GROUP TAB LOCATOR

FLUID CAPACITIES

SPECIFICATIONS

FLUID CAPACITIES

DESCRIPTION	SPECIFICATION
FUEL TANK	
1500 Series with 6.5' Short Box	98 L (26 gal.)*****
2500 Series Club Cab and Quad Cab with 6.5' Short Box	129 L (34 gal.)*****
All 8' Long Box	132 L (35 gal.)*****
All Cab/Chassis Models	132 L (35 gal.)*****
ENGINE OIL WITH FILTER	
3.9L	4.2 L (4.5 qts.)
5.2L	4.7 L (5.0 qts.)
5.9L	4.7 L (5.0 qts.)
8.0L	6.6 L (7.0 qts.)
5.9L DIESEL	10.4 L (11.0 qts.)
COOLING SYSTEM	
3.9L	19 L (20 qts.)****
5.2L	19 L (20 qts.)****
5.9L	19 L (20 qts.)****
8.0L	24.5 L (26.0 qts.)****
5.9L DIESEL	22.7 L (24.0 qts.)****
POWER STEERING	
Power steering fluid capacities are dependent on engine/chassis options as well as steering gear/cooler options. Depending on type and size of internal cooler, length and inside diameter of cooler lines, or use of an auxiliary cooler, these capacities may vary. Refer to 19, Steering for proper fill and bleed procedures.	
AUTOMATIC TRANSMISSION	
Service Fill - 42RE	3.8 L (4.0 qts.)
O-haul - 42RE	9-9.5 L (19-20 pts.)*
Service Fill - 44RE	3.8 L (4.0 qts.)
O-haul - 44RE	9-9.5 L (19-20 pts.)*
Service Fill - 46RE	3.8 L (4.0 qts.)
O-haul - 46RE	9-9.5 L (19-20 pts.)*
Service Fill - 47RE	3.8 L (4.0 qts.)
O-haul - 47RE	14-16 L 29-33 pts.)*

DESCRIPTION	SPECIFICATION
Dry fill capacity Depending on type and size of internal cooler, length and inside diameter of cooler lines, or use of an auxiliary cooler, these figures may vary. Refer to 21, Transmission for proper fluid fill procedure. (Refer to 21 - TRANSMISSION/TRANSAXLE/ AUTOMATIC/FLUID - STANDARD PROCEDURE)	
MANUAL TRANSMISSION	
NV3500	2.0 L (4.2 pts.)
NV4500	3.8 L (8.0 pts.)
NV4500 HD	3.8 L (8.0 pts.)
NV5600	4.5 L (9.5 pts.)
TRANSFER CASE	
NV231 HD	1.2 L (2.5 pts.)
NV241	2.18 L (4.61 pts.)
NV241 HD	3.08 L (6.51 pts.)
FRONT AXLE	
Model 216-FBI	2.3 L (4.8 pts.)
Model 248-FBI	4.0L (8.5 pts.)
REAR AXLE	
9-1/4 inch	2.1 L (4.5 pts.)
248-RBI(2WD)	3.0 L (6.3 pts.)
248-RBI(4WD)	3.4L (7.0 pts.)
267-RBI(2WD)	3.3 L (7.0 pts.)
267-RBI (4WD)	3.6L (7.5 pts.)
286-RBI (2WD)	3.2 L (6.8 pts.)
286-RBI (4WD)	4.8 L (10.1 pts.)
REAR AXLE—LIMITED SLIP DIFFERENTIAL	
9-1/4 inch	2.2 L (4.7 pts.) ±
248-RBI (2WD)	3.0 L (6.3 pts.**)
248-RBI (4WD)	3.4 L (7.0 pts.)
267-RBI	3.3 L (7.0 pts.**)
267-RBI (4WD)	3.6 L (7.5 pts.)
286-RBI (2WD)	3.2 L (6.8 pts.**)
286-RBI (4WD)	4.8 L (10.1 pts.***)
** Include 0.05 L (0.25 pts.) friction modifier.	
*** Include 0.19 L (0.4 pts.) friction modifier.	
± Include 0.1 L (0.2 pts.) friction modifier.	
**** Includes 0.9L (1.0 qts.) for coolant reservoir.	
*****Nominal refill capacities are shown. A variation may be observed from vehicle to vehicle due to manufacturing tolerance and refill procedure.	

DIFFERENTIAL (Continued)

ASSEMBLY

(1) Install differential side gears and thrust washers.
(2) Install differential pinion and thrust washers.
(3) Install the pinion shaft.
(4) Align the hole in the pinion shaft with the hole in the differential case and install the pinion shaft lock screw.
(5) Lubricate all differential components with hypoid gear lubricant.

INSTALLATION

(1) Apply a coating of hypoid gear lubricant to the differential bearings, bearing cups, and threaded adjusters. A dab of grease can be used to keep the adjusters in position. Carefully position the assembled differential case in the housing.
(2) Observe the reference marks and install the differential bearing caps at their original locations (Fig. 29).

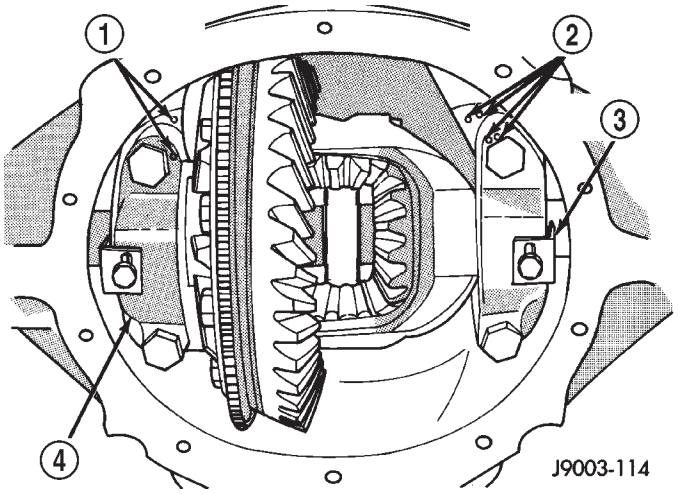


Fig. 29 Bearing Caps & Bolts

1 - REFERENCE MARKS
2 - REFERENCE MARKS
3 - ADJUSTER LOCK
4 - BEARING CAP

(3) Install bearing cap bolts and tighten the upper bolts to 14 N·m (10 ft. lbs.). Tighten the lower bolts finger-tight until the bolt head is seated.
(4) Perform the differential bearing preload and adjustment procedure.

NOTE: Be sure that all bearing cap bolts are tightened to their final torque of 136 N·m (100 ft.lbs.) before proceeding.

(5) Install the axle shafts.
(6) Apply a bead of Mopar Silicone Rubber Sealant or equivalent to the housing cover (Fig. 30).

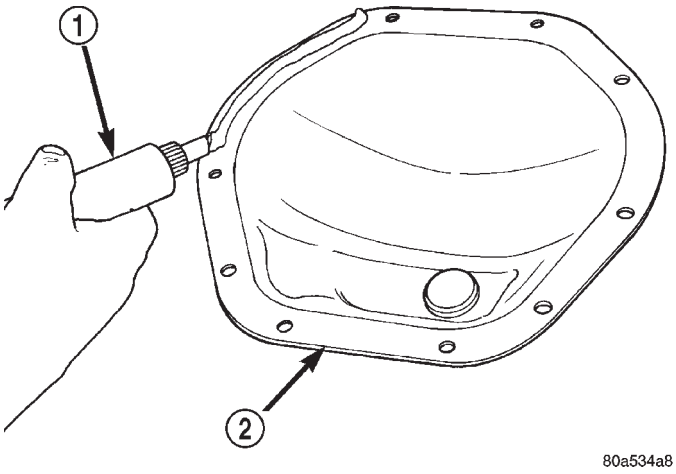


Fig. 30 Differential Cover

1 - SEALANT
2 - DIFFERENTIAL COVER

Install the housing cover within 5 minutes after applying the sealant.

