

1990 Chrysler LeBaron

AUTO TRANS OVERHAUL - CHRYSLER A-413 & A-470 AUTOMATIC TRANSMISSIONS Chrysler Motors A-413 & A-470 Transaxle

AUTO TRANS OVERHAUL - CHRYSLER A-413 & A-470**AUTOMATIC TRANSMISSIONS Chrysler Motors A-413 & A-470 Transaxle****APPLICATION****TRANSMISSION APPLICATION**

Vehicle Application	Transmission Model
Chrysler	
Dynasty (1988-89 3.0L)	A413
E Class	
1983-84 2.2L	A413
1983 2.6L	A413
1984 2.6L	A470
Executive (1983-86 2.6L)	A470
Laser (1984-86 2.2L & 2.5L)	A413
LeBaron	
1983-90 2.2L & 2.5L	A413
1983-85 2.6L	A470
Le Baron GTS (1985-88 2.2L & 2.5L)	A413
New Yorker	
1983-84 2.2L	A413
1983-84 2.6L	A470
1985-88 2.2L, 2.5L, 2.6L & 3.0L	A413
TC (1989 3.0L)	A413
Dodge	
400	
1983 2.2L	A413
1983 2.6L	A470
600	
1983-88 2.2L & 2.5L	A413
1983-85 2.6	A470
Aries	
1983-89 2.2L & 2.5L	A413
1983-85 2.6L	A470
Caravan	
1984-90 2.2L & 2.5L	A413
1984-87 2.6L	A470
1987 3.0L	A470
1988-90 3.0L	A413
1988-89 Grand Caravan 2.5L	A413

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Charger (1983-87 2.2L)	A413
Daytona	
1984-90 2.2L & 2.5L	A413
1988-90 2.5L & 3.0L	A413
Mini Ram Van	
1984-87 2.2L & 2.6L	A413
1987 3.0L	A470
1988 2.5L	A413
Omni (1981-90 2.2L)	A413
Rampage (1983-84 2.2L)	A413
Spirit (1989-90 2.5L)	A413
Plymouth	
Acclaim (1989-92 2.5L)	A413
Caravelle	
1983 2.2L & 2.5L	A413
1983-85 2.6L	A470
Grand Voyager	
1987-89 2.5L	A413
1987 2.6L	A470
Horizon (1983-90 2.2L)	A413
Reliant	
1983-89 2.2L, 2.5L & 2.6L	A413
1983-85 2.2L & 2.6L	A470
Scamp (1983 2.2L)	A470
Sundance (1987-92 2.2L & 2.5L)	A413
Turismo	
1983 2.2L	A470
1984-87 2.2L	A413
Voyager	
1984-92 2.2L, 2.5L & 3.0L	A413
1984-87 2.6L	A470

IDENTIFICATION

The automatic transaxle identification number is located on the oil pan flange at the rear of the transaxle.

CAUTION: Transaxle operation requirements are different for each vehicle and engine combination. Some internal parts will be different to provide for this. When replacing parts, refer to 7 digit part number, stamped on rear of transaxle oil pan flange.

DESCRIPTION

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AUTO TRANS OVERHAUL - CHRYSLER A-413 & A-470 AUTOMATIC TRANSMISSIONS Chrysler Motors A-413 & A-470 Transaxle

Chrysler Motors automatic transaxles combine a torque converter, fully automatic 3-speed transaxle, final drive gearing and differential into a front wheel drive system. The torque converter, transaxle and differential are housed in an integral aluminum die casting. The differential and transaxle share a common oil sump.

The transaxle consists of 2 multiple disc clutches, an overrunning clutch, 2 servos, a hydraulic accumulator, 2 bands and 2 planetary gear sets to provide 3 forward gear ratios and a reverse ratio. The hydraulic system consists of an oil pump and a single valve body which contains all valves except the governor valve.

LUBRICATION & ADJUSTMENTS

See appropriate TRANSMISSION SERVICING - A/T article in AUTOMATIC TRANSMISSION SERVICING section. See menu below.

- For 1983 Passenger Cars, see [TRANSMISSION SERVICING - A/T](#)
- For 1984 Passenger Cars, see [TRANSMISSION SERVICING - A/T](#)
- For 1985 Passenger Cars, see [TRANSMISSION SERVICING - A/T](#)
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TRANSAXLE APPLICATION

Transaxle Model	Model No. (Ratio)
A-413	
Standard	4207905 (2.78)
Standard	4377906 (2.78)
Standard	4377954 (2.78)
Standard	4329506 (3.02)
Standard	4377902 (3.02)
Standard	4377951 (3.02)
A-413	
Heavy Duty	4377955 (3.02)
Heavy Duty	4377907 (3.02)
Heavy Duty	4377955 (3.02)

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Heavy Duty	4377903 (3.22)
Heavy Duty	4377952 (3.22)
A-470	(1) (3.22)
(1) Model No. not available.	

ON-VEHICLE SERVICE

NOTE: The valve body, extension housing oil seal, parking sprag, and governor assembly may be removed with transaxle still installed in vehicle. See procedures given in TRANSAXLE DISASSEMBLY and TRANSAXLE REASSEMBLY & ADJUSTMENT .

SPEEDOMETER PINION GEAR

NOTE: Any time that speedometer pinion adapter is removed, a new "O" ring must be installed on outside diameter of adapter. Speedometer pinion must be removed before removing right drive axle shaft.

Removal

Remove bolt and washer securing speedometer pinion adapter in extension housing. With cable housing connected, carefully work adapter and pinion out of extension housing. Remove retainer and remove pinion from adapter.

Seal Replacement

If transaxle fluid is found in cable housing, install a new speedometer pinion and seal assembly. If fluid is found between cable and adapter, replace small "O" ring on cable.

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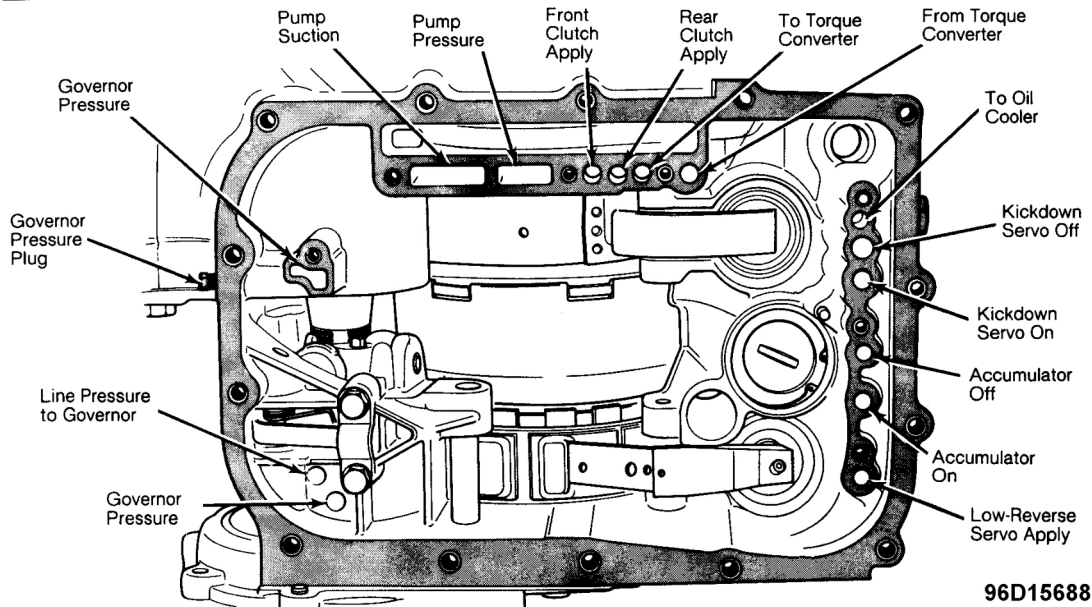


Fig. 1: Bottom View of Transmission Case/Air Pressure Test Points
Courtesy of CHRYSLER MOTORS.

Installation

Before installing pinion adapter and cable assembly, ensure adapter flange and its mating areas on extension housing are clean. Dirt or sand will cause misalignment resulting in speedometer pinion gear damage. Install and tighten bolt.

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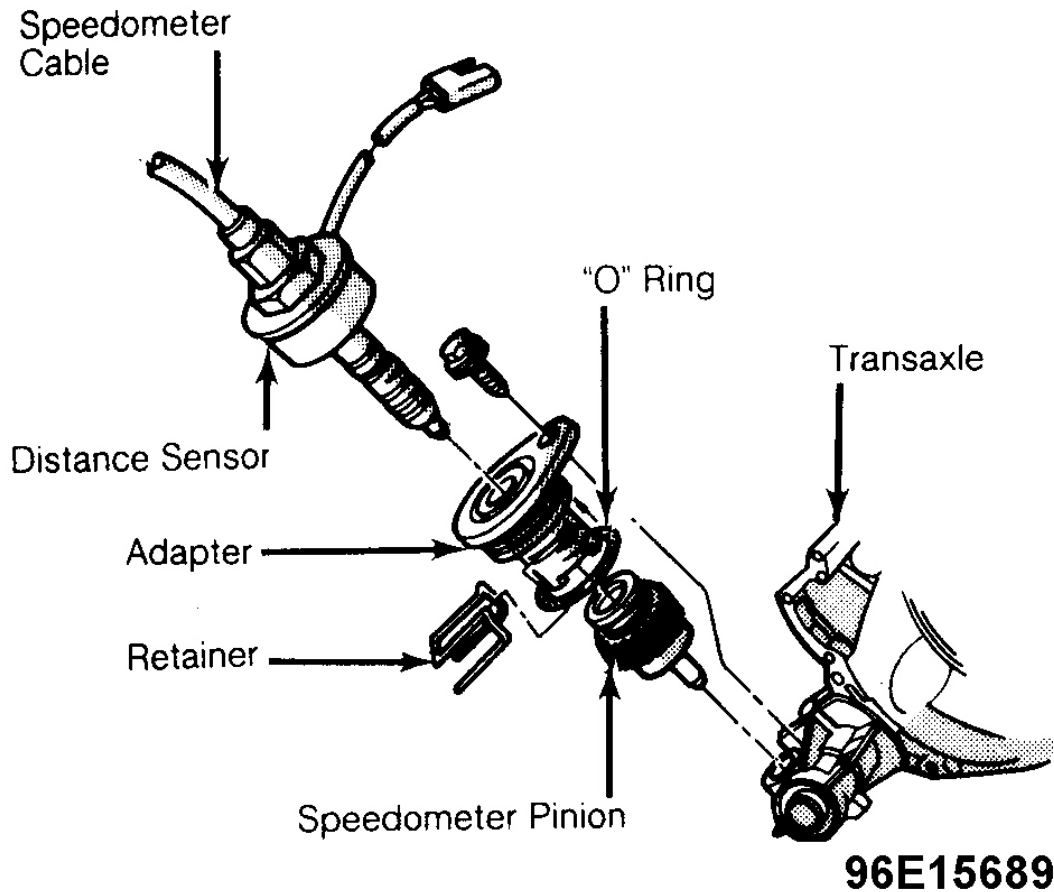


Fig. 2: Exploded View of Speedometer Assembly
Courtesy of CHRYSLER MOTORS

NEUTRAL SAFETY SWITCH

See appropriate AUTOMATIC TRANSMISSION SERVICING ARTICLE in DOMESTIC GENERAL SERVICING section.

- For 1983 Passenger Cars, see [TRANSMISSION SERVICING - A/T](#)
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DRIVE AXLE SHAFTS

See AXLE SHAFTS - FRONT article in DRIVE AXLES section. See menu below.

- For 1983-84 Passenger Cars, see [AXLE SHAFTS - FRONT](#)
- For 1985 Passenger Cars, see [AXLE SHAFTS - FRONT](#)
- For 1986 Passenger Cars, see [AXLE SHAFTS - FRONT](#)
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TROUBLE SHOOTING

See [AUTO TRANS DIAGNOSIS - CHRYSLER A-413 & A-500/518](#) article in DOMESTIC GENERAL SERVICING section.

TESTING

ROAD TEST

1. Prior to road testing, check fluid level, condition, and control cable adjustments. Add fluid and adjust control cable as needed.
2. During testing, the transaxle should upshift and downshift automatically at approximate speeds as indicated in the appropriate [AUTOMATIC SHIFT SPEEDS & GOVERNOR PRESSURES](#) charts. All shift speeds may vary somewhat due to production tolerances, rear axle ratio, or tire size. The important

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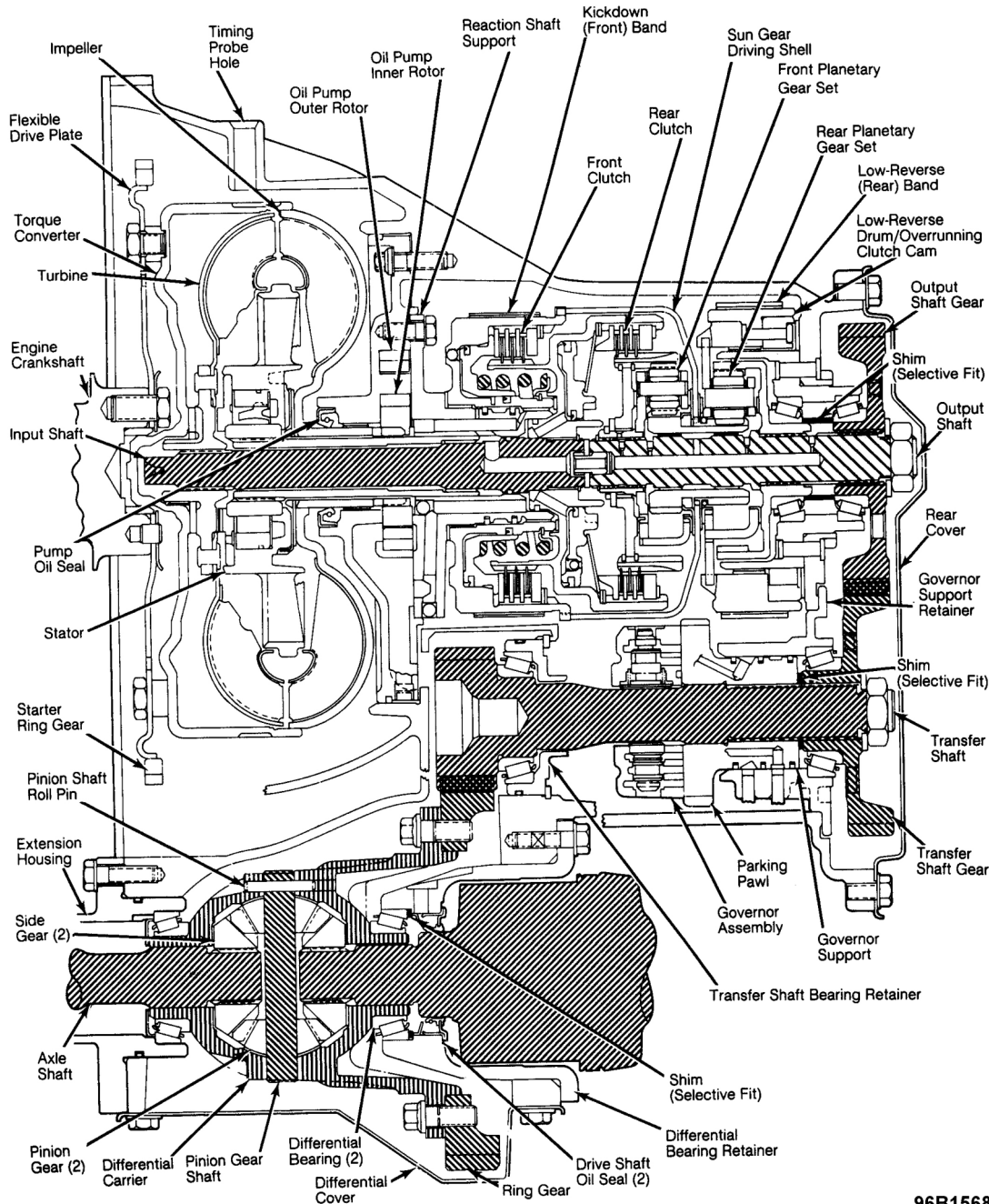
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factor is the quality of the shifts. All shifts should be smooth, responsive, and with no slipping or engine speed flare-up.

3. Slipping or flare-up in any gear usually indicates clutch, band, or overrunning clutch problems. The slipping clutch or band in a particular gear can usually be identified by noting transaxle operation in other selector positions and comparing which internal units are applied in those positions.
4. For example, if transaxle slips in "D" (3rd gear), either the front or rear clutch is slipping. By selecting another gear which uses one of those units, not both, the clutch which is slipping can be identified. Refer to **CLUTCH & BAND APPLICATION TABLE** in this article to determine which components are in use. Using this example, if transaxle also slips in Reverse, the front clutch is slipping. If it does not slip in Reverse, the rear clutch is slipping.
5. Although this process of elimination can be used to detect any unit which slips and to confirm proper operation of good units, the actual cause of malfunction cannot easily be determined. Practically any condition can be caused by leaking hydraulic circuits or sticking valves. Therefore, unless an obvious condition exists, a transaxle should never be disassembled until hydraulic pressure tests have been made.

