

COMPONENT DISASSEMBLY & REASSEMBLY

NOTE: Exploded views of internal parts, thrust washer and needle bearing locations can be found in Fig. 30-Fig. 33

COAST CLUTCH CYLINDER ASSEMBLY

NOTE: All models use 2 steel and 2 friction plates on coast clutch cylinder assembly.

Disassembly

1. Remove sun gear. Remove retaining ring and discard. Remove pressure and clutch plates, and tag for reassembly. Using Spring Compressor (T65L-77515-A), remove return spring retaining ring. Remove tool.
2. Remove piston, return spring and apply plate. See Fig. 13. Remove piston from coast clutch cylinder. Remove outer seal from piston. Remove inner seal from cylinder.

Inspection

Inspect all parts for wear, damage and effects of overheating. Inspect body for damage and wear. Replace as necessary.

Reassembly

1. Apply transmission fluid to "O" rings before installing. Soak all friction plates in ATF for 15 minutes before installing.
2. Install inner and outer seals with lips facing down in cylinder and piston respectively.
3. Install piston, piston apply plate and piston return spring. Use spring compressor and compress springs. Install retaining ring. Carefully remove spring compressor.
4. Install a steel plate and then a friction plate; alternately install remaining clutch pack. See Fig. 13. Install pressure plate and secure pack with retaining ring.
5. Using a feeler gauge, check clearance between retaining ring and pressure plate. Ensure clearance is .025-.045" (.62-1.14 mm). If not within specifications, selective snap rings are available in various sizes. See COAST CLUTCH CYLINDER SELECTIVE SNAP RINGS.
6. Install correct size snap ring and recheck clearance. Install overdrive sun gear assembly with short end down into cylinder.

COAST CLUTCH CYLINDER SELECTIVE SNAP RINGS

Part No.	(1) Thickness: In. (mm)
E9TZ-7D483-A	.055 (1.40)
E9TZ-7D483-B	.071 (1.80)
E9TZ-7D483-C	.086 (2.18)

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

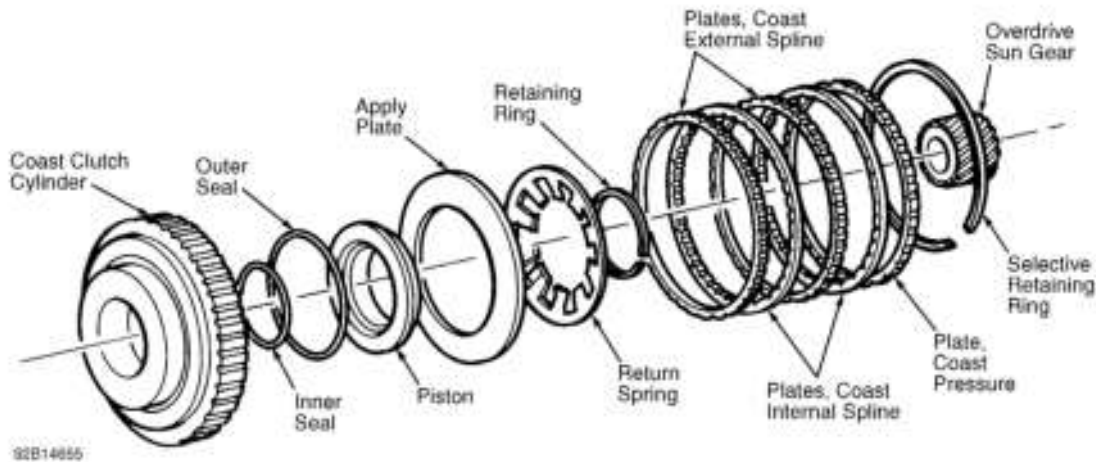


Fig. 13: Exploded View Of Coast Clutch Cylinder Assembly
 Courtesy of FORD MOTOR CO.

OVERDRIVE RING GEAR & CENTER SHAFT ASSEMBLY

Disassembly

1. Remove outer race-to-ring gear retaining ring. Remove one way clutch assembly with inner and outer races. Remove one way clutch assembly with inner race from outer race. See **Fig. 14**.
2. Remove inner race from one way clutch assembly. Remove thrust washer from front of overdrive planet assembly. Remove overdrive planet assembly from ring gear assembly.
3. Remove needle bearing assembly from rear of overdrive planet assembly. Remove center shaft to-ring gear retaining ring and center shaft from ring gear.

Reassembly

To reassemble, reverse disassembly procedure. Ensure thrust washers and needle bearings are installed in their original locations. Place thick end cap on top of one-way clutch. Place thin end cap onto bottom of one-way clutch. Install clutch. Date code on outside of thick end cap must be visible.

NOTE: Inner race MUST rotate counterclockwise.

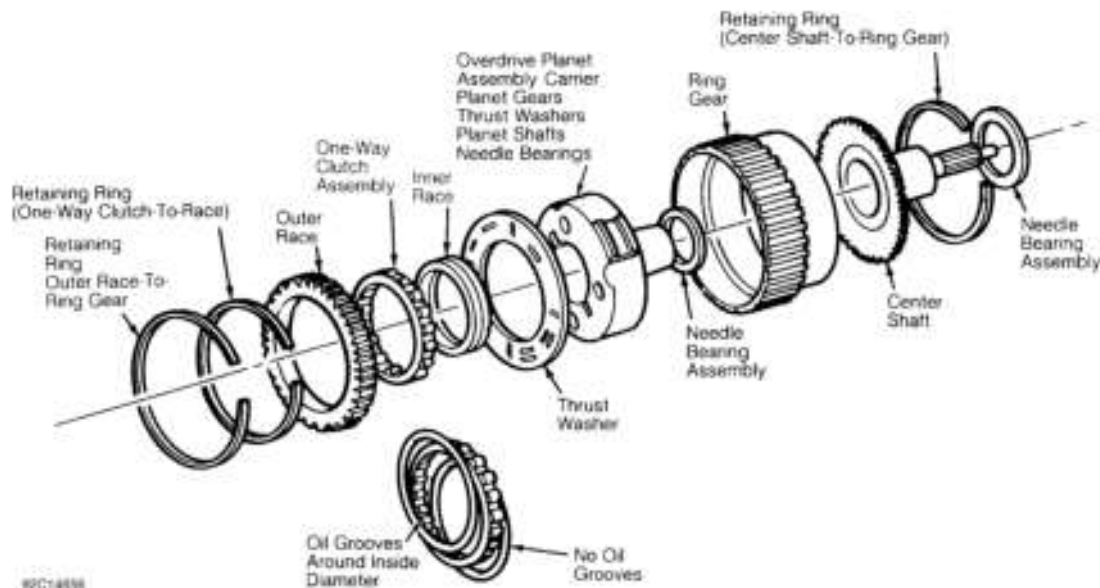


Fig. 14: Exploded View Of Overdrive Ring Gear & Center Shaft
 Courtesy of FORD MOTOR CO.

