

2009 AUTOMATIC/MANUAL TRANSMISSION**Getrag MPS6 - Service Information - Journey****OPERATION****OPERATION**

The MPS6 is an electronically controlled and automatically shifted transaxle with a dual clutch torque conversion system. In the MPS6 dual clutch system, one clutch is splined to one half of a split input shaft, while the other clutch is splined to other half of the split input shaft. Only one of the dual clutches will be engaged at a time, depending on what gear ratio is selected. The MPS6 contains a set of constantly meshed helical gears, which are synchronized in all forward ranges, similar to the type of gears typically found in manual transmissions. The key difference between a typical manual transmission with a single clutch and the MPS6 dual clutch system is that the MPS6 dual clutch assembly allows engine torque to be constantly applied to the output shaft between shifts. When shifting a manual transmission, engine torque has to be completely removed from the transmission by disengaging the clutch.

The MPS6 is considered a powershift transaxle, which means that when it is engaged in a forward or reverse gear, or when upshifting between gears, engine torque is constantly applied to the output shaft. All conventional automatic transmissions, or transmissions that transfer engine torque through the fluid coupling of a torque converter and achieve gear ratios by holding parts of a planetary gearset, or continuously variable transmissions (CVTs) fall into the category of powershift transmissions, as engine torque is constantly applied to the output shaft when the transmission is in a forward or reverse gear.

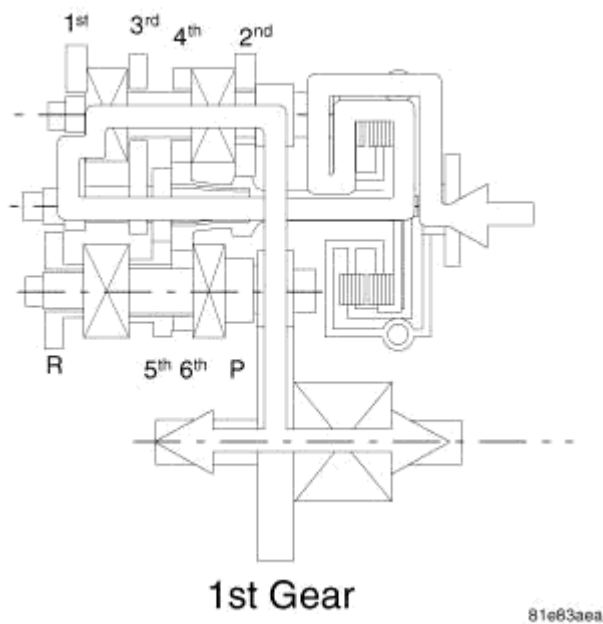
First Gear Operation

Fig. 1: FIRST GEAR PF
 Courtesy of CHRYSLER LLC

In first gear, the first/third synchronizer locks the first gear to the 1st-4th output shaft. When the clutch pack connects the engine and the 1/3/5/R input shaft, power is transferred from the engine to the 1/3/5/R input shaft, to the first gear, to the 1st-4th output shaft, to the ring gear, and to the differential.

Under certain driving conditions, two gears on opposite input shafts are engaged. For example, if the transmission is in first gear while in Drive or AUTOSTICK™ Mode, the second/fourth synchronizer locks the second gear to the 1st-4th output shaft. Because the 2/4/6 input shaft is not engaged, the second gear and the 2/4/6 output shaft will freewheel with as the 1st-4th output shaft rotates. When the second gear is required, the transmission releases the 1/3/5/R input shaft clutch and engages the 2/4/6 input shaft clutch to complete the upshift.

Second Gear Operation

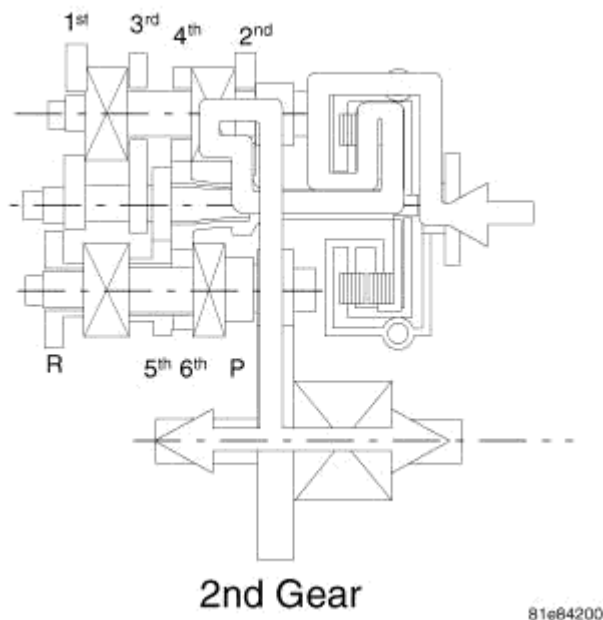


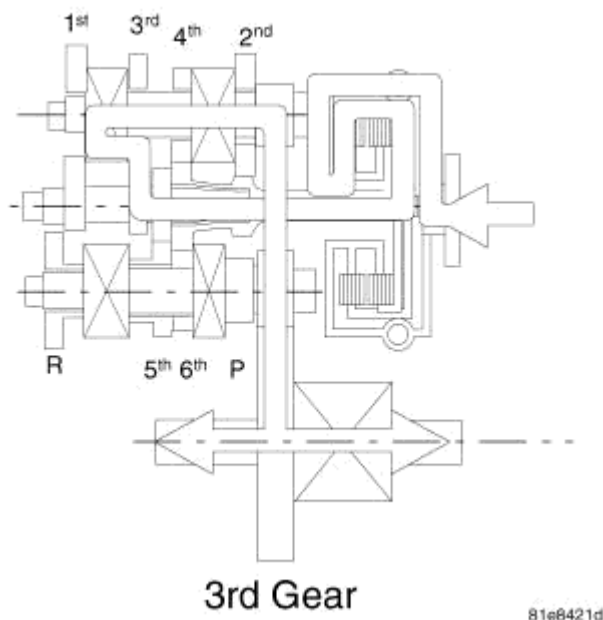
Fig. 2: 2ND GEAR PF

Courtesy of CHRYSLER LLC

To shift from first to second gear, the transmission disengages the wet clutch pack for the 1/3/5/R input shaft and engages the 2/4/6 input shaft. Because the second/fourth synchronizer has already locked the second gear to the 1st-4th output shaft, the transmission shifts to second gear. Engine power is transferred to the 2/4/6 input shaft, to the second gear, to the 1st-4th output shaft, and then to the ring gear.

When the transmission is operating in AUTOSTICK™ Mode, 3rd gear is preselected.

Third Gear Operation



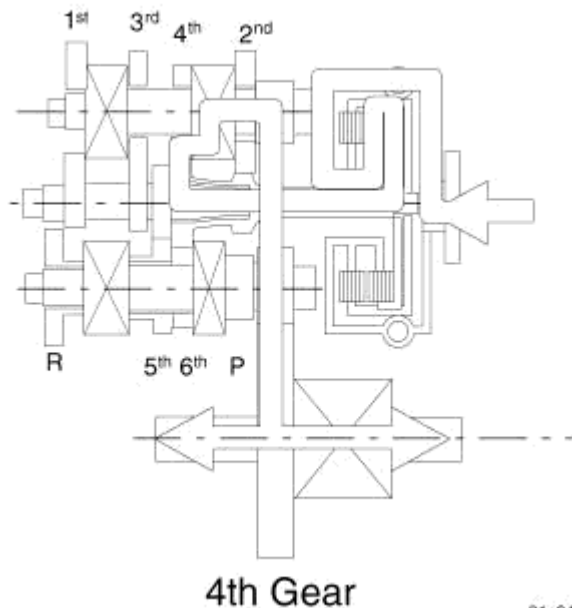
81e8421d

Fig. 3: 3RD GEAR PF

Courtesy of CHRYSLER LLC

When operating in the second in AUTOSTICK™ Mode the third gear is already engaged, shifting from the second to the third gear requires only that the wet clutch pack disengage the 2/4/6 input shaft from the engine and engage the 1/3/5/R input shaft. Power is then transferred from the 1/3/5/R input shaft, to the third gear, to the 1st-4th output shaft and then to the ring gear.

Fourth Gear Operation



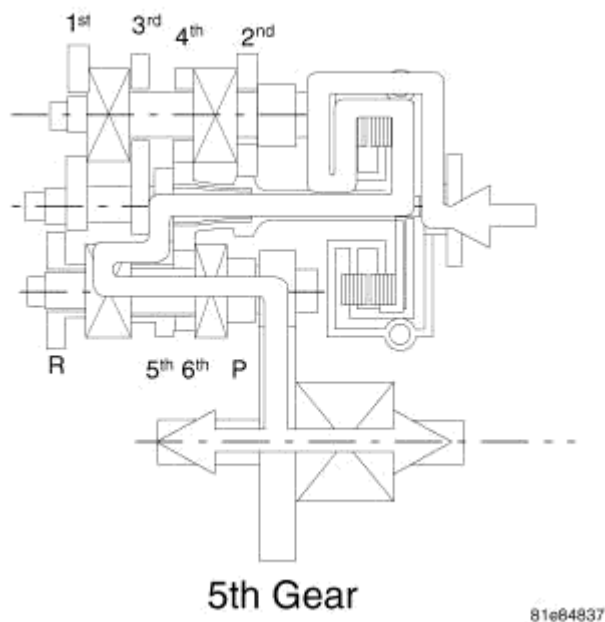
81e84577

Fig. 4: 4TH GEAR PF

Courtesy of CHRYSLER LLC

When operating in the third gear, the fourth gear is not preselected. An upshift to the fourth gear requires that the shift fork move the second/fourth synchronizer to the fourth gear position. The wet clutch pack for the 1/3/5/R input is then disengaged from the engine and the 2/4/6 input shaft is engaged. Engine power is transferred to the 2/4/6 input shaft, to the fourth gear, to the 1st-4th output shaft, and then to the ring gear.

When operating in the fourth gear in AUTOSTICK™ Mode, the 3rd gear is preselected.

Fifth Gear Operation**Fig. 5: 5TH GEAR PF**

Courtesy of CHRYSLER LLC

To shift into fifth gear during an increase in speed, the fifth/reverse synchronizer locks the fifth gear to the output shaft, disengages the 2/4/6 input shaft and engages the 1/3/5/R input shaft. Engine power is transferred through the 1/3/5/R input shaft, to the fifth gear, to the 5th, 6th and Reverse output shaft and then to the ring gear.

When operating in the fifth gear in AUTOSTICK™ Mode, the 4th gear is preselected.

Sixth Gear Operation

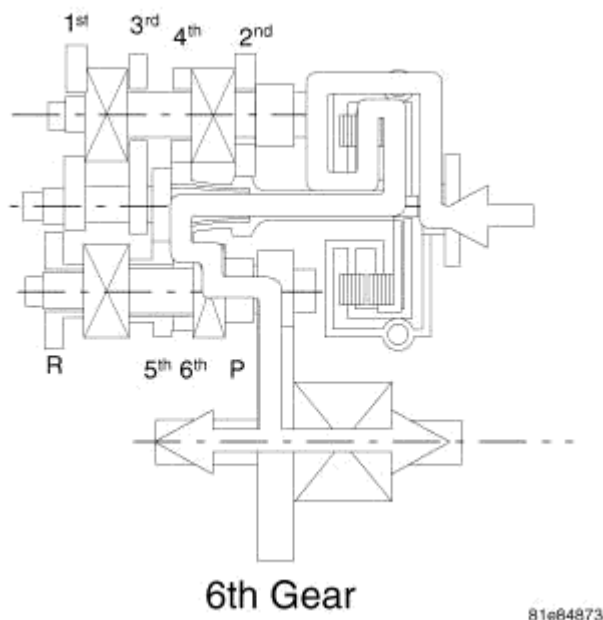


Fig. 6: 6TH GEAR PF
Courtesy of CHRYSLER LLC

To shift from the fifth gear to the sixth gear, the fifth/reverse synchronizer unlocks the fifth gear from the 5th, 6th, and Reverse output shaft, the sixth gear synchronizer locks the sixth gear to the 5th, 6th, and Reverse output shaft, the 1/3/5/R input shaft is disengaged from the engine, and the 2/4/6 input shaft is engaged. Engine power is transferred through the 2/4/6 input shaft, to the sixth gear, to the 5th, 6th and reverse output shaft and then to the ring gear.

Preselection is not used in sixth gear.

Shift Fork Preselection

Locking a second gear to the output shaft is called preselection. The SHIFT FORK PRESELECTION - VEHICLE MOVING table lists the driving conditions under which preselection occurs and which gear is preselected.

SHIFT FORK PRESELECTION - VEHICLE MOVING

Autostick		Drive	
Active Gear	Preselected Gear	Active Gear	Preselected Gear
1st	2nd	1st	2nd
2nd	3rd	2nd	0
3rd	2nd	3rd	0
4th	3rd	4th	0
5th	4th	5th	0
6th	0	6th	0

The SHIFT FORK PRESELECTION - VEHICLE STOPPED table lists the shifter and engine conditions under which preselection occurs when the vehicle is stopped.

SHIFT FORK PRESELECTION - VEHICLE STOPPED

Engine Off		Engine Running	
Shifter Position	Preselected Gears	Shifter Position	Preselected Gears
P	Reverse and 2nd	P	Reverse and 2nd
R	Reverse and 2nd	R	Reverse and 2nd
N	Reverse and 2nd	N	Reverse and 2nd
D	Reverse and 2nd	D	1st and 2nd
Autostick™	Reverse and 2nd	Autostick™	1st and 2nd

DIAGNOSIS AND TESTING

COMMON PROBLEM CAUSES

The majority of transaxle malfunctions are a result of:

- Insufficient lubrication
- Incorrect lubricant
- Mis-assembled or damaged internal components
- Improper operation

NOISY OPERATION

Transaxle noise is most often a result of worn or damaged components. Chipped, broken gear or synchronizer teeth, and brinnelled, spalled bearings all cause noise.

Abnormal wear and damage to the internal components is frequently the end result of insufficient lubricant.

LOW LUBRICANT LEVEL

Insufficient transaxle lubricant is usually the result of leaks, or inaccurate fluid level check or refill method. **Vehicle must be level to accurately check fluid level.** Leakage is evident by the presence of oil around the leak point. If leakage is not evident, the condition is probably the result of an underfill.

If air-powered lubrication equipment is used to add fluid to the MPS6 transaxle, be sure the equipment is properly calibrated. Equipment out of calibration can lead to an under fill condition. Refer to **Standard Procedure** in this service information.

REMOVAL

REMOVAL

NOTE: If transaxle assembly or Transaxle Control Module (TCM) is being overhauled or replaced, it is necessary to perform the TCM/PCM Quick Learn Procedure. Refer to Electrical/Electronic Control Modules/MODULE, Powertrain Control - Standard Procedure .

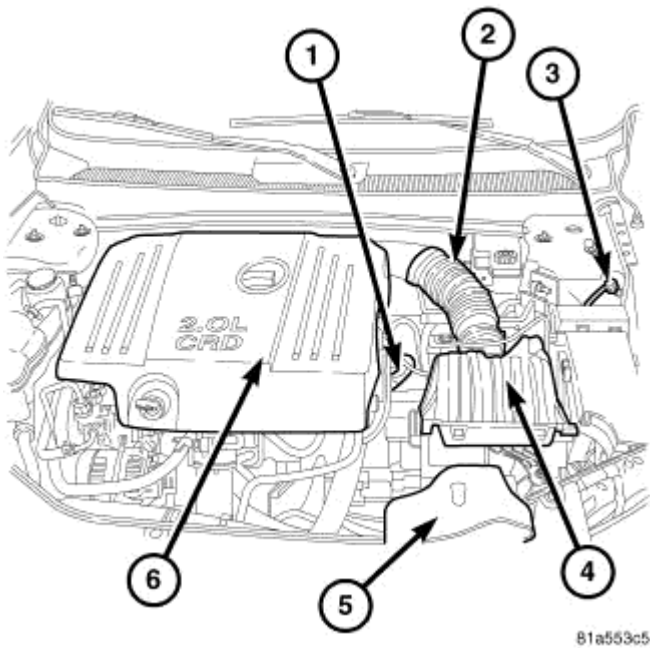


Fig. 7: ENGINE COVER

Courtesy of CHRYSLER LLC

1. Remove the engine cover (6).
2. Disconnect battery negative cable (3).
3. Remove air inlet tube (2) and air cleaner assembly (4). Refer to Engine/Air Intake System/BODY, Air Cleaner - Removal .

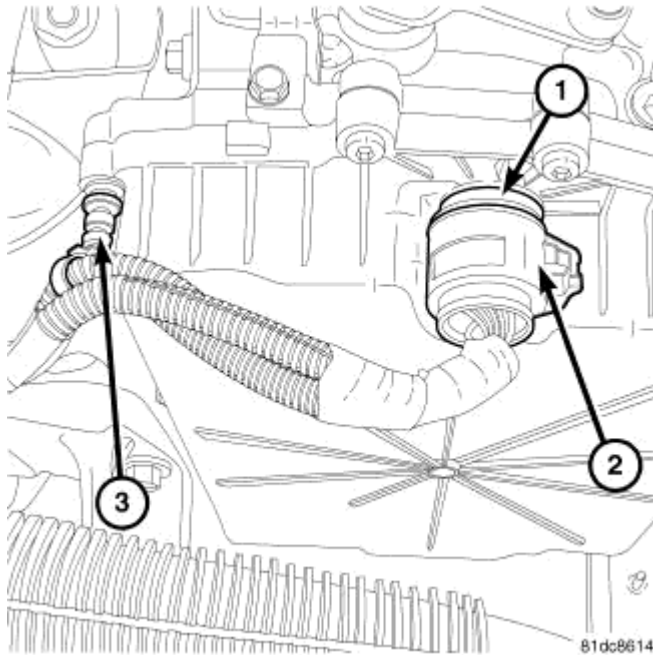


Fig. 8: Solenoid Pack Electrical Connector
Courtesy of CHRYSLER LLC

4. Disconnect the harness connector (2) at the transmission.
5. Remove the harness retaining clip (3) from stud at valve body cover.

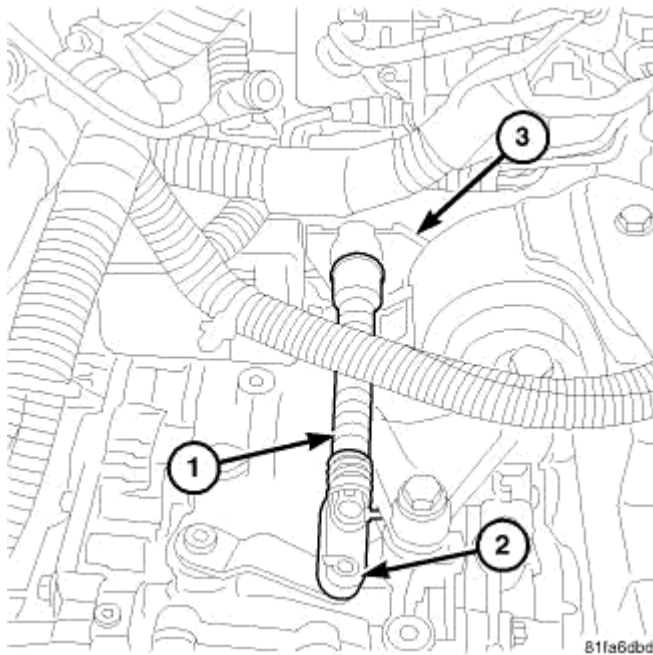


Fig. 9: GEAR SHIFT CABLE
Courtesy of CHRYSLER LLC

6. Remove the gear shift cable (1) at the manual lever (2).

7. Remove the gear shift cable and lock at the cable bracket (3).

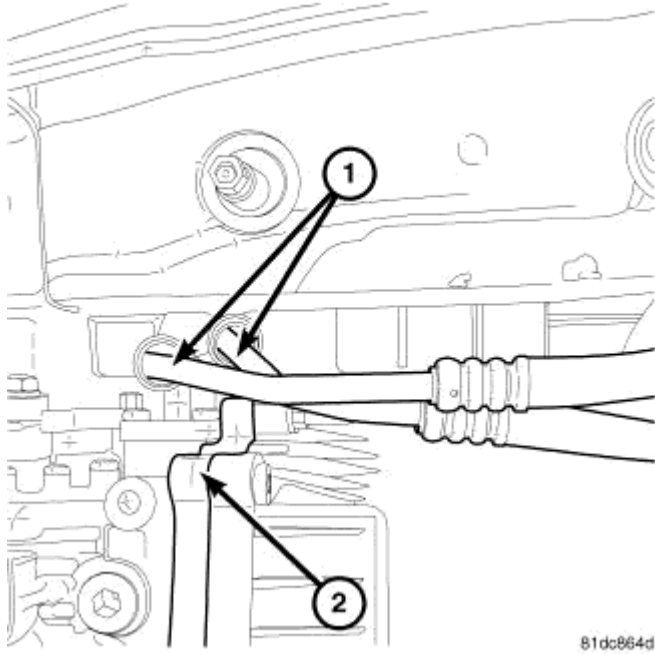


Fig. 10: QUICK-CONNECT FITTINGS

Courtesy of CHRYSLER LLC

8. Using Disconnect Release Tool 8875A, disconnect the transmission cooler line quick-connect fittings (1) from the transaxle.

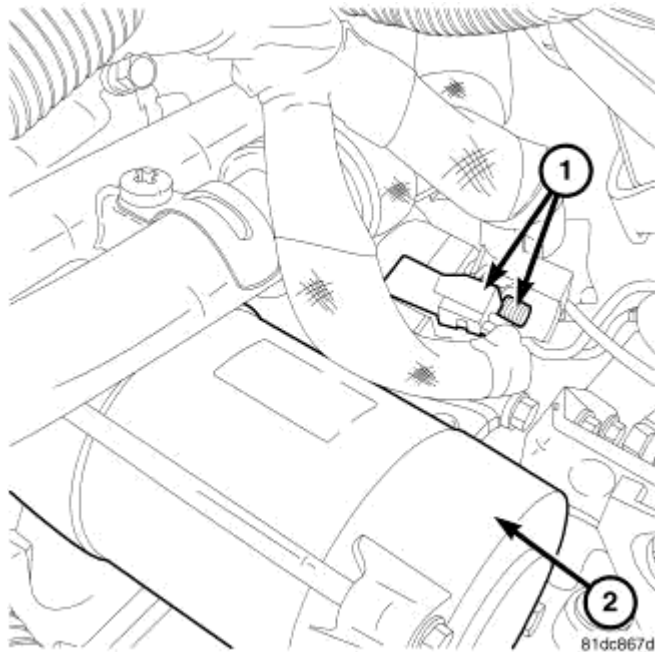


Fig. 11: STARTER ELECTRICAL CONNECTORS

Courtesy of CHRYSLER LLC

9. Disconnect the electrical connectors (1) from the starter (2).

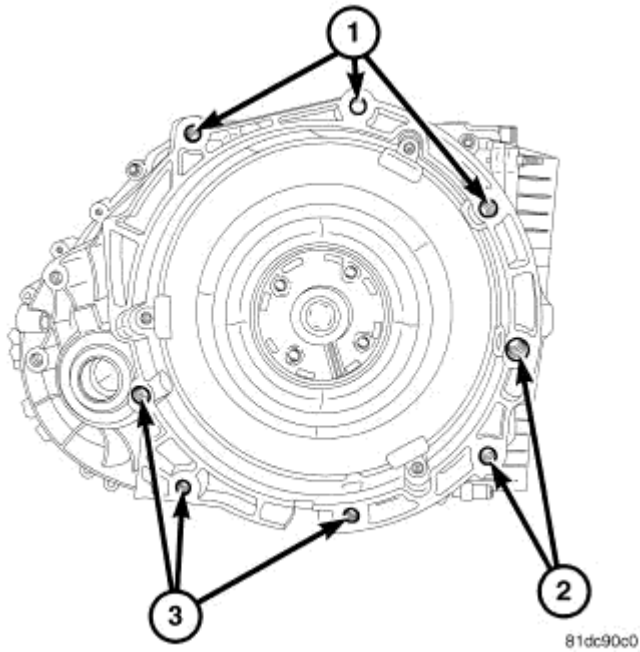


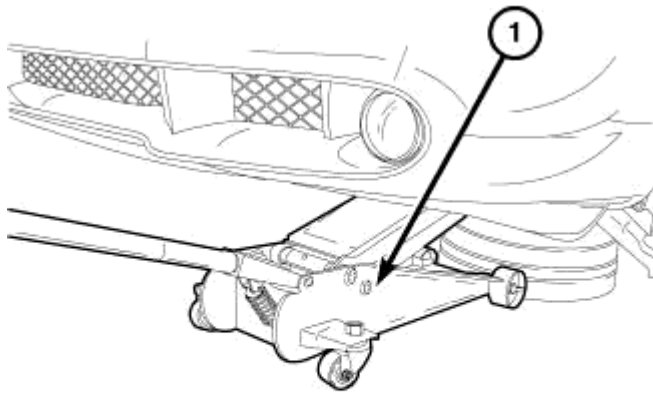
Fig. 12: BELLHOUSING BOLTS

Courtesy of CHRYSLER LLC

10. Remove the upper bellhousing bolts (1).
11. Lift the vehicle on a hoist.
12. If equipped, remove the engine belly pan.
13. Remove both front side splash shields.

NOTE: The MPS6 transmission has sealed differential side gears so oil won't come out after the half shaft removal. Hence there is no need to drain the oil for removing the transmission.

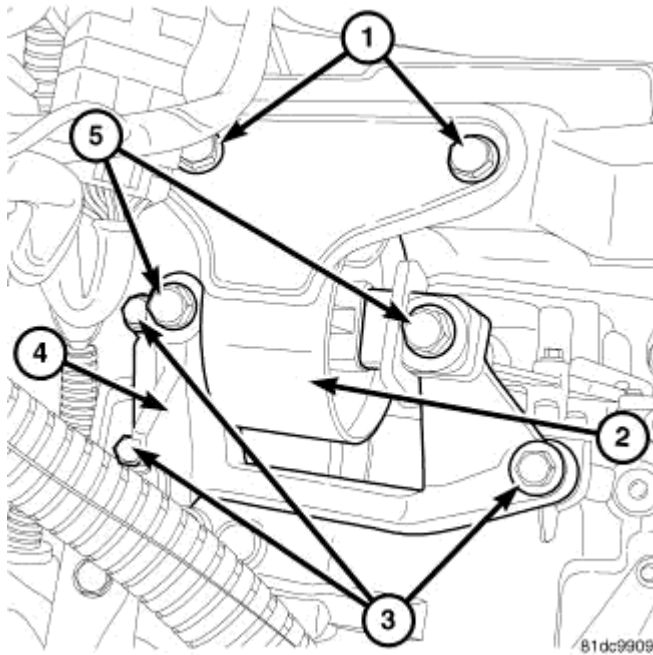
14. Remove the halfshafts. Refer to Differential and Driveline/Half Shaft - Removal.
15. Lower the hoist.



81dc96e5

Fig. 13: SUPPORT WITH JACK
Courtesy of CHRYSLER LLC

16. Support the transmission with a floor jack (1).



81dc9909

Fig. 14: LEFT TRANSMISSION MOUNT AND BRACKET
Courtesy of CHRYSLER LLC

17. Remove left transmission mount bracket bolts (3, 5).
18. Remove the left transmission mount bolts (5) from the transmission mount.

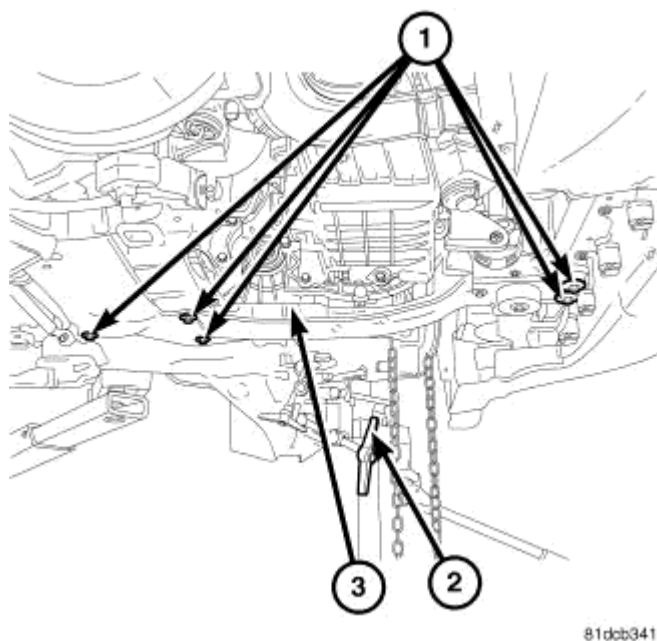


Fig. 15: Crossmember And Transmission Jack
Courtesy of CHRYSLER LLC

19. Lift the vehicle on a hoist.
20. Support the transmission with a jack (2).

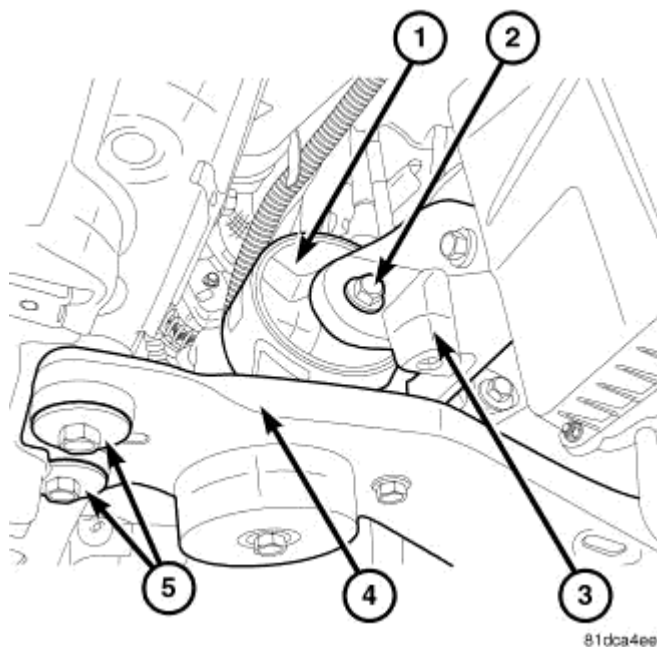


Fig. 16: CROSSMEMBER THROUGH BOLT
Courtesy of CHRYSLER LLC

21. Remove the crossmember through bolt (2).

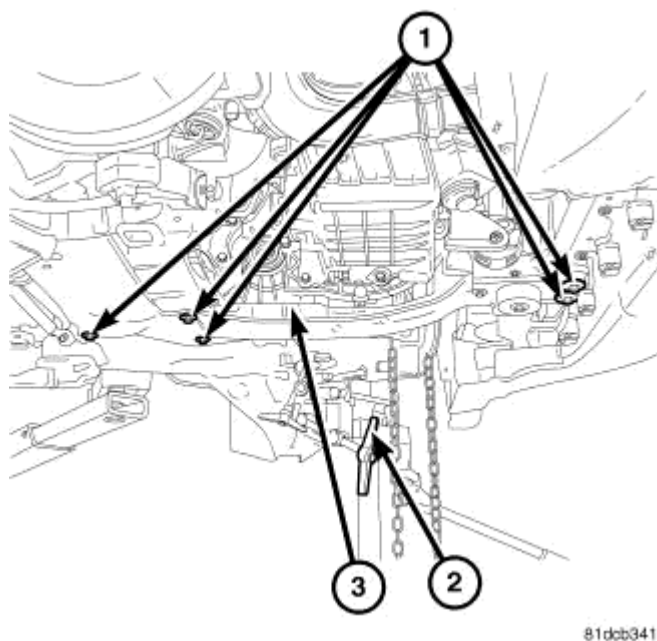


Fig. 17: Crossmember And Transmission Jack
Courtesy of CHRYSLER LLC

22. Remove the crossmember bolts (1).
23. Remove the crossmember.

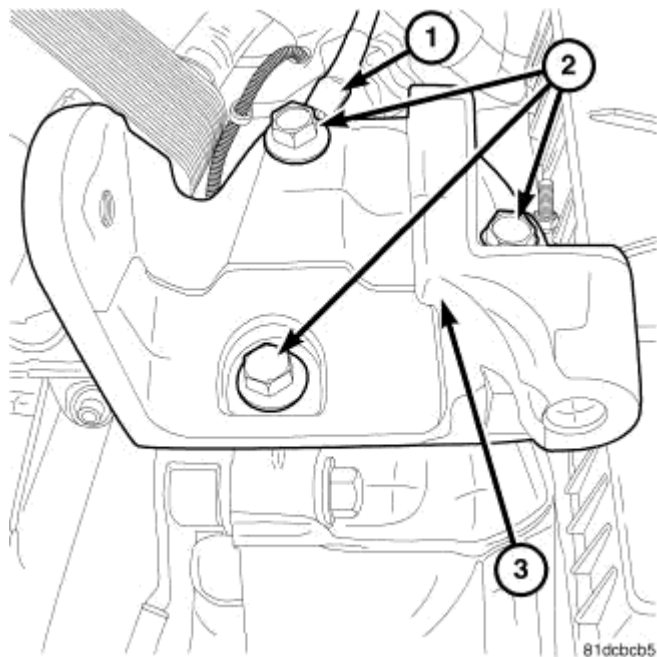


Fig. 18: FRONT MOUNT BRACKET
Courtesy of CHRYSLER LLC

24. Remove the front mount bracket bolts (2).

25. Remove the front mount bracket.

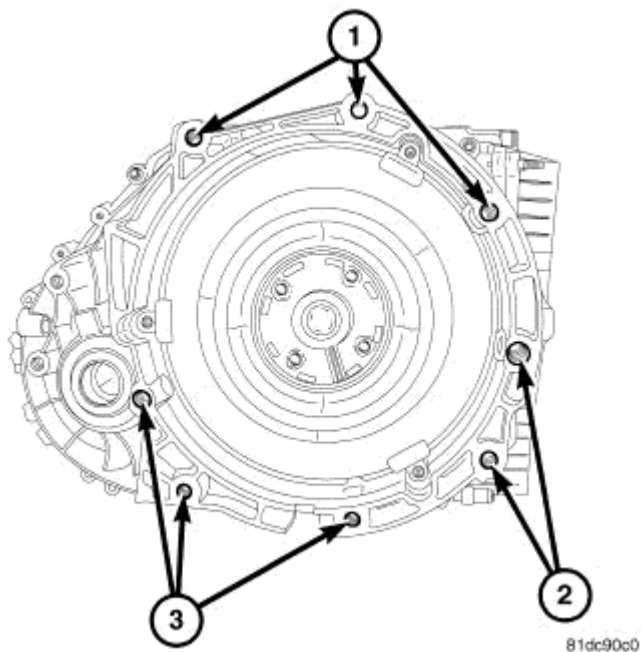


Fig. 19: BELLHOUSING BOLTS
Courtesy of CHRYSLER LLC

26. Remove the three lower bellhousing bolts.

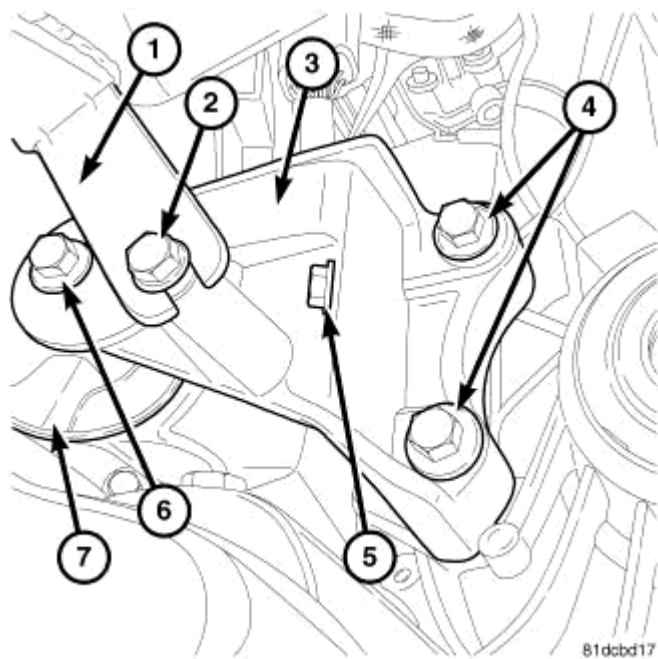


Fig. 20: REAR MOUNT BRACKET
Courtesy of CHRYSLER LLC

NOTE: Early 08 model year mount shown in illustration. Late 08 and 09 model year mount similar.

27. Remove the right rear mount bracket bolts (4 and 5).
28. Remove the rear mount bracket bolts (2 and 6) and position the mount (3) aside.

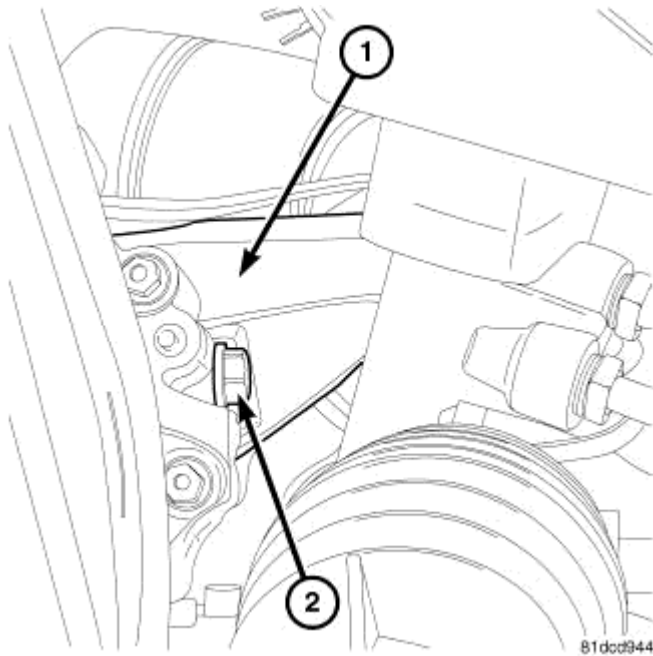


Fig. 21: Left Rear Mount Bracket Bolt
Courtesy of CHRYSLER LLC

29. Remove the left rear mount bracket bolt (2).

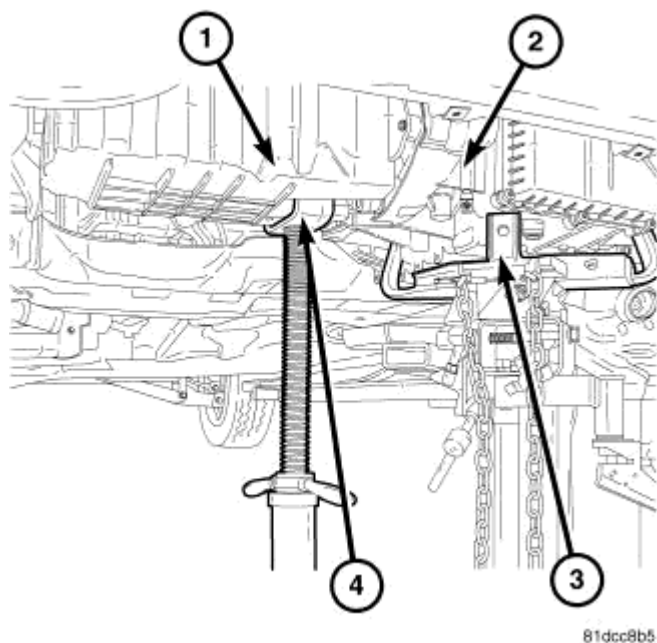


Fig. 22: SUPPORT ENGINE WITH A JACK
Courtesy of CHRYSLER LLC

30. Support the engine (1) with a jack (4).

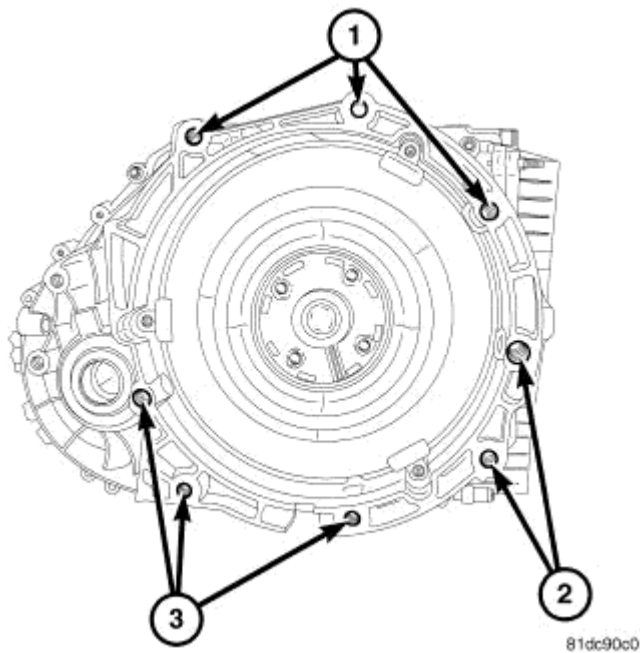


Fig. 23: BELLHOUSING BOLTS
Courtesy of CHRYSLER LLC

31. Remove the remaining bellhousing bolts.

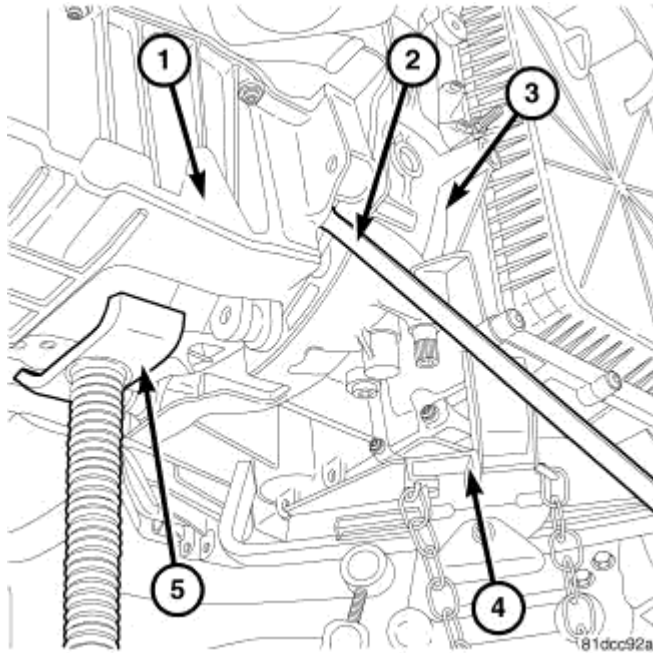


Fig. 24: Separate Transmission From Engine
Courtesy of CHRYSLER LLC

32. Angle the engine and transmission slightly down with the jacks.

NOTE: Keep the mounting surface of the bellhousing parallel to the mounting surface on the engine while moving the transmission and jack away from the engine.

33. If necessary, Use a pry bar (2) to separate the transmission (3) from the engine (1).
34. Lower the transmission (3) from the vehicle.

DISASSEMBLY

DISASSEMBLY

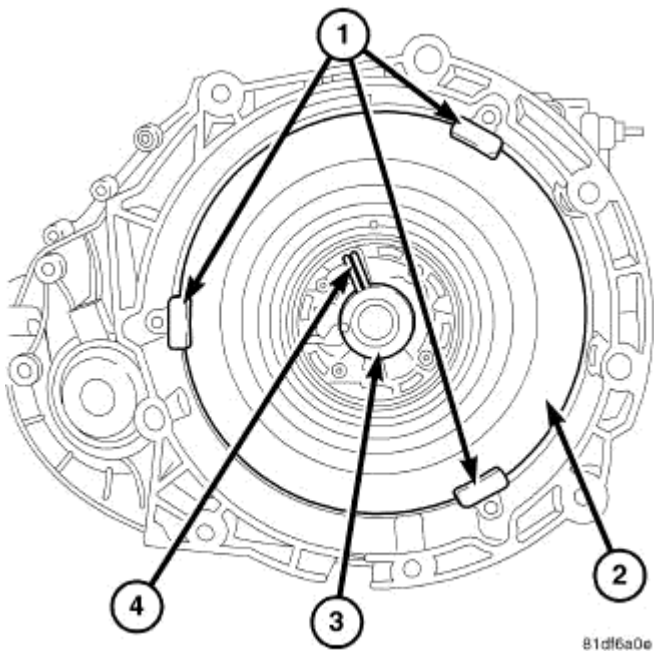


Fig. 25: RETAINING CLIPS
Courtesy of CHRYSLER LLC

1. Remove and discard the three screws holding the retaining clips (1) that secure the front cover (2).

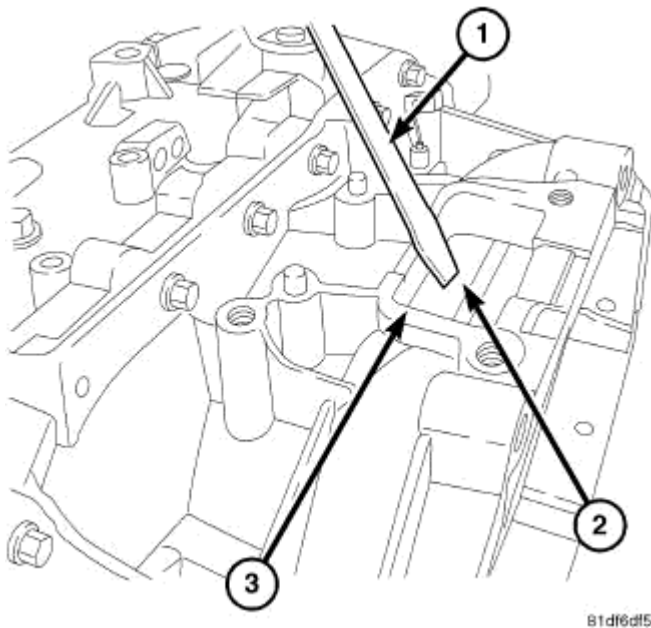


Fig. 26: FRONT COVER
Courtesy of CHRYSLER LLC

2. Using a screw driver (1) through the starter hole remove and discard the front cover (2).
3. Remove the Double Clutch Assembly. See **Removal** .

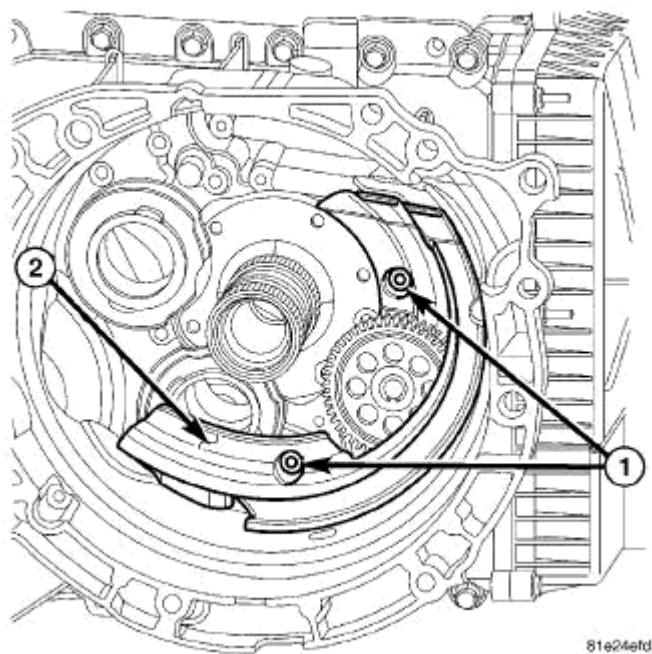


Fig. 27: Retaining Screws & Clutch Case Spacer
Courtesy of CHRYSLER LLC

4. Remove the retaining screws (1) holding the clutch case spacer (2).
5. Remove the clutch case spacer (2).

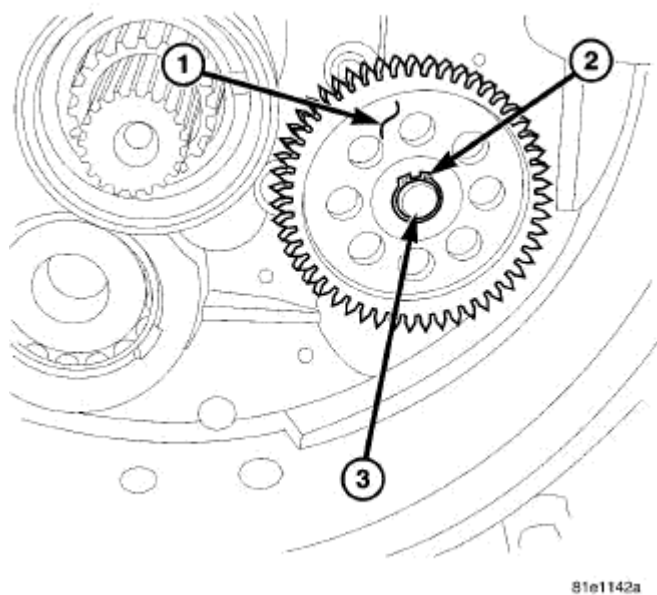


Fig. 28: SNAP RING AT THE OIL PUMP GEAR
Courtesy of CHRYSLER LLC

6. Remove the snap ring (2) at the oil pump gear (1).

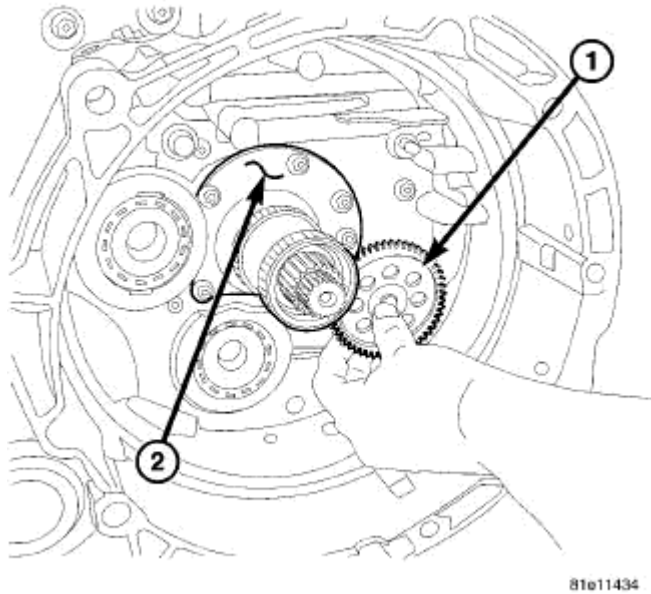


Fig. 29: OIL PUMP GEAR
Courtesy of CHRYSLER LLC

7. Remove the oil pump gear (1).

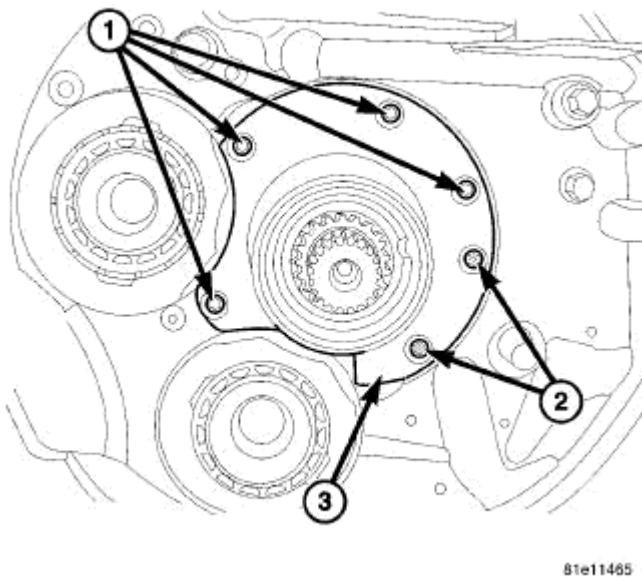


Fig. 30: Retaining Bolts At Clutch Support

Courtesy of CHRYSLER LLC

NOTE: Two of the retaining bolts (2) are longer.

8. Remove the retaining bolts (1, 2) at the clutch support (3).

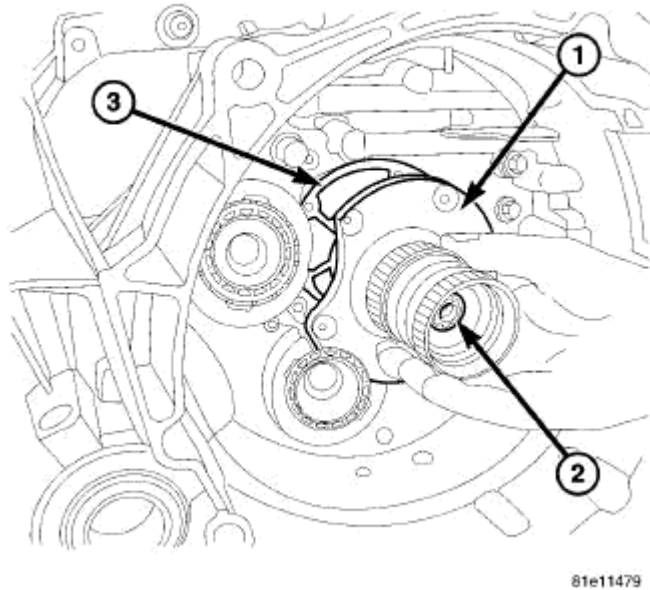
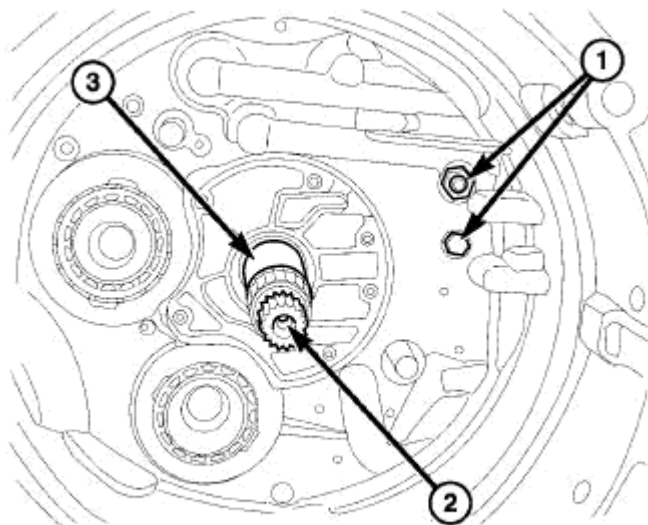


Fig. 31: Clutch Support & Gasket

Courtesy of CHRYSLER LLC

9. Remove the clutch support (1).
10. Remove the clutch support gasket (3).
11. Remove the clutch support needle bearings and sealing rings.

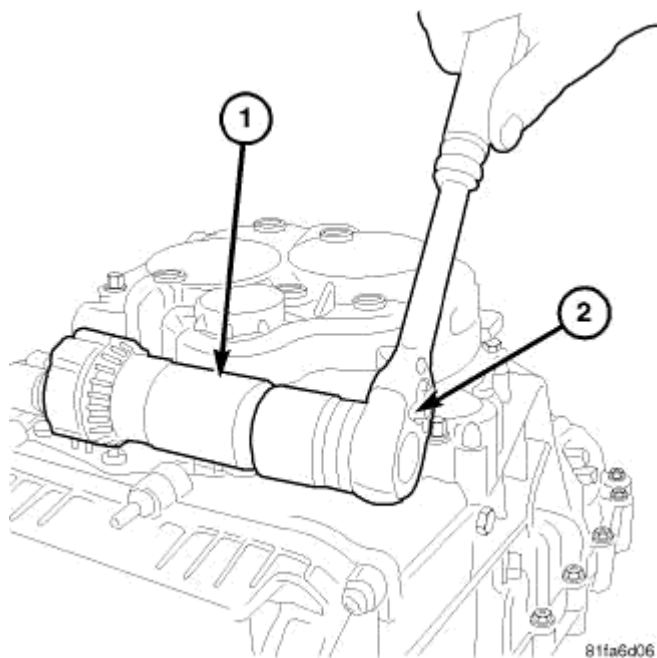


81e11534

Fig. 32: Case Half Bolts In Bellhousing
Courtesy of CHRYSLER LLC

NOTE: The upper bolt is longer than the other case half bolts.

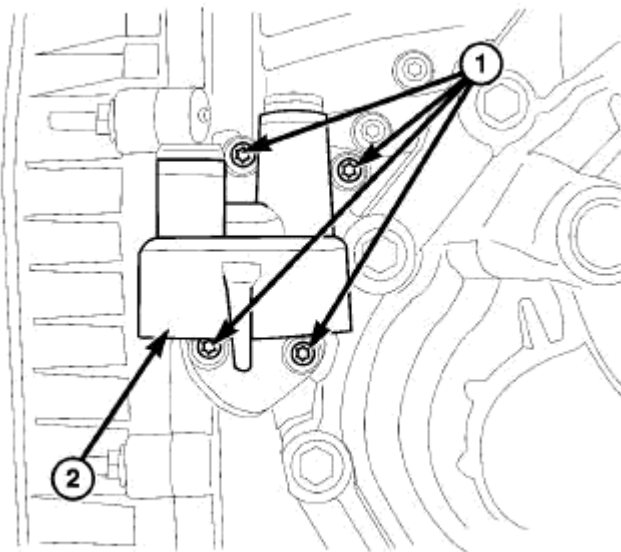
12. Remove the case half bolts (1) in the bellhousing area.



81fa6d06

Fig. 33: OIL FILTER HOUSING AND FILTER
Courtesv of CHRYSLER LLC

13. Remove the external oil filter housing and filter (1) using a wrench and socket (2).

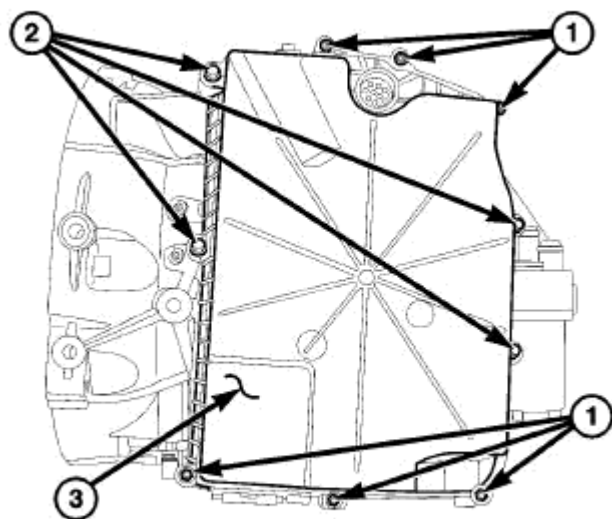


81e11c86

Fig. 34: OIL FILTER ADAPTOR BOLTS

Courtesy of CHRYSLER LLC

14. Remove the bolts (1) at external oil filter adaptor (2).



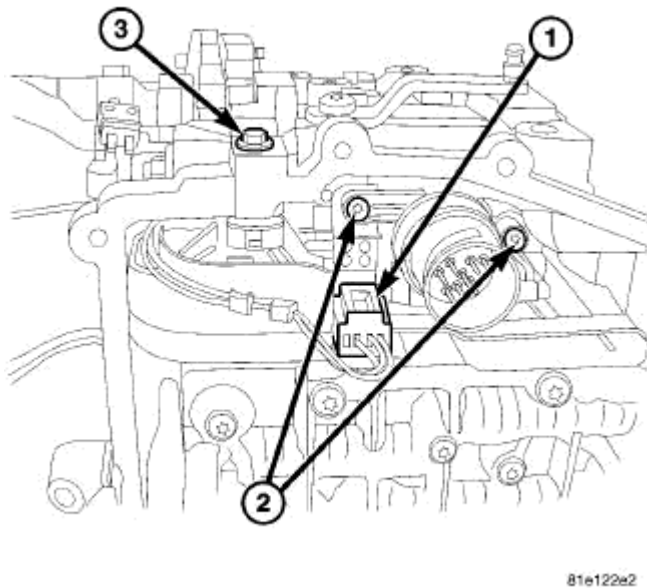
81e122c4

Fig. 35: Valve Body Oil Pan & Bolts

Courtesy of CHRYSLER LLC

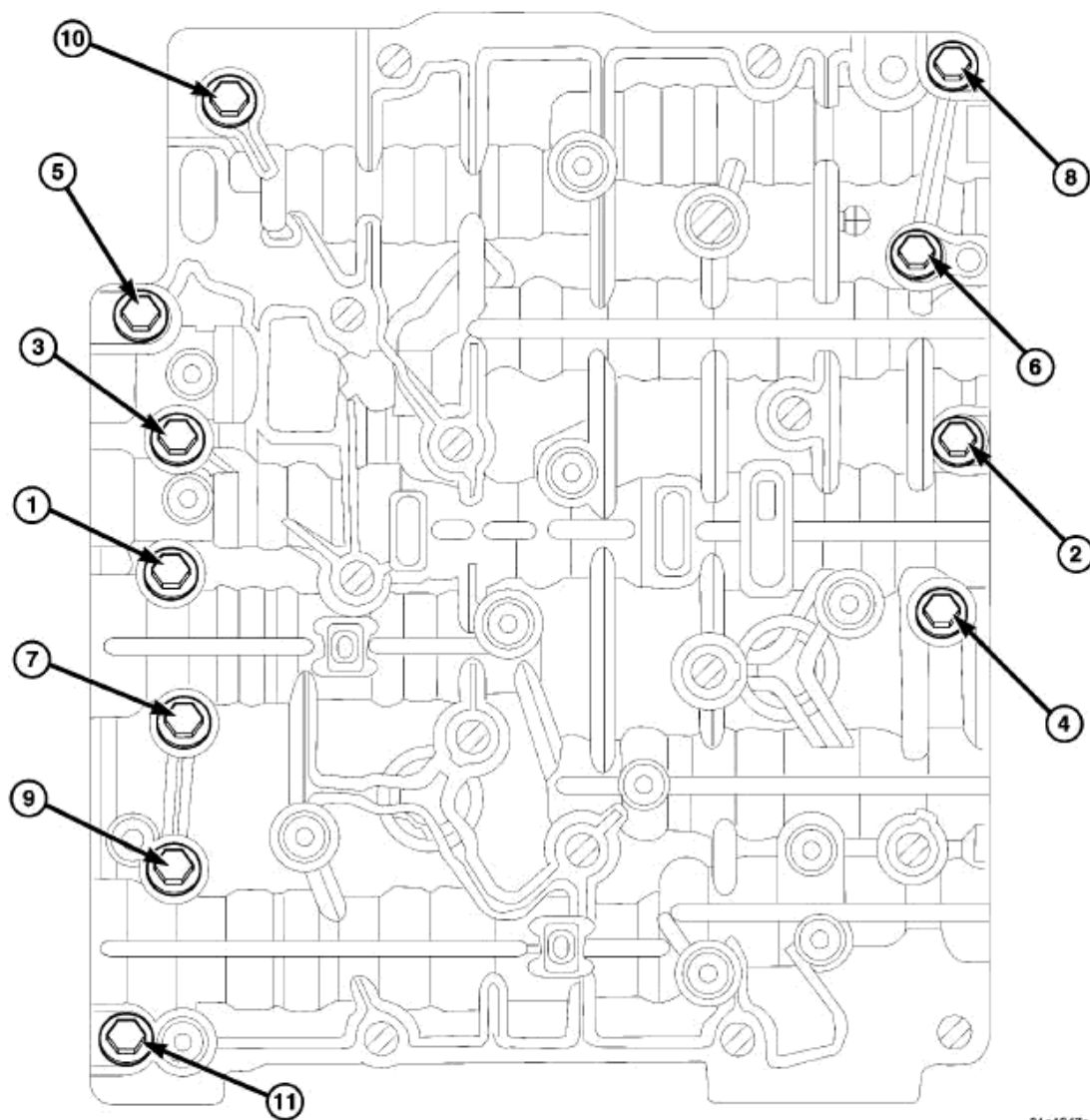
NOTE: Mark the location of studs (2).

15. Remove the studs (2) and bolts (1) at the Transmission Control Module Assembly (TCMA)/valve body oil pan.
16. Remove the valve body oil pan (3).

**Fig. 36: TRS ELECTRICAL CONNECTOR**

Courtesy of CHRYSLER LLC

17. Remove the electrical connector (1) at the TRS.
18. Remove the bolt (3) at the TRS.
19. Remove the screws (2) at the TRS.



81e1247a

Fig. 37: VALVE BODY BOLTS
Courtesy of CHRYSLER LLC

20. Remove the eleven valve body bolts.

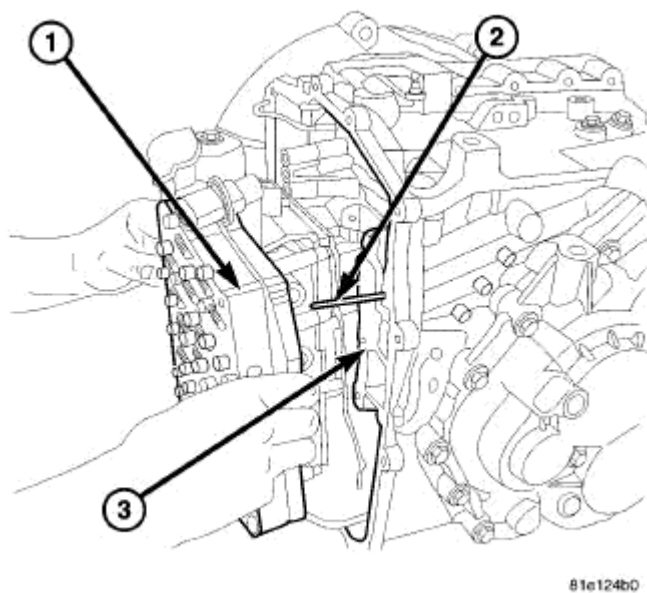


Fig. 38: Valve Body & Alignment Pins
Courtesy of CHRYSLER LLC

21. Remove the TCMA/valve body (1).

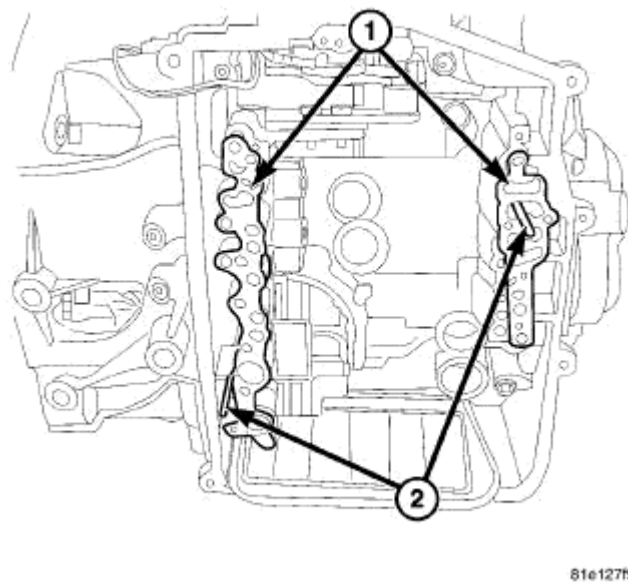


Fig. 39: VALVE BODY GASKETS
Courtesy of CHRYSLER LLC

22. Remove the metal TCMA/valve body gaskets (1).

NOTE: **Make a note of alignment pin locations.**

23. Remove the TCMA/valve body alignment pins (2) from the case.

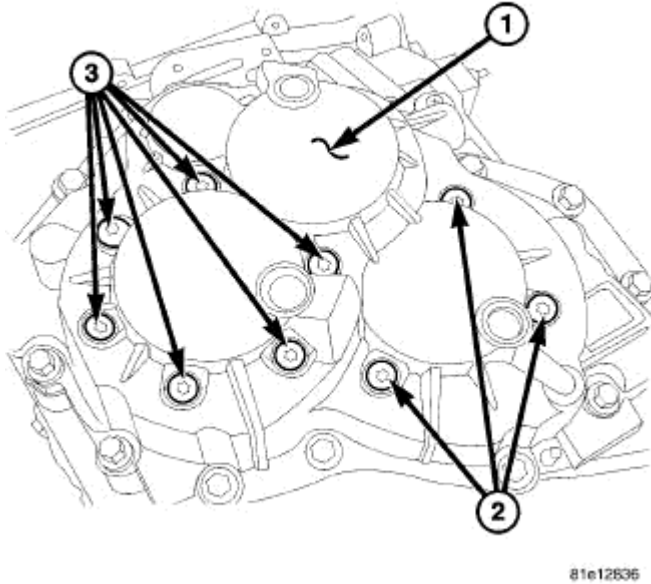


Fig. 40: SHAFT SUPPORT BOLTS
Courtesy of CHRYSLER LLC

24. Remove the bolts (2, 3) at the shaft support plates.

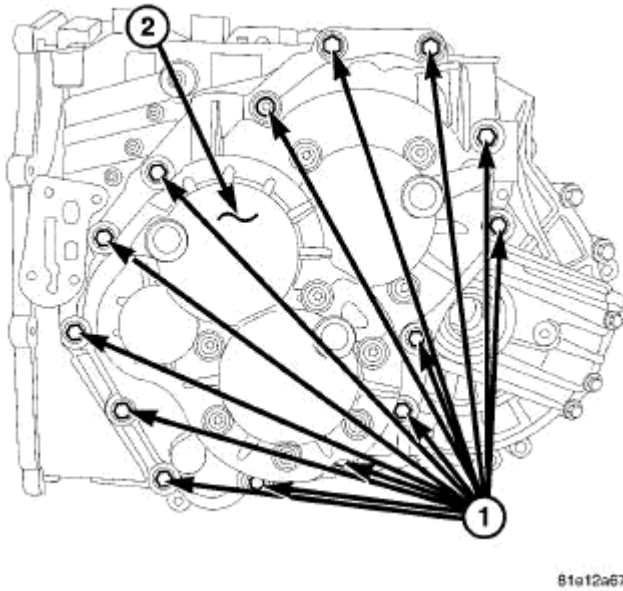


Fig. 41: Rear Cover Bolts
Courtesy of CHRYSLER LLC

NOTE: The oil trough may remain attached to cover, be careful not to damage it when removing the cover.