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Fig. 3: Cut Away View of Chrysler Motors Automatic Transaxle
 Courtesy of CHRYSLER MOTORS.

CLUTCH & BAND APPLICATION (1)

Lever Position	Front Clutch	Rear Clutch	Overrun Clutch	Front Band	Low-R Band
Drive (1st)	X	X
Drive (2nd)	X	X

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Drive (Direct)	X	X
Second (1st)	X	X
Second (2nd)	X	X
1-Low (First)	X	X
Reverse	X	X

(1) Neutral/Park - All clutches and released and/or ineffective.

AUTOMATIC SHIFT SPEEDS & GOVERNOR PRESSURES

AUTOMATIC SHIFT SPEEDS (THROTTLE CLOSED)

Application	Gear Ratio Of 2.78 Or 3.22	Gear Ratio Of 3.02 Non-Turbo	Gear Ratio Of 3.02 Turbo
1-2 Upshift	13-16	13-17	15-19
2-3 Upshift	17-21	18-22	20-25
3-1 Downshift	12-15	13-16	15-19

AUTOMATIC SHIFT SPEEDS (THROTTLE WIDE OPEN)

Application	Gear Ratio Of 2.78 Or 3.22	Gear Ratio Of 3.02 Non-Turbo	Gear Ratio Of 3.02 Turbo
1-2 Upshift	34-42	36-44	38-42
2-3 Upshift	60-67	63-71	70-80

AUTOMATIC SHIFT SPEEDS (DOWNSHIFT - KICKDOWN)

Application	Gear Ratio Of 2.78 Or 3.22	Gear Ratio Of 3.02 Non-Turbo	Gear Ratio Of 3.02 Turbo
3-2 Part Throttle	44-52	46-54	48-59
3-2 WOT	55-64	58-66	64-74
3-1 Downshift	30-38	32-39	37-40

GOVERNOR PRESSURES (1)

Application	Gear Ratio Of 2.78 Or 3.22	Gear Ratio Of 3.02 Non-Turbo	Gear Ratio Of 3.02 Turbo
15 psi	23-26	24-27	28-31
50 psi	57-65	61-68	69-76

(1) Governor pressure should be from zero to 3.0 psi at stand-still or downshift may not occur.

LINE PRESSURE TESTS

Before making pressure tests, ensure that fluid level, fluid condition, and control cable adjustments have been checked and corrected as needed. Operate transaxle until fluid is at operating temperature. Install a tachometer, raise vehicle on a hoist which allows front wheels to turn, and position tachometer so it can be read from under vehicle. Disconnect throttle and shift cables from transaxle levers so that levers may be controlled from under

vehicle.

NOTE: See Fig. 4 for location of specific transaxle pressure test ports

Selector in "1"

1. Attach 150 psi (10.5 kg/cm²) gauge to "T" and another gauge to "line pressure" port. Operate engine at 1000 RPM for test.
2. Move selector lever on transaxle one detent forward from full rearward position (into selector "2" position). Read pressures on both gauges as throttle lever on transaxle is moved from full clockwise position to full counterclockwise position.
3. Line pressure should read 52-58 psi (3.6-4.1 kg/cm²) with throttle lever forward, gradually increasing to 80-88psi (5.6-6.2 kg/cm²) as lever is moved rearward. Lubrication pressure should be 10-35psi (.7-2.5 kg/cm²) with lever rearward.
4. This tests pump output, pressure regulation, condition of rear clutch, and lubrication hydraulic circuits.

Selector in "D"

1. Attach 150 psi (10.5 kg/cm²) gauges to "line" and "kickdown release" ports. Operate engine at 1600 RPM for test.
2. Move selector lever on transaxle 2 detents forward from full rearward position (into selector "D" position). Read pressures on both gauges as throttle lever on transaxle is moved from full forward position to full rearward position.
3. Line pressure should read 52-58 psi (3.6-4.1 kg/cm²) with throttle lever forward, gradually increasing to 80-88 psi (5.6-6.2 kg/cm²) as lever is moved rearward.
4. Kickdown release is pressurized only in direct drive and should be the same as line pressure within 3 psi (.2 kg/cm²), up to kickdown point. This tests pump output, pressure regulation, condition of front and rear clutches, and hydraulic circuits.

Selector in Reverse

1. Attach a 300 psi (21 kg/cm²) gauge to "low-reverse" port. Operate engine at 1600 RPM for test. Move selector lever on transaxle 4 detents forward from full rearward position (into selector "R" position).
2. Low-reverse pressure should read 180-220 psi (12.6-15.4 kg/cm²) with throttle lever forward, gradually increasing to 260-300 psi (18.2-21.0 kg/cm²) as lever is moved rearward. This tests pump output, pressure regulation, condition of front clutch, and rear servo hydraulic circuits.
3. Move selector lever on transaxle to "D" position to check that rear servo pressure drops to zero. This tests for leakage into rear servo, due to case porosity, which can cause reverse band burn out.

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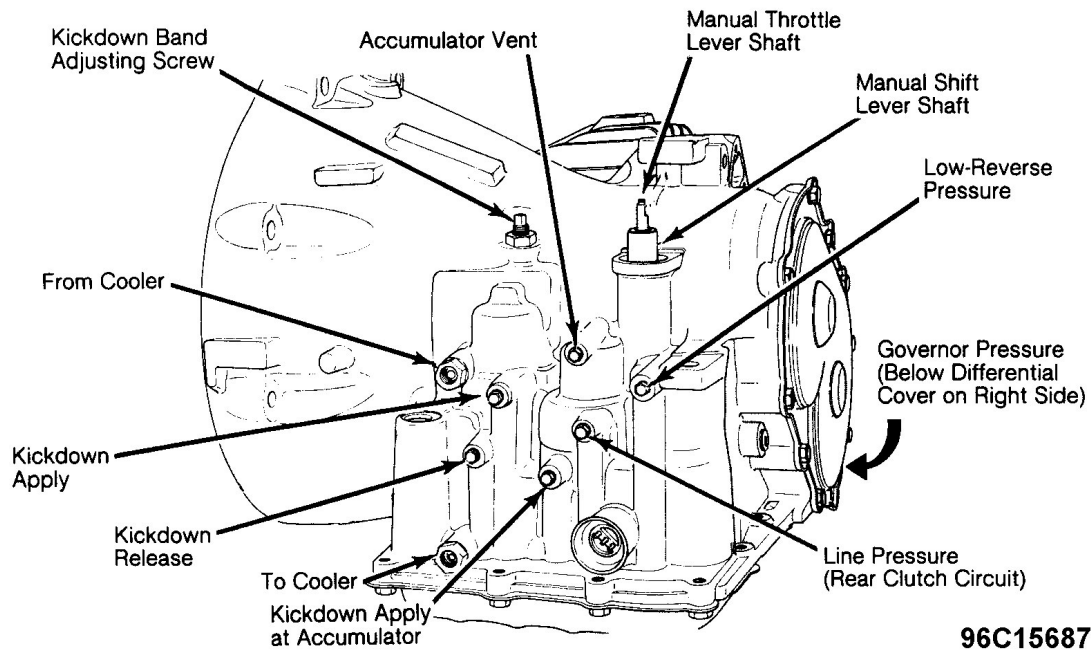


Fig. 4: Pressure Test Port Locations On Left Side of Transaxle Case
Courtesy of CHRYSLER MOTORS.

PRESSURE TEST INDICATIONS

1. If proper minimum-to-maximum line pressure is found in any test, pump and pressure regulator are working properly.
2. Low pressure in "D", "1", and "2", but correct pressure in "R", indicates rear clutch circuit leakage.
3. Low pressure in "D" and "R", but correct pressure in "1", indicates front clutch circuit leakage.
4. Low pressure in "R" and "1", but correct pressure in "2", indicates rear servo circuit leakage.
5. Low line pressure in all positions indicates a defective pump, clogged filter, or stuck pressure regulator valve.

NOTE: The following **GOVERNOR PRESSURE TEST** need only be performed if transaxle shifts at wrong vehicle speeds, with throttle cable correctly adjusted.

GOVERNOR PRESSURE TEST

1. Connect a 150 psi (10.5 kg/cm²) pressure gauge to governor pressure take-off point, located below differential cover at lower right side of case.
2. Operate transaxle in 3rd gear to read pressures. Compare pressure readings obtained with governor pressure specifications given in the **AUTOMATIC SHIFT SPEEDS & GOVERNOR PRESSURES**.
3. If governor pressures are incorrect at given vehicle speeds, governor valves are probably sticking.
4. Governor pressure should respond smoothly to changes in MPH and should return to 0-3 psi (0-.2

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kg/cm²) when vehicle is stopped. Pressure above 3 psi(.2 kg/cm²) at stand still will prevent the transaxle from downshifting.

THROTTLE PRESSURES

No gauge port is provided for testing throttle pressure. Incorrect throttle pressure should only be suspected if part throttle upshift speeds are either delayed or occur too early in relation to vehicle speeds. Engine run-away on either upshifts or downshifts can also be an indication of incorrect (low) throttle pressure setting.

CAUTION: In no case should throttle pressure be adjusted until transaxle throttle cable adjustment has been checked and corrected as needed.

HYDRAULIC PRESSURE ADJUSTMENTS

NOTE: An incorrect throttle pressure setting will cause incorrect line pressure readings even though line pressure adjustment is correct. Therefore, always inspect and correct throttle pressure adjustment before adjusting line pressure.

Throttle Pressure

1. Remove valve body from transaxle. Back off throttle lever stop screw approximately 5 turns. Insert gauge pin of Gauge (C-3763) between throttle lever cam and kickdown valve.
2. By pushing in on tool, compress kickdown valve against spring so that valve is completely bottomed.

CAUTION: Ensure adjustment is made with spring fully compressed and valve bottomed in valve body bore.

Line Pressure

1. Turn allen screw in end of pressure regulator spring bracket so measurement between valve body and inner edge of adjusting nut is 1 5/16"

NOTE: Due to manufacturing tolerances, adjustment can be varied to obtain specified line pressure.

2. Turning adjusting screw 1 complete turn changes closed throttle line pressure about 1 2/3 psi (.12 kg/cm²). Turning adjusting screw counterclockwise increases pressure, clockwise decreases pressure.

STALL TEST

1. Before performing test, check transaxle fluid level, bring engine to normal operating temperature and attach a tachometer to engine.
2. Test consists of determining engine speed obtained at full throttle in "D" (Drive) position. Both parking and service brakes should be applied while performing test.

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CAUTION: DO NOT hold throttle open any longer than is necessary to obtain a maximum engine speed reading, and never longer than 5 seconds at a time.

3. If more than one stall test is required, operate engine at approximately 1000 RPM in Neutral for 20 seconds, to allow transaxle fluid to cool between tests. If engine speed exceeds maximum limits shown, release accelerator immediately since transaxle clutch slippage is indicated.

STALL SPEED SPECIFICATIONS

Engine	Transaxle Model	Stall Speed RPM
2.2L		
Carbureted	A-413	2620-2820
EFI	A-413	(1) 2210-2410
Turbo	A-413	3150-3350
2.5L	A-413	2250-2450
2.6L	A-470	2450-2650
(1) 2620-2820 on Daytona models.		

STALL TEST RESULTS

Stall Speed Above Specification

If stall speed exceeds maximum limits shown by more than 200 RPM, transaxle clutch slippage is indicated. Make hydraulic pressure and air pressure checks to determine cause of slippage.

Stall Speed Below Specification

1. Low stall speeds (with a properly tuned engine) indicate torque converter stator clutch problems. A road test will be necessary to identify exact problem.
2. If stall speeds are 250-350 RPM below specifications, and vehicle operates properly at highway speeds, but has poor through-gear acceleration, stator overrunning clutch is slipping.
3. If stall speed and acceleration are normal, but abnormally high throttle opening is required to maintain highway speeds, stator clutch has seized.
4. Both of the preceding stator defects require replacement of the torque converter.

Noise During Stall Test

1. A whining or siren-like noise due to fluid flow is normal during stall operation with some converters; however, loud metallic noises from loose parts or interference within the assembly indicate a defective torque converter.
2. To be sure that noise originates within the converter, raise vehicle on hoist and operate at light throttle in "D" and "N" while listening under transaxle bell housing.

AIR PRESSURE TESTS

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A "No Drive" condition could exist even with correct fluid pressure because of inoperative clutches or bands. The inoperative units can be located by applying air pressure to the appropriate case passages after valve body has been removed.

CAUTION: Compressed air supply must be free of dirt and moisture. Use a pressure of 30 psi (2.1 kg/cm²) for tests.

Front Clutch

Direct air pressure into front clutch apply passage. Operation of clutch is indicated by a dull thud which may be heard, or felt. Hold air pressure on for a few seconds and check system for excessive oil leaks.

Rear Clutch

Direct air pressure into rear clutch apply passage. Operation of clutch is indicated by a dull thud which may be heard, or felt. Again, check for excessive oil leaks.

Kickdown Servo (Front)

Direct air pressure into front servo apply passage. Operation of servo is indicated by a tightening of the front band. Spring tension on servo piston should release the band.

Low-Reverse Servo (Rear)

Direct air pressure into rear servo apply passage. Operation of servo is indicated by a tightening of the rear band. Spring tension of servo piston should release the band.

NOTE: If clutches and servos operate properly, no upshift or erratic shift conditions indicate malfunctions in valve body assembly

REMOVAL & INSTALLATION

See appropriate TRANSMISSION REMOVAL & INSTALLATION - A/T article in AUTOMATIC TRANS SERVICE section. See menu below.

- For 1983 Passenger Cars, see [TRANSMISSION REMOVAL & INSTALLATION - A/T](#)
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TORQUE CONVERTER

The torque converter is a welded assembly and is not serviceable. Therefore, if a malfunction occurs or if the converter becomes contaminated with foreign material, it must be replaced. It cannot be flushed or repaired.

TRANSAXLE DISASSEMBLY

INPUT SHAFT END PLAY

To check end play, attach a dial indicator to transaxle bellhousing with its plunger seated against end of input shaft. Move input shaft in and out to obtain end play reading. End play should be .008-.060" (.20-1.52mm). Record end play reading for reassembly reference.

DISASSEMBLY

1. Place transaxle in a holding fixture. Remove screws and lift off oil filter and gasket. Remove neutral safety/back-up light switch.
2. Remove park rod "E" clip and remove park rod. Remove 7 valve body attaching bolts. Remove screws and lift off oil filter and gasket. Remove neutral safety/back-up light switch.
3. Tighten kickdown band adjusting screw to retain parts when oil pump is removed. Remove oil pump attaching bolts. Using 2 slide hammer pullers, installed on opposite sides of pump, pull oil pump and No. 1 thrust washer from case. Loosen kickdown band adjusting screw.

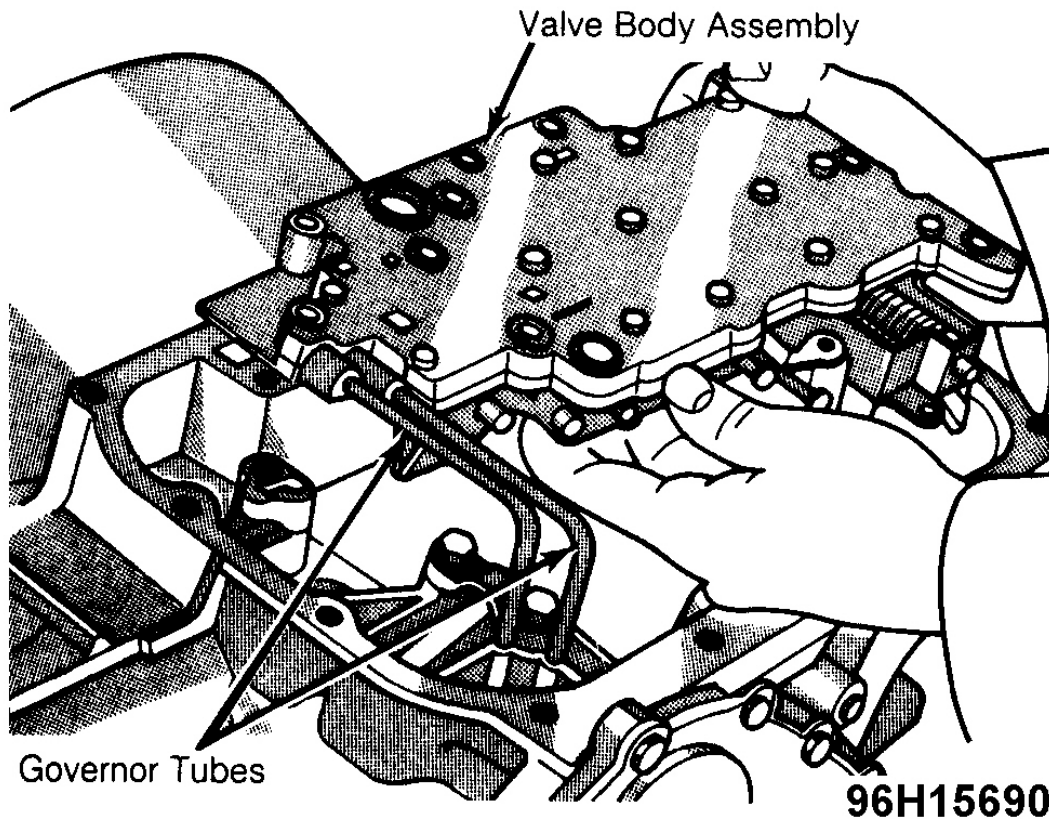


Fig. 5: Removing Valve Body Assembly

Courtesy of CHRYSLER MOTORS.