INTERMEDIATE/OVERDRIVE CYLINDER ASSEMBLY

Disassembly

1. Using spring compressor tool assembly, compress overdrive return spring. Remove retaining ring. Remove compressor tool assembly. Remove return spring.
2. Remove overdrive piston. Remove outer and inner seals and intermediate piston. See **Fig. 15**. Remove intermediate-overdrive inner seal from cylinder bore. Remove outer seal from intermediate piston. Remove 2 cast iron outer seal rings from center support.
3. Remove plastic thrust washer from front face of forward hub and ring gear. Using a screwdriver remove retaining ring. Remove forward hub from ring gear.

Reassembly

To reassemble, reverse disassembly procedure. Outer and inner seals are installed with lips facing down toward cylinder. Return spring fingers face up. Ensure plastic thrust washer is installed in correct location.

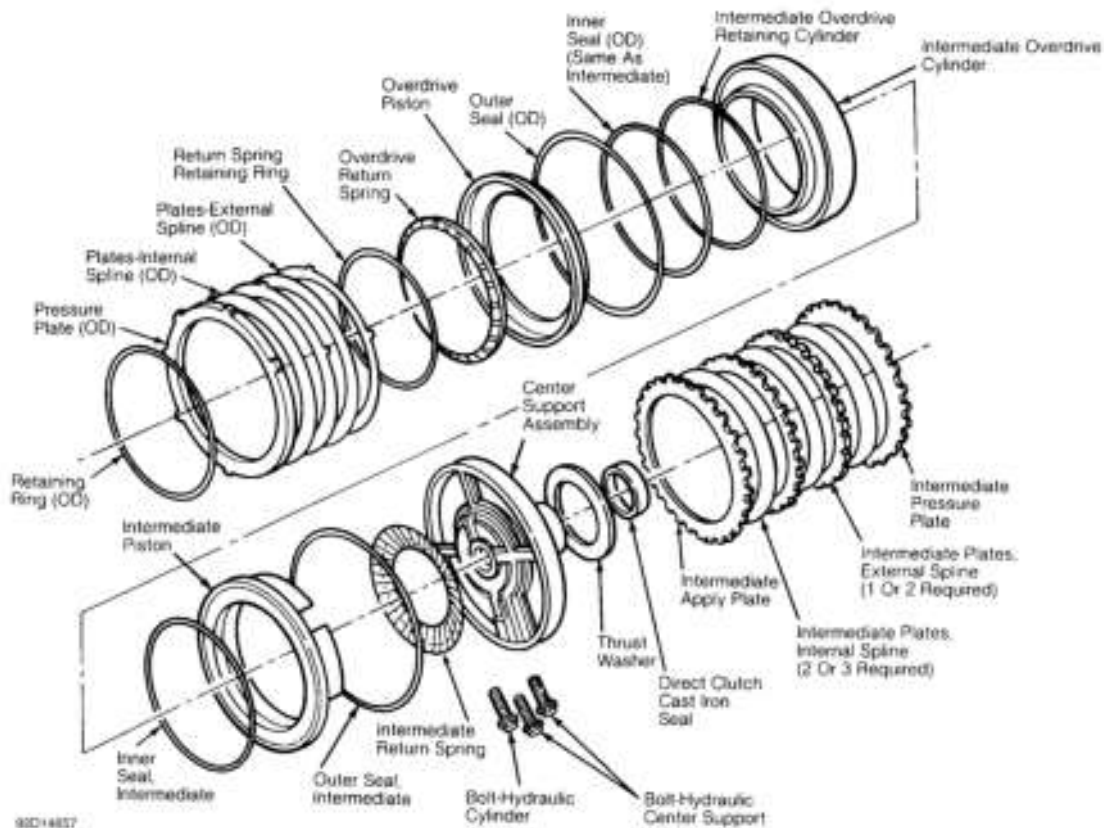


Fig. 15: Exploded View Of Intermediate-Overdrive Cylinder
 Courtesy of FORD MOTOR CO.

INTERMEDIATE BRAKE DRUM

Disassembly

1. Remove outer race, one-way clutch and top end cap. Remove large brass thrust washer from rear face of cylinder. Remove small brass thrust washer from front face of cylinder. See **Fig. 16**.
2. Using a screwdriver, remove retaining ring. Remove pressure plate and clutch pack. Tag for reassembly.
3. Install Spring Compressor (T65L-77515-A). Remove return spring retainer ring and return spring. Remove piston from intermediate brake drum. Remove inner and outer seals from drum.

Reassembly

1. Install inner seal in cylinder with groove facing into cylinder. Install outer seal in intermediate brake drum with groove facing down. Inspect piston check ball for freedom of movement. Install piston into drum.
2. Install return spring. Use spring compressor and compress springs. Install retaining ring. Ensure protrusions on spring retainer are properly engaged with lugs on clutch piston.
3. Install clutch pack, first using a steel plate and then a friction plate. Install pressure plate and secure pack with selective retaining ring.
4. Using a feeler gauge, check clearance between retaining ring and pressure plate. Ensure clearance is .045-.060" (1.15-1.52 mm) for 4-plate clutch or .030-.045" (.76-1.15 mm) for 3-plate clutch.

- If not within specifications, snap rings are available in various sizes. See **INTERMEDIATE BRAKE DRUM SELECTIVE SNAP RINGS**. Install correct size snap ring and recheck clearance.
- Install small brass thrust washer and large brass thrust washer on face of cylinder. Install intermediate one-way clutch end cap, one-way clutch assembly, and bottom end cap into outer race. Lip faces upward on one-way clutch. Install outer race and one-way clutch assembly onto inner race to ensure race turns counterclockwise.

INTERMEDIATE BRAKE DRUM SELECTIVE SNAP RINGS

Part No.	(1) Thickness: In. (mm)
E9TZ-7D483-D	.059 (1.50)
E9TZ-7D483-E	.079 (2.01)
E9TZ-7D483-F	.100 (2.54)

