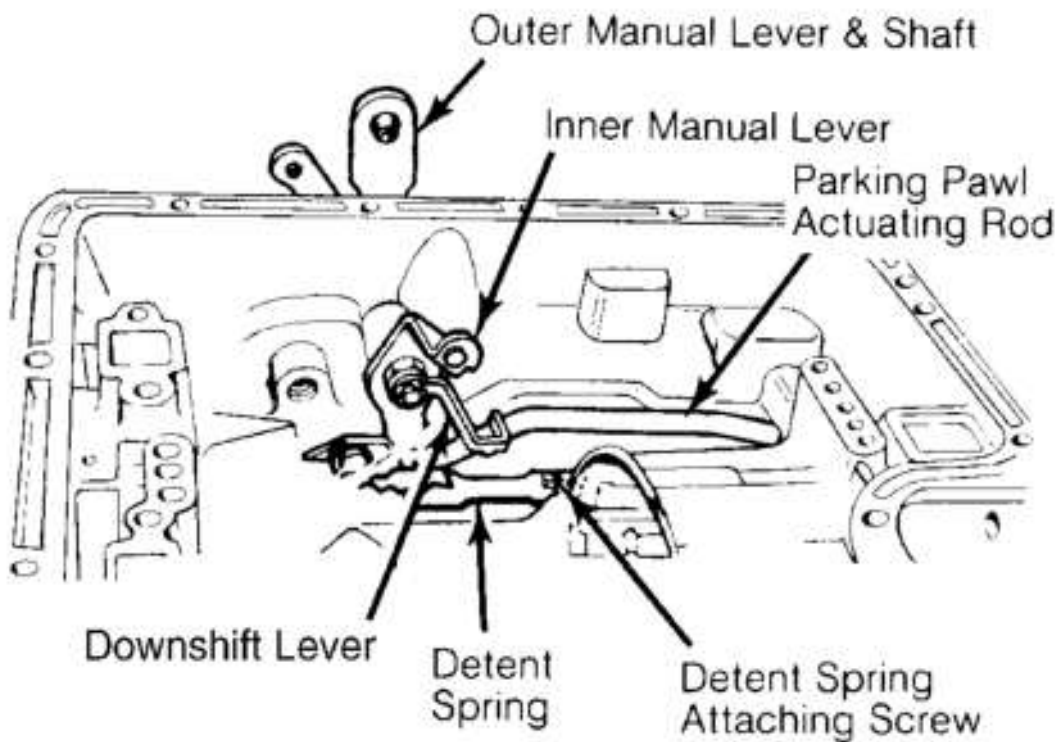


COMPONENT DISASSEMBLY & REASSEMBLY

DOWNSHIFT & MANUAL LINKAGE

Disassembly

1. Remove nut and lock washer securing outer downshift lever to transmission and remove lever. Slide downshift lever out from inside case and remove seal from recess in manual lever shaft.
2. Remove neutral safety switch. Remove "C" clip securing parking pawl actuating rod to manual lever. Remove actuating rod from case. See **Fig. 13**.
3. Remove nut retaining inner manual lever to shaft. Remove inner lever from shaft. Slide outer lever and shaft from case. Remove seal from case using a puller and slide hammer.



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Fig. 13: Identifying Linkage Components

Courtesy of FORD MOTOR CO.

Reassembly

1. Dip new seal in transmission fluid, and install it into case. Slide outer manual lever and shaft into case. Position inner lever on shaft. Ensure leaf spring roller is positioned in inner manual lever detent.
2. Install retaining nut and tighten. Install parking pawl actuating rod and secure to inner manual lever with "C" clip. Slide neutral safety switch onto outer shaft lever.
3. Install retaining bolt. With manual lever in neutral, rotate switch and install gauge pin (No. 43 drill) into gauge pin hole. Tighten switch retaining bolt to specification. See **TORQUE**

SPECIFICATIONS.

4. Install a NEW downshift lever seal in outer lever shaft recess. Slide downshift lever and shaft into position. Place outer downshift lever on shaft. Install and tighten lock washer and nut to specification.