NOTE: Use care when removing valve body to avoid damaging governor tubes.

4. Slide kickdown band and strut from case. Remove front clutch assembly. Slide rear clutch assembly out of case by pulling input shaft. Remove No. 2 thrust washer from input shaft and clutch drum.
5. Remove No. 3 thrust washer from end of output shaft. See **Fig. 6** . Remove snap ring retaining front planetary gear assembly in case. Slide out gear assembly.
6. Remove No. 6 thrust washer from sun gear driving shell, then slide out driving shell. Remove No. 9 thrust washer from rear planetary gear set. Remove gear set from case.

NOTE: No. 7 and No. 8 thrust washers are assembled with sun gear driving shell assembly.

7. Remove No. 10 thrust washer. Withdraw overrunning clutch cam assembly. Remove 8 overrunning clutch rollers and springs. Loosen low-reverse band adjusting screw. Remove band and strut from case. Withdraw thrust washer No. 11 from case.

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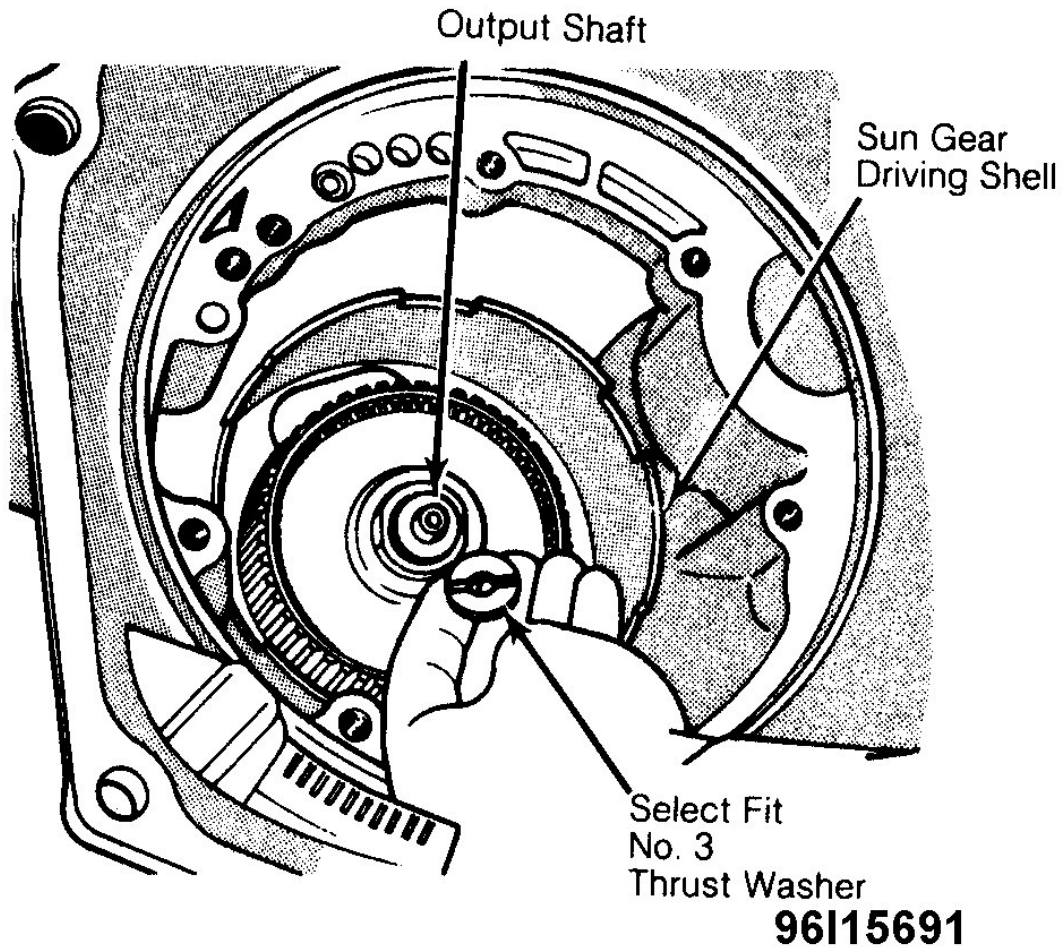


Fig. 6: Removing No. 3 Thrust Washer
Courtesy of CHRYSLER MOTORS.

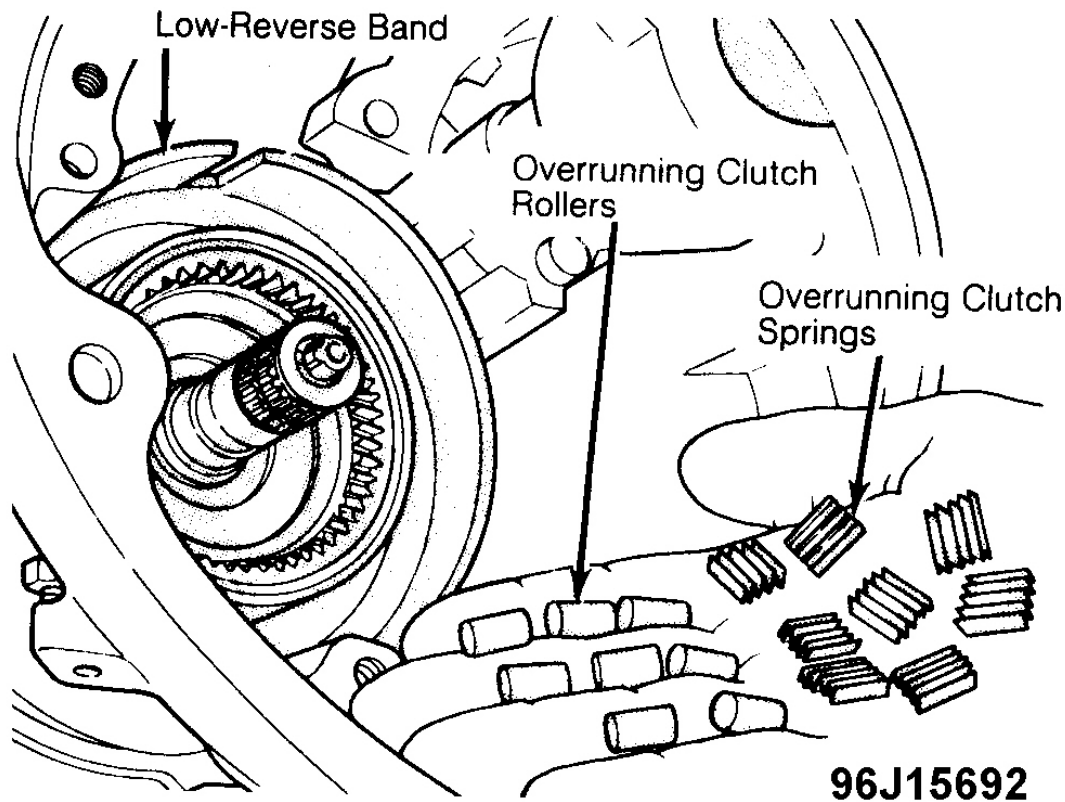


Fig. 7: Removing Overrunning Clutch Springs & Rollers
Courtesy of CHRYSLER MOTORS.

8. Remove attaching bolts and lift off rear cover. Install Special Holder (L-4434) to hold transfer shaft stationary. Remove transfer shaft gear retaining nut and washer.
9. Using gear puller, remove transfer shaft gear and selective fit shim installed behind gear. Remove governor support retainer. Remove low-reverse band anchor pin. Slide governor assembly from transfer shaft.
10. Remove transfer shaft retaining snap ring. Using a slide hammer and Adapter (L-4437), pull transfer shaft and bearing retainer assembly from case.
11. Remove attaching bolts and lift off parking pawl retainer. Slide pivot shaft out. Remove parking pawl and return spring.
12. Hold output shaft stationary with Holder (L-4434). Remove output shaft retaining nut and washer. Remove output shaft gear with puller. Slide out selective fit shim installed behind gear. From front of case slide out output shaft and annulus gear.

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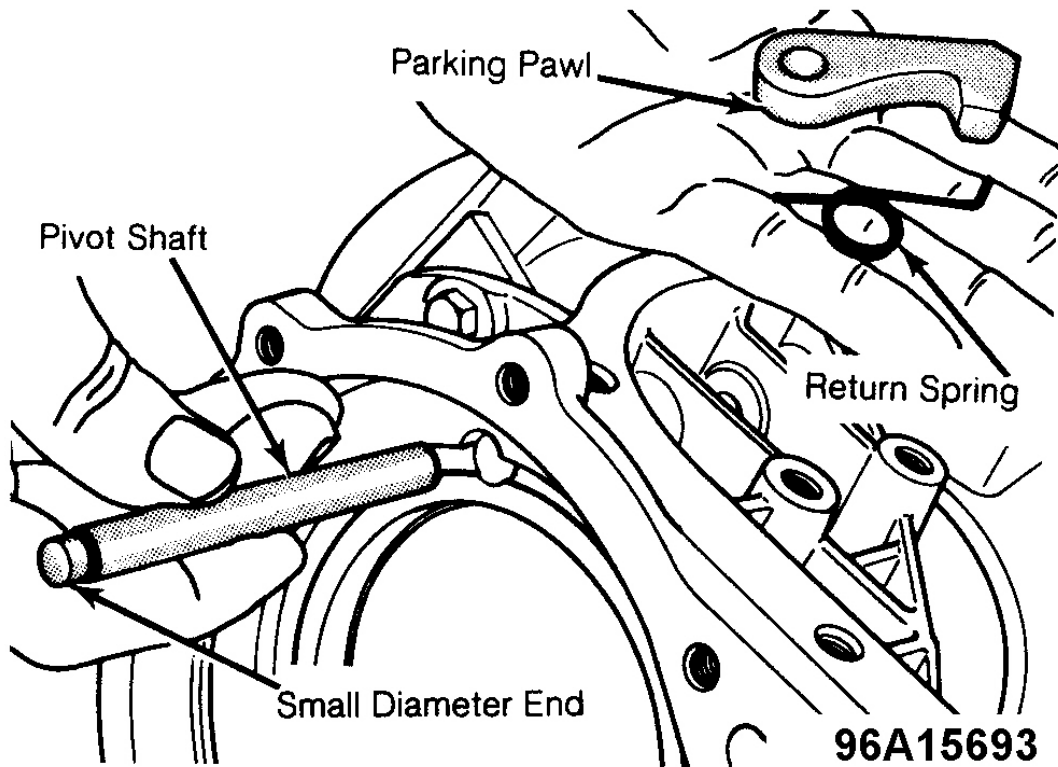


Fig. 8: Removing Parking Pawl & Pivot Shaft
Courtesy of CHRYSLER MOTORS.

NOTE: Pivot shaft is installed with small diameter toward rear.

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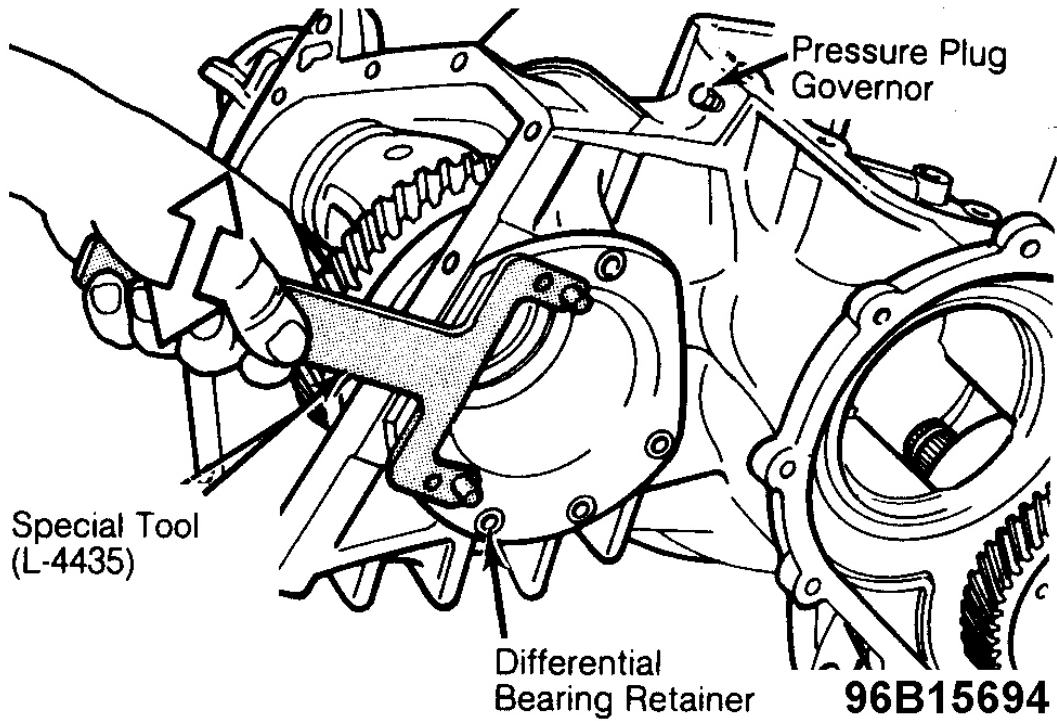


Fig. 9: Removing Differential Bearing Retainer
Courtesy of CHRYSLER MOTORS.

NOTE: Rock wrench back and forth to remove retainer.

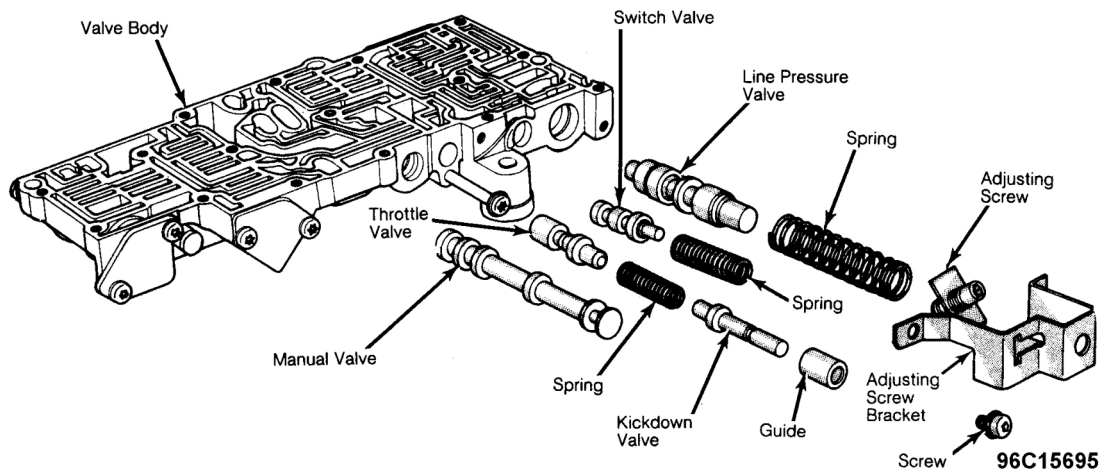


Fig. 10: Exploded View of Pressure Regulator & Manual Control Valves
Courtesy of CHRYSLER MOTORS.

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13. Using a screwdriver, pry oil seal out of extension housing. Remove attaching bolts and lift off differential cover.
14. Remove differential bearing retainer bolts. Rotate retainer back and forth with Wrench (L-4435) to remove.
15. Remove extension housing attaching bolts. Rotate housing back and forth to remove. Lift differential assembly out of transaxle case.

CAUTION: Hold on to differential assembly to prevent it from falling out of case when removing extension housing.