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

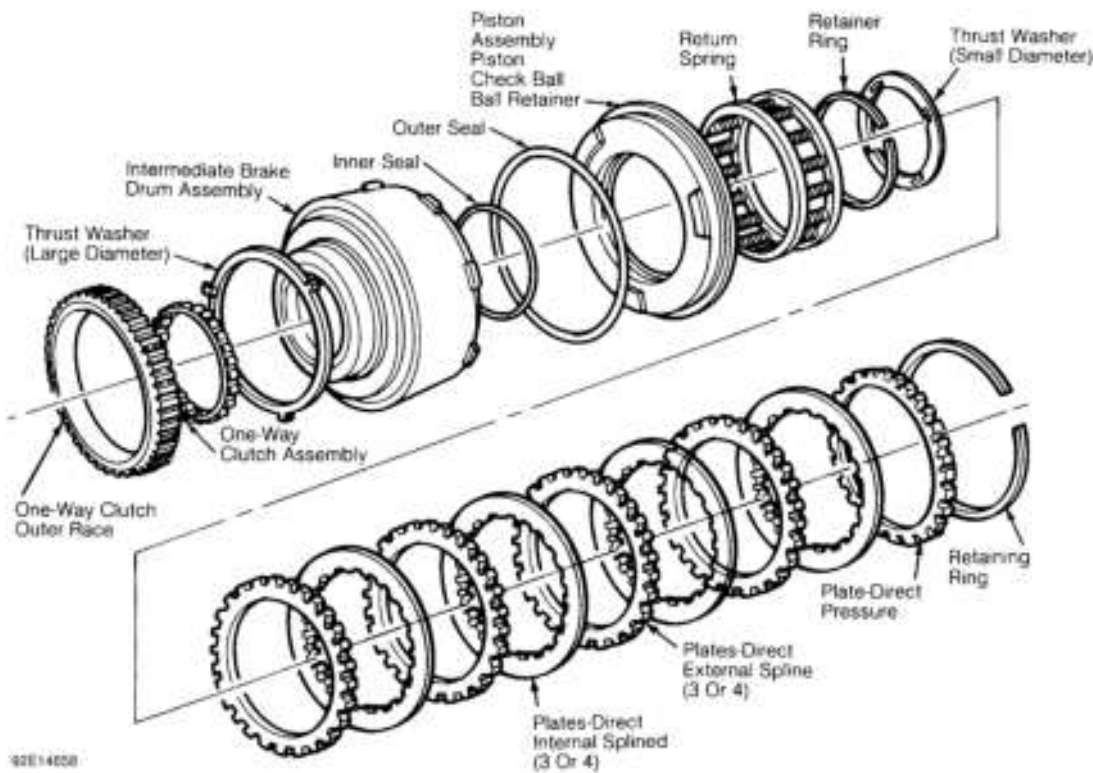


Fig. 16: Exploded View Of Intermediate Brake Drum
 Courtesy of FORD MOTOR CO.

FORWARD CLUTCH ASSEMBLY

Disassembly

- Remove needle bearing and both Teflon seal rings. Remove retaining ring and rear pressure plate. Remove 3 or 4 plate clutch pack (depending on model), cushion spring and forward pressure plate. Tag for reassembly.
- Remove spring retainer and piston return spring. Remove steel ring from piston groove. Remove

cylinder piston with compressor.

Reassembly

1. Install inner seal in cylinder and outer seal on cylinder piston. Inspect piston check ball for freedom of movement. Using Lip Seal Protector (T77L-7754A), install piston into cylinder. Install steel ring into groove on piston. Install piston return spring with fingers against piston and steel ring. Install spring retainer.
2. Install rear pressure plate and cushion spring. Install 3 or 4 steel plates, and 3 or 4 friction plates (depending on model). Alternately install a steel plate and then a friction plate. See **Fig. 17**. Install forward pressure plate and secure pack with retaining ring.
3. Using a feeler gauge, check clearance between selective retaining ring and pressure plate. Ensure clearance is .030-.055" (.76-1.40 mm). If not within specifications, selective snap rings are available in various sizes. See **FORWARD CLUTCH SELECTIVE SNAP RINGS**. Install correct size snap ring and recheck clearance.
4. Install 2 Teflon seal rings, ensuring scarf cuts at ring ends are aligned properly. Install needle bearing over Teflon seal hub. Install needle bearing assembly on inner face of cylinder with notched inner race facing outward.

FORWARD CLUTCH SELECTIVE SNAP RINGS

Part No.	(1) Thickness: In. (mm)
377127-S	.058 (1.47)
377437-S	.076 (1.93)
377444-S	.094 (2.39)
386841-S	.112 (2.84)
386842-S	.130 (3.30)

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

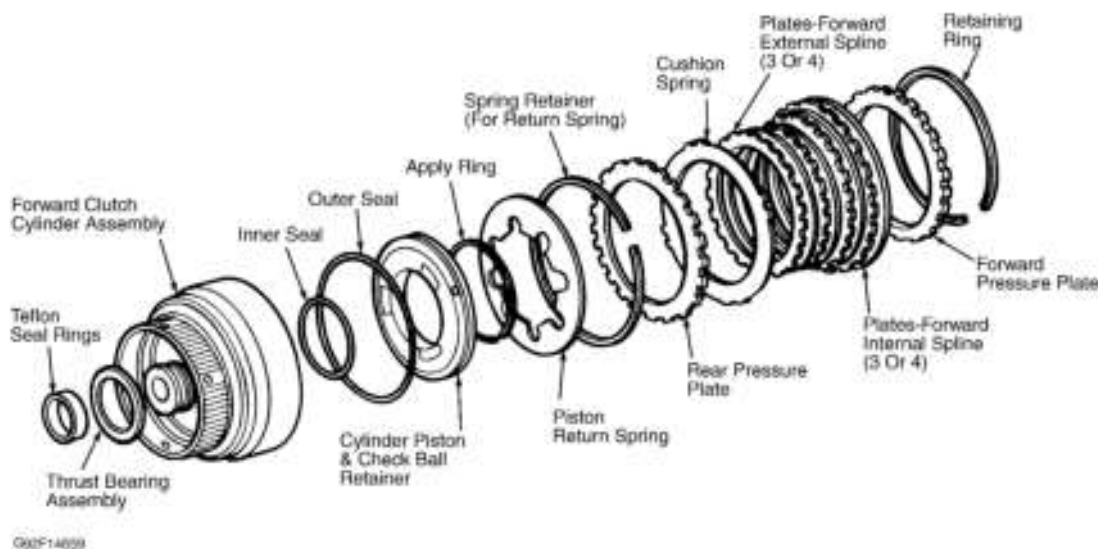


Fig. 17: Exploded View Of Forward Clutch
 Courtesy of FORD MOTOR CO.

FORWARD PLANET ASSEMBLY

Disassembly

Remove needle bearing assembly. See [Fig. 18](#). Remove thrust washer from front of planet assembly.

Reassembly

To reassemble, reverse disassembly procedure.