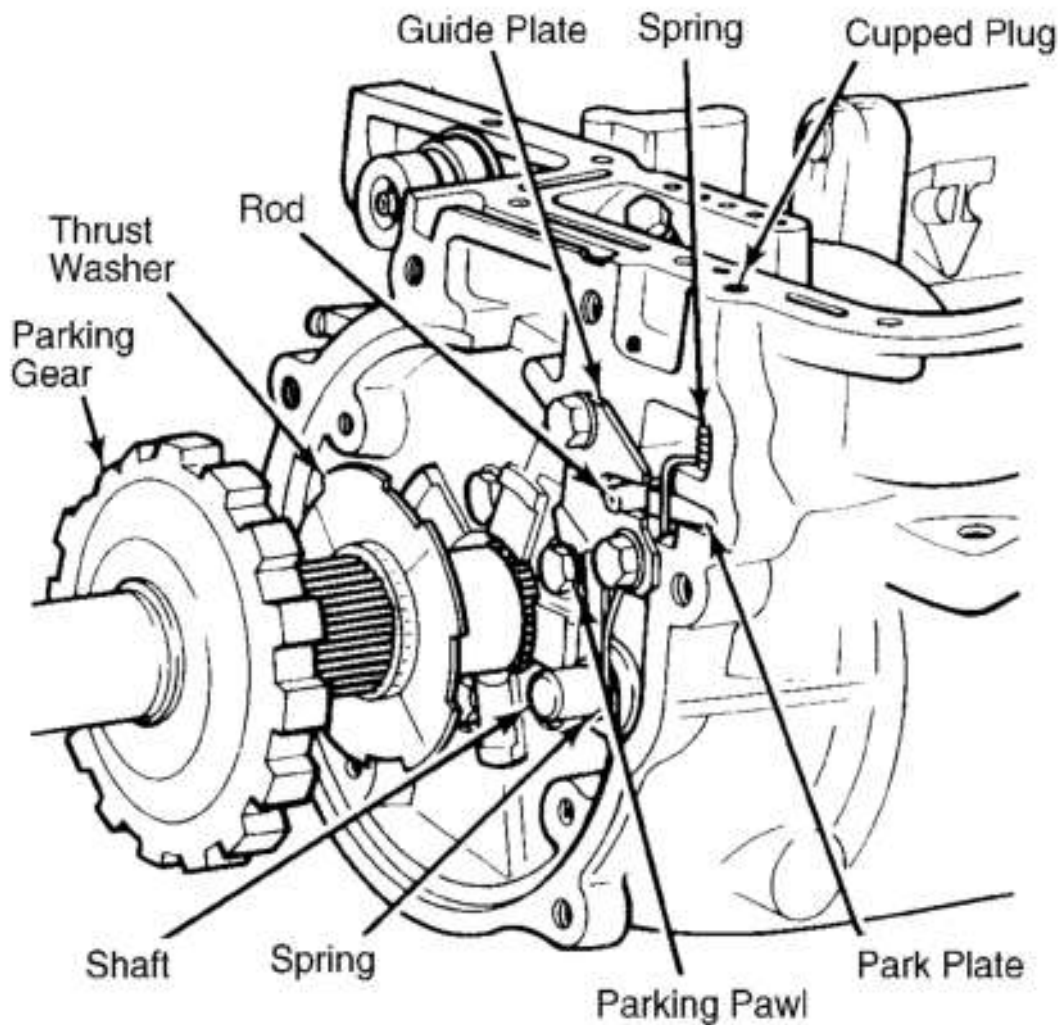
PARKING PAWL LINKAGE

Disassembly

1. Remove bolts retaining parking pawl guide plate in case. Remove plate. Remove spring, parking pawl and shaft from case. See **Fig. 14.**
2. Working from pan mounting surface, drill a 1/8" hole through center of cupped plug. Pull plug from case with a wire hook.
3. Unhook end of spring from park plate slot. Thread a 1/4"-20 x 1 1/4" screw into park plate shaft. Pull shaft from case with screw. Remove spring and park plate.

Reassembly

1. Position spring and park plate in case, and install shaft. Place end of spring into slot of park plate. Install a new cupped plug to retain shaft. Install parking pawl shaft in case.
2. Slip parking pawl and spring into place on shaft. Position guide plate on case. Ensure actuating rod is seated in slot of plate. Secure plate with 2 bolts and lock washers.



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Fig. 14: Identifying Parking Pawl Linkage

Courtesy of FORD MOTOR CO.

SERVO APPLY LEVER

Disassembly

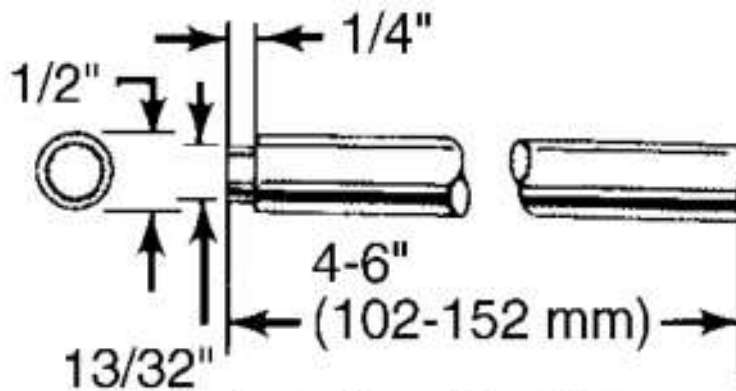
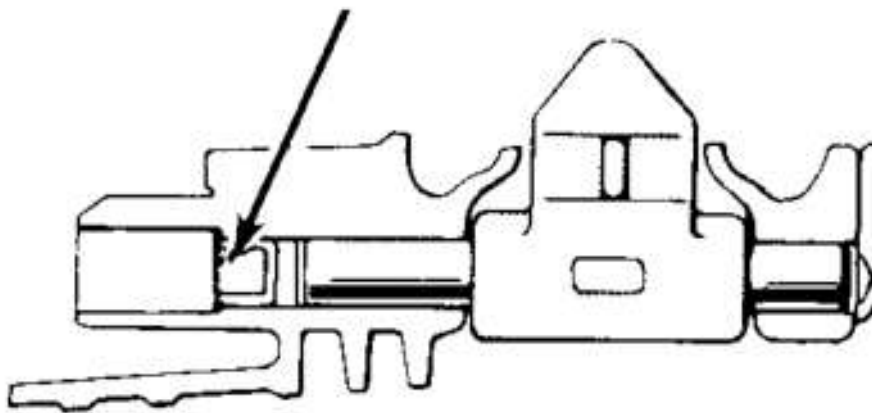
Working from inside case, carefully tap servo apply lever shaft to remove the cup plug. Shaft can be withdrawn by hand.

NOTE: Cup plug should be coated with Loctite to prevent leakage.

Reassembly

Hold servo apply lever in position and install shaft. Using fabricated tool, drive cup plug into position in case. See **Fig. 15**. Ensure plug is flush with shoulder of counterbore.