COMPONENT DISASSEMBLY & REASSEMBLY

VALVE BODY ASSEMBLY

NOTE: To simplify reassembly, place individual parts in correct order in relative position to valve body, as valve trains are removed from valve body bores. Disassembly

1. Remove attaching screw and lift detent spring assembly from valve body. Remove 16 valve body screws, using Socket (L-4553). Lift separator plate and transfer plate from valve body, noting position of oil screen.
2. Note position of 8 valve body check balls for reassembly reference. Remove check balls from valve body.
3. Remove "E" clip and washer from end of throttle valve lever assembly. Slide manual valve lever assembly off throttle valve lever. Slide throttle valve lever assembly from valve body.
4. Remove manual valve from valve body. Remove pressure regulator and adjusting screw bracket attaching screws. Lift off bracket and adjusting screws Slide out pressure regulator and manual control valve trains. See **Fig. 10** .
5. Remove end plate and slide out 2-3 shift valve governor plug. Remove next end plate and slide out 1-2 shift valve governor plug. See **Fig. 5** .

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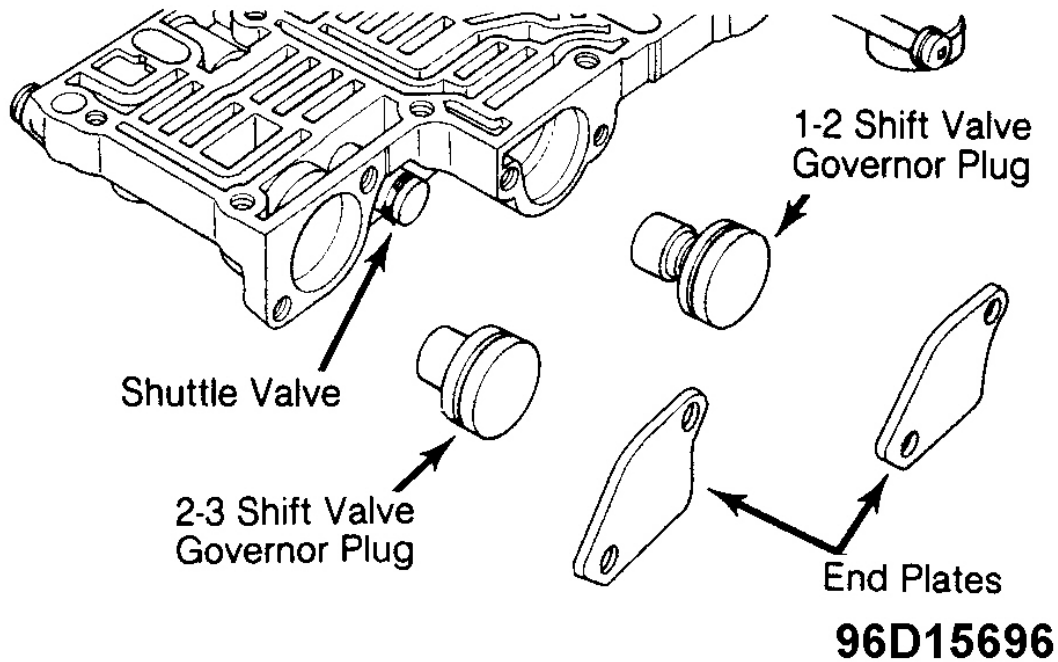


Fig. 11: Exploded View of Governor Plugs
Courtesy of CHRYSLER MOTORS.

6. Remove end plate screws and carefully remove end plate. Remove regulator valve throttle pressure plug spring and valve. See [Fig. 12](#) .

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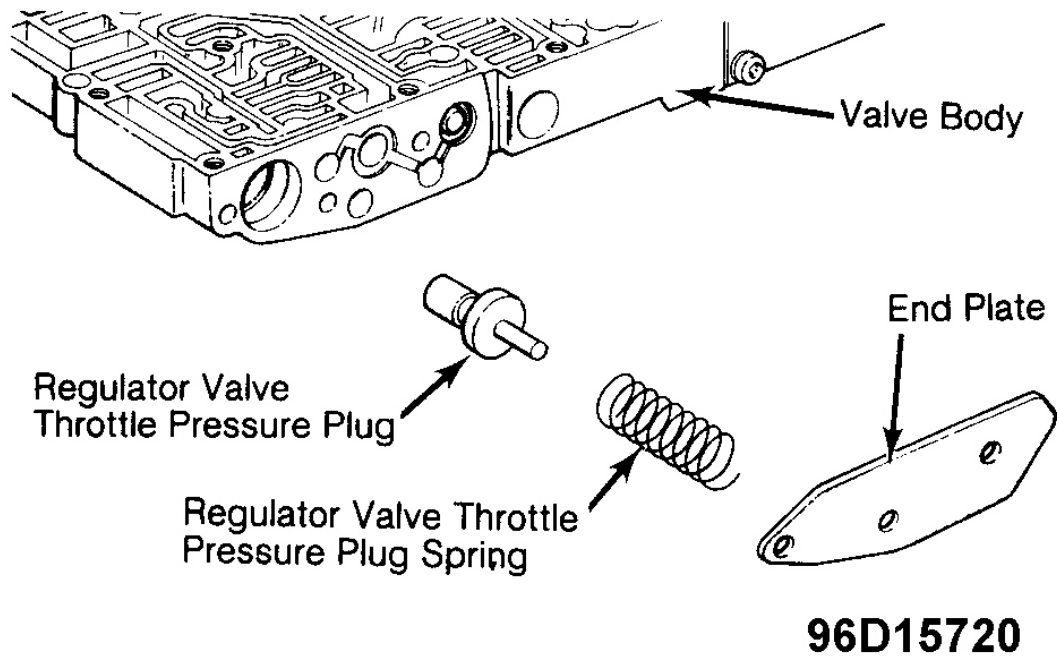


Fig. 12: View of Regulator Valve Throttle Pressure Plug Assembly
Courtesy of CHRYSLER MOTORS.

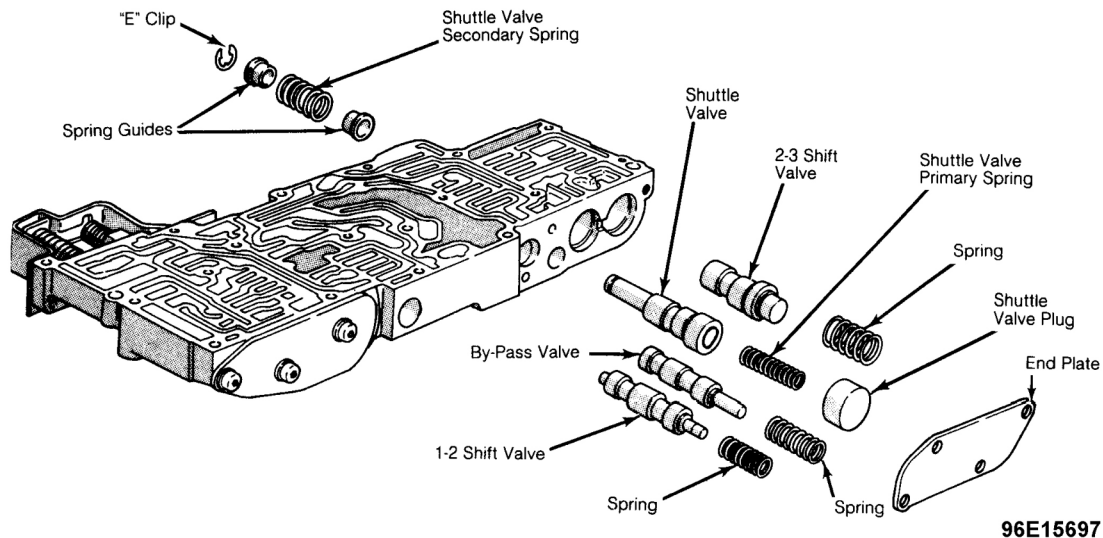


Fig. 13: Exploded View of Shuttle Valve & Shift Valve Trains
Courtesy of CHRYSLER MOTORS.

7. Remove remaining end plate from valve body. Remove 1-2 shift valve train, by-pass valve train, shuttle valve train and 2-3 shift valve train. Keep in order for reassembly reference. See **Fig. 13**.

Reassembly

Reverse disassembly using exploded view illustrations as reassembly guides. Ensure that valve body check balls are installed in correct passages. See **Fig. 14** .

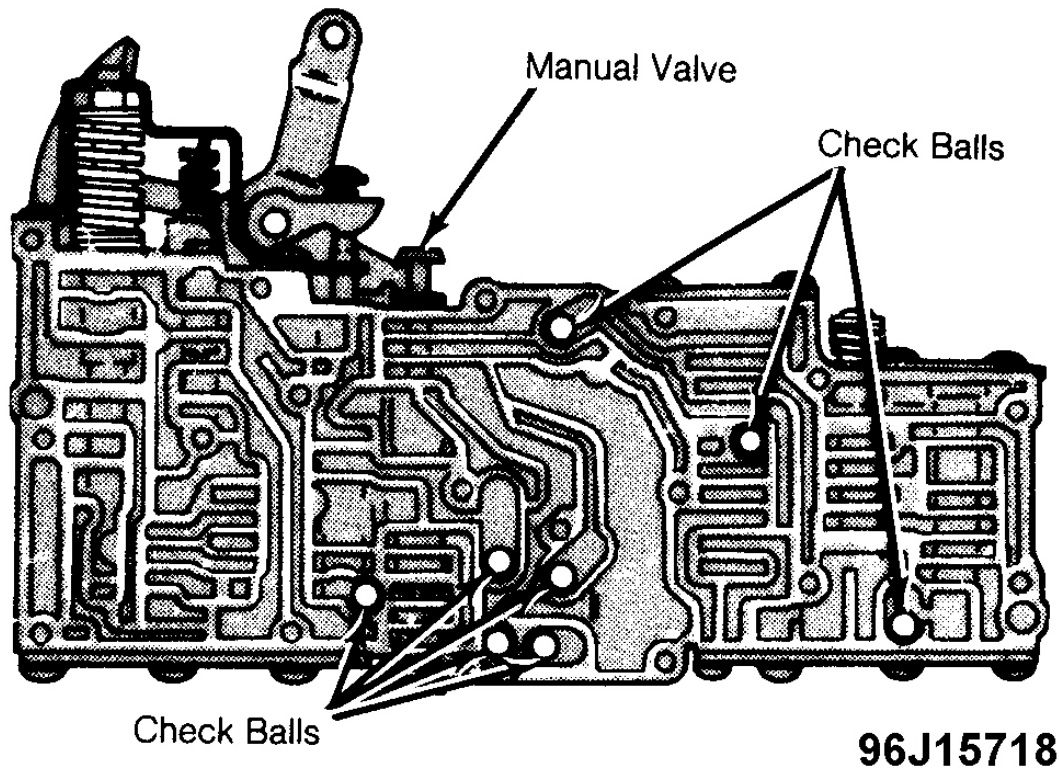


Fig. 14: View of Valve Body Showing Check Ball Locations
 Courtesy of CHRYSLER MOTORS.

OIL PUMP ASSEMBLY

Disassembly

Remove attaching bolts and separate reaction shaft support from oil pump body. Mark inner and outer pump gears for reassembly reference. Remove gears from pump body.

OIL PUMP SPECIFICATIONS

Measurement	In. (mm)
Outer Gear-to-Pocket	.002-.006(.045-.141)
Outer Gear I.D.-to-Crescent	.006-.006(.045-.141)
Outer Gear Side Clearance	.001-.002(.025-.050)
Inner Gear O.D.-to-Crescent	.006-.012(.150-.306)

Inner Gear Side Clearance

.001-.002(.025-.050)

1. Install the inner and outer gears into the pump body. Using a feeler gauge, measure oil pump clearances as indicated in **OIL PUMP SPECIFICATIONS**.
2. If oil pump clearances are not within specifications, oil pump assembly should be replaced. After clearances have been measured, install reaction shaft support-to-pump body and install attaching bolts.

FRONT CLUTCH ASSEMBLY

Disassembly

1. Using a screwdriver, pry waved snap ring from clutch drum. Lift out reaction plate along with clutch plates and driving discs.

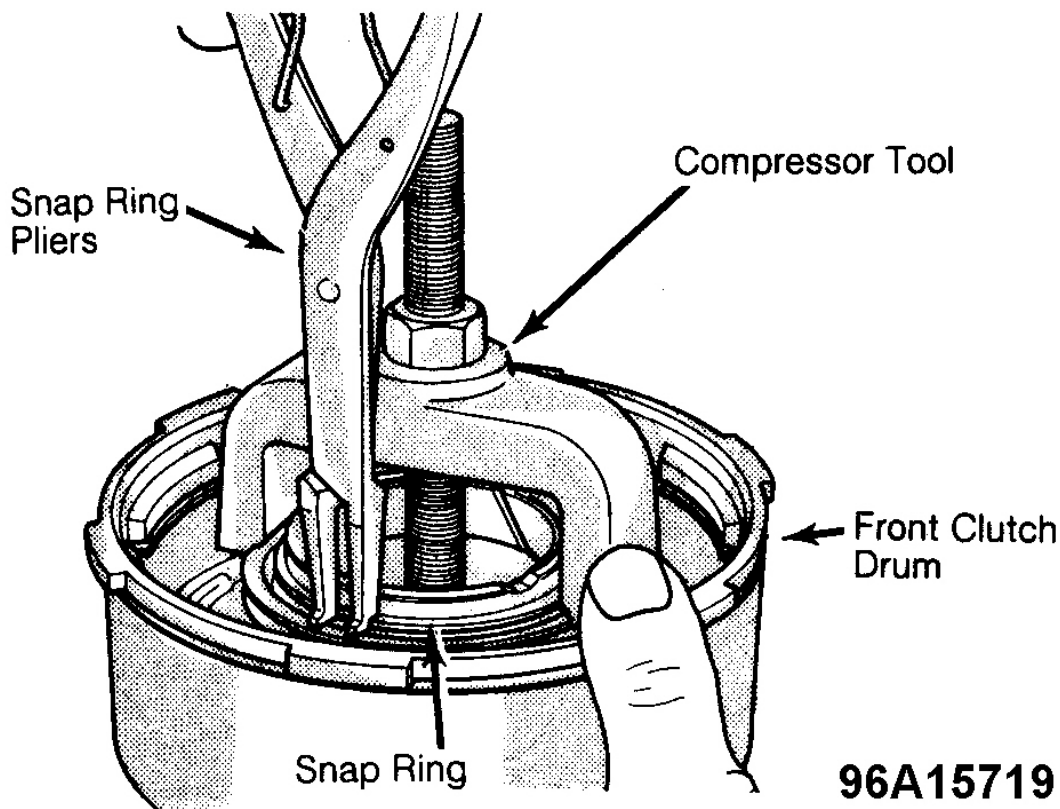


Fig. 15: Removing Front Clutch Return Spring Snap Ring
Courtesy of CHRYSLER MOTORS.

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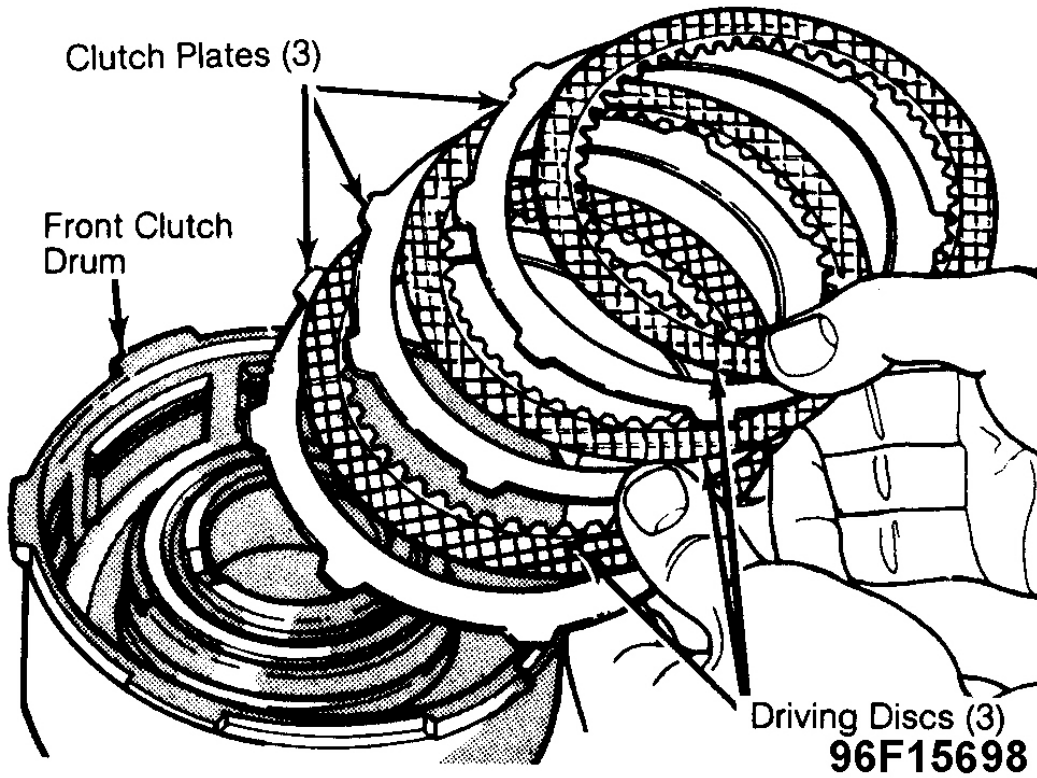


Fig. 16: Install Front Clutch Plates & Driving Discs Into Clutch Drum
Courtesy of CHRYSLER MOTORS.