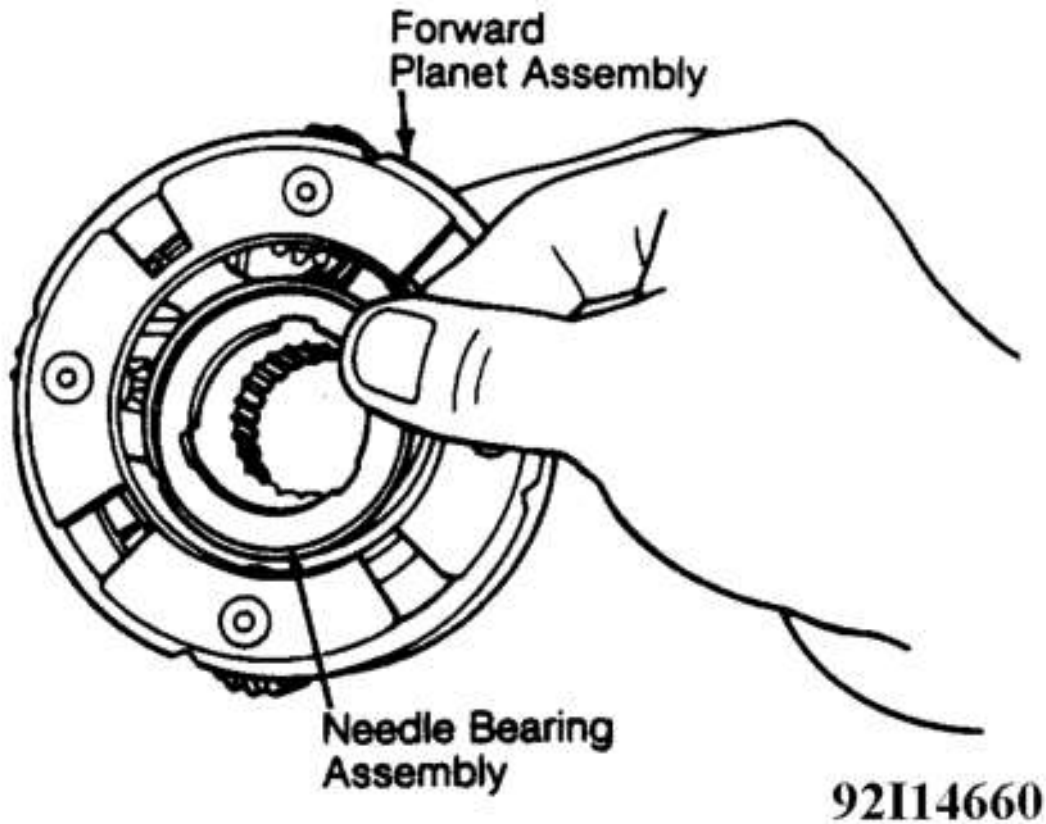


Fig. 18: Removing Forward Planet
Courtesy of FORD MOTOR CO.

INPUT SHELL

Disassembly

Remove retaining ring from reverse sun gear. See [Fig. 19](#). Remove thrust washer from input shell. Remove reverse sun gear.

Reassembly

To reassemble, reverse disassembly procedure. Install reverse sun gear into input shell with lube hole in sun

gear between stand-off pads on shell.

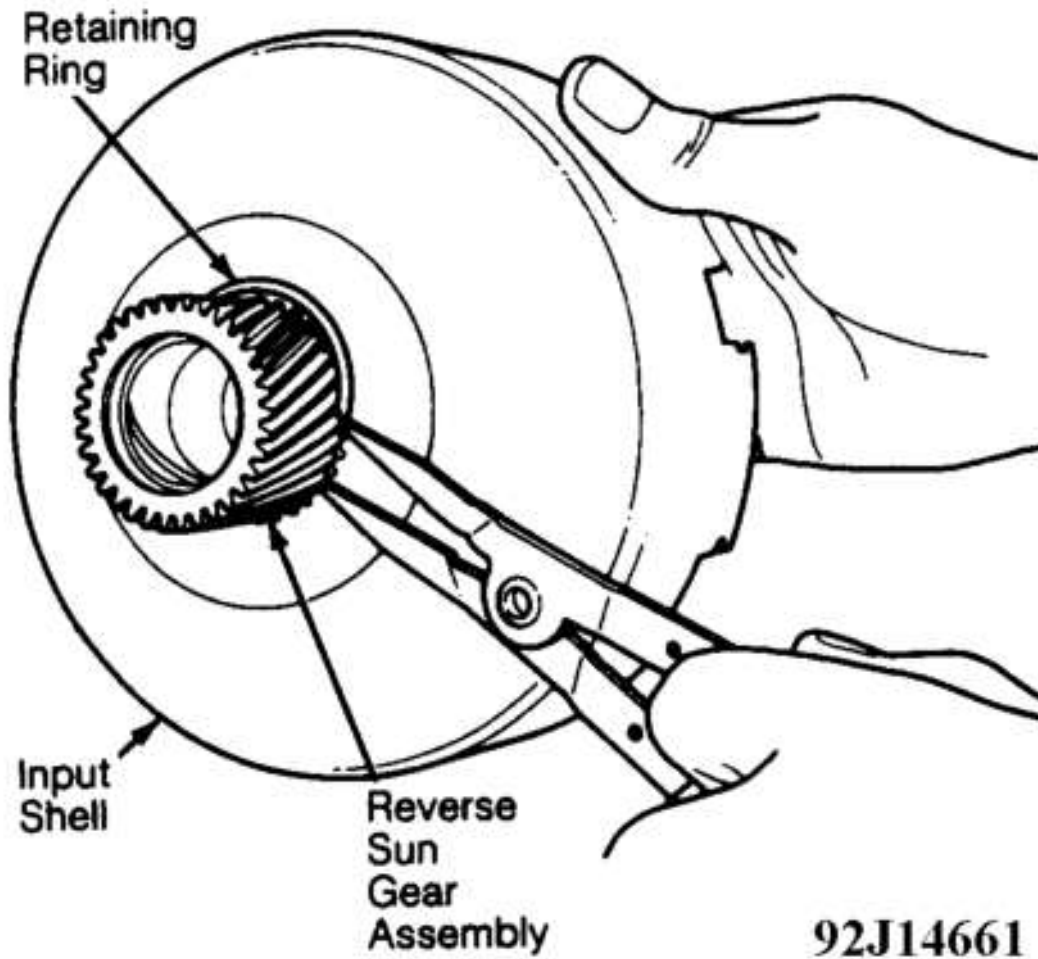


Fig. 19: Removing Input Shell
Courtesy of FORD MOTOR CO.

REVERSE PLANET ASSEMBLY

Disassembly

Remove rear and front thrust washer. See **Fig. 20**.

Reassembly

To reassemble, reverse disassembly procedure.