Install Cup Plug Flush With
Shoulder Of Counterbore



Installing Tool Made
From 1/2" Diameter Drill Rod

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Fig. 15: Installing Servo Apply Lever Cup Plug
Courtesy of FORD MOTOR CO.

VALVE BODY

Disassembly

1. Remove 9 screws retaining screen-to-lower valve body and remove screen and gasket. See [Fig. 2](#). Remove 5 upper-to-lower valve body and hold-down plate retaining screws.
2. Remove 7 retaining screws from underside of lower valve body and separate bodies, removing separator plate and gasket. DO NOT lose check balls and springs. Remove the separator plate screen. See [Fig. 16](#).

NOTE: Valve body-to-screen gasket must be replaced when valve body is serviced.

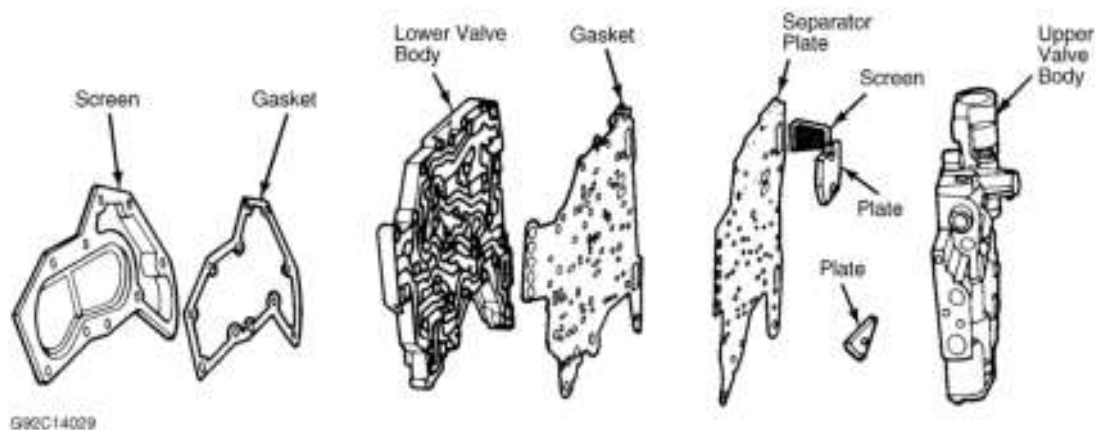


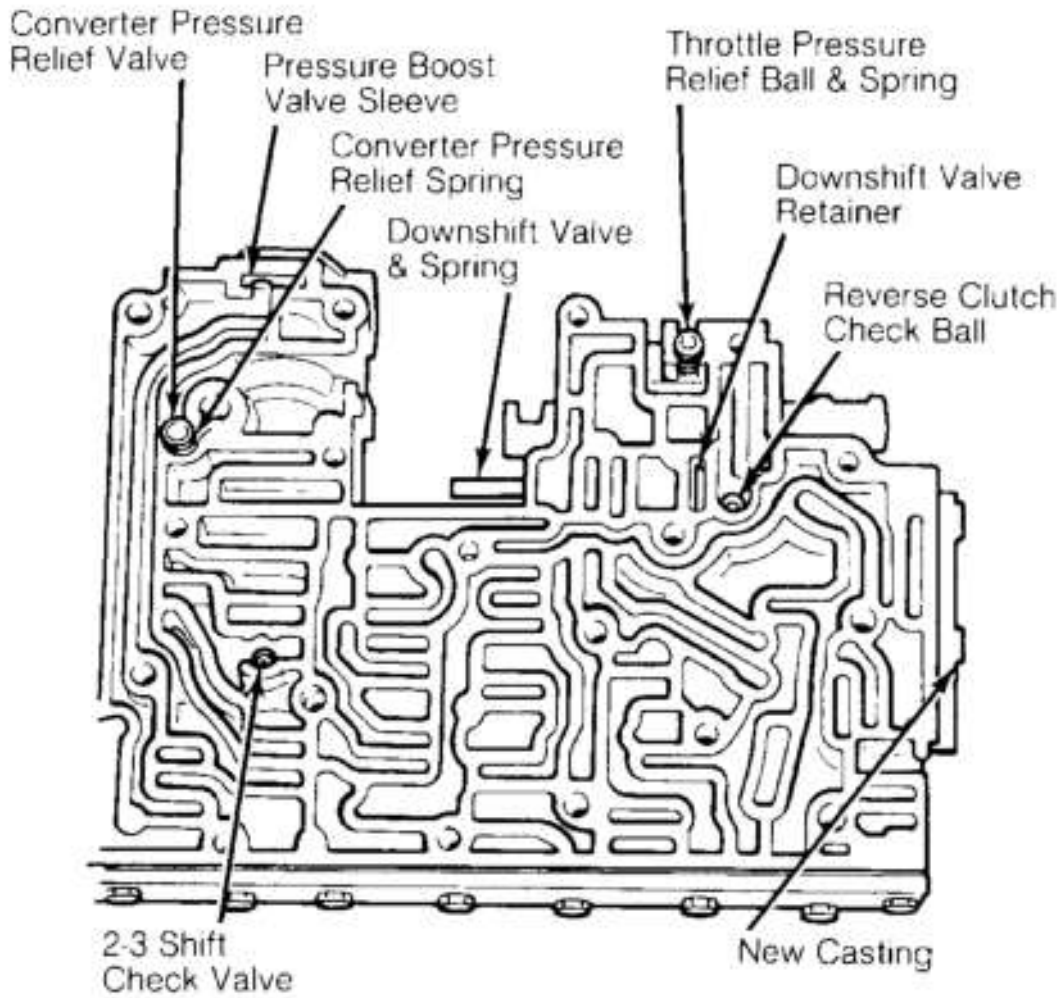
Fig. 16: Exploded View of Control Valve Body Assembly
Courtesy of FORD MOTOR CO.