25. Remove the bolts (1) at the rear cover.
26. Remove the rear cover (2).

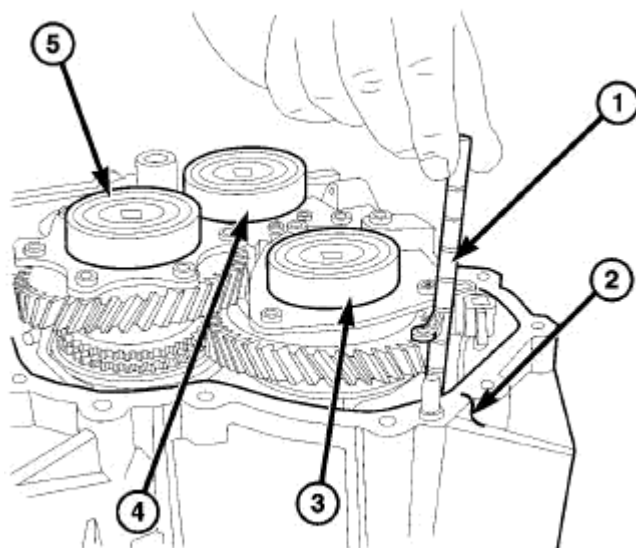


Fig. 42: OIL TROUGH
Courtesy of CHRYSLER LLC

27. Remove the oil trough (1).

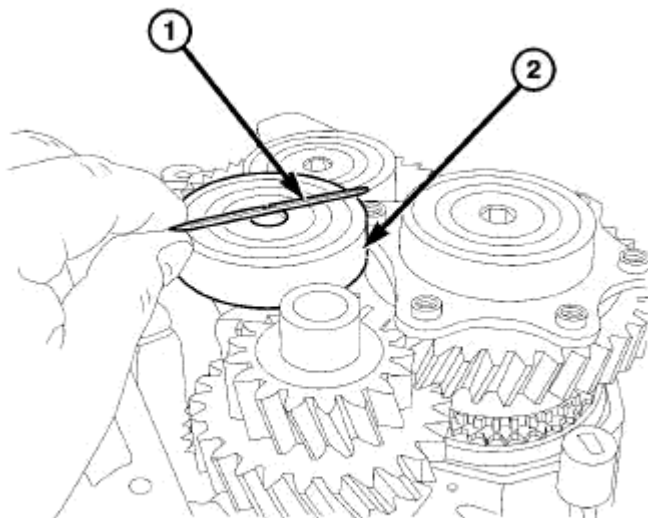


Fig. 43: INPUT SHAFT SHIM
Courtesy of CHRYSLER LLC

28. Remove the shim (1) at the input shaft (2).

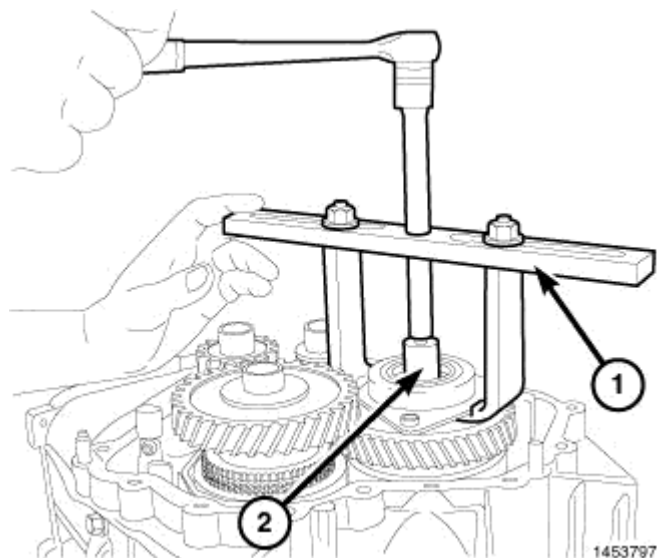


Fig. 44: PULLER 8244-2 AND PLUG 10073
Courtesy of CHRYSLER LLC

29. Remove the bearing from the input shaft using Puller 8244-2 (1) and Plug 10073 (2).
30. Place transmission in park.

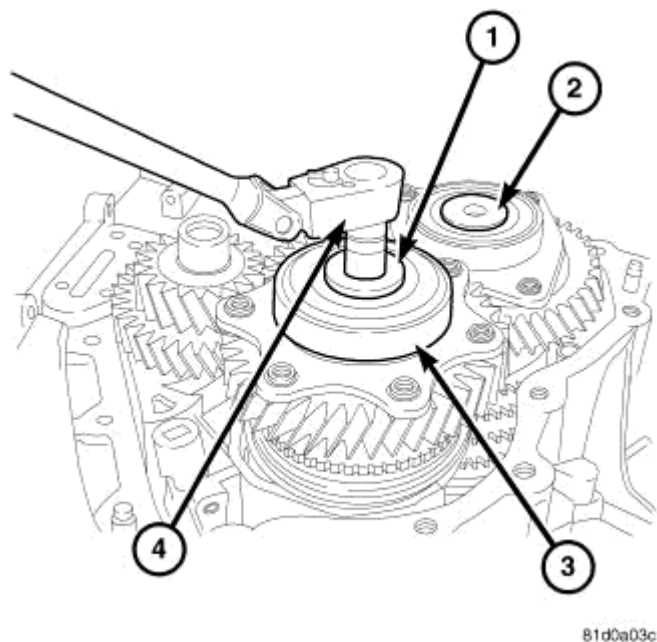


Fig. 45: BEARING AND RETAINING PLATE
Courtesy of CHRYSLER LLC

NOTE: This bolt has left hand threads.

31. Remove the R, 5th and 6th shaft bearing retaining bolt (1).
32. Remove the R, 5 and 6 shaft bearing and retaining plate (3) using Puller 8244-2 and Plug 10073.

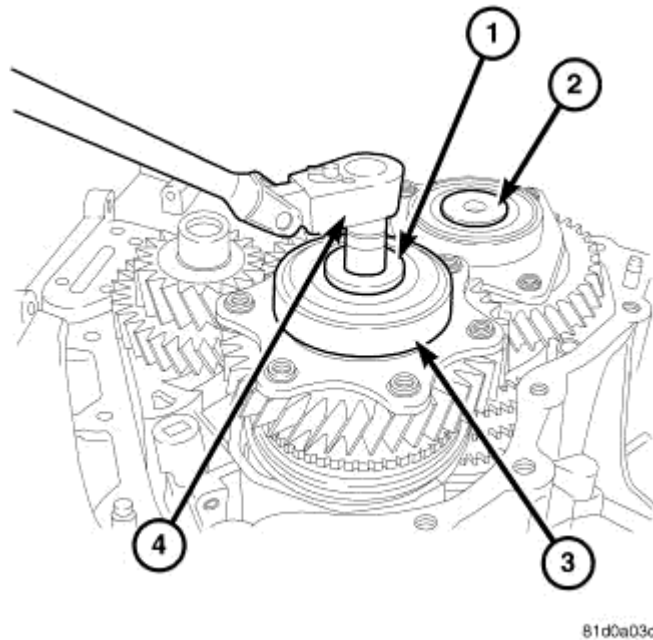
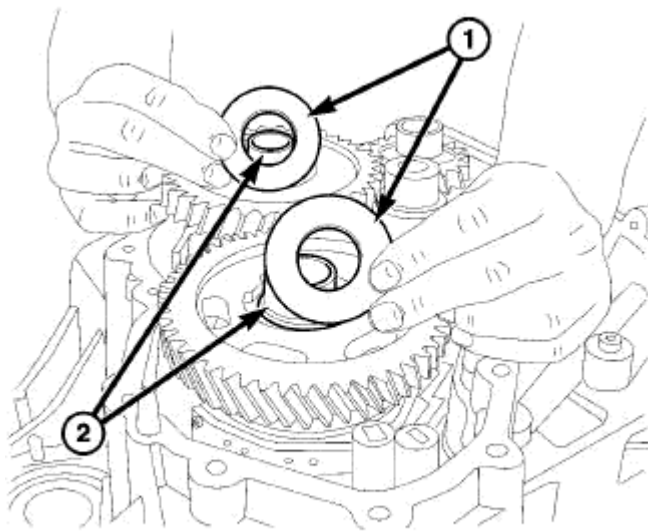


Fig. 46: BEARING AND RETAINING PLATE
Courtesy of CHRYSLER LLC

NOTE: This bolt has left hand threads.

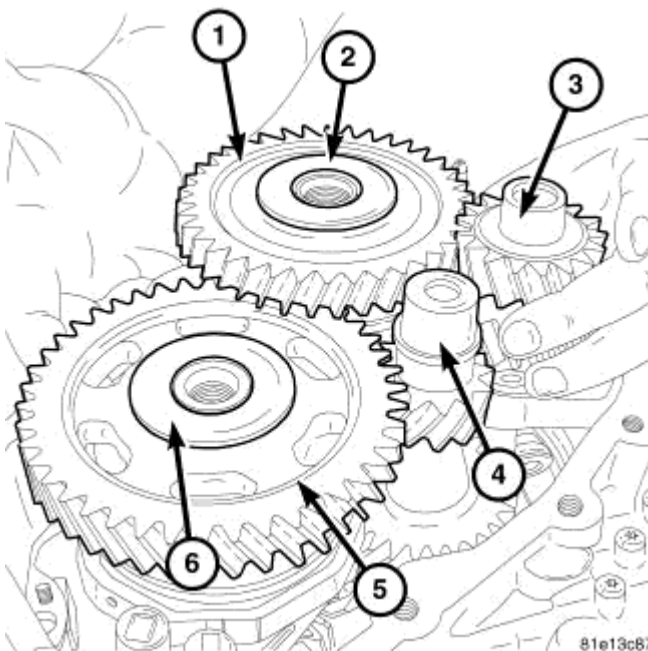
33. Remove the 1st through 4th shaft bearing retaining bolt (2).
34. Remove the 1st through 4th shaft bearing and retaining plate using Puller 8244-2 and Plug 10073.
35. Place transmission in neutral.



81e12c1b

Fig. 47: OUTPUT SHAFT SHIMS
Courtesy of CHRYSLER LLC

36. Remove the thrust washers (1) from the two gears (2).



81e13c87

Fig. 48: IDLER AND OUTPUT GEARS
Courtesy of CHRYSLER LLC

37. Remove 1st and reverse gears (1, 5) from shafts together.

38. Remove the idler gear (3).

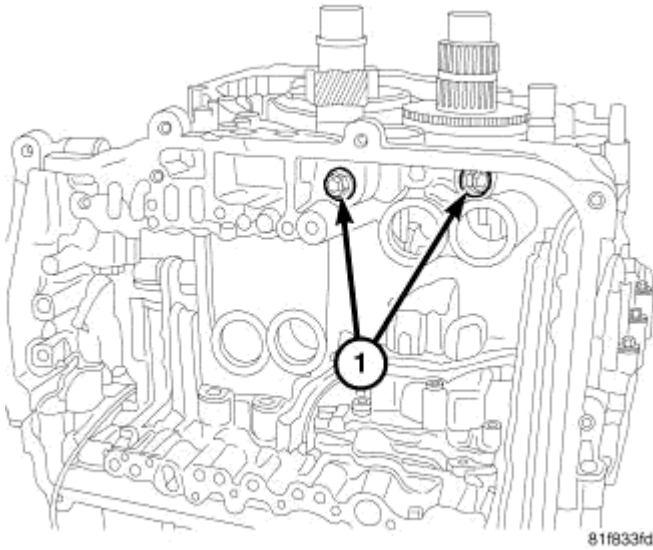


Fig. 49: IDLER GEAR SUPPORT BOLTS
Courtesy of CHRYSLER LLC

39. Remove the idler gear support bolts (1).

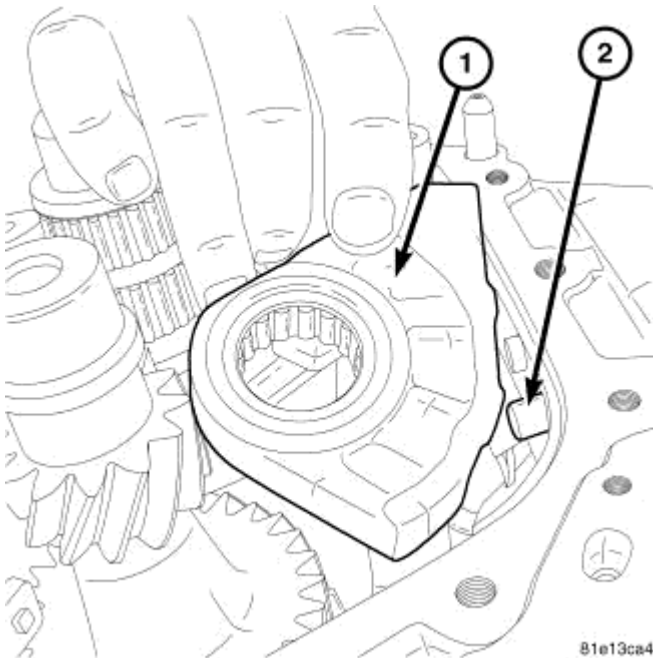


Fig. 50: IDLER SUPPORT
Courtesy of CHRYSLER LLC

40. Remove the idler gear support (1) from the case (2).

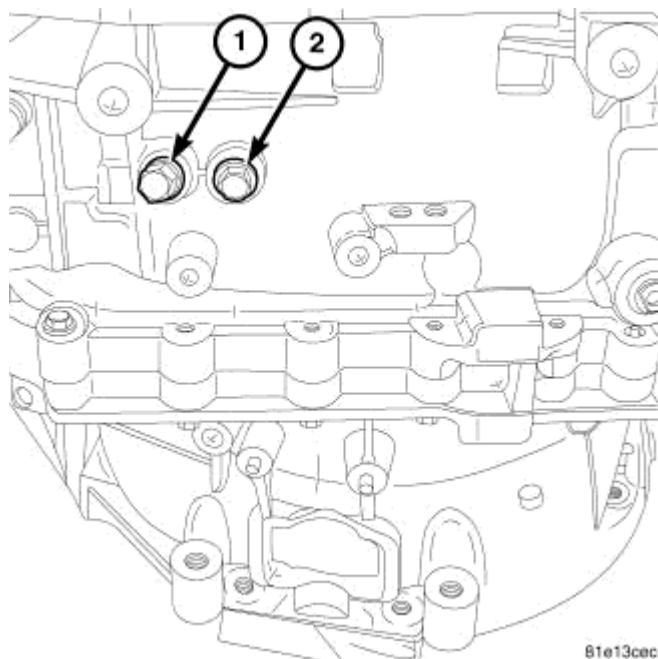


Fig. 51: Upper Detents
Courtesy of CHRYSLER LLC

41. Remove the upper detentes (1, 2).

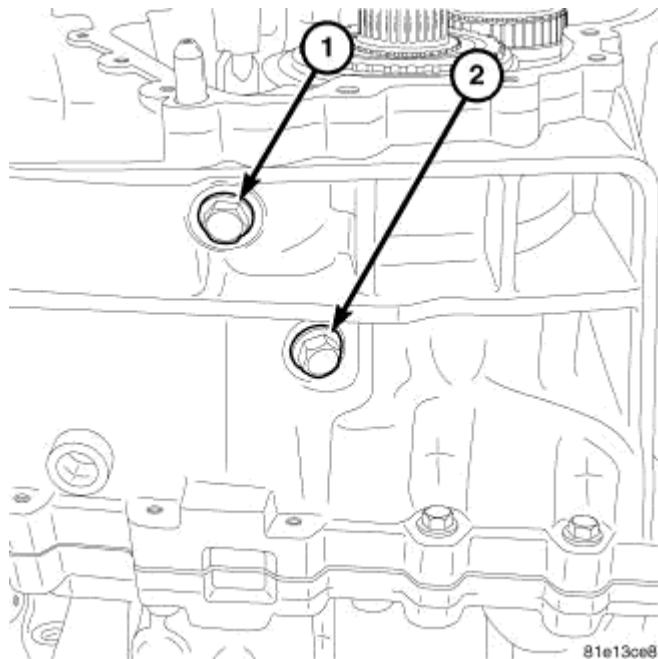


Fig. 52: Lower Detents
Courtesy of CHRYSLER LLC

42. Remove the lower detentes (1, 2).

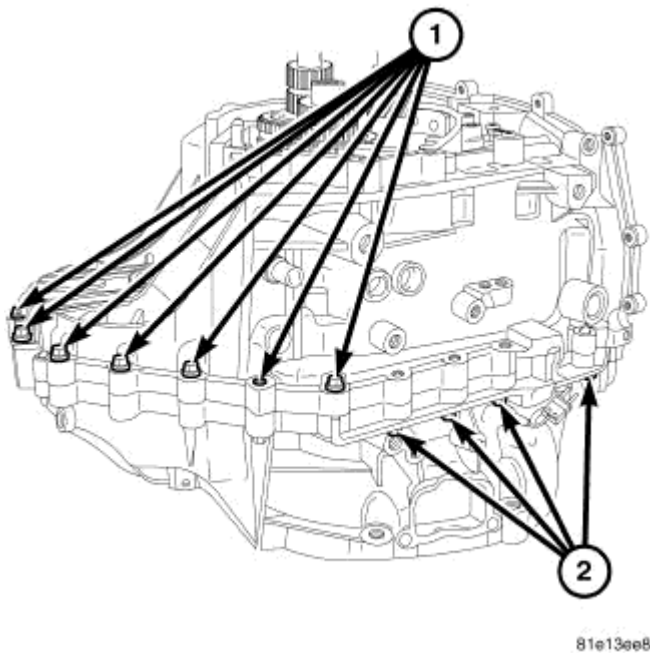


Fig. 53: CASE SIDE BOLTS
Courtesy of CHRYSLER LLC

43. Remove the case half bolts (1) from the transmission side of the case.
44. Remove the bellhousing side bolts (2).

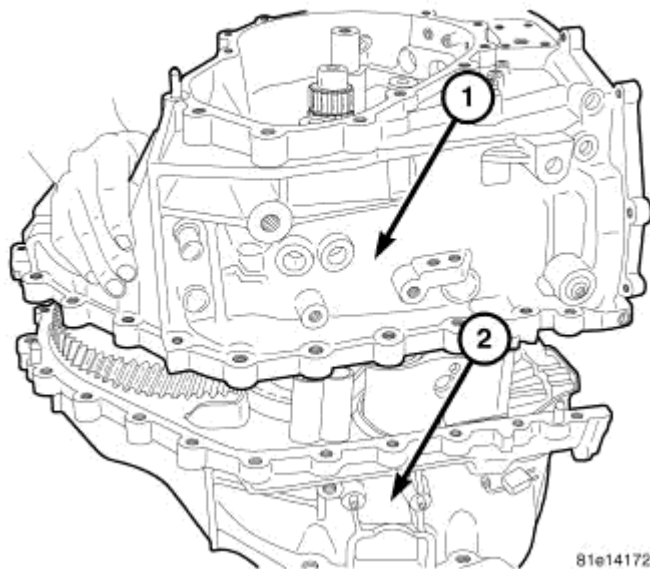


Fig. 54: SPLIT CASES
Courtesy of CHRYSLER LLC

NOTE: Move Parking Pawl to neutral. This will make separating the case halves

easier.

NOTE: The case halves may be bonded together with sealer. Use caution not to scratch, gouge or damage the sealing surfaces.

45. Separate case half (1) from the bellhousing half (2).

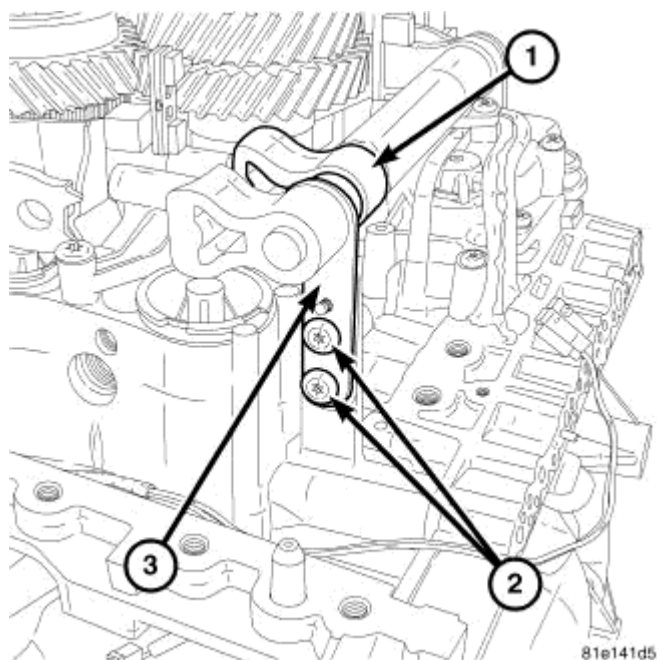


Fig. 55: BOLTS AT PIVOT SHAFT
Courtesy of CHRYSLER LLC

46. Remove the bolts (2) at pivot shaft.
47. Remove the pivot shaft (3).

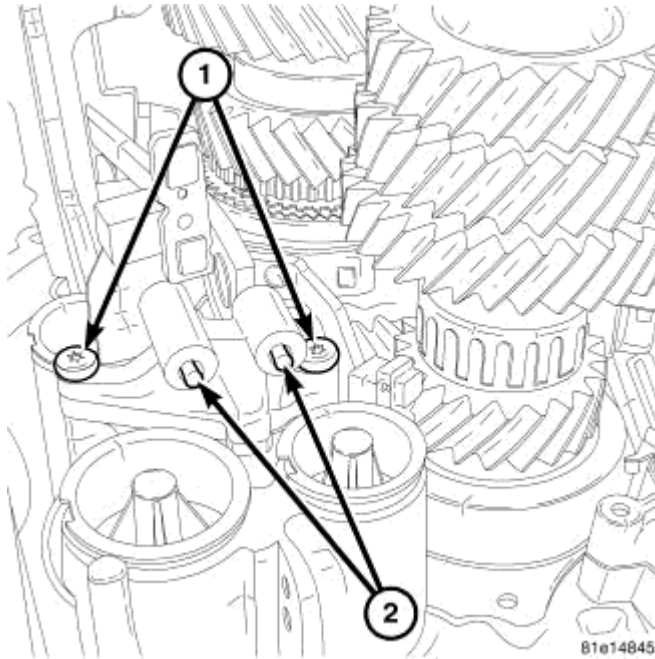


Fig. 56: LOCK OUT PINS
Courtesy of CHRYSLER LLC

48. Remove the bolts (1) holding the interlock bracket.
49. Remove the interlock bracket from the case.

NOTE: The lock out pins are different lengths. Make a note of their original locations for reassembly

50. Remove the lock out pins (2).

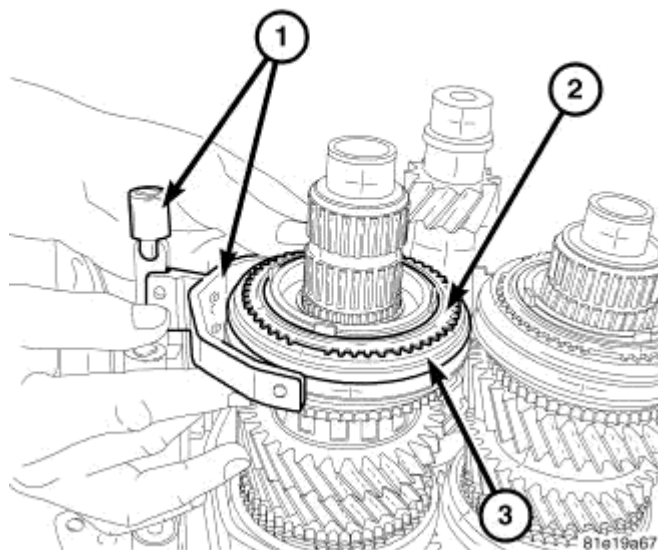


Fig. 57: FIFTH/REVERSE SYNCHRONIZER
Courtesy of CHRYSLER LLC

NOTE: Do not mix synchronizer parts from one synchronizer with the other synchronizers. Keep all parts for a synchronizer together.

51. Remove the first/third synchronizer and fork from the reverse, fifth and six output shaft (1, 2, 3).

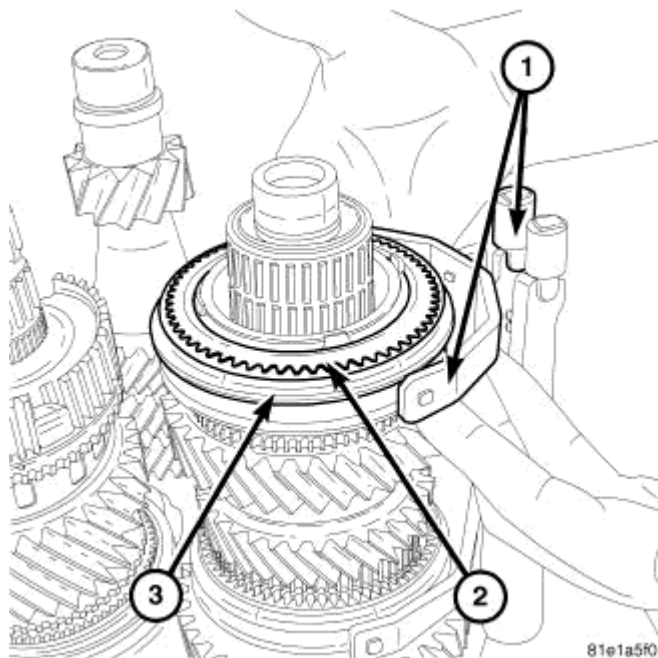


Fig. 58: 2ND AND 4TH GEAR SYNCHRONIZER
Courtesy of CHRYSLER LLC

NOTE: Do not mix synchronizer parts from one synchronizer with the other synchronizers. Keep all parts for a synchronizer together.

52. Remove the second and fourth gear synchronizer and fork (1, 2, 3) from the first through fourth gear output shaft.

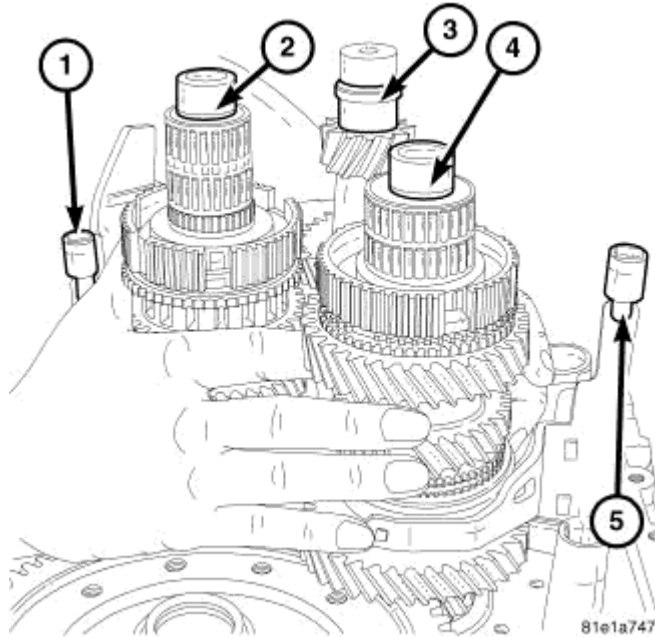


Fig. 59: INPUT AND OUTPUT SHAFTS
Courtesy of CHRYSLER LLC

53. Remove input and both output shafts along with the remaining shift forks from the case at the same time.

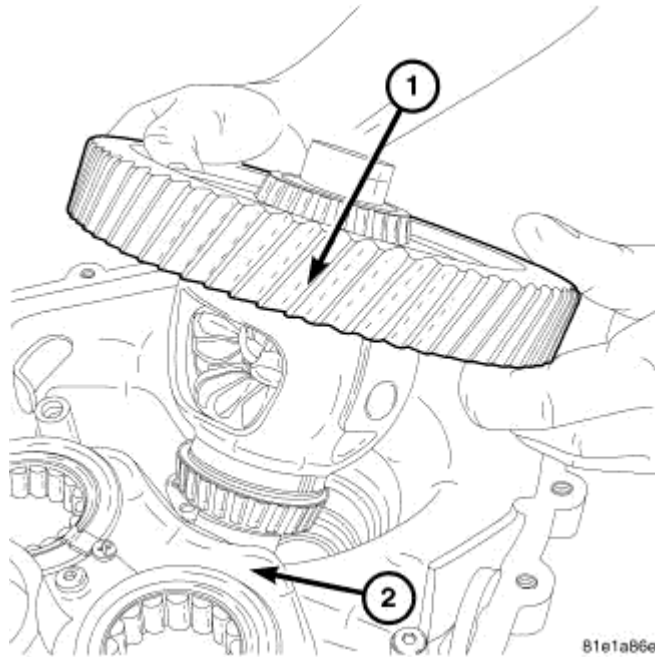


Fig. 60: DIFFERENTIAL
Courtesy of CHRYSLER LLC

54. Remove the differential (1) from the case.

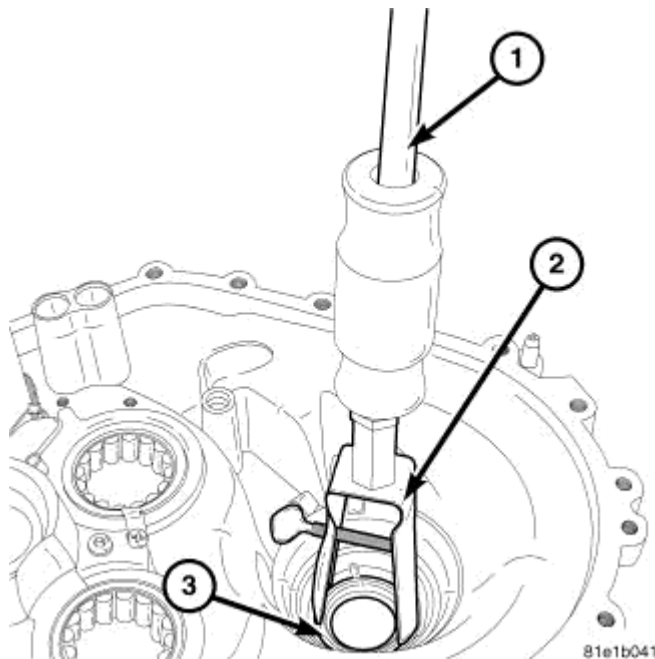


Fig. 61: REMOVE BELLHOUSING SIDE DIFFERENTIAL CUP
Courtesy of CHRYSLER LLC

55. Remove the bellhousing side differential bearing cup (3) using Slide Hammer C-637 (1) and Puller 9664 (2).

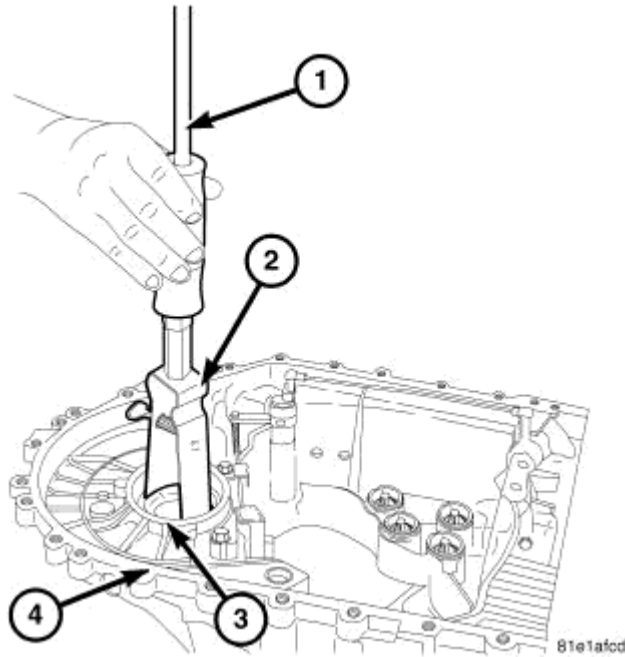


Fig. 62: REMOVE CASE SIDE DIFFERENTIAL CUP
Courtesy of CHRYSLER LLC

56. Remove the case side differential bearing cup (3) using Slide Hammer C-637 (1) and Puller 9664 (2).

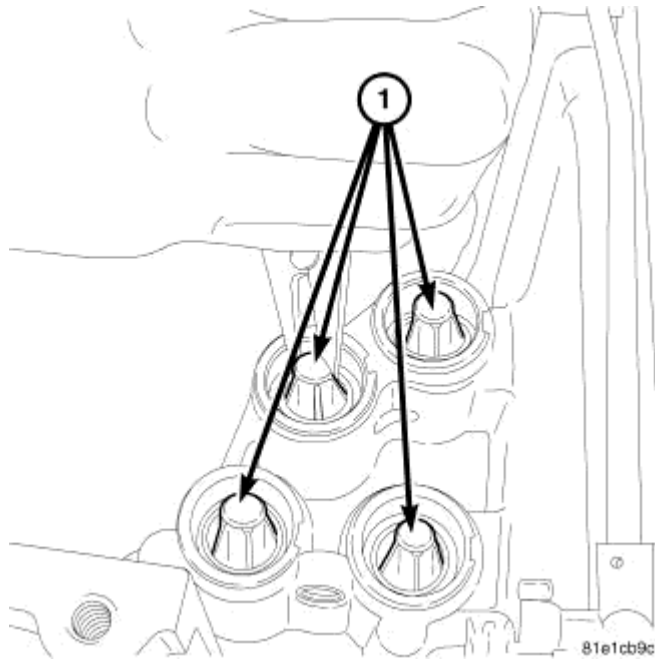


Fig. 63: PISTONS CASE SIDE
Courtesy of CHRYSLER LLC

57. Remove the servo pistons (1) from the case half.

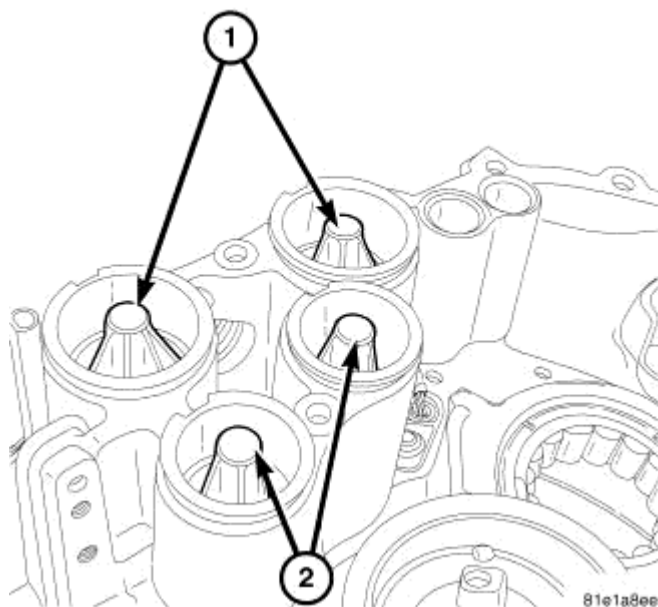


Fig. 64: PISTONS BELLHOUSING SIDE
Courtesy of CHRYSLER LLC

58. Remove the servo pistons (1, 2) from the bellhousing half.

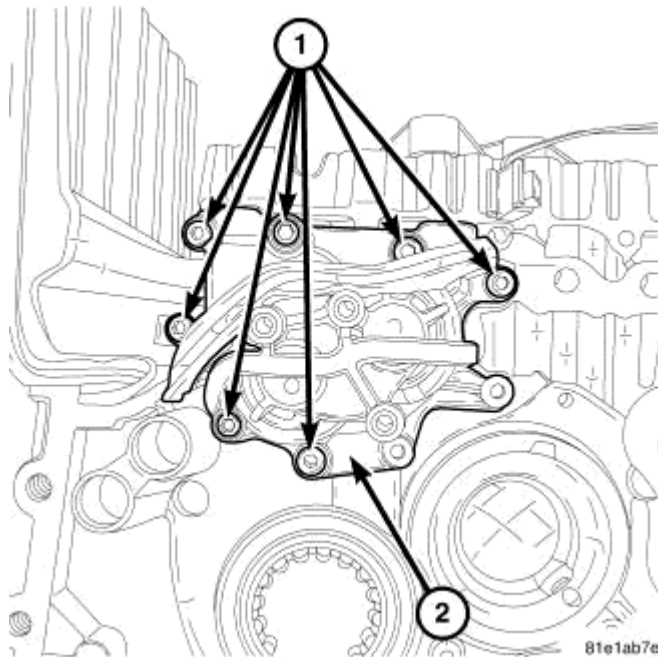


Fig. 65: OIL PUMP BOLTS
Courtesy of CHRYSLER LLC

59. Remove the oil pump bolts (1).

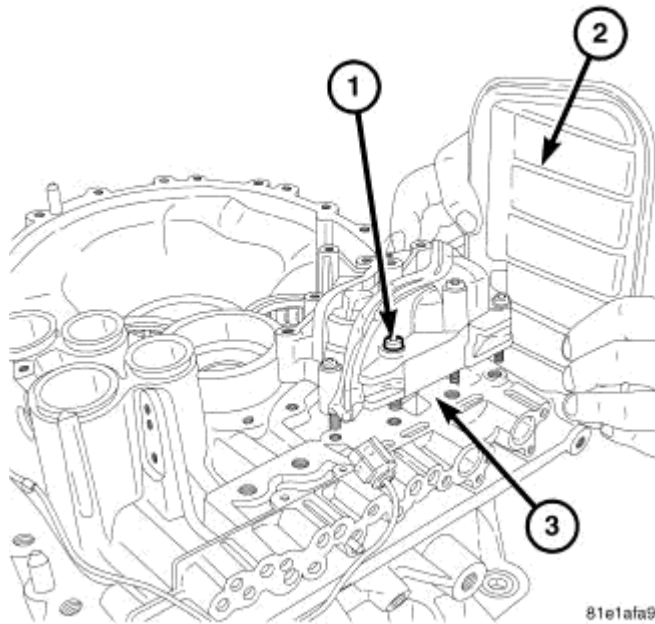


Fig. 66: OIL PUMP AND FILTER
Courtesy of CHRYSLER LLC

60. Remove the oil pump and filter (2) from the case and clean the sealer from both the case and the pump.
61. Remove the oil pump filter (2) from the oil pump (1).

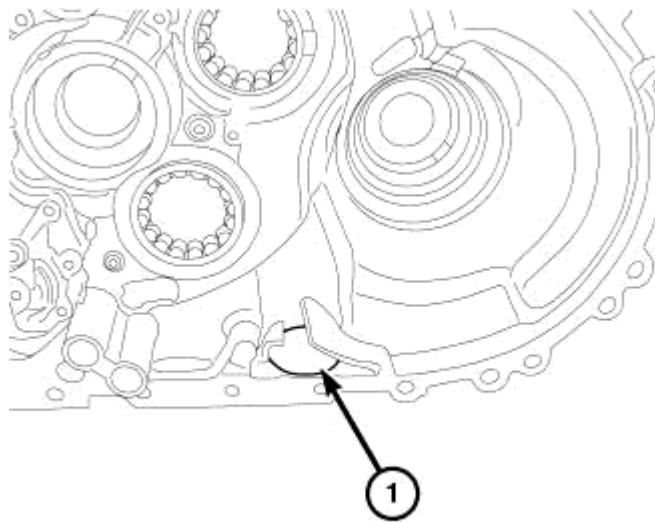
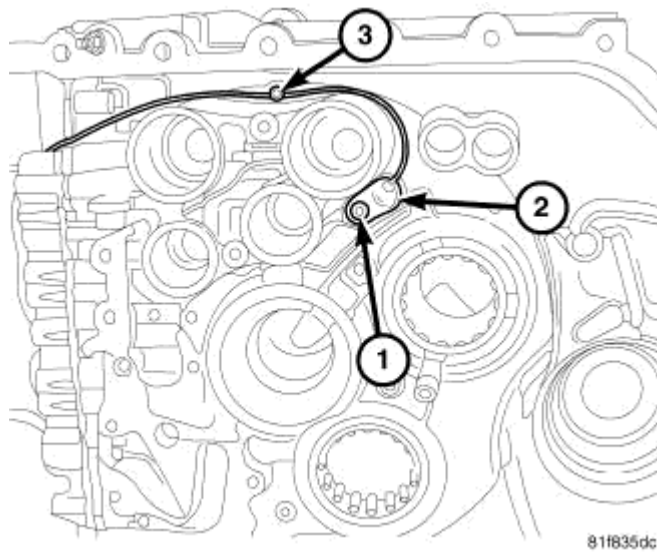


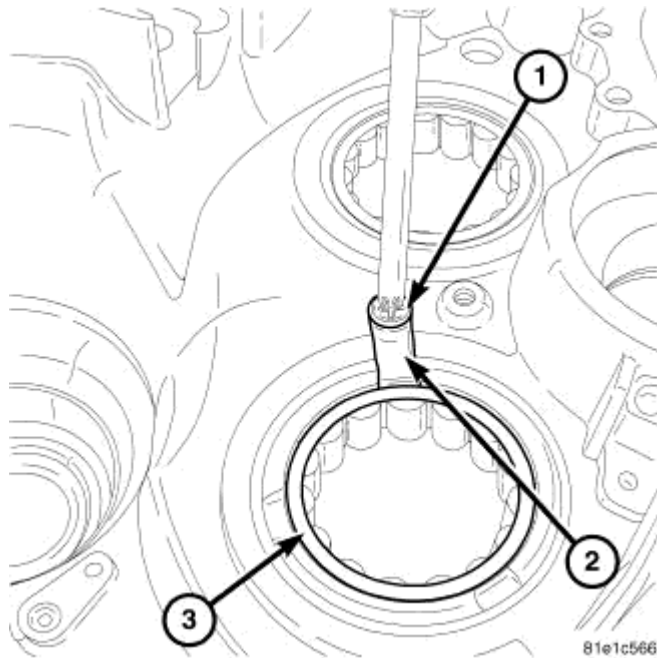
Fig. 67: MAGNET
Courtesy of CHRYSLER LLC

62. Remove the magnet (1) from the case.

**Fig. 68: INPUT SHAFT SPEED SENSOR FASTENER**

Courtesy of CHRYSLER LLC

63. Disconnect the harness retainer (3), remove the input shaft speed sensor fastener (1) and the input shaft speed sensor (2).

**Fig. 69: BEARING RETAINING CLIP**

Courtesy of CHRYSLER LLC

64. Remove the screw at the bearing retaining clip (1) and remove the clip (2).

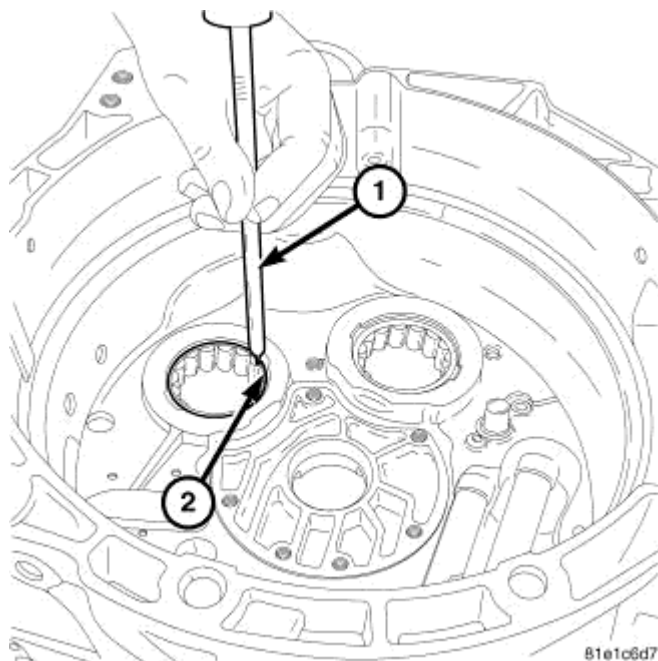


Fig. 70: OUTPUT SHAFT CASE BEARING
Courtesy of CHRYSLER LLC

65. Remove the first through fourth output shaft case bearing (2) using a punch (1).

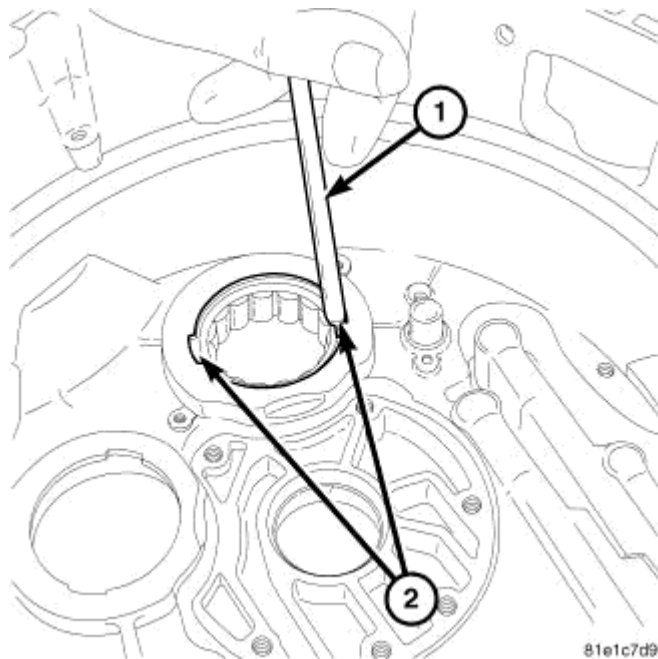


Fig. 71: OUTPUT SHAFT CASE BEARING
Courtesy of CHRYSLER LLC

66. Remove the fifth, sixth and reverse output shaft case bearing (2) using a punch (1).
67. Remove the hold down screw for the speed sensor and remove the speed sensor.

68. Remove the bearing from the idler gear support using a socket.

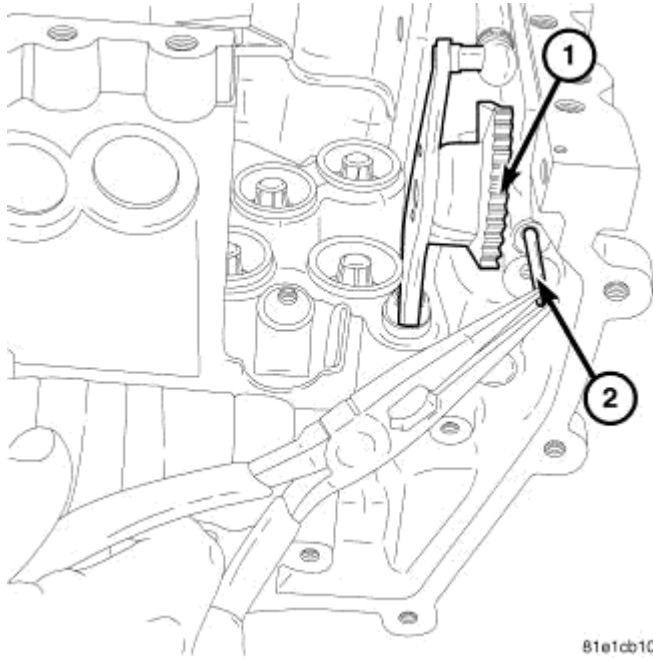


Fig. 72: MANUAL LEVER PIN
Courtesy of CHRYSLER LLC

69. Remove the manual lever pin (2) to allow removal of the manual lever (1).

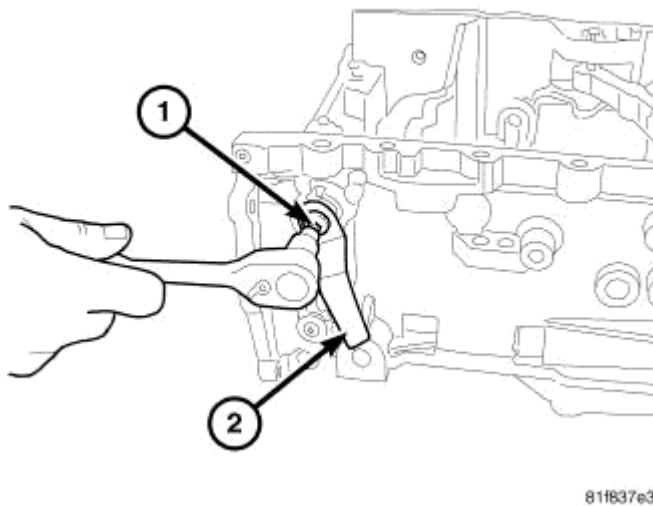


Fig. 73: MANUAL LEVER RETAINER AND MANUAL LEVER
Courtesy of CHRYSLER LLC

70. Remove the manual lever retainer (1) and the manual lever (2).

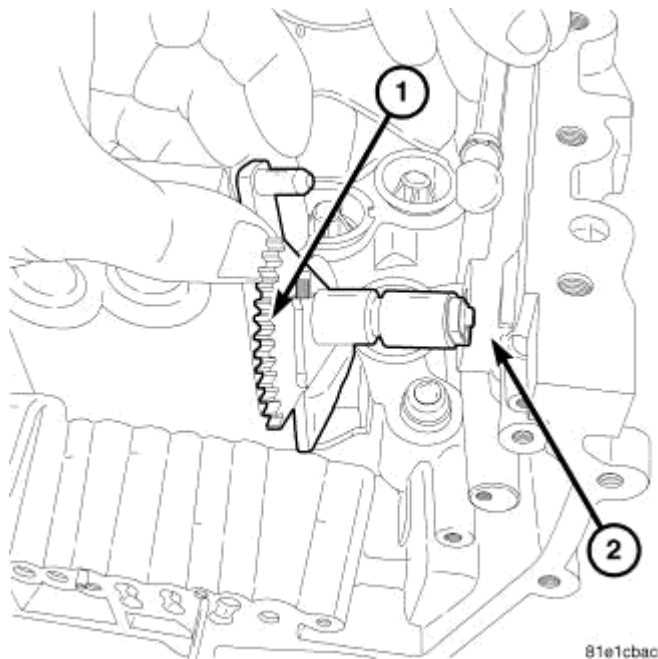


Fig. 74: MAIN SHAFT ROOSTER COMB
Courtesy of CHRYSLER LLC

71. Disconnect the park pawl connecting rod and remove the manual shaft/rooster comb (1).

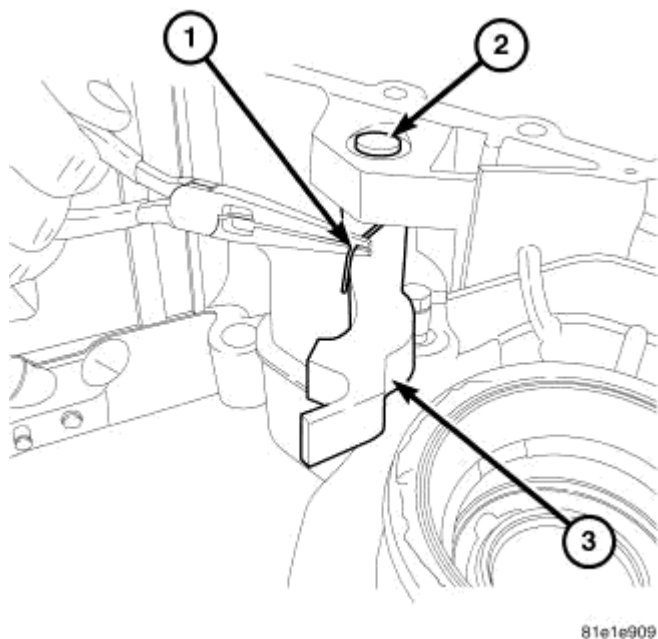


Fig. 75: PARK PAWL AND SPRING
Courtesy of CHRYSLER LLC

72. Remove the park pawl spring (1).
73. Remove the park pawl pin (2).

74. Remove the park pawl (3).

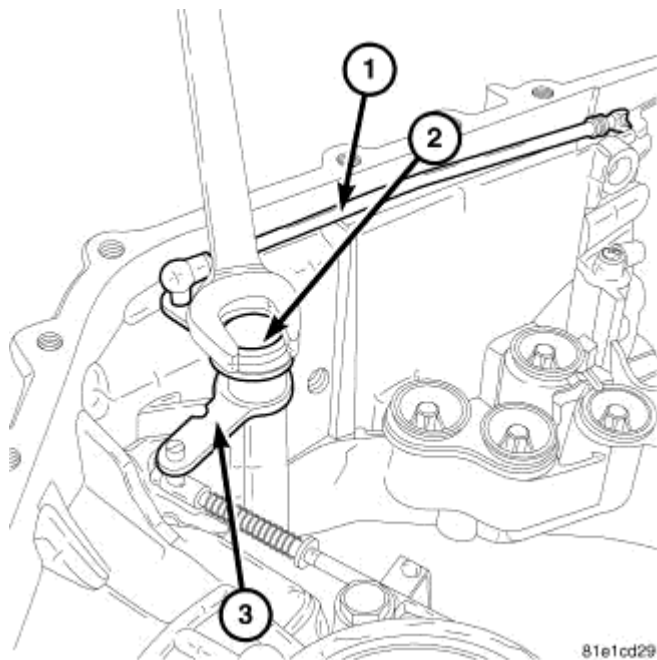


Fig. 76: PIVOT PIN
Courtesy of CHRYSLER LLC

75. Remove the park pawl pivot bolt (2).

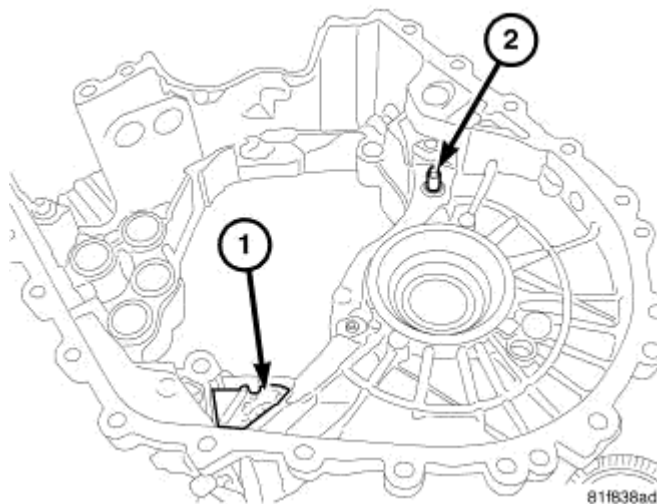


Fig. 77: BAFFLE
Courtesy of CHRYSLER LLC

76. Remove the baffle (1).

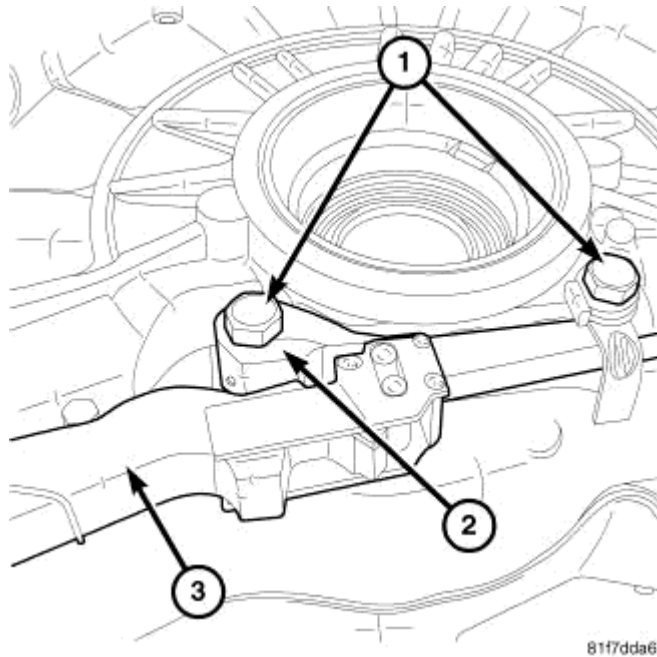


Fig. 78: BOLTS AT PARK PAWL BRACKET
Courtesy of CHRYSLER LLC

77. Remove the bolts (1) at the park pawl bracket (2) and remove the bracket from the case.

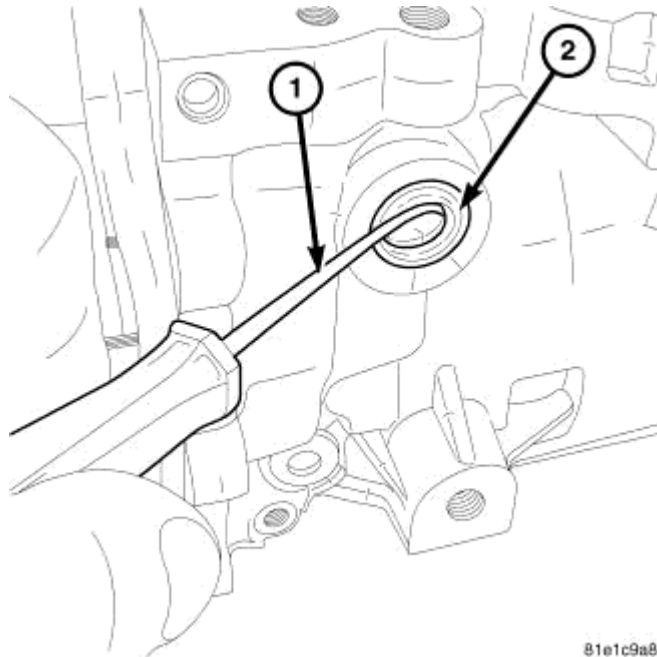


Fig. 79: MAIN SHAFT SEAL OUT
Courtesy of CHRYSLER LLC

78. Remove the manual lever shaft seal (2).

CLEANING

CLEANING

Clean the gears, bearings, shafts, synchronizers, thrust washers, oil feeder, shift mechanism, gear case, and bellhousing. Do not use solvent to clean sealed bearings. Dry all parts except the bearings with compressed air. Allow the bearings to either air dry or wipe them dry with clean shop towels.

ASSEMBLY

ASSEMBLY

NOTE: If a new double clutch assembly is being installed, proceed to Step 1. Otherwise, assemble the double clutch. See [Assembly](#) .

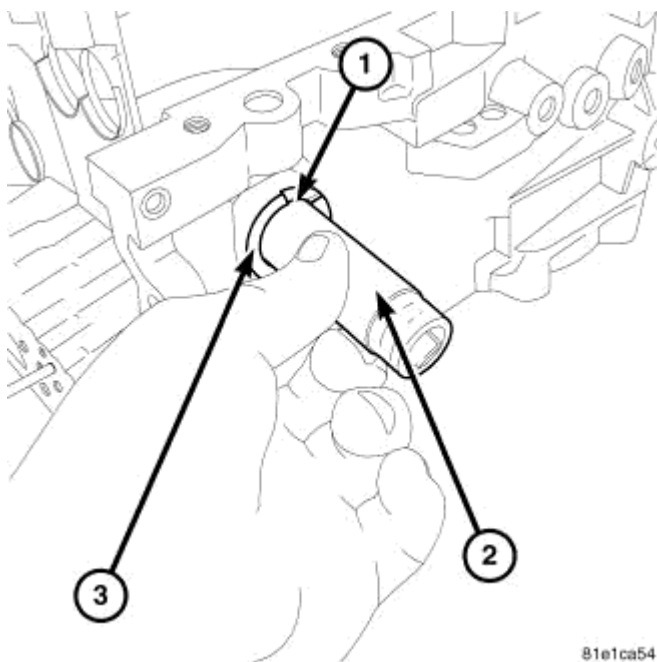


Fig. 80: MAIN SHAFT SEAL IN
Courtesy of CHRYSLER LLC

1. Using a socket (2) install the manual shaft seal (1) to a depth of 1.4 mm into the case (3).

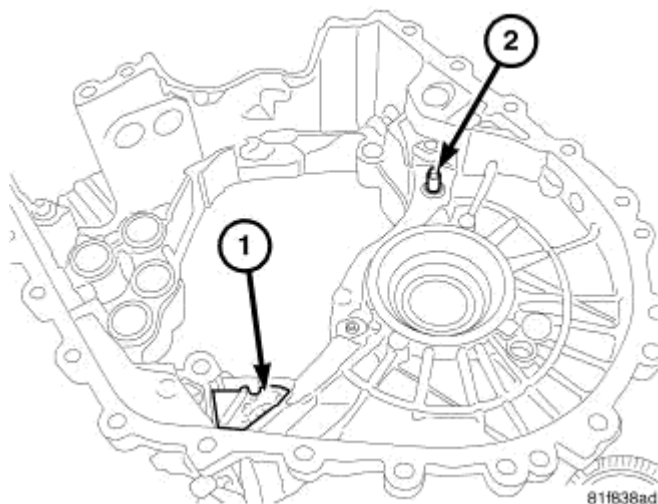


Fig. 81: INTERNAL OIL BAFFLE
Courtesy of CHRYSLER LLC

2. Install the internal oil baffle (1).
3. If necessary, install a new park pawl stop pin (2) and tighten to 25 Nm (18 ft. lbs.).

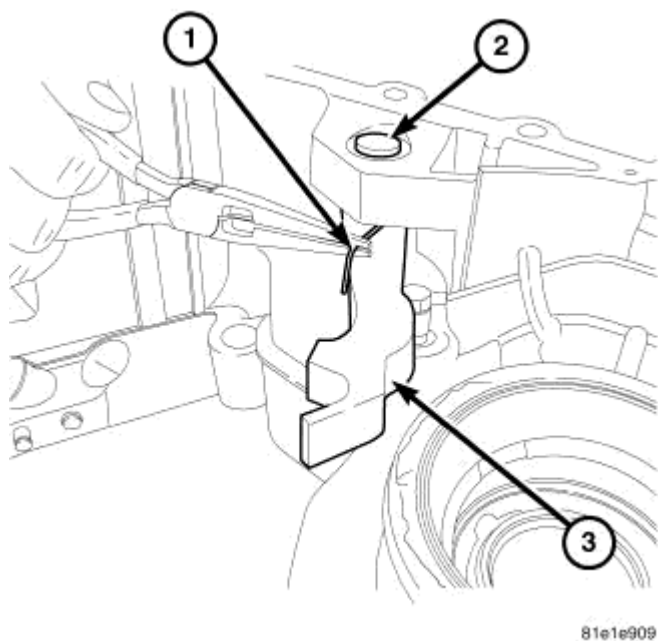


Fig. 82: PARK PAWL AND SPRING
Courtesy of CHRYSLER LLC

4. Install the park pawl (3).
5. Install the park pawl pin (2).
6. Install the park pawl spring (1).

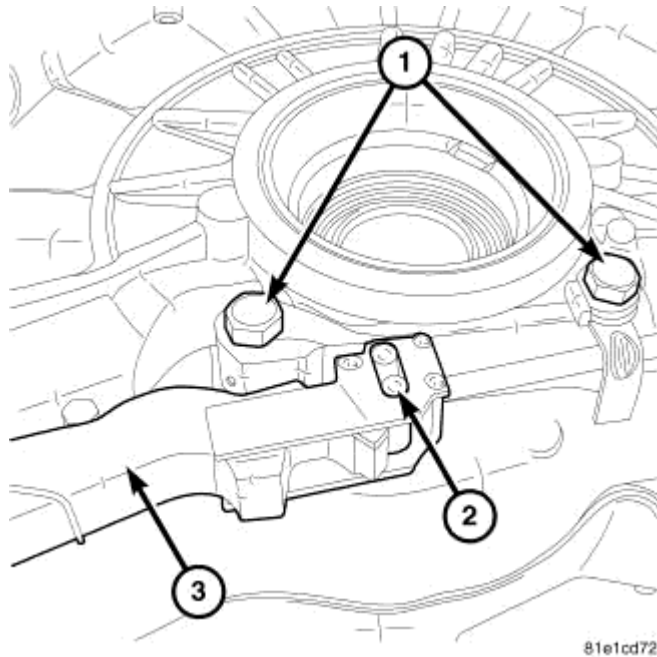


Fig. 83: PARK PAWL BRACKET BOLTS
Courtesy of CHRYSLER LLC

7. Install the parking pawl.
8. Install the park pawl bracket (2, 3) and bolts (1) and tighten to 25 N.m (18 ft. lbs.).

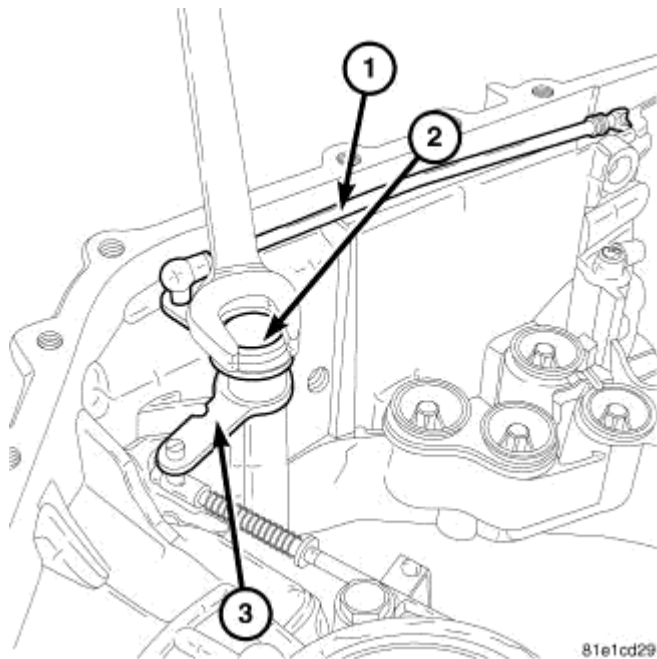


Fig. 84: PIVOT PIN
Courtesy of CHRYSLER LLC

9. Install the park pawl pivot bolt (2) and tighten to 30 N.m (22 ft. lbs.).

10. Install the park pawl link rod (1), verify the ball joint is positively engaged on the stud and moves freely without coming off.

