the vehicle as detailed under Removal and Installation.

CONTROL VALVE BODY

Disassembly

The valve body-to-screen gasket should not be cleaned in a degreaser solvent or any type of detergent solution when disassembling the main control. To clean the gasket, wipe it off with a lint-free cloth.

1. Remove the nine screws that attach the screen to the lower valve body (Fig. 20) and remove screen and gasket (Fig. 21).
2. Remove the five upper-to-lower valve body and hold-down plate attaching screws. Remove the seven attaching screws from the underside of the lower valve body (Fig. 20).
3. Separate the bodies and remove the separator plate and gasket. Be careful not to lose the check valves and springs. Remove and clean the separator plate screen if necessary (Fig. 21).
4. Remove the manual valve plunger retaining pin from the upper valve body and remove the plunger.
5. Slide the manual valve (Fig. 22) out of the valve body.
6. Cover the downshift valve port with a finger; then, working from the underside of the body, remove the downshift valve retainer. Remove the spring and downshift valve (Fig. 22).
7. Apply hand pressure on the pressure boost valve sleeve end and remove the sleeve retaining clip from the underside of the body. Slowly release hand pressure and remove the sleeve and the pressure boost valve. Remove the two springs, the spring retainer and the main regulator valve from the bore.
8. Apply pressure on the throttle boost valve retaining plate and remove the two attaching screws. Slowly release the pressure and remove plate, throttle pressure boost valve and spring, and the manual low 2-1 scheduling valve and spring from the body (Fig. 22).
9. Apply pressure on the remaining valve retaining plate and remove the eight attaching screws.
10. Hold the valve body so that the plate is facing upward. Slowly release the pressure and remove the plate.
11. When removing the various valves from the control valve body, keep all ports covered with your fingers except the bore the valve is being removed from.