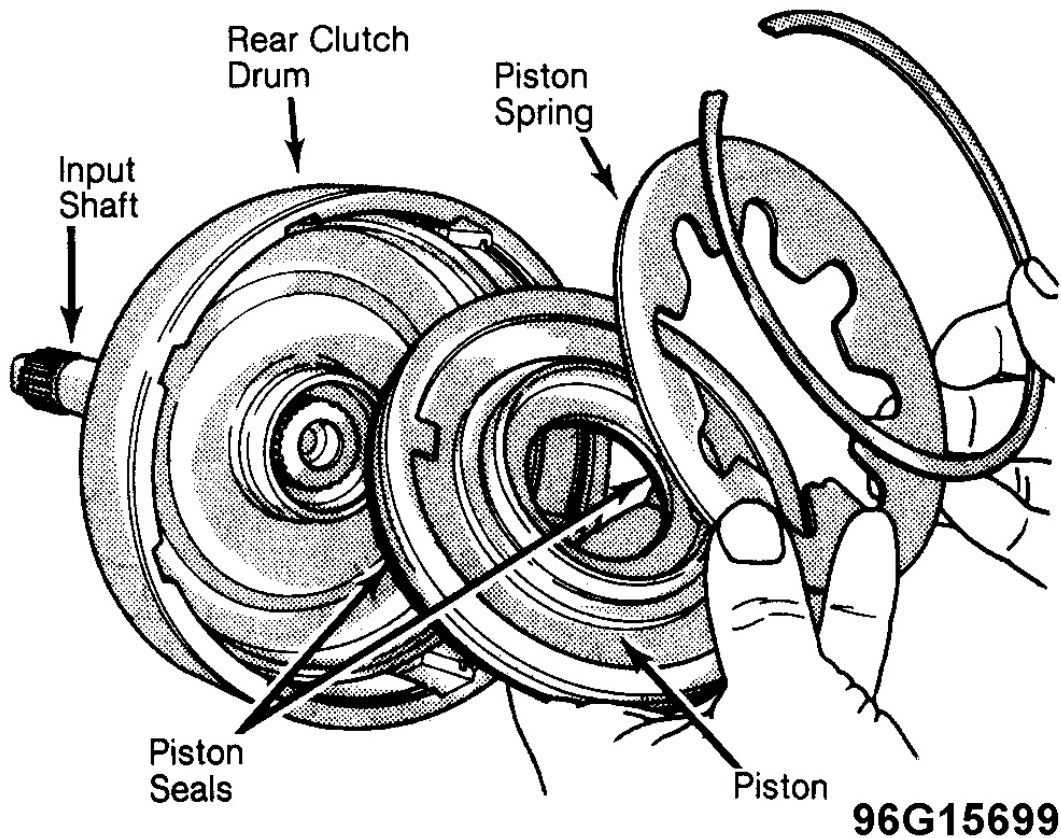


Fig. 17: Removing Rear Clutch Piston & Spring
Courtesy of CHRYSLER MOTORS.

2. Compress clutch return spring and remove retaining snap ring. Remove compressor and lift out return spring retainer, return spring and clutch piston.
3. If necessary for replacement, remove lip seals from clutch piston and from inside of clutch drum.

Reassembly

1. Reverse disassembly procedure to assemble clutch, noting the following:
2. Install clutch plates (3) and driving discs (3) into clutch drum. With clutch plates and discs correctly installed, install reaction plate and retaining snap ring.
3. With front clutch assembly reassembled, use a feeler gauge to measure clearance from reaction plate to farthest wave on waved snap ring. Clearance should be .087-.133" (2.2-3.4mm) on all models.

REAR CLUTCH ASSEMBLY

Disassembly

1. Pry selective snap ring from rear clutch drum. Lift out reaction plate, clutch plates, driving discs and pressure plate. Record number of clutch plates and driving discs for reassembly reference.
2. Pry piston spring waved snap ring from clutch drum. Remove piston spring and piston. If necessary, remove seals from piston. If removing input shaft, remove snap ring and press input shaft out of drum.

Reassembly

1. To reassemble, reverse disassembly procedure. Install clutch plates and driving discs into rear clutch drum. See **Fig. 18**.
2. With rear clutch reassembled, measure clearance between waved snap ring and reaction plate using a feeler gauge. Clearance should be .026-.043" (.67-1.10 mm), regardless of number of discs used.
3. If clearance is not to specification, install selective snap ring as required to obtain correct clearance. Snap rings are available in thicknesses of .048-.050" (1.22-1.27 mm), .060-.062" (1.52-1.57 mm), .068-.070" (1.73-1.78 mm), .074-.076" (1.88-1.93 mm) and .087-.089" (2.21-2.26 mm).

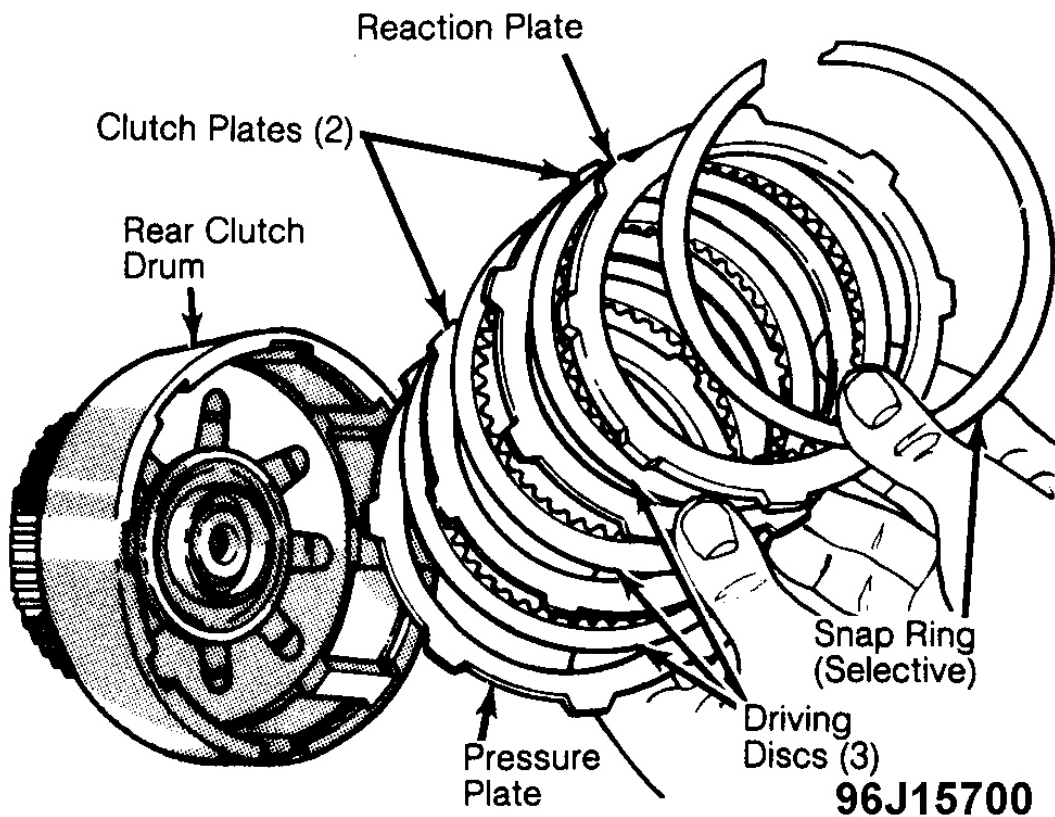


Fig. 18: Installing Clutch Plates & Driving Discs
 Courtesy of CHRYSLER MOTORS.

FRONT PLANETARY & ANNULUS GEAR

Disassembly

1. Remove snap ring retaining front planetary gear set in annulus gear. Remove thrust washer No. 4 which is located under snap ring.

Reassembly

To reassemble, reverse disassembly procedure.

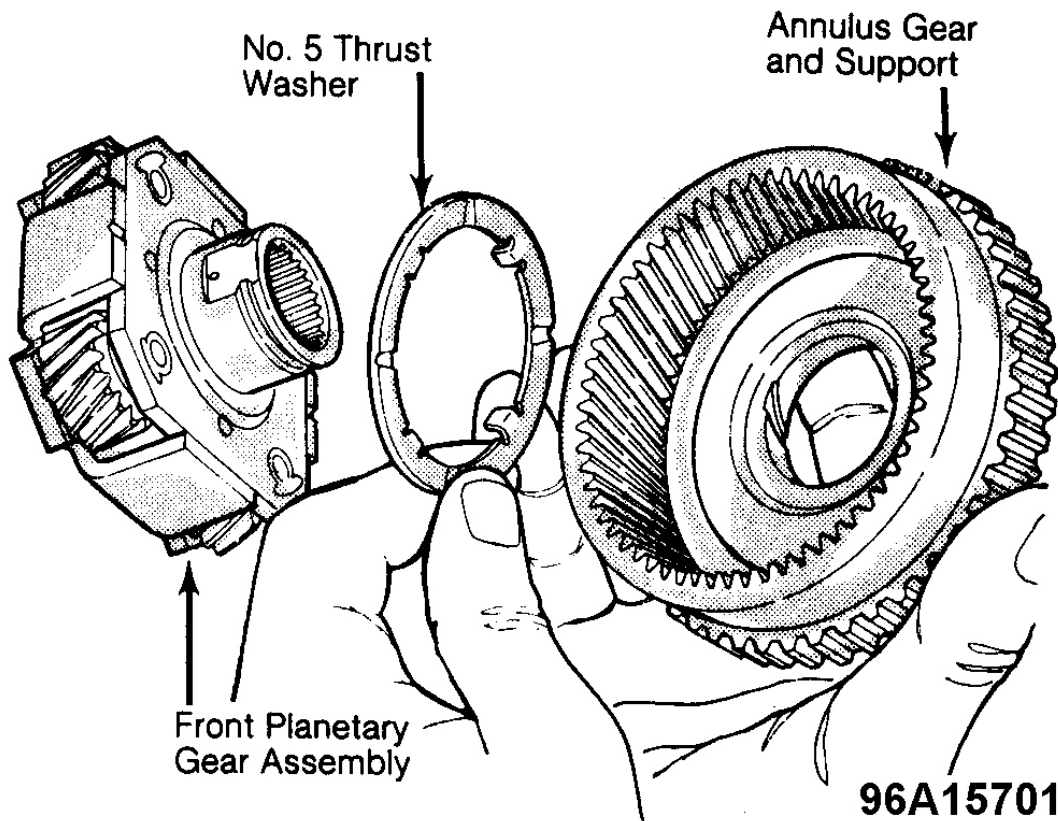


Fig. 19: Removing Front Planetary Gear & No. 5 Thrust Washer From Annulus Gear
Courtesy of CHRYSLER MOTORS.

LOW-REVERSE SERVO

Disassembly & Reassembly

Remove servo retainer snap ring from servo bore in case. Lift out servo retainer, return spring and low-reverse piston assembly. Reverse disassembly procedure. Replace servo assembly lip seal if necessary.

ACCUMULATOR ASSEMBLY

Disassembly & Reassembly

Remove accumulator retaining snap ring. Lift accumulator plate from case bore. Withdraw accumulator spring and piston. If necessary, remove seal rings from piston. To reassemble, reverse disassembly procedure.

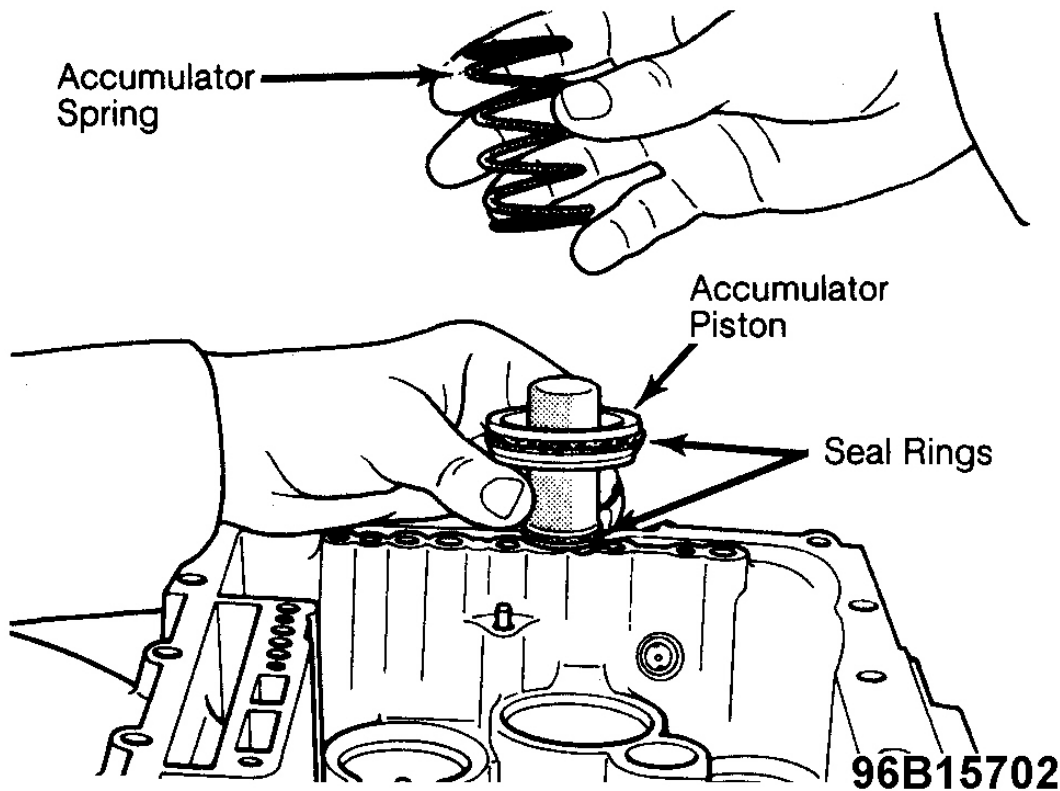


Fig. 20: Removing Accumulator Piston & Spring
Courtesy of CHRYSLER MOTORS.

KICKDOWN (FRONT) SERVO**Disassembly**

1. Remove kickdown servo retaining snap ring. Remove kickdown servo piston rod guide, return spring and piston assembly.
2. Remove snap ring and separate piston rod from piston. If necessary, remove "O" rings from piston rod and rod guide, and sealing rings from piston.

Reassembly

To reassemble, reverse disassembly procedure.

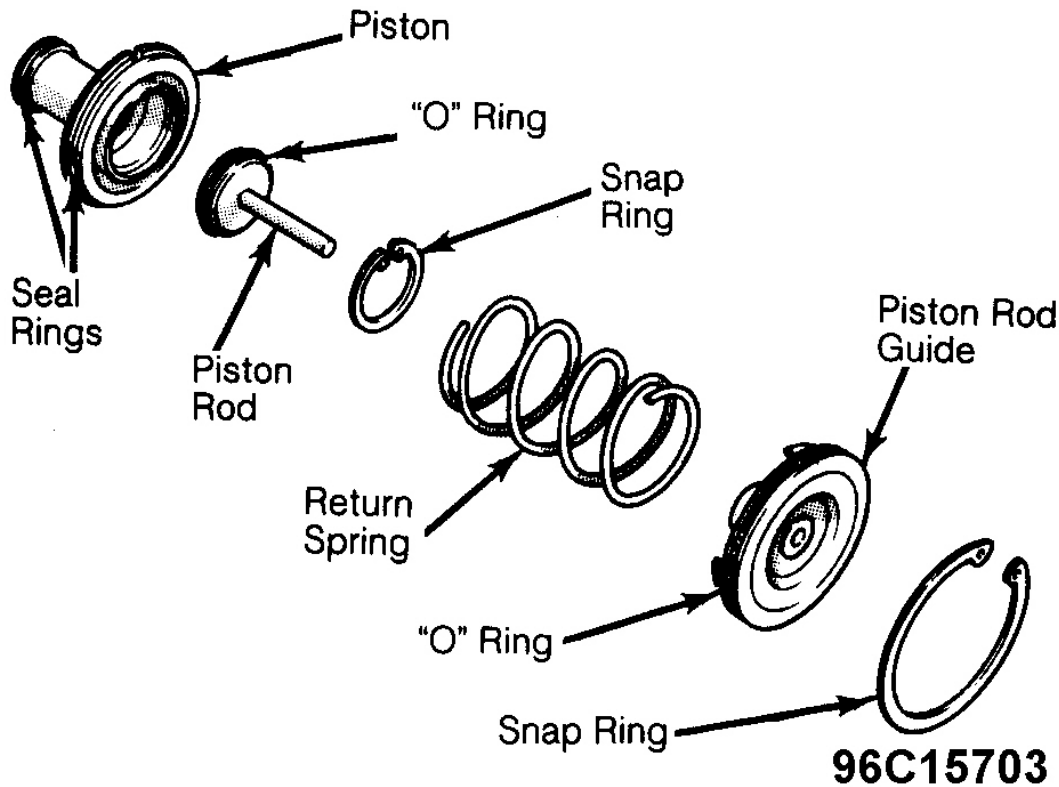


Fig. 21: Exploded View of Kickdown Servo
 Courtesy of CHRYSLER MOTORS.