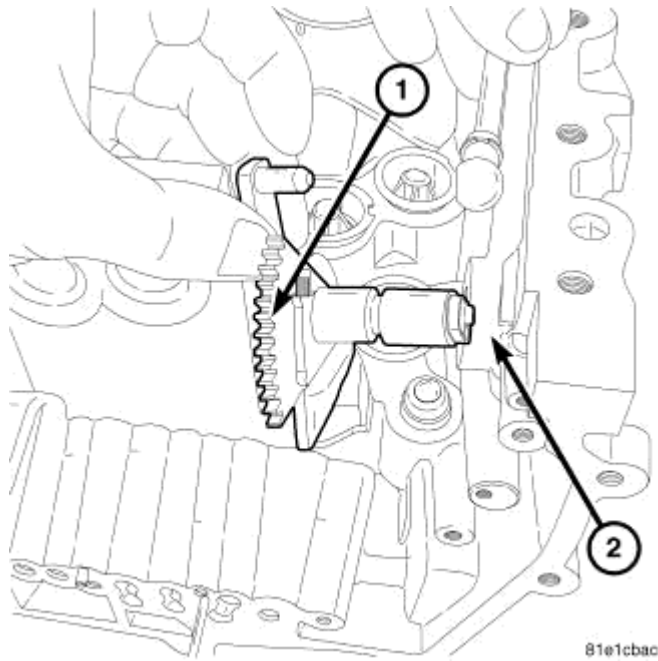


Fig. 85: MAIN SHAFT ROOSTER COMB
Courtesy of CHRYSLER LLC

NOTE: Make sure the park pawl rod is positively engaged to the ball stud.

11. Install the main shaft/rooster comb (1).

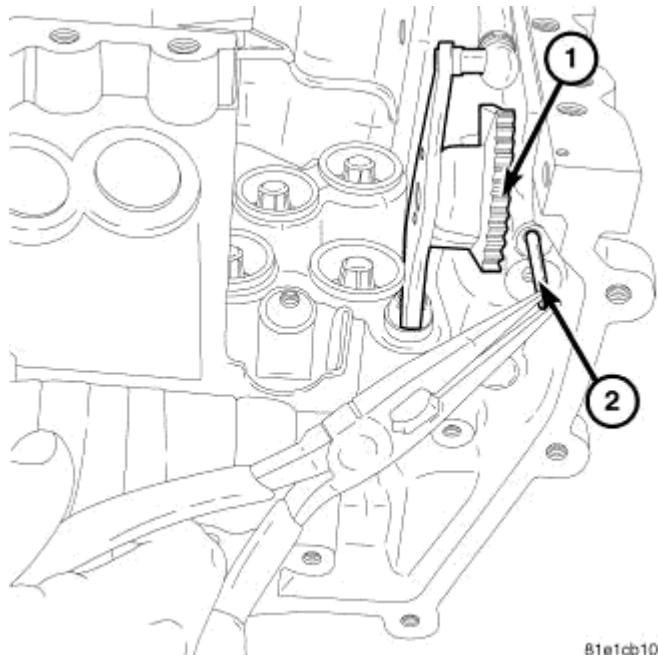
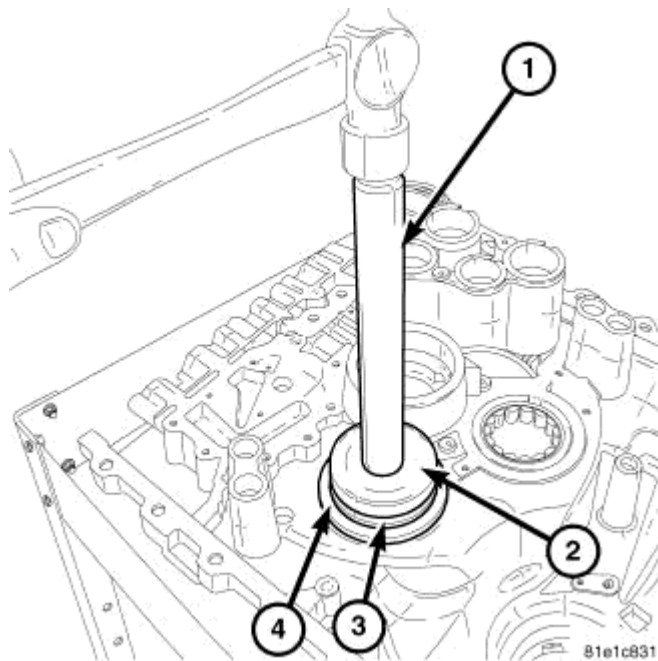


Fig. 86: MANUAL LEVER PIN

Courtesy of CHRYSLER LLC

12. Install the manual lever pin (2).
13. Install the manual lever and tighten the bolt to 20 Nm (15 ft. lbs).

**Fig. 87: Install 5th, 6th & Reverse Bearing To Case**

Courtesy of CHRYSLER LLC

14. Install the fifth, sixth and reverse output shaft case bearing (3) using Installer 9928 (2) and Handle C-4171 (1).

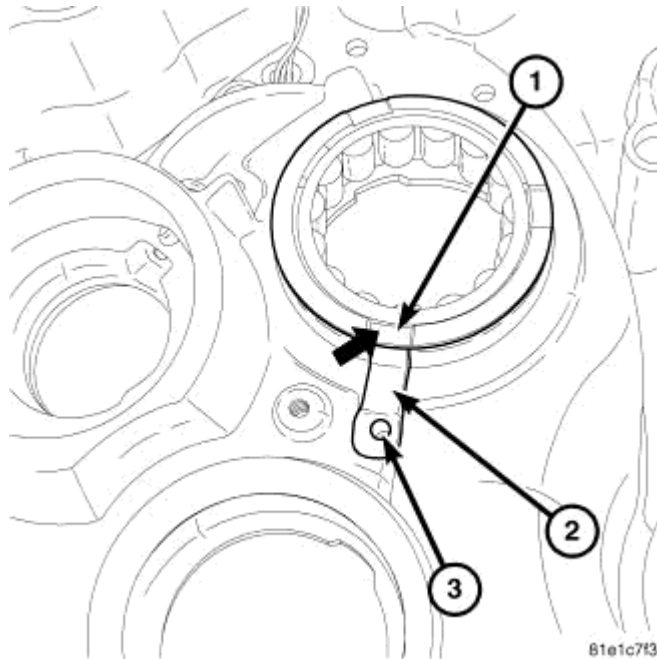


Fig. 88: OUTPUT SHAFT CASE BEARING RETAINING CLIP
Courtesy of CHRYSLER LLC

15. Install the first through fourth output shaft case bearing using Installer 9928 and Handle C-4171.
16. Install the first through fourth output shaft case bearing retaining clip (2) and hold down screw (3). Tighten the screw to 10 Nm (7 ft. lb).

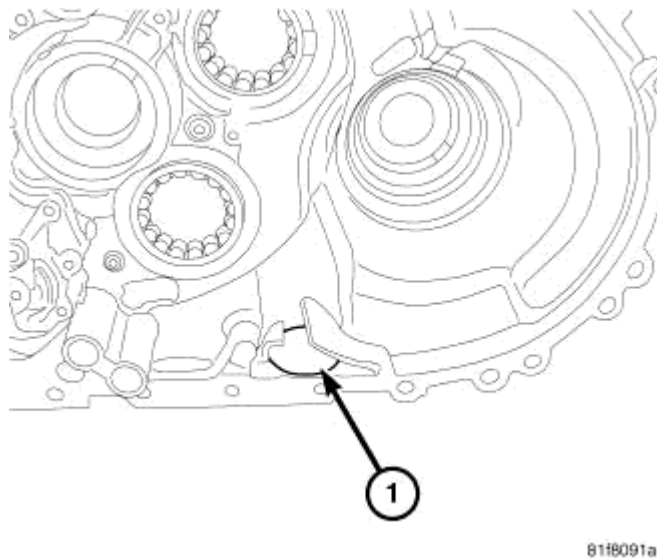


Fig. 89: MAGNET
Courtesy of CHRYSLER LLC

17. Install the magnet (1) into the case.

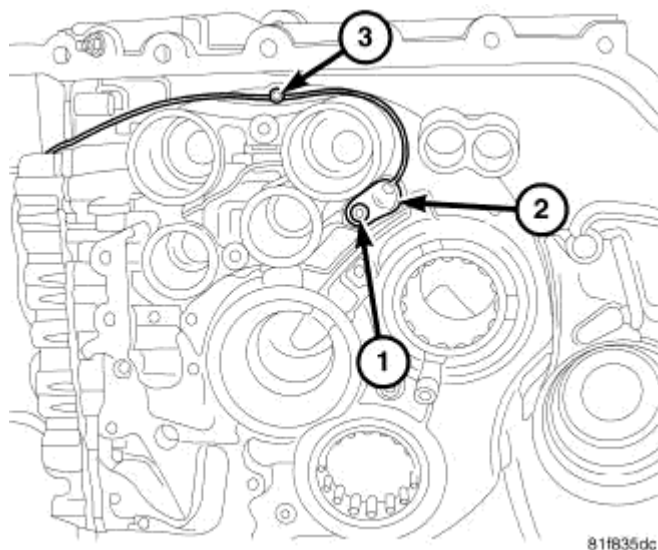


Fig. 90: INPUT SHAFT SPEED SENSOR FASTENER
Courtesy of CHRYSLER LLC

18. Install the input shaft speed sensor (2), input shaft speed sensor fastener (1) and reconnect the harness retainer (3).

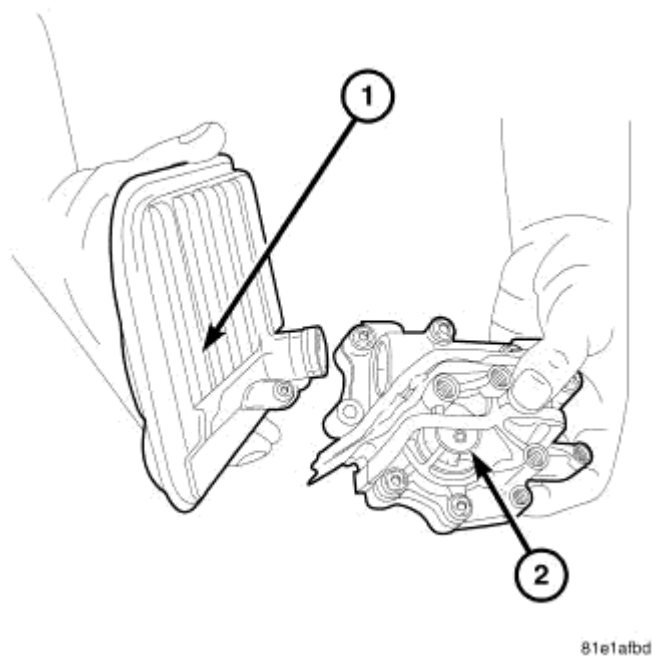


Fig. 91: FILTER AT THE PUMP
Courtesy of CHRYSLER LLC

NOTE: Use BOT-341 fluid to lubricate the seal on the filter

19. Install the oil pump filter (1) onto the oil pump (2).

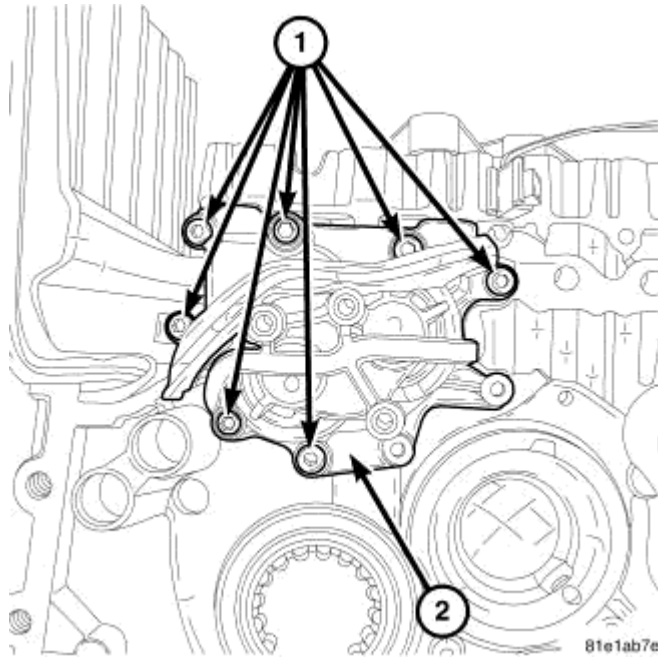


Fig. 92: OIL PUMP BOLTS
Courtesy of CHRYSLER LLC

20. Install the oil pump to the case and install the oil pump bolts. Do not tighten the bolts at this time.

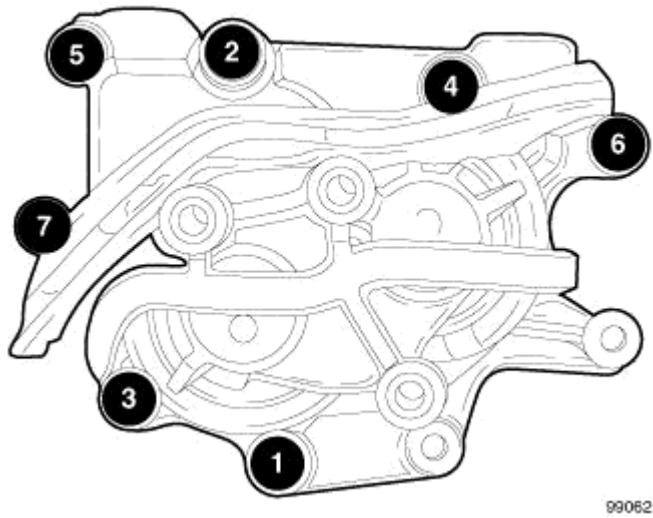


Fig. 93: Oil Pump Bolts Tightening Sequence
Courtesy of CHRYSLER LLC

21. Tighten the oil pump bolts in the order shown in illustration to 10 N.m (88 in. lbs.).

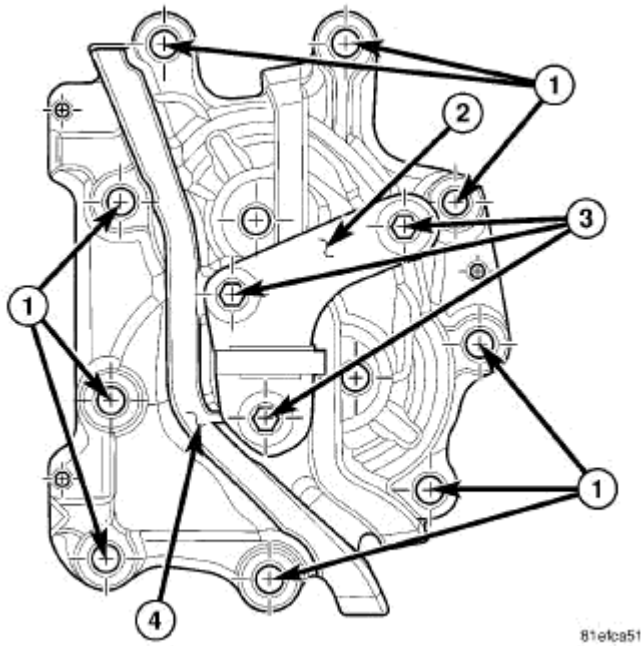


Fig. 94: Oil Pump With Pivot Bracket
Courtesy of CHRYSLER LLC

NOTE: After torquing, rotate the oil pump rotor by hand to confirm that it does not bind.

22. Install the pivot bracket (2) onto the oil pump and tighten the bolts (3) to 10 N.m (88 in. lbs.).

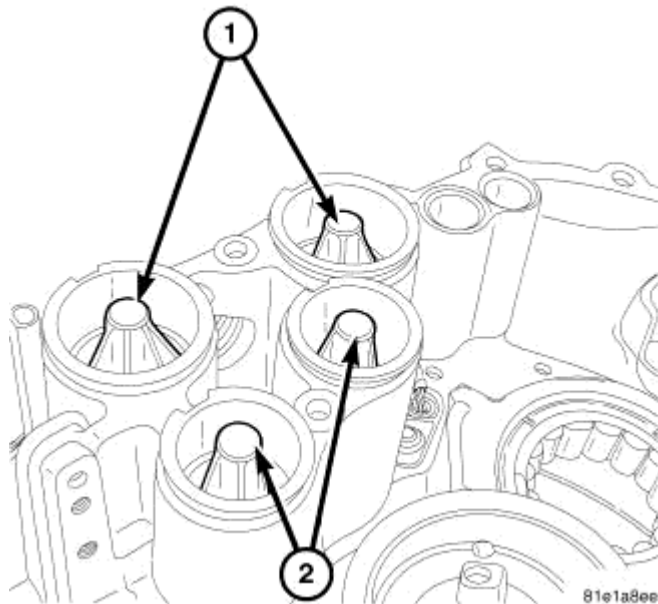


Fig. 95: PISTONS BELLHOUSING SIDE

Courtesy of CHRYSLER LLC

23. Install the servo pistons (1, 2) into the bellhousing half.

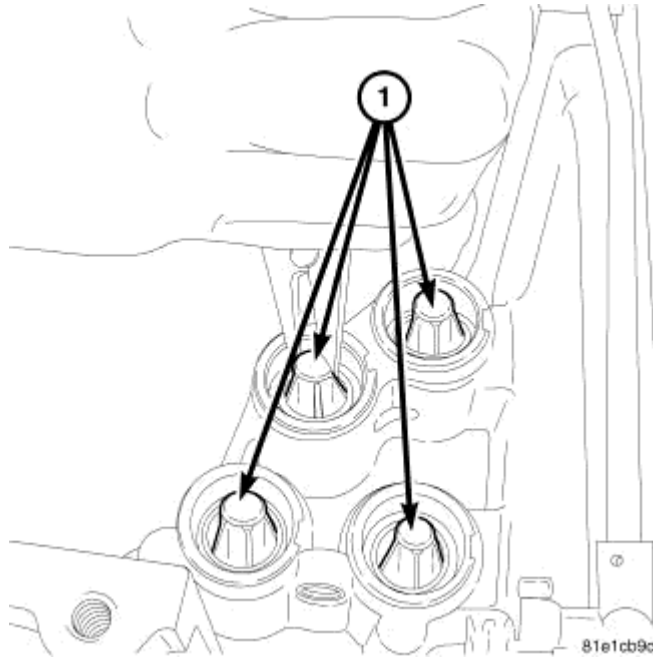


Fig. 96: PISTONS CASE SIDE
Courtesy of CHRYSLER LLC

24. Install the servo pistons (1) into the case half.
25. Select shim(s) for the input shaft. See **Adjustments** .

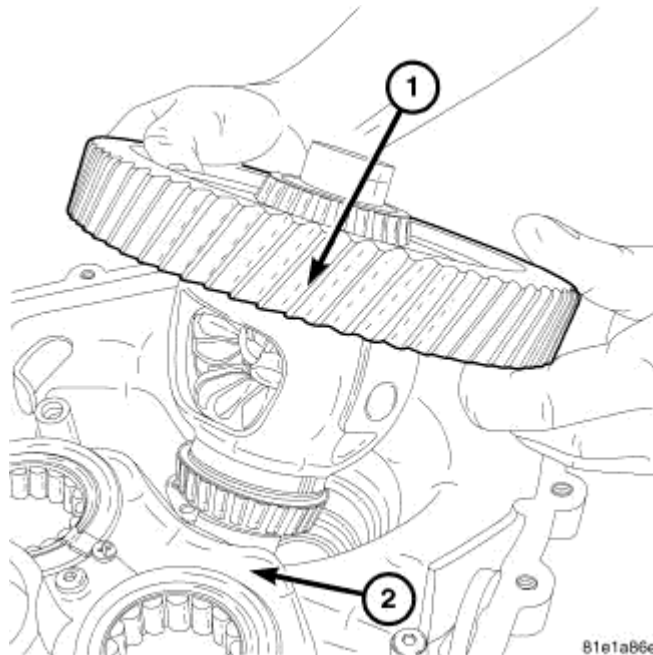
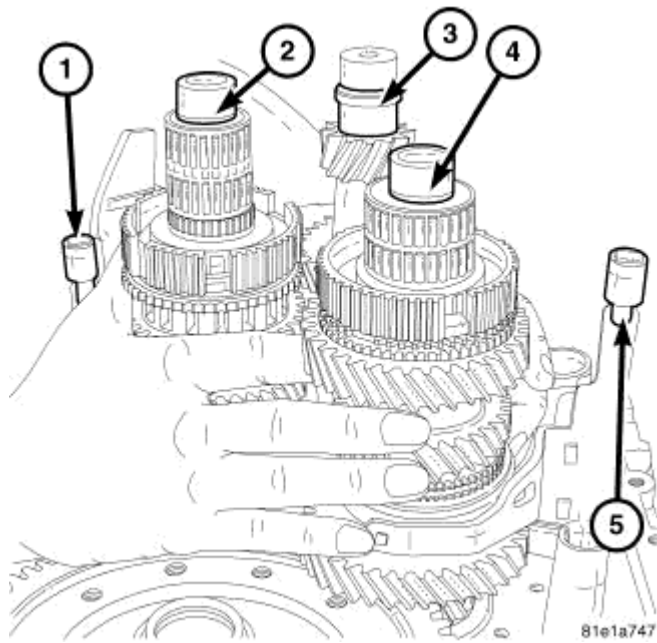


Fig. 97: DIFFERENTIAL

Courtesy of CHRYSLER LLC

26. Install the differential (1) into the case and select shim(s). See **Adjustments** .

**Fig. 98: INPUT AND OUTPUT SHAFTS**

Courtesy of CHRYSLER LLC

NOTE: This step may require an assistant to keep the shafts and shift forks aligned during installation.

27. Install the input and both output shafts along with the lower shift forks (removed with the shafts during disassembly) into the case at the same time.

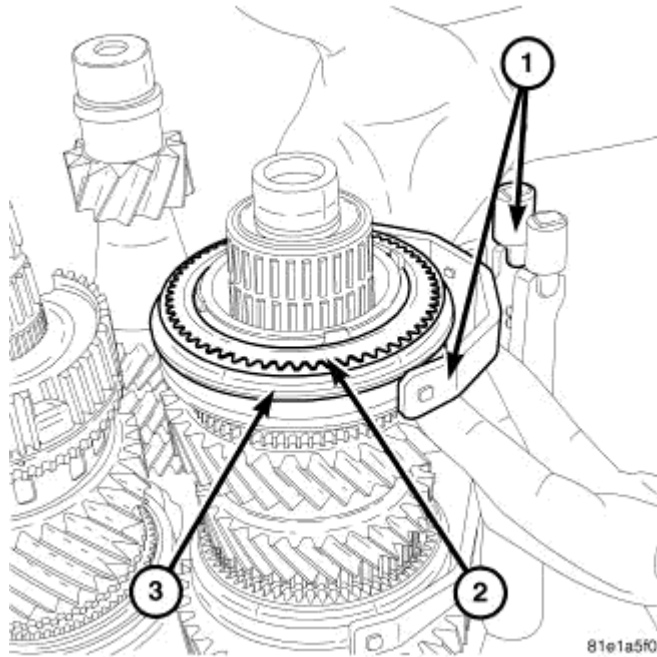


Fig. 99: 2ND AND 4TH GEAR SYNCHRONIZER
Courtesy of CHRYSLER LLC

28. Install the first and third gear synchronizer in the following order:
- first gear sleeve/collar and shift fork.
 - first gear pressure pieces (3 total).
 - first gear blocker (3 total).
 - third gear sleeve/collar and shift fork.
 - third gear pressure pieces (3 total).
 - third gear blocker (3 total).

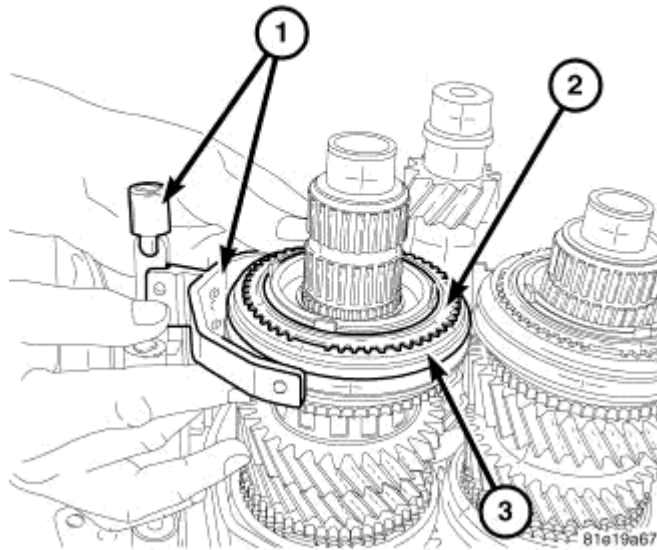


Fig. 100: FIFTH/REVERSE SYNCHRONIZER
Courtesy of CHRYSLER LLC

29. Install the fifth/reverse synchronizer and fork onto the reverse, fifth and six output shaft (1, 2, 3).

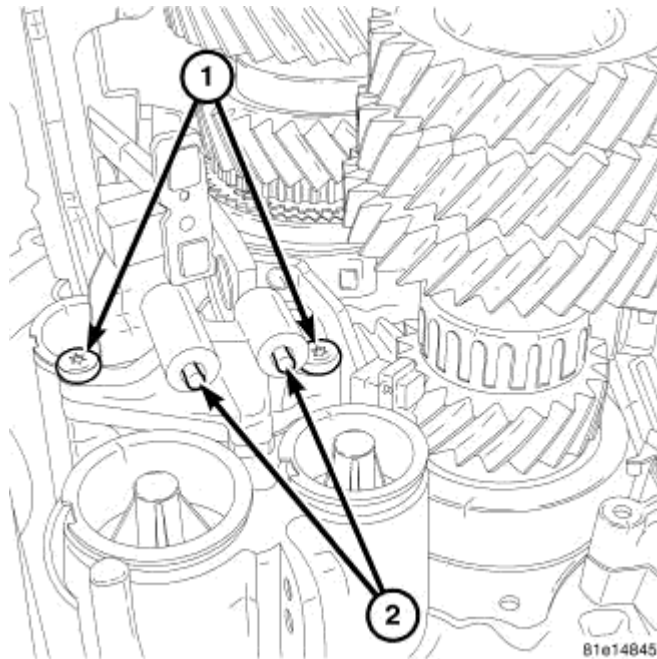


Fig. 101: LOCK OUT PINS
Courtesy of CHRYSLER LLC

30. Install the lock out pin housing (2) onto the case.
31. Install the bolts (1) holding the lock out pins (2) to the case and tighten to 10 N.m (88 in. lbs.).

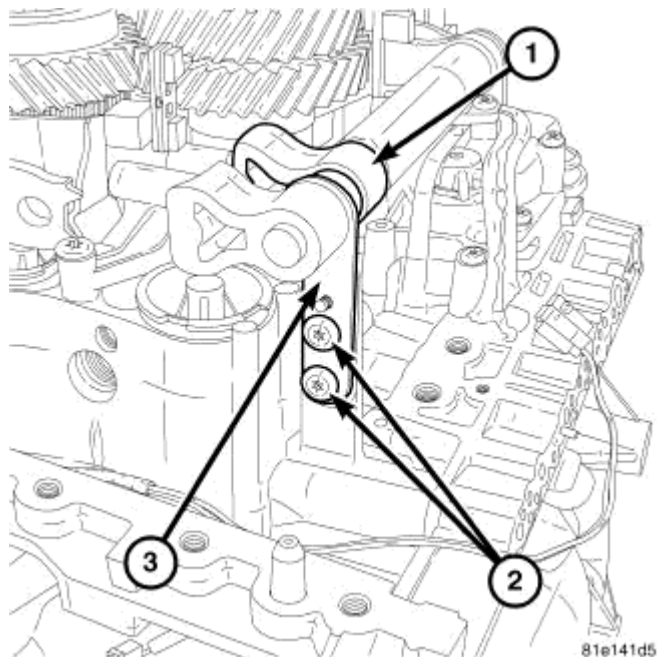


Fig. 102: BOLTS AT PIVOT SHAFT
Courtesy of CHRYSLER LLC

32. Install the pivot shaft (3).
33. Install the bolts (2) at the pivot shaft and tighten to 10 N.m (88 in. lbs.).

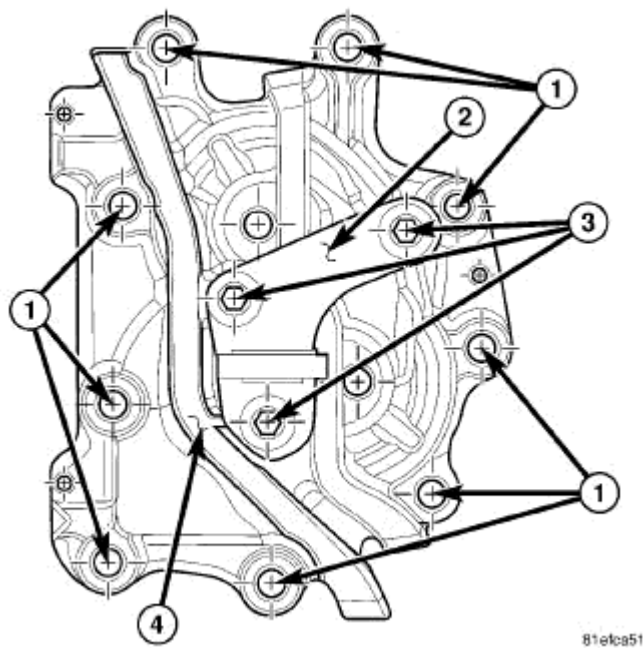


Fig. 103: Oil Pump With Pivot Bracket
Courtesy of CHRYSLER LLC

NOTE: All traces of original sealant must be cleaned from the top of the oil pump.

34. Apply a 4 mm bead of Mopar® ATF-RTV sealant (part number 05010884AA) to the top of the oil pump, where it meets the case half (4).

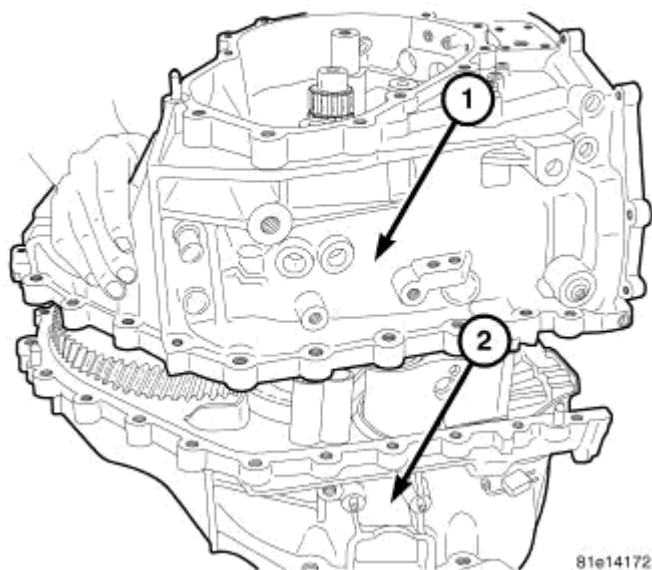


Fig. 104: SPLIT CASES

Courtesy of CHRYSLER LLC

NOTE: The case halves must be assembled within 15 minutes after the application of the anaerobic sealant. Do not allow transmission oil or any other lubricants to come in contact with the sealant for at least one hour after the case halves have been assembled.

35. Apply Mopar® Gasket Maker anaerobic sealant (part number 04318083) to the sealing surface of the case.
36. Verify that the transmission is in neutral, and that no synchronizers are engaging gears onto the shafts.
37. Verify that the blocker ring tabs are engaged with the slots in the synchronizers. Otherwise, a gear can be locked to a shaft, damaging the related synchronizer after the transaxle is installed in the vehicle.

CAUTION: Verify the transmission manual lever is in neutral before assembling the case halves, and that all gears rotate freely on their respective shafts. Otherwise, damage to the synchronizers can occur after the transaxle is installed in the vehicle.

38. Install case half (1) onto the bellhousing half (2).

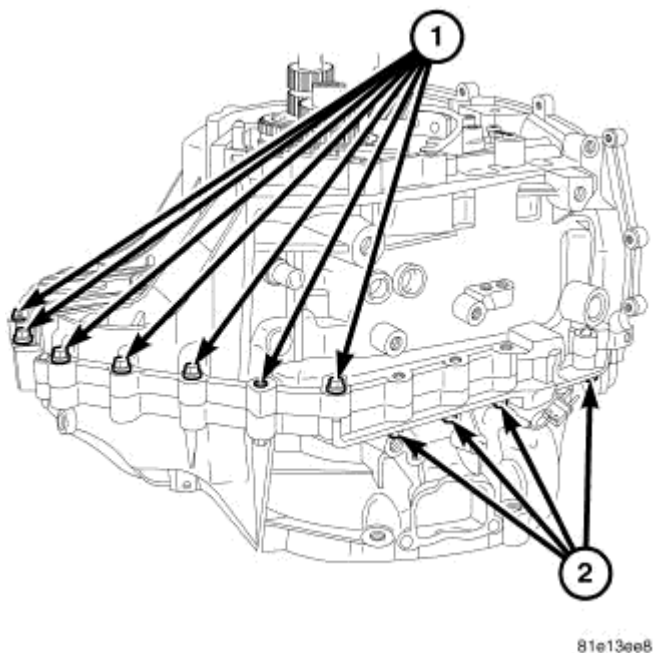


Fig. 105: CASE SIDE BOLTS
Courtesy of CHRYSLER LLC

CAUTION: Do not force the case halves together with the case half bolts.

39. Install the case half bolts (1) and gradually draw the case halves together by tightening the bolts near the case half alignment dowels.
40. When the case halves are drawn together, tighten the case half bolts to 30 N.m (22 ft. lbs.).
41. Install the bellhousing side bolts (2) and tighten to 30 N.m (22 ft. lbs.).

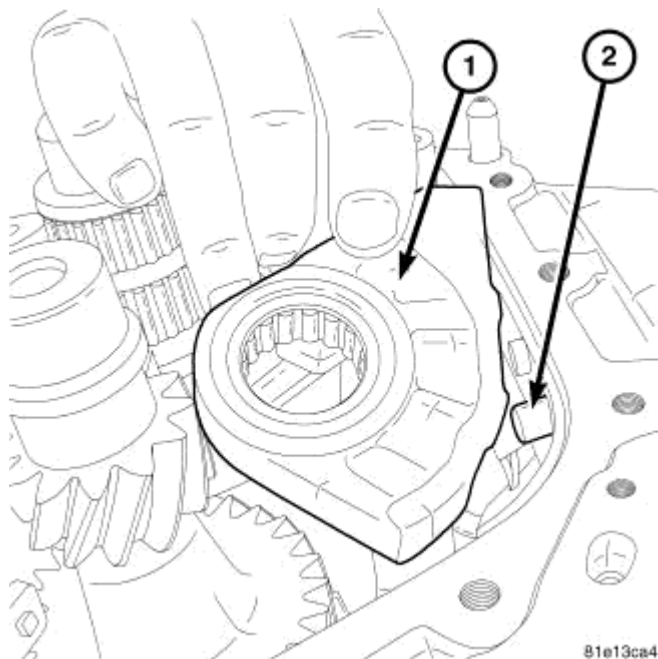


Fig. 106: IDLER SUPPORT
Courtesy of CHRYSLER LLC

42. Install the idler gear support (1) into the case (2).

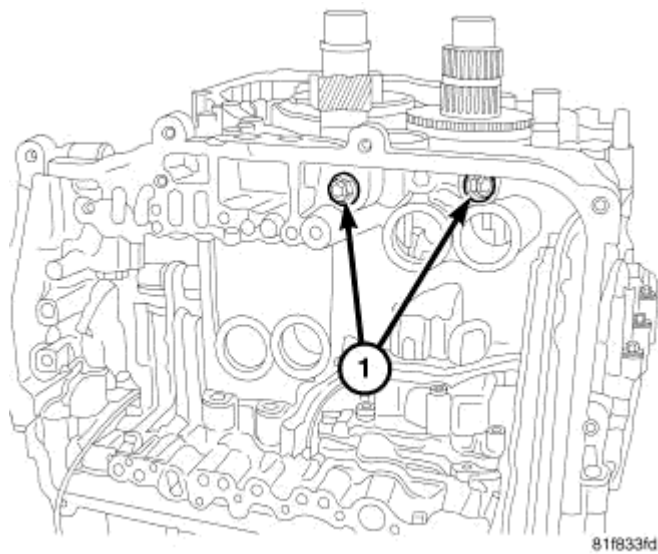


Fig. 107: IDLER GEAR SUPPORT BOLTS
Courtesy of CHRYSLER LLC

43. Install the idler gear support bolts (1) and tighten to 30 N.m (22 ft. lbs.).

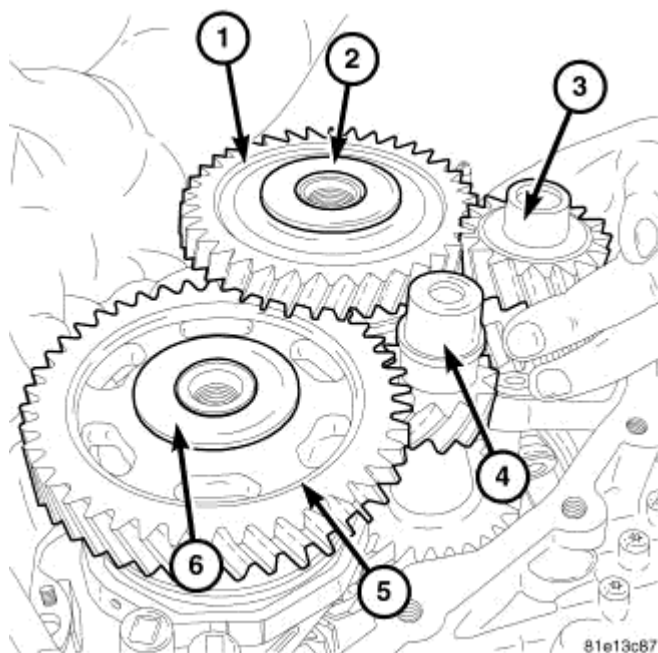


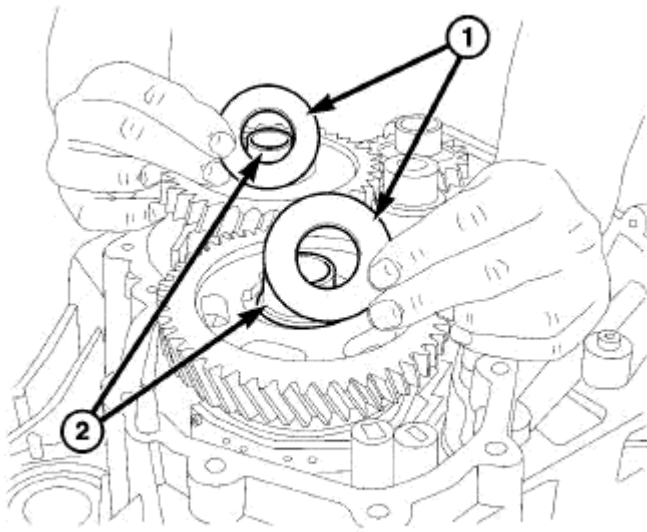
Fig. 108: IDLER AND OUTPUT GEARS

Courtesy of CHRYSLER LLC

44. Install the idler gear (3).

NOTE: Make sure the blocker ring tabs are engaged into the notches in first gear and reverse gear. Otherwise, the synchronizer can be damaged after the transaxle is installed in the vehicle.

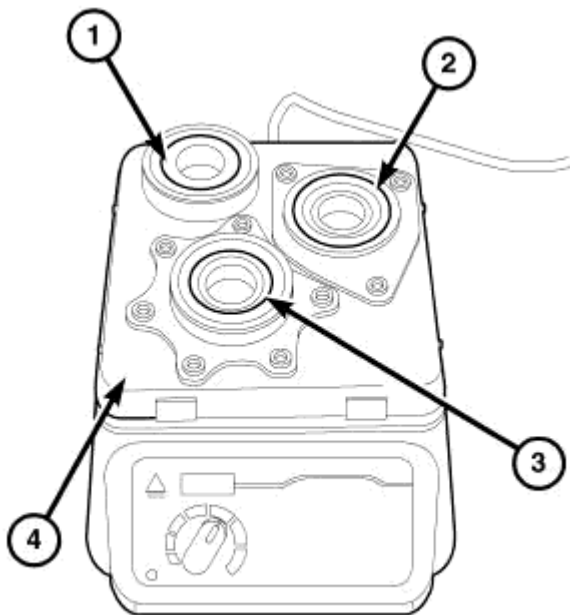
45. Install 1st and reverse gears (1, 5) onto the shafts together.



81e12c1b

Fig. 109: OUTPUT SHAFT SHIMS
Courtesy of CHRYSLER LLC

46. Ensure that the thrust washers (1) are installed onto the two shafts (2).



81efd0c0

Fig. 110: HEAT BEARINGS
Courtesy of CHRYSLER LLC

WARNING: Use welding gloves or tongs when handling heated components.

Failure to follow these instructions will result in personal injury.

CAUTION: Use only a bearing heater/hot plate and follow manufacturer's instructions. Heat components to 100 - 177 Celsius (212° Min. - 350° Max Fahrenheit). Never use an open flame to heat components. Never leave components on heater for an extended amount of time. If component is discolored after heating, the component has been overheated and must not be used. Failure to follow these instructions will result in component damage.

47. Heat the 3 bearings with a bearing heater.

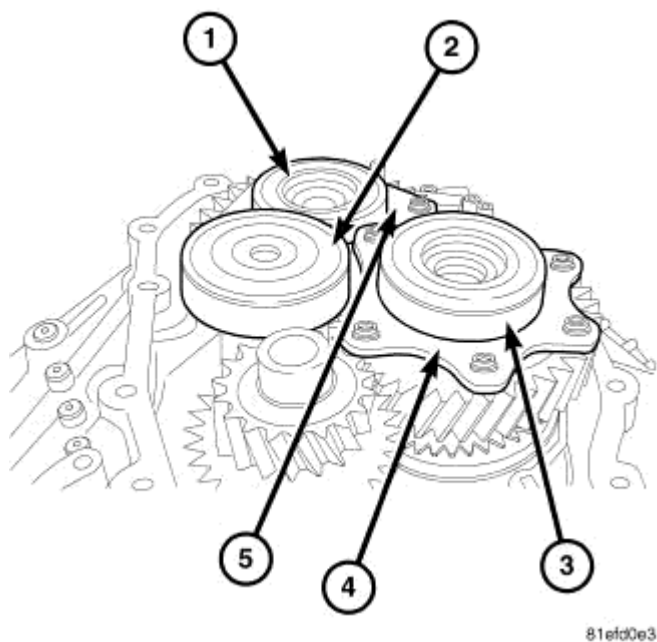
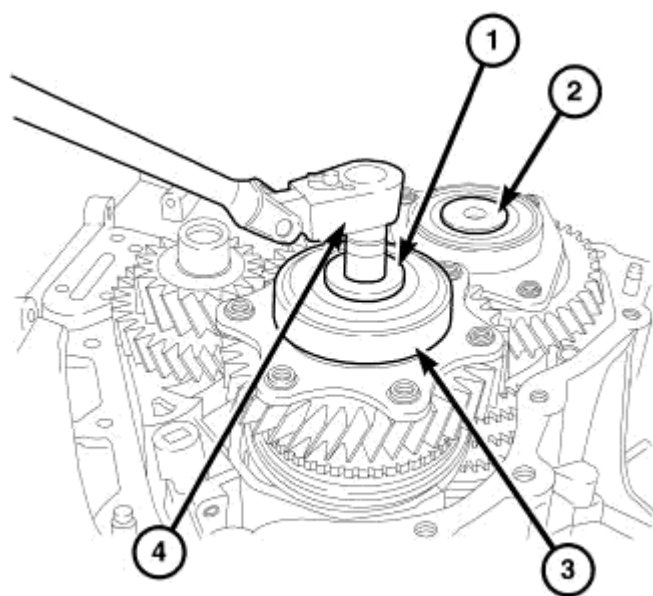


Fig. 111: Install Bearings And Retaining Plate
Courtesy of CHRYSLER LLC

48. Immediately after heating, install the 1st through 4th shaft bearing (1) and retaining plate (5).
49. Immediately after heating, install the R, 5 and 6 shaft bearing (3) and retaining plate (5)
50. Immediately after heating, install the bearing (3) onto the input shaft.



81d0a03c

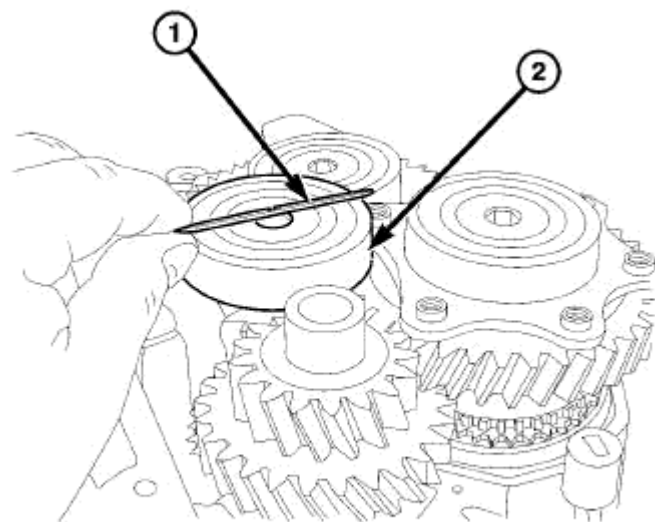
Fig. 112: BEARING AND RETAINING PLATE

Courtesy of CHRYSLER LLC

NOTE: Always use a new retaining bolt

NOTE: The bolt is left hand threaded

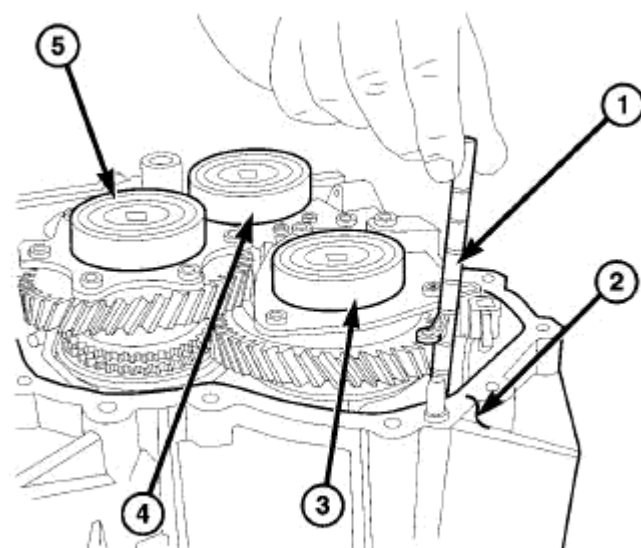
51. Install the 1st through 4th shaft bearing retaining bolt (2) and tighten to tighten to 110 N.m (81 ft. lbs.).
52. Install the reverse, 5th and 6th shaft bearing retaining bolt (1) and tighten to tighten to 110 N.m (81 ft. lbs.).



81e12c14

Fig. 113: INPUT SHAFT SHIM
Courtesy of CHRYSLER LLC

53. Install the shim (1) at the input shaft (2).



81e12b2d

Fig. 114: OIL TROUGH
Courtesy of CHRYSLER LLC

54. Install the oil trough (1).

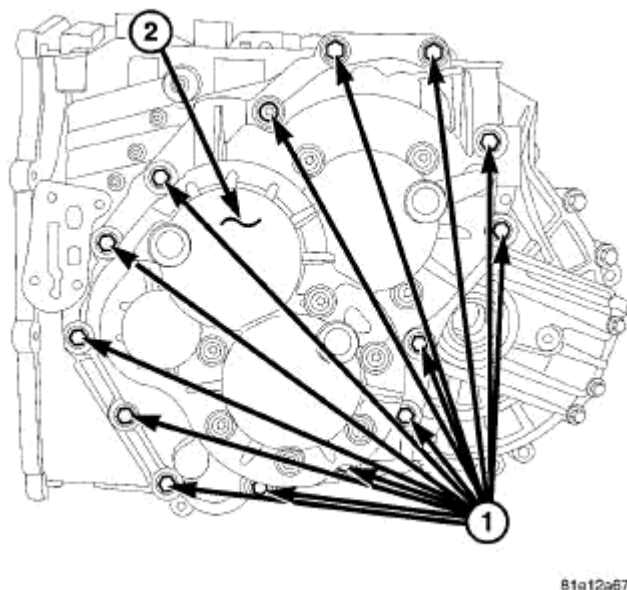


Fig. 115: Rear Cover Bolts
Courtesy of CHRYSLER LLC

NOTE: All traces of the original sealant must be removed from the rear cover.

55. Apply Mopar® Gasket Maker anaerobic sealant (part number 04318083) to the sealing surface of the rear cover.
56. Install the rear cover (2).
57. Align rear cover retainers (1) with the holes in the cover and the case.
58. Verify the shim is centered.
59. Verify the shift forks are inserted into the hose in the cover.
60. Start the rear cover retainers by hand. Gradually tighten rear cover retainers to 30 N.m (22 ft. lbs.).

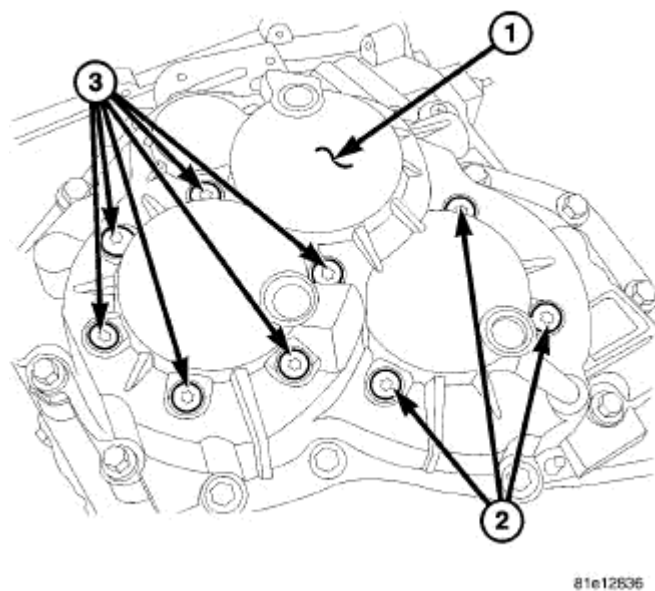


Fig. 116: SHAFT SUPPORT BOLTS
Courtesy of CHRYSLER LLC

61. Install the shaft support bolts (2,3). Tighten to 30 Nm (22 ft. lbs.).

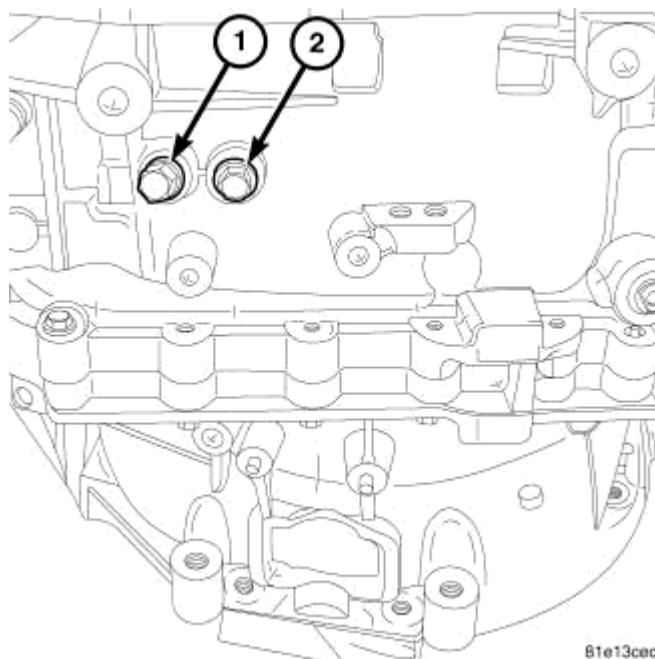


Fig. 117: Upper Detents
Courtesy of CHRYSLER LLC

62. Install the 2 upper detents (1,2). Tighten to 18 Nm (13 ft. lbs.).

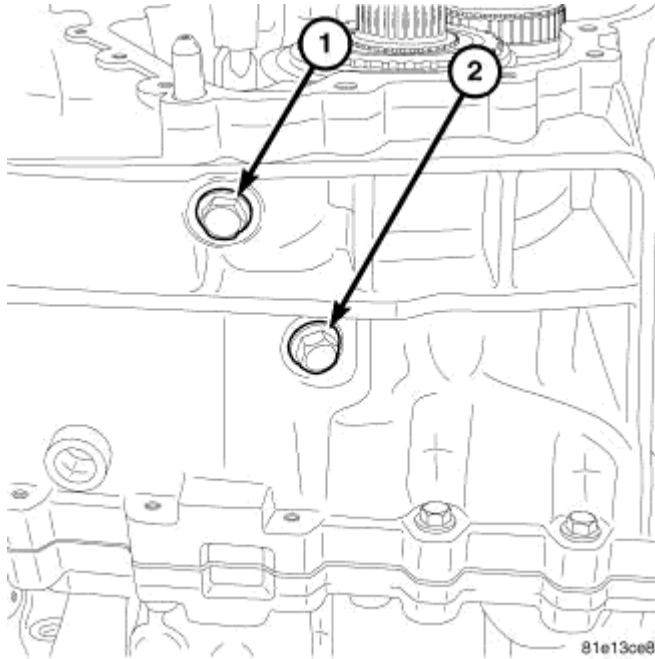


Fig. 118: Lower Detents
Courtesy of CHRYSLER LLC

63. Install the 2 lower detents (1,2). Tighten to 18 Nm (13 ft. lbs.).
64. Install the bolts (2, 3) at the shaft support plates and tighten to 30 N.m (22 ft. lbs.).

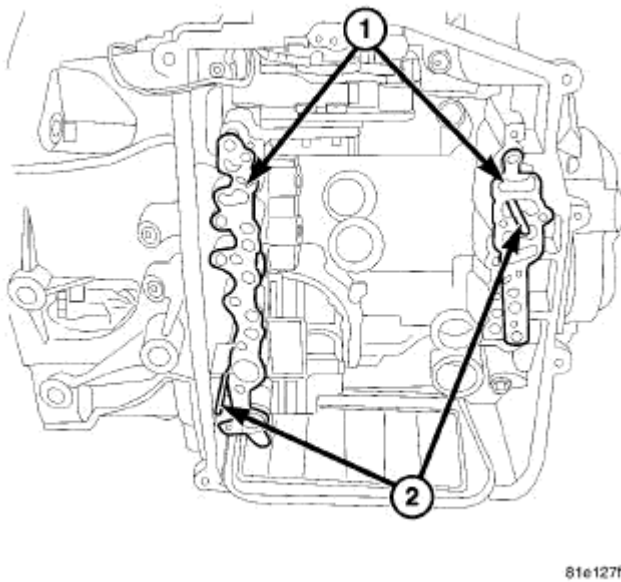
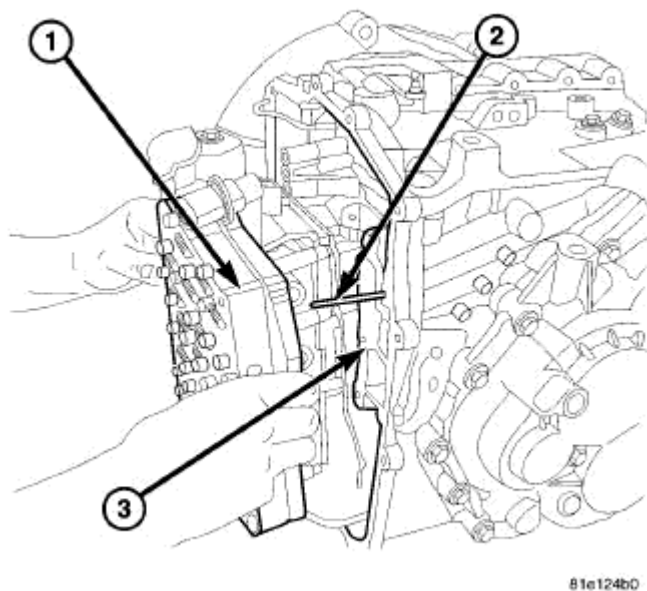


Fig. 119: VALVE BODY GASKETS
Courtesy of CHRYSLER LLC

NOTE: The valve body alignment pins are flared at the base. The narrow end is used to align the valve body during assembly.

NOTE: There are four pins, two short ones, and two long ones.

65. Install the valve body alignment pins (2) into the case in the same positions they were removed from during disassembly.
66. Install the metal valve body gaskets (1).



81e124b0

Fig. 120: Valve Body & Alignment Pins
Courtesy of CHRYSLER LLC

67. Move the manual lever to the Drive position.
68. Install new rubber seals on the four valve body towers.
69. Verify the speed sensor wire is positioned so that it will not get pinched between the valve body mounting surfaces during installation of the valve body.
70. Verify that the metal valve body gaskets are installed on the alignment posts.
71. Install a pin/drill bit into the TRS tone wheel.
72. Install the valve body (1).

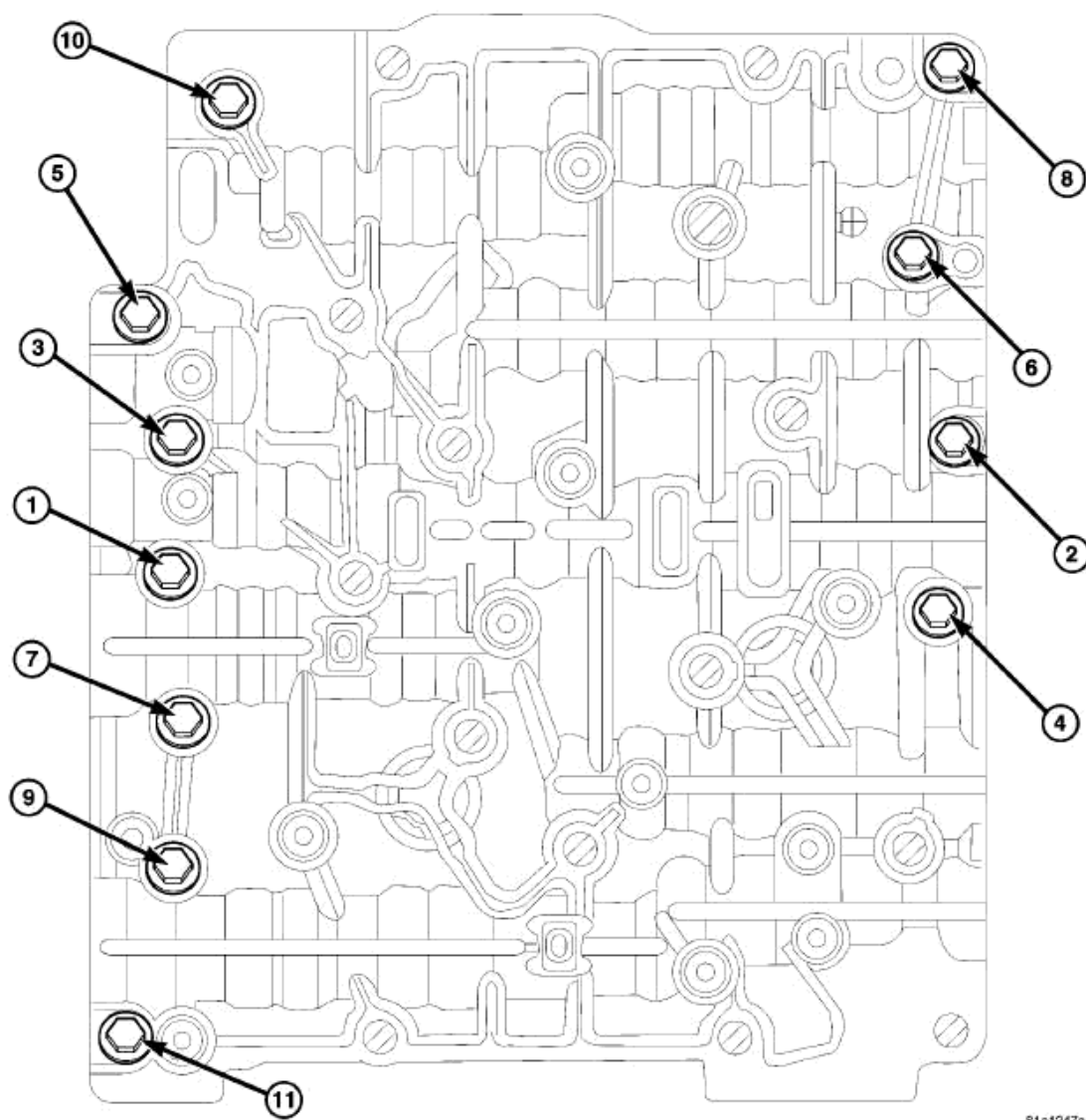
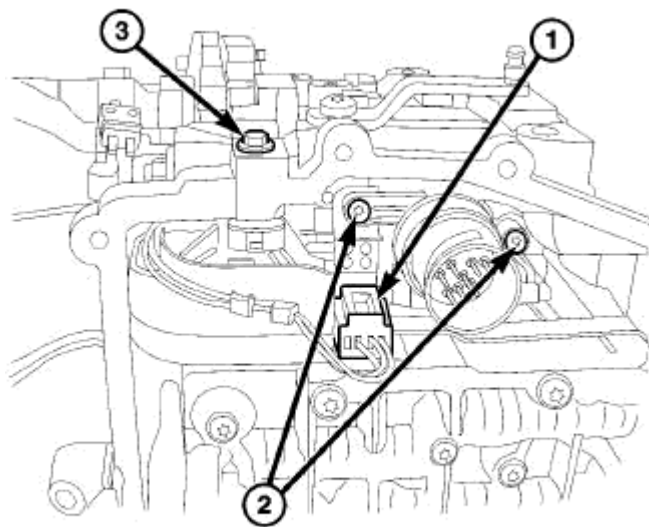


Fig. 121: VALVE BODY BOLTS
Courtesy of CHRYSLER LLC

73. Install the eleven valve body bolts and tighten in two stages in the sequence shown in illustration. In the first stage, tighten the valve body bolts 5 Nm (44 in. lbs.). In the second stage, tighten the valve body bolts to 10 N.m (88 in. lbs.).



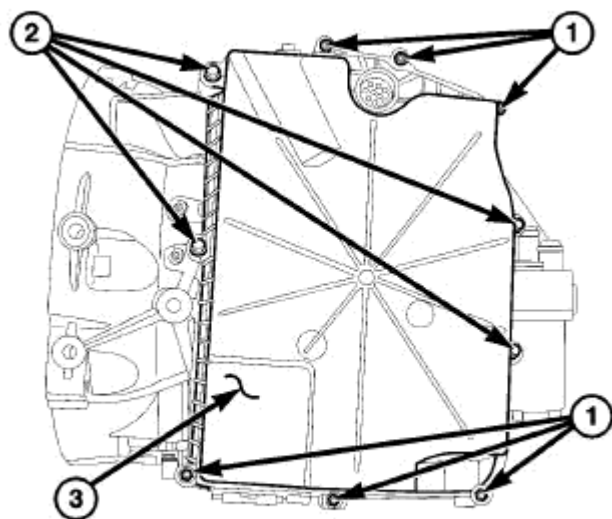
81e122e2

Fig. 122: TRS ELECTRICAL CONNECTOR

Courtesy of CHRYSLER LLC

NOTE: Maintain pin/drill bit position in the TRS hole and verify the manual lever stays in the Drive position during TRS installation.

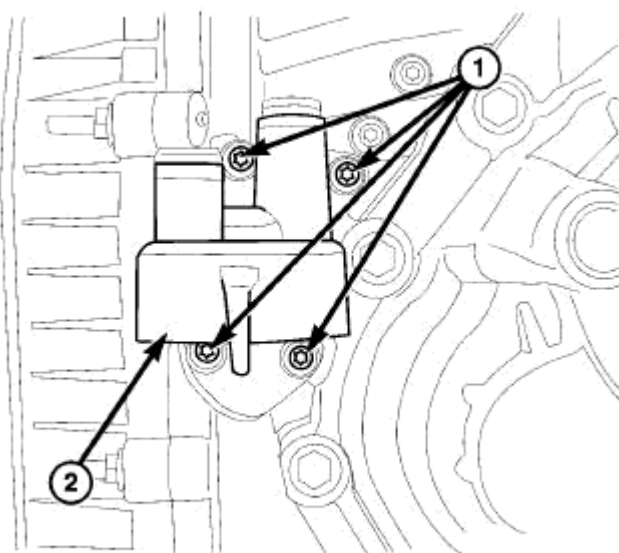
74. Install the TRS into the case.
75. Install the screws (2) at the TRS and tighten to 6 N.m (53 in. lbs.).
76. Install the bolt (3) and a new O-ring at the TRS and tighten to 7 N.m (70 in. lbs.).
77. Remove the previously installed pin/drill bit from the TRS tone wheel.
78. Connect the speed sensor electrical connector (1) to the TRS.



81e122c4

Fig. 123: Valve Body Oil Pan & Bolts
 Courtesy of CHRYSLER LLC

79. Install the valve body oil pan (3).
80. Install the bolts (1, 2) at the valve body oil pan and tighten to 8 N.m (70 in. lbs.)



81e11c86

Fig. 124: OIL FILTER ADAPTOR BOLTS

Courtesy of CHRYSLER LLC

81. Install the external oil filter adaptor (2).
82. Install the bolts (1) at external oil filter adaptor (2) and gradually tighten to 10 N.m (88 in. lbs.).