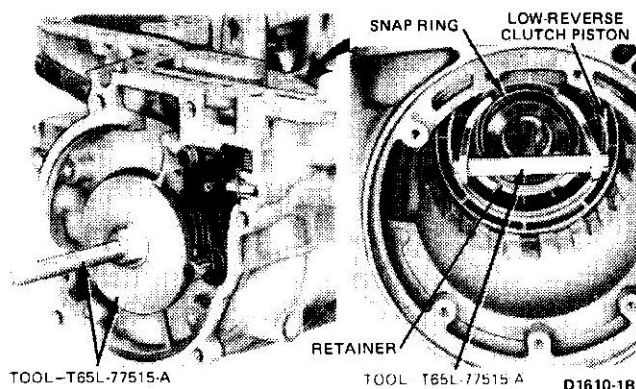


FIG. 18 Compressing Reverse Clutch Springs

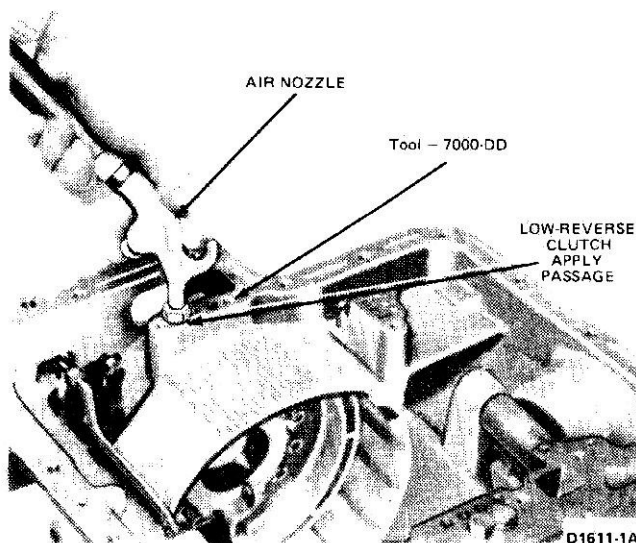


FIG. 19 Removing Low-Reverse Clutch Piston

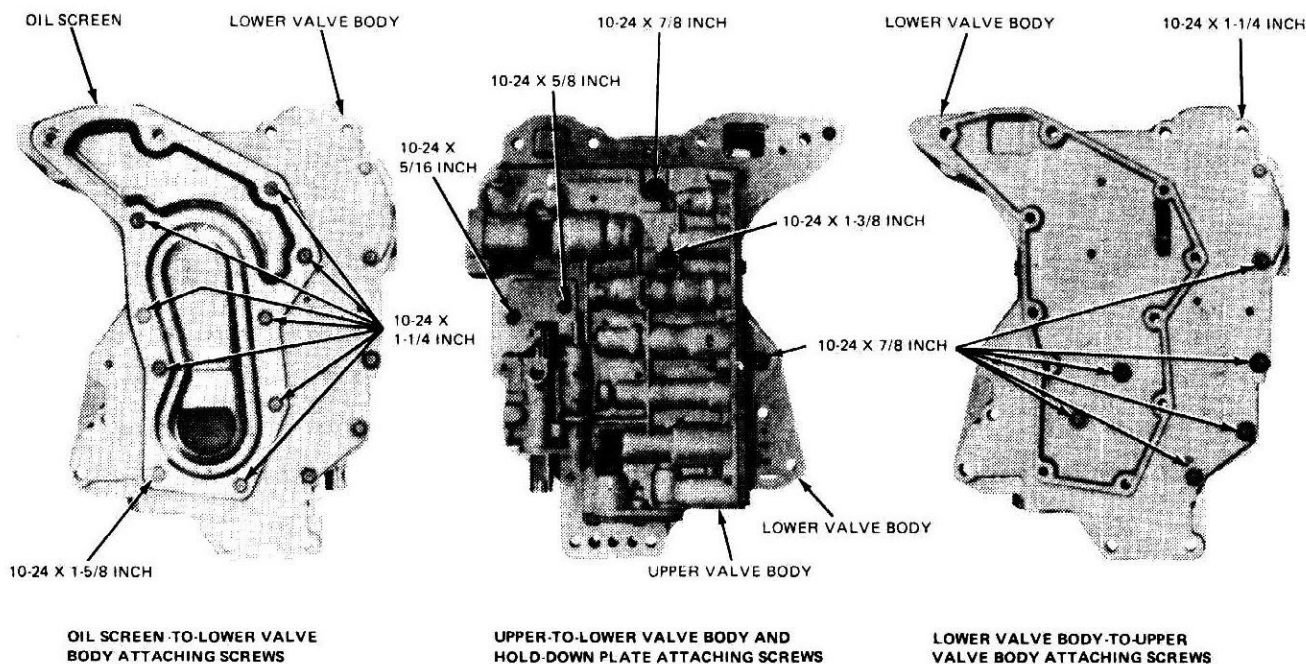
Remove the spring and the intermediate servo modulator valve (Fig. 22) from the valve body.

12. Remove the intermediate servo accumulator valve and springs.
13. Remove the 2-3 back-out valve, spring, and 3-2 shift timing valve plug. Do not remove the 3-2 shift timing valve plug (Fig. 22) if it is found to be peened, preventing its removal. This condition will not affect transmission operation and is not cause for replacement of the main control.
14. Remove the 2-3 shift valve, spring and the throttle modulator valve.
15. Remove the 1-2 shift valve, DR-2 shift valve and the spring from the valve body.
16. Remove the coasting regulator valve (Fig. 22) from the body.
17. Remove the cutback control valve to complete the disassembly of the control valve.

Assembly

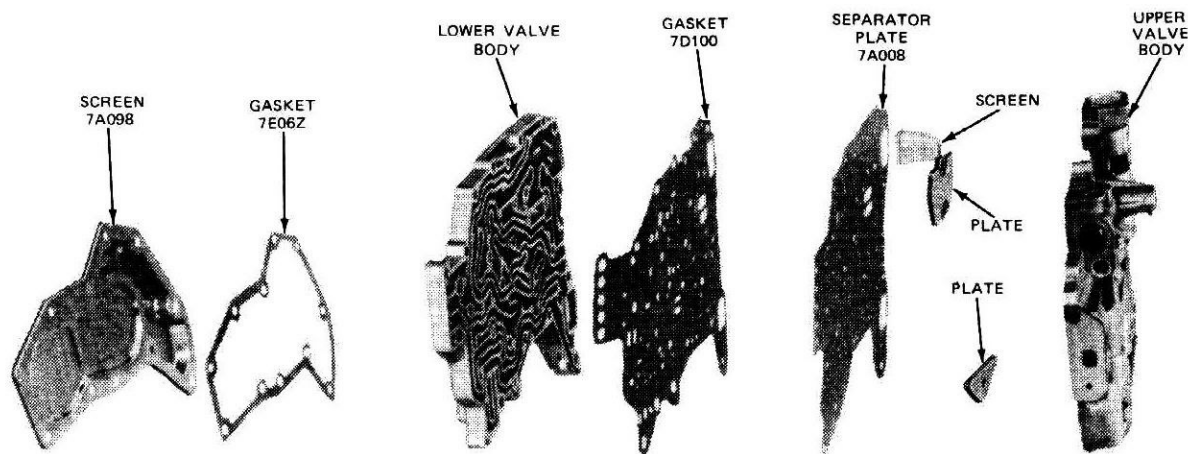
1. Place the 3-2 shift timing valve plug in the valve body if it was previously removed.
2. Place the downshift valve and spring in the valve body. Compress the spring and install the retainer from the underside of the body (Fig. 23).