3. Remove manual valve retaining pin from upper valve body. Slide manual valve out of valve body. Cover downshift valve port using finger, and remove downshift valve retainer. Remove spring and downshift valve. See **Fig. 18**.
4. Apply hand pressure to pressure boost valve sleeve and remove retaining clip from underside of valve body. Slowly release pressure and remove sleeve and pressure boost valve. Remove 2 springs, retainer and main regulator valve from bore.
5. Apply hand pressure to throttle boost valve plate and remove 2 retaining screws. Release pressure and remove plate, throttle boost valve, spring, manual low 2-1 scheduling valve and spring from bore.
6. Apply hand pressure on remaining valve body plate and remove 8 retaining screws. Hold valve body so plate faces upward.
7. Release hand pressure on plate and remove. Remove spring and intermediate servo modulator valve from body. Remove intermediate servo accumulator valve and springs.
8. Remove 2-3 backout valve and spring. Remove 2-3 shift valve, spring and throttle modulator valve. Remove 1-2 shift valve, DR-2 shift valve and spring. Remove coasting regulator valve and cutback valve from body.

CAUTION: For gasoline and Diesel applications, DO NOT interchange valve body repair kits or components. Cross-matching components may cause shift concerns.

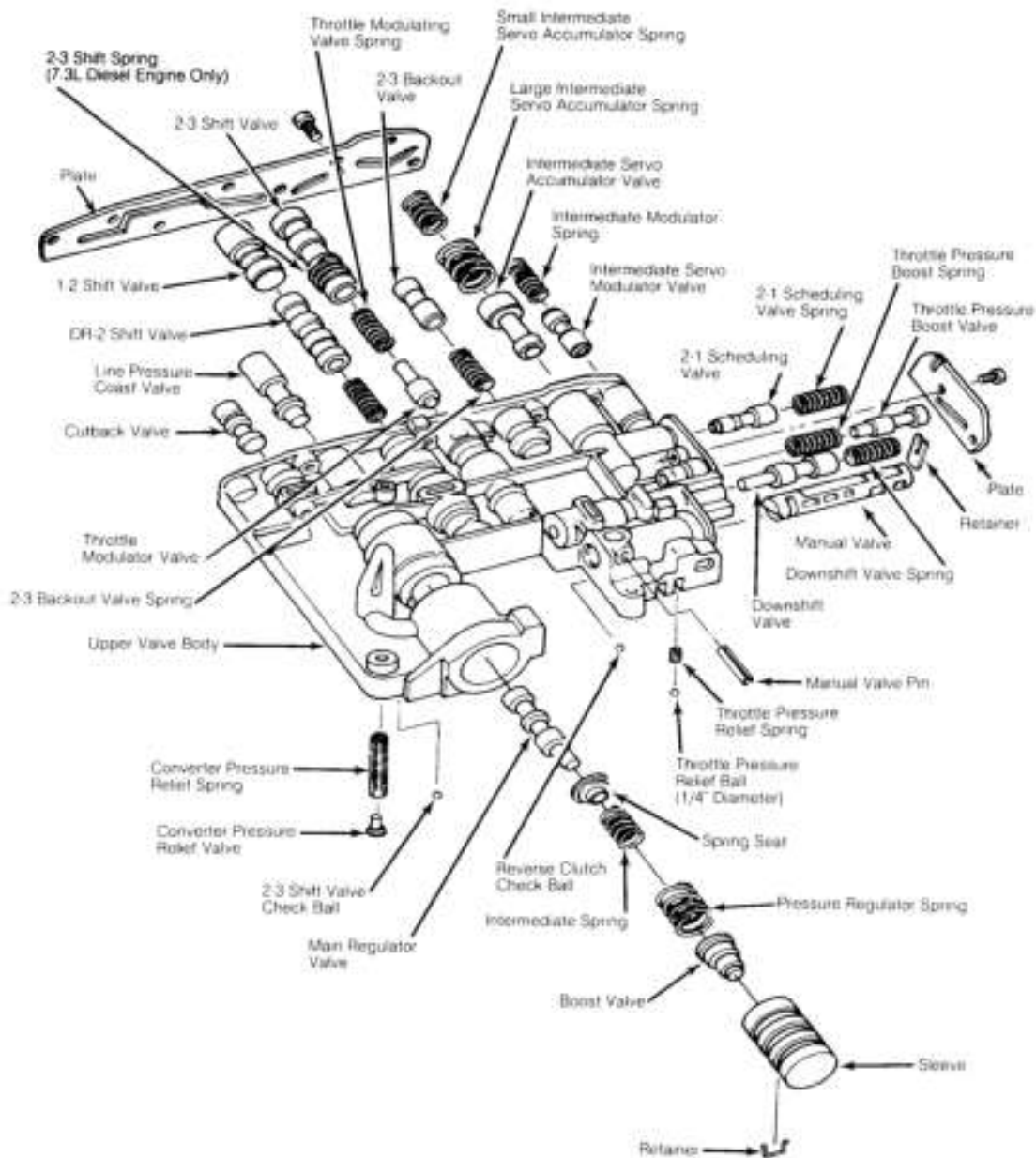
Reassembly

To reassemble, reverse disassembly procedure. Coat check balls with petroleum jelly to hold in place during reassembly. See **Fig. 17**. When installing screen in separator plate, ensure tabs are flush with separator plate surface. Tighten all bolts and screws evenly to specification. See **TORQUE SPECIFICATIONS**. See **Fig. 2**.