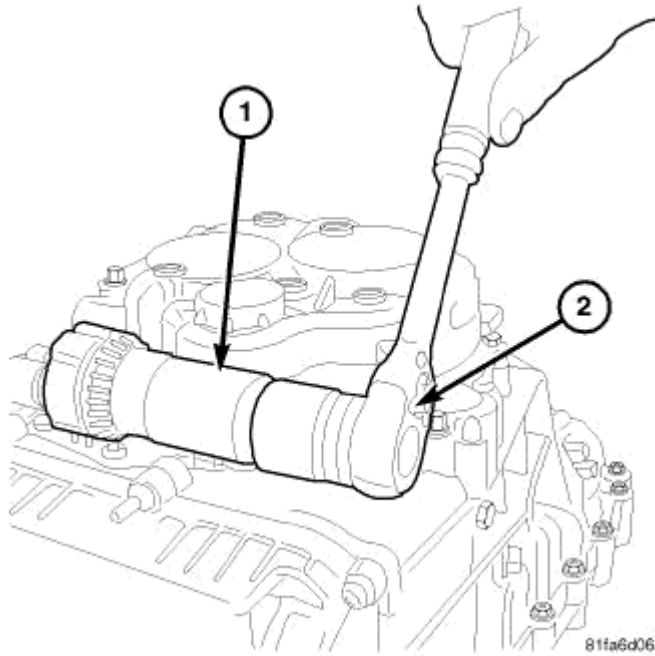
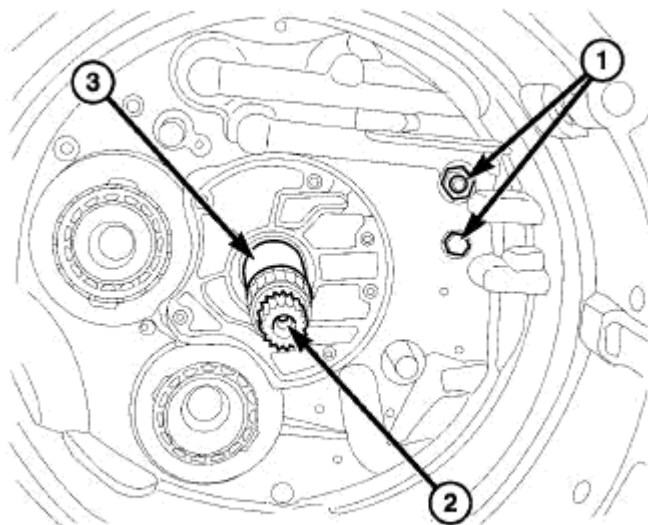


Fig. 125: OIL FILTER HOUSING AND FILTER
Courtesy of CHRYSLER LLC

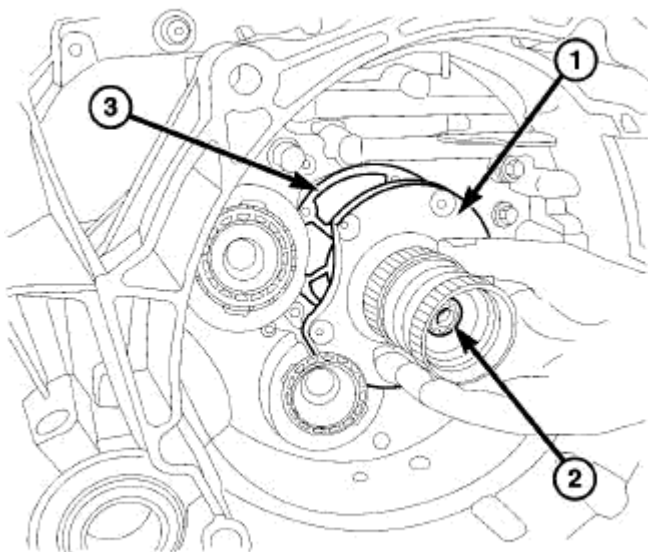
83. Install a new external oil filter housing and filter (1) using a wrench and socket (2).



81e11534

Fig. 126: Case Half Bolts In Bellhousing
Courtesy of CHRYSLER LLC

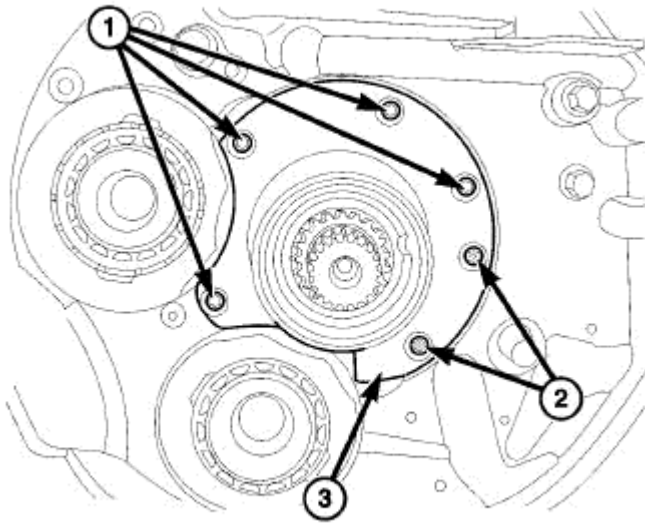
84. Install the case half bolts (1) in the bellhousing area and tighten to 30 N.m (22 ft. lbs.).



81e11479

Fig. 127: Clutch Support & Gasket
Courtesy of CHRYSLER LLC

85. Install a new clutch support gasket (3).
86. Install the clutch support (1).
87. Make sure the clips on the ends of the split bearings and sealing rings are engaged.



8Te11465

Fig. 128: Retaining Bolts At Clutch Support
Courtesy of CHRYSLER LLC

NOTE: Two of the retaining bolts (2) are longer.

88. Install the clutch support retaining bolts (1, 2). Tighten 10 N.m (88 in. lbs.).

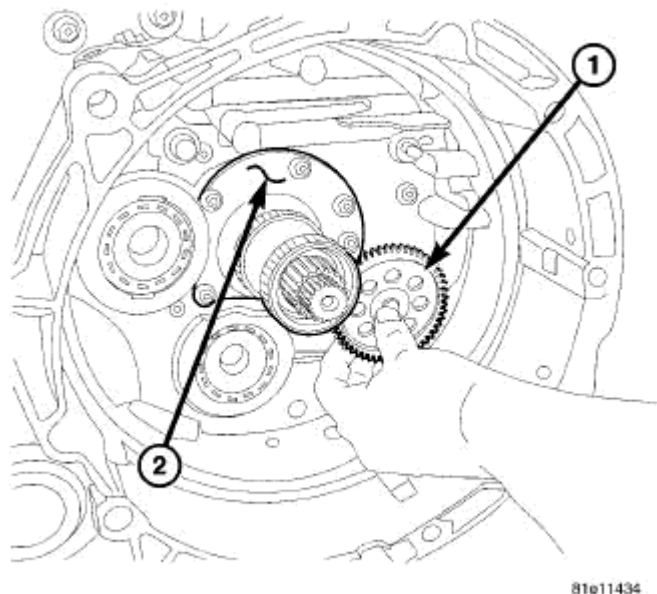


Fig. 129: OIL PUMP GEAR
Courtesy of CHRYSLER LLC

89. Install the oil pump gear (1).

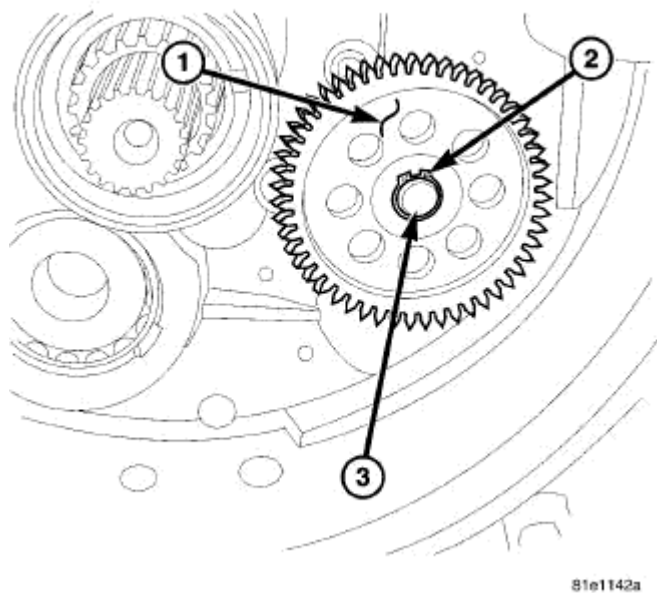


Fig. 130: SNAP RING AT THE OIL PUMP GEAR
Courtesy of CHRYSLER LLC

NOTE: Rotate the oil pump gear at least one full revolution and make sure the oil pump turns freely and is not catching or binding.

90. Install the snap ring (2) at the oil pump gear (1).

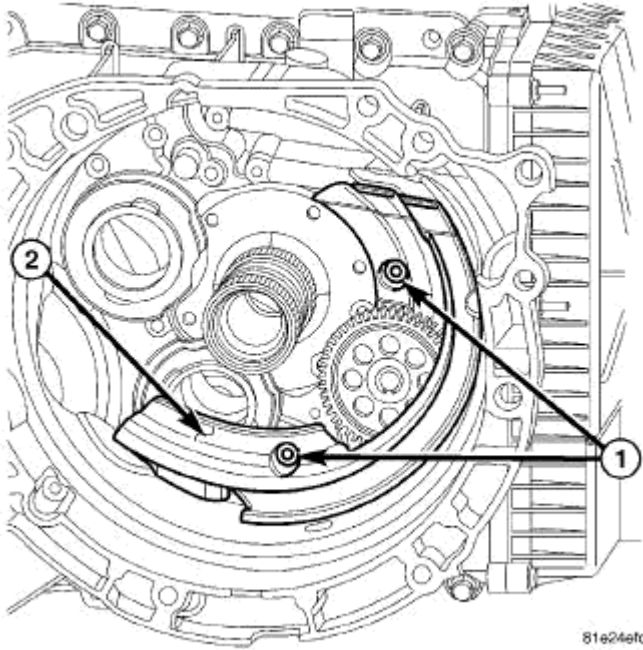


Fig. 131: Retaining Screws & Clutch Case Spacer
Courtesy of CHRYSLER LLC

91. Install the clutch support needle bearings and clip the ends of the needle bearings together.
92. Install the clutch support oil sealing rings and clip the ends of the sealing rings together.
93. Install the oil clutch case spacer (2) and retaining screws. Tighten screws to 10 Nm (88 in. lbs.).
94. Install the Double Clutch Assembly. See Installation.

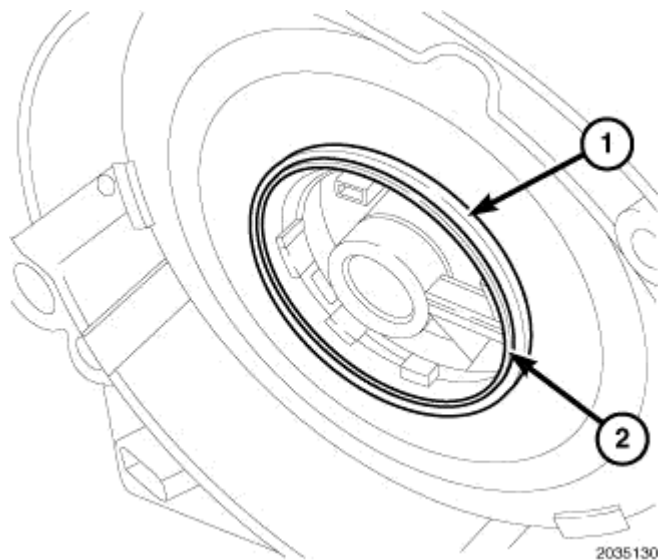


Fig. 132: CLUTCH HUB AND SEAL

Courtesy of CHRYSLER LLC

NOTE: Do not reuse the original front cover.

NOTE: Apply BOT 41 transmission oil to the seals on the new front cover.

NOTE: Do not roll the clutch hub seal (1).

95. Install a new front cover. Verify the clutch hub seal in the front cover is not rolled over the clutch hub (2). If necessary, use a plastic trim tool to carefully walk the clutch hub seal (1) around the clutch hub.

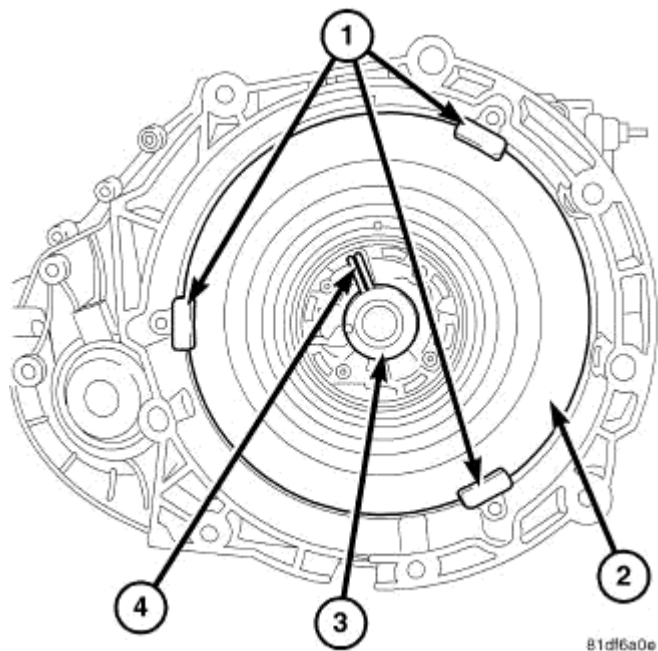


Fig. 133: RETAINING CLIPS

Courtesy of CHRYSLER LLC

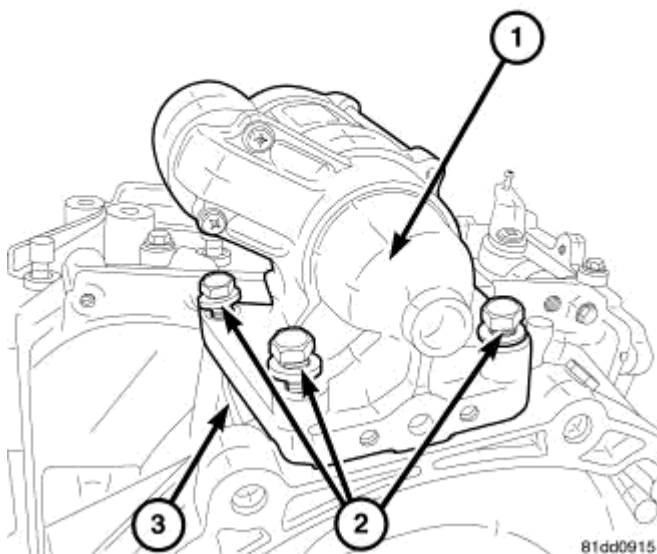
NOTE: Do not reuse the original fasteners.

96. Install the retaining clips (1) that secure the front cover (2) and tighten the new fasteners to 10 N.m (88 in. lbs.).
97. Install the transaxle. See Installation .

INSTALLATION**INSTALLATION**

NOTE: If transaxle assembly or Transaxle Control Module (TCM) is being overhauled or replaced, it is necessary to perform the TCM/PCM Quick Learn Procedure. Refer to Electrical/Electronic Control Modules/MODULE, Powertrain Control - Standard Procedure .

NOTE: If a new transaxle assembly is being installed due to warranty, be sure to keep all packing materials, plugs and retainers for returning the original transaxle. Be sure to install the shipping plugs in the axle openings and transaxle oil cooler fittings prior to shipment of the original transaxle.

**Fig. 134: STARTER**

Courtesy of CHRYSLER LLC

1. Install the starter (1) onto the transmission (3).

2. Install the starter bolts and tighten to 25 N.m (18 ft. lbs.).

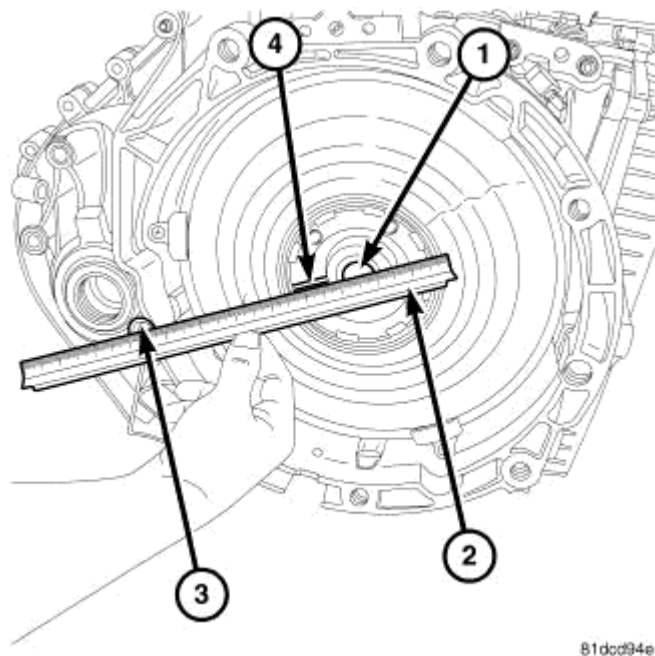


Fig. 135: Identifying Straight Edge, Hub, Spring Legs & Dowel Hole

Courtesy of CHRYSLER LLC

NOTE: Alignment of transaxle hub/coupler and engine crankshaft is critical for installation.

NOTE: Before aligning the clutch hub on a new transaxle, the shipping retainer must be removed from the bellhousing, and the locking pin must be loosened enough to allow the clutch to rotate freely.

CAUTION: Damage to the clutch assembly can occur if the clutch hub is not aligned correctly with the engine crankshaft.

3. Align the center of the hub (1), the center of both hub spring legs (4) and the center of the rear bellhousing stepped dowel hole (3) using a straight edge (2).

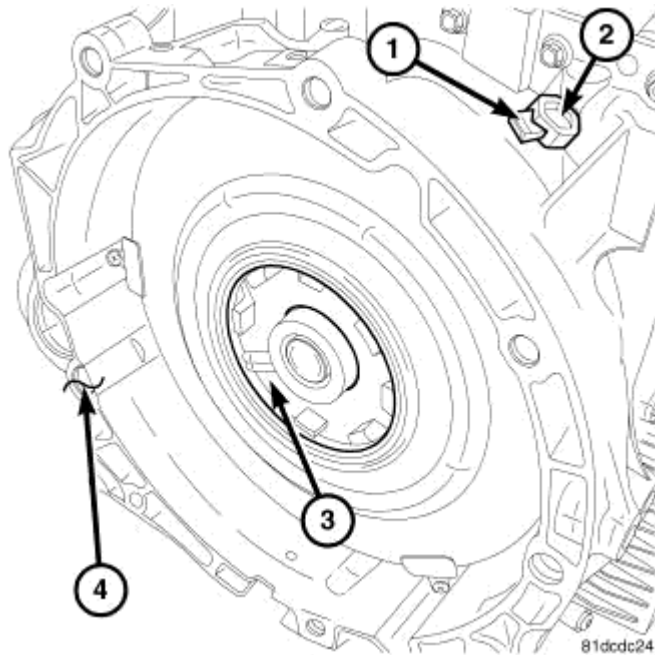


Fig. 136: Identifying Pull Out Tab & Locking Pin
Courtesy of CHRYSLER LLC

NOTE: If the original transaxle is being reinstalled, always use a **NEW** locking pin. A replacement (new) transaxle will have a new locking pin installed.

4. If the original transaxle is being reinstalled, install a **new** locking pin (2) into the transaxle bellhousing.
5. Tighten the locking pin (2) to 3 Nm (27 in. lb). Then tighten the locking pin until the pull-out tab (1) is oriented at approximately a 45° angle relative to the transaxle mounting surface.

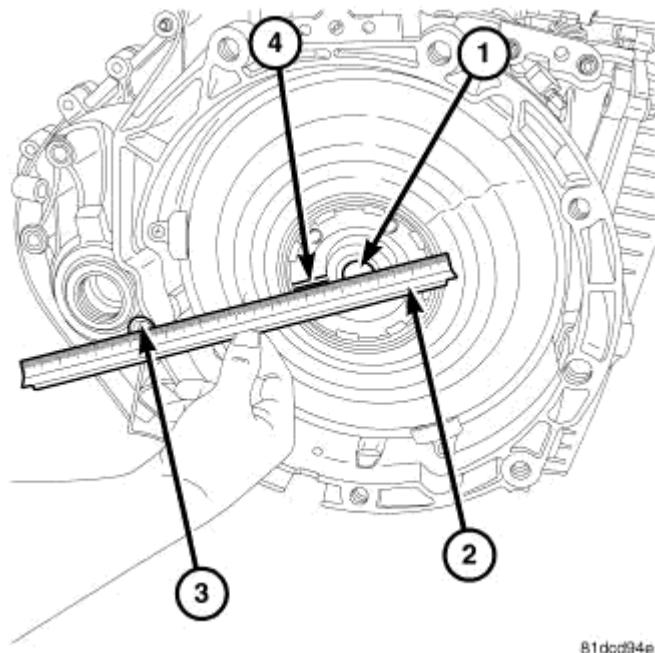


Fig. 137: Identifying Straight Edge, Hub, Spring Legs & Dowel Hole
Courtesy of CHRYSLER LLC

NOTE: Alignment of transaxle hub/coupler is critical for installation.

CAUTION: Damage to the clutch housing can occur if clutch hub alignment is not set correctly.

6. Use a straight edge (2) to verify that the center of the hub (1), the center of both hub spring legs (4) and the center of the bellhousing hole (3) are still aligned.

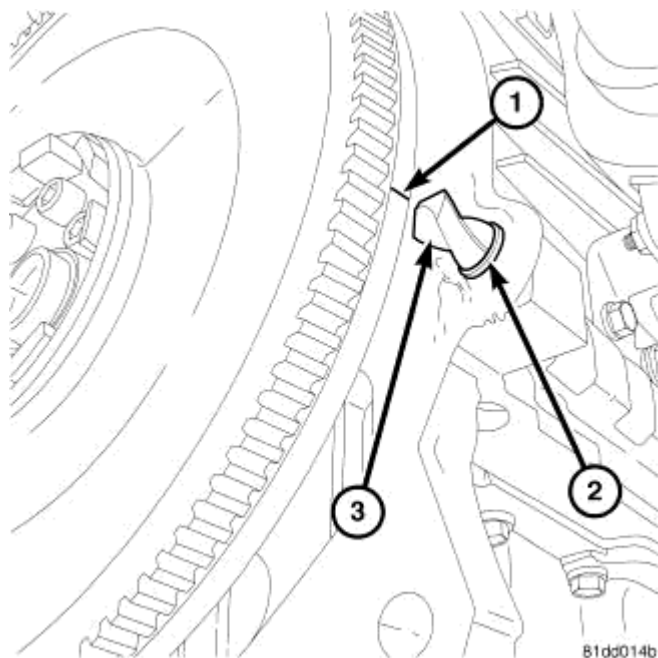


Fig. 138: Identifying Flywheel Alignment Mark, Drill Hole & Pin/Dowel Hole
Courtesy of CHRYSLER LLC

NOTE: Always use the largest drill bit (3) that will fit in the alignment pin/hole (2).

NOTE: Make sure that the couplers on both the transmission and engine are clean.

7. Apply grease to the couplers.
8. Install a drill bit (3) into the alignment pin/dowel hole (2).

NOTE: The alignment pin/dowel hole (2) at the rear (exhaust) side of the engine is shown in illustration.

9. Rotate the crankshaft by hand until the flywheel alignment mark (1) aligns with the tip of the drill bit (3)

in the alignment pin/dowel hole (2).

NOTE: Make sure that the bellhousing mounting surface remains parallel to the engine block mounting surface while raising transaxle into position.

10. Place transaxle on a transmission jack and lift it into place.

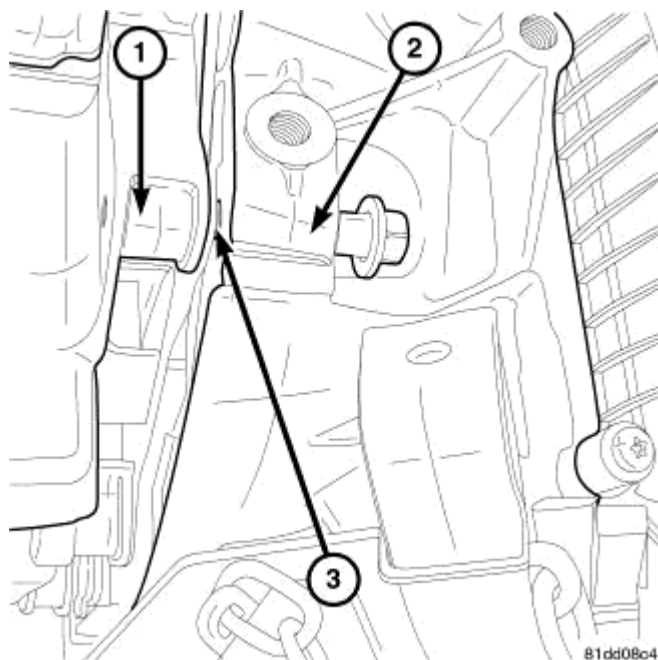


Fig. 139: Draw Transmission To Engine
Courtesy of CHRYSLER LLC

CAUTION: If the entire gap between the engine and transmission is more than 4 mm, then the clutch hub and engine crankshaft are not aligned correctly. If the gap between the engine and transaxle is more than 4 mm, do not use the bellhousing bolts to pull the transaxle and the engine block together.

NOTE: Verify transaxle mounting surface is square/aligned with engine block mounting surface.

11. When the entire gap between the engine and the transmission is at 4 mm (3), install bolts through the alignment dowels and draw the transmission to the engine.
12. While listening for any signs of misalignment of the clutch hub such as scraping noise inside the bellhousing, use the crankshaft damper to rotate the engine by hand.
13. Tighten the bellhousing bolts to 70 N.m (52 ft. lbs.).

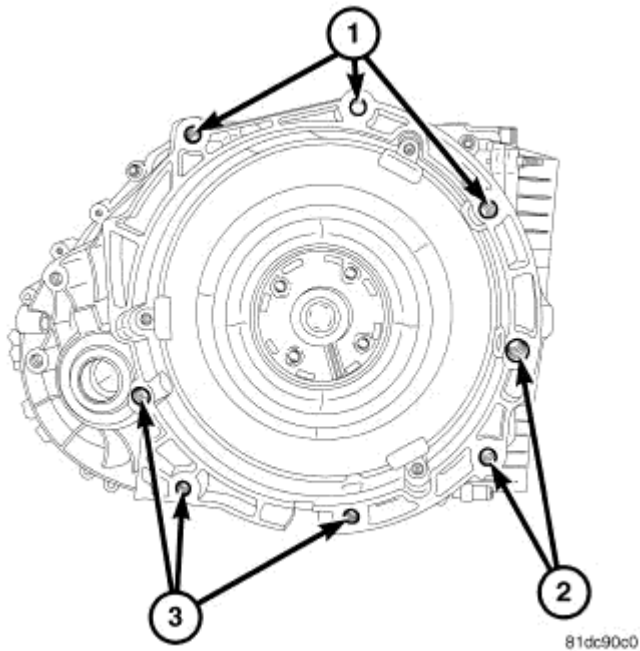


Fig. 140: BELLHOUSING BOLTS
Courtesy of CHRYSLER LLC

NOTE: If bolts do not easily pull the transmission to the engine, **STOP** and check for correct alignment of the bellhousing.

14. Install the rest of the lower transmission bolts (2, 3) and tighten to 70 N.m (52 ft. lbs.).

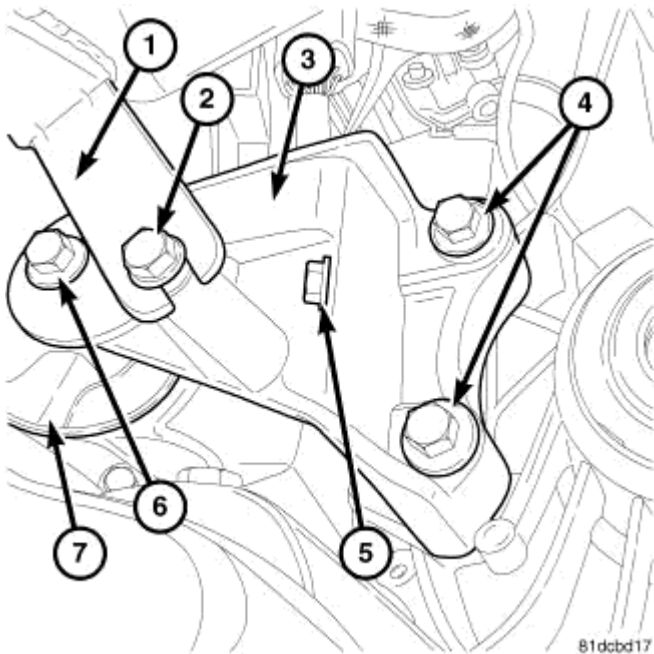


Fig. 141: REAR MOUNT BRACKET
Courtesy of CHRYSLER LLC

NOTE: Early 08 model year mount shown in illustration. Late 08 and 09 model year mount similar.

15. Align the right rear mount bracket (3) to the transaxle and loosely install the bolts (2, 4, 5 and 6).

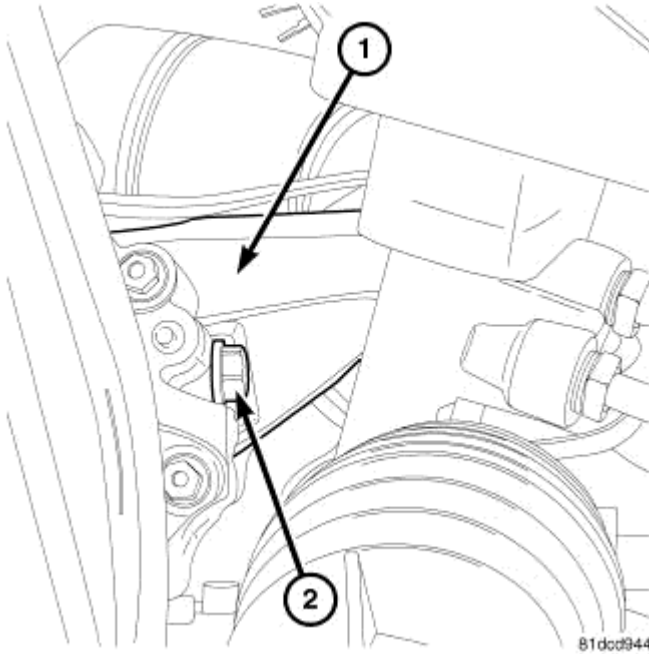


Fig. 142: Left Rear Mount Bracket Bolt
Courtesy of CHRYSLER LLC

16. Install the bolt (2) to the left rear mount bracket (1) and tighten to 100 N.m (74 ft. lbs.).

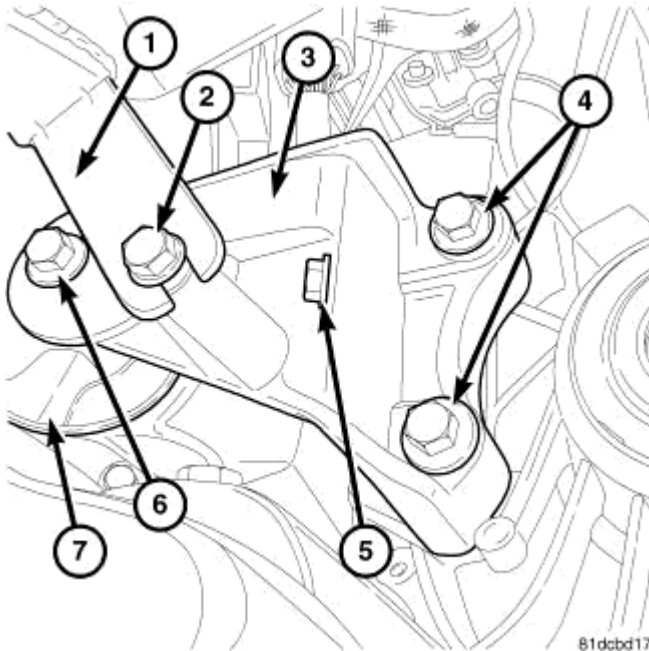


Fig. 143: REAR MOUNT BRACKET

Courtesy of CHRYSLER LLC

NOTE: Early 08 model year mount shown in illustration. Late 08 and 09 model year mount similar.

17. Tighten the bolts (2, 4, 5 and 6) to the right rear mount bracket (3) to 115 N.m (85 ft. lbs.).

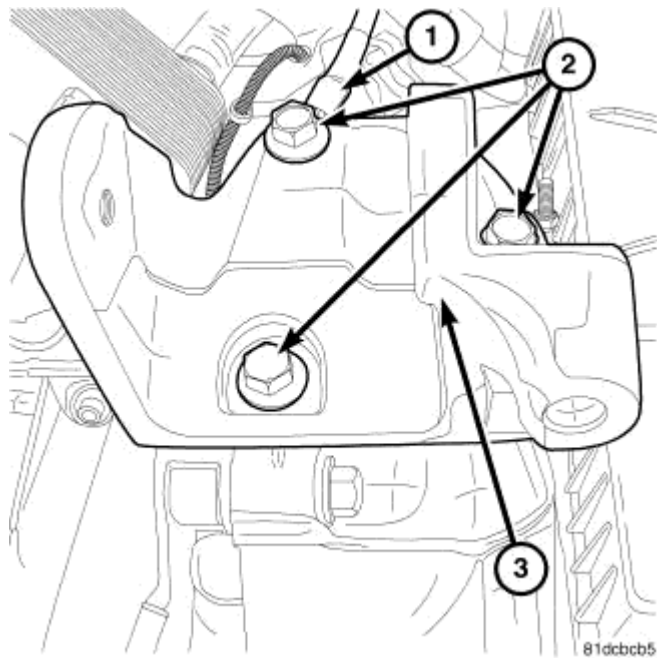


Fig. 144: FRONT MOUNT BRACKET

Courtesy of CHRYSLER LLC

18. Install the front mount bracket, the front mount bracket bolts (2) and ground cable (1) and tighten the bolts to 100 N.m (74 ft. lbs.).

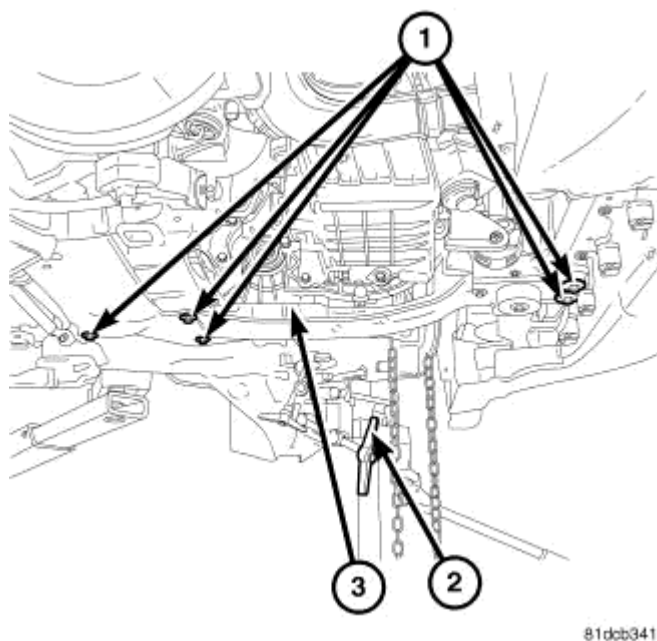


Fig. 145: Crossmember And Transmission Jack
Courtesy of CHRYSLER LLC

19. Install the crossmember (3) and crossmember bolts (1) and tighten to 50 N.m (37 ft. lbs.).

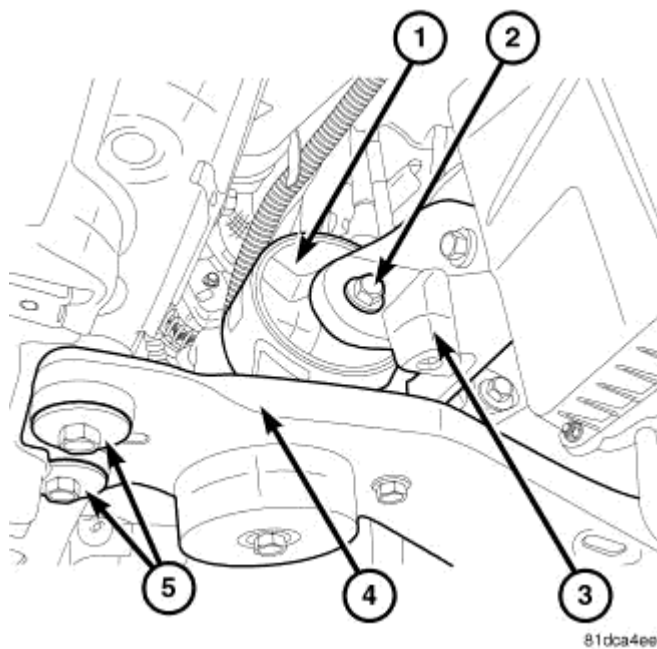


Fig. 146: CROSSMEMBER THROUGH BOLT
Courtesy of CHRYSLER LLC

20. Install the crossmember through bolt (2) and tighten to 50 N.m (37 ft. lbs.).

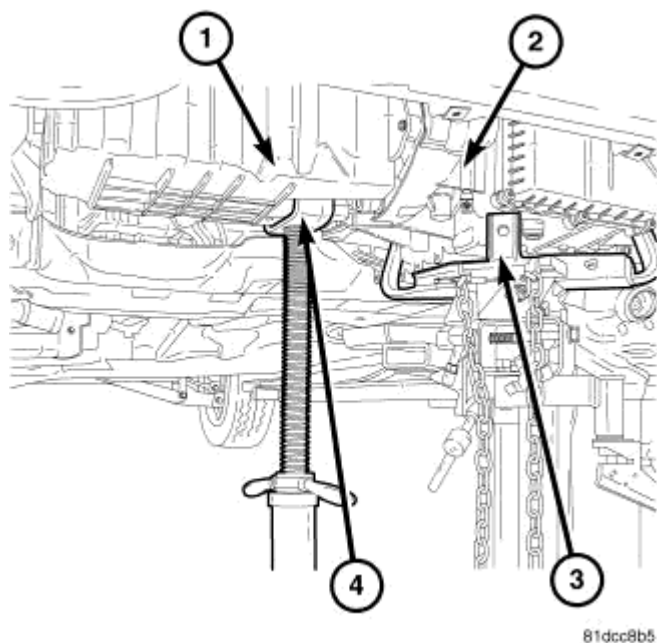


Fig. 147: SUPPORT ENGINE WITH A JACK
Courtesy of CHRYSLER LLC

21. Remove the jacks (3, 4).

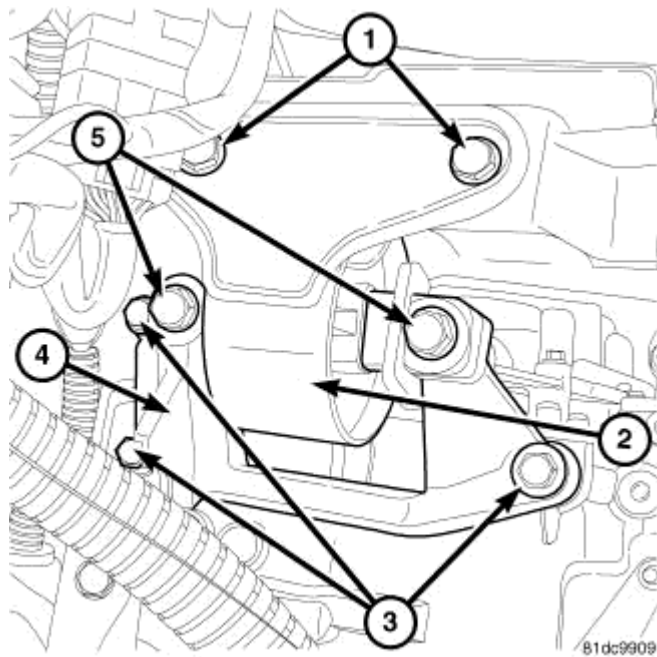


Fig. 148: LEFT TRANSMISSION MOUNT AND BRACKET
Courtesy of CHRYSLER LLC

22. Lower the vehicle, support the transmission with a floor jack (1) and install the left side transmission bracket (4).

23. Install the left side transmission bracket bolts (3) and tighten to 100 N.m (74 ft. lbs.).
24. Install left side transmission mount bolts (5) and tighten to 100 N.m (74 ft. lbs.).

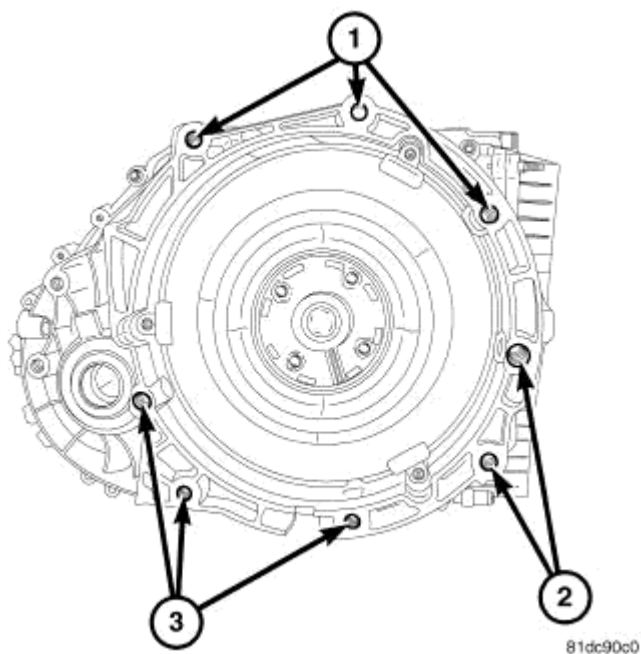


Fig. 149: BELLHOUSING BOLTS
Courtesy of CHRYSLER LLC

25. Install the upper bellhousing bolts (1) and tighten to 70 N.m (52 ft. lbs.).
26. Lift the vehicle on a hoist.
27. Apply MICROLUBE® GL 261/GL 262 or equivalent grease to the halfshaft splines and o-rings, then Install the halfshafts. Refer to **Differential and Driveline/Half Shaft - Installation** .
28. Install right front side splash shield.

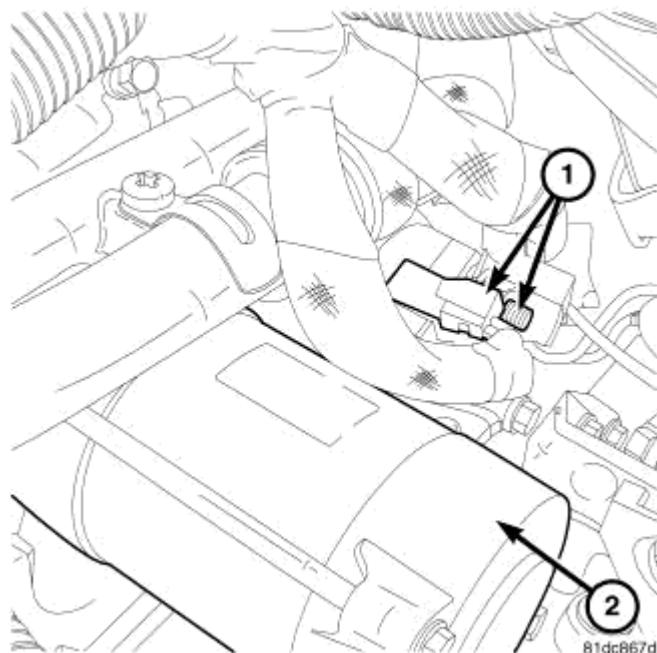


Fig. 150: STARTER ELECTRICAL CONNECTORS
Courtesy of CHRYSLER LLC

29. Lower the vehicle.
30. Install the electrical connectors (1) at the starter (2).

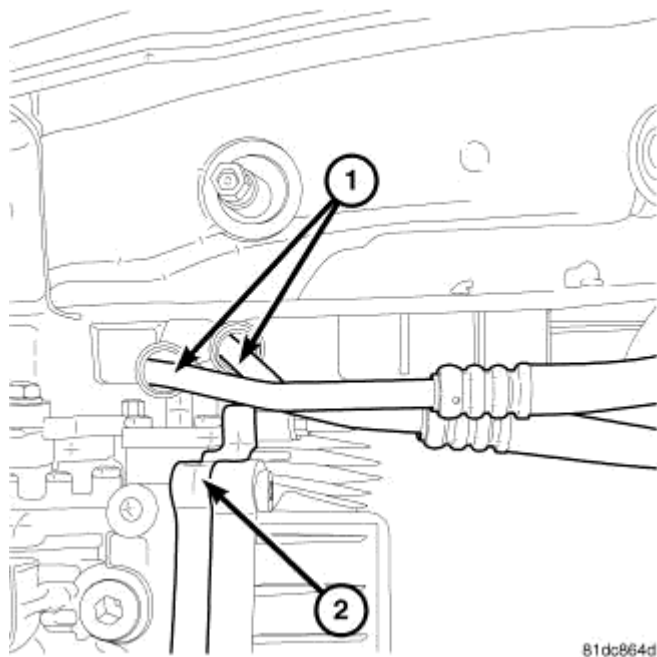
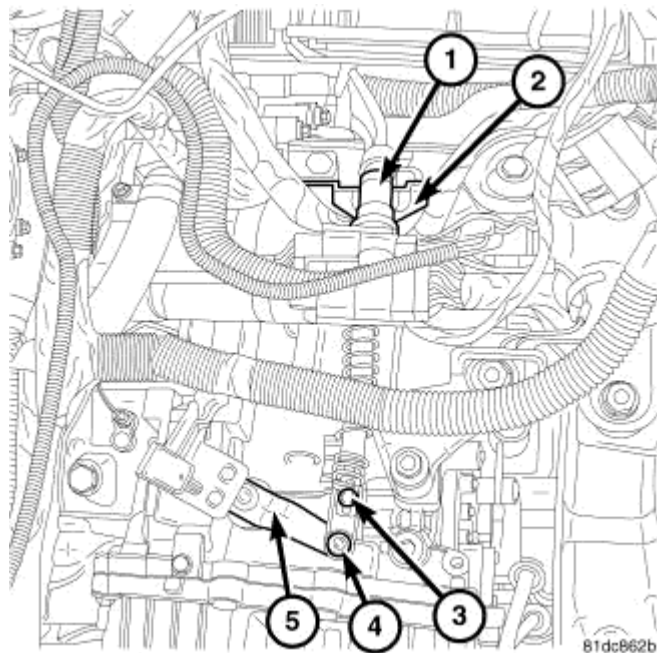


Fig. 151: QUICK-CONNECT FITTINGS
Courtesy of CHRYSLER LLC

31. Install the transmission cooler line quick-connect fittings (1).

**Fig. 152: GEAR SHIFT CABLE****Courtesy of CHRYSLER LLC**

32. Move the manual lever on the transaxle and the shifter to the park position.
33. Install the gear shift cable (4) at the cable bracket (2) along with the lock.
34. Loosen the adjustment nut (3) at the shift cable.
35. Install the gear shift cable (4) at the manual lever (5).

NOTE: Shifter and manual lever must be in PARK.

36. Tighten the adjustment nut (3) at the shift cable to 6 N.m (40 in. lbs.).

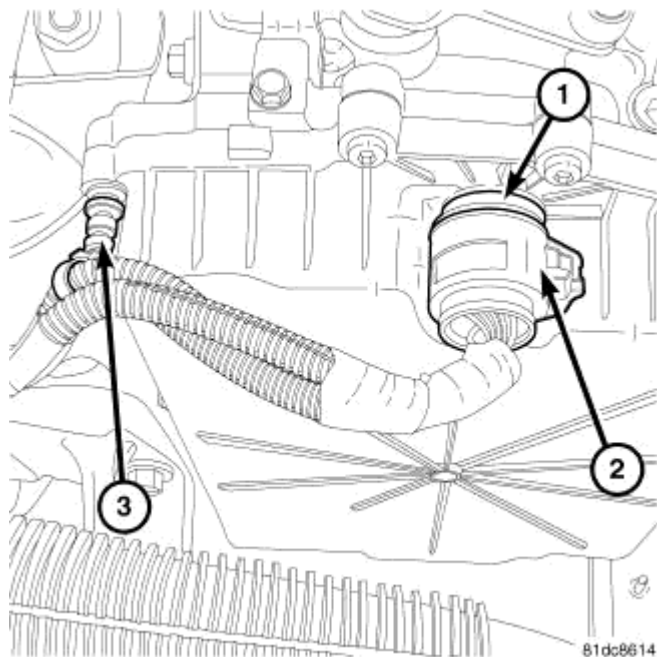


Fig. 153: Solenoid Pack Electrical Connector
Courtesy of CHRYSLER LLC

37. Install the harness retaining clip (3) to the stud at valve body cover.
38. Install the speed sensor electrical connector (2) to the TRS (1).

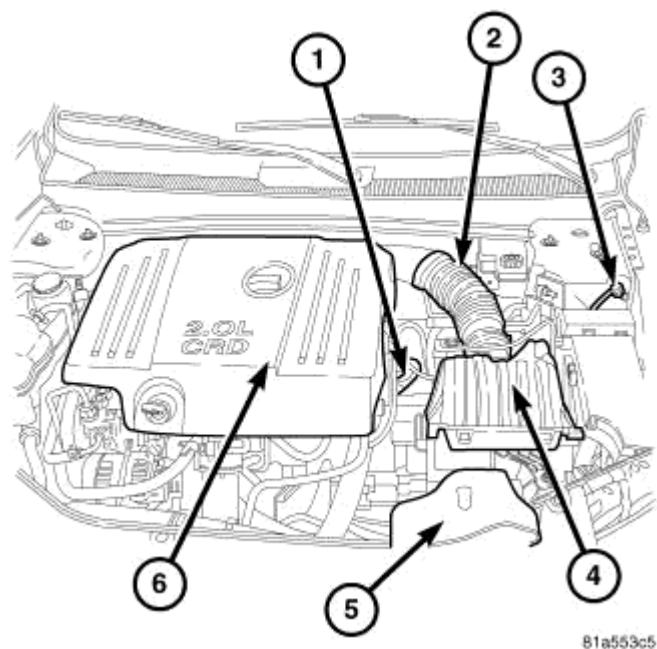


Fig. 154: ENGINE COVER
Courtesy of CHRYSLER LLC

39. Install the air inlet tube (2) and air cleaner assembly (4).

40. Install the engine cover.
41. Connect battery negative cable.
42. Check and adjust Transmission oil level as needed. See **Standard Procedure** .

ADJUSTMENTS

ADJUSTMENT

BEARING ADJUSTMENT PROCEDURE

NOTE: **Use only new bearings on both output shafts and the differential to ensure correct turning torque. The bearings can loose as much as one half of its turning torque after break-in.**

1. Use extreme care when removing and installing bearing cups and cones. Use only an arbor press for installation, as a hammer may not properly align the bearing cup or cone. Burrs or nicks on the bearing seat give a false end-play reading while gauging for proper shims. Improperly seated bearing cups and cones are subject to low-mileage failure.
2. Bearing cups and cones should be replaced if they show signs of pitting or heat distress. If distress is seen on either the cup or bearing rollers, both cup and cone must be replaced.
3. Bearing preload and drag torque specifications must be maintained to avoid premature bearing failures. Used (original) bearings may lose up to 50% of the original drag torque after break-in.
4. Replace bearings as a pair: If one differential bearing is defective, replace both differential bearings, if one input shaft bearing is defective, replace both input shaft bearings.
5. Bearing cones must not be reused if removed unless a ground cone is used to find proper shim size.
6. Turning-torque readings should be obtained while smoothly rotating in either direction.

DIFFERENTIAL BEARING PRELOAD ADJUSTMENT

NOTE: **True bearing turning-torque readings can be obtained only with the geartrain removed from the case.**

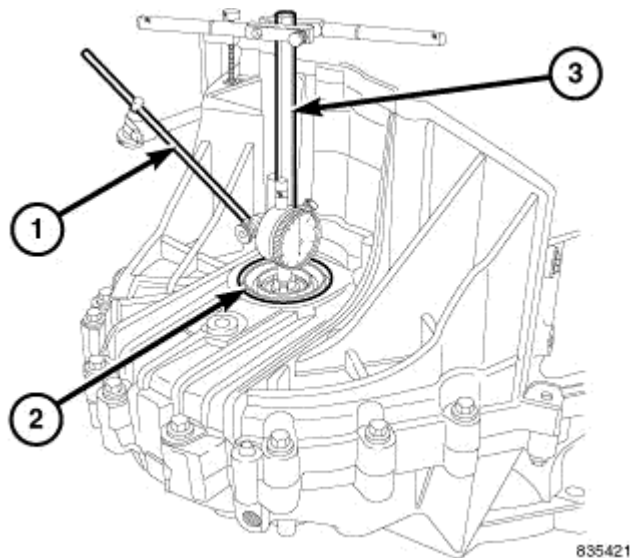


Fig. 155: TRANSAXLE GEAR CASE AND T-HANDLE

Courtesy of CHRYSLER LLC

1. Remove bearing cup and existing shim from clutch bellhousing case.
2. Use a cup that has been ground down on the outer edge for ease of measurement.
3. Oil differential bearings with transmission fluid. Install differential assembly (1) into transaxle gear case (2). Install clutch bellhousing over gear case. Install and tighten case bolts to 16 N.m (12 ft. lbs.).
4. Position transaxle with bellhousing facing down on workbench with C-clamps. Position Dial Indicator C-3339A (1) to measure differential endplay in the location shown in illustration (2).

NOTE: **The dial indicator should be mounted parallel to the torque tool to obtain the most accurate reading.**

5. Apply a medium load to differential with Torque Tool C-4995A and a T-handle (3), in the downward direction. Roll differential assembly back and forth a number of times. This will settle the bearings. Zero the dial indicator. To obtain end play readings, apply a medium load in an upward direction while rolling differential assembly back and forth. Record end play.

NOTE: **If the original shim is missing or broken always start out with the middle shim size in the new parts package.**

6. The shim required for proper bearing preload is the **total of end play, plus (constant) preload of 0.19 mm (0.007 in.)**. Never combine shims to obtain the required preload.
7. Remove case bolts. Remove clutch bellhousing differential bearing cup. Install shim(s) selected, then press the bearing cup into clutch bellhousing.

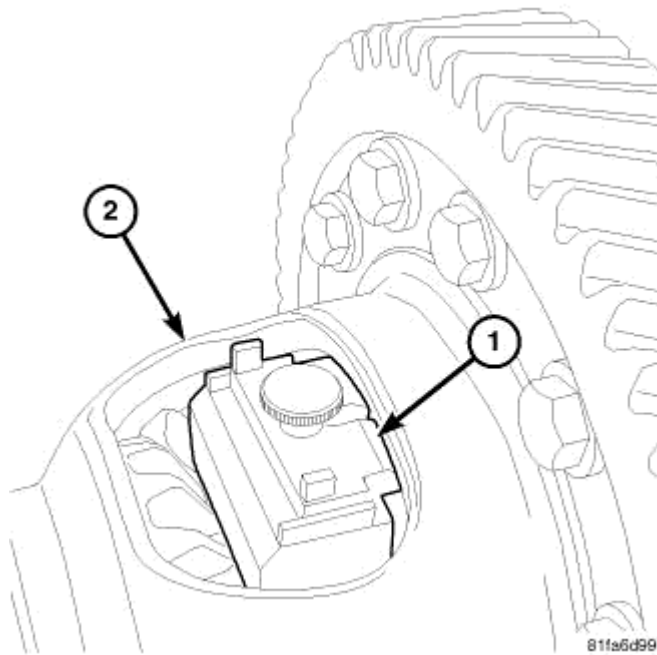


Fig. 156: SIDE GEAR LOCKING TOOL 10150
Courtesy of CHRYSLER LLC

8. Install Side Gear Locking Tool 10150 (1) to the side gears.

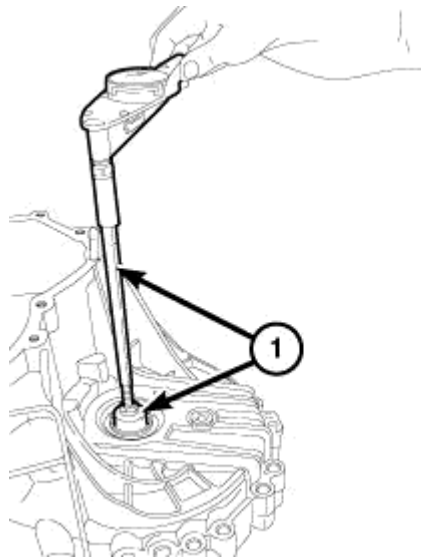


Fig. 157: TORQUE TOOL C-4995A
Courtesy of CHRYSLER LLC

9. Install clutch bellhousing case half. Install and tighten case bolts to 16 N.m (12 ft. lbs.).
10. Using Torque Tool C-4995A (1) and an inch-pound torque wrench, check turning torque of the differential assembly. **The turning torque should be 2 to 3 N.m (18 to 27 in. lbs.) If the turning torque is too high, install as close to 0.02 mm (0.0008 inch) thinner shim in shim pack. If the turning torque is too low, install as close to 0.02 mm (0.0008 inch) thicker shim in shim pack.**

11. Recheck turning torque (1). Repeat until the proper turning torque is obtained.
12. Install the correct shim.
13. Remove the cup used during measurement and install the **new** cup.

INPUT SHAFT BEARING ADJUSTMENT PROCEDURE

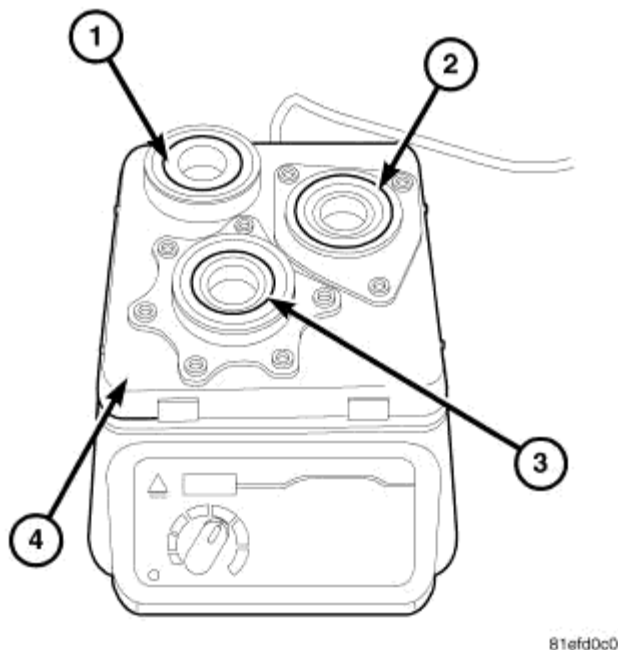


Fig. 158: HEAT BEARINGS
Courtesy of CHRYSLER LLC

WARNING: Use welding gloves or tongs when handling heated components. Failure to follow these instructions will result in personal injury.

CAUTION: Use only a bearing heater/hot plate and follow manufacturer's instructions. Heat components to 100 - 177 Celsius (212° Min. - 350° Max Fahrenheit). Never use an open flame to heat components. Never leave components on heater for an extended amount of time. If component is discolored after heating, the component has been overheated and must not be used. Failure to follow these instructions will result in component damage.

NOTE: After installation, allow the bearings to cool down to ambient temperature. The input shaft bearings must be at a temperature between 15° - 27° C (60° - 80° F) before checking total input shaft endplay.

1. Heat the front and rear bearings (1) with a bearing heater, install the front bearing on the front half of the input shaft and the rear bearing on the rear half of the input shaft.

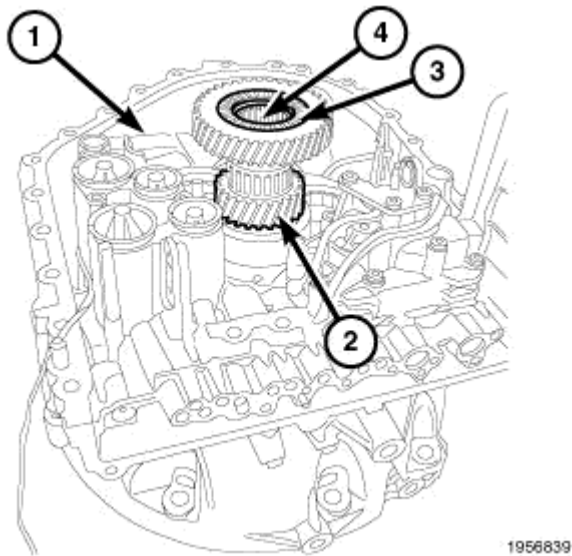


Fig. 159: CLUTCH HOUSING, INPUT SHAFT, THRUST BEARINGS AND LARGER ROLLER BEARINGS

Courtesy of CHRYSLER LLC

2. Set the clutch housing case half (1) on a bench with the engine mounting surface facing down.
3. Install the front half of the input shaft (2) into the clutch housing case half (1).

NOTE: Oil the needle bearings prior to installation

4. Install the large roller bearing (4) and the needle thrust bearing (3) into the front half of the input shaft (2).

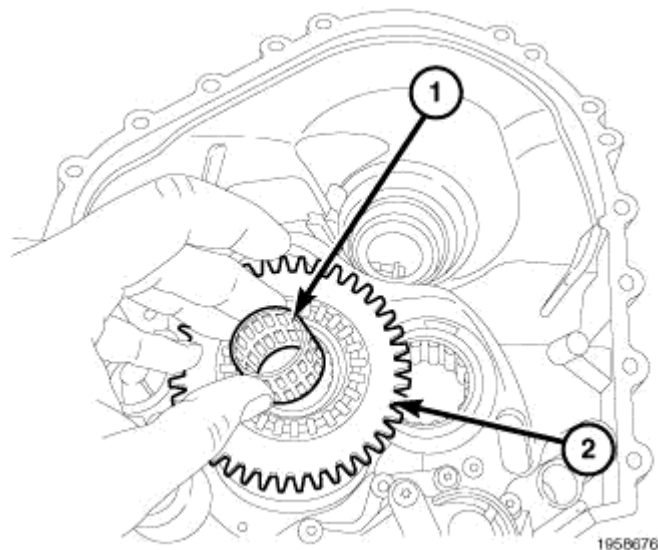


Fig. 160: SMALL NEEDLE BEARING AND INPUT SHAFT

Courtesy of CHRYSLER LLC

NOTE: Oil the needle bearing prior to installation

5. Install the small needle bearing (1) into the front half of the input shaft (2). Verify all bearings are correctly seated.

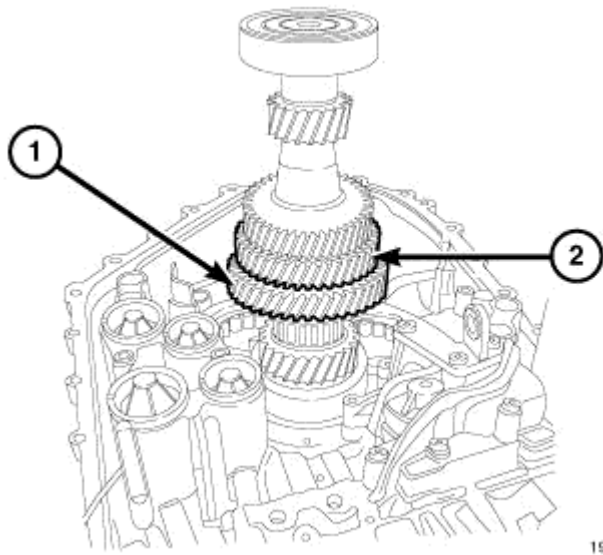


Fig. 161: FRONT HALF AND REAR HALF OF INPUT SHAFT
Courtesy of CHRYSLER LLC

6. Install the rear half of the input shaft (2) into the front half of the input shaft (1).

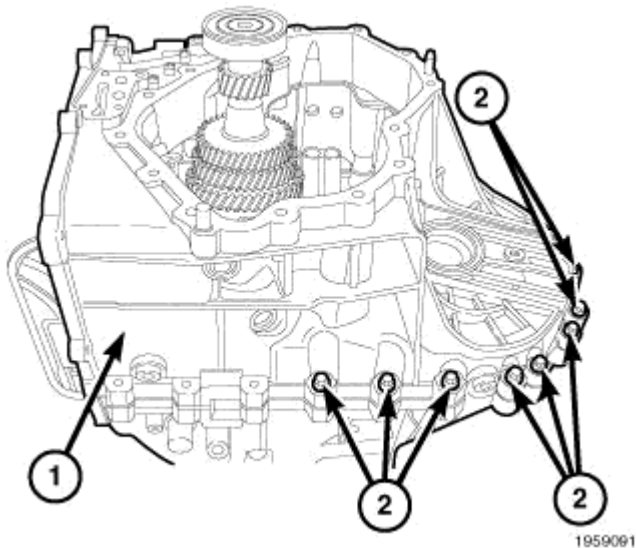


Fig. 162: CASE HALF AND BOLTS
Courtesy of CHRYSLER LLC

7. Install the case half (1) and the bolts (2). Tighten bolts (2) to 16 N.m (12 ft. lbs.).

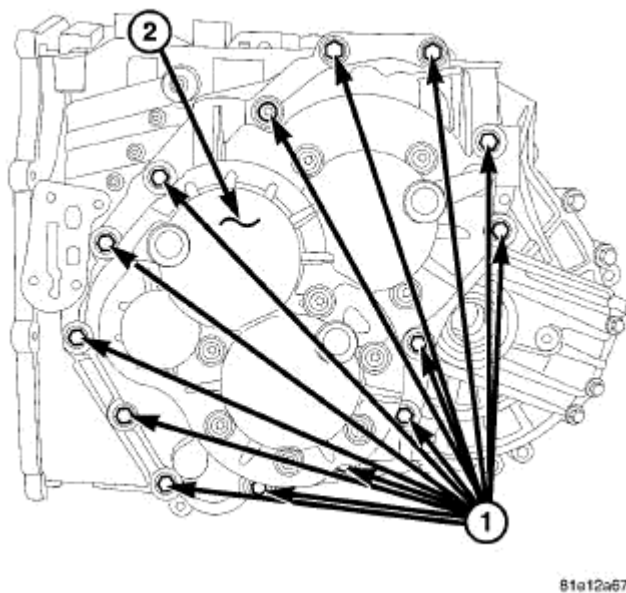


Fig. 163: Rear Cover Bolts

Courtesy of CHRYSLER LLC

8. Install the bearing cover (2) without an input shaft shim. Install the bearing cover bolts (1) and tighten bolts to 16 N.m (12 ft. lbs.).
9. Set the case assembly so the clutch housing is facing up.
10. Verify the input shaft bearing is fully seated in the end cover.

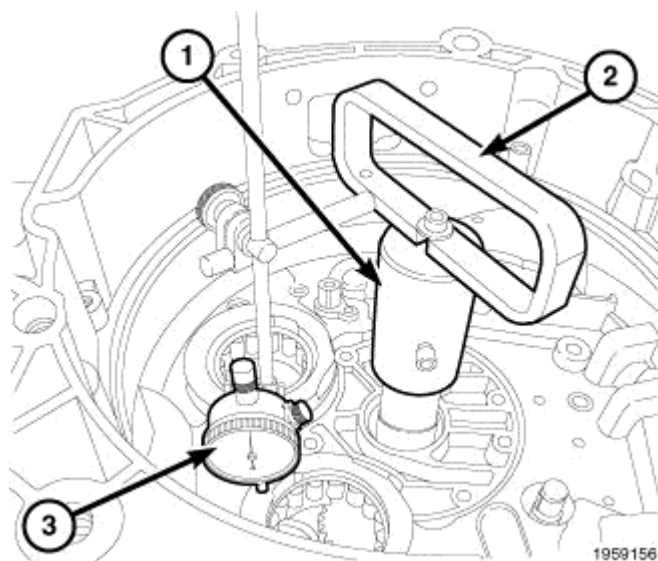


Fig. 164: TOOL 8266-21, HANDLE 8266-8 AND DIAL INDICATOR C-3339A

Courtesy of CHRYSLER LLC

11. Install the Input Shaft Endplay Tool 8266-21 (1), Handle 8266-8 (2) and set up a Dial Indicator C-3339A (3) as shown in illustration to measure endplay on the input shaft.