DIFFERENTIAL ASSEMBLY

Disassembly

1. If necessary for replacement, remove differential side bearings from carrier using a puller. Using a punch, remove differential pinion shaft roll pin. Drive pinion shaft from differential case.
2. Rotate pinion gears to differential case opening, then remove pinion gears, side gears and the 4 thrust washers. If necessary for replacement, remove ring gear attaching bolts. Press ring gear off differential case.

Reassembly

To reassemble, reverse disassembly procedure. Immerse ring gear in boiling water for 15 minutes before installing on differential case.

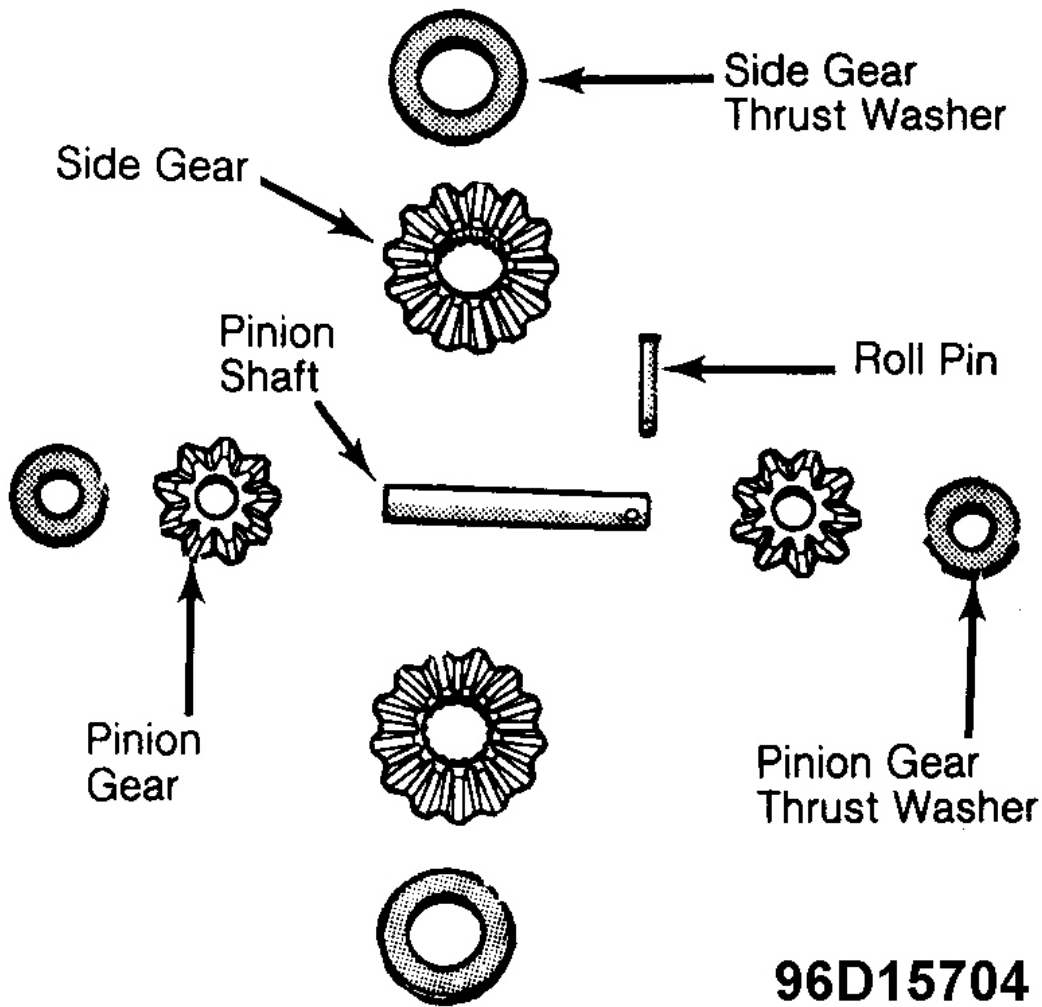


Fig. 22: View of Differential Gears, Thrust Washers & Pinion Shaft
 Courtesy of CHRYSLER MOTORS.

TRANSAXLE REASSEMBLY & ADJUSTMENT

DIFFERENTIAL ASSEMBLY

Differential bearing preload must be adjusted if any of the following components have been replaced:

- Transaxle Case
- Differential Carrier
- Differential Bearing Retainer
- Extension Housing

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- Differential Bearings

If none of these parts are replaced, differential may be reassembled using the original adjusting shims.

1. Remove differential bearing outer race and preload adjusting shim from differential bearing retainer. If differential bearings have been replaced, also replace outer race in extension housing.
2. Install .020 (.50 mm) gauging shim in differential bearing retainer and reinstall bearing outer race. Install a new outer race in extension housing (if removed).
3. Position differential assembly in transaxle case. Install extension housing on case and tighten attaching bolts. Install differential bearing retainer and tighten attaching bolts.
4. Position transaxle assembly vertically in support stand and install Adapter (L-4436) into extension housing. Rotate differential at least one full turn to ensure tapered roller bearings are fully seated.

NOTE: Adapter (L-4436) fits through extension housing and rests on pinion shaft.

5. Attach dial indicator to case. See **Fig. 23** . Position indicator tip on end of adapter and zero dial indicator.

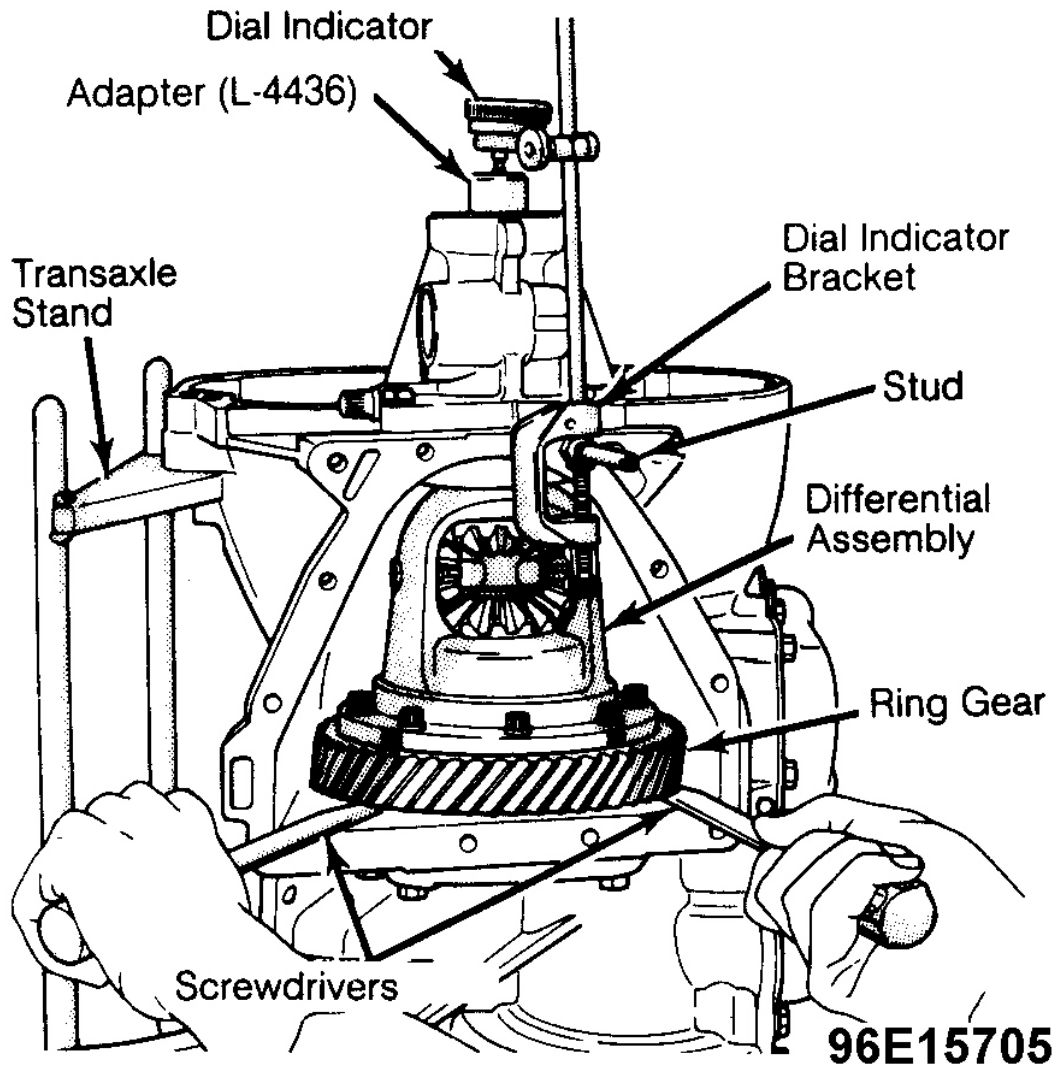


Fig. 23: Measuring Differential End Play
 Courtesy of CHRYSLER MOTORS.

6. Place a large screwdriver under each side of ring gear and lift. Check dial indicator for amount of end play.

CAUTION: DO NOT damage transaxle case or differential cover sealing surface when lifting ring gear.

7. To determine shim combination required to obtain correct differential bearing preload, see the **DIFFERENTIAL BEARING SHIM** table.
8. Remove differential bearing retainer. Remove differential bearing outer race and gauging shim from

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retainer. Install proper shim combination, as determined in step 7), under bearing race. Ensure oil baffle is installed properly in retainer, below bearing shims and race. Reinstall bearing retainer in case. Use RTV sealant between retainer and case.

9. To check adjustment, oil differential bearings. Insert Adapter (L-4436) through extension housing to engage differential assembly.
10. Using an INCH lb torque wrench, check differential turning torque. Turning torque with differential bearing preload correctly adjusted should be 5-18 INCH lbs. (.55-2.0 N.m). If not, install a .002" (.05 mm) thinner shim to decrease torque or a .002" (.05 mm) thicker shim to increase torque.
11. When correct torque has been obtained, remove torque wrench, apply 1/8" bead of RTV sealant around differential cover and install cover on case. Install and tighten attaching bolts. Oil and install a new extension housing oil seal.

DIFFERENTIAL BEARING SHIM

End Play with Gauging Shim Installed In. (mm)	Required Shim Combination In. (mm)
.000 (.00)	⁽¹⁾ .020 (.50)
.002 (.05)	.030 (.75)
.004 (.10)	.032 (.80)
.006 (.15)	.034 (.85)
.008 (.20)	.035 (.90)
.010 (.25)	.037 (.95)
.012 (.30)	.039 (1.00)
.014 (.35)	.041 (1.05)
.016 (.40)	.020+.024 (.50+.60)
.018 (.45)	.020+.026 (.50+.65)
.020 (.50)	.020+.027 (.50+.70)
.022 (.55)	.020+.030 (.50+.75)
.024 (.60)	.020+.032 (.50+.80)
.026 (.65)	.020+.034 (.50+.85)
.027 (.70)	.020+.035 (.50+.90)
.029 (.75)	.020+.037 (.50+.95)
.031 (.80)	.020+.039 (.50+1.00)
.033 (.85)	.020+.041 (.50+1.05)
.035 (.90)	.039+.024 (1.00+.60)
.037 (.95)	.039+.026 (1.00+.65)
.039 (1.00)	.039+.027 (1.00+.70)
.041 (1.05)	.039+.030 (1.00+.75)
.043 (1.10)	.039+.032 (1.00+.80)
.045 (1.15)	.039+.034 (1.00+.85)
.047 (1.20)	.039+.035 (1.00+.90)
.049 (1.25)	.039+.037 (1.00+.95)
.051 (1.30)	.039+.039 (1.00+1.00)
.053 (1.35)	.039+.041 (1.00+1.05)

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.055 (1.40)

.041+.041 (1.05+1.05)

(1) Gauging shim.

OUTPUT SHAFT ASSEMBLY

The following procedure includes end play adjustment for the output shaft. If any of the following components have been replaced, end play must be checked and adjusted.

- Transaxle Case
- Output Shaft
- Rear Planetary Annulus Gear
- Output Shaft Gear
- Rear Annulus and Output Shaft Gear Bearings or Races
- Overrunning Clutch Races

If none of these components are replaced, and output shaft bearing turning torque is 3-8 INCH lbs. (.3-.9 N.m), reassemble output shaft in case using original adjusting shim (spacer).

1. Install output shaft into transaxle case. Install .537" (13.65 mm) and .053" (1.34 mm) gauging shims on planetary rear annulus gear hub using grease to hold shims in place.

NOTE: The .537" (13.65 mm) gauging shim has a larger inside diameter and must be installed over output shaft first. The .053" (1.34 mm) shim pilots on the output shaft

2. Place output shaft gear in position on output shaft. Install washer and retaining nut. Hold output shaft stationary and tighten retaining nut to 200 ft. lbs. (271 N.m)
3. Attach Holder (L-4432) to output shaft gear. Mount a steel ball into end of output shaft and retain in place with grease. Push and pull gear while rotating back and forth to ensure seating of roller bearings. Attach a dial indicator to case and position plunger against steel ball.
4. Move output shaft in and out and measure end play. Refer to **OUTPUT SHAFT BEARING SHIM TABLE** to determine required shim combination.

NOTE: The .537" (13.65 mm), .518" (13.15 mm) and .498" (12.65 mm) shims are always installed first. These shims have lubrication slots which are necessary for proper bearing lubrication.

5. With proper shim combination determined, remove output shaft gear from case. Remove gauging shims from annulus gear hub and install correct shims. Hold shims in place with grease. Reinstall output shaft gear and tighten retaining nut.
6. Using an INCH lb. torque wrench, check output shaft bearing turning torque. Turning torque should be 3-8 INCH lbs. (.3-.9 N.m). If torque is not within limits, correct by changing shim thickness in increments of .002" (.05 mm). To reduce torque, increase total shim thickness. To increase torque, decrease shim thickness.

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OUTPUT SHAFT BEARING SHIM

End Play with Gauging Shim Installed In. (mm)	Required Shim Combination In. (mm)
.000 (.00)	⁽¹⁾ .537+.053 (13.65+1.34)
.002 (.05)	.537+.049 (13.65+1.24)
.004 (.10)	.537+.047 (13.65+1.19)
.006 (.15)	.537+.045 (13.65+1.14)
.008 (.20)	.537+.043 (13.65+1.09)
.010 (.25)	.537+.041 (13.65+1.04)
.012 (.30)	.537+.039 (13.65+.99)
.014 (.35)	.537+.037 (13.15+.94)
.016 (.40)	.518+.055 (13.15+1.39)
.018 (.45)	.518+.053 (13.15+1.34)
.020 (.50)	.518+.051 (13.15+1.29)
.022 (.55)	.518+.049 (13.15+1.24)
.024 (.60)	.518+.047 (13.15+1.19)
.026 (.65)	.518+.045 (13.15+1.14)
.028 (.70)	.518+.043 (13.15+1.09)
.030 (.75)	.518+.041 (13.15+1.04)
.032 (.80)	.518+.039 (13.15+.99)
.034 (.85)	.518+.037 (13.15+.94)
.036 (.90)	.498+.055 (12.65+1.39)
.038 (.95)	.498+.053 (12.65+1.34)
.040 (1.00)	.498+.051 (12.65+1.29)
.042 (1.05)	.498+.049 (12.65+1.24)
.044 (1.10)	.498+.047 (12.65+1.19)
.046 (1.15)	.498+.045 (12.65+1.14)
.048 (1.20)	.498+.043 (12.65+1.09)
.049 (1.25)	.498+.041 (12.65+1.04)
.051 (1.30)	.498+.039 (12.65+.99)
.053 (1.35)	.498+.037 (12.65+.94)
(1) Gauging shim.	