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Fig. 17: Identifying Valve Body Check Valves & Balls
 Courtesy of FORD MOTOR CO.



982P1400

Fig. 18: Exploded View of Upper Valve Body Assembly
 Courtesy of FORD MOTOR CO.

FRONT PUMP

Disassembly

Remove 2 seal rings and selective thrust washer. Remove large square cut seal from outside diameter of pump housing. Remove 5 bolts securing stator support to pump housing. Lift support from housing. Remove drive and driven gears from housing. See **Fig. 19**.

Pump Housing Bushing Replacement

Remove bushing from pump housing using a driver and hammer. Place new bushing into position. Ensure

half moon slot in bushing is on top and in line with oil lube hole near seal bore. Press bushing in .060-.080" (1.52-2.03 mm) below front face of bushing bore.

NOTE: After assembly, half moon slot must be aligned with lube hole to provide proper lubrication.

Reassembly

1. Install drive and driven gear into pump housing with identification mark or chamfered surface of each gear installed toward front of pump housing. Position stator support in pump housing. Install and tighten retaining bolts to specification. See **TORQUE SPECIFICATIONS**.
2. Carefully install 2 NEW seal rings on stator support. Ensure ends of rings are engaged to lock them in place. Install a NEW square cut seal on outside diameter of pump housing.
3. Install selective thrust washer. Place pump on torque converter. Ensure drive gear engages converter hub. Rotate pump to ensure gears rotate freely.

CAUTION: Different clutch assemblies are used in various models. When disassembling clutches, note number and location of plates used for reassembly reference.

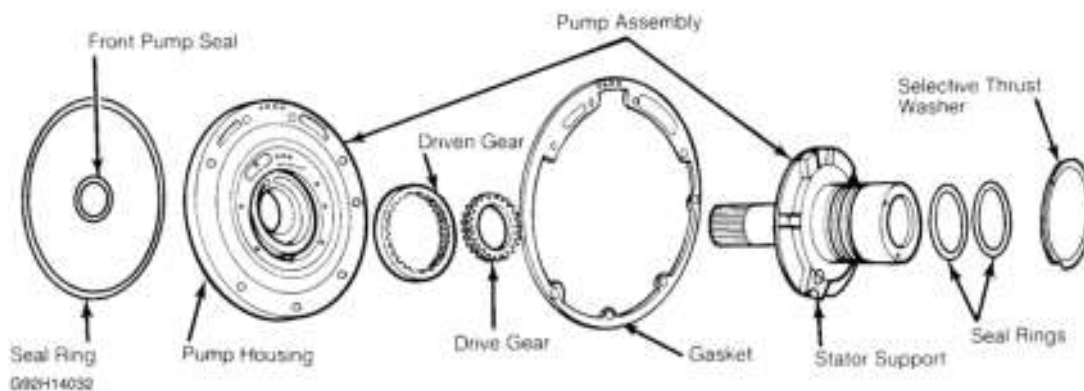


Fig. 19: Exploded View of Front Pump Assembly
Courtesy of FORD MOTOR CO.

REVERSE-HIGH CLUTCH

Disassembly

1. Remove pressure plate snap ring by prying up using screwdriver. Remove pressure, drive and driven plates. Using Clutch Spring Compressor (T65L-77515-A), compress piston return springs.
2. Remove snap ring, clutch spring compressor, spring retainer and springs. Apply air pressure to piston apply hole in drum and remove piston. Remove piston outer seal from piston and inner seal from clutch drum. See **Fig. 20**.

Bushing Replacement

To remove front bushing, use a cape chisel and cut along bushing seam until chisel breaks through bushing wall. Pry loose ends of bushing up to remove. Remove rear bushing using a press ram and bushing adapter.

Install bushings using bushing drivers.

Reassembly

1. Dip NEW seals in transmission fluid and install one seal on piston and one in drum. Install piston into clutch drum. Position return springs in pockets as shown. See **Fig. 21**. Place spring retainer over springs. Using compressor tool, compress spring and install snap ring. Ensure snap ring is sealed inside guides on spring retainer.
2. Install clutch plates alternately starting with a steel drive plate. If new clutch plates are being installed, friction plates must be soaked in transmission fluid for 15 minutes before installation.
3. See **CLUTCH PLATE CHART** under FORWARD CLUTCH for the number of clutch plates required. Install pressure plate and retaining snap ring.
4. Using a feeler gauge, measure clearance between pressure plate and snap ring. Hold pressure plate downward while measuring. Ensure clearance is .022-.036" (.56-.91 mm).
5. If clearance is not within specifications, replace selective snap ring to meet proper clearance. See **SELECTIVE SNAP RINGS**. Install correct thickness snap ring, and recheck clearance.

SELECTIVE SNAP RINGS

Part Number	(1) Thickness In. (mm)
377434	.058 (1.47)
377126	.067 (1.70)
377127	.076 (1.93)
377128	.085 (2.16)
377444	.094 (2.39)
386841	.112 (2.84)
386842	.130 (3.30)

(1) Snap ring thicknesses have .002" (.05 mm) tolerance.