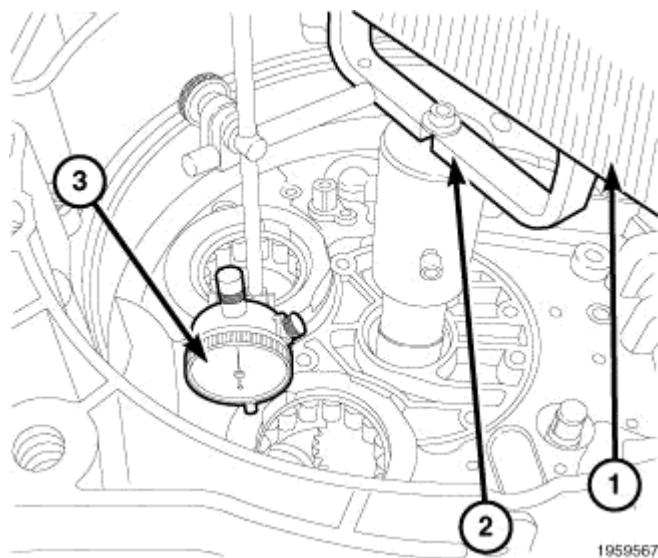


Fig. 165: INPUT SHAFT ENDPLAY TOOL
Courtesy of CHRYSLER LLC

12. Apply approximately 4.535 Kg. (10 lbs.) of force to the handle of the input shaft endplay tool (2) to load the bearings, then, while applying downward force, zero the dial indicator (3).
13. Pull upward on the input shaft endplay tool and record the measurement. Press down on the input shaft endplay tool and verify the tip of the dial indicator remains in one spot. Repeat this step several times and record each measurement. Average the measurements to get the input shaft endplay measurement.
14. Determine the required shim size by subtracting the preload value of 0.36 mm (0.006 in.) from the total input shaft endplay measurement found in step 13.
15. After the input shaft shim is installed, the final endplay of the input shaft should be 0.17 mm +/- 0.05 mm (0.006 in. +/- 0.002 in.).

SPECIFICATIONS

SPECIFICATIONS

TORQUE SPECIFICATIONS

DESCRIPTION	N.m	Ft. Lbs.	In. Lbs.
Bolts, Park Pawl Bracket	25	18	221
Pivot Shaft Bracket to Oil Pump (Park Pawl Pivot Shaft)	10	7	88
Bolt, Park Pivot	30	22	266
Bolt, Manual Lever	20	15	177
Bolts, Oil Pump	10	7	88

2009 Dodge Journey R/T

2009 AUTOMATIC/MANUAL TRANSMISSION Getrag MPS6 - Service Information - Journey

Bolts, Pivot Bracket	10	7	88
Bolts, Lock Out Housing	10	7	88
Bolt, Pivot Shaft to Case (Park Pawl Pivot Shaft)	10	7	88
Bolts, Case Half	30	22	266
Bolts, Bearing Retainer	110	81	-
Bolts, Rear Cover	30	22	266
Bolts, Shaft support Plates	30	22	266
Connector Screws at TRS	6	-	53
Bolt, at TRS	7	-	70
Bolts, at Valve Body	10	7	88
Bolts, Valve Body Oil Pan (Stage 1 of 2)	5	-	44
Bolts, Valve Body Oil Pan (Stage 2 of 2)	8	6	70
Bolts, at External Oil Filter Adaptor	10	7	88
Bolts, Idler Gear Support	30	22	266
Bolts, Reaction Shaft	11	8	97
Clutch retaining collar	7	5	62
Retaining clips, Front Cover	10	7	88
Plug, Drain	35	25	309
Plug, Fill	35	25	309
Bolts, Ring Gear	83	61	-

SPECIAL TOOLS

SPECIAL TOOLS

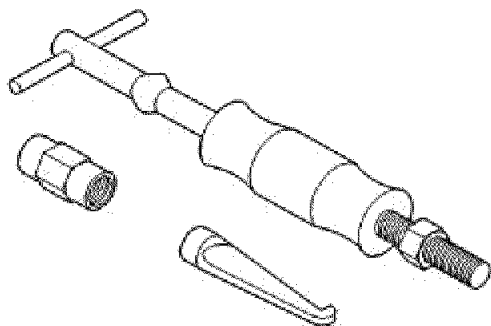


Fig. 166: SLIDE HAMMER, UNIVERSAL - C-637
Courtesy of CHRYSLER LLC

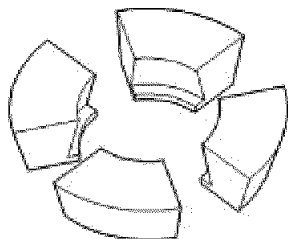


Fig. 167: ADAPTER - 8353
Courtesy of CHRYSLER LLC

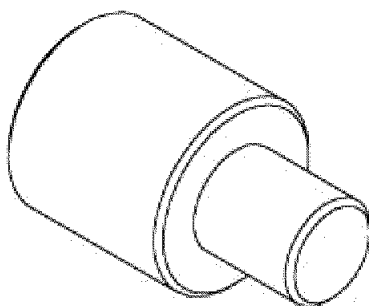


Fig. 168: PROTECTOR - 8923
Courtesy of CHRYSLER LLC

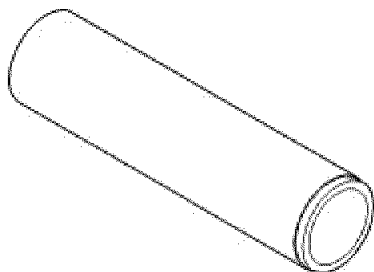


Fig. 169: INSTALLER, BEARING - W-262
Courtesy of CHRYSLER LLC



Fig. 170: INSTALLER - 10124
Courtesy of CHRYSLER LLC

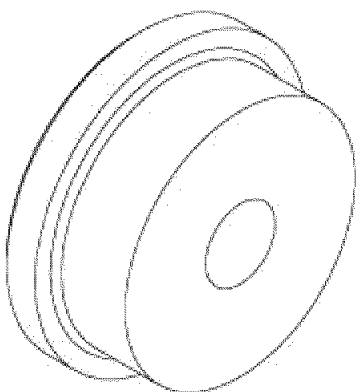


Fig. 171: INSTALLER, DIFFERENTIAL SIDE SEAL - 9928
Courtesy of CHRYSLER LLC

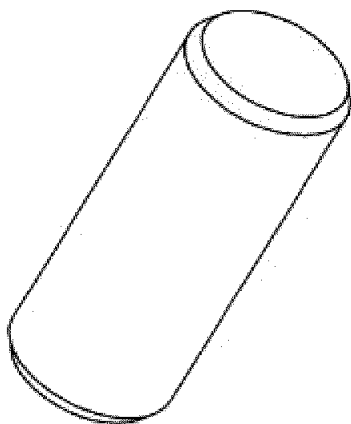


Fig. 172: ADAPTER, PLUG - 10038
Courtesy of CHRYSLER LLC

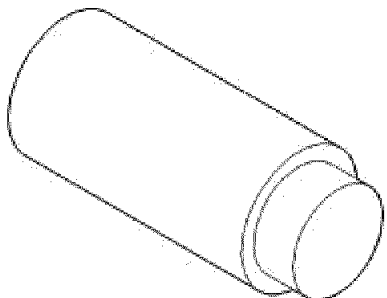


Fig. 173: ADAPTER, BEARING/GEAR - C-293-3
Courtesy of CHRYSLER LLC

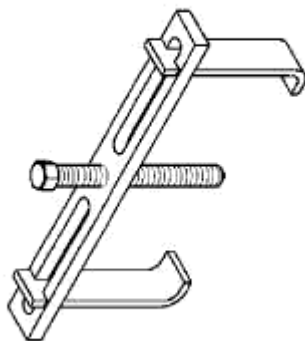


Fig. 174: PULLER, EXTENSION HOUSING - 8244
Courtesy of CHRYSLER LLC

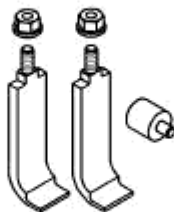


Fig. 175: PULLER SET - 10073
Courtesy of CHRYSLER LLC

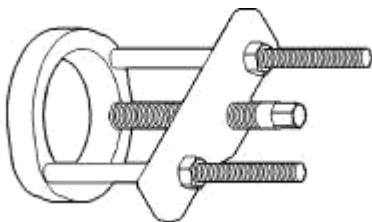


Fig. 176: PULLER, PRESS - C-293-PA
Courtesy of CHRYSLER LLC

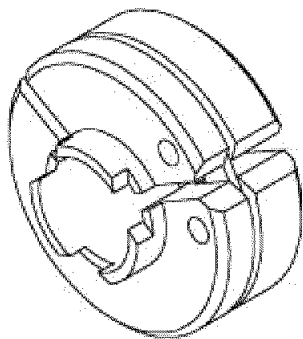


Fig. 177: DISCONNECT, TRANS COOLER LINE - 8875A
Courtesy of CHRYSLER LLC

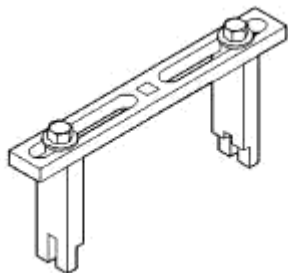
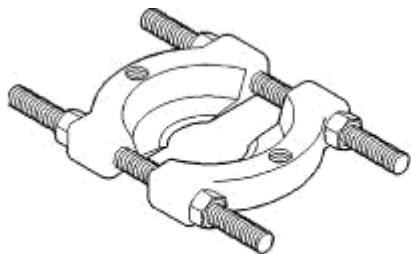


Fig. 178: SPANNER, FUEL PUMP RING - 6856
Courtesy of CHRYSLER LLC



1130-90103ac3

Fig. 179: SPLITTER, BEARING/GEAR - 1130
Courtesy of CHRYSLER LLC

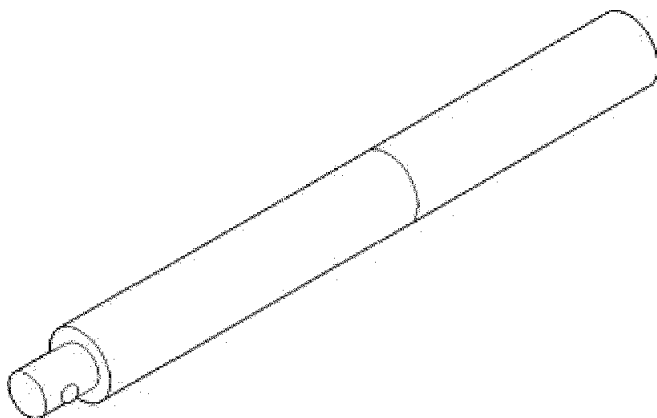


Fig. 180: DRIVER HANDLE, UNIVERSAL - C-4171
Courtesy of CHRYSLER LLC

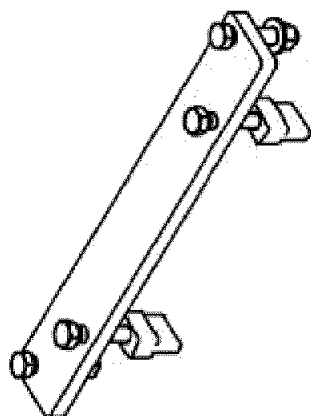


Fig. 181: COMPRESSOR 10129
Courtesy of CHRYSLER LLC

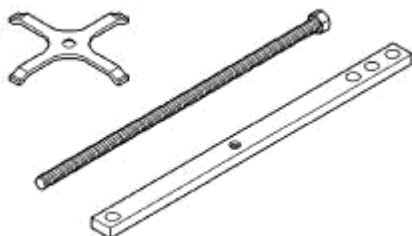


Fig. 182: COMPRESSOR, SPRING - 5058A
Courtesy of CHRYSLER LLC

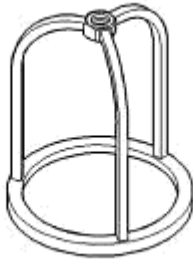


Fig. 183: COMPRESSOR, SPRING - 5059-A
Courtesy of CHRYSLER LLC

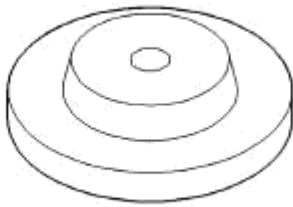


Fig. 184: DISC, SPRING COMPRESSOR - 6057
Courtesy of CHRYSLER LLC

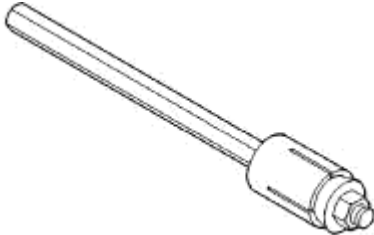


Fig. 185: TOOL, DIFFERENTIAL BEARING TORQUE - C-4995A
Courtesy of CHRYSLER LLC

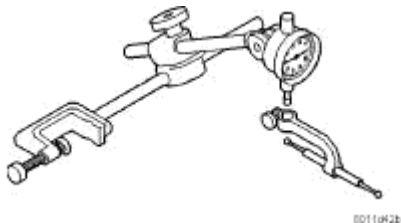


Fig. 186: SET, DIAL INDICATOR - C-3339A
Courtesy of CHRYSLER LLC

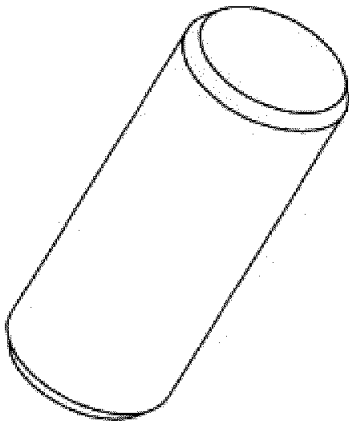


Fig. 187: ADAPTER, PLUG - 10038

Courtesy of CHRYSLER LLC

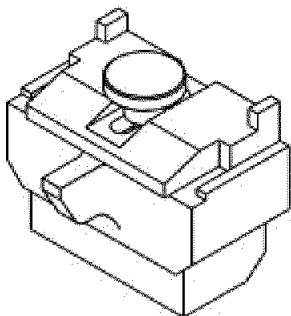
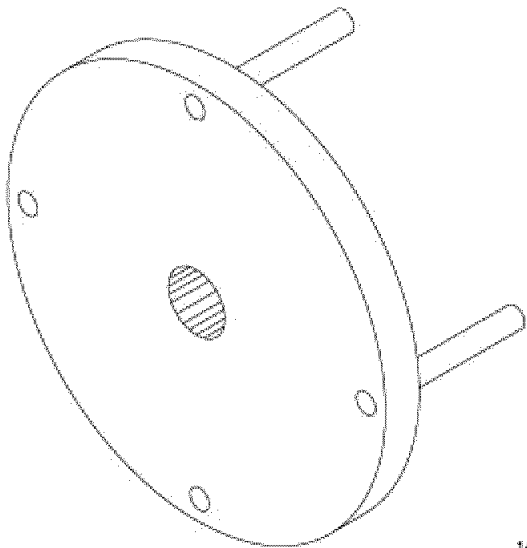


Fig. 188: DIFFERENTIAL LOCKING TOOL 10150

Courtesy of CHRYSLER LLC



1453192

Fig. 189: CLUTCH REMOVAL TOOL 10164

Courtesy of CHRYSLER LLC

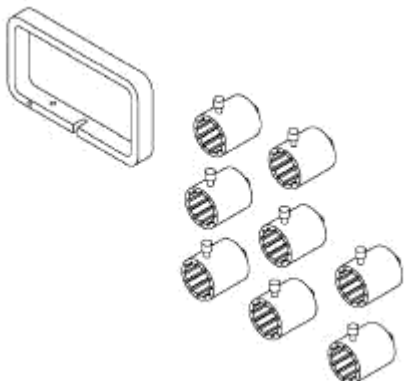


Fig. 190: FIXTURES, END PLAY - 8266A

Courtesy of CHRYSLER LLC

CLUTCH, DOUBLE

REMOVAL

REMOVAL

NOTE: If transaxle assembly or Transaxle Control Module (TCM) is being overhauled or replaced, it is necessary to perform the TCM/PCM Quick Learn Procedure. Refer to Electrical/Electronic Control Modules/MODULE, Powertrain Control - Standard Procedure .

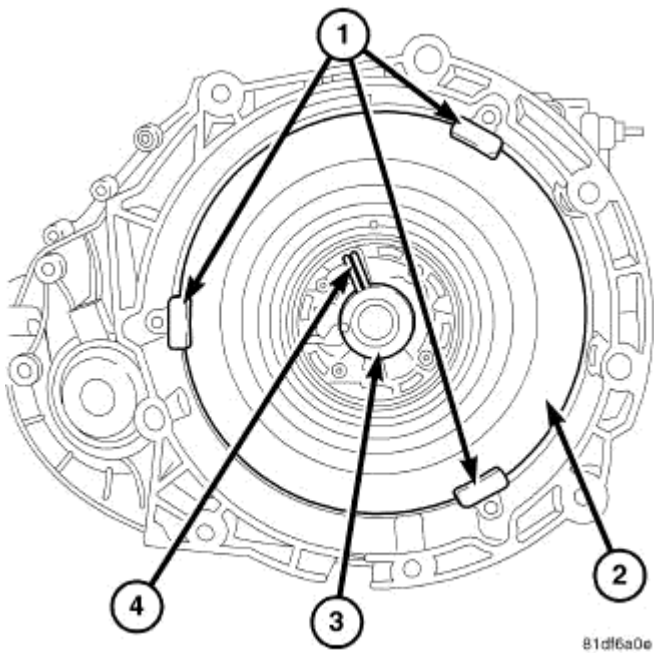
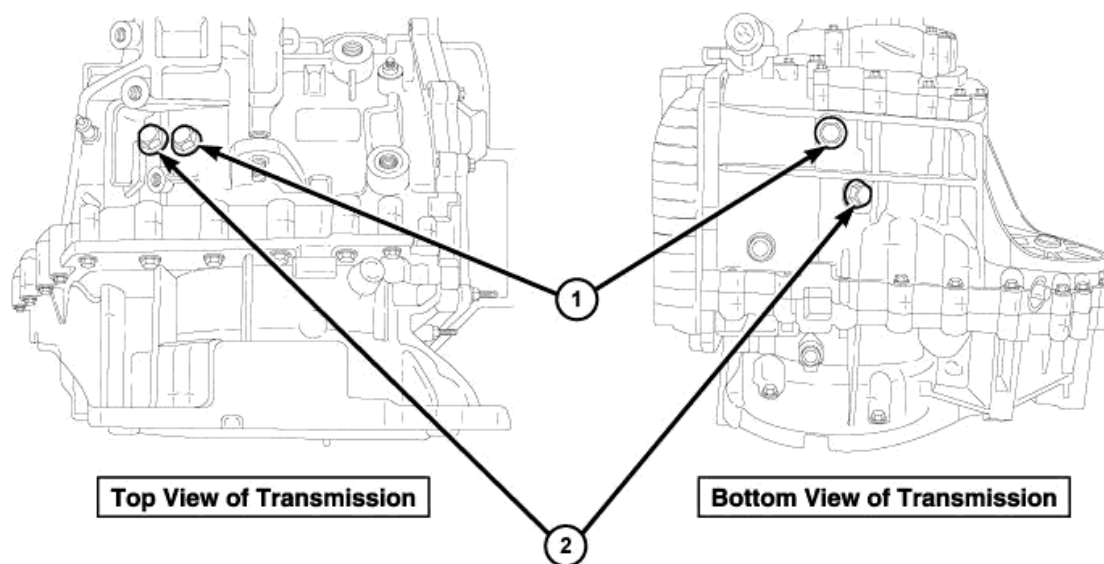


Fig. 191: RETAINING CLIPS
Courtesy of CHRYSLER LLC

1. Drain the transaxle.
2. Remove the transaxle. See **Removal**.
3. Remove and discard the three screws holding the retaining clips (1).

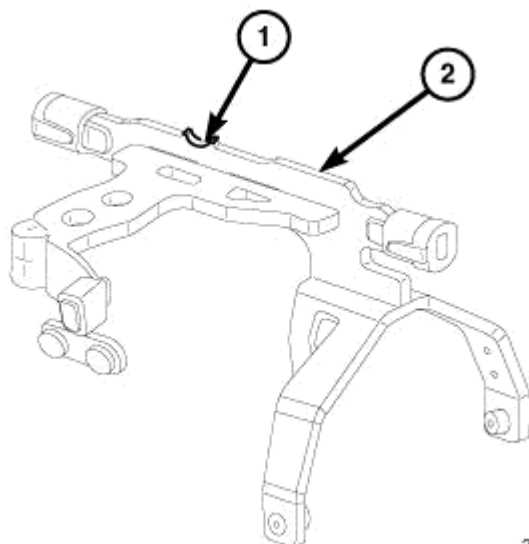
NOTE: Check shift fork positions and set to neutral (if not in "N" or unknown).



2670359

Fig. 192: PLUNGERS
Courtesy of CHRYSLER LLC

4. Unscrew the two plungers of either the odd (1) or even (2) gear path.



2670469

Fig. 193: DENTED NOTCHES UNDER CENTER OF BORE
Courtesy of CHRYSLER LLC

5. Check if the detent notches (1) are under the center of the bore. If not move the shift fork (2) with a screw driver to the center (neutral) position.

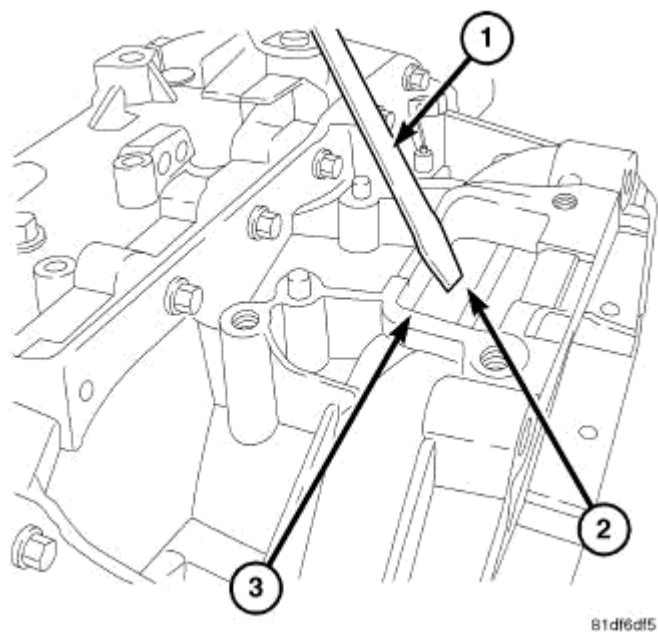


Fig. 194: FRONT COVER
Courtesy of CHRYSLER LLC

6. Using a screw driver (1) through the starter hole remove and discard the front cover (2).

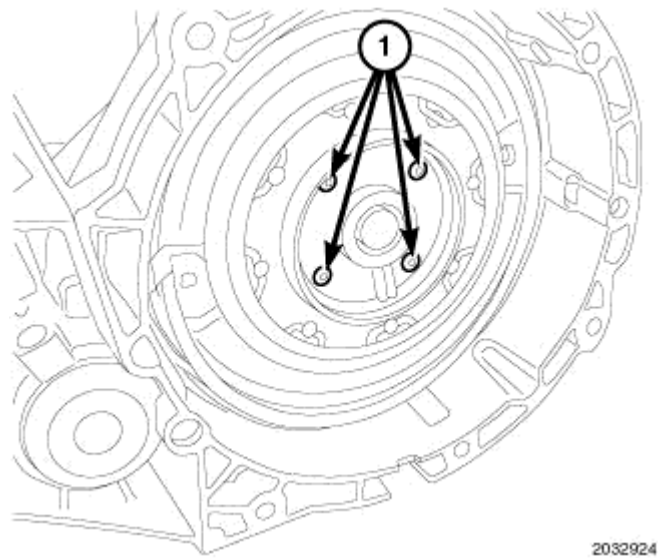


Fig. 195: CLUTCH HUB NUTS
Courtesy of CHRYSLER LLC

7. Remove and discard the four plugs (1) from the holes in the clutch hub.

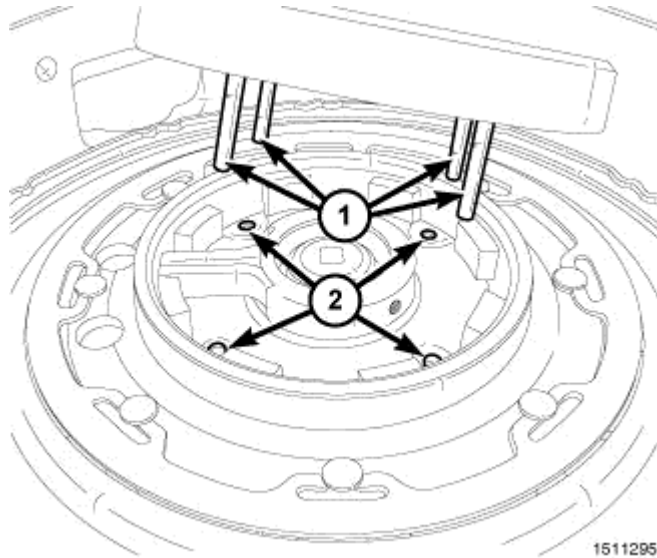


Fig. 196: ALIGNING LEGS OF CLUTCH TOOL 10164 WITH HOLES IN CLUTCH HUB
Courtesy of CHRYSLER LLC

8. Align the legs (1) of the Clutch Tool 10164 with the holes in the clutch hub (2).

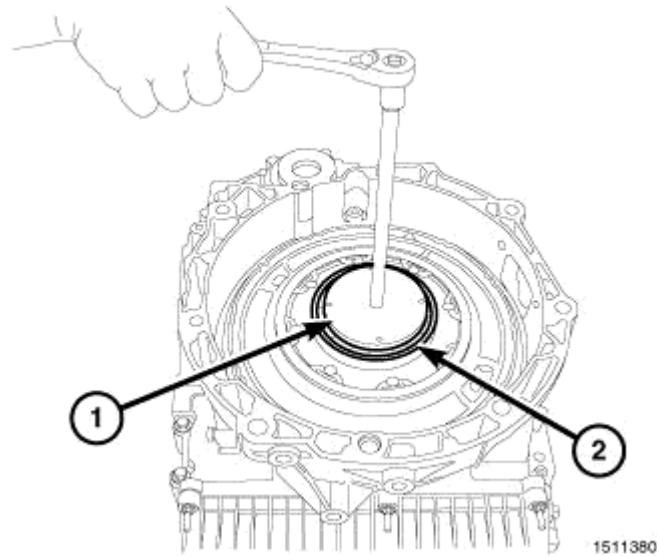


Fig. 197: CLUTCH TOOL 10164
Courtesy of CHRYSLER LLC

NOTE: It might be necessary to rotate the double clutch assembly so that the legs on the Clutch Tool 10164 (1) can be pressed completely down to engage the tabs on the clutch hub nut.

9. Verify the four legs of the Clutch Tool 10164 are completely engaged with the tabs on the clutch nut.
10. Use the 10164 Clutch Tool (1) turning counter clockwise to remove the clutch hub nut. If the clutch hub nut is seized due to a damaged or worn clutch, or otherwise cannot be removed with Clutch Tool 10164,

refer to **CLUTCH REMOVAL - LOCKED HUB NUT**.

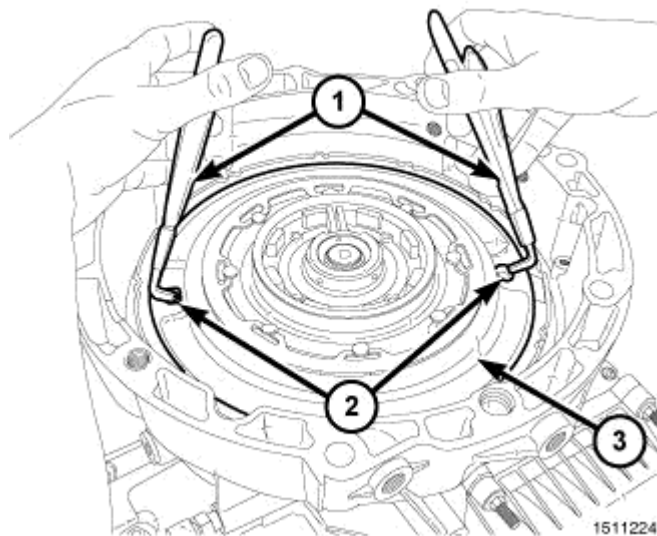


Fig. 198: ANGLING SNAP PLIERS IN THE OPENINGS OF THE DOUBLE CLUTCH ASSEMBLY

Courtesy of CHRYSLER LLC

NOTE: Angled snap pliers (1) or brake spring tools can be used in the openings (2) to remove the double clutch assembly (3).

11. Remove the double clutch assembly (3).

CLUTCH REMOVAL - LOCKED HUB NUT

NOTE: This procedure should only be used if the clutch hub nut is locked and cannot be removed with the Clutch Tool 10164.

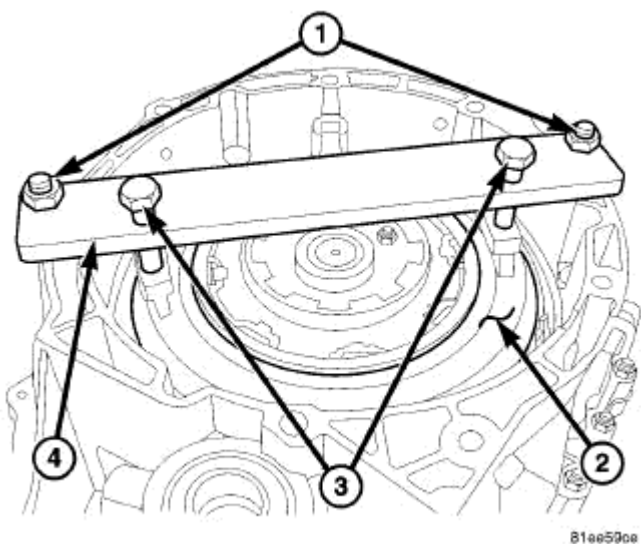


Fig. 199: COMPRESSOR 10129

Courtesy of CHRYSLER LLC

CAUTION: Compress the front clutch only enough to remove the snap ring. Exerting excessive force on the front clutch with the 10129 Compressor can damage the entire dual clutch assembly.

1. Install Compressor 10129 (4) over bellhousing (1) and front clutch (2).

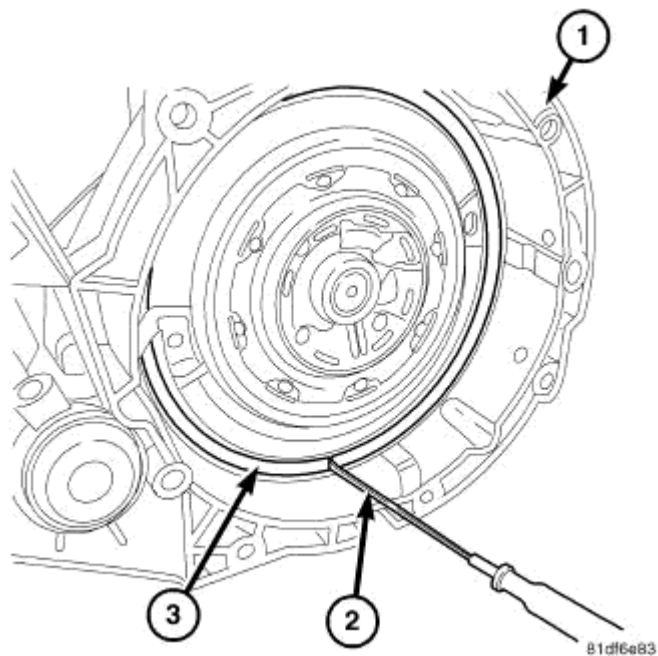
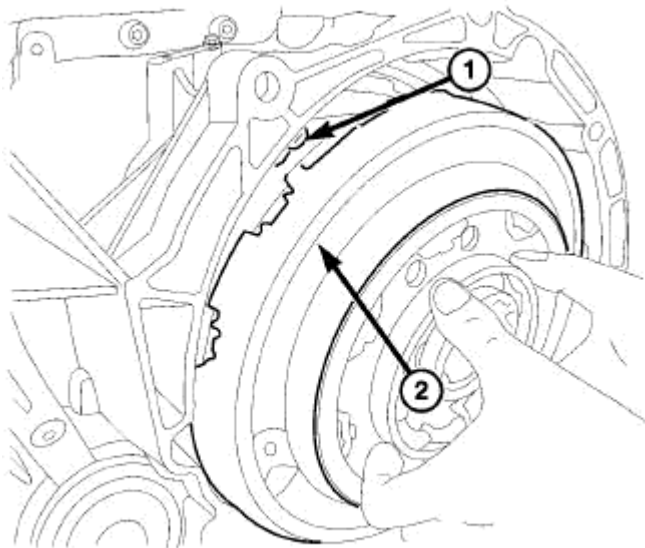


Fig. 200: SNAP RING AT CLUTCH

Courtesy of CHRYSLER LLC

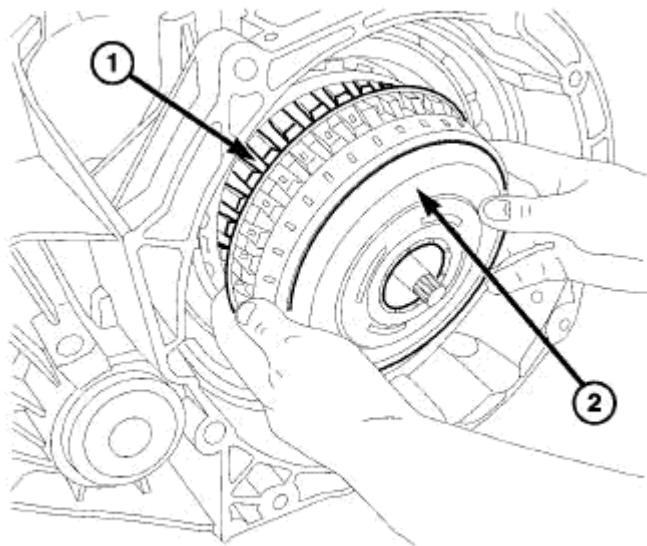
2. Remove the snap ring (3) at the dual clutch.
3. Remove Compressor 10129.



61e11384

Fig. 201: CLUTCH OUTER COVER
Courtesy of CHRYSLER LLC

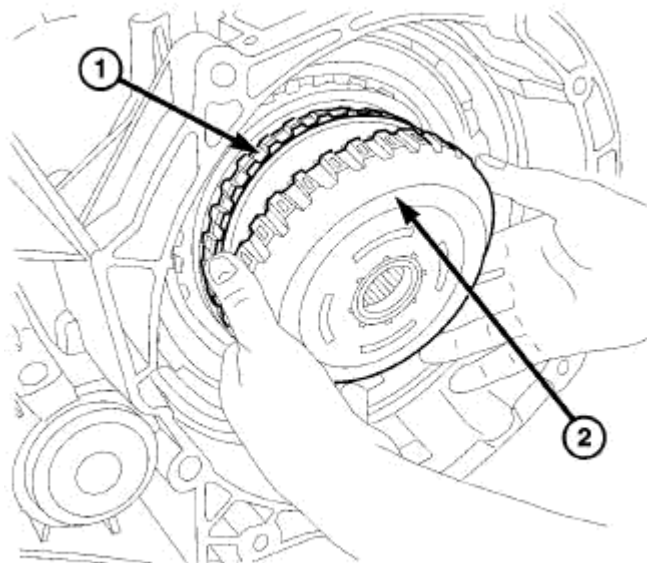
4. Remove the outer cover (2) of the dual clutch.



81e1138a

Fig. 202: OUTER CLUTCH HUB
Courtesy of CHRYSLER LLC

5. Remove the outer clutch hub (2).



81e113c5

Fig. 203: INNER CLUTCH HUB
Courtesy of CHRYSLER LLC

6. Remove the inner clutch hub (2).

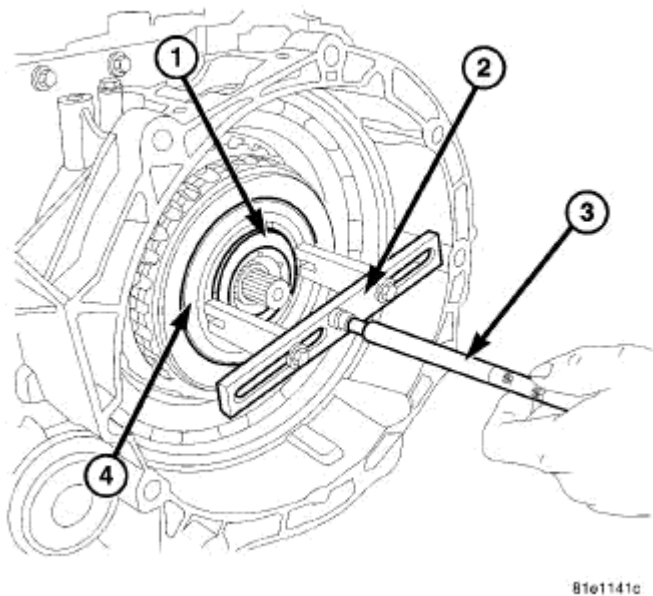


Fig. 204: RETAINING COLLAR
Courtesy of CHRYSLER LLC

7. Remove the retaining collar (1) using Spanner 6856 (2).

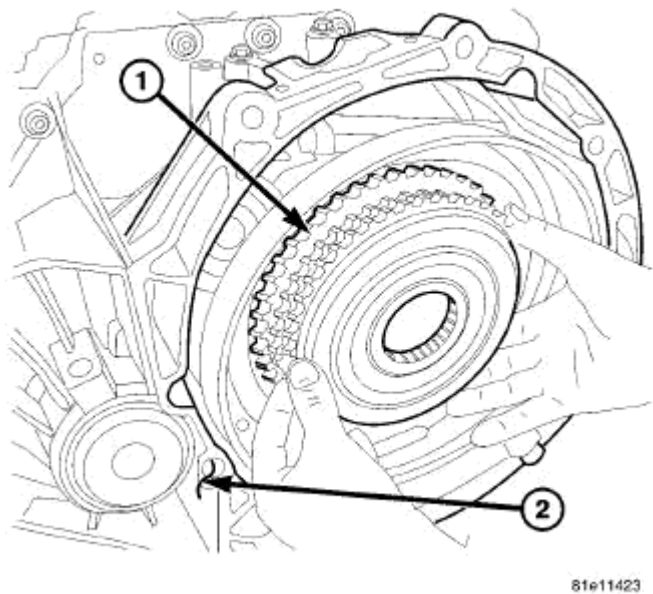
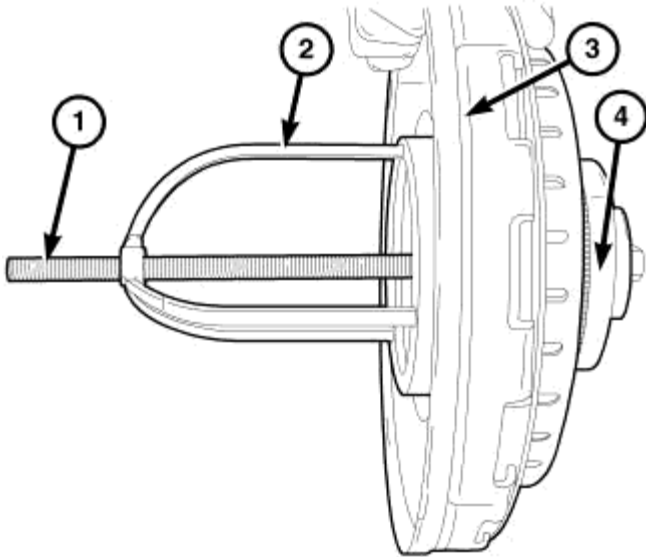


Fig. 205: INNER CLUTCH HOUSING

Courtesy of CHRYSLER LLC

8. Remove the inner clutch housing (1) and front needle bearing.

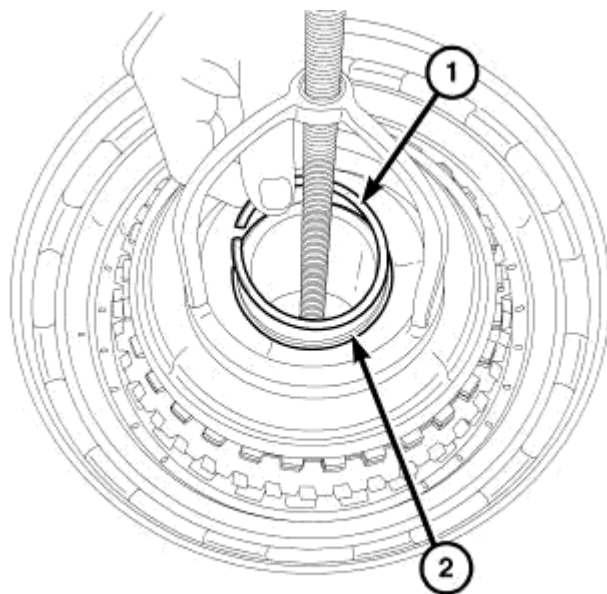
DISASSEMBLY**DISASSEMBLY**

81131eec

Fig. 206: COMPRESS CLUTCH

Courtesy of CHRYSLER LLC

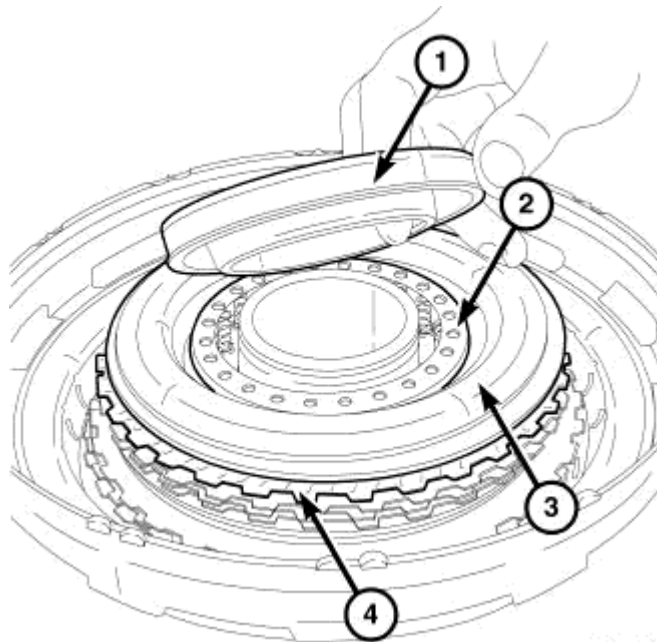
1. Install Compressor 5059-A (2), Threaded Rod form kit 5058A (1) and Disc 6057 (4) onto the clutch (3).



81f31fa1

Fig. 207: Removing/Installing Snap Ring At Piston
Courtesy of CHRYSLER LLC

2. Compress clutch enough to remove the inner snap-ring at the piston (1) using snap-ring pliers.



81f32028

Fig. 208: INNER PISTON
Courtesy of CHRYSLER LLC

3. Remove the inner piston (1).

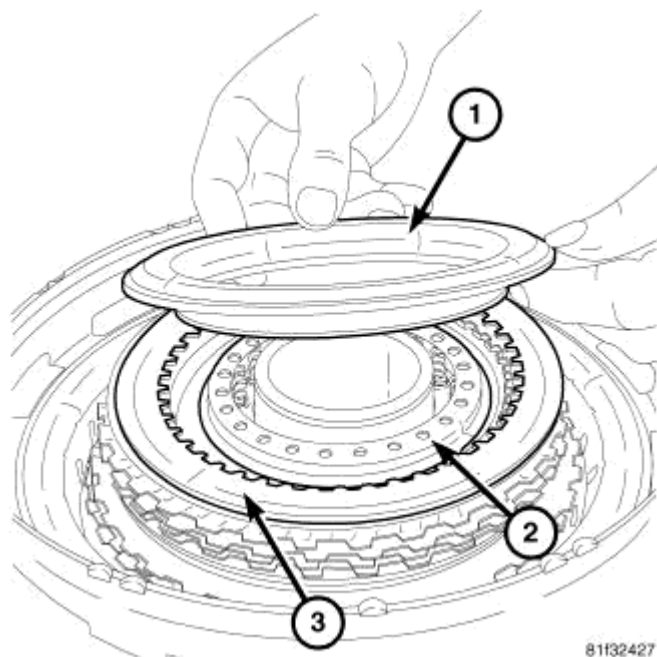


Fig. 209: Outer Piston
Courtesy of CHRYSLER LLC

4. Remove the outer piston (1).

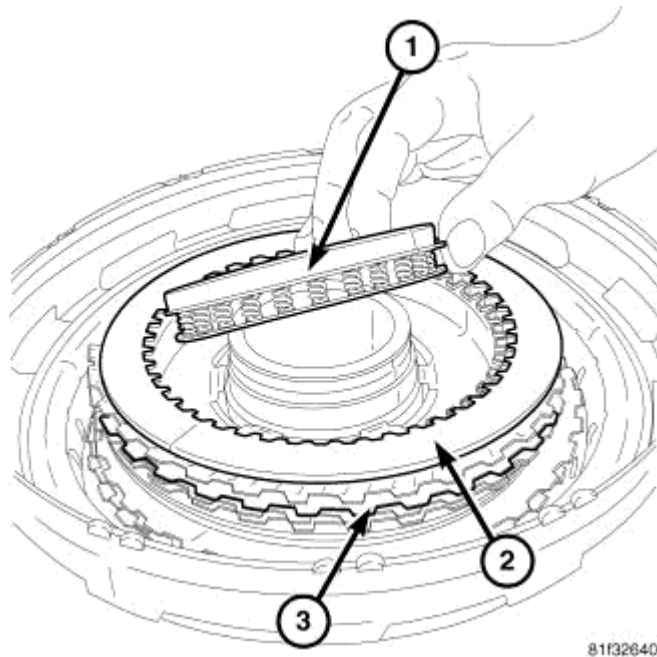


Fig. 210: SPRING PACK
Courtesy of CHRYSLER LLC

5. Remove the spring pack (1).

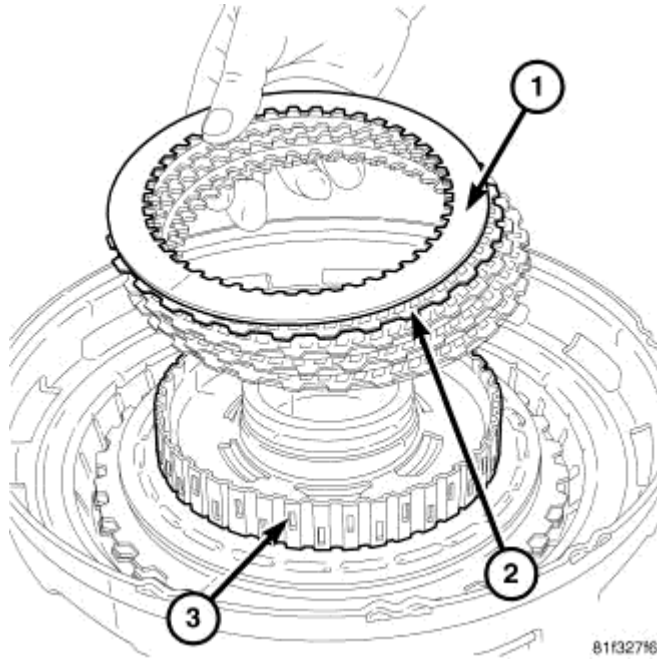


Fig. 211: SMALL CLUTCH PACK
Courtesy of CHRYSLER LLC

6. Remove the small clutch pack (1, 2) from the hub (3).

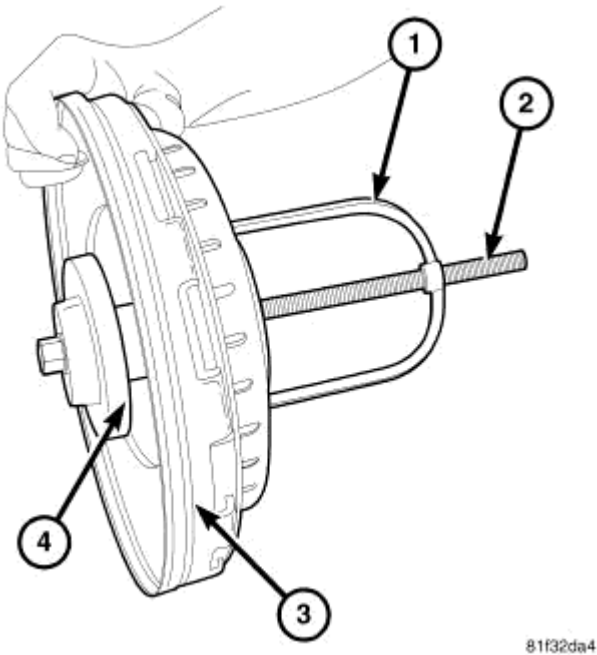


Fig. 212: COMPRESS LARGE PISTON
Courtesy of CHRYSLER LLC

7. Install Compressor 5059-A (1), Threaded Rod form kit 5058A (2) and Disc 6057 (4) onto the clutch (3).

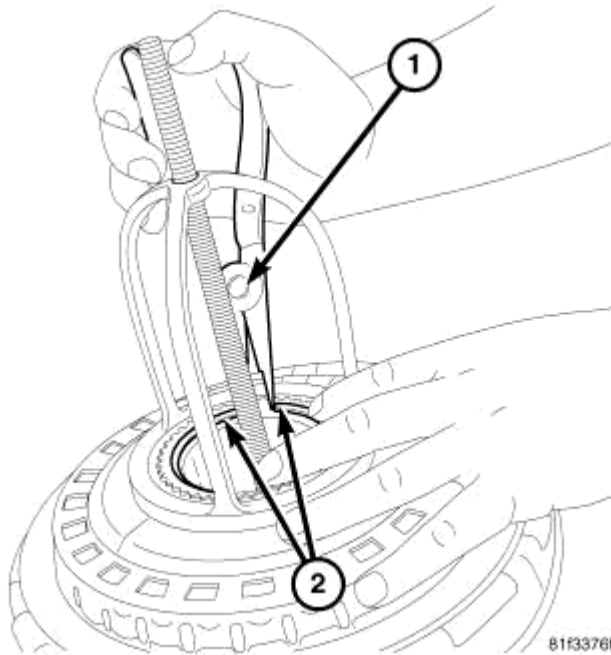


Fig. 213: Removing/Installing Snap Ring At Large Piston
Courtesy of CHRYSLER LLC

8. Using Snap-ring Pliers (1) remove snap-ring (2) at the large piston.
9. Remove the compressor.

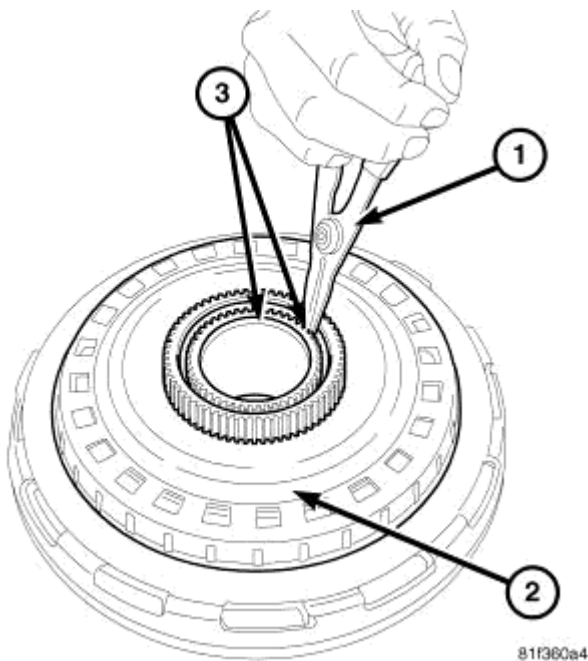


Fig. 214: SNAP RING AT HUB
Courtesy of CHRYSLER LLC

10. Remove the snap-ring (3) retaining the hub (2).

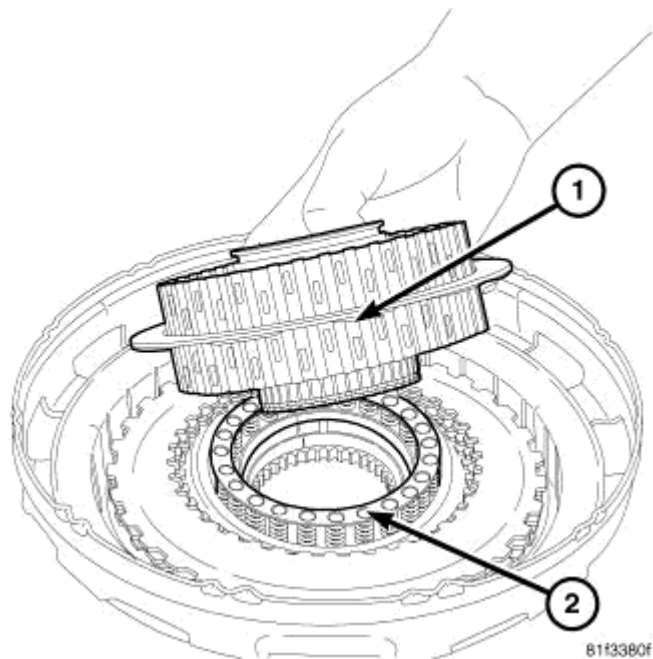


Fig. 215: HUB

Courtesy of CHRYSLER LLC

11. Remove the hub (1).

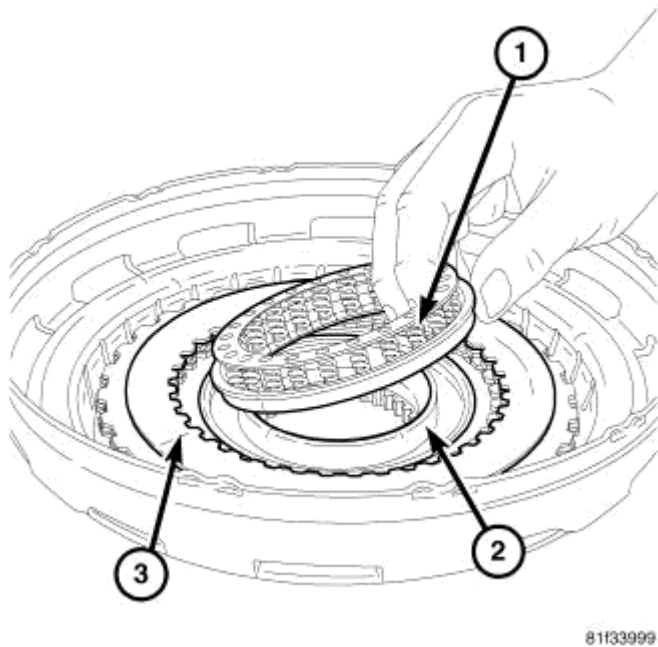


Fig. 216: INNER SPRING PACK

Courtesy of CHRYSLER LLC

12. Remove the inner spring pack (1).

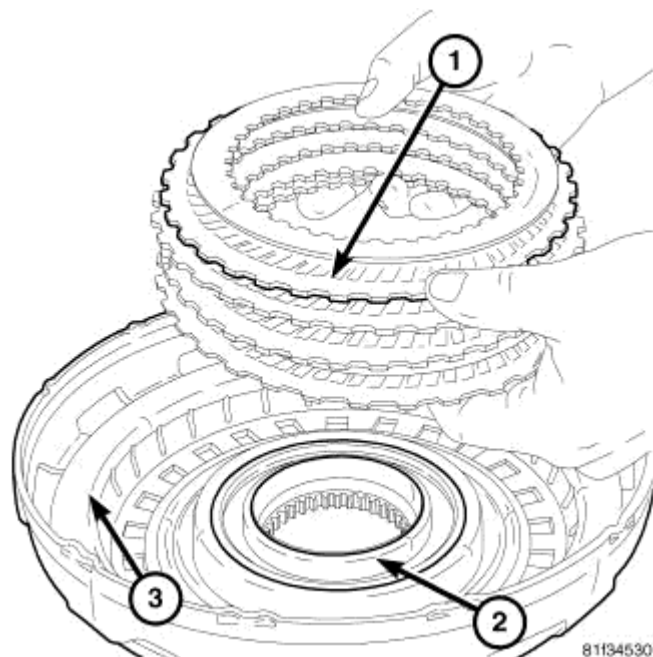


Fig. 217: LARGE CLUTCH PACK
Courtesy of CHRYSLER LLC

13. Remove the inner/large clutch pack (1).

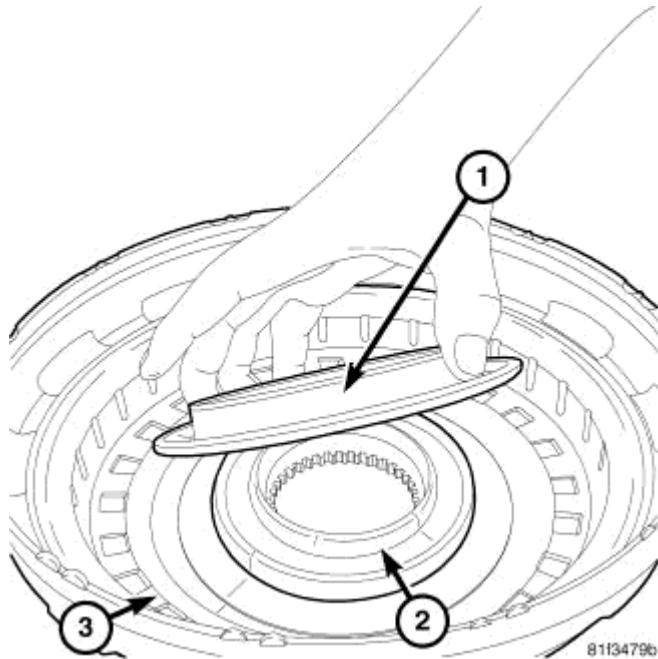


Fig. 218: LARGE OUTER PISTON
Courtesy of CHRYSLER LLC

14. Remove the large/outer piston (1).

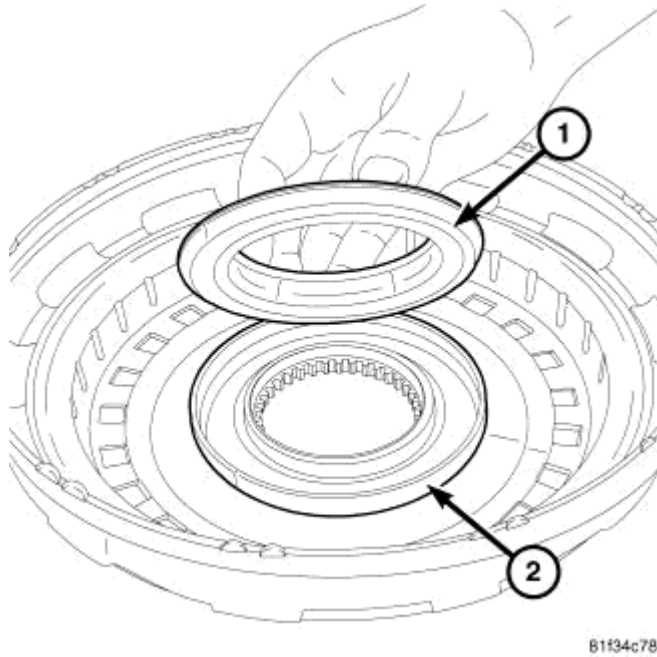


Fig. 219: SMALL INNER PISTON
Courtesy of CHRYSLER LLC

15. Remove the small inner piston (1).

INSPECTION

INSPECTION

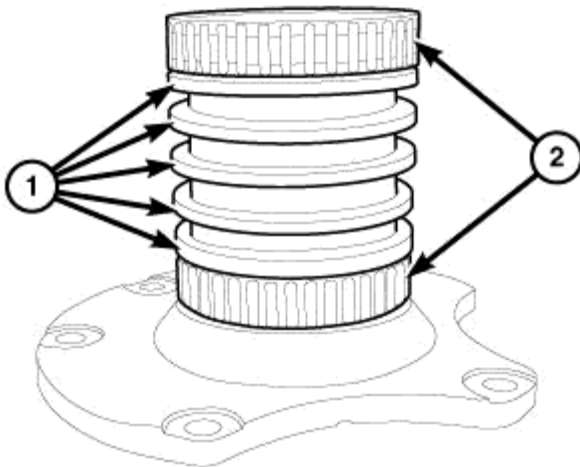


Fig. 220: SEALING RINGS AND NEEDLE BEARINGS
Courtesy of CHRYSLER LLC

1. Inspect the sealing rings (1) on the clutch support.

2. Verify the needle bearings (2) are not damaged pitted or marred and that they roll smoothly.
3. Replace any worn or damaged parts.