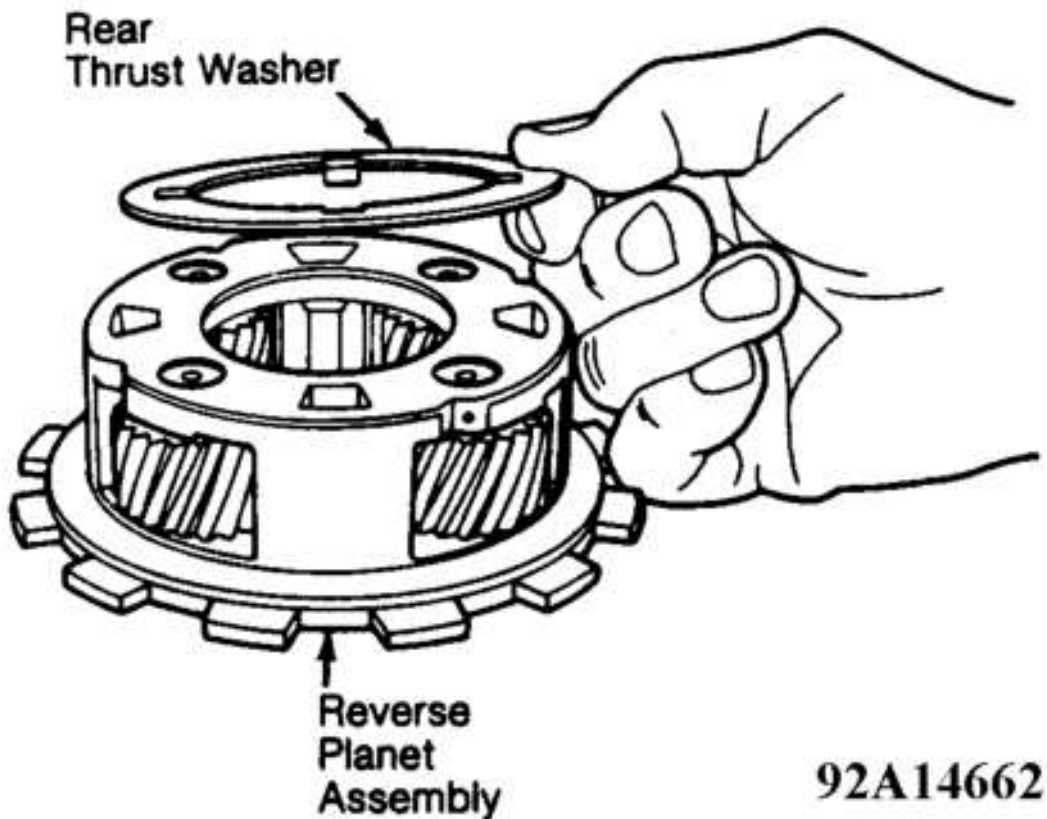


Fig. 20: Removing Reverse Planet Assembly
Courtesy of FORD MOTOR CO.

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. 21**.

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.

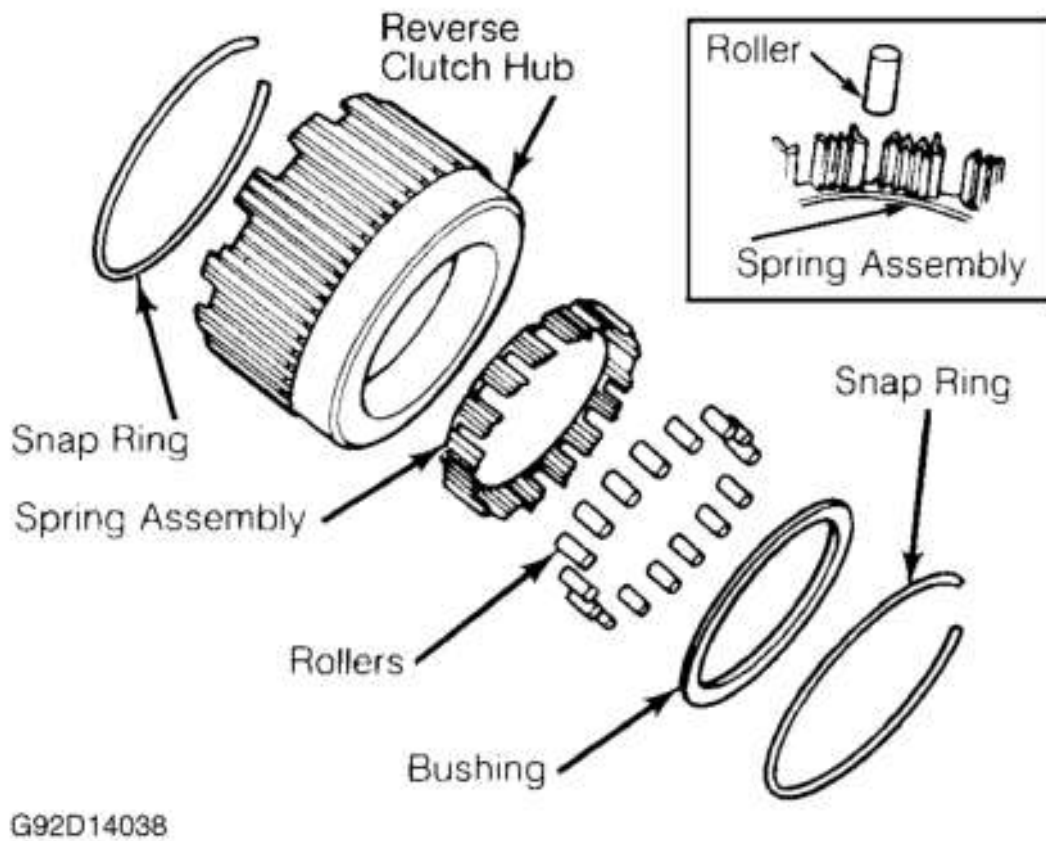


Fig. 21: Exploded View Of Low-Reverse One-Way Clutch Hub
 Courtesy of FORD MOTOR CO.

REVERSE CLUTCH PISTON

Disassembly & Reassembly

Remove outer and inner piston seals. See **Fig. 22**. Install inner and outer piston seals.