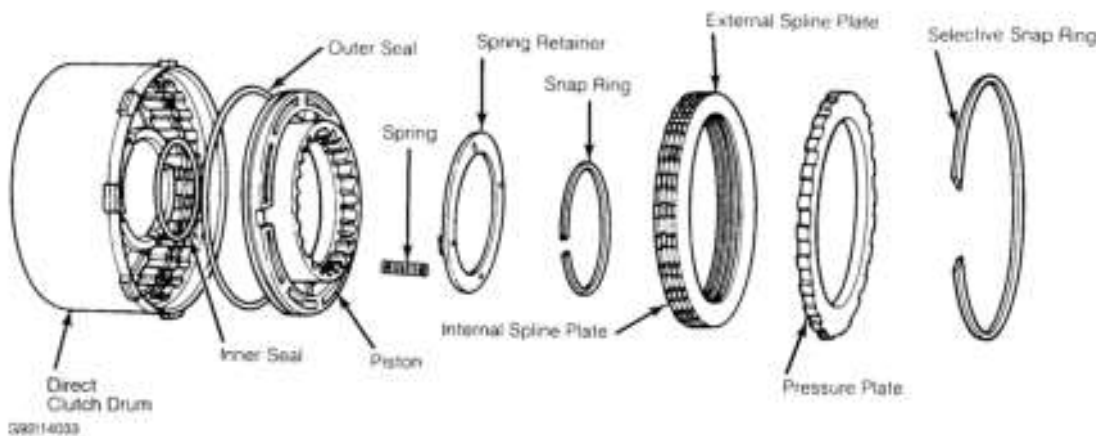


Fig. 20: Exploded View of Reverse-High Clutch Assembly
 Courtesy of FORD MOTOR CO.



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Fig. 21: Positioning Reverse-High Clutch Return Springs
Courtesy of FORD MOTOR CO.

FORWARD CLUTCH

Disassembly

1. Remove clutch pressure plate retaining snap ring. Remove rear pressure plate, internal and external plates, wave plate and forward pressure plate from clutch drum. See **Fig. 22**.
2. Remove snap ring securing disc spring in drum, and remove disc spring. Apply air pressure to clutch apply passage in drum, and remove piston. Remove seals from piston and drum.

Reassembly

1. Dip 2 NEW seals in transmission fluid. Install smaller seal on clutch hub and larger seal on piston.

Install clutch piston in cylinder.

2. Ensure steel pressure ring is in groove on piston. Place disc spring in clutch drum with dished face downward. Secure in place with retaining snap ring.

NOTE: If new friction plates are being installed, soak them in transmission fluid for 15 minutes prior to installation.

3. Install forward pressure plate with flat side up and beveled side downward. Dip clutch plates in transmission fluid.
4. Install wave plate. Install clutch plates starting with a steel plate, then a friction plate. Install remaining plates in this sequence. See **CLUTCH PLATE CHART** for the number of clutch plates required. Install pressure plate and retaining snap ring.

CLUTCH PLATE CHART

Application/Engine Size	Number Of Steel Plates	Number Of Friction Plates
Forward Clutch		
4.9L	(1) 3	3
5.0L	(1) 4	4
5.8L	(1) 4	4
7.3L Diesel	(1) 4	4
7.5L	(1) 4	4
Reverse-High Clutch		
4.9L	(1) 3	3
5.0L	(1) 3	4
5.8L	(1) 4	4
7.3L Diesel	(1) 4	4
7.5L	(1) 4	4
Low-Reverse Clutch		
4.9L	(1) 3	3
5.0L	(2) 4	4
5.8L	(2) 5	5
7.3L Diesel	(2) 5	5
7.5L	(2) 6	6
(1) Plus a wave plate next to inner pressure plate.		
(2) Plus a wave plate next to piston.		

5. Using a feeler gauge, measure clearance between snap ring and pressure plate. Hold pressure plate down while measuring. Ensure clearance is .021-.046" (.53-1.17 mm). If clearance is not within specifications, replace selective snap ring to meet proper clearance. See **SELECTIVE SNAP RINGS**. Install correct thickness snap ring and recheck clearance.

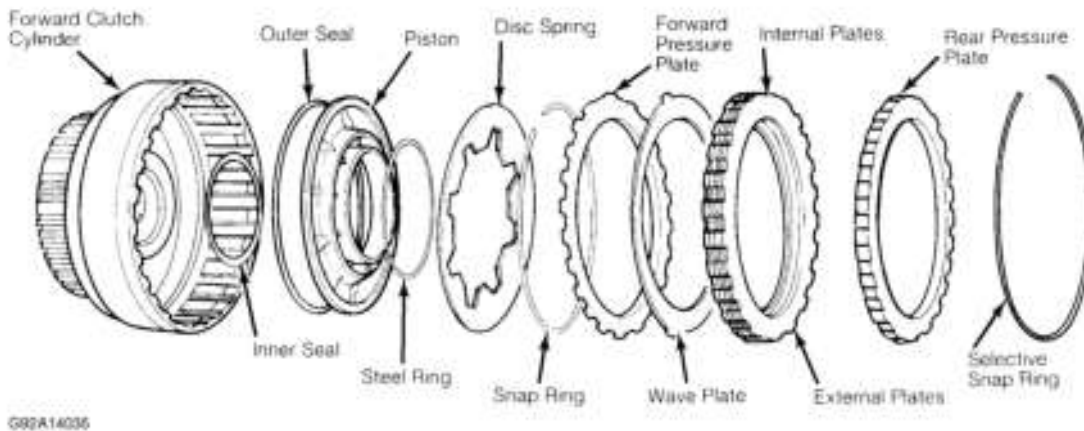


Fig. 22: Exploded View Of Forward Clutch Assembly
 Courtesy of FORD MOTOR CO.