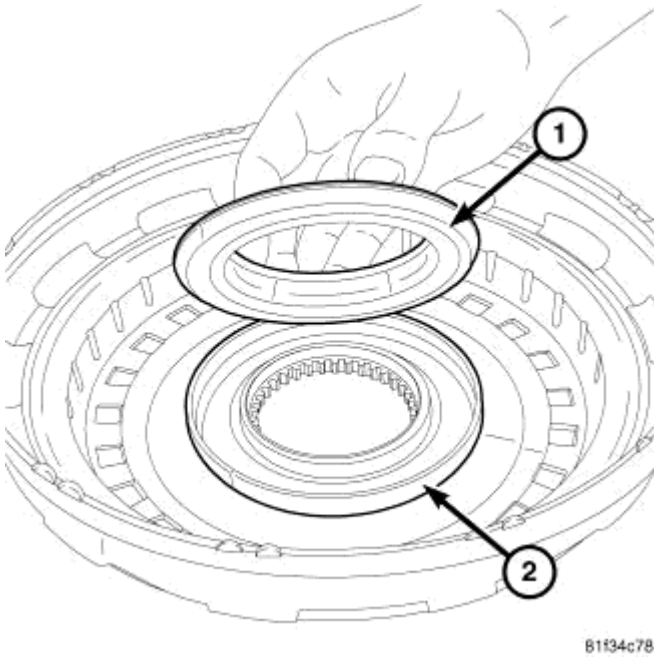
ASSEMBLY**ASSEMBLY**

Fig. 221: SMALL INNER PISTON
Courtesy of CHRYSLER LLC

1. Install the small/inner piston (1) onto housing.

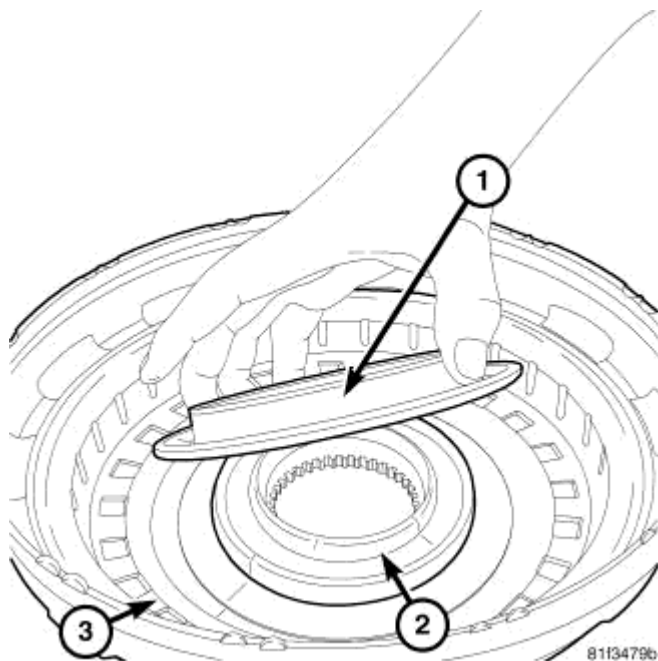


Fig. 222: LARGE OUTER PISTON
Courtesy of CHRYSLER LLC

2. Install the inner piston (1) onto housing.

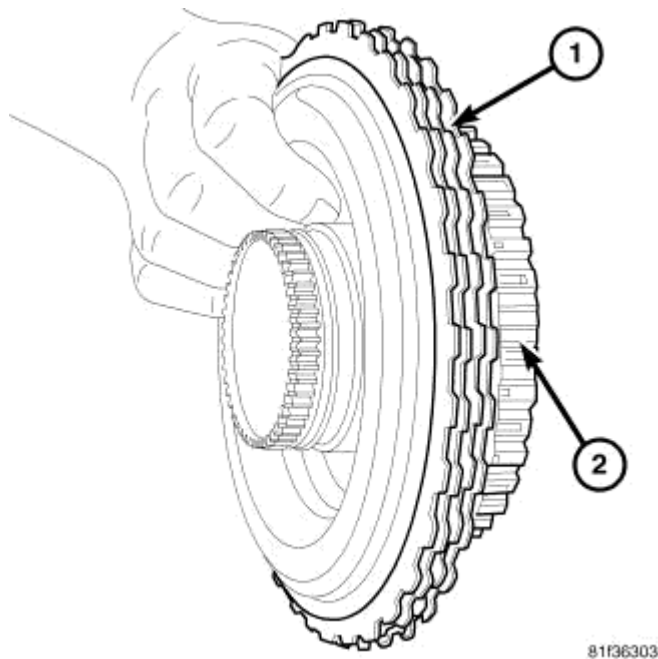


Fig. 223: CLUTCHES ON HUB
Courtesy of CHRYSLER LLC

3. Install the inner/large clutches (1) on the hub (2).

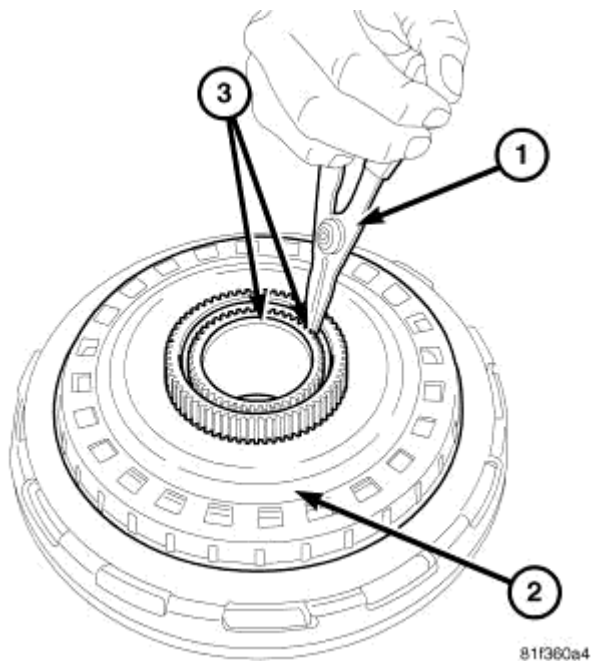


Fig. 224: SNAP RING AT HUB
Courtesy of CHRYSLER LLC

4. Install the hub (2) onto the housing and install the snap-ring (1).

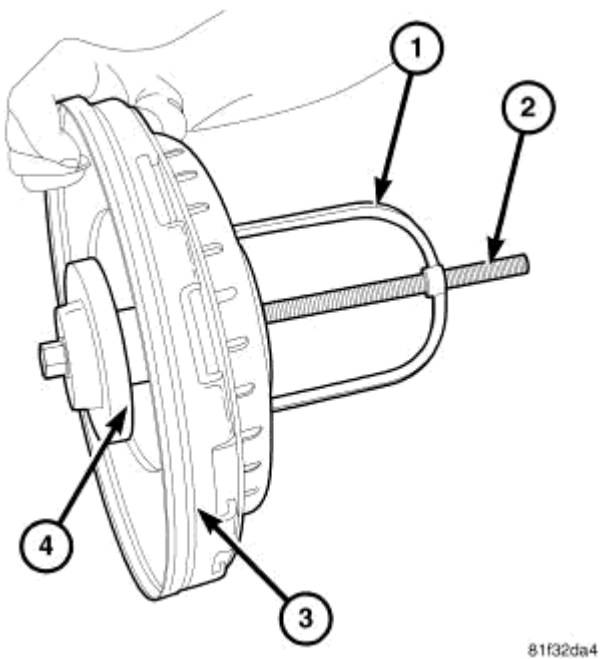


Fig. 225: COMPRESS LARGE PISTON
Courtesy of CHRYSLER LLC

5. Install Compressor 5059-A (1), Threaded Rod form kit 5058A (2) and Disc 6057 (4) onto the clutch (3).

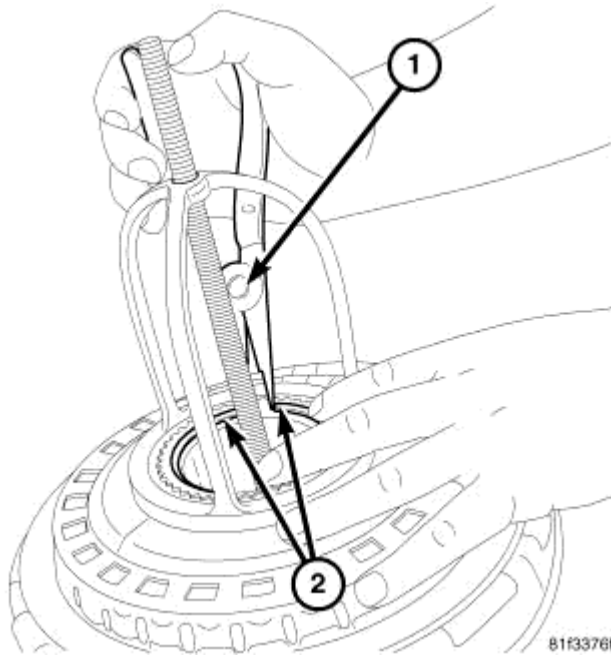


Fig. 226: Removing/Installing Snap Ring At Large Piston
Courtesy of CHRYSLER LLC

6. Using Snap-ring Pliers (1) install snap-ring (2) at the large piston.
7. Remove the compressor.

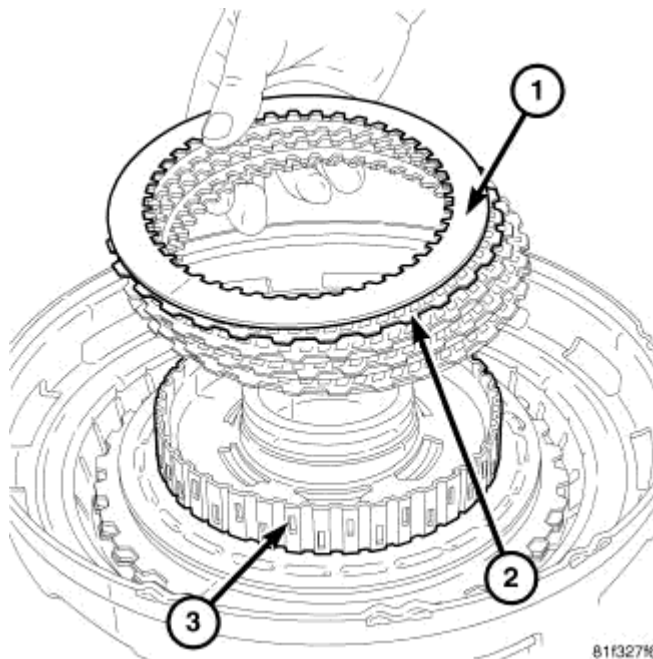
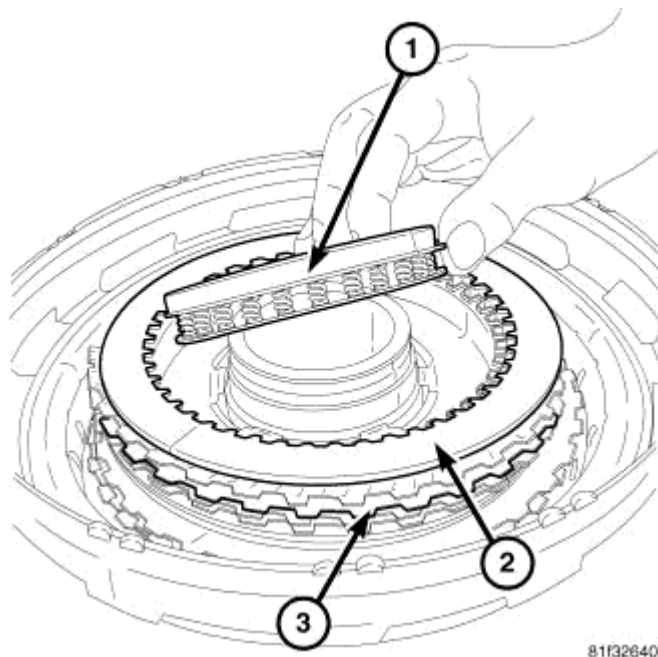


Fig. 227: SMALL CLUTCH PACK
Courtesy of CHRYSLER LLC

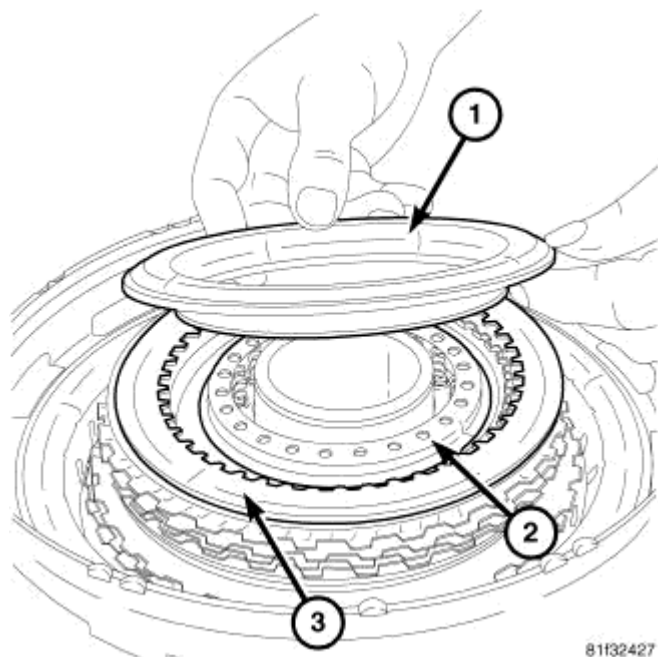
8. Install the small clutch pack (1, 2) onto the hub (3).



81132640

Fig. 228: SPRING PACK
Courtesy of CHRYSLER LLC

9. Install the spring pack (1).



81132427

Fig. 229: OUTER PISTON
Courtesy of CHRYSLER LLC

10. Install the outer piston (1).

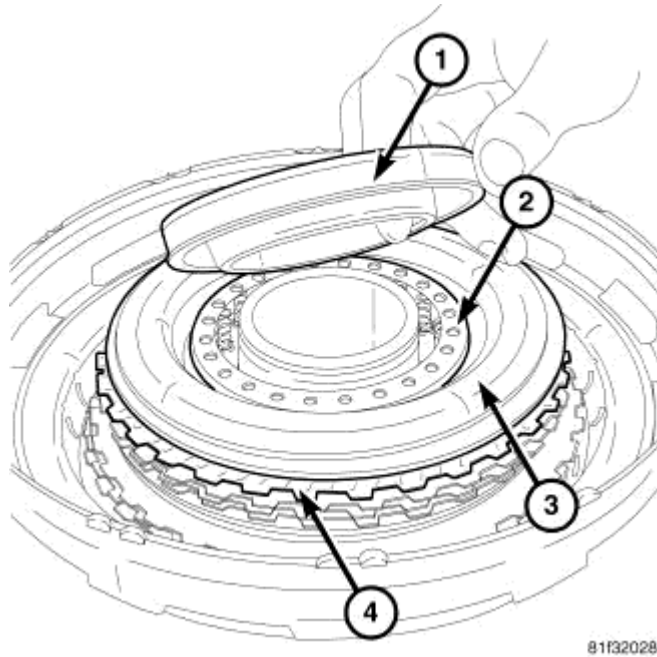


Fig. 230: INNER PISTON
Courtesy of CHRYSLER LLC

11. Install the inner piston (1).

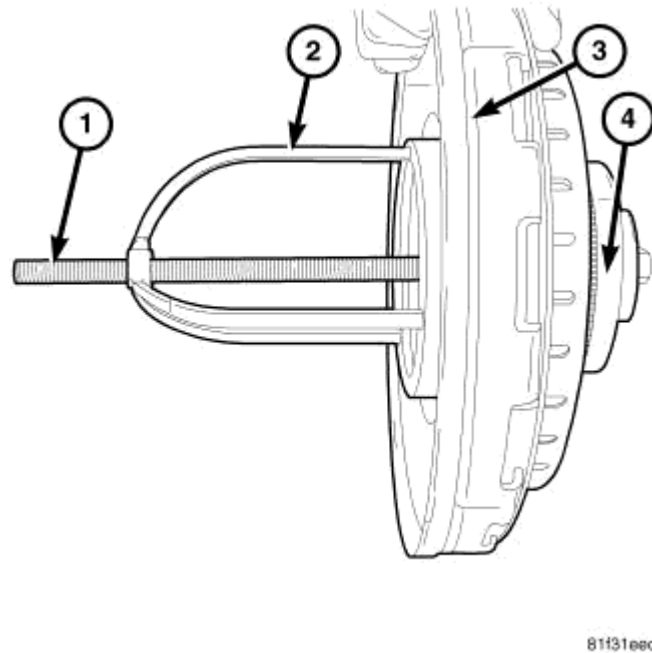
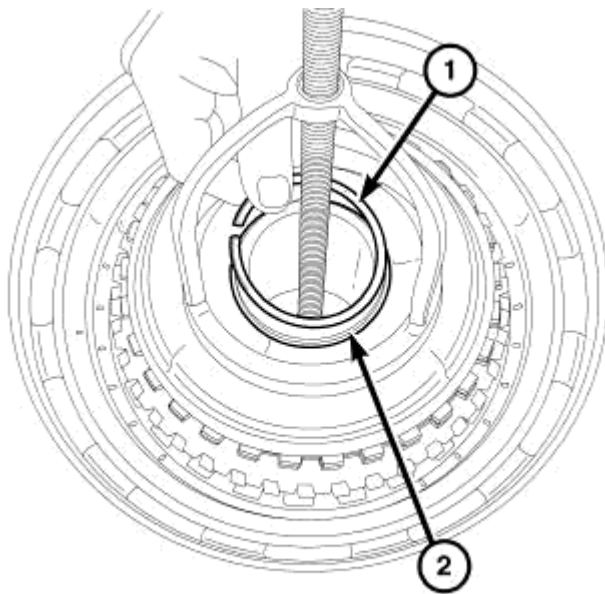


Fig. 231: COMPRESS CLUTCH
Courtesy of CHRYSLER LLC

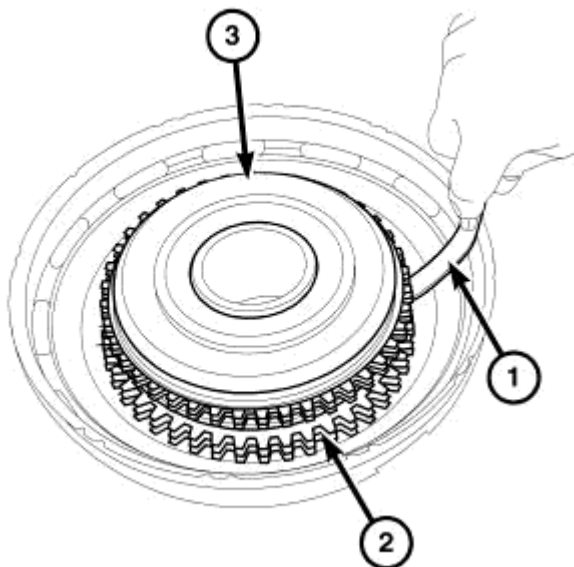
12. Install Compressor 5059-A (2), Threaded Rod form kit 5058A (1) and Disc 6057 (4) onto the clutch (3).



81f31fa1

Fig. 232: Removing/Installing Snap Ring At Piston
Courtesy of CHRYSLER LLC

13. Compress clutch enough to install the inner snap-ring at the piston (1) using snap-ring pliers.
14. Install the snap ring and remove Compressor 5059-A from the clutch.



81f8a272

Fig. 233: Measuring Clearance Between Small Clutch & Large Clutch
Courtesy of CHRYSLER LLC

15. Use a feeler gage (1) to measure the clearance between the small clutch (3) and the large clutch (2). Make

a note of the measurement.

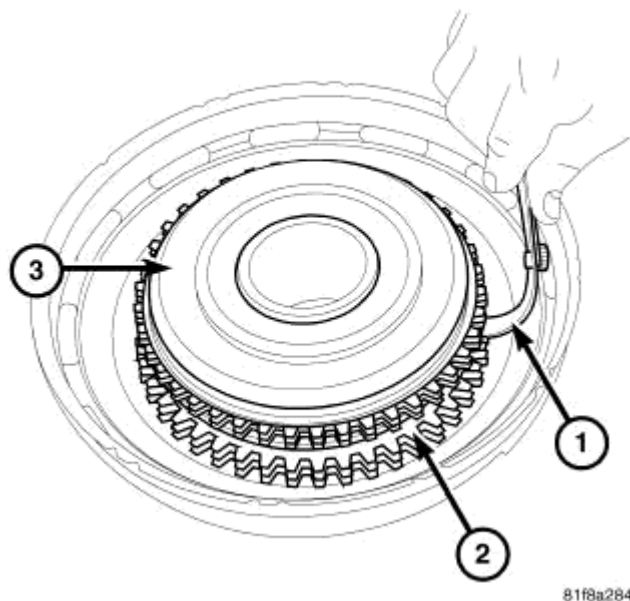


Fig. 234: Measuring Clearance Between Large Clutch & Clutch Housing
Courtesy of CHRYSLER LLC

16. Use a feeler gage (1) to measure the clearance between the large clutch (2) and the clutch housing. The total measurement of the clearance between the small clutch and the large clutch, and the clearance between the large clutch and the clutch housing should be 2.1 mm +/- 0.3 mm (.08 in +/- .01 in).

INSTALLATION

INSTALLATION

NOTE: If transaxle assembly or Transaxle Control Module (TCM) is being overhauled or replaced, it is necessary to perform the TCM/PCM Quick Learn Procedure. Refer to Electrical/Electronic Control Modules/MODULE, Powertrain Control - Standard Procedure .

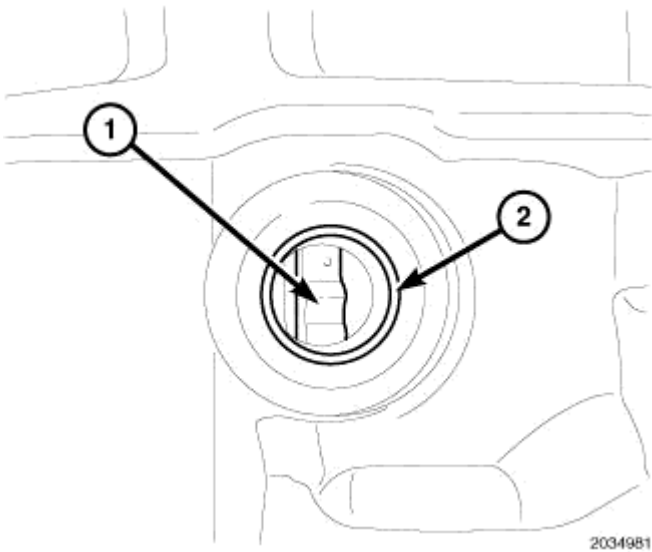


Fig. 235: NOTCH CENTERED IN DENTED HOLE

Courtesy of CHRYSLER LLC

1. Remove all four detents and verify the transaxle is in neutral. The notch (1) in each shift fork must be centered in the detent hole (2).

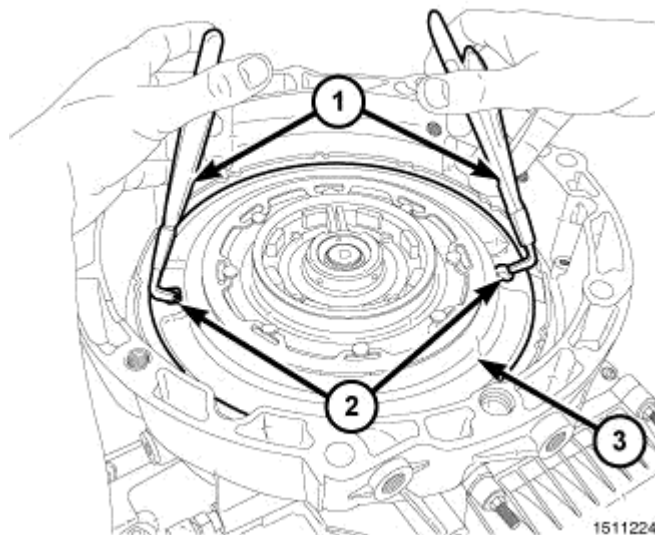


Fig. 236: ANGLING SNAP PLIERS IN THE OPENINGS OF THE DOUBLE CLUTCH ASSEMBLY

Courtesy of CHRYSLER LLC

NOTE: Angled snap pliers (1) or brake spring tools can be used in the openings (2) to position the double clutch assembly (3) during installation.

2. Install the double clutch assembly (3).

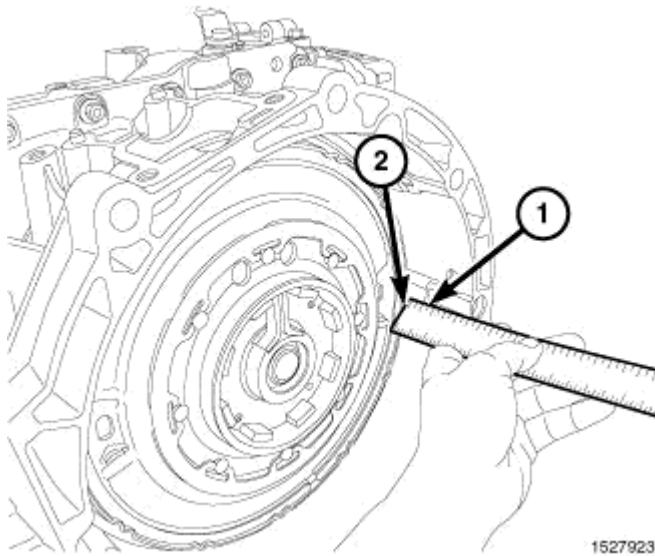


Fig. 237: Verifying Clutch Assembly Is Fully Seated
Courtesy of CHRYSLER LLC

3. Verify the clutch assembly is fully seated. The installed depth of the double clutch assembly between the edge of the assembly (2) and the notch in the clutch housing should be approximately 14 mm (0.55 in.).

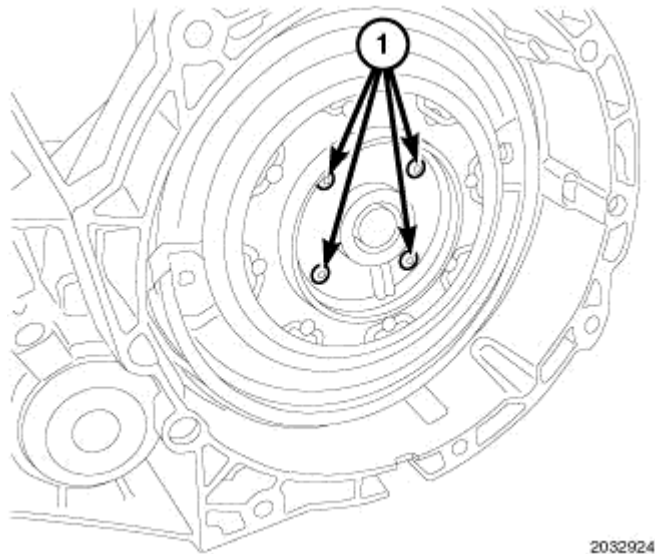


Fig. 238: CLUTCH HUB NUTS
Courtesy of CHRYSLER LLC

NOTE: The transaxle must be positioned as it would be when installed in the vehicle prior to installation of the clutch hub nut.

4. Position the transaxle so that it is on its side or as it would be positioned when installed in the vehicle.

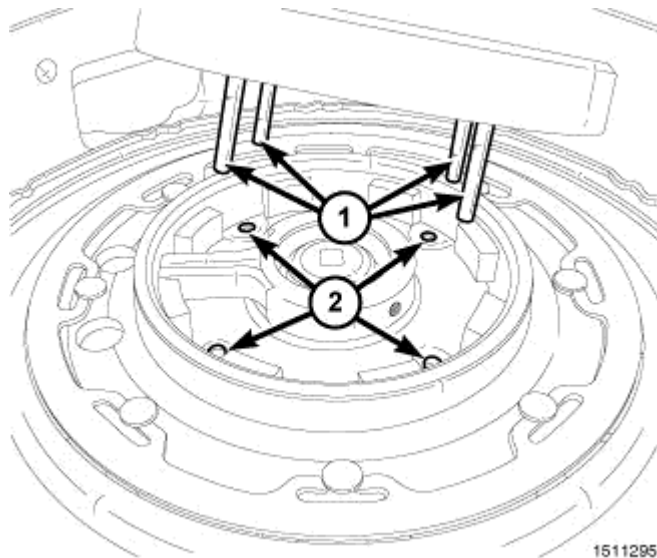


Fig. 239: ALIGNING LEGS OF CLUTCH TOOL 10164 WITH HOLES IN CLUTCH HUB
Courtesy of CHRYSLER LLC

5. Align the legs (1) of the Clutch Tool 10164 with the holes in the clutch hub (2).

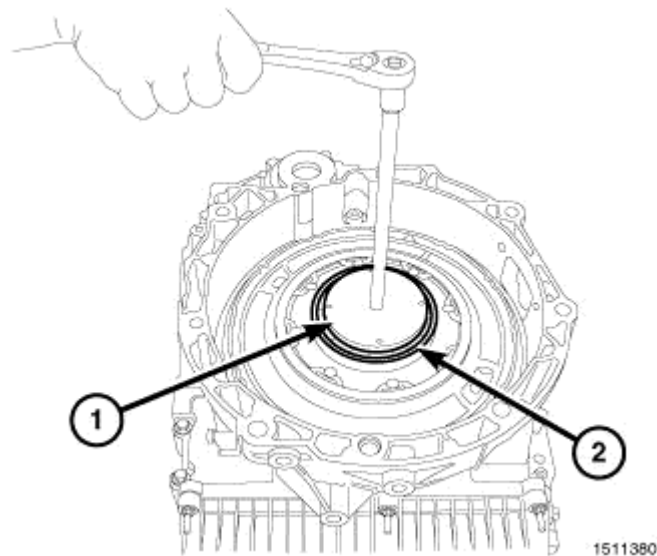
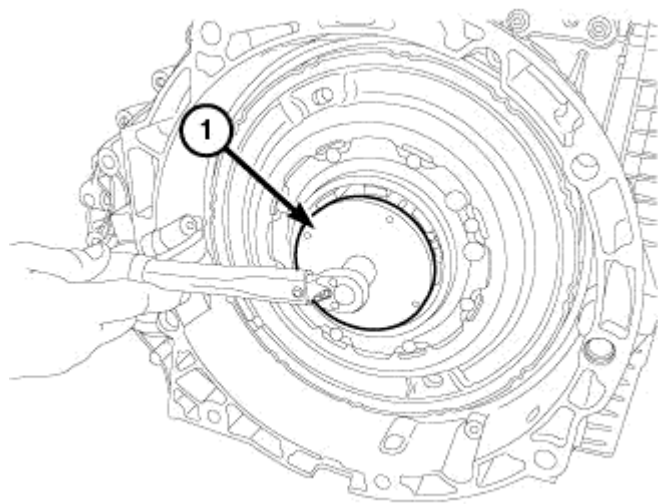


Fig. 240: CLUTCH TOOL 10164
Courtesy of CHRYSLER LLC

NOTE: It might be necessary to rotate the double clutch assembly so that the prongs on the 10164 Clutch Tool (1) can be pressed completely down to engage the tabs on the clutch hub nut.

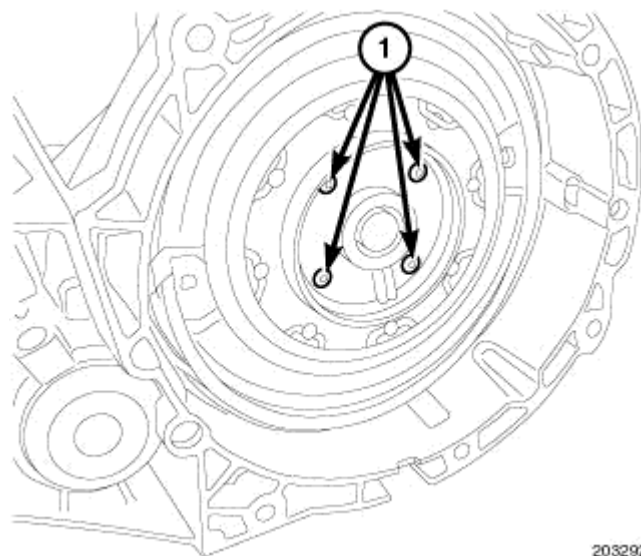
6. Verify the Clutch Tool 10164 (1) is completely engaged with the tabs on the clutch hub nut.



1528172

Fig. 241: Turning Clutch Tool Clockwise To Tighten Clutch Hub/Washer
Courtesy of CHRYSLER LLC

7. Use the Clutch Tool 10164 (1) turning clockwise to tighten the clutch hub nut/washer 7 Nm (62 in. lbs.).



2032924

Fig. 242: CLUTCH HUB NUTS
Courtesy of CHRYSLER LLC

8. Apply high temp silicone grease to the new four plugs (1) for the holes in the clutch hub and install the plugs.
9. Apply high temp silicone grease to the splines the clutch hub.

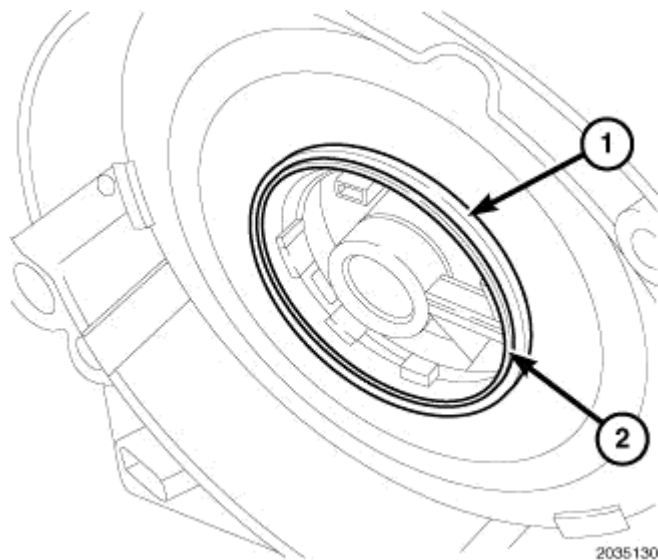


Fig. 243: CLUTCH HUB AND SEAL
Courtesy of CHRYSLER LLC

NOTE: Do not reuse the original front cover.

NOTE: Apply BOT 41 transmission oil to the seals on the new front cover.

NOTE: Do not roll the clutch hub seal (1).

10. Install a new front cover. Verify the clutch hub seal (1) in the front cover is not rolled over the clutch hub (2). If necessary, use a plastic trim tool to carefully walk the clutch hub seal around the clutch hub.

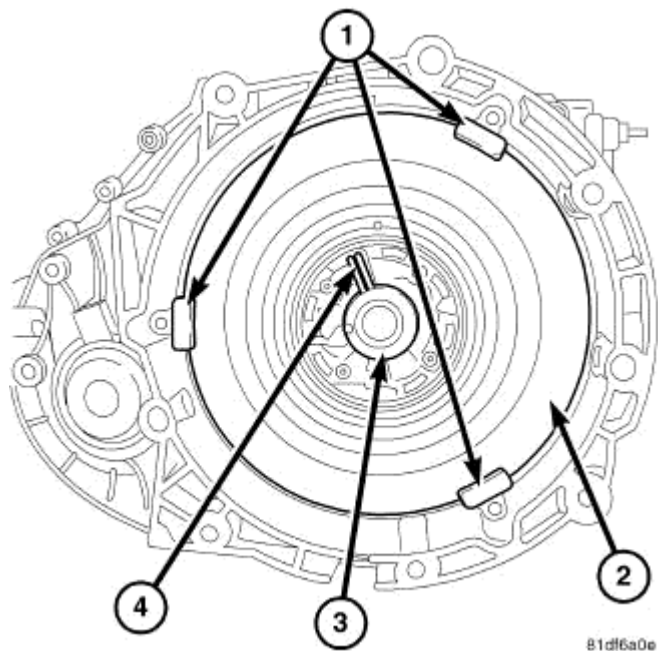
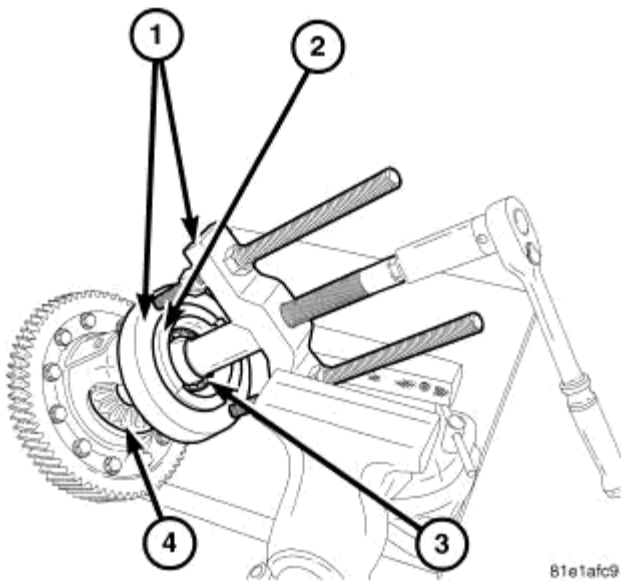


Fig. 244: RETAINING CLIPS

Courtesy of CHRYSLER LLC

NOTE: Do not reuse the original fasteners.

11. Install the retaining clips (1) that secure the new front cover (2) and tighten the new fasteners to 10 N.m (88 in. lbs.).
12. Install the transaxle. See **Installation** .

DIFFERENTIAL, TRANSAXLE**DISASSEMBLY****DISASSEMBLY****Fig. 245: REMOVE PINION SIDE BEARING**

Courtesy of CHRYSLER LLC

1. Using Bearing Remover C-293-PA (1), Plug SP-3289 (3) and Collets 8353-1 (2) remove the pinion side differential bearing.

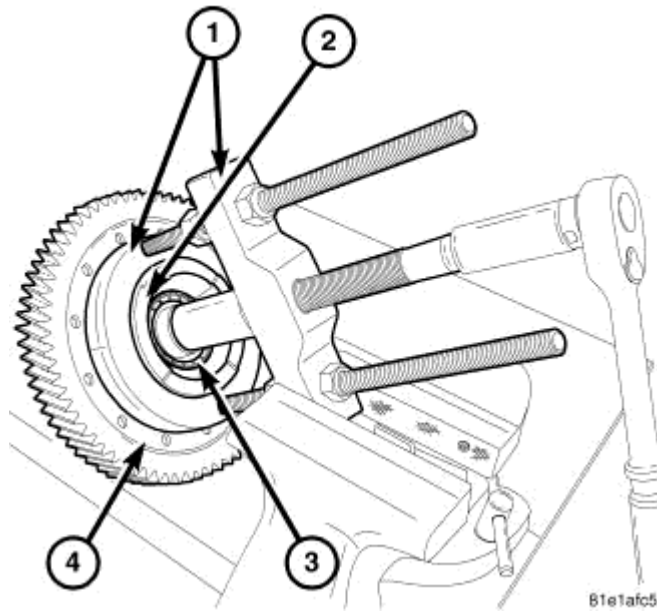


Fig. 246: REMOVE RING GEAR SIDE BEARING
Courtesy of CHRYSLER LLC

2. Using Bearing Remover C-293-PA (1), Plug SP-3289 (3) and Collets 8353-1 (2) remove the ring gear side differential bearing.
3. Remove the ring gear bolts.
4. Remove the ring gear.

ASSEMBLY

ASSEMBLY

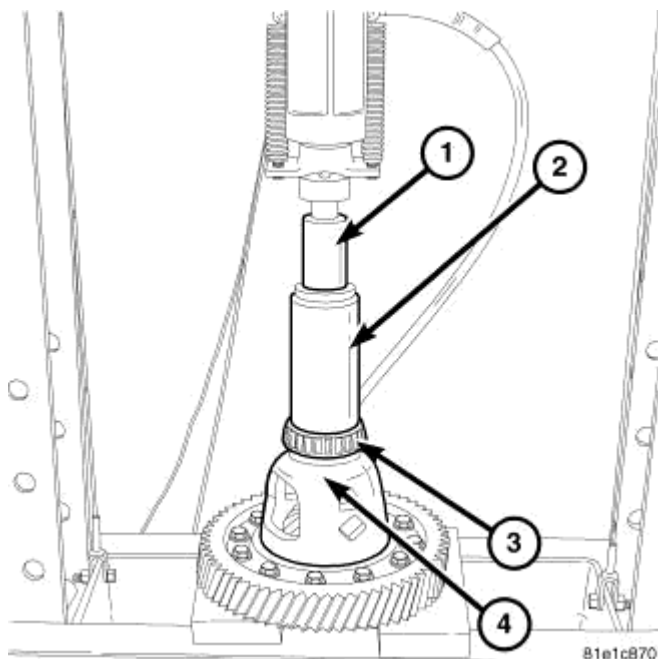


Fig. 247: Install Differential Bearing
Courtesy of CHRYSLER LLC

1. Install a **new** pinion side differential bearing using a Press (1) and Installer 8445-1 (2).
2. Install a **new** ring gear side differential bearing using a Press (1) and Installer 8445-1 (2).
3. Install the ring gear.
4. Install **new** ring gear bolts (1) and tighten to 83 N.m (61 ft. lbs.).

FLUID

STANDARD PROCEDURE

FLUID LEVEL AND CONDITION CHECK

FLUID LEVEL CHECK

WARNING: There is a risk of accident from vehicle starting off by itself when engine is running. There is a risk of injury from contusions and burns if you insert your hands into the engine when it is started or when it is running. Secure vehicle to prevent it from moving off by itself. Wear properly fastened and close-fitting work clothes. Do not touch hot or rotating parts.

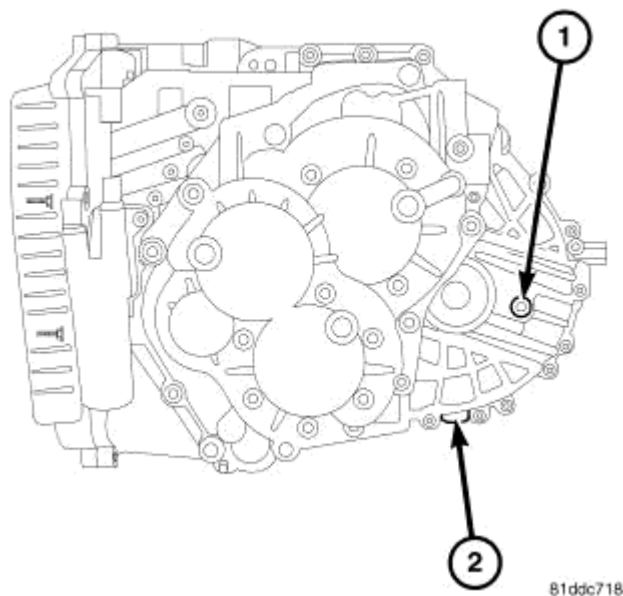


Fig. 248: DRAIN AND FILL PLUGS

Courtesy of CHRYSLER LLC

1. With the vehicle in neutral, position the vehicle on a hoist.
2. If equipped, remove the engine belly pan.
3. Start the vehicle and allow the engine to reach normal operating temperature. If the engine and transmission are cold, this may take up to 15 minutes.
4. Apply the brake and slowly cycle the gear shift through all ranges.
5. Shut off the engine, raise the vehicle and remove the transaxle fluid level check plug (1).
6. Verify the oil level is at the bottom of the transaxle check hole.
7. If the oil level is below the bottom of the fluid level check plug hole, add fluid. Refer to **Transmission and Transfer Case/Manual/FLUID - Standard Procedure** .

FLUID CONDITION CHECK

Along with fluid level, it is important to check the condition of the fluid. If the fluid is contaminated with metal or friction material particles, or has been burnt due to abuse or a mechanical problem, a complete transaxle recondition is probably required. If there is any question about the condition of the transmission fluid, drain out a sample to inspect for contamination. **Odor and color alone cannot be used to indicate the fluid condition or the need for a fluid change.**

DRAINING AND FILLING

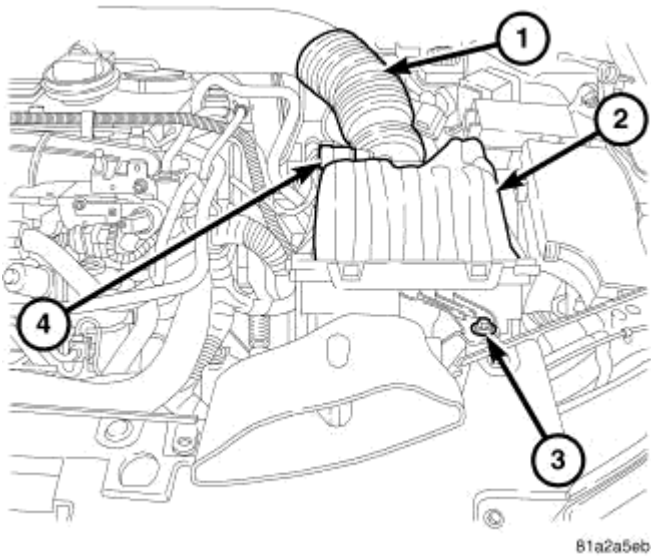


Fig. 249: AIR CLEANER HOUSING
Courtesy of CHRYSLER LLC

1. Remove the hold down screw (3) from the air cleaner housing (2).
2. Pull air cleaner housing straight up and set aside to gain access to the transmission oil filling bore.
3. With the vehicle in neutral, hoist and support the vehicle.
4. If equipped, remove the engine belly pan.

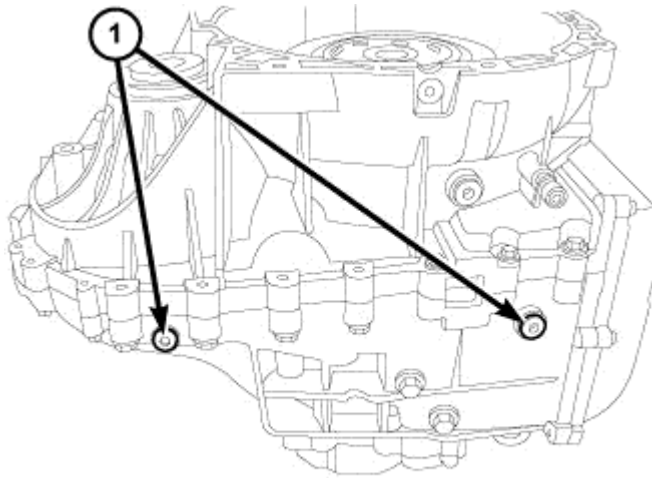


Fig. 250: DRAIN PLUGS
Courtesy of CHRYSLER LLC

5. The transaxle drain plugs (1) are located on the bottom of the transaxle differential housing. Remove all three drain plugs and allow the fluid to completely drain out of the transmission.
6. Install the drain plugs (1). Tighten drain plugs to 35 N.m (25 ft. lbs.).

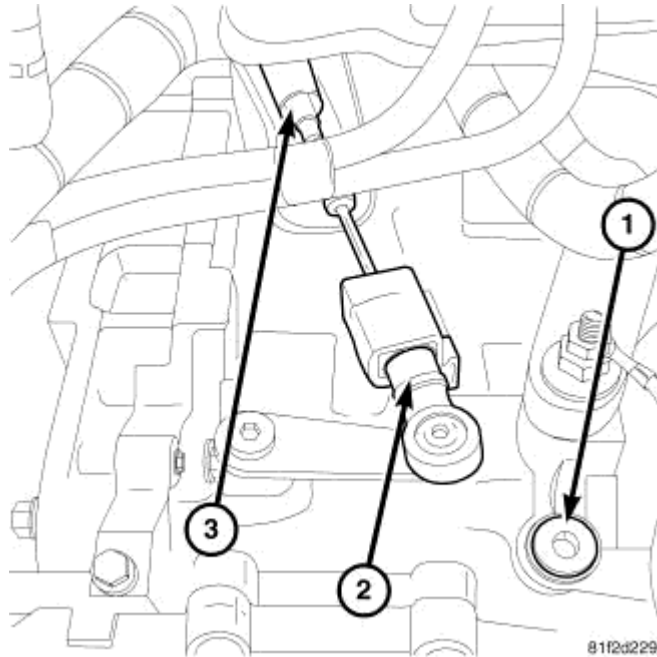


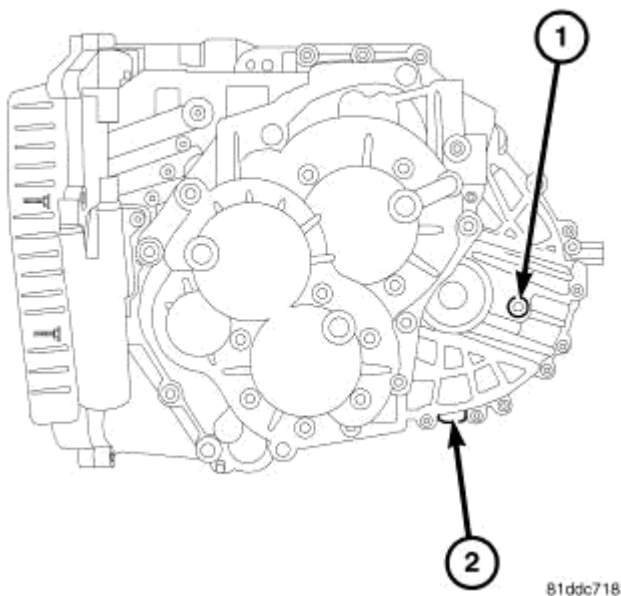
Fig. 251: FILL PLUG

Courtesy of CHRYSLER LLC

7. Lower the vehicle.
8. Remove the transaxle fill plug (1) located on the top of the transaxle.

NOTE: Use only BOT 341 fluid which is a full synthetic SAE 75W transmission fluid.

9. Add approximately 5.5 Liters of BOT 341 fluid and temporarily install the transaxle fill plug.
10. Start the vehicle and allow the engine to reach normal operating temperature. If the engine and transmission are cold, this may take up to 15 minutes.
11. Apply the brake, and slowly cycle the gear shift through all ranges.

**Fig. 252: DRAIN AND FILL PLUGS****Courtesy of CHRYSLER LLC**

12. Shut off the engine, raise and support the vehicle and remove the transaxle fluid level check plug (1).
13. The fluid level should be at the top of the transaxle check hole (1) approximately 5.5 Liters. The vehicle must be level and the engine and transaxle must be warm when checking the level of the fluid. If the external transmission oil filter has been replaced, then an additional 0.1 Liter of BOT 341 fluid may be required. If the transaxle cooler and lines are empty, approximately 0.52 Liters of fluid may be required
14. When the fluid is at the correct level transmission oil will start to drain out through the oil level check bore (1), install the transaxle fluid level check plug. Tighten the check plug (1) to 35 N.m (25 ft. lbs.).
15. If equipped, install the engine belly pan.

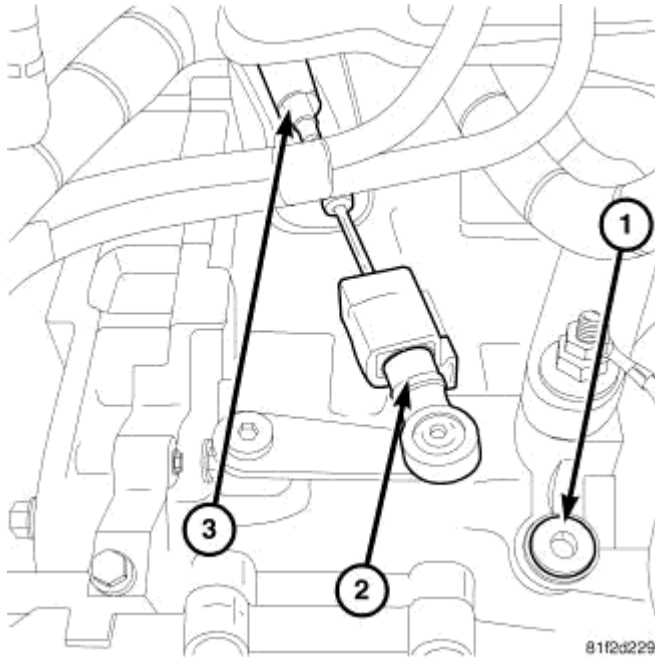


Fig. 253: FILL PLUG

Courtesy of CHRYSLER LLC

16. Lower the vehicle.
17. Install the transaxle fill plug (1) on the top of the transaxle. Tighten fill plug (1) to 35 N.m (25 ft. lbs.).

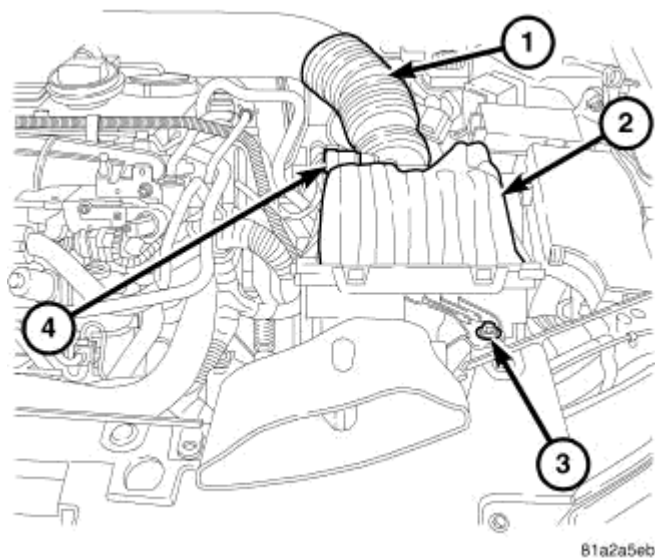


Fig. 254: AIR CLEANER HOUSING

Courtesy of CHRYSLER LLC

18. Lower air cleaner housing assembly into engine compartment and align studs at bottom of housing with bracket. Push housing assembly (2) down until fully seated in bracket.
19. Install hold down screw (3) and tighten.

INPUT SHAFT, TRANSMISSION

DISASSEMBLY

DISASSEMBLY

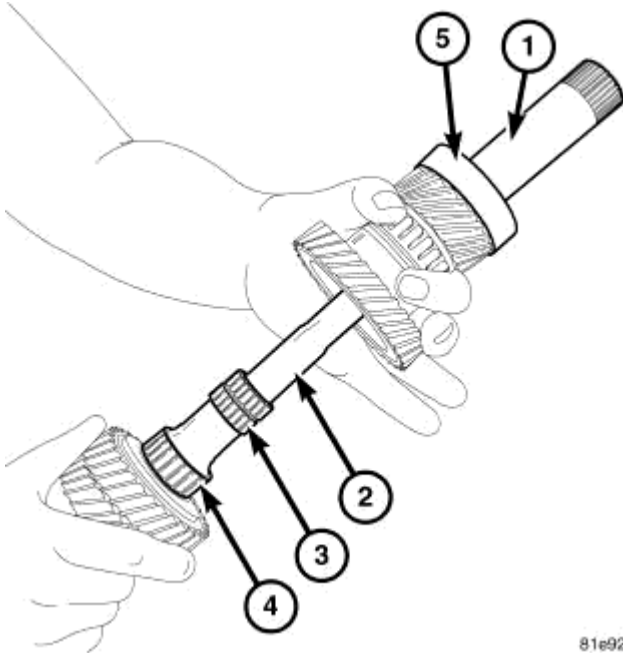
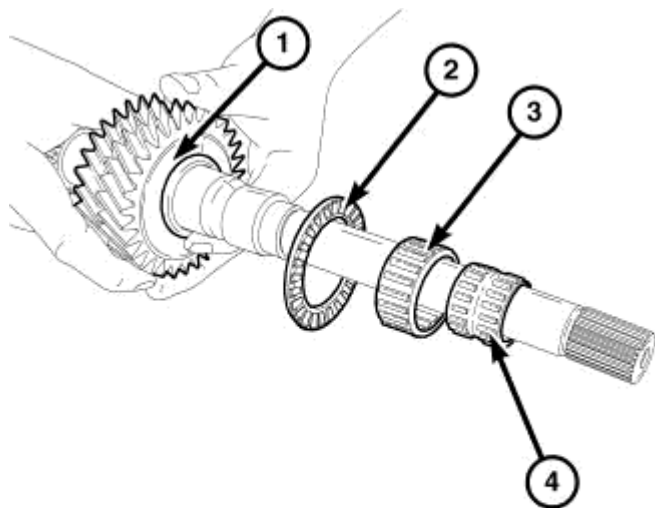


Fig. 255: Removing/Installing Input Shaft 2/4/6 At Input Shaft 1/3/5R
Courtesy of CHRYSLER LLC

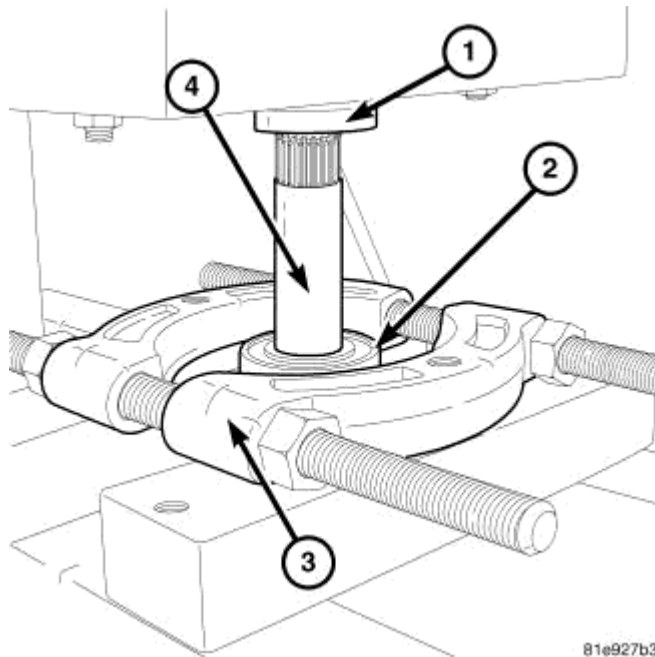
1. Separate the 2/4/6 shaft (1) from the 1/3/5/R shaft (2).



81e923f8

Fig. 256: Removing/Installing Bearings At 1/3/5 Input Shaft
Courtesy of CHRYSLER LLC

2. Remove the bearings (2, 3 and 4) from the 1/3/5/R shaft (1).



81e927b3

Fig. 257: Removing Bearing From 2/4/6 Input Shaft
Courtesy of CHRYSLER LLC

3. Using a Press (1) and the 1130 Bearing Splitter (3) remove the bearing (2) from the input shaft (4).

ASSEMBLY

ASSEMBLY

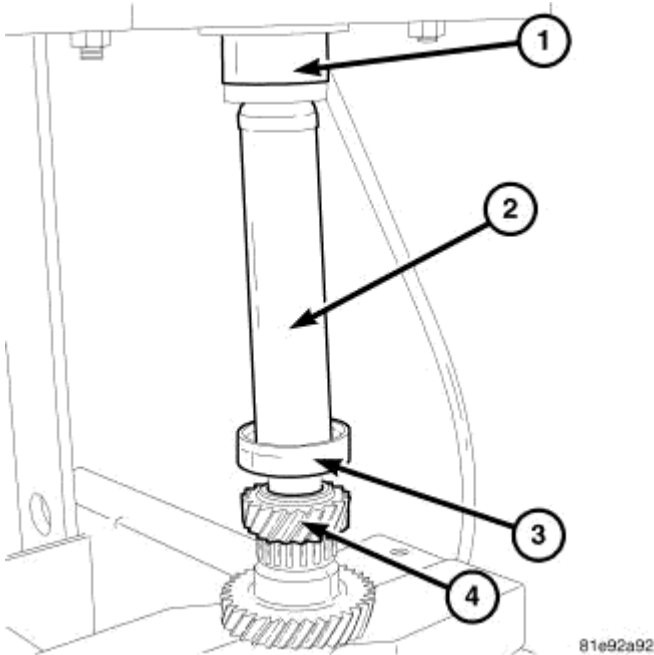


Fig. 258: Installing Bearing On 2/4/6 Input Shaft
Courtesy of CHRYSLER LLC

1. Using a Press (1) and Bearing Installer W-262 (2) install a **new** bearing (3) onto the 2/4/6 input shaft (4).

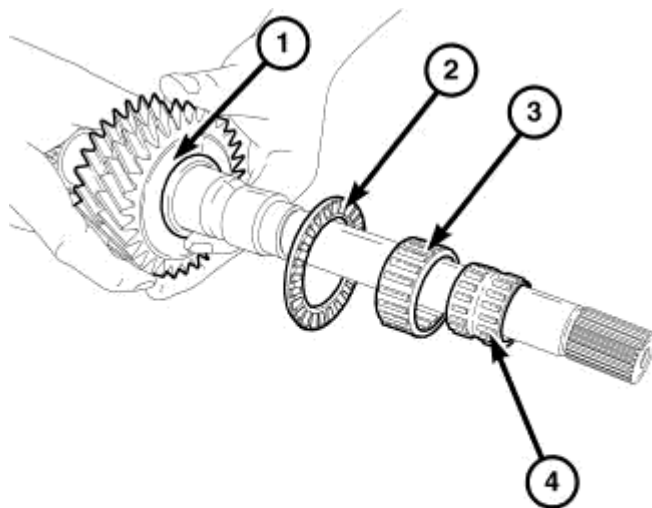


Fig. 259: Removing/Installing Bearings On 1/3/5/R Input Shaft

Courtesy of CHRYSLER LLC

2. Install **new** bearings (2, 3 and 4) onto the 1/3/5/R input shaft (1).

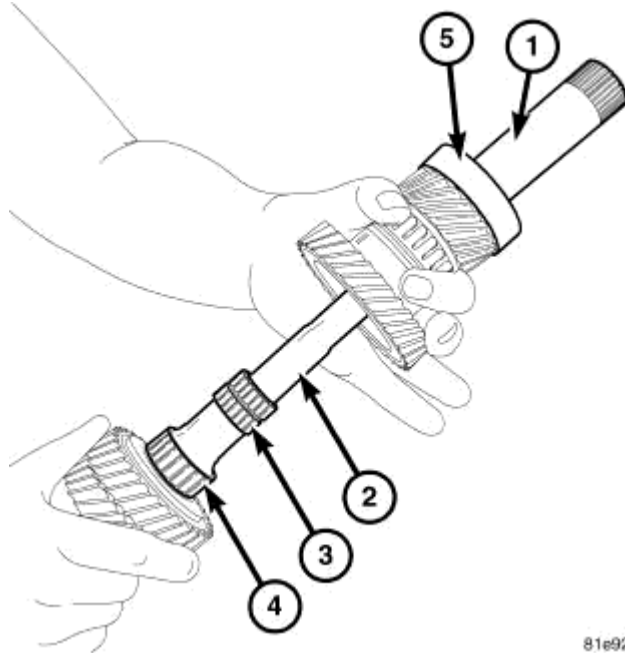


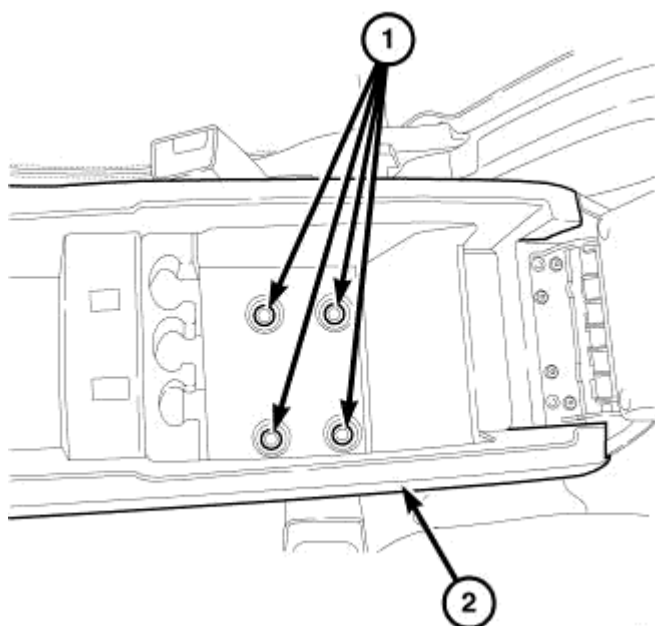
Fig. 260: Removing/Installing Input Shaft 2/4/6 At Input Shaft 1/3/5R
Courtesy of CHRYSLER LLC

3. Install input shaft 2/4/6 (1) onto input shaft 1/3/5R (2).

MECHANISM, GEARSHIFT

REMOVAL

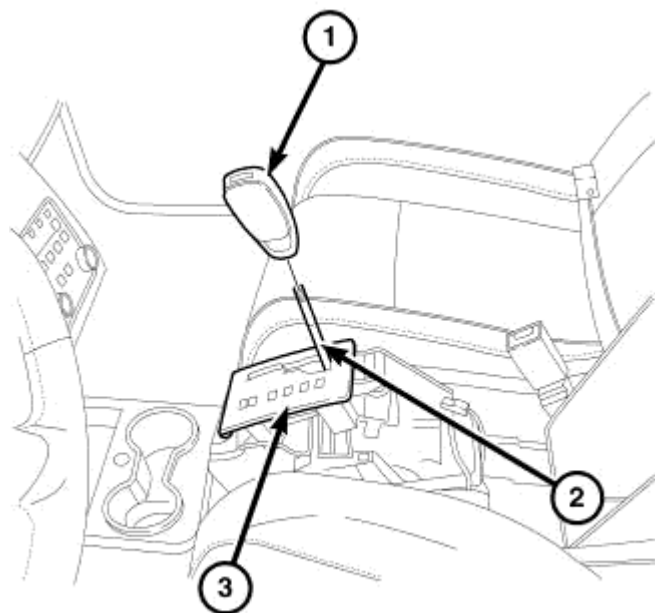
REMOVAL



81d368f0

Fig. 261: CENTER CONSOLE
Courtesy of CHRYSLER LLC

1. Disconnect battery negative cable.
2. Remove the center console.

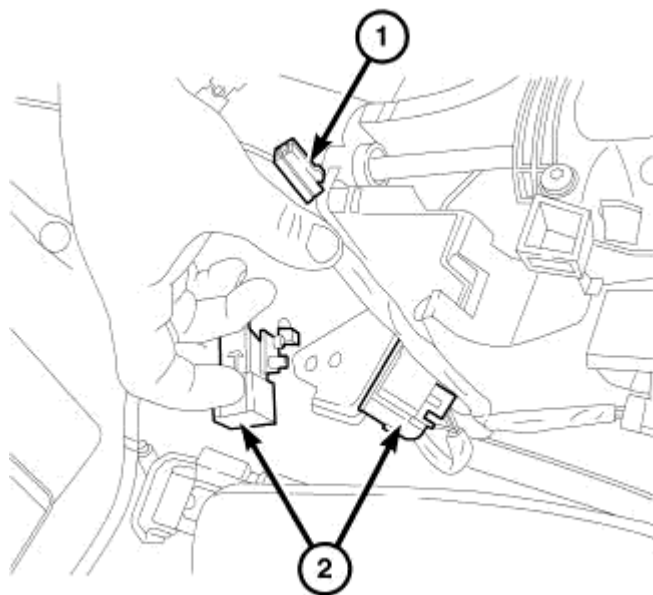


81d36998

Fig. 262: Shift Knob
Courtesy of CHRYSLER LLC

3. Disconnect harness connector (1).

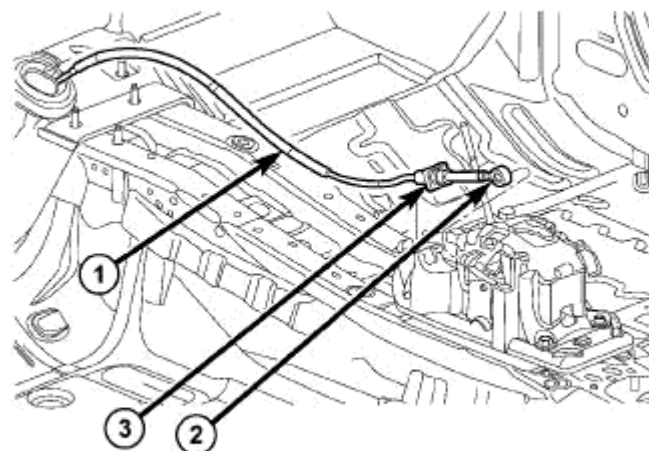
4. Remove the shift knob by pulling up on the knob.



81d36a09

Fig. 263: ELECTRICAL CONNECTORS
Courtesy of CHRYSLER LLC

5. Remove the electrical connectors (1, 2) at the shifter.



81a380a3

Fig. 264: SHIFT CABLE AT SHIFTER
Courtesy of CHRYSLER LLC

6. Disconnect and remove gearshift cable (2, 3) from shift mechanism.

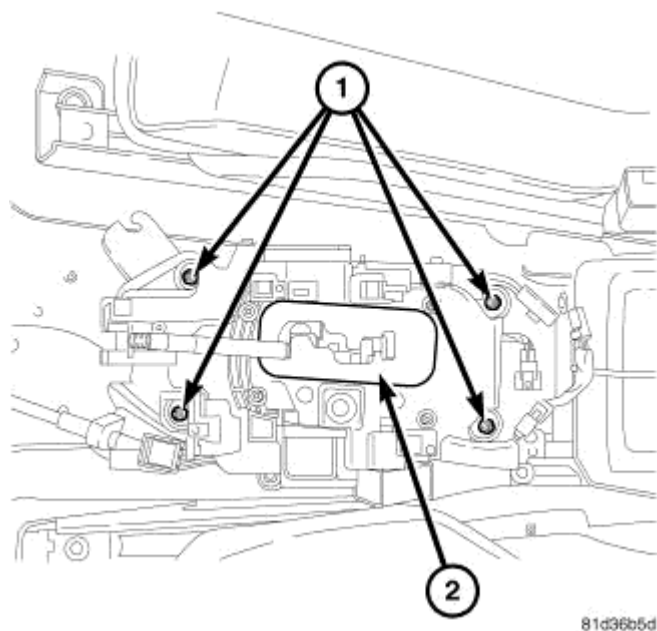


Fig. 265: SHIFT MECHANISM-TO-LOWER CONSOLE NUTS

Courtesy of CHRYSLER LLC

7. Remove four shift mechanism-to-lower console nuts (1). Remove shift mechanism (2).

INSTALLATION

INSTALLATION

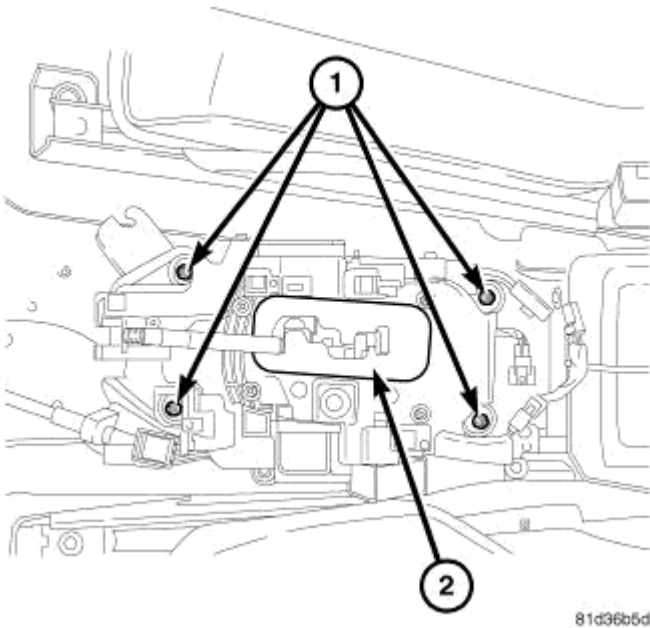


Fig. 266: SHIFT MECHANISM-TO-LOWER CONSOLE NUTS
Courtesy of CHRYSLER LLC

1. Install shifter to studs.
2. Install and tighten the shift mechanism-to-lower console nuts (1) to 8 N.m (71 in. lbs.).