(7) Install the cover and any identification tag. Tighten the cover bolts to 41 N·m (30 ft. lbs.) torque.
(8) Fill differential with lubricant to bottom of the fill plug hole. Refer to the Lubricant Specifications for the quantity and type.
(9) Install the fill hole plug and lower the vehicle.
(10) Trac-lok™ differential equipped vehicles should be road tested by making 10 to 12 slow figure-eight turns. This maneuver will pump the lubricant through the clutch discs to eliminate a possible chatter noise complaint.

DIFFERENTIAL - TRAC-LOK

DIAGNOSIS AND TESTING - TRAC-LOK™

The most common problem is a chatter noise when turning corners. Before removing a Trac-lok™ unit for repair, drain, flush and refill the axle with the specified lubricant. A container of Mopar Trac-lok™ Lubricant (friction modifier) should be added after repair service or during a lubricant change.

After changing the lubricant, drive the vehicle and make 10 to 12 slow, figure-eight turns. This maneuver will pump lubricant through the clutches. This will correct the condition in most instances. If the chatter persists, clutch damage could have occurred.

DIFFERENTIAL TEST

The differential can be tested without removing the differential case by measuring rotating torque. Make sure brakes are not dragging during this measurement.

(1) Place blocks in front and rear of both front wheels.

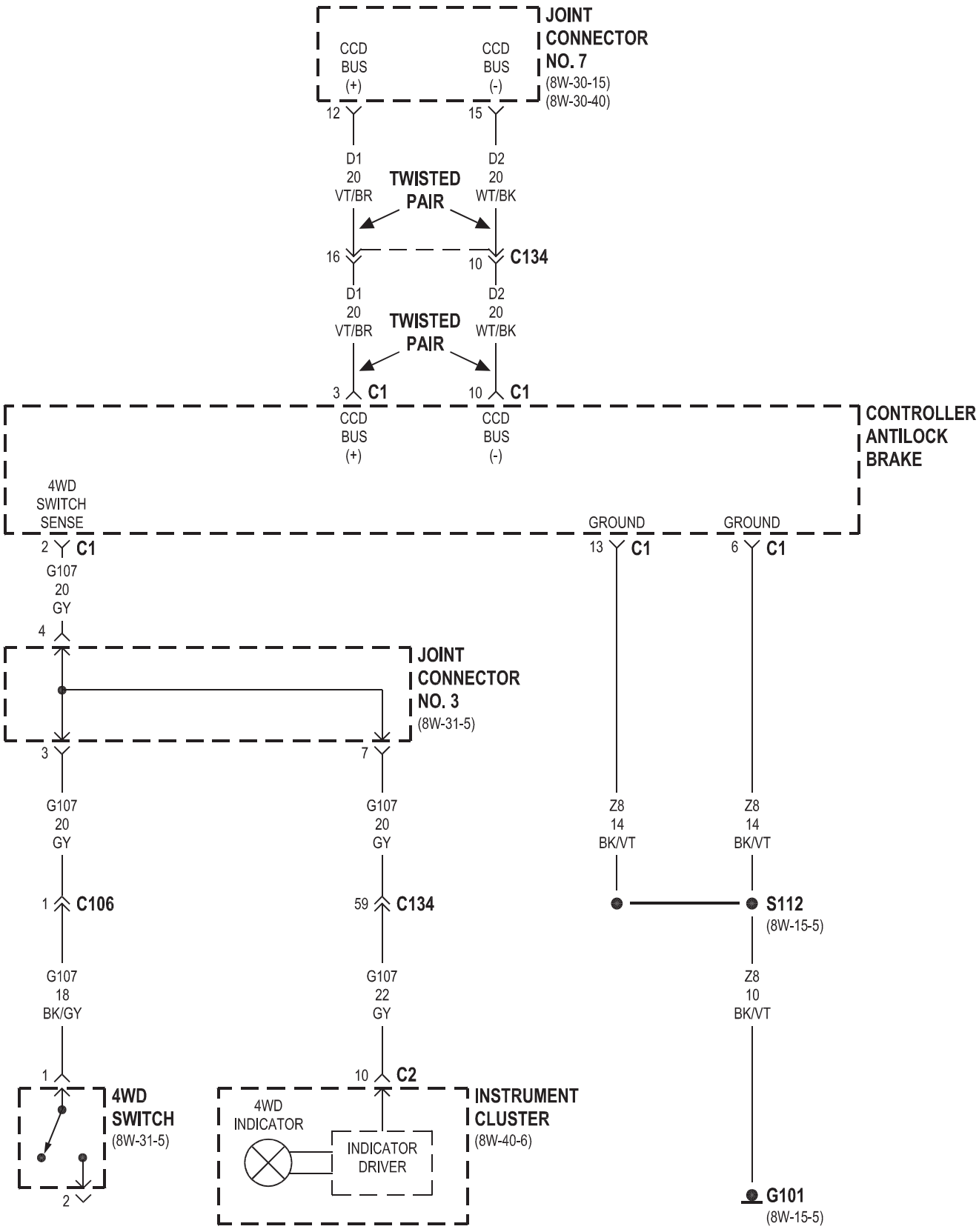
BATTERY SYSTEM (Continued)

BATTERY SYSTEM DIAGNOSIS		
CONDITION	POSSIBLE CAUSES	CORRECTION
THE BATTERY STATE OF CHARGE CANNOT BE MAINTAINED.	1. The battery has an incorrect size or rating for this vehicle.	1. Refer to Battery Specifications for the proper specifications. Replace an incorrect battery, as required.
	2. The battery terminal connections are loose or corroded.	2. Refer to Battery Cable for the proper cable diagnosis and testing procedures. Clean and tighten the battery terminal connections, as required.
	3. The generator drive belt is slipping.	3. Refer to Cooling System for the proper accessory drive belt diagnosis and testing procedures. Replace or adjust the faulty generator drive belt, as required.
	4. The electrical system ignition-off draw is excessive.	4. Refer to Standard Procedures for the proper test procedures. Repair the faulty electrical system, as required.
	5. The battery is faulty.	5. Determine the battery cranking capacity. Refer to Standard Procedures for the proper test procedures. Replace the faulty battery, as required.
	6. The starting system is faulty.	6. Determine if the starting system is performing to specifications. Refer to Starting System for the proper starting system diagnosis and testing procedures. Repair the faulty starting system, as required.
	7. The charging system is faulty.	7. Determine if the charging system is performing to specifications. Refer to Charging System for the proper charging system diagnosis and testing procedures. Repair the faulty charging system, as required.
	8. Electrical loads exceed the output of the charging system.	8. Inspect the vehicle for aftermarket electrical equipment which might cause excessive electrical loads.
	9. Slow driving or prolonged idling with high-amperage draw systems in use.	9. Advise the vehicle operator, as required.
THE BATTERY WILL NOT ACCEPT A CHARGE.	1. The battery is faulty.	1. Refer to Standard Procedures for the proper battery charging procedures. Charge or replace the faulty battery, as required.