3. Place the valve body on a clean surface with the passage side facing up. Place the converter relief valve spring in its bore (Fig. 23). Coat the converter relief valve check valve with petroleum jelly and place it on top of the spring. Place the 2-3 shift check valve ball in its cavity. Place the throttle pressure relief valve spring in its bore (Fig. 23). Coat the throttle pressure relief valve check ball with petroleum jelly and place it on top of the spring.
4. Install the separator screen in the separator plate if it was previously removed. **Be sure the screen tabs are flush with the separator plate surface.** Carefully position the separator plate and new gasket on the lower valve body. Place the two hold-down plates on the separator plate and install the attaching screws finger tight.
5. Place the lower body and plate assembly on the upper valve body (Fig. 20), and install the attaching screws finger tight.
6. Install the oil screen screws loosely, without the screen, to properly align the upper and lower valve bodies, gasket and separator plate.
7. Torque the two bolts that are covered by the screen to specification as listed at the end of this Part.
8. Remove the oil screen attaching screws and place the gasket and oil screen in position on the lower valve body. Reinstall the screen attaching screws (Fig. 20).
9. Torque all the valve body and screen attaching screws to specification as listed at the end of this Part.



D2313-2B

FIG. 20 Control Valve Body and Screen Attaching Screws



D1616-2C

FIG. 21 Upper and Lower Valve Bodies Disassembled

10. Place the cutback valve (Fig. 22) and coasting regulator valve in the valve body.
11. Place the spring DR-2 shift valve and the 1-2 shift valve in the body.
12. Place the throttle modulator valve and spring and the 2-3 shift valve in the valve body.
13. Place the spring and the 2-3 backout valve in the valve body.
14. Place the two springs and intermediate servo accumulator valve in the valve body.
15. Place the intermediate servo modulator valve and spring in the body.
16. Carefully place the valve retaining plate on the body and secure it with the eight attaching screws. Tighten the screws to specification.
17. Place the throttle pressure boost valve and spring in the valve body. Place the manual low 2-1 scheduling valve and spring in the valve body and install the retaining plate. Torque the attaching screws to specification.
18. Place the spring retainer on the stem of the main regulator valve so that the retainer flange is next to the valve shoulder. Place the main regulator valve, spring retainer, two springs, pressure boost valve and sleeve in the bore. Apply hand pressure on the end of the pressure boost valve sleeve and install the spring clip retainer in the groove on the underside of the body so that the clip is inserted into to end groove in the sleeve. Be sure that the pressure boost valve sleeve is free in its bore.
19. Place the manual valve in the valve body and install the plunger and the retaining pin in the body.

INTERMEDIATE SERVO

Disassembly

1. Apply air pressure to the port in the servo cover to remove the piston and rod.
2. Replace the complete piston and rod assembly if the piston or piston sealing lips are unserviceable or damaged.
3. Remove the seal from the cover.

Assembly

1. Dip the new seals in transmission fluid.
2. Install new seals on the cover. Fig. 24 shows the correct servo piston and cover for the transmission.
3. Dip the piston in transmission fluid and install it in the cover.

GOVERNOR

Disassembly

1. Remove the governor attaching bolts and remove the governor.
2. Remove the snap ring that secures the governor distributor on the output shaft (Fig. 25) and slide it off the front of the shaft.
3. Remove the seal rings from the distributor.

Assembly

1. Carefully install new seal rings on the distributor.

2. Working from the front end of the output shaft, slide the governor distributor into place on the shaft. Install the snap ring to secure it. Make sure that the snap ring is seated in the groove.
3. Position the governor on the distributor (Fig. 25) and secure with the attaching screws.

DOWNSHIFT AND MANUAL LINKAGE

Disassembly

1. Remove the nut and lock washer that secures the outer downshift lever to the transmission and remove the lever.
2. Slide the downshift lever out from the inside of the case (Fig. 26). Remove the seal from the recess in the manual lever shaft.
3. Remove the C-ring that secures the parking pawl actuating rod to the manual lever. Remove the rod from the case.
4. Remove the nut that secures the inner manual lever to the shaft. Remove the inner lever from the shaft. Slide the outer lever and shaft from the case.
5. Remove the seal from the case with Tools T59L-100-B and T58L-101-A.
6. Dip the new seal in transmission fluid and install it in the case as shown in Fig. 27.

Assembly

1. Slide the outer manual lever and shaft in the transmission case.
2. Position the inner lever on the shaft, making sure the leaf spring roller is positioned in the inner manual lever detent. Install the attaching nut. Tighten the nut to specification. Install the parking pawl actuating rod and secure it to the inner manual lever with a C-washer.
3. Install a new downshift lever seal in the recess of the outer lever shaft. Slide the downshift lever and shaft into position.
4. Place the outer downshift lever on the shaft and secure it with a lockwasher and nut.