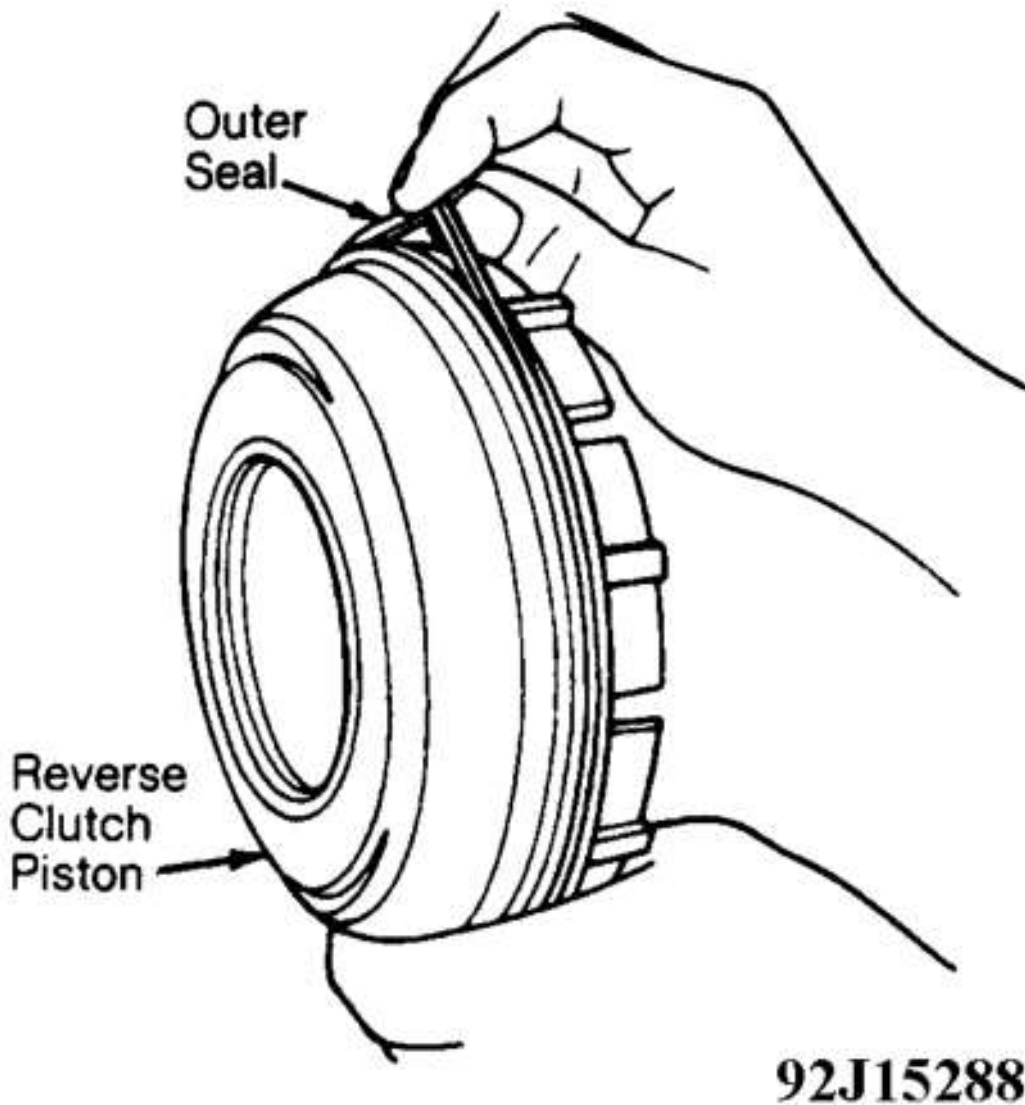


Fig. 22: Removing Reverse Clutch Piston Seals
Courtesy of FORD MOTOR CO.

EXTENSION HOUSING

Disassembly

Remove extension seal, using appropriate seal remover. Use Extension Housing Bushing Remover (T77L-7679-D) to remove extension housing bushing.

Reassembly

1. Inspect extension housing bushing bore for burrs. Remove burrs with an oil stone, as necessary. Install extension housing bushing, aligning lubrication slot at 6 o'clock position. See **Fig. 2**.

2. Install extension housing seal, aligning drain hole at 6 o'clock position. Ensure seal is seated against extension housing.

PUMP ASSEMBLY

Disassembly

1. Remove coast clutch and converter clutch seals from stator support. Remove large square cut seal from outside diameter of pump housing. Using internal puller, remove converter hub seal from pump body.
2. Remove 11 pump control-to-pump body bolts. Separate pump control body from pump body. Apply pressure to main regulator booster sleeve. Remove internal retaining ring. Remove main regulator valve train.
3. Apply pressure to end plug and remove retainer clip with small screwdriver or tweezers. Remove converter regulator valve and converter clutch valve. DO NOT remove any cup plugs unless damaged or leaking. See **Fig. 23**. Remove gerotor gear set from pump body.

NOTE: To prevent distortion of control body surface, DO NOT remove stator support from control body.

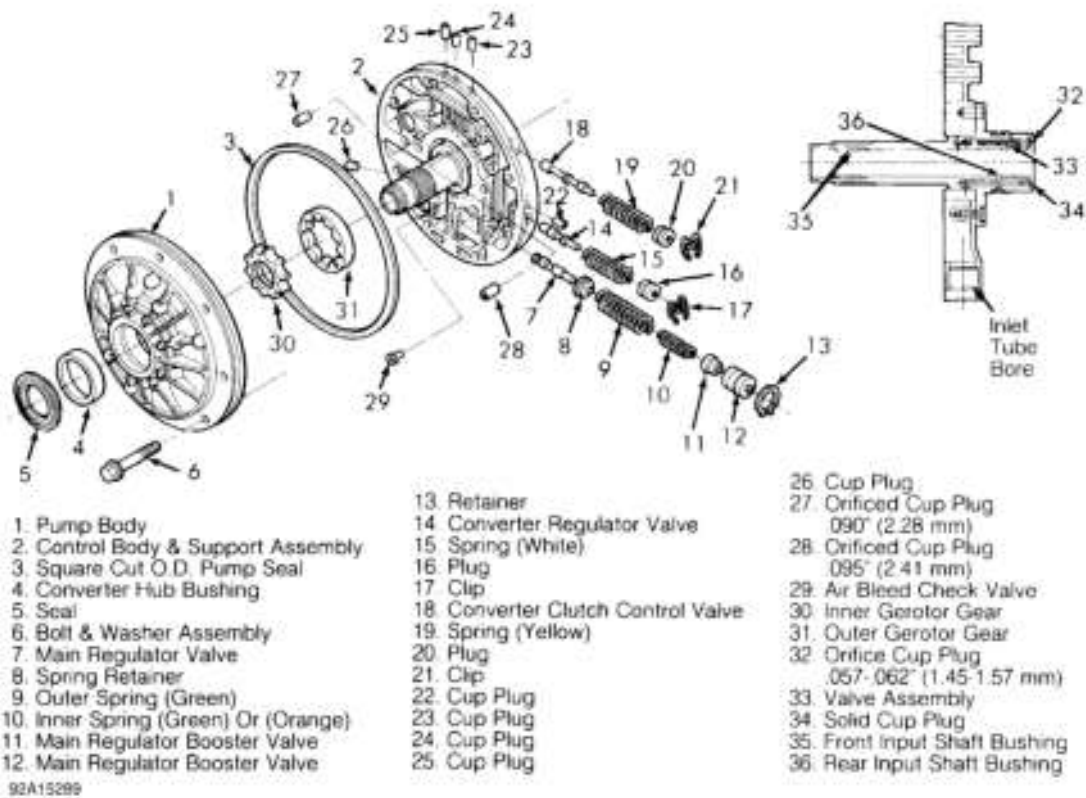


Fig. 23: Exploded View Of Pump Assembly
 Courtesy of FORD MOTOR CO.

Inspection

Thoroughly clean and inspect all components for damage, wear or scoring. Carefully check all teeth on

gears. Replace pump assembly if any part is damaged or worn. Inspect converter hub bushing. Replace if defective. Stake bushing at notches. Inspect stator input shaft bushings. Replace control body assembly if bushings are worn. If necessary, use crocus cloth to polish components. Use caution to avoid rounding sharp edges of valves and plugs. Replace defective parts.