ABNORMAL BATTERY DISCHARGING

Any of the following conditions can result in abnormal battery discharging:

- Corroded or loose battery posts and terminal clamps.
- A loose or worn generator drive belt.
- Electrical loads that exceed the output of the charging system. This can be due to equipment installed after manufacture, or repeated short trip use.
- Slow driving speeds (heavy traffic conditions) or prolonged idling, with high-amperage draw systems in use.
- A faulty circuit or component causing excessive ignition-off draw.
- A faulty or incorrect charging system component. Refer to Charging System for the proper charging system diagnosis and testing procedures.


JOINT CONNECTOR NO. 7
(8W-30-15)
(8W-30-40)
CCD BUS (+)
CCD BUS (-)
12
15
D1 20 VT/BR
D2 20 WT/BK
TWISTED PAIR
16
10
C134
D1 20 VT/BR
D2 20 WT/BK
TWISTED PAIR
3
C1
10
C1
CCD BUS (+)
CCD BUS (-)
CONTROLLER ANTILOCK BRAKE
4WD SWITCH SENSE
2
C1
G107 20 GY
4
JOINT CONNECTOR NO. 3
(8W-31-5)
3
7
G107 20 GY
G107 20 GY
1
C106
59
C134
G107 18 BK/GY
G107 22 GY
1
4WD SWITCH
(8W-31-5)
2
10
C2
4WD INDICATOR
INDICATOR DRIVER
INSTRUMENT CLUSTER
(8W-40-6)
GROUND
GROUND
13
C1
6
C1
Z8 14 BK/VT
Z8 14 BK/VT
S112
(8W-15-5)
Z8 10 BK/VT
G101
(8W-15-5)

ENGINE 3.9L (Continued)

SPECIFICATIONS

3.9L ENGINE

GENERAL DESCRIPTION

DESCRIPTION	SPECIFICATION
Engine Type	90° V-6 OHV
Bore and Stroke	99.3 x 84.0 mm (3.91 x 3.31 in.)
Displacement	3.9L (238 c.i.)
Compression Ratio	9.1:1
Firing Order	1–6–5–4–3–2
Cylinder Compression Pressure (Min.)	689.5 kPa (100 psi)
CAMSHAFT	
Bearing Diameter (Inside)	
No. 1	50.800 - 50.825 mm (2.000 - 2.001 in.)
No. 2	50.394 - 50.825 mm (1.984 - 1.985 in.)
No. 3	49.606 - 49.632 mm (1.953 - 1.954 in.)
No. 4	39.688 - 39.713 mm (1.5265 - 1.5653 in.)
Journal Diameter	
No. 1	50.749 - 50.775 mm (1.998 - 1.999 in.)
No. 2	50.343 - 50.368 mm (1.982 - 1.983 in.)
No. 3	49.555 - 49.581 mm (1.951 - 1.952 in.)
No. 4	39.637 - 39.662 mm (1.5605 - 1.5615 in.)
Bearing to Journal Clearance	
Standard	0.0254 - 0.0762 mm (0.001 - 0.003 in.)
Max Allowable	0.127 mm (0.005 in.)
End Play	0.051 - 0.254 mm (0.002 - 0.010 in.)
CONNECTING RODS	
Piston Pin Bore Diameter	24.940 - 24.978 mm (0.9819 - 0.9834 in.)
Side Clearance (Two Rods)	0.152 - 0.356 mm (0.006 - 0.014 in.)
Total Weight	762 grams (25.61 oz.)
CRANKSHAFT	
Rod Journal Diameter	53.950 - 53.975 mm (2.124 - 2.125 in.)
Rod Journal Out of Round (Max)	0.0254 mm (0.001 in.)
Rod Journal Taper (Max)	0.0254 mm (0.001 in.)
Rod Journal Bearing Clearance	0.013 - 0.056 mm (0.0005 - 0.0022 in.)
Rod Journal Service Limit	0.08 mm (0.003 in.)
Main Journal Diameter	63.487 - 63.513 mm (2.4995 - 2.5005 in.)
Main Journal Out of Round (Max)	0.0254 mm (0.001 in.)
Main Journal Taper (Max)	0.0254 mm (0.001 in.)

O2 SENSOR (Continued)

on preprogrammed (fixed) values and inputs from other sensors.

Upstream Sensors: Two upstream sensors are used (1/1 and 2/1). The 1/1 sensor is the first sensor to receive exhaust gases from the #1 cylinder. They provide an input voltage to the PCM. The input tells the PCM the oxygen content of the exhaust gas. The PCM uses this information to fine tune fuel delivery to maintain the correct oxygen content at the downstream oxygen sensors. The PCM will change the air/fuel ratio until the upstream sensors input a voltage that the PCM has determined will make the downstream sensors output (oxygen content) correct.

The upstream oxygen sensors also provide an input to determine mini-catalyst efficiency. Main catalytic convertor efficiency is not calculated with this package.

Downstream Sensors: Two downstream sensors are used (1/2 and 2/2). The downstream sensors are used to determine the correct air-fuel ratio. As the oxygen content changes at the downstream sensor, the PCM calculates how much air-fuel ratio change is required. The PCM then looks at the upstream oxygen sensor voltage, and changes fuel delivery until the upstream sensor voltage changes enough to correct the downstream sensor voltage (oxygen content).

The downstream oxygen sensors also provide an input to determine mini-catalyst efficiency. Main catalytic convertor efficiency is not calculated with this package.

Medium and Heavy Duty 8.0L V-10 Engine: Four oxygen sensors are used (2 upstream, 1 pre-catalyst and 1 post-catalyst). The upstream sensors (1/1 and 2/1) will fine-tune the air-fuel ratio through the Powertrain Control Module (PCM). The pre-catalyst (1/2) and post-catalyst (1/3) sensors will determine catalytic convertor efficiency (efficiency of the main catalytic convertor). This is also done through the PCM.

Heavy Duty 5.9L Engine: Downstream sensors are not used with this emissions package, meaning catalytic convertor efficiency is not calculated with this package. Two upstream sensors are used. The left upstream sensor (1/1) will monitor cylinders 1, 3, 5 and 7. The right upstream sensor (2/1) will monitor cylinders 2, 4, 6 and 8. The PCM monitors the oxygen content of the sensors, and will fine-tune the air-fuel ratio.

Engines equipped with either a downstream sensor(s), or a post-catalytic sensor, will monitor catalytic convertor efficiency. If efficiency is below emission standards, the Malfunction Indicator Lamp (MIL) will be illuminated and a Diagnostic Trouble Code (DTC) will be set. Refer to Monitored Systems in Emission Control Systems for additional information.

REMOVAL

Never apply any type of grease to the oxygen sensor electrical connector, or attempt any soldering of the sensor wiring harness. For sensor operation, it must have a comparison source of oxygen from outside the exhaust system. This fresh air is supplied to the sensor through its pigtail wiring harness.

The O2S (oxygen sensors) are numbered 1/1, 1/2, 1/3, 2/1 and 2/2.

On HDC engines, the pre-catalyst/post catalyst O2S sensors are located at the inlet and outlet ends of the catalytic converter (Fig. 39).

The 1/1 and 2/1 sensors are located before the mini-cats (Fig. 40). The 1/2 and 2/2 sensors are located after the mini-cats (Fig. 40).