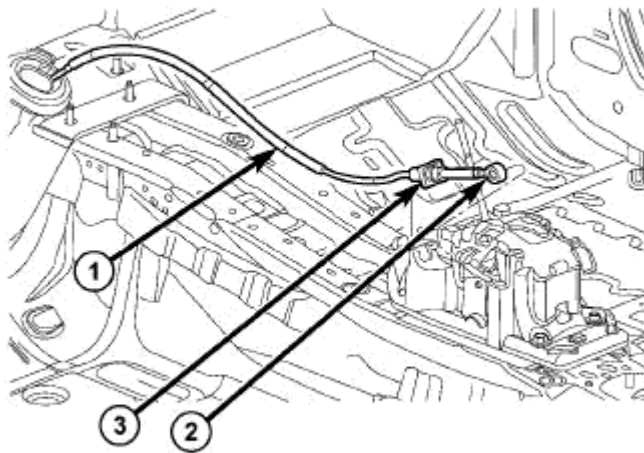
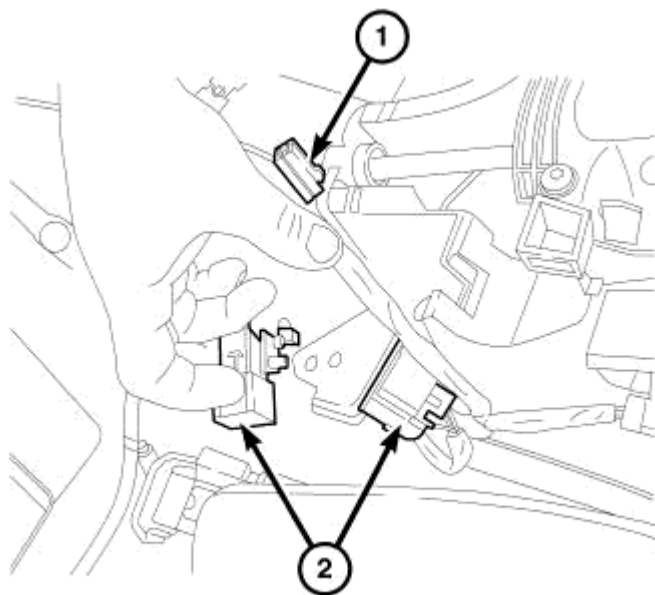


Fig. 267: SHIFT CABLE AT SHIFTER
Courtesy of CHRYSLER LLC

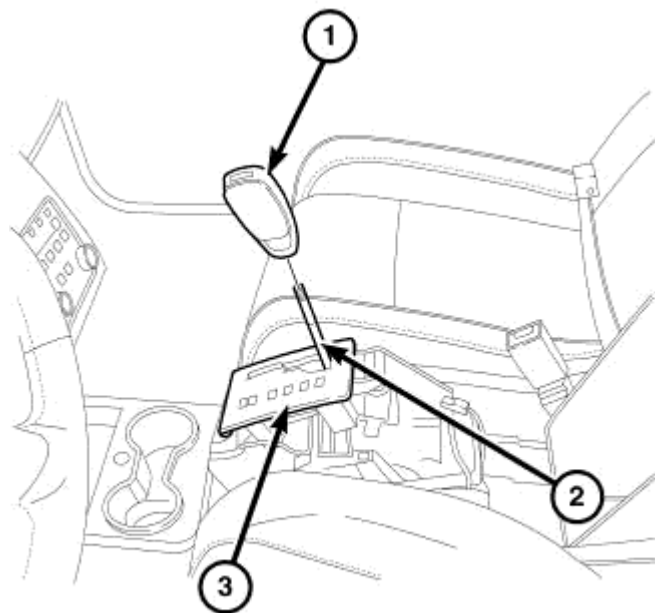
3. Install gearshift cable (2, 3) to shift mechanism.



81d36a09

Fig. 268: ELECTRICAL CONNECTORS
Courtesy of CHRYSLER LLC

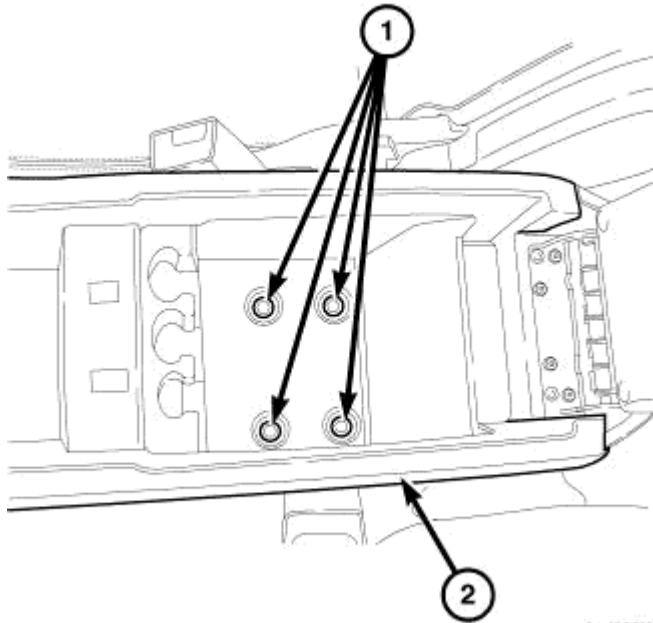
4. Connect the harness connectors (1, 2).



81d36998

Fig. 269: Shift Knob
Courtesy of CHRYSLER LLC

5. Install the shift knob (1).
6. Verify the shifter and transaxle are both in Park.
7. Loosen the cable adjust bolt, then tighten the bolt to 6 Nm (40 in. lb.).



81d368f0

Fig. 270: CENTER CONSOLE
Courtesy of CHRYSLER LLC

8. Install the center console.
9. Connect battery negative cable.

SEAL, AXLE DRIVE SHAFT

REMOVAL

REMOVAL

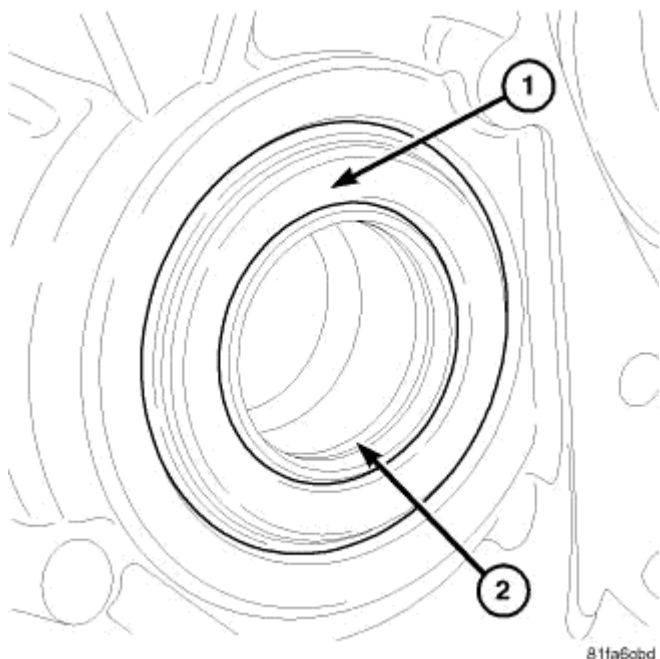


Fig. 271: SEAL DUST COVER(S)

Courtesy of CHRYSLER LLC

1. Remove the halfshafts. Refer to **Differential and Driveline/Half Shaft - Removal** .
2. Remove the right or left axle seal dust cover(s) (1).

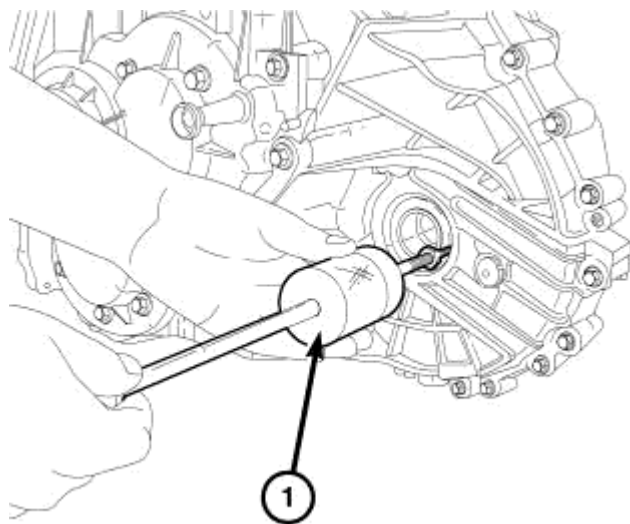


Fig. 272: SLIDE HAMMER

Courtesy of CHRYSLER LLC

3. Remove the axle seal(s) by using a screw-type seal puller bit on a slide hammer (1).

INSTALLATION

INSTALLATION

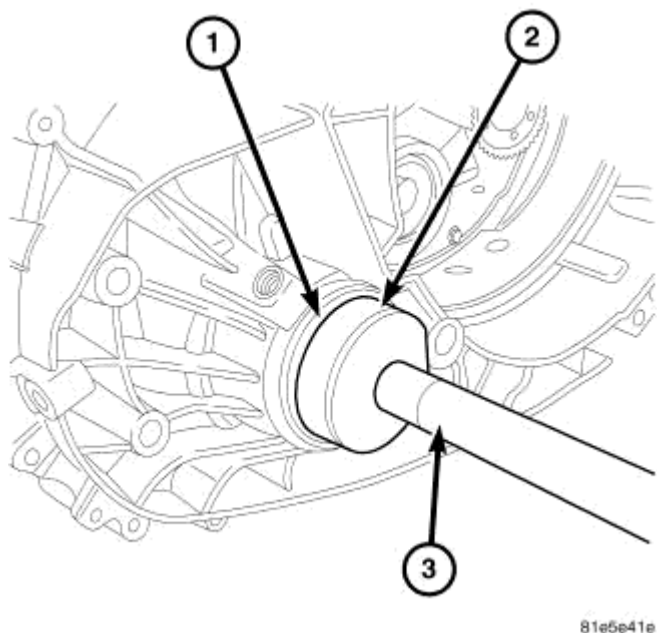


Fig. 273: Bellhousing Side Differential Seal
Courtesy of CHRYSLER LLC

1. Using Installer 10124 (2) and Handle C- 4171 (3) install the bellhousing side differential seal (1).
2. Using the flat side of Installer 10124 (2) and Handle C- 4171 (3), install the side seal dirt cover.

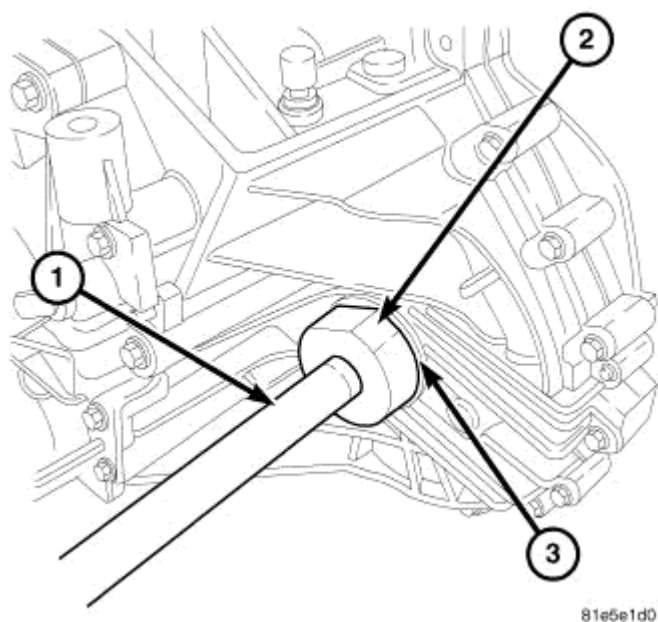


Fig. 274: Case Side Differential Seal
Courtesy of CHRYSLER LLC

3. Using Installer 10124 (2) and Handle C- 4171 (1) install the differential seal (1) to the bearing cover side of the differential housing.

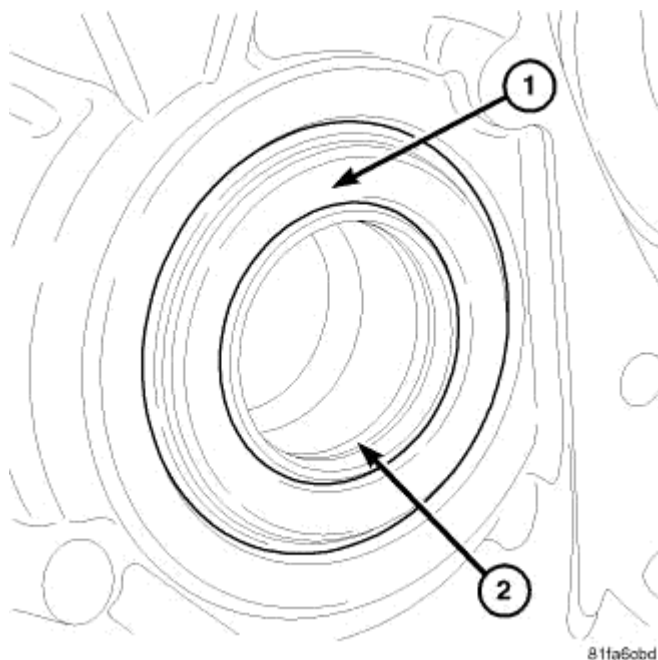


Fig. 275: SEAL DUST COVER(S)
Courtesy of CHRYSLER LLC

4. Position the axle seal dust cover(s) (1) to both sides of the differential housing.
5. Using the flat side of Installer 10124 (2) and Handle C- 4171 (3), tap the side seal dirt cover into the seal bore.

SHAFT, OUTPUT, 1ST TO 4TH

DISASSEMBLY

DISASSEMBLY

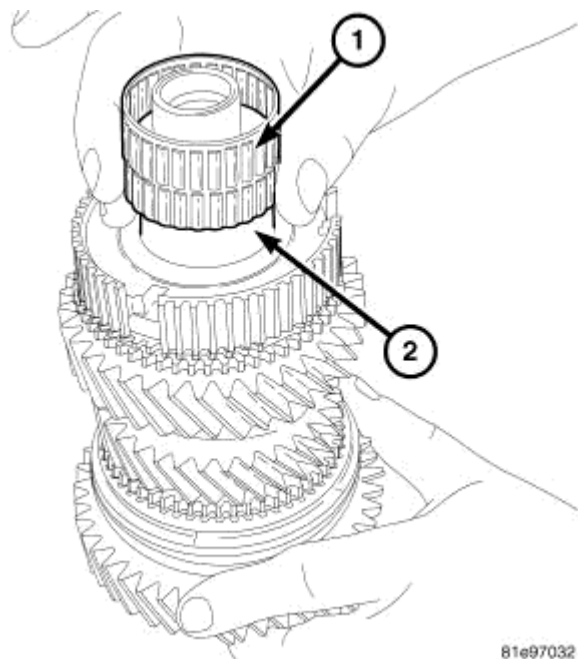


Fig. 276: 1st Gear Needle Bearing At Output Shaft
Courtesy of CHRYSLER LLC

1. Remove the needle bearing (1) from the output shaft (2).

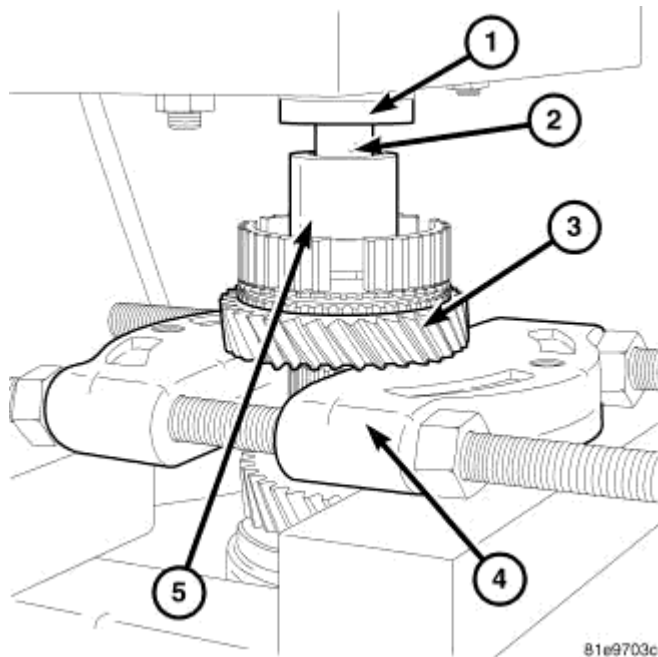


Fig. 277: 3rd Gear And 1/3 Synchronizer At Shaft
Courtesy of CHRYSLER LLC

2. Remove the 1/3 synchronizer and third gear (3) using the 1130 Bearing Splitter (4) , Plug 8923 (2)_ and a press (1).

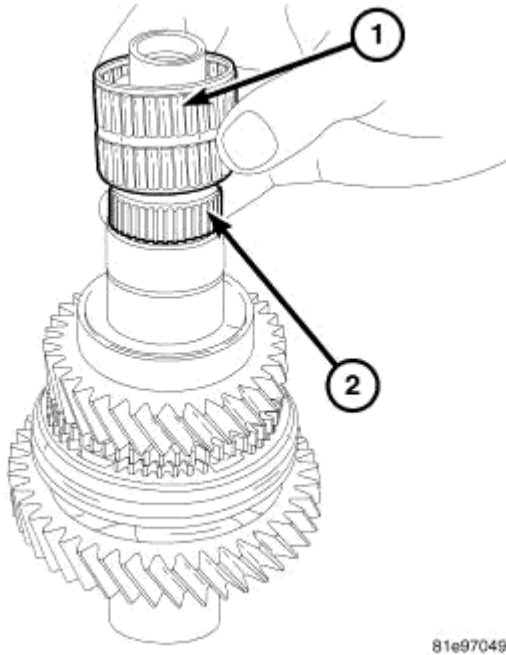


Fig. 278: 3rd Gear Bearing At Output Shaft
Courtesy of CHRYSLER LLC

3. Remove the third gear bearing (1) from the output shaft (2).

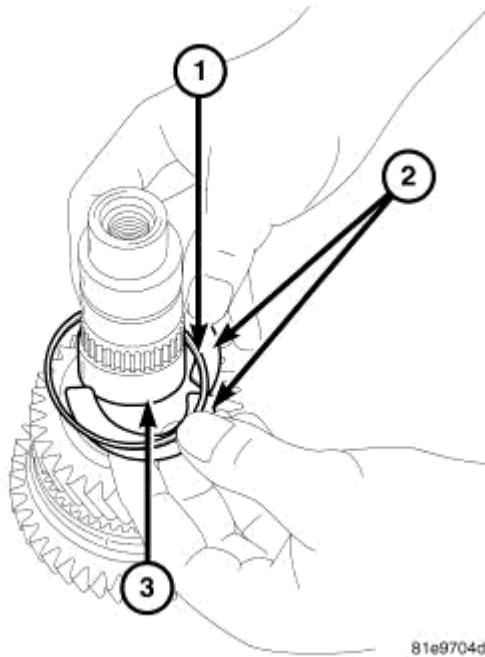


Fig. 279: Split Thrust Washer & Lock Ring At Output Shaft
Courtesy of CHRYSLER LLC

4. Remove the split thrust washers (2) and lock ring (1) from the output shaft.

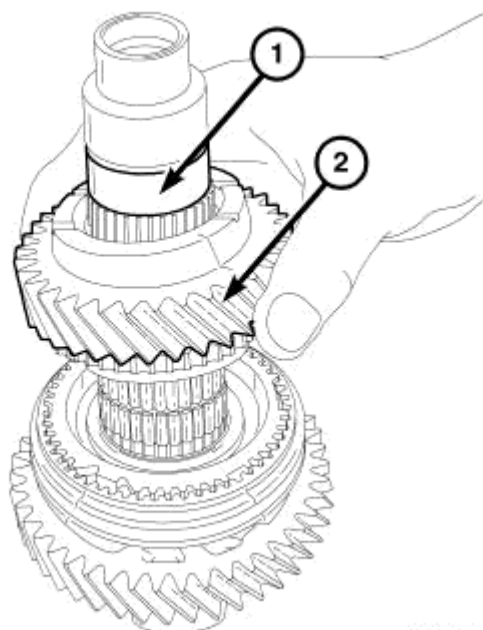


Fig. 280: 4th Gear At Output Shaft
Courtesy of CHRYSLER LLC

5. Remove forth gear (3) from the output shaft (1).

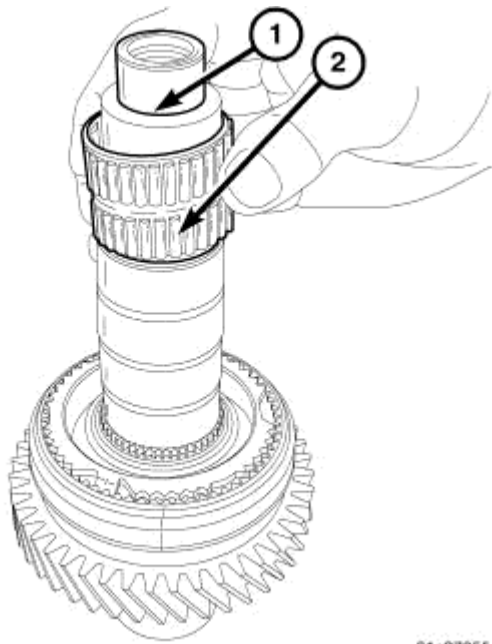


Fig. 281: 4TH GEAR BEARING
Courtesy of CHRYSLER LLC

6. Remove forth gear bearing (2) from the output shaft (1).

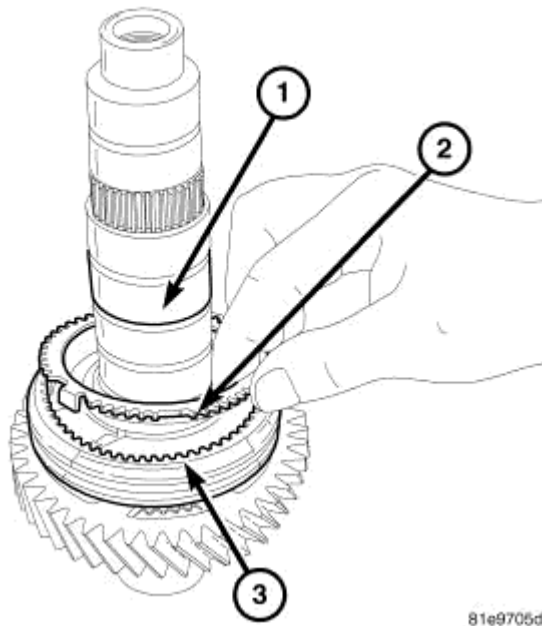


Fig. 282: 4TH GEAR BLOCKER RING
Courtesy of CHRYSLER LLC

7. Remove forth gear blocker ring (2).

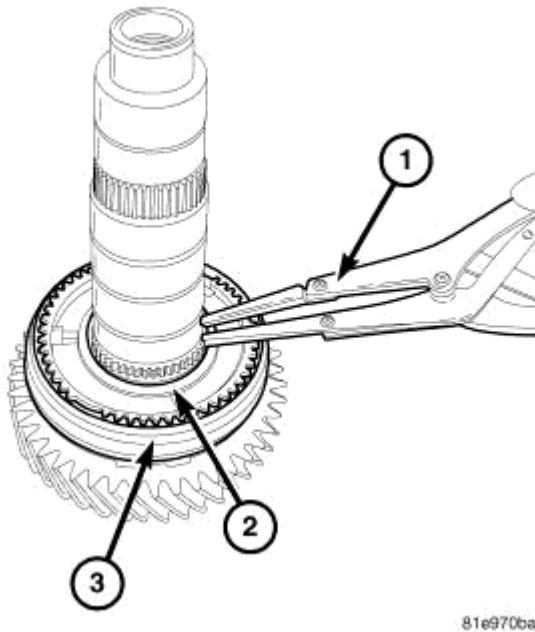
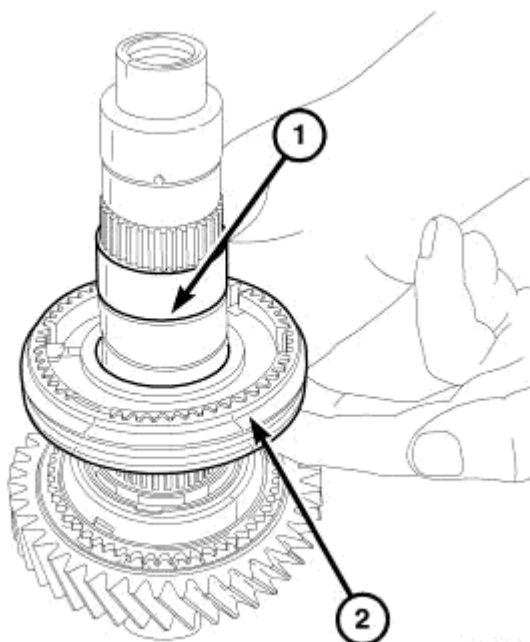


Fig. 283: 2/4 Synchronizer Snap Ring
Courtesy of CHRYSLER LLC

8. Remove the 2/4 synchronizer snap ring (2).

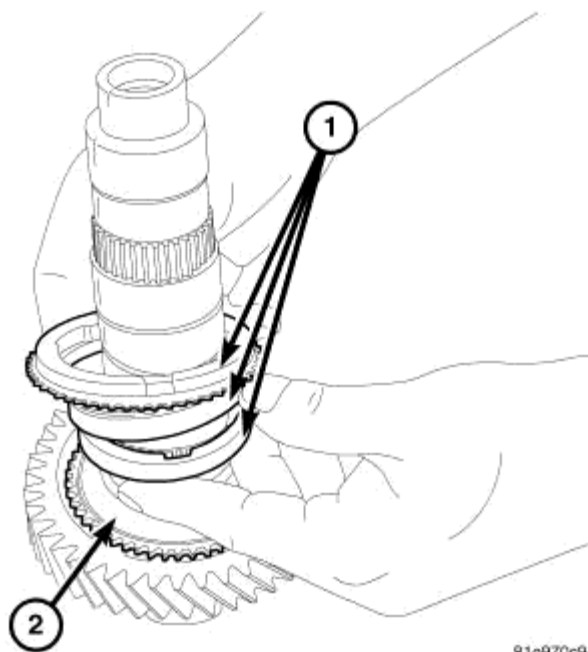


81e970c5

Fig. 284: 2/4 Synchronizer
Courtesy of CHRYSLER LLC

NOTE: Verify location and installation of the pressure pieces before removal.

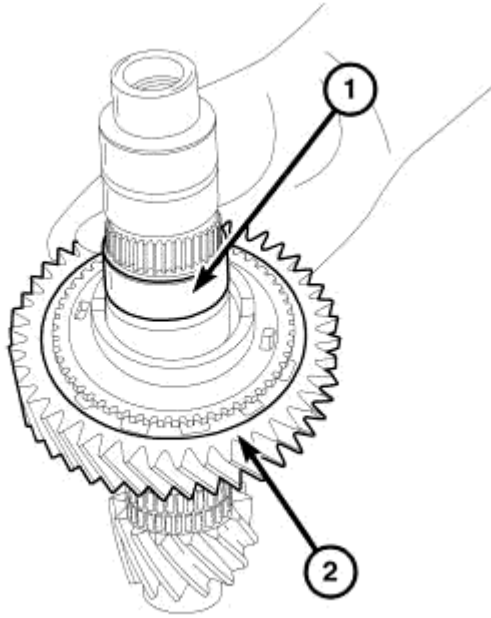
9. Remove the 2/4 synchronizer (2) and the three pressure pieces.



81e970c9

Fig. 285: 2ND GEAR BLOCKER ASSEMBLY
Courtesy of CHRYSLER LLC

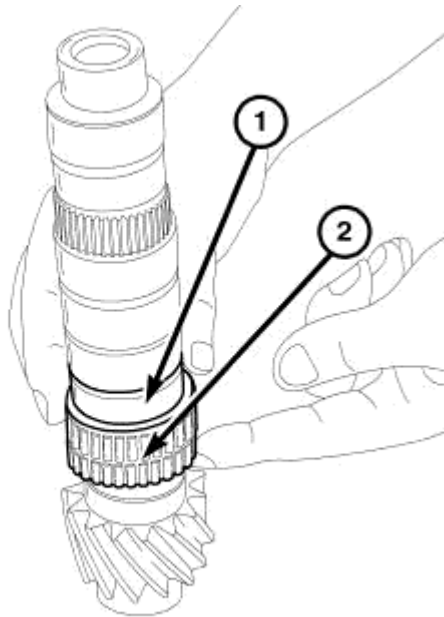
10. Remove the second gear blocker ring assembly (1) from second gear synchronizer (2).



81e970e4

Fig. 286: 2nd Gear At Output Shaft
Courtesy of CHRYSLER LLC

11. Remove second gear (2) from the output shaft (1).



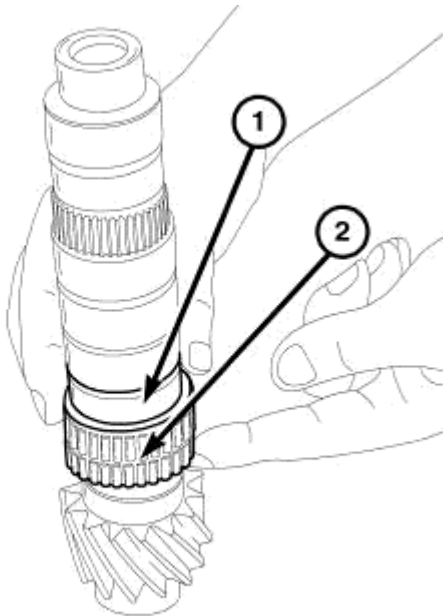
81ea0f52

Fig. 287: 2nd Gear Bearing At Output Shaft
Courtesy of CHRYSLER LLC

12. Remove second gear bearing (2) from the output shaft (1).

ASSEMBLY

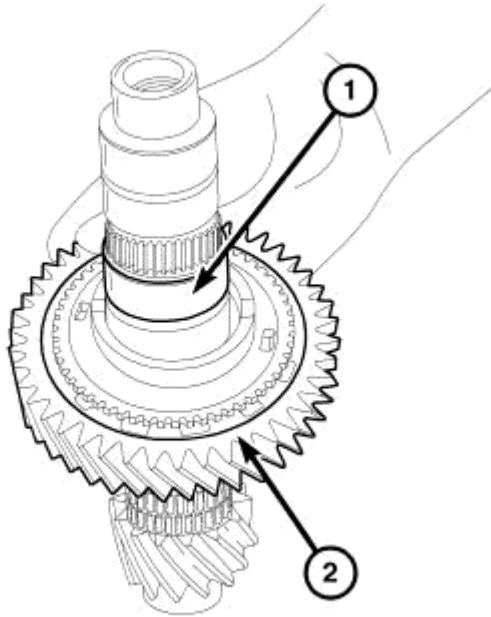
ASSEMBLY



81ea0f52

Fig. 288: 2nd Gear Bearing At Output Shaft
Courtesy of CHRYSLER LLC

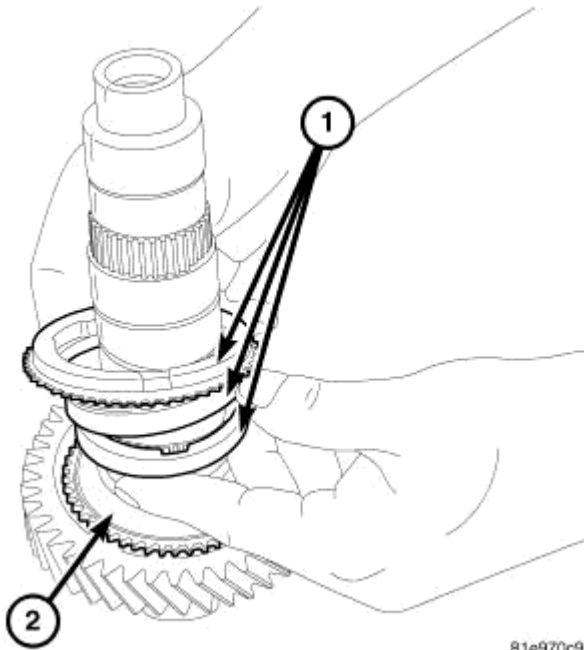
1. Install second gear bearing (2) onto the output shaft (1).



81e970e4

Fig. 289: 2nd Gear At Output Shaft
Courtesy of CHRYSLER LLC

2. Install second gear (2) onto the output shaft (1).



81e970c9

Fig. 290: 2ND GEAR BLOCKER ASSEMBLY
Courtesy of CHRYSLER LLC

3. Install the second gear blocker ring assembly (1) onto the second gear (2).

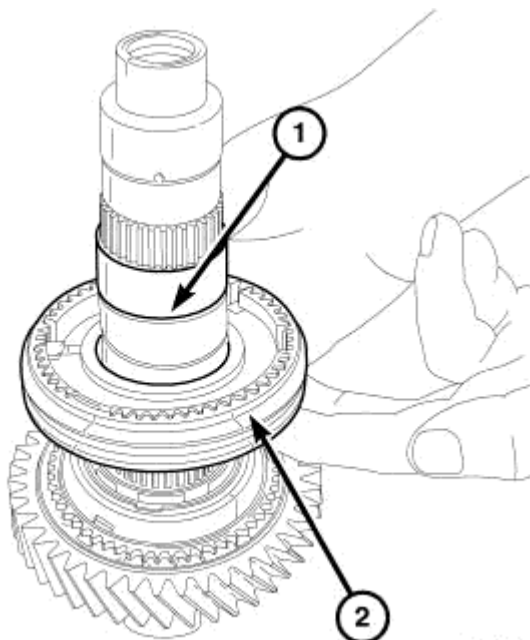


Fig. 291: 2/4 Synchronizer
Courtesy of CHRYSLER LLC

4. Install the 2/4 synchronizer (2) and the 3 pressure pieces.

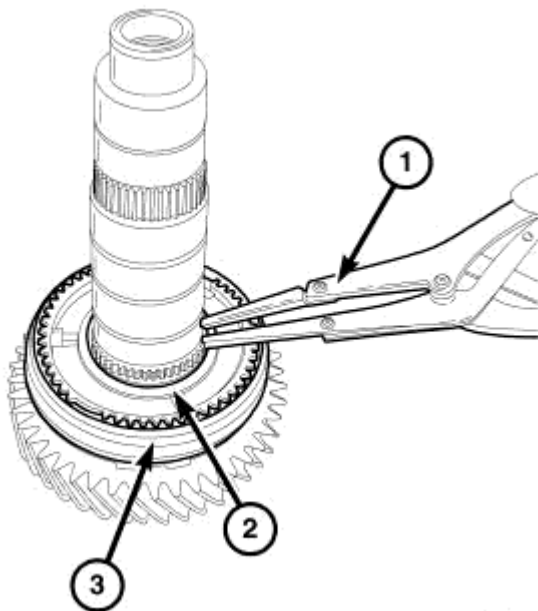


Fig. 292: 2/4 Synchronizer Snap Ring
Courtesy of CHRYSLER LLC

5. Install the 2/4 synchronizer snap ring (2).

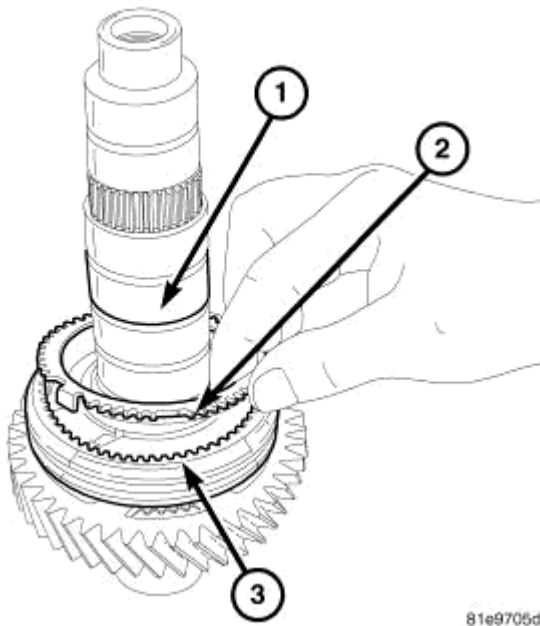


Fig. 293: 4TH GEAR BLOCKER RING
Courtesy of CHRYSLER LLC

6. Install fourth gear blocker ring (2).

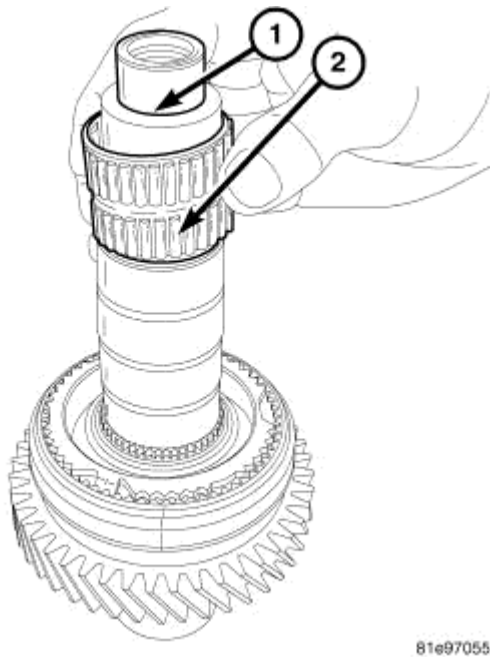


Fig. 294: 4TH GEAR BEARING
Courtesy of CHRYSLER LLC

7. Install fourth gear bearing (2) onto the output shaft (1).

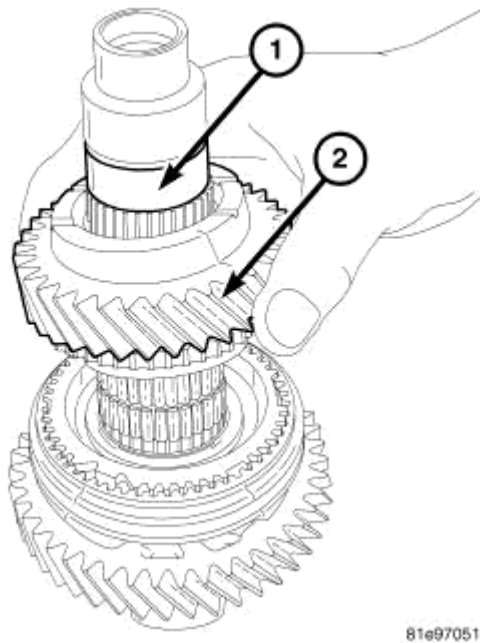


Fig. 295: 4th Gear At Output Shaft
Courtesy of CHRYSLER LLC

8. Install fourth gear (3) onto the output shaft (1).

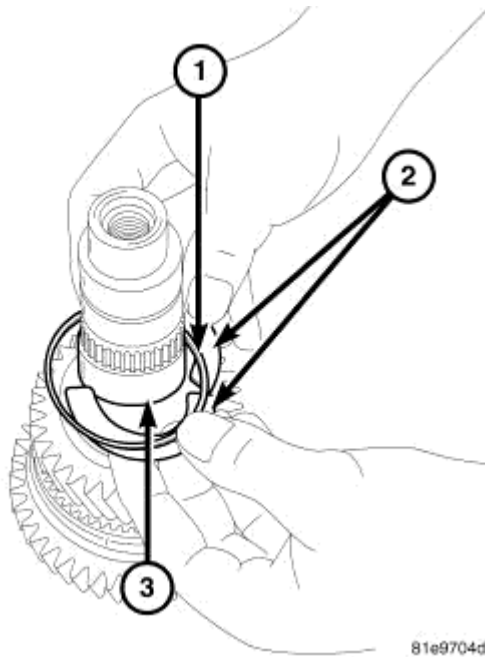


Fig. 296: Split Thrust Washer & Lock Ring At Output Shaft
Courtesy of CHRYSLER LLC

9. Install the split thrust washers (2) and lock ring (1) onto the output shaft.

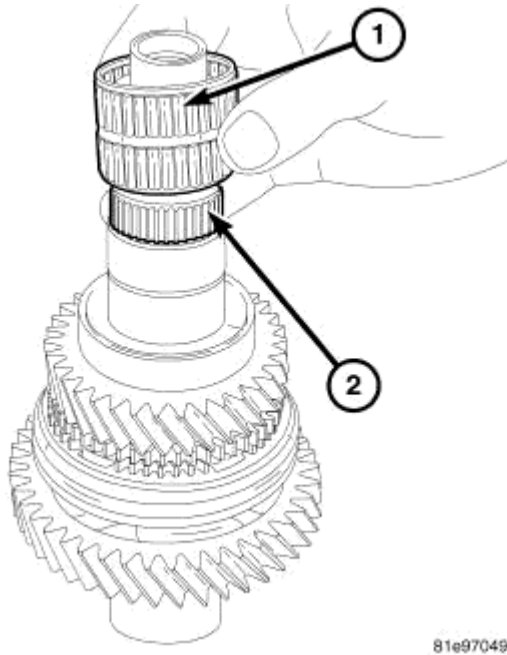


Fig. 297: 3rd Gear Bearing At Output Shaft
Courtesy of CHRYSLER LLC

10. Install the third gear bearing (1) onto the output shaft (2).

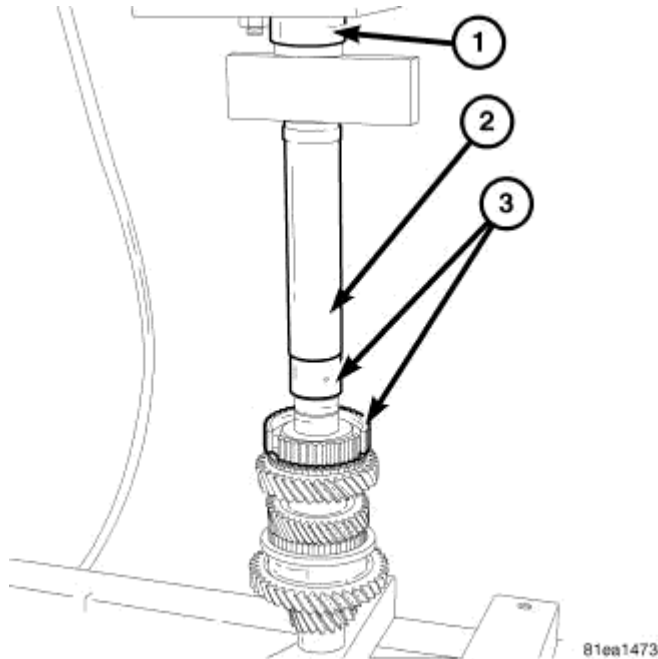


Fig. 298: 1/3 Synchronizer & Third Gear
Courtesy of CHRYSLER LLC

11. Install the 1/3 synchronizer and third gear (3) using Installer W-262 and a Press (1).

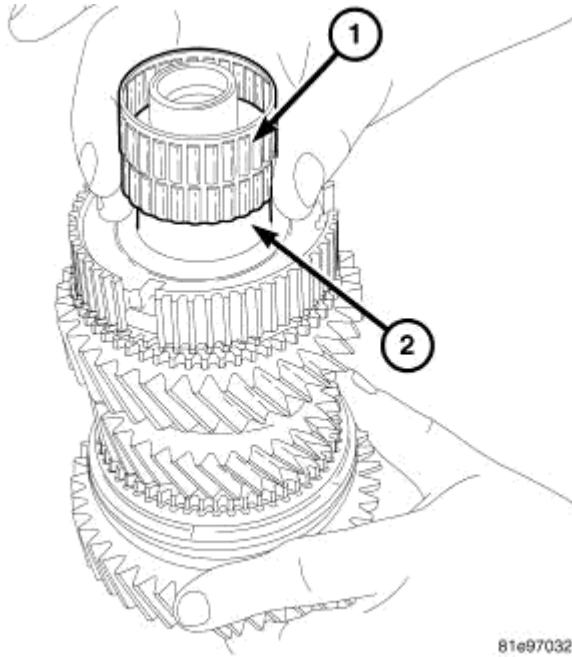


Fig. 299: 1st Gear Needle Bearing At Output Shaft
Courtesy of CHRYSLER LLC

12. Install the needle bearing (1) onto the output shaft (2).

SHAFT, OUTPUT, 5TH, 6TH, AND REVERSE

DISASSEMBLY

DISASSEMBLY

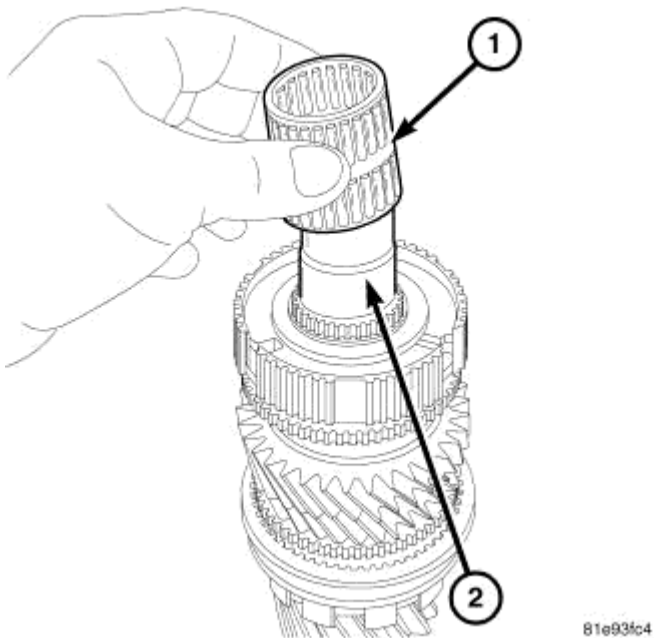


Fig. 300: Reverse, 5th & 6th Needle Bearing
Courtesy of CHRYSLER LLC

1. Remove the needle bearing (1) from the 5, 6 and reverse shaft (2).

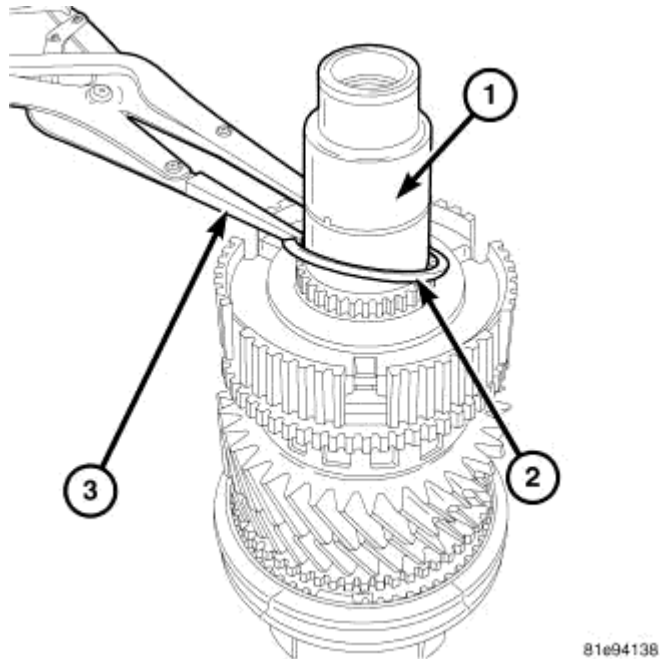


Fig. 301: Reverse/5th Synchronizer Hub Snap Ring
Courtesy of CHRYSLER LLC

2. Remove the snap ring (2) at reverse/fifth gear synchronizer hub (3).

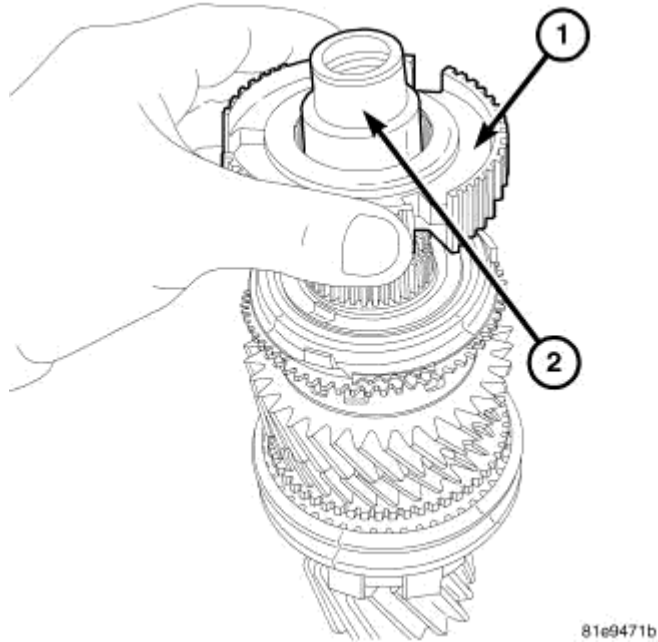


Fig. 302: Reverse/5th Synchronizer Hub
Courtesy of CHRYSLER LLC

3. Remove the reverse/fifth gear synchronizer hub (1) from the output shaft (2).

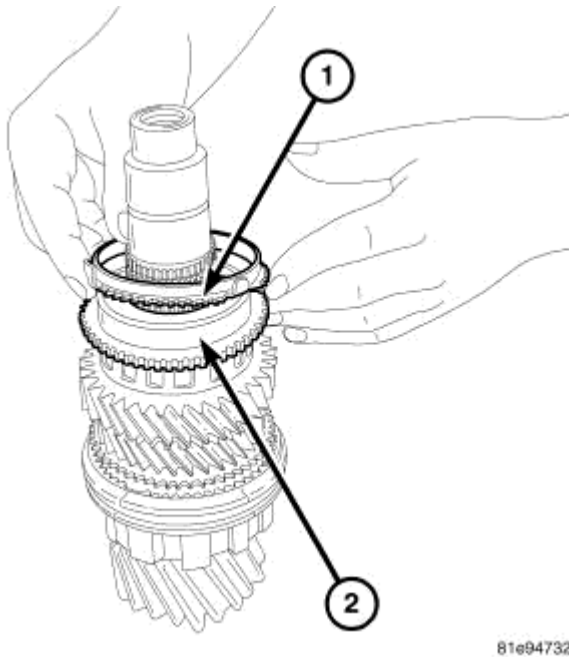
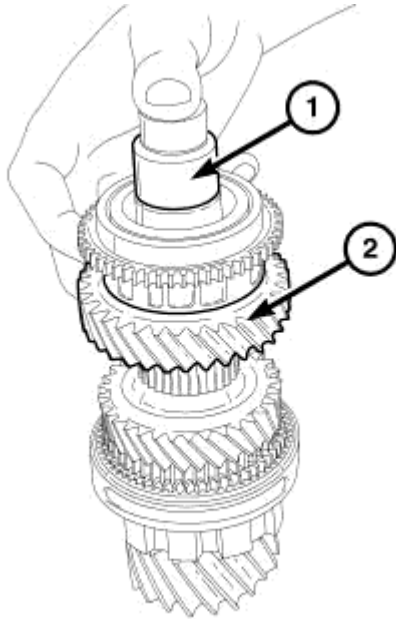


Fig. 303: 5TH GEAR BLOCKER RING
Courtesy of CHRYSLER LLC

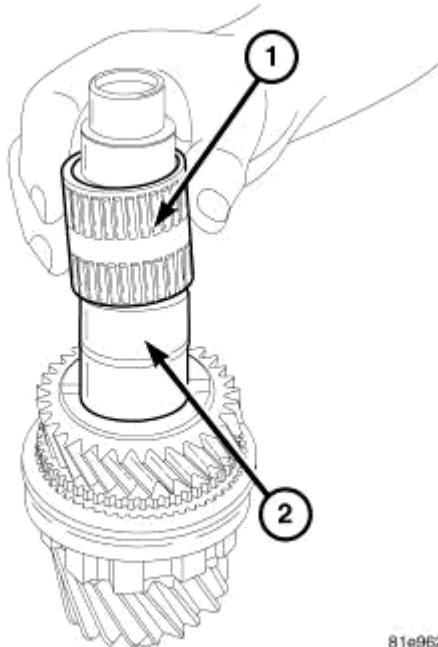
4. Remove the fifth gear blocker ring (1).



81e96204

Fig. 304: 5th Gear & Output Shaft
Courtesy of CHRYSLER LLC

5. Remove fifth gear (2) from the output shaft (1).



81e96219

Fig. 305: 5TH GEAR BEARING
Courtesy of CHRYSLER LLC

6. Remove the fifth gear bearing (1) from the output shaft (2).

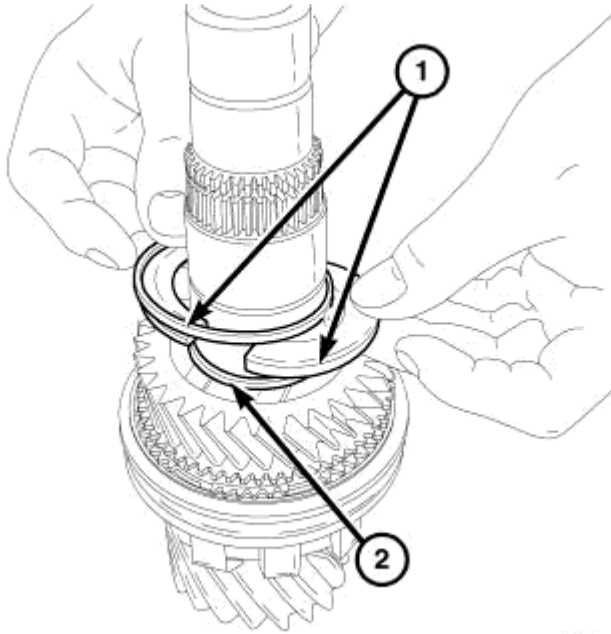


Fig. 306: Split Thrust Washer & Lock Ring
Courtesy of CHRYSLER LLC

7. Remove the split thrust washers (1) and lock ring (2) from the output shaft.

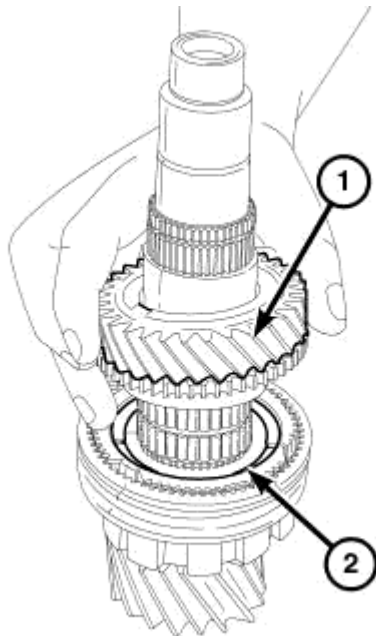


Fig. 307: 6th Gear & Output Shaft
Courtesy of CHRYSLER LLC

8. Remove the sixth gear (1) from the output shaft (2).

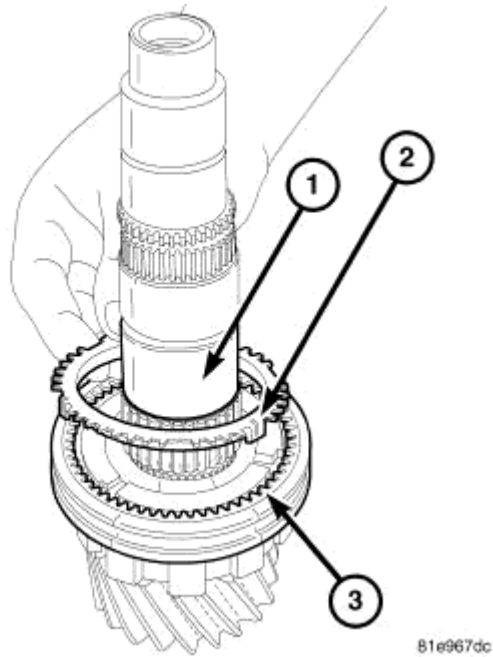


Fig. 308: 6TH GEAR BLOCKER RING
Courtesy of CHRYSLER LLC

9. Remove the sixth gear blocker ring (2) from the sixth gear synchronizer (3).

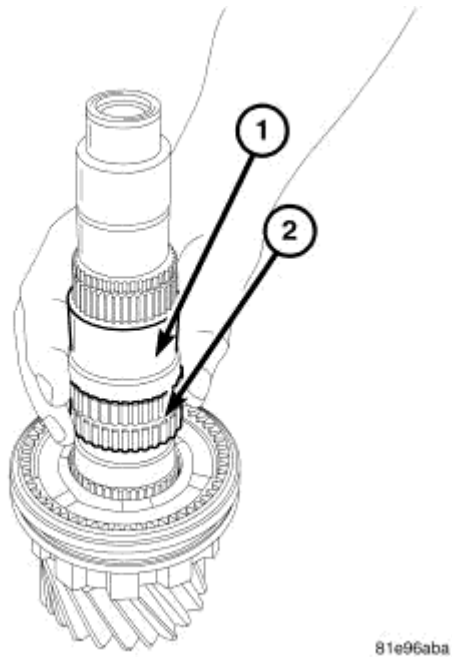


Fig. 309: 6TH GEAR BEARING
Courtesy of CHRYSLER LLC

10. Remove the sixth gear bearing (2) from the output shaft (1).

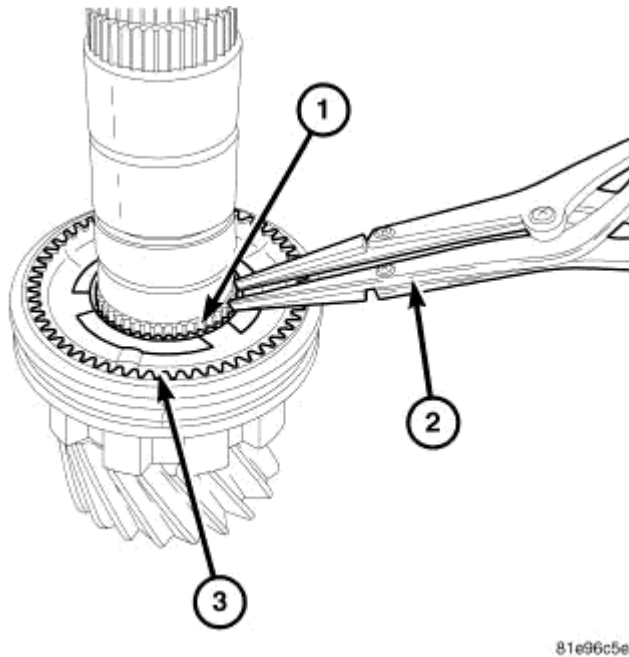


Fig. 310: 6th Gear Synchronizer Snap Ring
Courtesy of CHRYSLER LLC

11. Remove the sixth gear synchronizer snap ring (1).

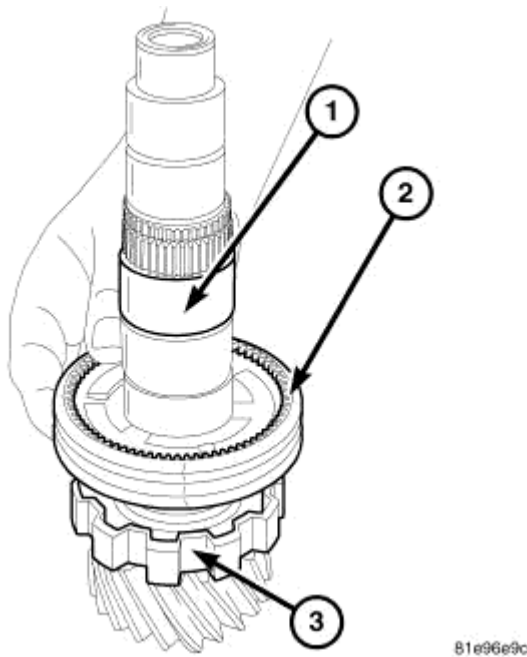
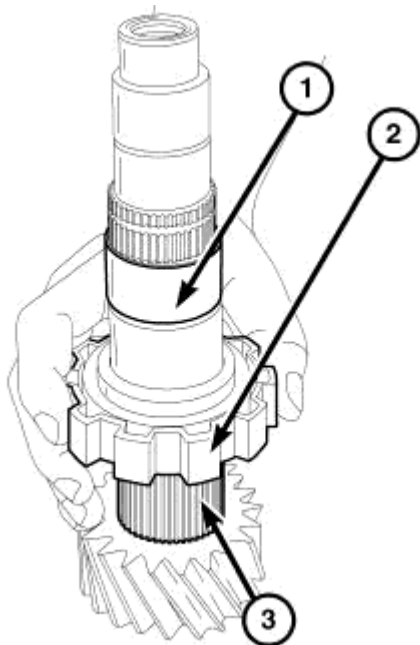


Fig. 311: 6th Gear Synchronizer
Courtesy of CHRYSLER LLC

NOTE: Verify location and installation of the pressure pieces before removal

12. Remove the sixth gear synchronizer (2) and the three pressure pieces.



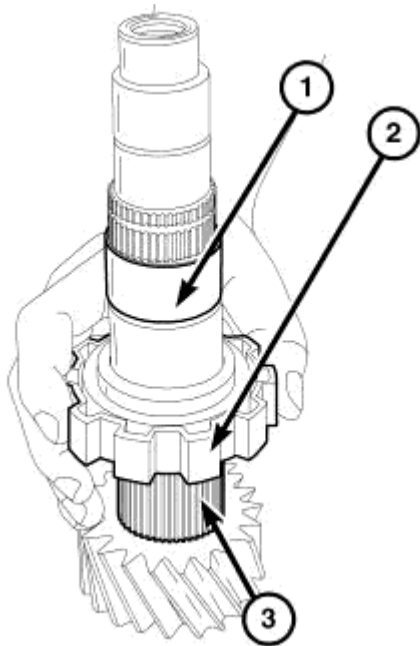
81e96fb6

Fig. 312: PARK GEAR
Courtesy of CHRYSLER LLC

13. Remove the park gear (2).

ASSEMBLY

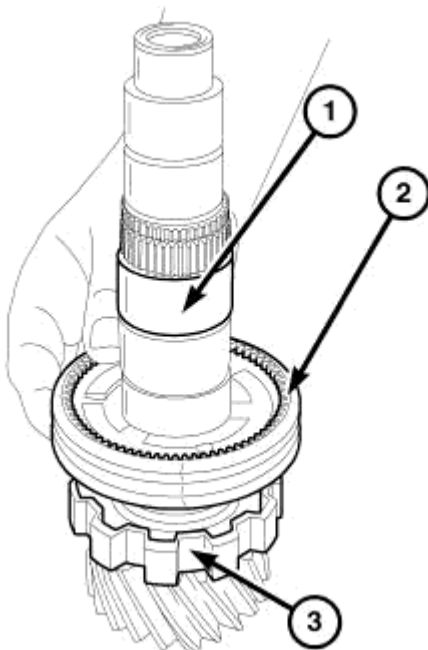
ASSEMBLY



81e96fb6

Fig. 313: PARK GEAR
Courtesy of CHRYSLER LLC

1. Install the park gear (2).



81e96e9c

Fig. 314: 6th Gear Synchronizer
Courtesy of CHRYSLER LLC

2. Install the sixth gear synchronizer (2).

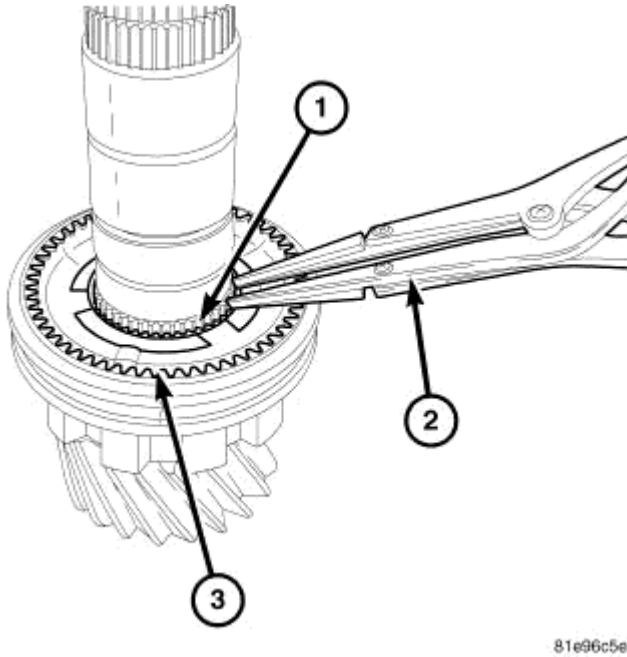


Fig. 315: 6th Gear Synchronizer Snap Ring
Courtesy of CHRYSLER LLC

3. Install the sixth gear synchronizer snap ring (1).

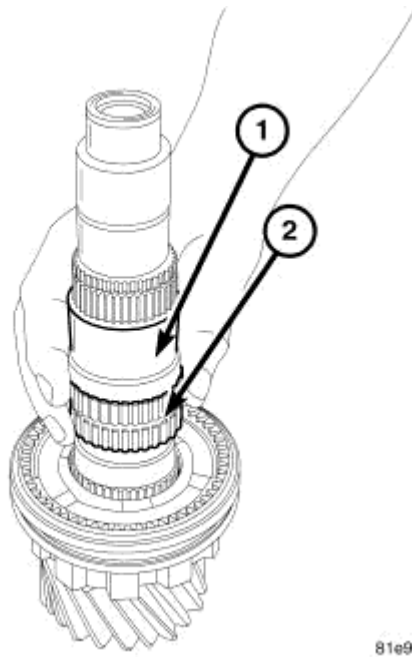


Fig. 316: 6TH GEAR BEARING
Courtesy of CHRYSLER LLC

4. Install the sixth gear bearing (2) onto the output shaft (1).

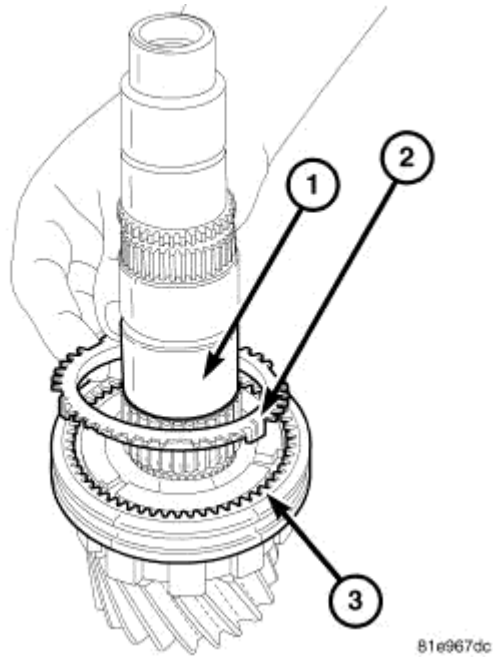


Fig. 317: 6TH GEAR BLOCKER RING
Courtesy of CHRYSLER LLC

5. Install the sixth gear blocker ring (2) onto the sixth gear synchronizer (3).

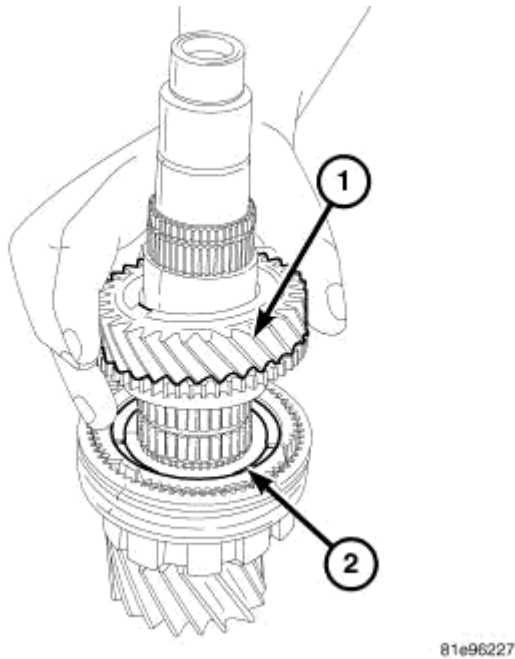
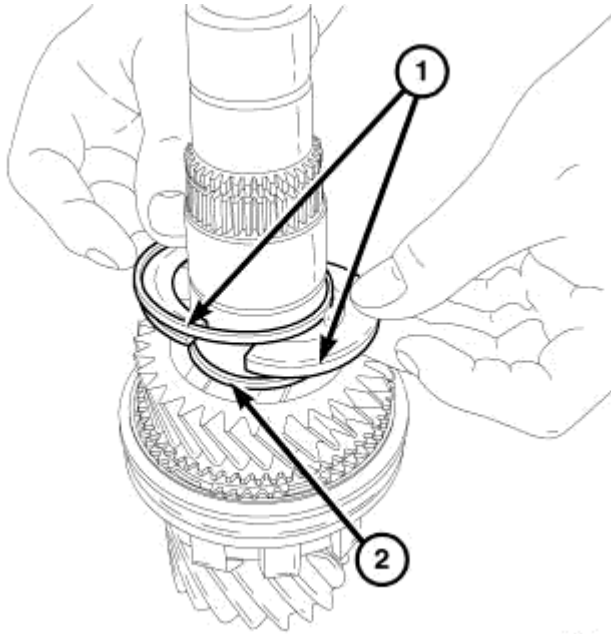


Fig. 318: 6th Gear & Output Shaft
Courtesy of CHRYSLER LLC

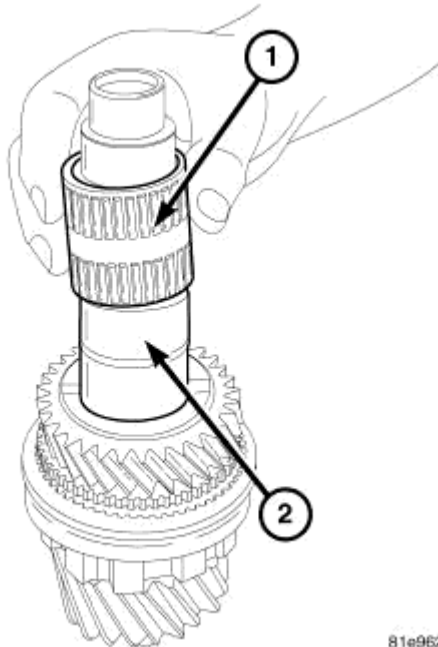
6. Install sixth gear (1) onto the output shaft (2).