PARKING PAWL LINKAGE

Disassembly

1. Remove the bolts that secure the parking pawl guide plate to the case (Fig. 28). Remove the plate.
2. Remove the spring, parking pawl and shaft from the case.
3. Working from the pan mounting surface, drill a 1/8-inch diameter hole through the center of the cupped plug. Pull the plug from the case with a wire hook.
4. Unhook the end of the spring from the park plate slot to relieve the tension.
5. Thread a 1/4-20 inch or 8-32 x 1-1/4 inch screw (Fig. 29) into the park plate shaft. Pull the shaft from the case with the screw.

Assembly

1. Position the spring and park plate in the case and install the shaft. Place the end of the spring into the slot of the park plate.
2. Install a new cupped plug (Fig. 28) to retain the shaft.

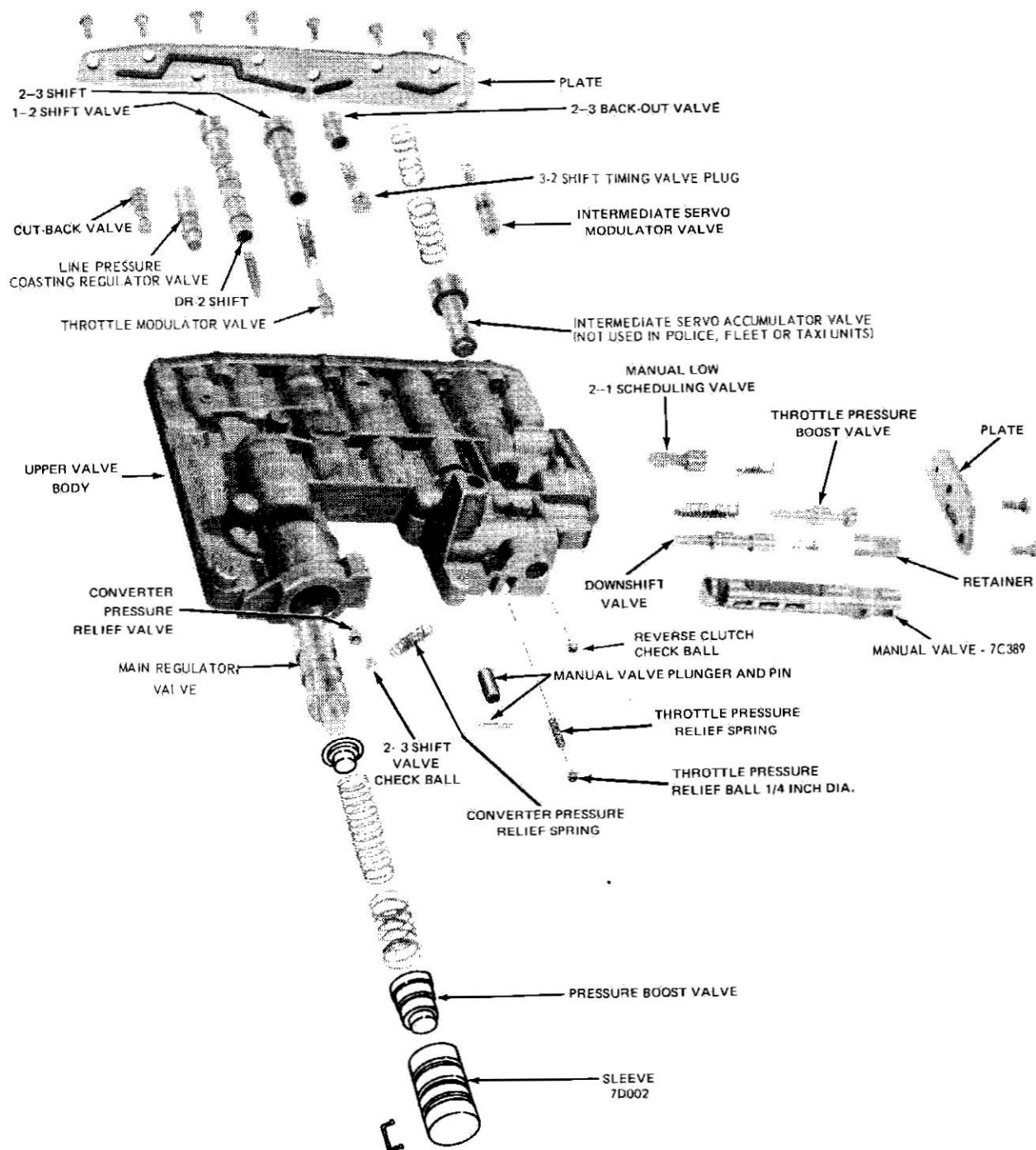


FIG. 22 Upper Valve Body Disassembled