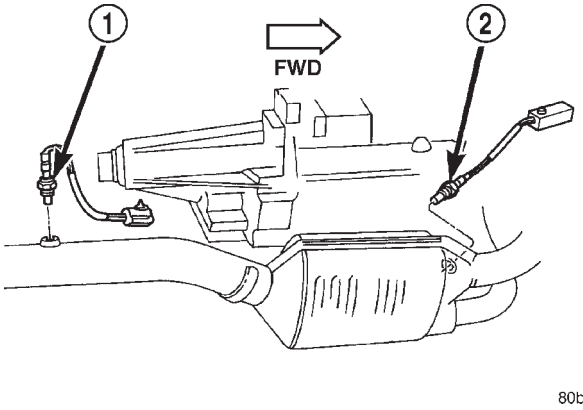


Fig. 39 Pre-catalyst/Post catalyst Oxygen Sensors—HDC Engines

1 - POST CATALYST OXYGEN SENSOR (1/3)
2 - PRE-CATALYST OXYGEN SENSOR (1/2)

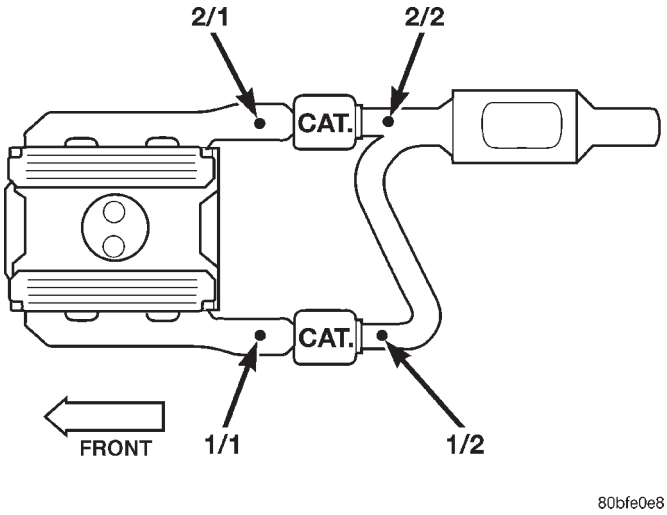


Fig. 40 Oxygen Sensors—5.2L/5.9L California Engines

MANUAL - NV4500 (Continued)

(c) Install springs in gear hub (Fig. 101). Use petroleum jelly to hold springs in place if desired.

(d) Compress first spring with flat blade screwdriver and slide strut into position in hub slot. Then work spring into seat in strut with small hooked tool or screwdriver.

(e) Install second and third struts in same manner as described in step (d).

(f) Work sleeve upward on hub until struts are centered and seated in sleeve. Sleeve should be in neutral position after seating struts.

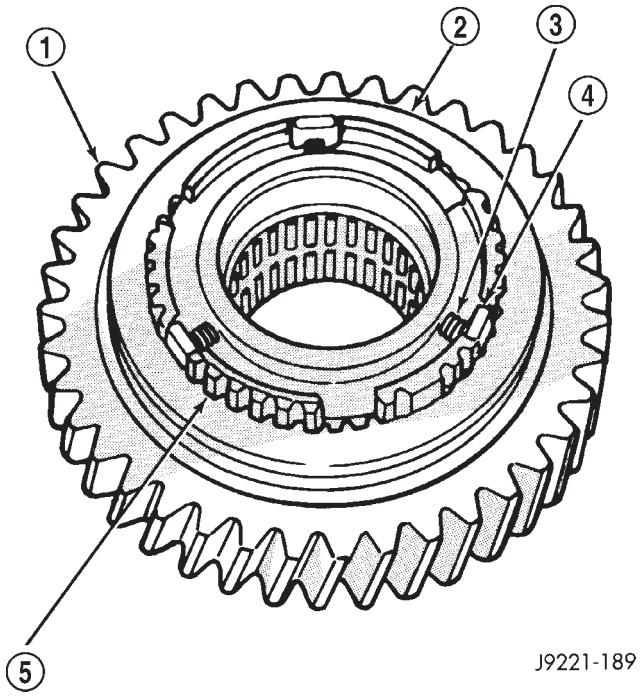


Fig. 101 Reverse Gear Synchro Assembly

1 - REVERSE GEAR
2 - SLEEVE
3 - SPRING (3)
4 - STRUT (3)
5 - HUB

(34) Install reverse gear and synchro assembly on mainshaft (Fig. 102). Rotate assembly until stop ring lugs engage in hub slots and gear drops into seated position.

(35) Install reverse gear thrust washer (Fig. 103).

(36) Install rear bearing on mainshaft with Installer 6446. Seat bearing on output shaft and against thrust washer (Fig. 104).