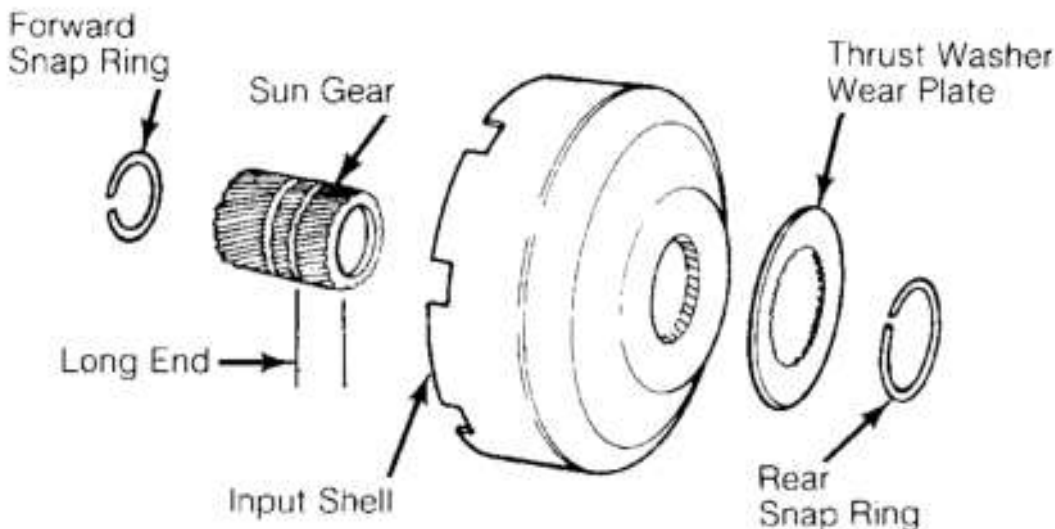
INPUT SHELL & SUN GEAR

Disassembly

Remove rear (external) snap ring from sun gear, and remove thrust washer from sun gear and input shell. Working inside input shell, remove sun gear. Remove forward (internal) snap ring from gear. See **Fig. 23**.

Reassembly

Install forward snap ring on short end of sun gear. Working inside input shell, slide sun gear and snap ring into place. Ensure longer end of gear is at rear. Place thrust washer on rear side of input shell. Install wear plate and rear snap ring.



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Fig. 23: Exploded View of Input Shell & Sun Gear
Courtesy of FORD MOTOR CO.

OUTPUT SHAFT HUB & RING GEAR

Disassembly & Reassembly

Remove hub retaining snap ring, and lift hub from ring gear. When installing, secure hub with retaining snap ring. Ensure snap ring is fully engaged in groove. See **Fig. 24**.

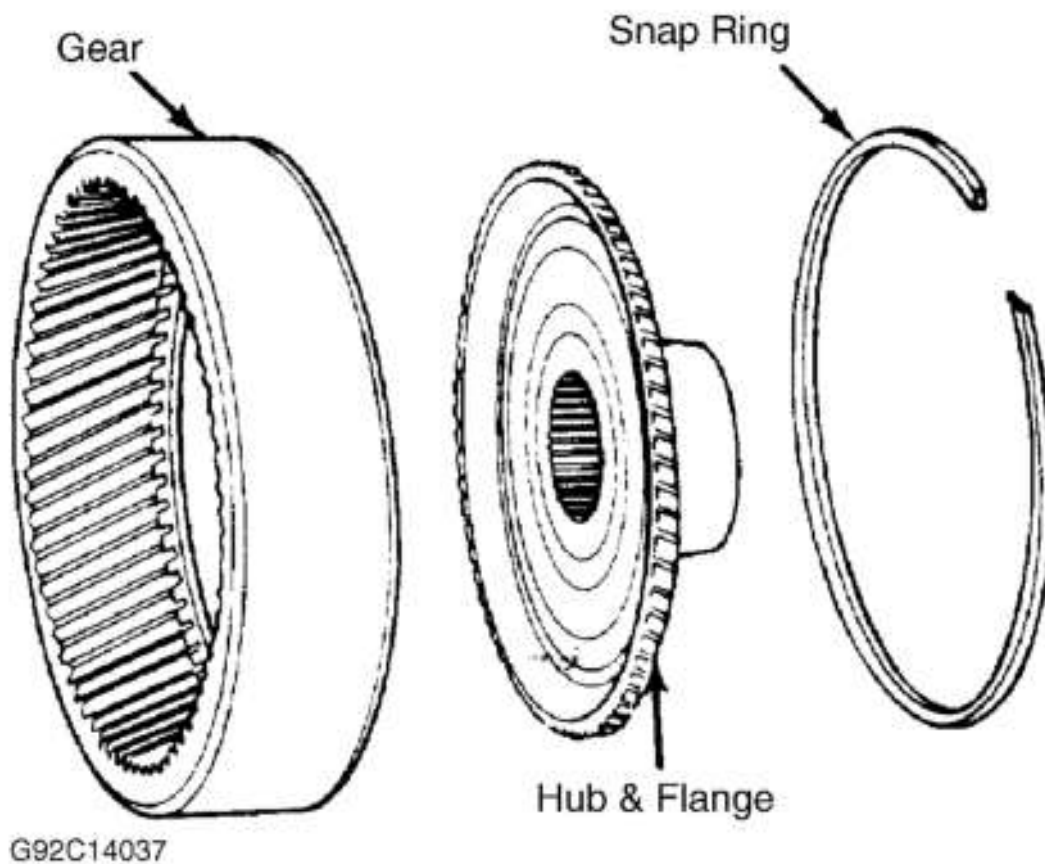


Fig. 24: Identifying Output Shaft Hub & Ring Gear Assembly
Courtesy of FORD MOTOR CO.