Reassembly

1. Install main regulator valve. Apply pressure to booster sleeve and install internal retainer ring. Install converter shift and regulator valves. Lightly coat gerotor gears with transmission fluid and install in pump housing. Dot on inner gerotor gear faces control body.
2. Lower control body and stator into pump body. Align 28-mm round holes in control body and pump body.
3. Install 11 pump body bolts. Using Banding Tool (D89L-77000-A), align input shaft bushings to converter hub bushings. Tighten retaining bolts to specification. See **TORQUE SPECIFICATIONS**. Remove banding tool. Ensure outer edges of control body and pump body are completely aligned.
4. Install converter clutch lock-up seal on nose of stator support. Install coast clutch seal and converter lock-up seal on stator support. Install pump outer diameter seal. Lubricate seal with transmission fluid before installing pump into case.

CONTROL VALVE BODY

Disassembly

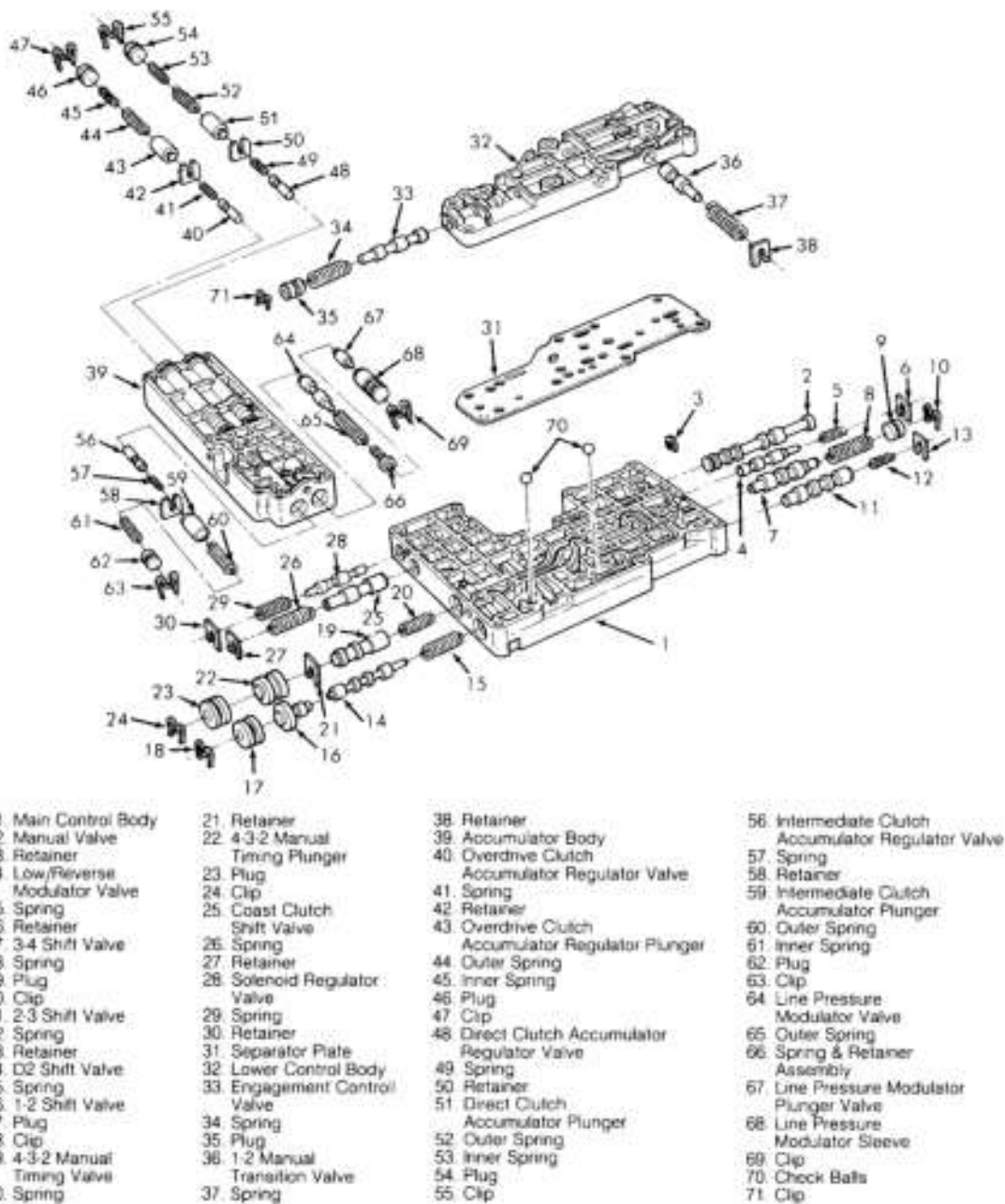
Disassemble valve body. See **VALVE BODY & INTERMEDIATE BAND SERVO** under ON-VEHICLE SERVICE. Remove all valves, plungers, plugs and springs from control valve and accumulator bodies. See **Fig. 24**.

Inspection

1. Clean all parts, except non-metallic check balls, thoroughly in clean solvent. Blow dry with compressed air.
2. Inspect all valve and plunger bores for scores. Check all fluid passages for obstructions. Inspect all mating surfaces for burrs and scores. If necessary, use crocus cloth to polish valves and plungers. Avoid rounding sharp edges of valves and plungers with crocus cloth.
3. Inspect all springs for distortion. Check all valves and plungers for free movement in their respective bores. Valves and plungers, when dry, should fall by their own weight in their respective bores. Roll manual valve on a flat surface to check for bending.

Reassembly

Install all valves, plungers, plugs and springs into control valve and accumulator bodies. See **Fig. 24**. To complete reassembly, reverse disassembly procedure. See **VALVE BODY & INTERMEDIATE BAND SERVO** under ON-VEHICLE SERVICE.



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Fig. 24: Exploded View Of Valve Body
 Courtesy of FORD MOTOR CO.