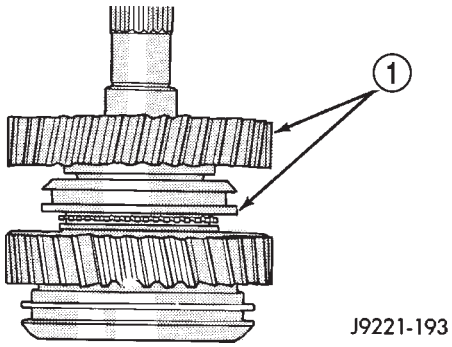


Fig. 102 Reverse Gear

1 - REVERSE GEAR AND SYNCHRO ASSEMBLY

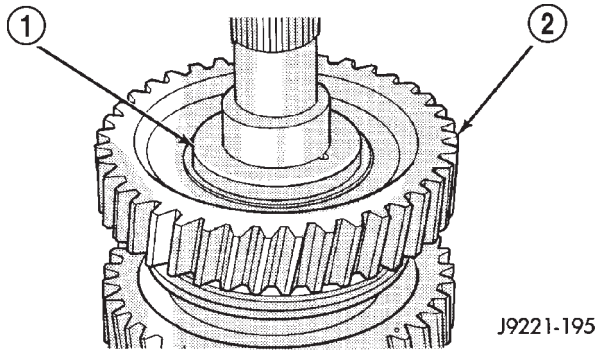


Fig. 103 Reverse Gear Thrust Washer

1 - THRUST WASHER
2 - REVERSE GEAR

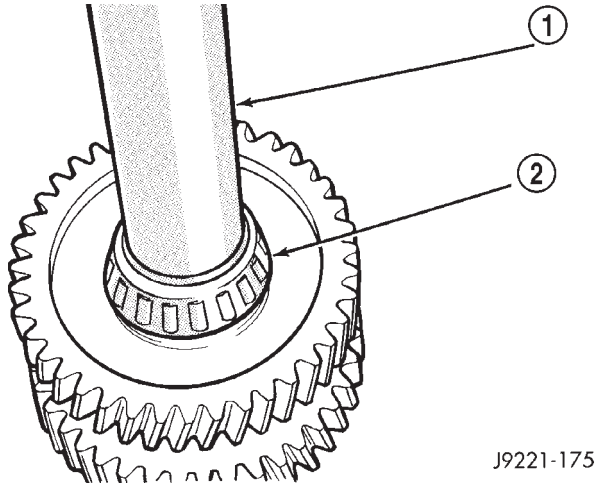
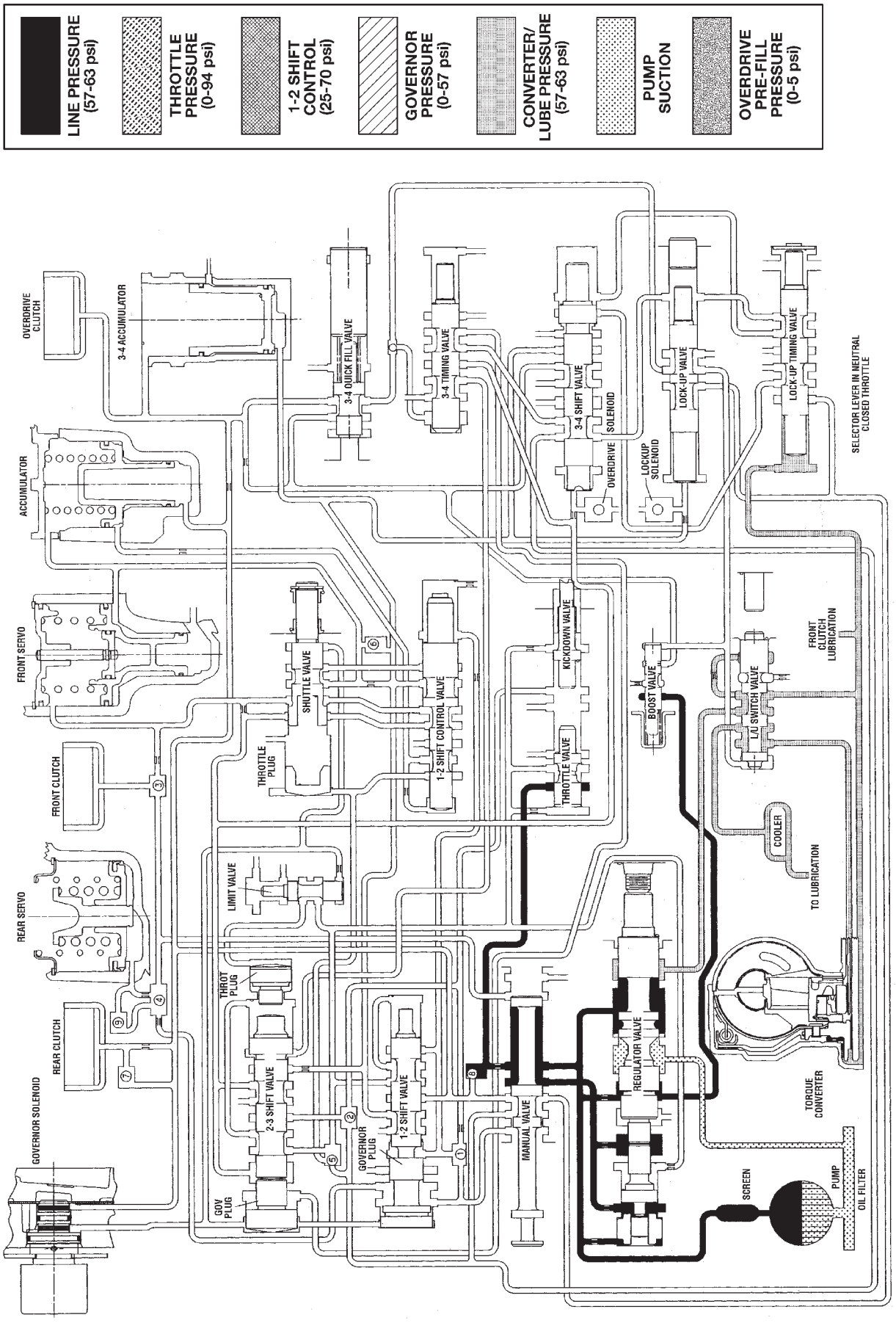


Fig. 104 Mainshaft Rear Bearing

1 - INSTALLER 6446
2 - MAINSHAFT REAR BEARING

AUTOMATIC TRANSMISSION - 42RE (Continued)



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HYDRAULIC FLOW IN NEUTRAL

VALVE BODY (Continued)

3-4 ACCUMULATOR

(1) Position converter clutch valve and 3-4 shift valve springs in housing (Fig. 313).

(2) Loosely attach accumulator housing with right-side screw (Fig. 313). Install only one screw at this time as accumulator must be free to pivot upward for ease of installation.

(3) Install 3-4 shift valve and spring.

(4) Install converter clutch timing valve and spring.

(5) Position plug on end of converter clutch valve spring. Then compress and hold springs and plug in place with fingers of one hand.

(6) Swing accumulator housing upward over valve springs and plug.

(7) Hold accumulator housing firmly in place and install remaining two attaching screws. Be sure springs and clutch valve plug are properly seated (Fig. 314). Tighten screws to 4 N·m (35 in. lbs.).

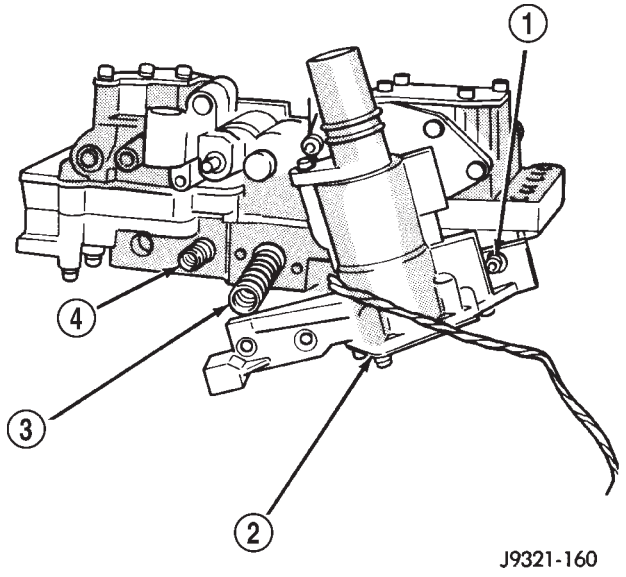


Fig. 313 Converter Clutch And 3-4 Shift Valve Springs

1 - RIGHT-SIDE SCREW
2 - 3-4 ACCUMULATOR
3 - 3-4 SHIFT VALVE SPRING
4 - CONVERTER CLUTCH VALVE SPRING

VALVE BODY FINAL

(1) Install boost valve, valve spring, retainer and cover plate. Tighten cover plate screws to 4 N·m (35 in. lbs.) torque.

(2) Insert manual lever detent spring in upper housing.

(3) Position detent ball on end of spring. Then hold detent ball and spring in detent housing with Retainer Tool 6583 (Fig. 315).

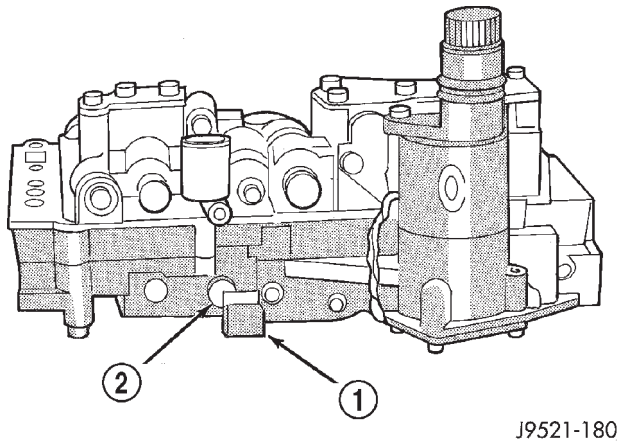


Fig. 314 Seating 3-4 Accumulator On Lower Housing

1 - ACCUMULATOR BOX
2 - CONVERTER CLUTCH VALVE PLUG

(4) Install throttle lever in upper housing. Then install manual lever over throttle lever and start manual lever into housing.

(5) Align manual lever with detent ball and manual valve. Hold throttle lever upward. Then press down on manual lever until fully seated. Remove detent ball retainer tool after lever is seated.

(6) Then install manual lever seal, washer and E-clip.

(7) Verify that throttle lever is aligned with end of kickdown valve stem and that manual lever arm is engaged in manual valve (Fig. 316).

(8) Position line pressure adjusting screw in adjusting screw bracket.

(9) Install spring on end of line pressure regulator valve.

(10) Install switch valve spring on tang at end of adjusting screw bracket.

(11) Install manual valve.

(12) Install throttle valve and spring.

(13) Install kickdown valve and detent.