LOW-REVERSE ONE-WAY CLUTCH HUB

Disassembly

Remove snap ring and bushing from rear of low-reverse clutch hub. Remove rollers from spring assembly. Lift spring assembly from hub. Remove snap ring from hub. See **Fig. 25**.

Reassembly

1. Install snap ring in forward groove of low-reverse clutch hub. Place hub on bench with forward end

- down. Install clutch spring assembly on top of snap ring.
2. Install a roller into each spring assembly compartment. Install bushing on top of spring assembly. Install remaining snap ring at rear of clutch hub to secure assembly.

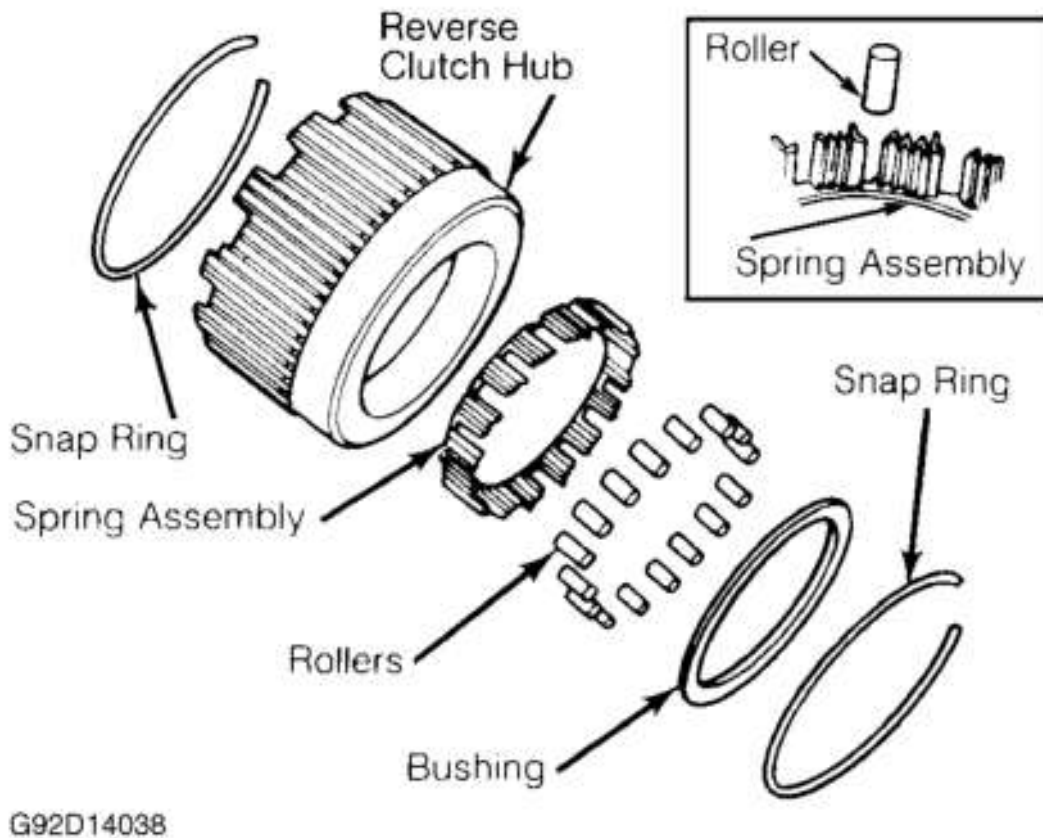


Fig. 25: Exploded View Of Low-Reverse One-Way Clutch Hub
 Courtesy of FORD MOTOR CO.

INTERMEDIATE SERVO

Disassembly

Apply air pressure to port in servo cover and remove piston assembly. Remove seal from cover.

NOTE: Piston and rod are serviced as an assembly. Replace if piston or sealing lip is damaged.

Reassembly

Dip new seal in transmission fluid, and install seal on cover. Dip piston assembly in transmission fluid, and install assembly in cover.

LOW-REVERSE CLUTCH PISTON

Clutch is assembled during transmission reassembly. Remove inner and outer seals from clutch piston. Dip NEW seals in transmission fluid and install on piston.

GOVERNOR

Disassembly

Remove governor retaining bolts and governor. Remove snap ring securing governor collector body to output shaft. Slide governor off front of shaft. Remove seal rings from collector body. See **Fig. 26**.

CAUTION: Diesel governor is NOT interchangeable with gasoline application models.

Reassembly

1. Carefully install NEW seal rings on collector body. Working from front end of output shaft, slide collector body into place on shaft.
2. Secure in place with snap ring. Ensure snap ring is fully seated in groove. Position governor on collector body. Install and tighten retaining screws to specification. See **TORQUE SPECIFICATIONS**.

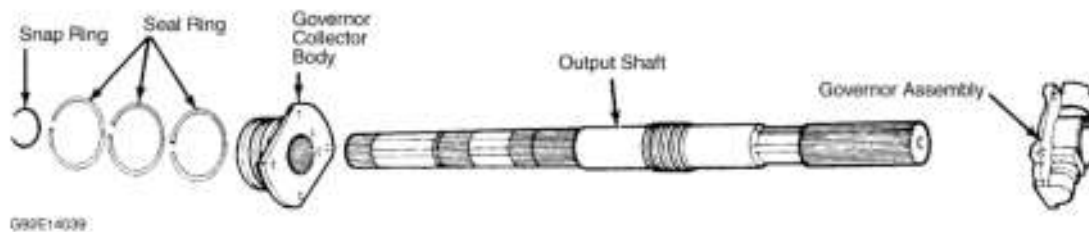


Fig. 26: Exploded View Of Output Shaft & Governor Assembly
Courtesy of FORD MOTOR CO.