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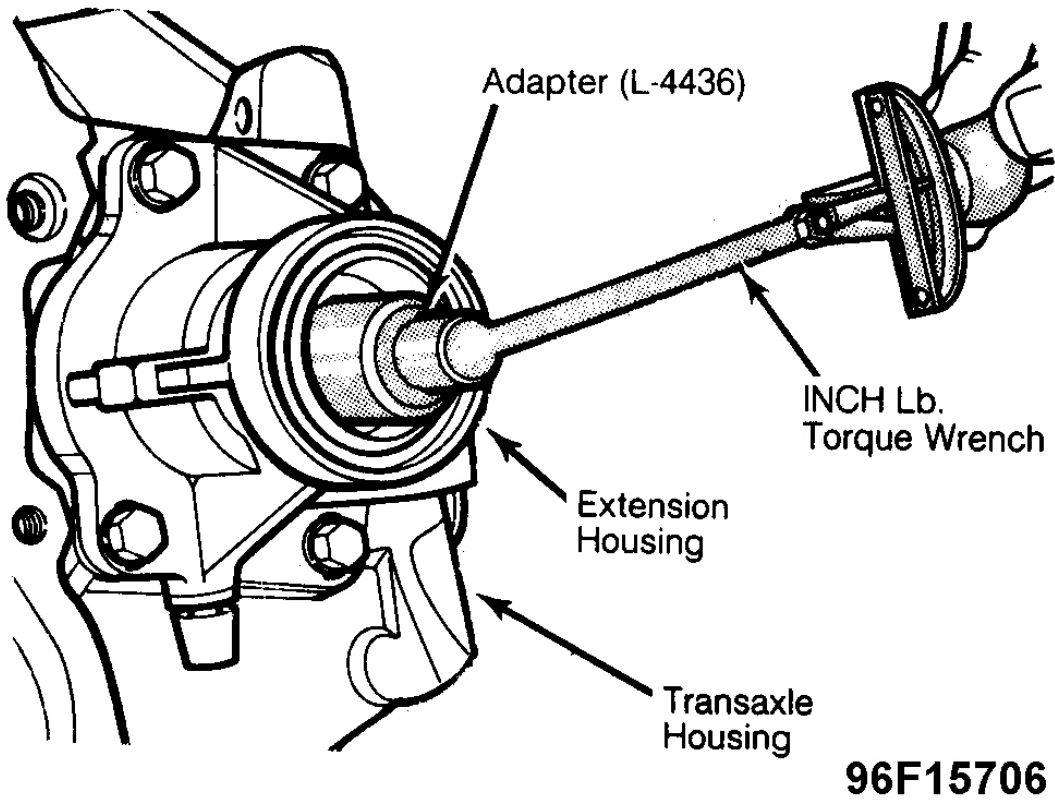


Fig. 24: Measuring Differential Turning Torque Using Adapter (L-4436)
Courtesy of CHRYSLER MOTORS.

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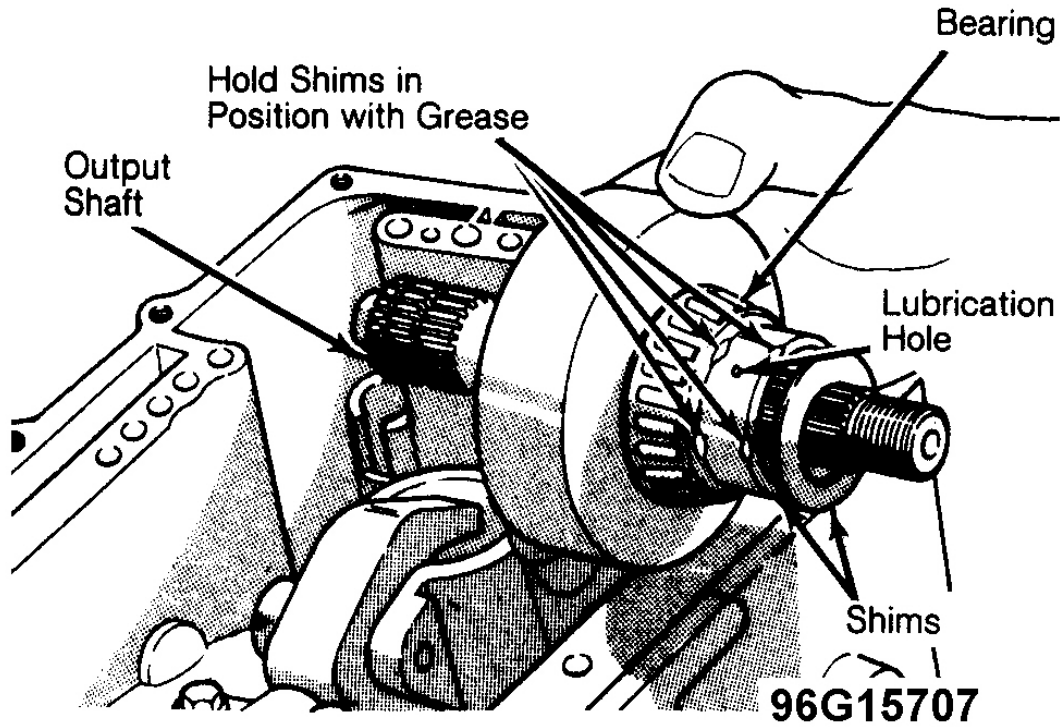


Fig. 25: Installing Output Shaft & Rear Planetary Annulus Gear Assy.
Courtesy of CHRYSLER MOTORS.

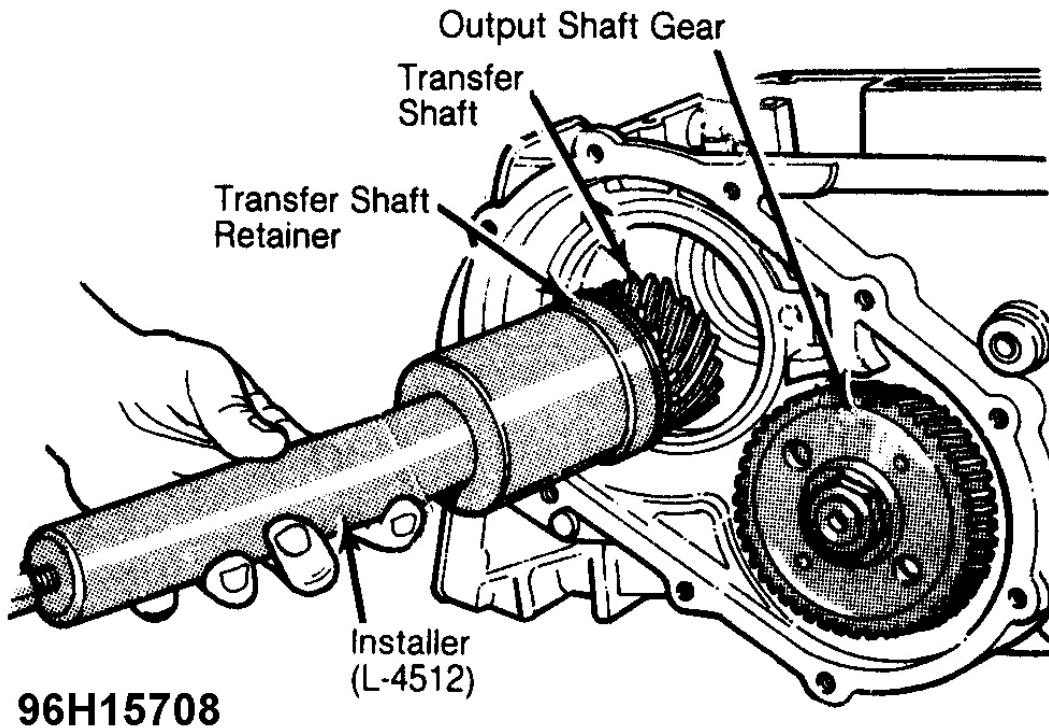


Fig. 26: Installing Transfer Shaft Into Case Using Installer (L-4512)
Courtesy of CHRYSLER MOTORS.

TRANSFER SHAFT, GOVERNOR & PARKING PAWL ASSEMBLIES

1. Position parking pawl and return spring in place in transaxle case. Slide parking pawl pivot shaft (small diameter to rear) through case bore and into parking pawl and spring. Install parking pawl retainer and tighten attaching bolts.
2. If necessary for replacement, install new oil seal and "O" rings on transfer shaft bearing retainer. Slide retainer onto transfer shaft.
3. Using installer (L-4512), install transfer shaft into transaxle case. Install transfer bearing retainer snap ring. Snap ring must be fully seated in groove in case.
4. Slide governor assembly onto transfer shaft. Install low-reverse band anchor pin into bore in transaxle case. Install governor support retainer.

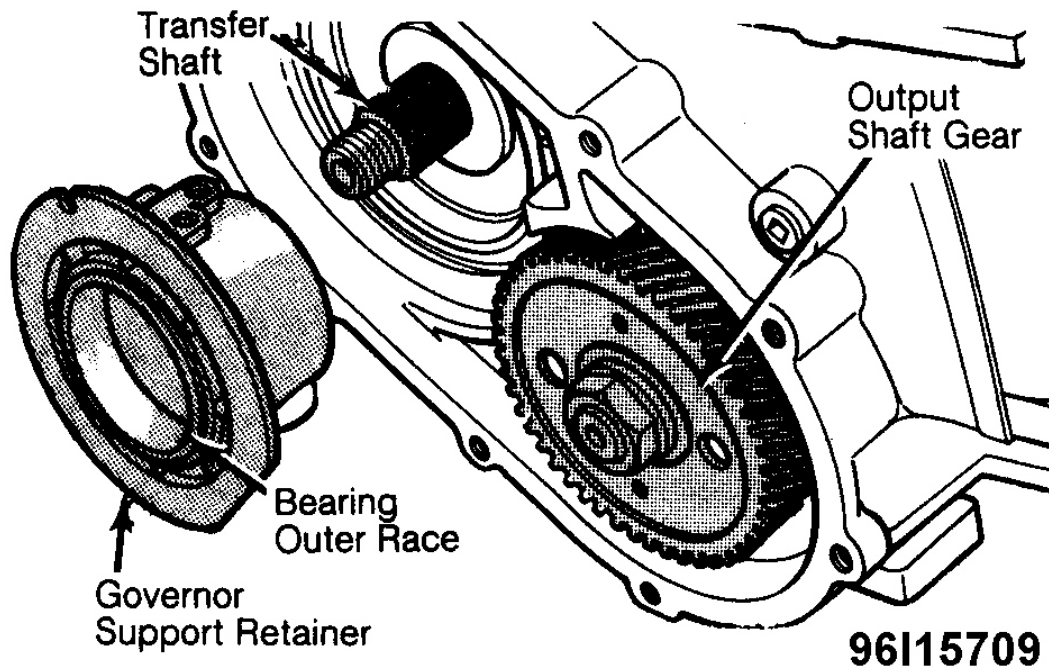


Fig. 27: Installing Governor Support Retainer
 Courtesy of CHRYSLER MOTORS.

5. If one or more of the following components have been replaced, transfer shaft end play must be measured and adjusted:
 - Transaxle Case
 - Transfer Shaft
 - Transfer Shaft Gear
 - Transfer Shaft Bearings
 - Governor Support Retainer
 - Transfer Shaft Bearing Retainer
 - Retainer Snap Ring
 - Governor Support
6. If none of these components are replaced, skip steps 7 -12 and reassemble transfer shaft assembly using original adjusting shims. See **Fig. 28** for location of shim.
7. Install .090" (229 mm) and .055" (1.39 mm) gauging shims on transfer shaft, behind governor support. Install transfer shaft gear and bearing assembly.
8. Hold transfer shaft stationary with holder. Install gear retaining nut and washer. Tighten nut to 200 ft. lbs. (271 N.m).
9. With holder installed, mount a steel ball into end of transfer shaft and hold in place with grease. Push and pull transfer shaft gear while rotating back and forth to ensure seating of bearings.

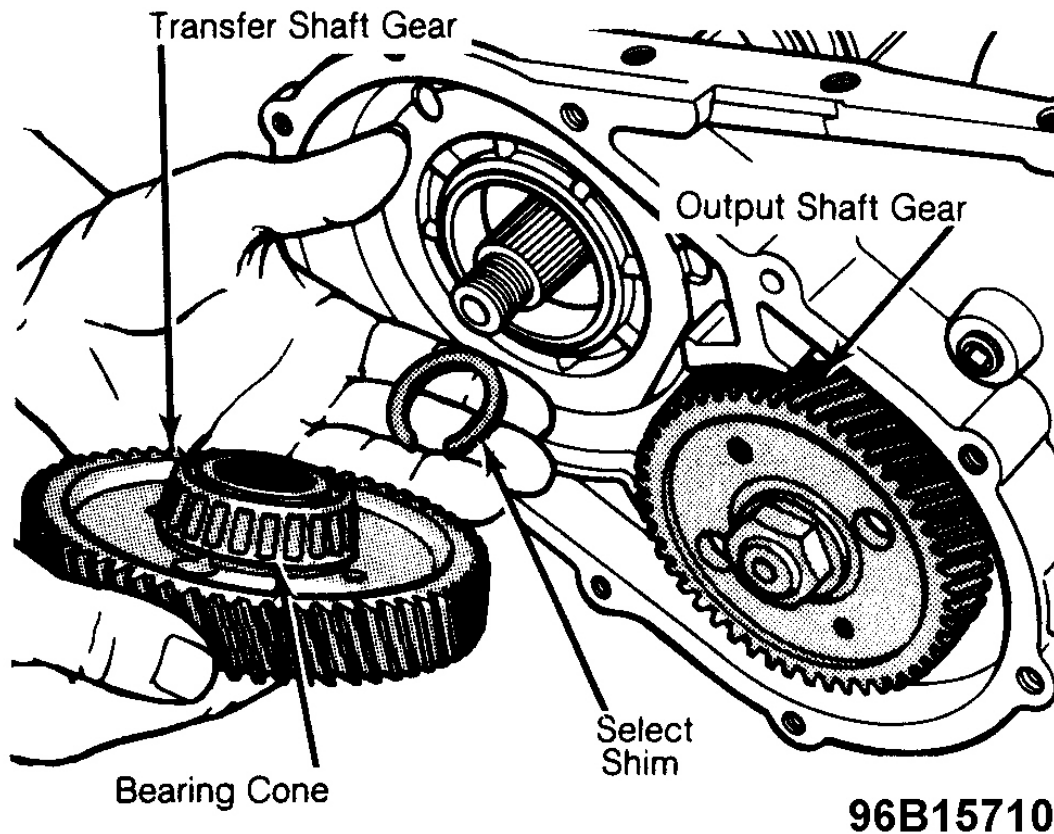


Fig. 28: Transfer Shaft With Gear Removed to Show Adjusting Shim
 Courtesy of CHRYSLER MOTORS.

10. Attach a dial indicator to case and position so that plunger contacts steel ball installed in end of transfer shaft. Move shaft in out and read end play.
11. With end play determined, see **TRANSFER SHAFT BEARING SHIM** to determine shim combination required to obtain proper bearing setting.
12. With correct shim combination determined, remove transfer shaft gear from shaft. Remove gauging shims and install selected shim combination. Install transfer shaft gear and bearing assembly and tighten nut to 200 ft. lbs. (271 N.m).
13. With correct shim combination installed, recheck transfer shaft end play. End play should be .002-.010" (.05-.25 mm). If bearing end play is too high, install a .002" (.05 mm) thinner shim combination. If end play is too low, install a .002" (.05 mm) thicker combination. Repeat until correct end play is obtained.
14. Apply a continuous bead of RTV sealer on rear cover mounting surface. Position cover on transaxle case. Install and tighten cover attaching bolts.

TRANSFER SHAFT BEARING SHIM

End Play with Gauging Shim Installed In. (mm)	Required Shim Combination In. (mm)
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.000-.006 (.00-.15)	(1) .090+.055 (2.29+1.39)
.008 (.20)	.090+.053 (2.29+1.34)
.010 (.25)	.090+.051 (2.29+1.29)
.012 (.30)	.090+.049 (2.29+1.24)
.014 (.35)	.090+.047 (2.29+1.19)
.016 (.40)	.090+.045 (2.29+1.14)
.018 (.45)	.090+.043 (2.29+1.09)
.020 (.50)	.090+.041 (2.29+1.04)
.022 (.55)	.090+.039 (2.29+.99)
.024 (.60)	.072+.055 (1.84+1.39)
.026 (.65)	.072+.053 (1.84+1.34)
.028 (.70)	.072+.051 (1.84+1.29)
.030 (.75)	.072+.049 (1.84+1.24)
.032 (.80)	.072+.047 (1.84+1.19)
.034 (.85)	.072+.045 (1.84+1.14)
.036 (.90)	.072+.043 (1.84+1.09)
.038 (.95)	.072+.041 (1.84+1.04)
.040 (1.00)	.072+.039 (1.84+.99)
.042 (1.05)	.055+.055 (1.39+1.39)
.044 (1.10)	.055+.053 (1.39+1.34)
.046 (1.15)	.055+.051 (1.39+1.29)
.048 (1.20)	.055+.049 (1.39+1.24)
.049 (1.25)	.055+.047 (1.39+1.19)
.050 (1.30)	.055+.045 (1.39+1.14)
.052 (1.35)	.055+.043 (1.39+1.09)
.055 (1.40)	.055+.041 (1.39+1.04)
.057 (1.45)	.055+.039 (1.39+.99)
.059 (1.50)	.037+.055 (.94+1.39)
.061 (1.55)	.037+.053 (.94+1.34)
.063 (1.60)	.037+.051 (.94+1.29)

(1) Gauging shim.