(14) Install pressure regulator valve.

(15) Install switch valve.

(16) Position adjusting screw bracket on valve body. Align valve springs and press bracket into place. Install short, upper bracket screws first and long bottom screw last. Verify that valve springs and bracket are properly aligned. Then tighten all three bracket screws to 4 N·m (35 in. lbs.) torque.

(17) Perform Line Pressure and Throttle Pressure adjustments. (Refer to 21 - TRANSMISSION/TRANSAXLE/AUTOMATIC/VALVE BODY - ADJUSTMENTS)

(18) Lubricate solenoid case connector O-rings and shaft of manual lever with light coat of petroleum jelly.

PLANETARY GEARTRAIN/OUTPUT SHAFT (Continued)

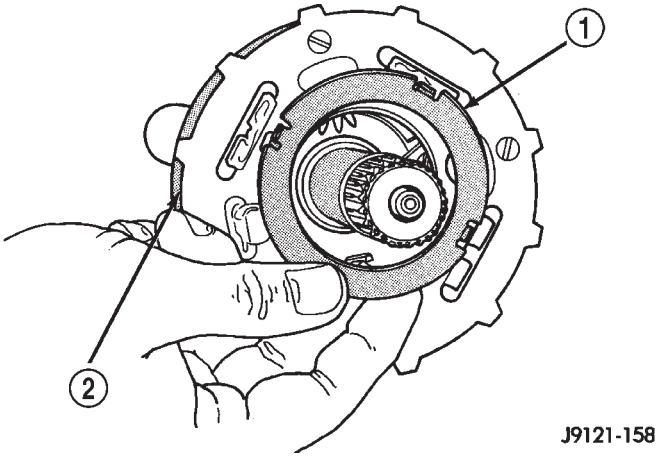


Fig. 199 Installing Rear Planetary Front Thrust Washer

1 - FRONT TABBED THRUST WASHER
2 - REAR PLANETARY GEAR

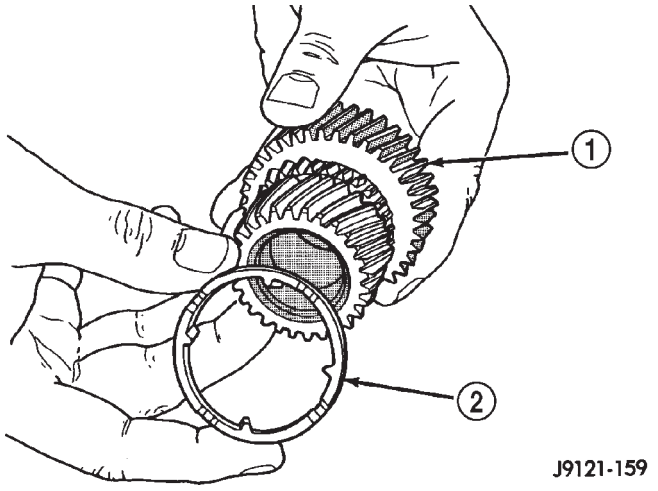


Fig. 200 Installing Spacer On Sun Gear

1 - SUN GEAR
2 - SUN GEAR SPACER

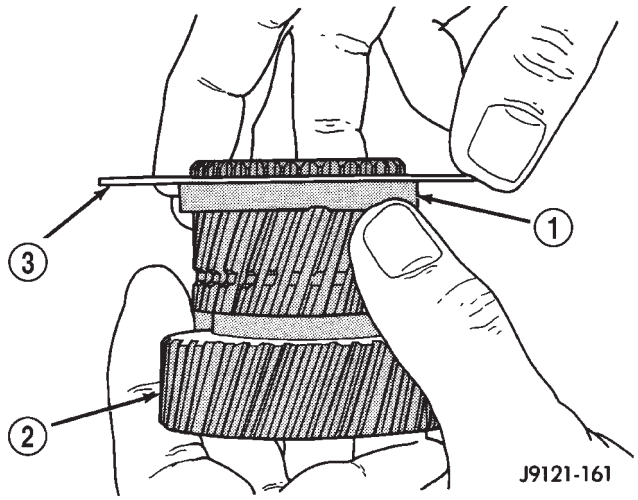


Fig. 201 Installing Driving Shell Front Thrust Plate On Sun Gear

1 - SPACER
2 - SUN GEAR
3 - THRUST PLATE

(9) Hold sun gear in place and install thrust plate over sun gear at rear of driving shell (Fig. 202).

(10) Position wood block on bench and support sun gear on block (Fig. 203). This makes it easier to align and install sun gear lock ring. Keep wood block handy as it will also be used for geartrain end play check.

(11) Align rear thrust plate on driving shell and install sun gear lock ring. Be sure ring is fully seated in sun gear ring groove (Fig. 204).

(12) Install assembled driving shell and sun gear on output shaft (Fig. 205).

(13) Install rear thrust washer on front planetary gear (Fig. 206). Use enough petroleum jelly to hold washer in place and be sure all four washer tabs are seated.

AUTOMATIC TRANSMISSION - 46RE (Continued)

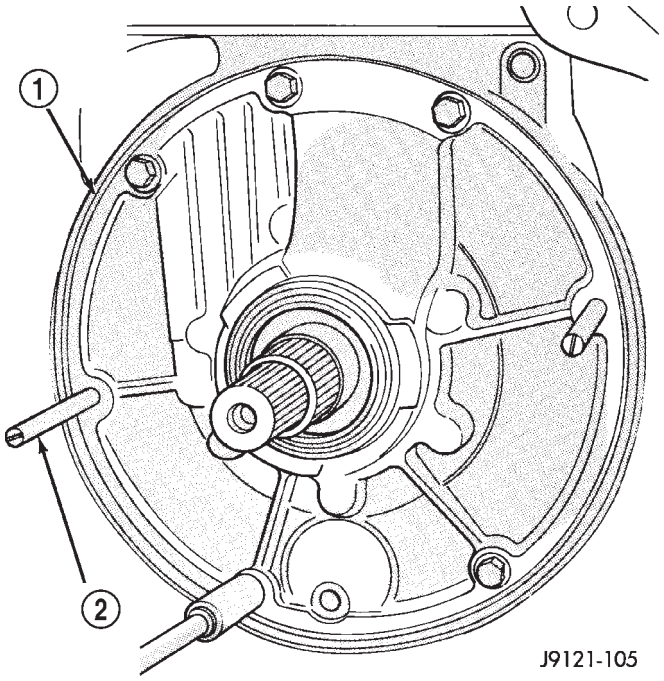


Fig. 61 Oil Pump

1 - SEAT OIL PUMP IN CASE BY HAND
2 - REMOVE PILOT STUDS WHEN PUMP IS SEATED

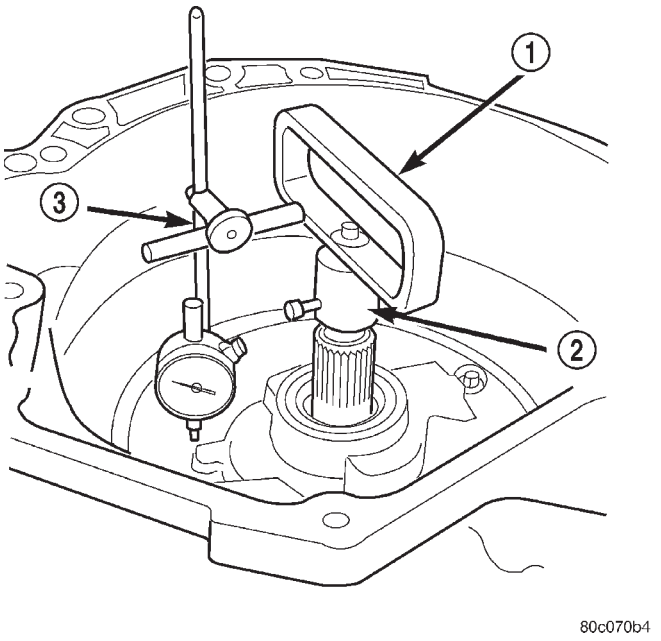


Fig. 62 Checking Input Shaft End Play

1 - TOOL 8266-8
2 - TOOL 8266-5
3 - TOOL C-3339

INPUT SHAFT END PLAY CHECK

NOTE: Overdrive unit must be installed in order to correctly measure the input shaft end-play.