CLUTCH & DRUM SUBASSEMBLIES

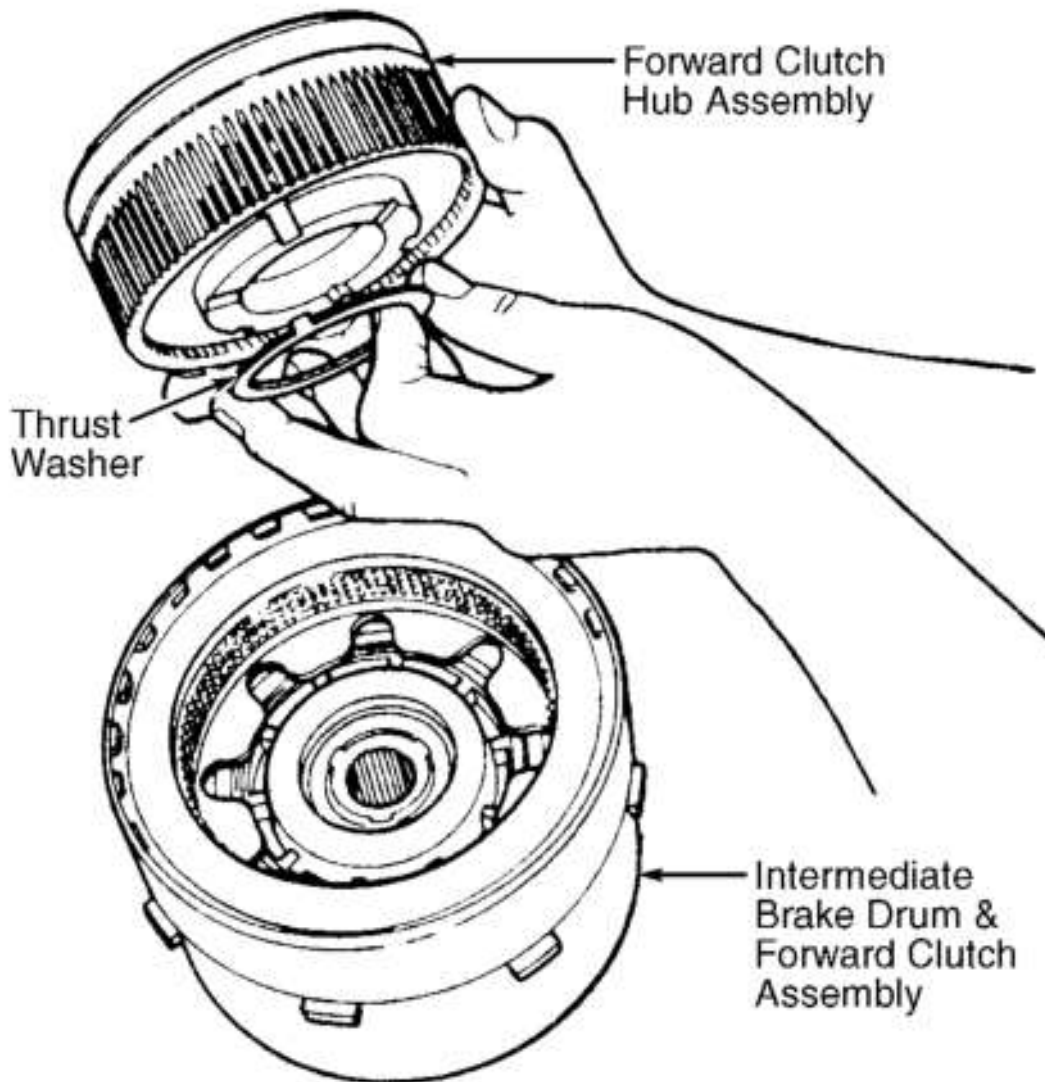
NOTE: Thrust washers and needle bearings should be lubricated with petroleum jelly during reassembly.

Reassembly

1. Install thrust washer on intermediate brake drum. Install forward clutch on intermediate brake drum and rotate until fully seated. Install needle bearing on intermediate brake drum and forward clutch

assembly. Ensure Black side of needle bearing is facing up.

2. Install thrust washer on forward clutch hub. See **Fig. 25**. Insert forward clutch hub into intermediate brake drum and forward clutch assemblies. Place thrust washer on forward planet assembly. Insert planet assembly into clutch assembly. Install needle bearing into forward planet assembly. Ensure Black side of needle bearing is facing up.
3. Align input shell notches with intermediate brake drum. Install input shell on assembly and rotate until fully seated. See **Fig. 26**. Install needle bearing into front end of forward clutch assembly. Install Intermediate Brake Drum, Forward Clutch and Input Shell Remover-Installer (T89T-70010-E) and proceed to **TRANSMISSION REASSEMBLY**.



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Fig. 25: Installing Thrust Washer On Forward Clutch Hub
Courtesy of FORD MOTOR CO.

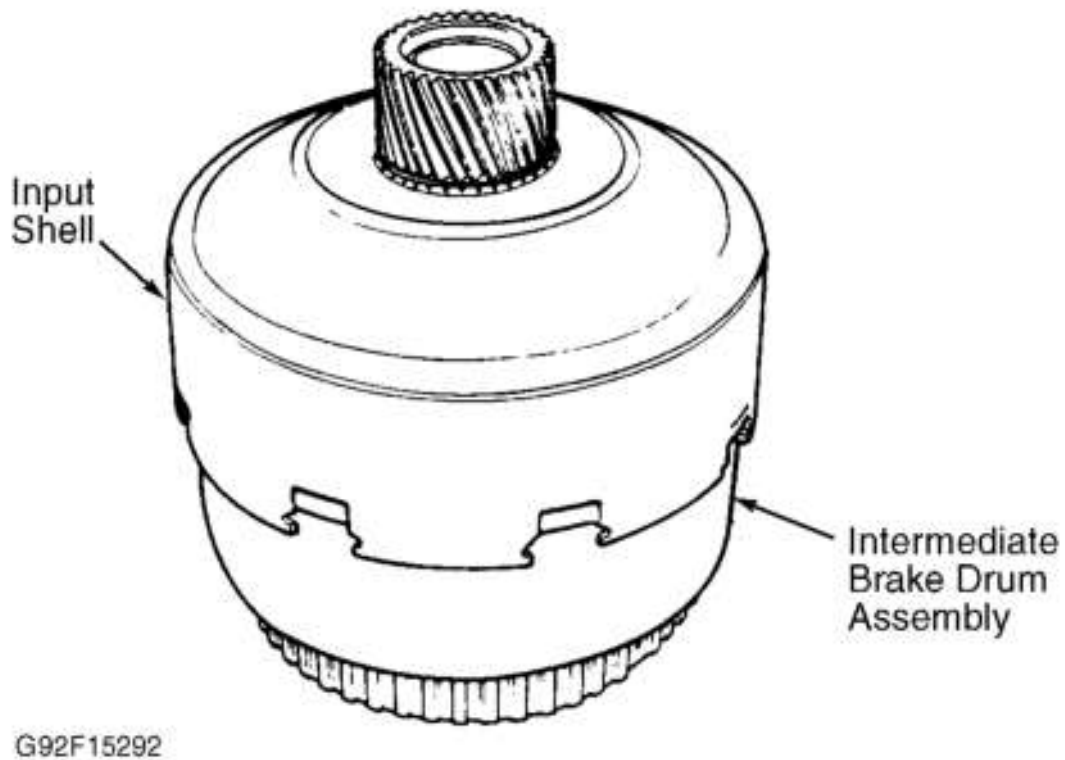


Fig. 26: Assembling Direct Clutch, Forward Clutch & Input Shell
Courtesy of FORD MOTOR CO.