TRANSAXLE ASSEMBLY

1. Position rollers and springs in overrunning clutch cam using Spacer (L-4440) to hold them in place. See **Fig. 29** .
2. Install No. 11 thrust washer into case and over rear planetary annulus gear. Position low-reverse band around annulus gear in case. Install band strut.
3. Install overrunning clutch cam assembly (Spacer L-4440 installed) into case and remove spacer. Install thrust washer No. 10 (with tangs facing out) into position in rear planetary annulus gear.
4. Install rear planetary gear assembly into rear annulus gear. Install thrust washer No. 9 into case and

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ensure tabs on washer engage slots in planetary assembly

5. Position thrust washer No 7 inside sun gear driving shell and install sun gear in shell. Install No. 8 thrust washer on back side of driving shell and hold in place with snap ring. Install driving shell into case. Install thrust washer No. 6 (with tangs facing out) into driving shell.
6. Install front planetary gear assembly into case and make sure it engages tabs of thrust washer No. 6. Install front planetary gear assembly retaining snap ring into groove in output shaft.
7. Slide thrust washer No. 3 onto end of output shaft. Position thrust washer No. 2 in rear clutch drum. Install rear clutch/input shaft assembly in case.

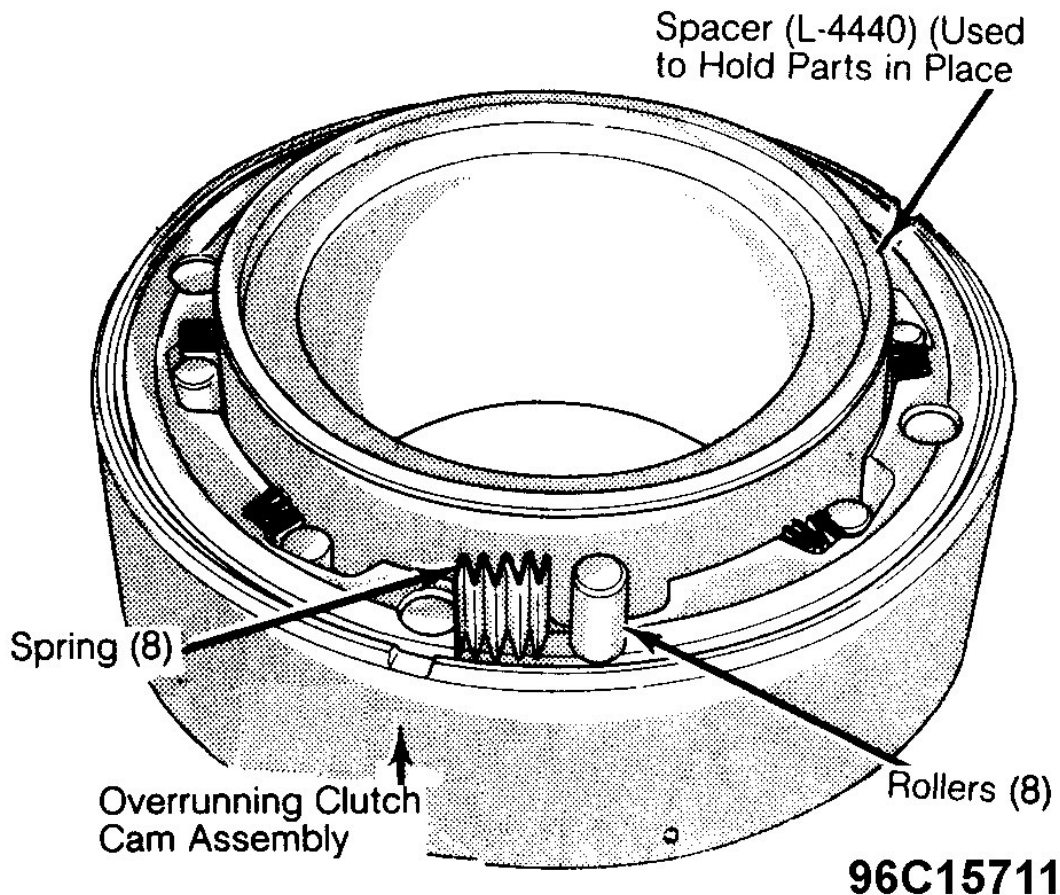


Fig. 29: Installing Rollers & Springs in Overrunning Clutch Cam Assy.
Courtesy of CHRYSLER MOTORS.

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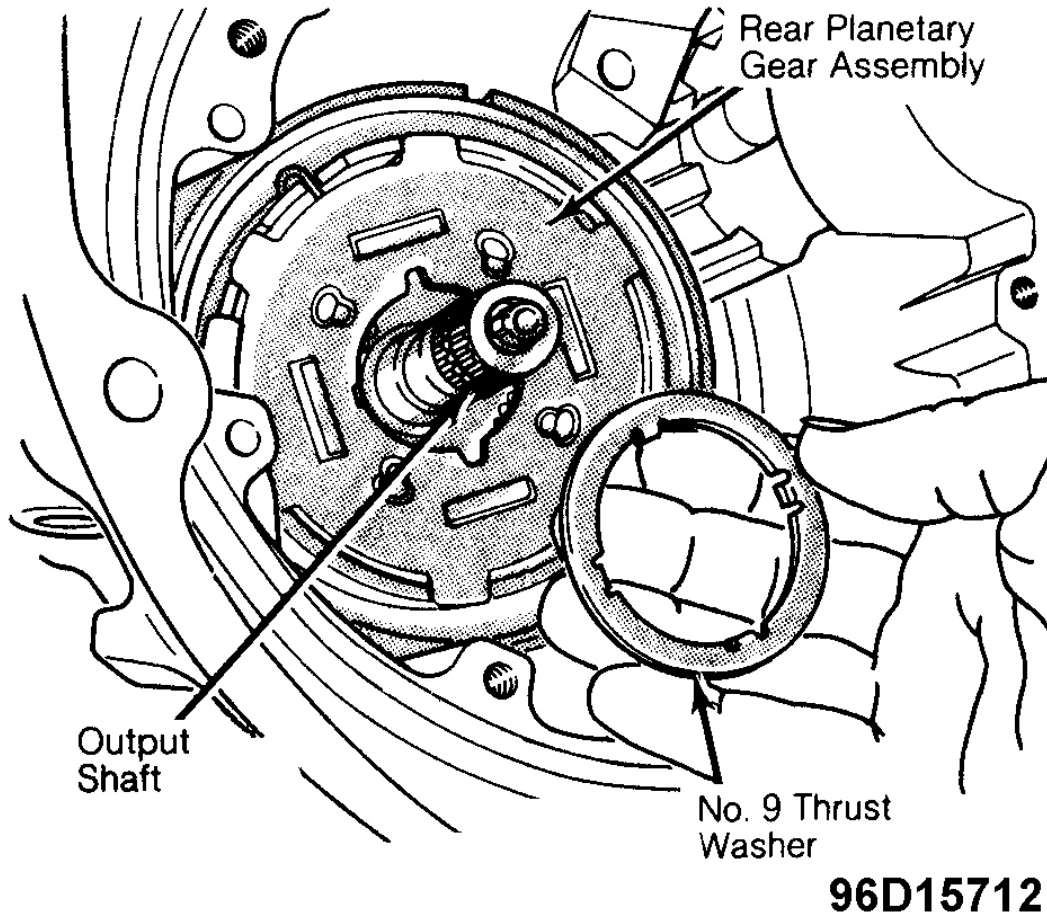


Fig. 30: Installed View of Rear Planetary Assembly
Courtesy of CHRYSLER MOTORS.

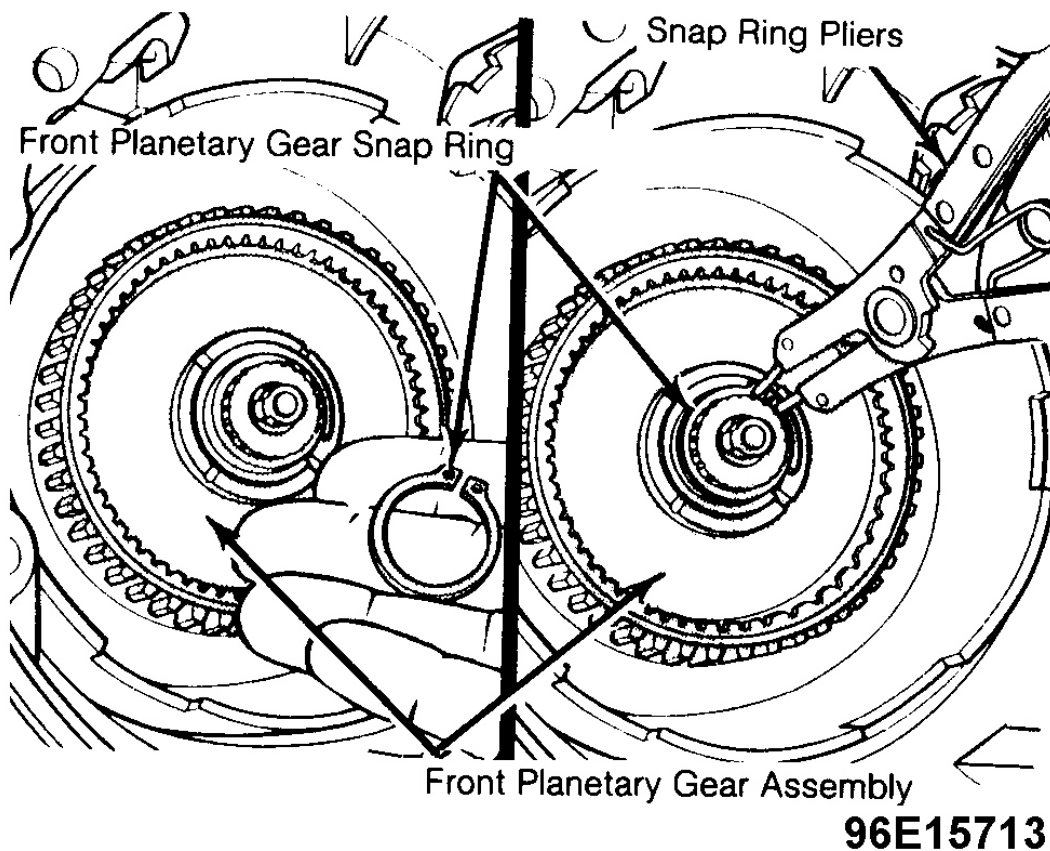


Fig. 31: Installing Front Planetary Gear Assembly Retaining Snap Ring
 Courtesy of CHRYSLER MOTORS.

CAUTION: No. 3 thrust washer controls input shaft end play. Refer to **INPUT SHAFT END PLAY** in this article. If necessary, install a new thrust washer of correct thickness.

8. Install front clutch assembly in case. Ensure tabs on front clutch drum engage slots in rear clutch drum.
9. Position kickdown (front) band in place on front clutch drum. Install band strut. Tighten kickdown band adjusting screw just enough to hold parts in place.
10. Install oil pump gasket in case. Ensure oil holes in gasket align with holes in case. Install oil pump assembly and No. 1 thrust washer in case. Use NEW bolts when installing pump.

NOTE: Input shaft end play should be rechecked to ensure correct No. 3 thrust washer has been installed.

11. If necessary, remove oil pump seal using Seal Remover (C-3981). See **Fig. 32** . Drive new seal (seal lip facing inward) into oil pump until it is fully seated.

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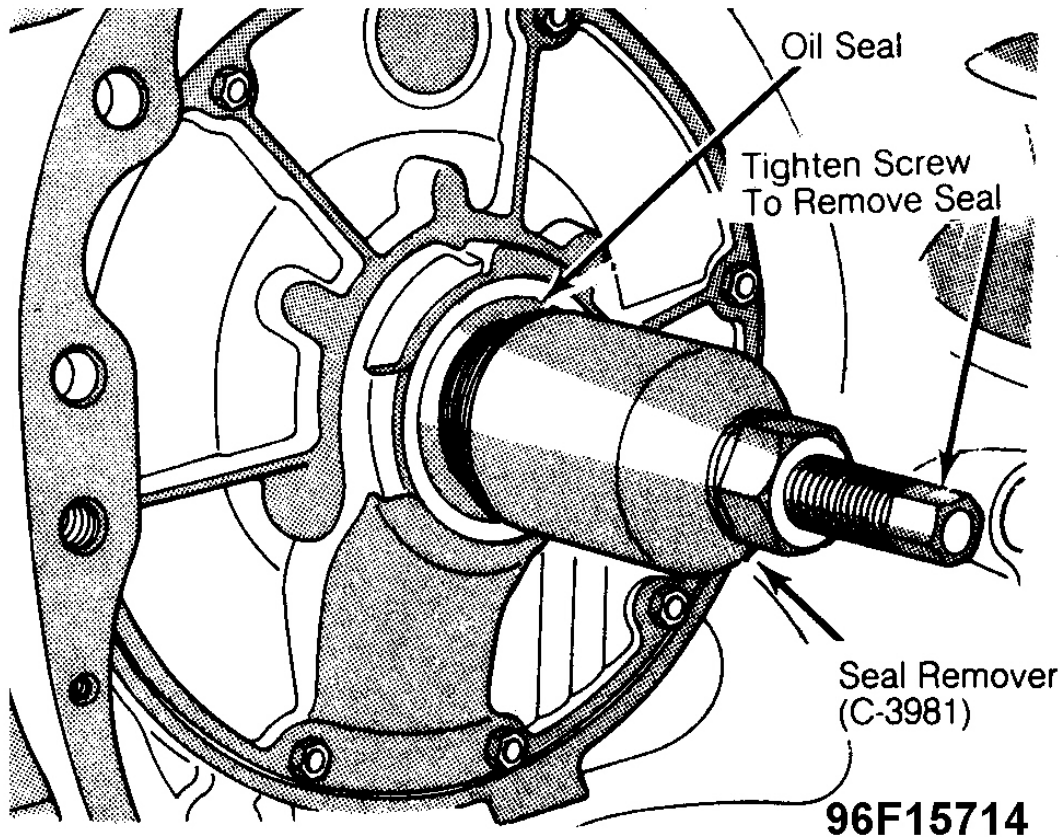


Fig. 32: Removing Oil Pump Seal
Courtesy of CHRYSLER MOTORS.

- Carefully install valve body in case while guiding governor tubes into position. Install valve body attaching bolts. Tighten bolts alternately and evenly.
- Install park rod into case and secure to throttle valve lever with "E" clip. Install neutral safety/back-up light switch. Install oil filter on valve body and tighten attaching screws. Install oil pan on case using only RTV sealer.

THRUST WASHER

Thrust Washer (No.)	Thickness In. (mm)
Reaction Shaft Support (1)	.061-.063 (1.55-1.60)
Rear Clutch Retainer (2)	.061-.063 (1.55-1.60)
Output Shaft-Selective (3)	
Option 1	.077-.080 (1.98-2.03)
Option 2	.085-.087 (2.15-2.22)
Option 3	.092-.095 (2.34-2.41)
Front Annulus (4)	.116-.120 (2.95-3.05)

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Front Carrier (5 & 6)	.048-.050 (1.22-1.28)
Sun Gear (7 & 8)	.033-.036 (.85-.91)
Rear Carrier (9 & 10)	.048-.050 (1.22-1.28)
Reverse Drum (11)	.061-.063 (1.55-1.60)

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Converter-to-Drive Plate Bolt	55 (75)
Differential Bearing Retainer-to-Case Bolt	21 (28)
Drive Plate-to-Crankshaft Bolt	70 (95)
Extension Housing-to-Case Bolt	21 (28)
Front Mount-to-Engine Bolt	21 (28)
Governor Counterweight Screw	21 (28)
Kickdown (Front) Band Adjusting Screw Lock Nut	35 (47)
Neutral Safety Switch	25 (34)
Oil Pump-to-Case Bolts	23 (31)
Output Shaft Gear Nut	200 (271)
Reaction Shaft Bolt	21 (28)
Ring Gear-to-Carrier Bolt	70 (95)
Side Mount-to-Engine Bolt	40 (54)
Starter-to-Bellhousing Bolt	40 (54)
Transaxle-to-Engine Bolt	70 (95)
Transfer Shaft Gear Nut	200 (271)
Valve Body Sprag Retainer-to-Case Bolt	21 (28)
	INCH Lbs. (N.m)
Bellhousing Cover Bolts	105 (12)
Differential Cover-to-Case Bolt	165 (19)
Governor-to-Support Bolt	60 (7)
Oil Pan-to-Case Bolt	165 (19)
Rear Cover-to-Case Bolt	165 (19)
Reverse Band Shaft Plug	60 (70)
Speedometer Pinion Retaining Bolt	60 (7)
Valve Body	
Attaching Bolts	40 (5)
Oil Filter Screws	40 (5)
Transfer Plate Screws	40 (5)
Transfer Plate-to-Case Bolt	105 (12)