(1) Measure input shaft end play (Fig. 62).

NOTE: If end play is incorrect, transmission is incorrectly assembled, or reaction shaft thrust washer is incorrect. The reaction shaft thrust washer is selective.

(a) Attach Adapter 8266-5 to Handle 8266-8.
(b) Attach dial indicator C-3339 to Handle 8266-8.
(c) Install the assembled tool onto the input shaft of the transmission and tighten the retaining screw on Adapter 8266-5 to secure it to the input shaft.
(d) Position the dial indicator plunger against a flat spot on the oil pump and zero the dial indicator.
(e) Move input shaft in and out and record reading. End play should be 0.86-2.13 mm (0.034-0.084 in.). Adjust as necessary.

ACCUMULATOR, VALVE BODY, OIL PAN, AND TORQUE CONVERTER

(1) Install accumulator inner spring, piston and outer spring (Fig. 63).
(2) Verify that park/neutral position switch has **not** been installed in case. Valve body can not be installed if switch is in position.
(3) Install new valve body manual shaft seal in case (Fig. 64). Lubricate seal lip and manual shaft with petroleum jelly. Start seal over shaft and into case. Seat seal with 15/16 inch, deep well socket.
(4) Install valve body as follows:
(a) Start park rod into park pawl. If rod will not slide past park pawl, pawl is engaged in park gear. Rotate overdrive output shaft with suitable size 12 point socket; this will free pawl and allow rod to engage.
(b) Align and seat valve body on case. Be sure manual lever shaft and overdrive connector are fully seated in case.
(c) Install and start all valve body attaching bolts by hand. Then tighten bolts evenly, in a diagonal pattern to 12 N·m (105 in. lbs.) torque. **Do not overtighten valve body bolts. This could result in distortion and cross leakage after installation.**.
(5) Install new filter on valve body. Tighten filter screws to 4 N·m (35 in. lbs.).
(6) Install seal on park/neutral position switch. Then install and tighten switch to 34 N·m (25 ft. lbs.).

VALVE BODY (Continued)

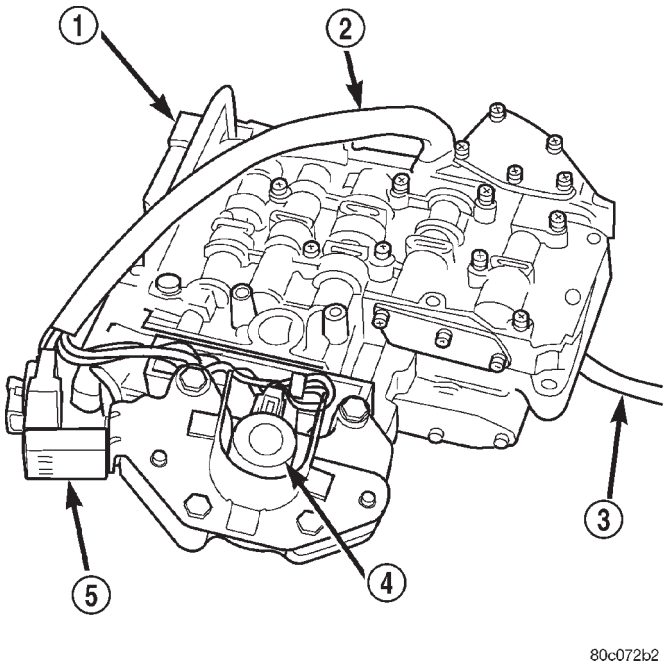


Fig. 272 Valve Body

1 - VALVE BODY
2 - WIRE HARNESS
3 - PARK ROD
4 - GOVERNOR PRESSURE SOLENOID
5 - GOVERNOR PRESSURE SENSOR

DISASSEMBLY

CAUTION: Do not clamp any valve body component in a vise. This practice can damage the component resulting in unsatisfactory operation after assembly and installation. Do not use pliers to remove any of the valves, plugs or springs and do not force any of the components out or into place. The valves and valve body housings will be damaged if force is used. Tag or mark the valve body springs for reference as they are removed. Do not allow them to become intermixed.

(1) Disconnect wires from governor pressure sensor and solenoid.

(2) Remove screws attaching governor body and retainer plate to transfer plate.

(3) Remove retainer plate, governor body and gasket from transfer plate.

(4) Remove governor pressure sensor from governor body.

(5) Remove governor pressure solenoid by pulling it straight out of bore in governor body. Remove and discard solenoid O-rings if worn, cut, or torn.

(6) Remove small shoulder bolt that secures solenoid harness case connector to 3-4 accumulator housing (Fig. 273). Retain shoulder bolt. Either tape it to harness or thread it back into accumulator housing after connector removal.

(7) Unhook overdrive/converter solenoid harness from 3-4 accumulator cover plate (Fig. 274).

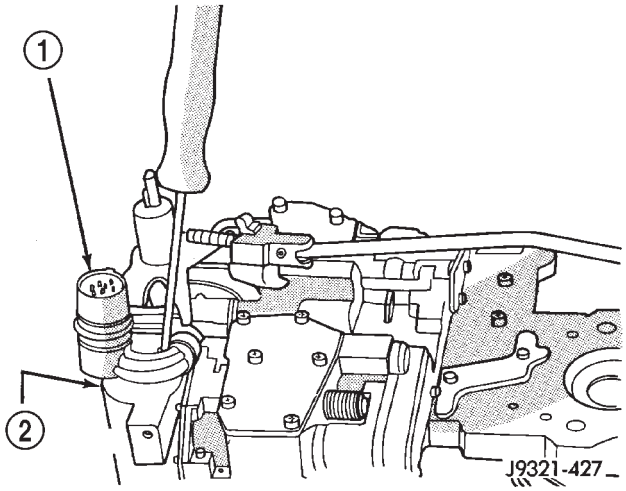


Fig. 273 Solenoid Harness Case Connector Shoulder Bolt

1 - SOLENOID HARNESS CASE CONNECTOR
2 - 3-4 ACCUMULATOR HOUSING

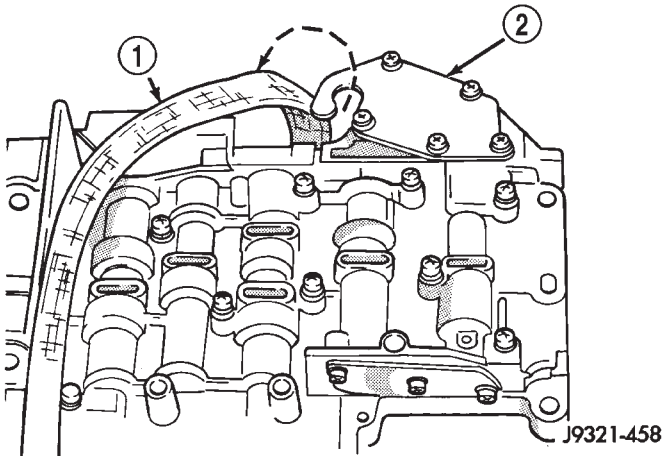


Fig. 274 Solenoid Harness Routing

1 - OVERDRIVE/CONVERTER SOLENOID WIRE HARNESS
2 - 3-4 ACCUMULATOR COVER PLATE

PARK/NEUTRAL POSITION SWITCH

DIAGNOSIS AND TESTING - PARK/NEUTRAL POSITION SWITCH

The center terminal of the park/neutral position switch is the starter-circuit terminal. It provides the ground for the starter solenoid circuit through the selector lever in PARK and NEUTRAL positions only. The outer terminals on the switch are for the backup lamp circuit.

SWITCH TEST

To test the switch, remove the wiring connector. Test for continuity between the center terminal and the transmission case. Continuity should exist only when the transmission is in PARK or NEUTRAL.

Shift the transmission into REVERSE and test continuity at the switch outer terminals. Continuity should exist only when the transmission is in REVERSE. Continuity should not exist between the outer terminals and the case.

Check gearshift linkage adjustment before replacing a switch that tests faulty.

REMOVAL

(1) Raise vehicle and position drain pan under switch.

(2) Disconnect switch wires.

(3) Remove switch from case.

INSTALLATION

(1) Move shift lever to PARK and NEUTRAL positions. Verify that switch operating lever fingers are centered in switch opening in case (Fig. 188).

(2) Install new seal on switch and install switch in case. Tighten switch to 34 N·m (25 ft. lbs.) torque.

(3) Test continuity of new switch with 12V test lamp.

(4) Connect switch wires and lower vehicle.

(5) Top off transmission fluid level.

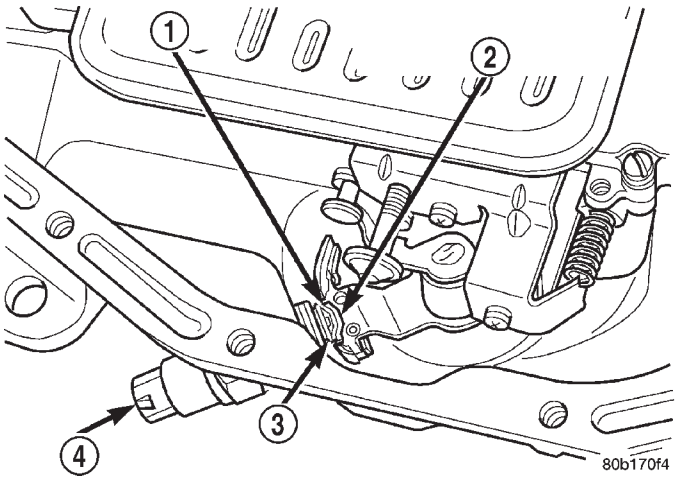


Fig. 188 Park/Neutral Position Switch

1 - NEUTRAL CONTACT
2 - MANUAL LEVER AND SWITCH PLUNGER IN REVERSE POSITION
3 - PARK CONTACT
4 - SWITCH

PISTONS

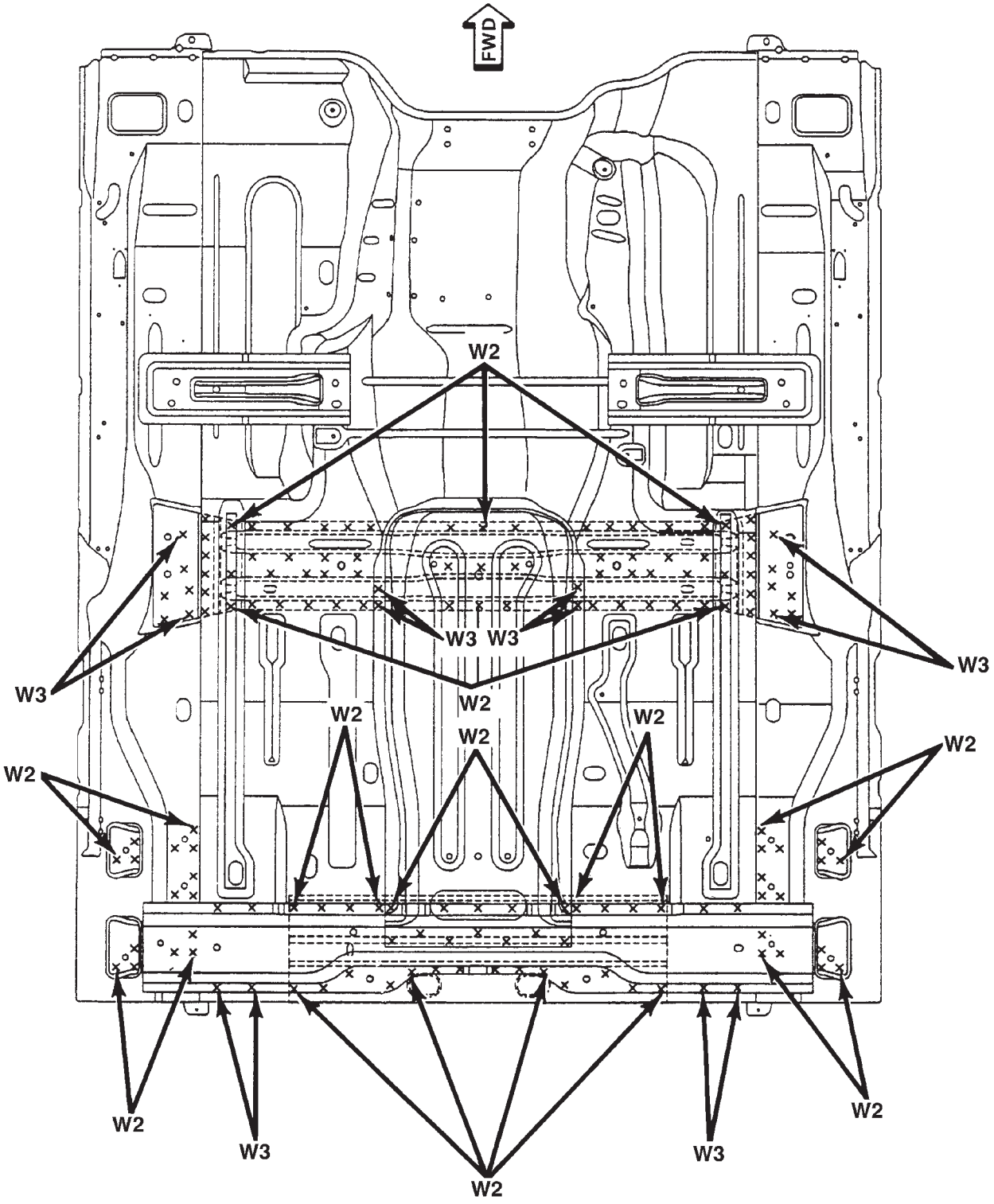
DESCRIPTION

There are several sizes and types of pistons used in an automatic transmission. Some pistons are used to apply clutches, while others are used to apply bands. They all have in common the fact that they are round or circular in shape, located within a smooth walled cylinder, which is closed at one end and converts fluid pressure into mechanical movement. The fluid pressure exerted on the piston is contained within the system through the use of piston rings or seals.

OPERATION

The principal which makes this operation possible is known as Pascal's Law. Pascal's Law can be stated as: "Pressure on a confined fluid is transmitted equally in all directions and acts with equal force on equal areas."

BODY (Continued)



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FLOOR PAN — CLUB CAB