81e9621d

Fig. 319: Split Thrust Washer & Lock Ring
Courtesy of CHRYSLER LLC

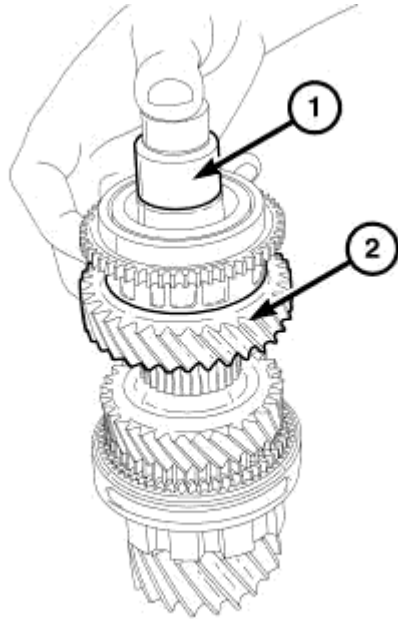
7. Install the split thrust washers (1) and lock ring (2) onto the output shaft.



81e96219

Fig. 320: 5TH GEAR BEARING
Courtesy of CHRYSLER LLC

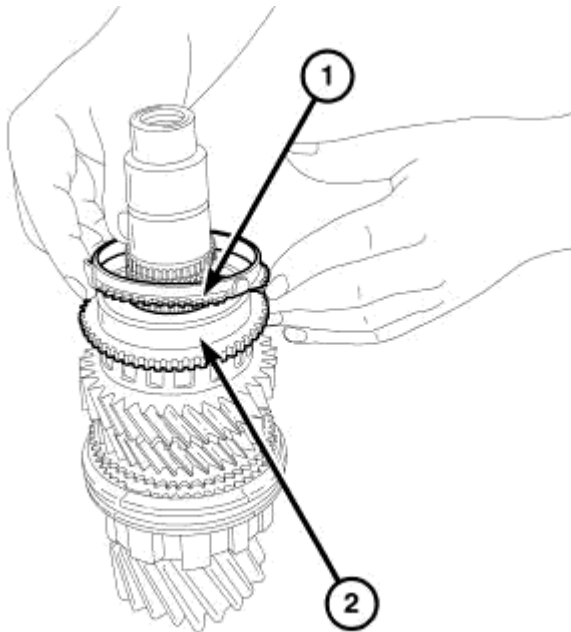
8. Install the fifth gear bearing (1) onto the output shaft (2).



81e96204

Fig. 321: 5th Gear & Output Shaft
Courtesy of CHRYSLER LLC

9. Install fifth gear (2) onto the output shaft (1).



81e94732

Fig. 322: 5TH GEAR BLOCKER RING
Courtesy of CHRYSLER LLC

10. Install the fifth gear blocker ring (1).

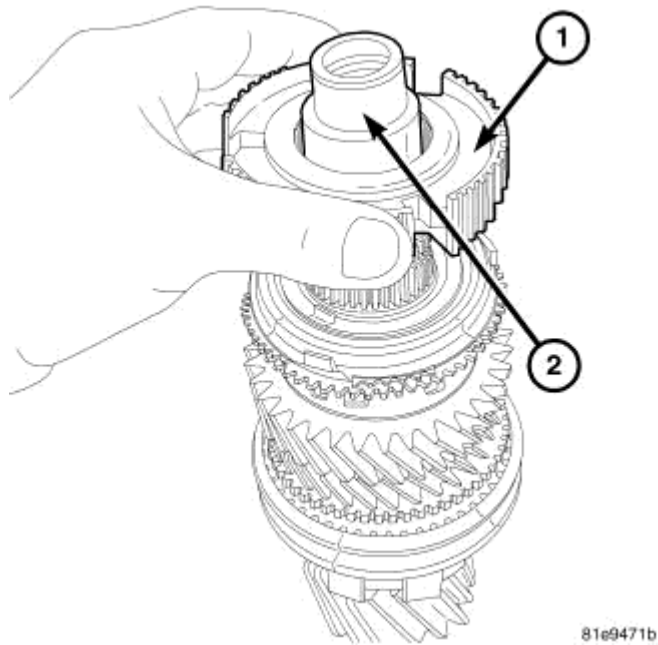


Fig. 323: Reverse/5th Synchronizer Hub
Courtesy of CHRYSLER LLC

11. Install the reverse/fifth gear synchronizer hub (1) onto the output shaft (2).

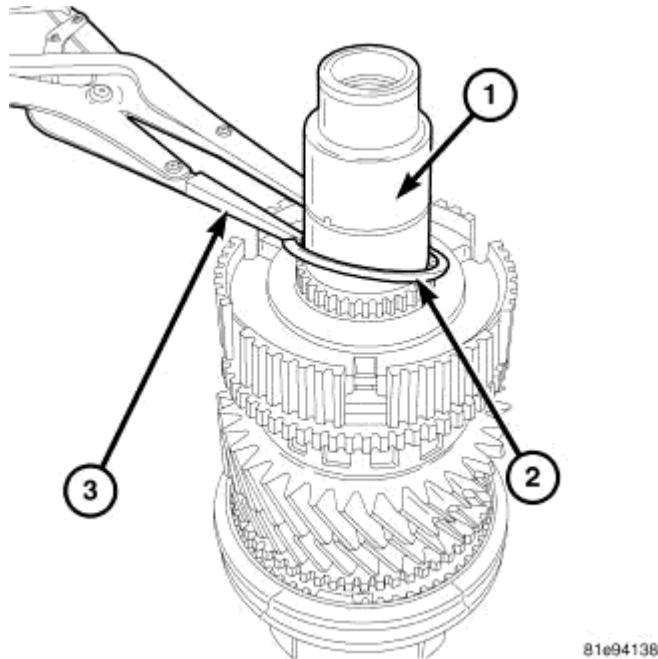


Fig. 324: Reverse/5th Synchronizer Hub Snap Ring
Courtesy of CHRYSLER LLC

12. Install the snap ring (2) at reverse/fifth gear synchronizer hub (3).

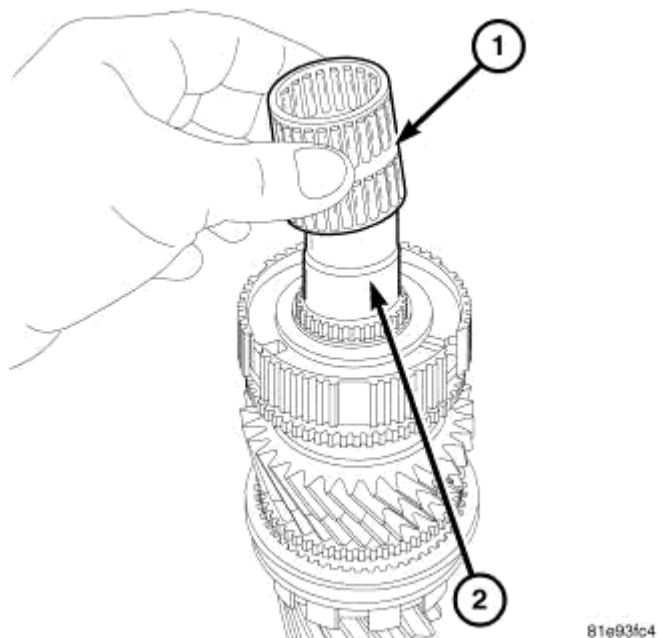


Fig. 325: Reverse, 5th & 6th Needle Bearing
Courtesy of CHRYSLER LLC

13. Install the needle bearing (1) onto the 5, 6 and reverse shaft (2).

VALVE BODY

OPERATION

OPERATION

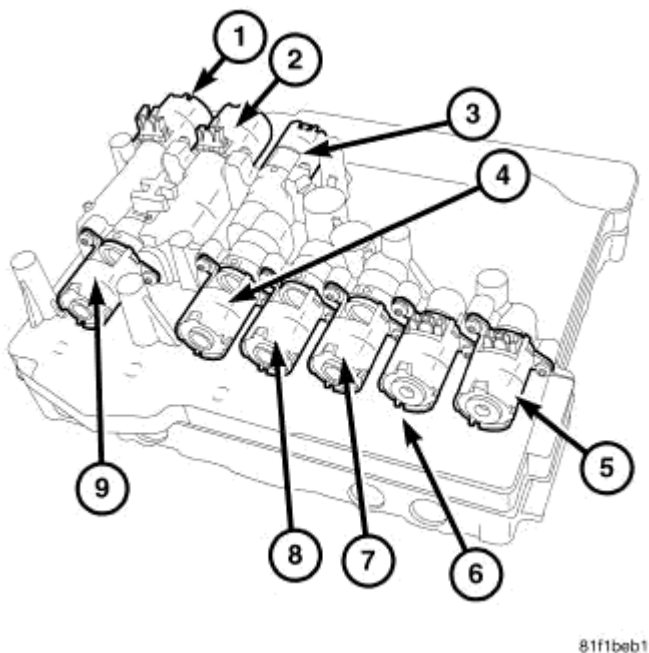
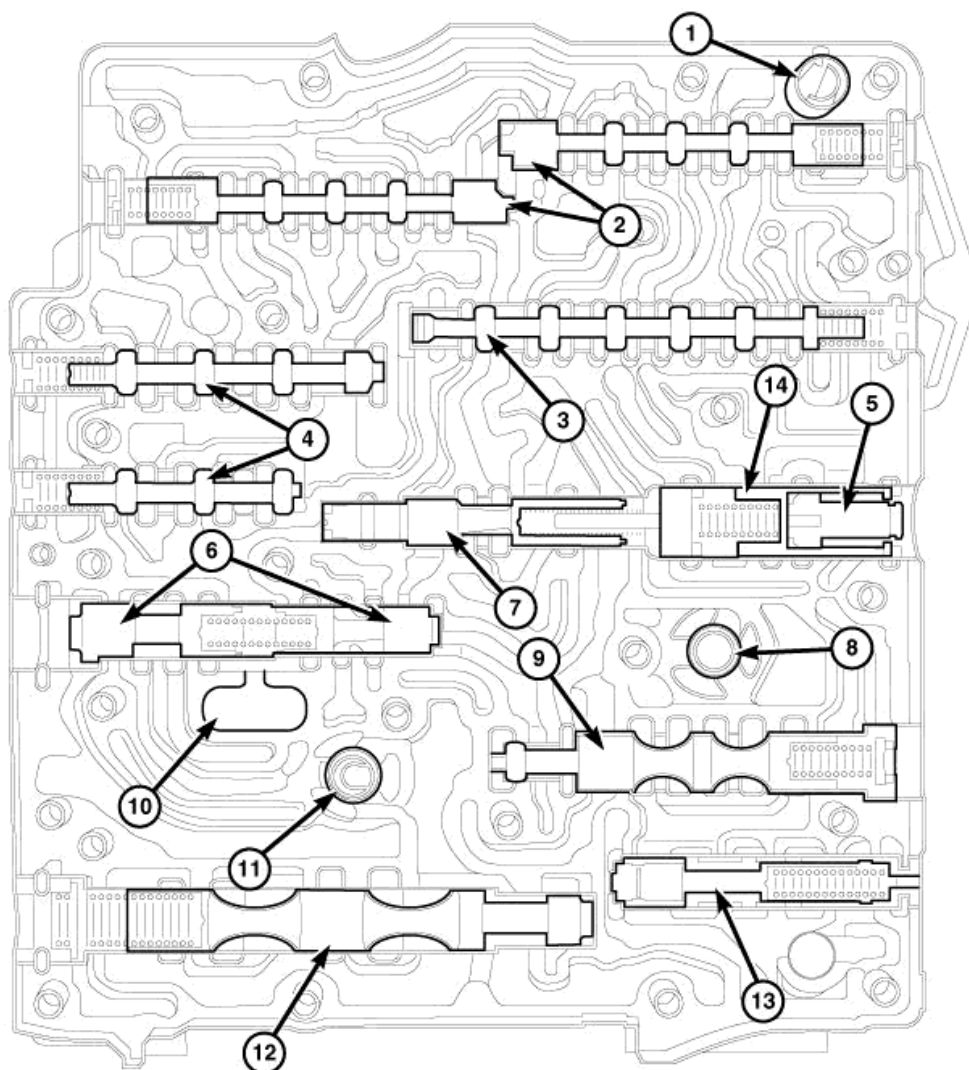


Fig. 326: Valve Body Solenoids
Courtesy of CHRYSLER LLC

1 - Clutch Shift Pressure Solenoid-2 (CSPS2)	6 - Clutch cooling Flow Solenoid (CCFS)
2 - Clutch Shift Pressure Solenoid-1 (CSPS1)	7 - SHSS1 Shift Select Solenoid (ON/OFF) - Move/Drive Shift Fork 1/3
3 - Clutch Shift Multiplex Solenoid-2 (CSMS2)	8 - SHSS2 Shift Select Solenoid (ON/OFF) - Move/Drive Shift Fork 2/4
4 - Clutch Shift Multiplex Solenoid-1 (CSMS1)	9 - Shift Cooling Multiplex Solenoid (SHCMS)
5 - Line Pressure Solenoid (LPS)	-

The valve body, which includes the transmission control module (TCM) and transmission range sensor (TRS), controls the delivery and pressure of transaxle fluid. The TCM and the TRS are integrated with the valve body. The TCM regulates the amount of hydraulic pressure used to engage the dual clutches, in addition to directing hydraulic pressure to actuate the shift forks. The TCM will actuate the valves and solenoids based on the position of the shifter/TRS, shift fork position sensors, transaxle fluid temperature, engine operating conditions, traction conditions, and driver demands. During a shift, the TCM will actuate the shift fork solenoids to match the gear ranges to the optimal torque range of the engine based on the position of the accelerator pedal, shifter/TRS, and vehicle speed as determined by the ECM based on input from the Vehicle Speed Sensor (VSS) and ABS module. Due to the complexity of the MPS6 transaxle control system and related mechanical and electrical components, always refer to the transaxle electrical/electronic diagnostics in this service information when attempting to diagnose transaxle problems.



99228

Fig. 327: Identifying Valves
 Courtesy of CHRYSLER LLC

1 - Actuator Blow Off Valve

8 - Lube

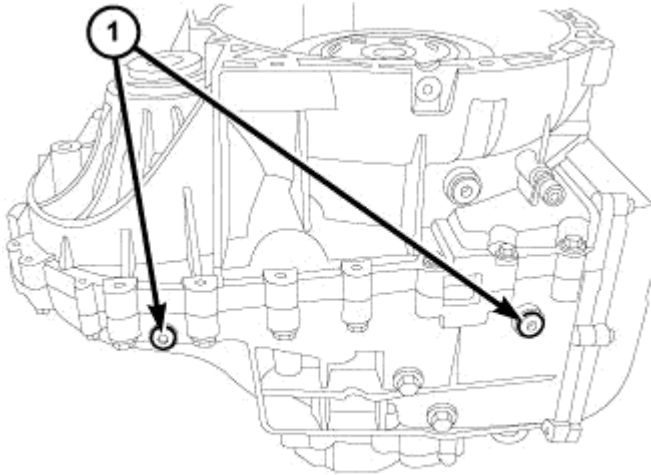
2009 Dodge Journey R/T

2009 AUTOMATIC/MANUAL TRANSMISSION Getrag MPS6 - Service Information - Journey

	Blow-Off Valve
2 - Actuator Control Valve	9 - Cooling Shuttle Valve
3 -Odd-Even Control Valve	10 - Shift Control Shuttle Ball Check
4 - Clutch Shift Multiplex Valve	11 - Line Pressure Blow-Off Valve
5 - Thermo Cooler Bypass Valve	12 - Line Press Main Regulator Valve
6 - Shift Selector Control Valve	13 - Clutch Cooling Regulator Valve
7 - Line Pressure Cut Valve	14 - Cooler Bypass Valve

REMOVAL**REMOVAL**

NOTE: If the Transaxle Control Module (TCM) is being replaced, the TCM/PCM Quick Learn procedure must be performed. Refer to Electrical/Electronic Control Modules/MODULE, Powertrain Control - Standard Procedure .

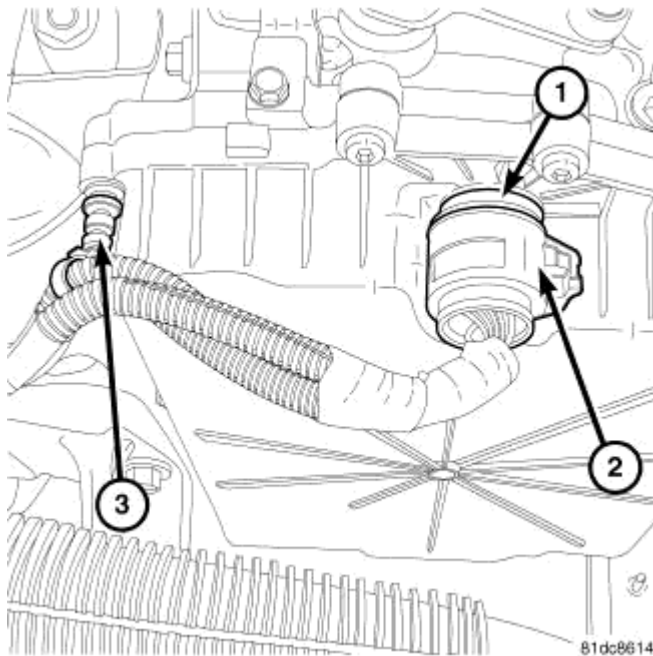


98878

Fig. 328: DRAIN PLUGS

Courtesy of CHRYSLER LLC

1. Disconnect and isolate the negative battery cable.
2. Remove the air filter housing.
3. Raise and support the vehicle.
4. If equipped, remove the engine belly pan.
5. The transaxle drain plugs (1) are located on the bottom of the transaxle differential housing. Remove all three drain plugs and allow the fluid to completely drain out of the transmission.
6. Install the drain plugs (1). Tighten drain plugs to 35 N.m (25 ft. lbs.).



81dc8614

Fig. 329: Solenoid Pack Electrical Connector

Courtesy of CHRYSLER LLC

7. Disconnect the harness connector (2) from the TRS (1).
8. Remove the harness retaining clip (3) from stud at valve body cover.

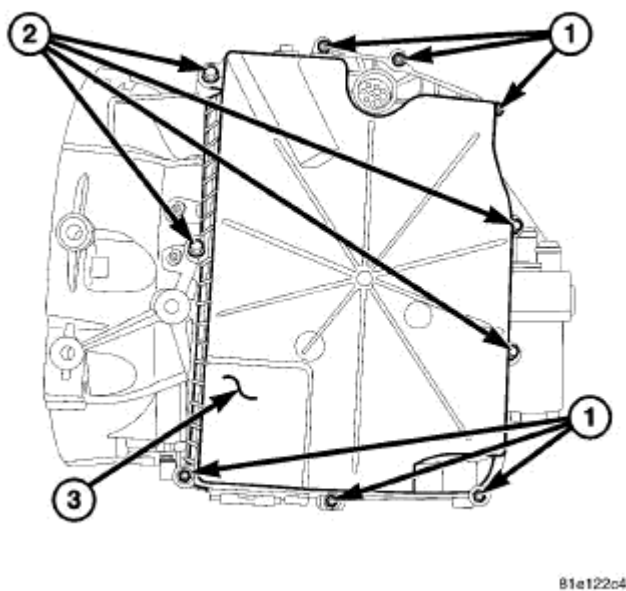
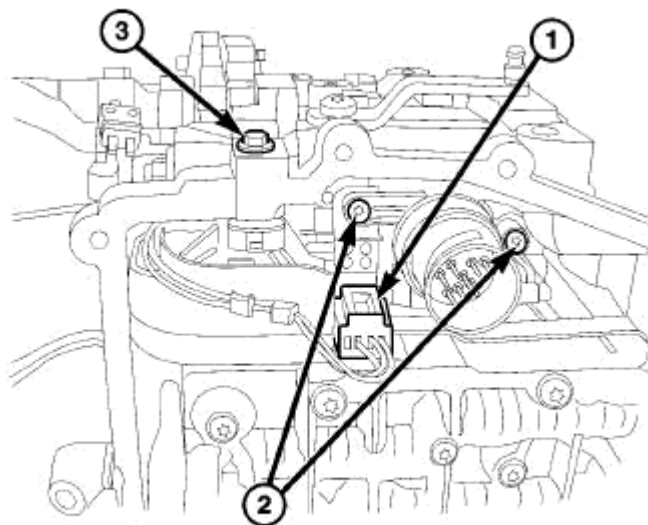


Fig. 330: Valve Body Oil Pan & Bolts
Courtesy of CHRYSLER LLC

NOTE: Mark the location of studs (2).

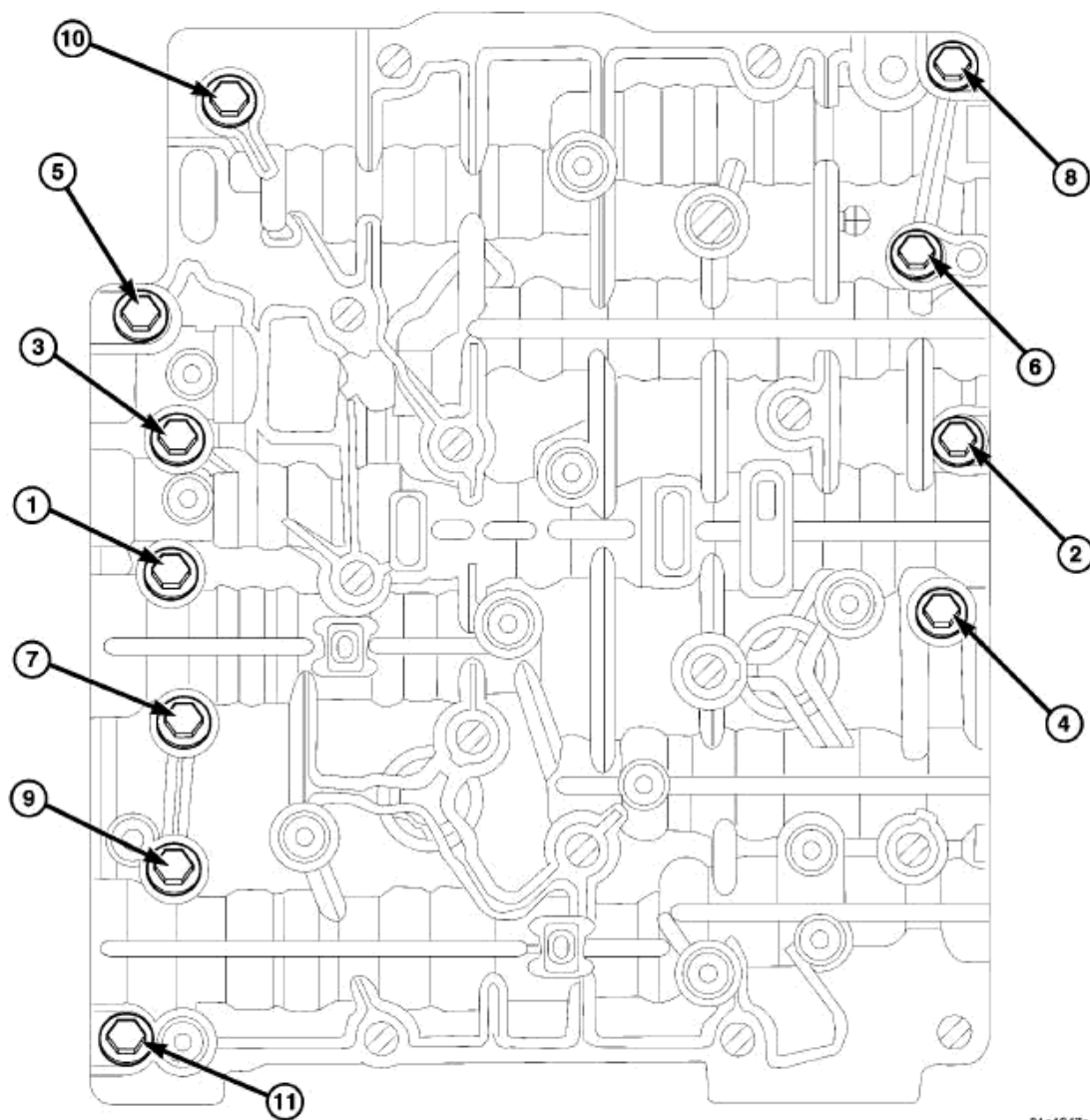
9. Remove the studs (2) and bolts (1) at the Transmission Control Module Assembly (TCMA)/valve body oil pan.
10. Remove the valve body oil pan (3).



81e122e2

Fig. 331: TRS ELECTRICAL CONNECTOR
Courtesy of CHRYSLER LLC

11. Disconnect the speed sensor electrical connector (1) from the TRS.
12. Remove the bolt (3) at the TRS.
13. Remove the screws (2) at the TRS.



81e1247a

Fig. 332: VALVE BODY BOLTS
Courtesy of CHRYSLER LLC

14. Remove the eleven valve body bolts.

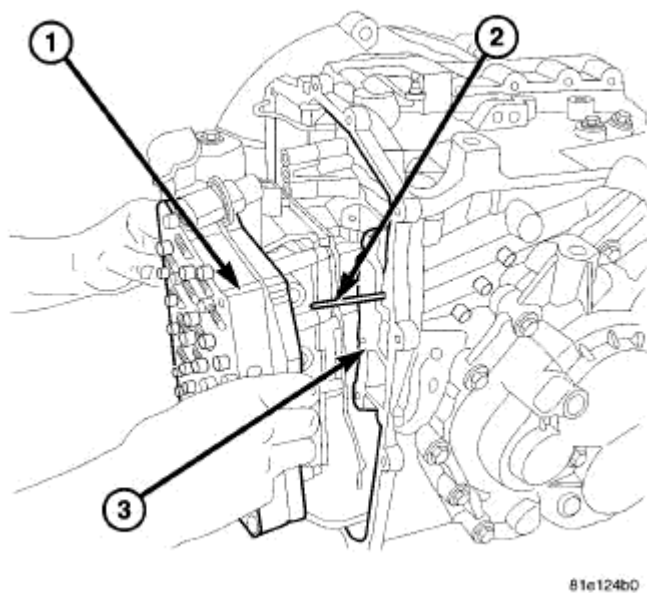


Fig. 333: Valve Body & Alignment Pins
Courtesy of CHRYSLER LLC

15. Remove the TCMA/valve body (1).

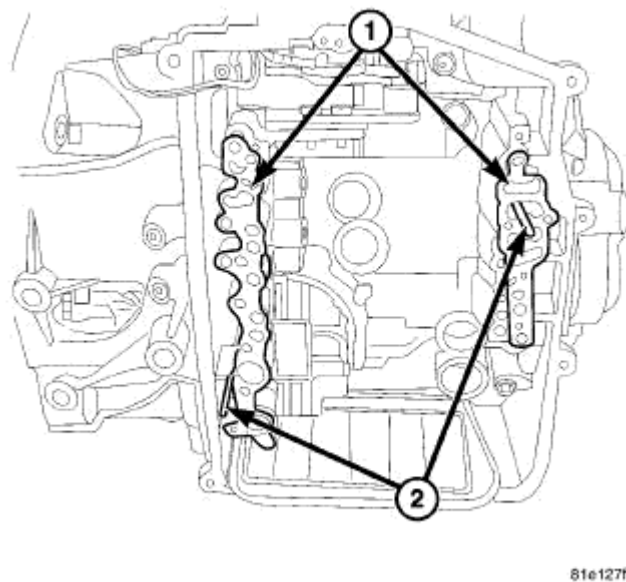


Fig. 334: VALVE BODY GASKETS
Courtesy of CHRYSLER LLC

16. Remove the metal TCMA/valve body gaskets (1).

NOTE: **Make a note of alignment pin locations.**

17. Remove the TCMA/valve body alignment pins (2) from the case.

DISASSEMBLY

DISASSEMBLY

NOTE: If transaxle assembly or Transaxle Control Module (TCM) is being overhauled or replaced, it is necessary to perform the TCM/PCM Quick Learn Procedure. Refer to Electrical/Electronic Control Modules/MODULE, Powertrain Control - Standard Procedure .

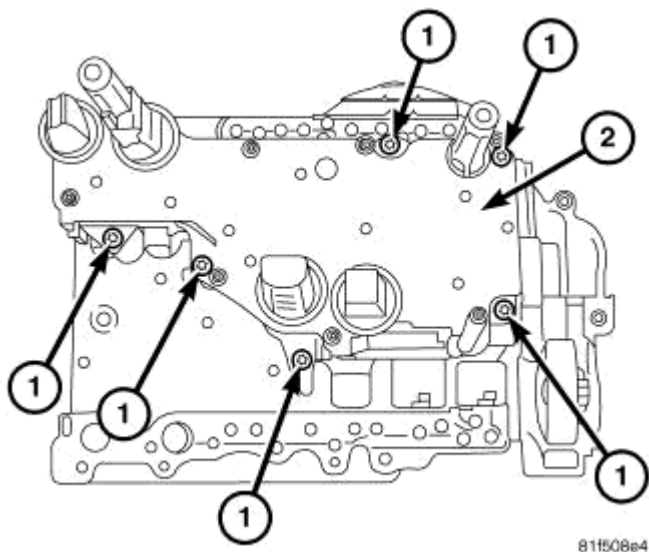


Fig. 335: TCM RANGE SENSOR
Courtesy of CHRYSLER LLC

1. Remove the O-rings
2. Remove the fasteners (1) from the TCM range sensor (2) and remove the sensor assembly.

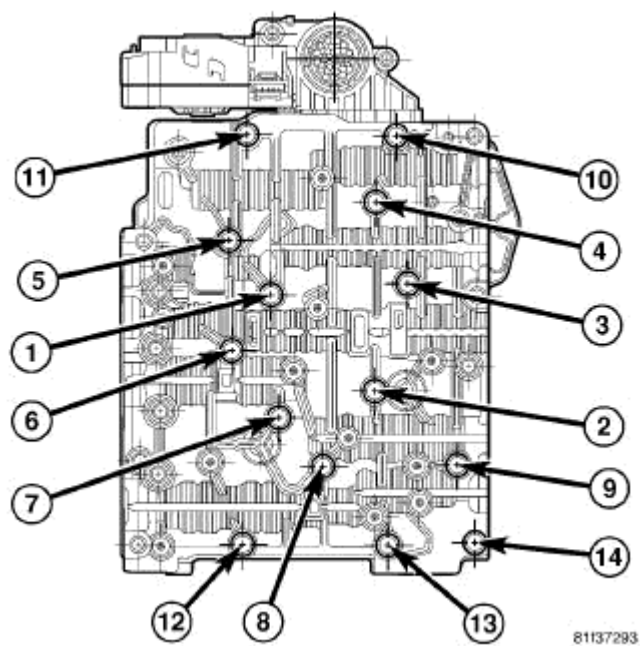


Fig. 336: Valve Body Case Half Bolts
Courtesy of CHRYSLER LLC

3. Remove the 14 valve body case half bolts.

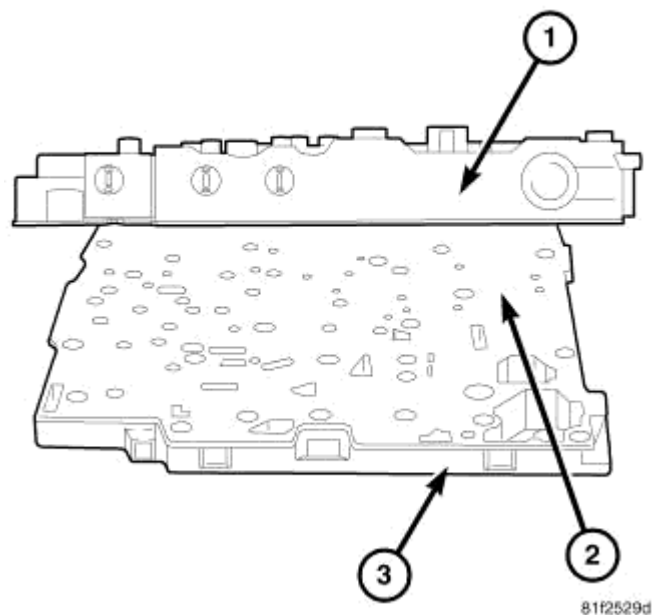


Fig. 337: Valve Body Halves
Courtesy of CHRYSLER LLC

4. Separate the valve body halves (1) and (3).

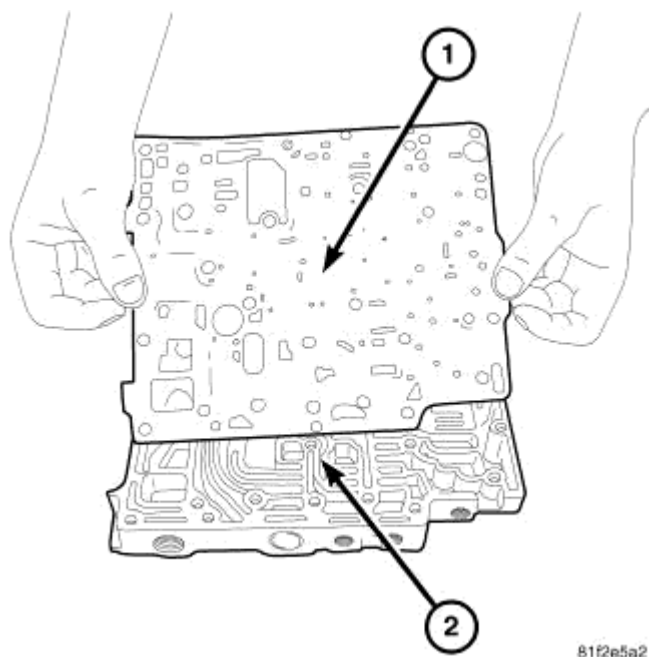


Fig. 338: Valve Body Gasket At Upper Half
Courtesy of CHRYSLER LLC

5. Remove the gasket from upper half (1).

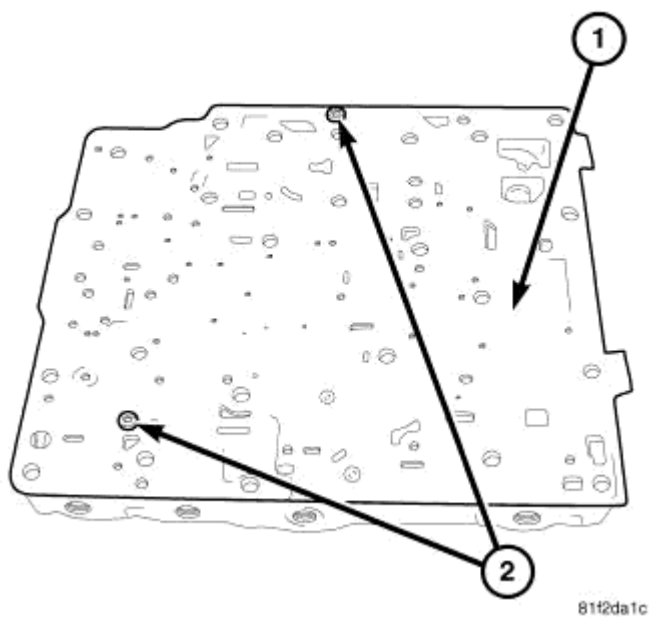


Fig. 339: Separator Plate Bolts
Courtesy of CHRYSLER LLC

6. Remove the separator plate bolts (2).

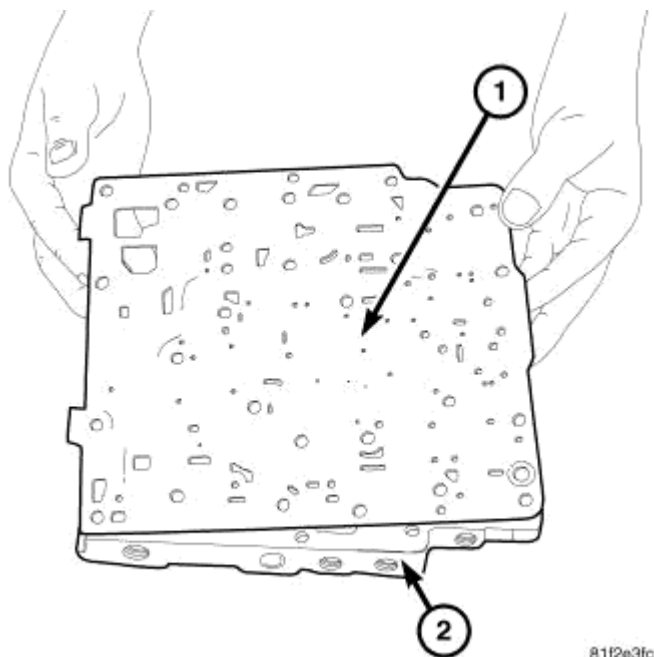


Fig. 340: Separator Plate
Courtesy of CHRYSLER LLC

7. Remove the separator plate (1).
8. Remove the steel check ball and spring.

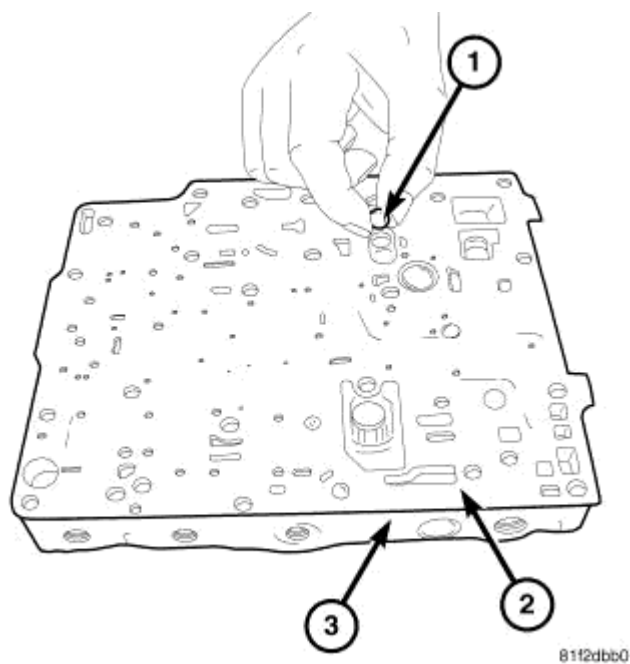


Fig. 341: PLASTIC CHECK BALL
Courtesy of CHRYSLER LLC

9. Remove the plastic check ball.

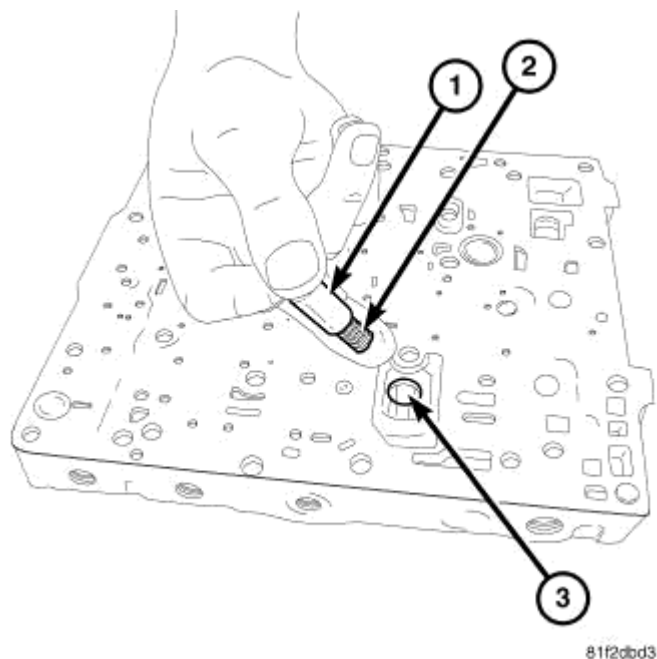


Fig. 342: Valve Body Spring And Valve
Courtesy of CHRYSLER LLC

10. Remove the valve (1) and spring (2).

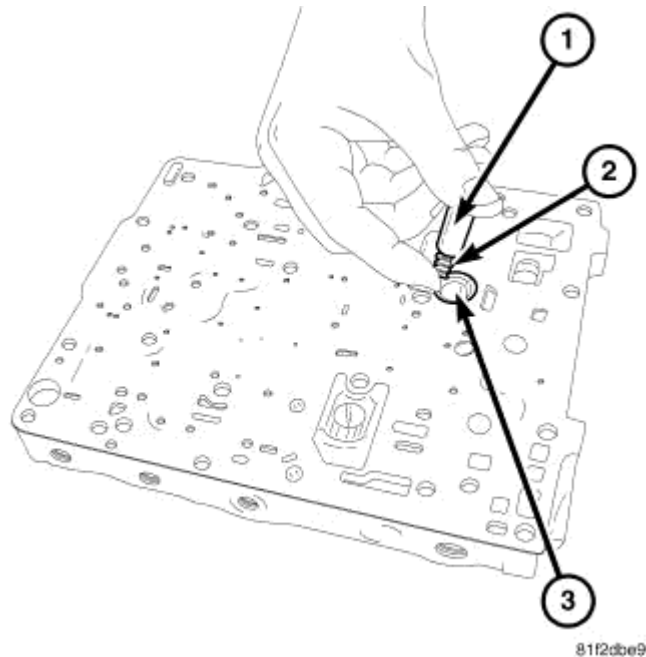


Fig. 343: Heavy Spring & Valve
Courtesy of CHRYSLER LLC

11. Remove the valve (1) and heavy spring (1).
12. Remove the gasket from bottom.

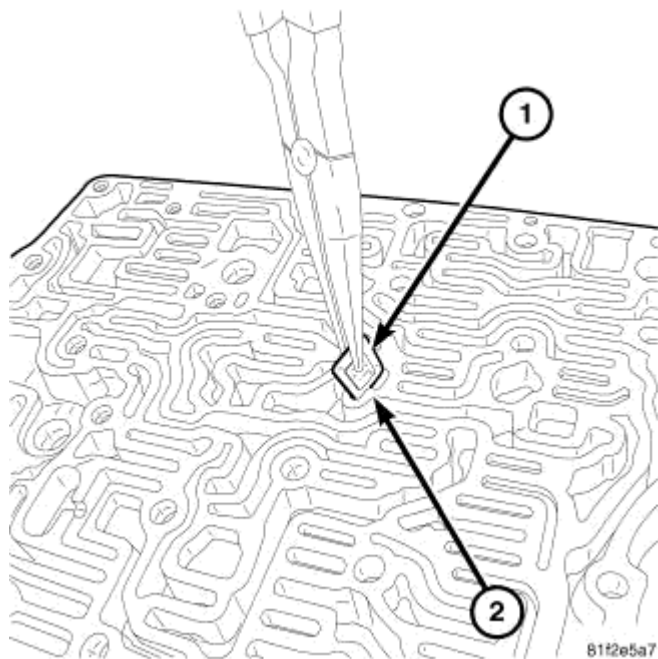
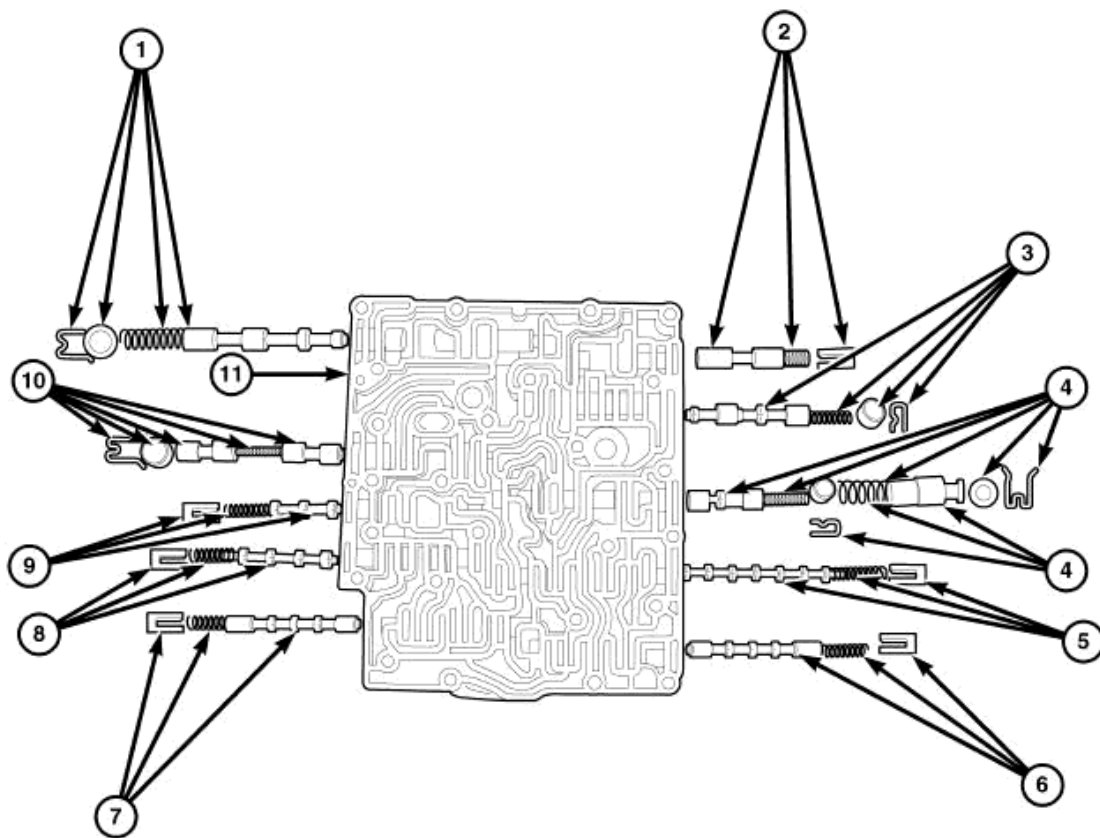


Fig. 344: SCREEN

Courtesy of CHRYSLER LLC

13. Remove the screen (1).



B1111c23

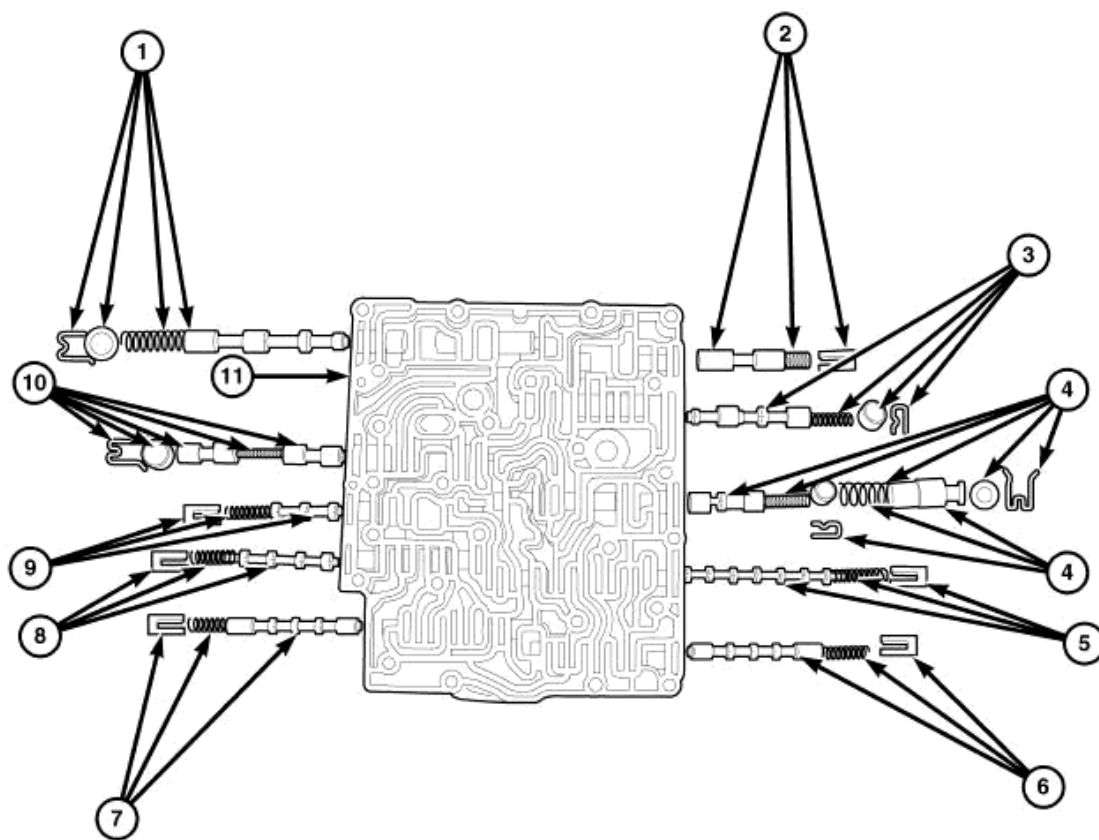
Fig. 345: Exploded View Of Valve Body Components
Courtesy of CHRYSLER LLC

14. Remove retaining C-clips, valves and return springs.

ASSEMBLY

ASSEMBLY

NOTE: If transaxle assembly or Transaxle Control Module (TCM) is being overhauled or replaced, it is necessary to perform the TCM/PCM Quick Learn Procedure. Refer to Electrical/Electronic Control Modules/MODULE, Powertrain Control - Standard Procedure .



B1111c23

Fig. 346: Exploded View Of Valve Body Components
Courtesy of CHRYSLER LLC

1. Install retaining C-clips, valves and return springs.

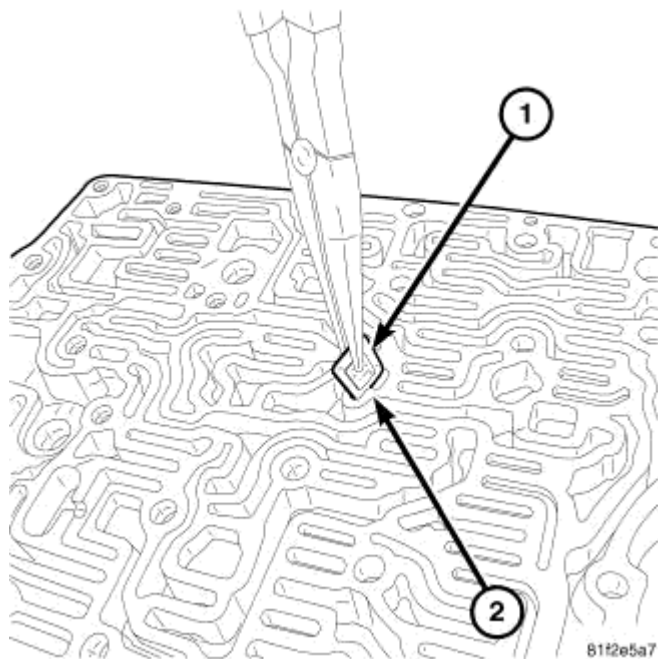


Fig. 347: SCREEN

Courtesy of CHRYSLER LLC

2. Install the screen (1).
3. Install the gasket.

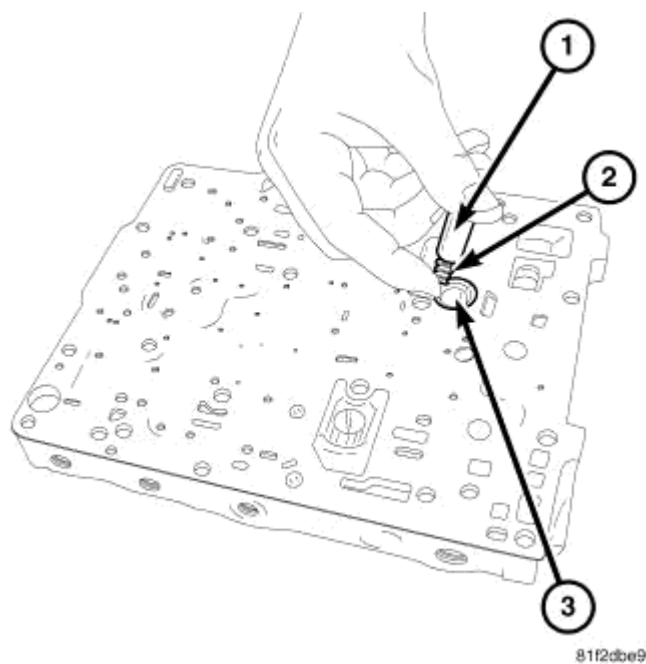


Fig. 348: Heavy Spring & Valve

Courtesy of CHRYSLER LLC

4. Install the valve (1) and heavy spring (1).

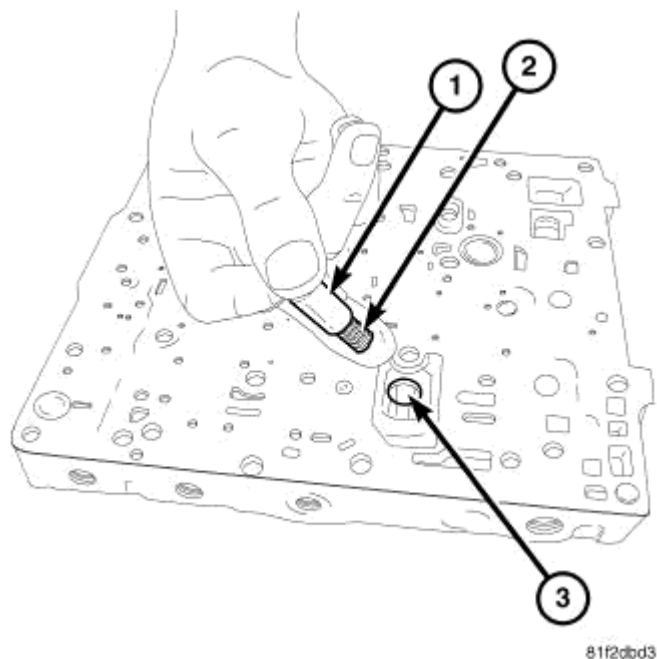


Fig. 349: Valve Body Spring And Valve
Courtesy of CHRYSLER LLC

5. Install the valve and spring.

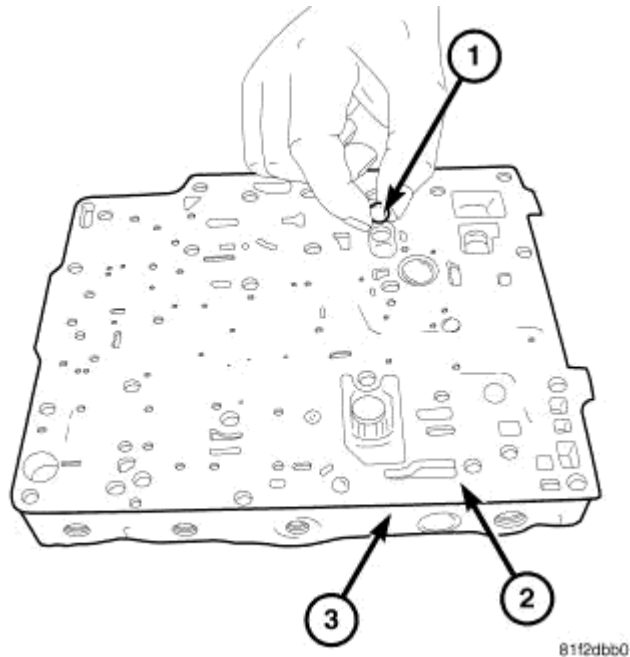
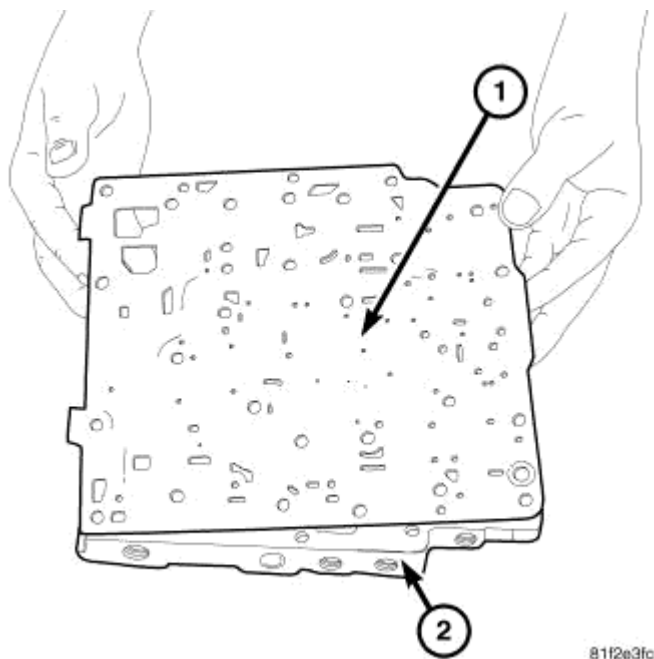


Fig. 350: PLASTIC CHECK BALL
Courtesy of CHRYSLER LLC

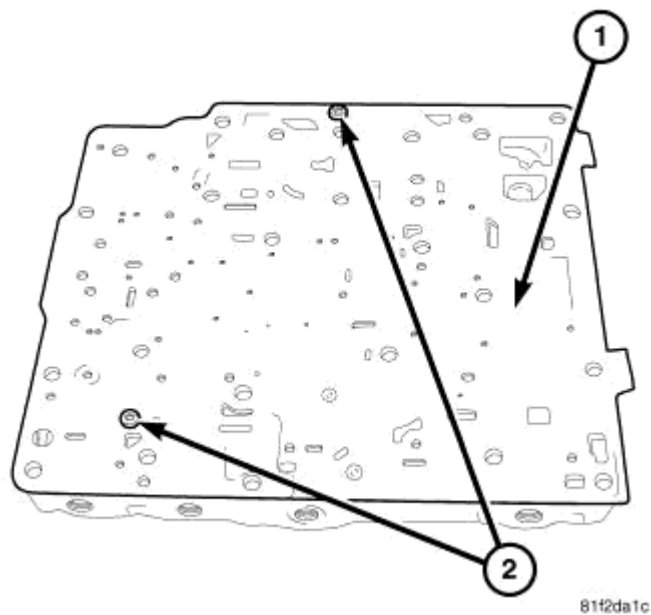
6. Install the plastic check ball (1).
7. Install the steel check ball and spring.



81f2e3fc

Fig. 351: Separator Plate
Courtesy of CHRYSLER LLC

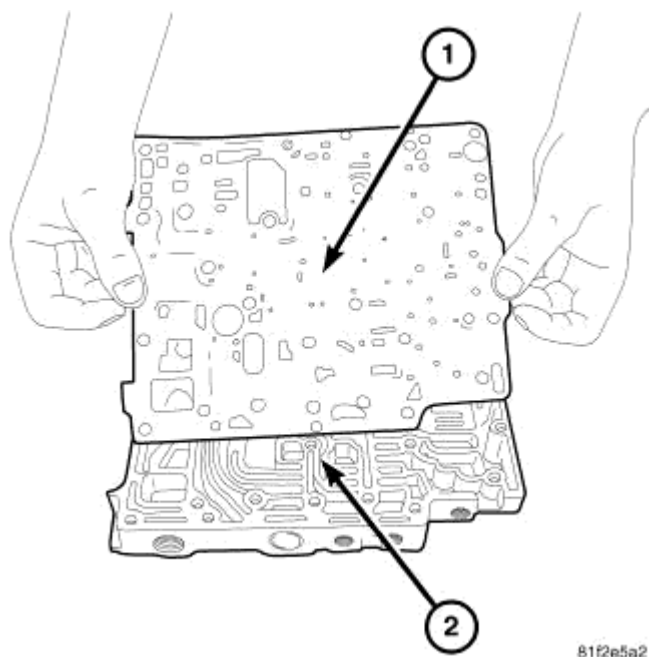
8. Install the separator plate (1).



81f2da1c

Fig. 352: Separator Plate Bolts
Courtesy of CHRYSLER LLC

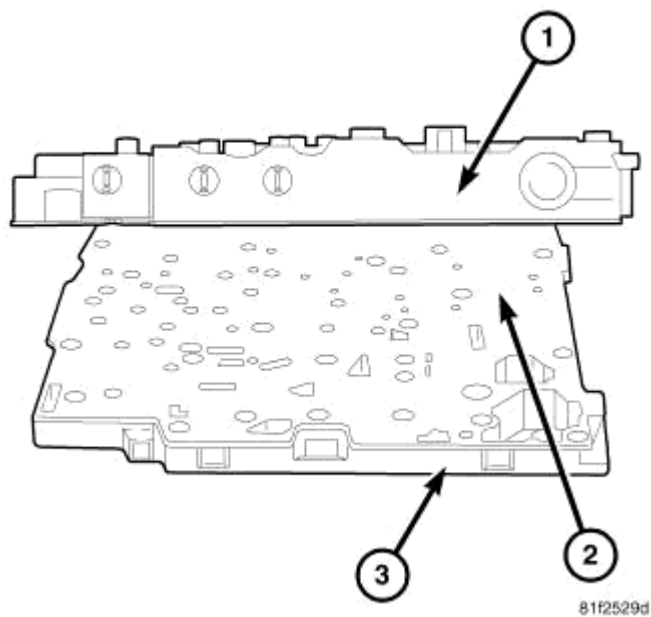
9. Install the separator plate bolts (2).



81f2e5a2

Fig. 353: Valve Body Gasket At Upper Half
Courtesy of CHRYSLER LLC

10. Install the gasket (1) to upper half of valve body.



81f2529d

Fig. 354: Valve Body Halves
Courtesy of CHRYSLER LLC

11. Assembly the valve body halves (1) and (3).

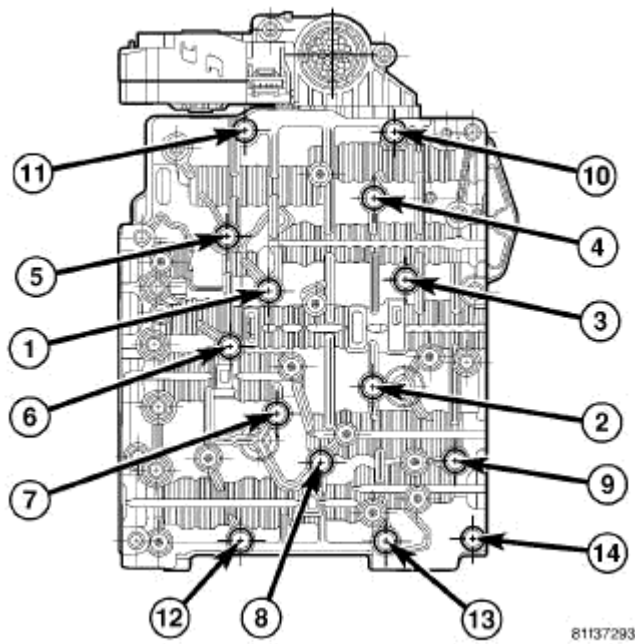


Fig. 355: Valve Body Case Half Bolts
Courtesy of CHRYSLER LLC

12. Install the 14 case half bolts in the order shown in illustration.

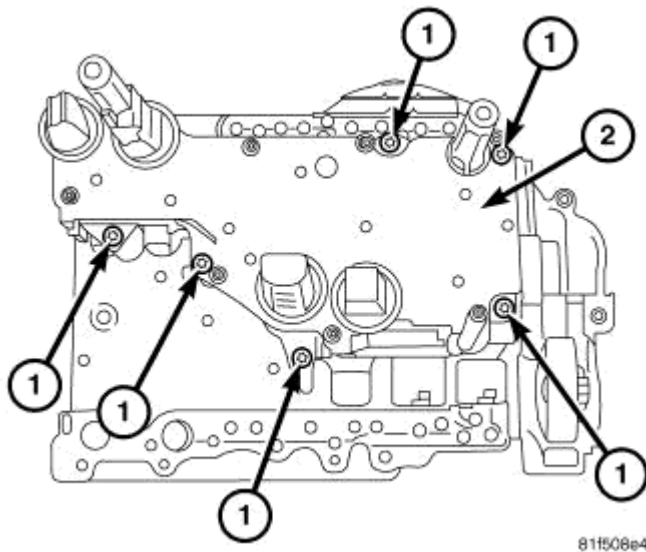


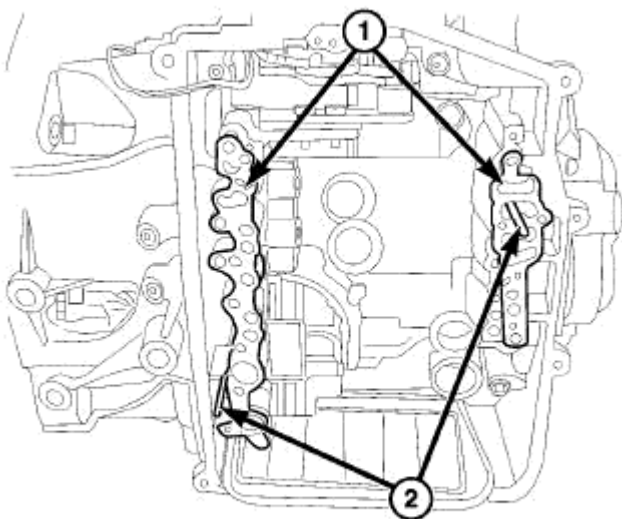
Fig. 356: TCM RANGE SENSOR
Courtesy of CHRYSLER LLC

13. Install the TCM range sensor (2), and the TCM range sensor fasteners (1).
14. Install the O-Rings.

INSTALLATION

INSTALLATION

NOTE: If the Transaxle Control Module (TCM) is being replaced, the TCM/PCM Quick Learn procedure must be performed. Refer to Electrical/Electronic Control Modules/MODULE, Powertrain Control - Standard Procedure.



81e127f9

Fig. 357: VALVE BODY GASKETS

Courtesy of CHRYSLER LLC

NOTE: The valve body alignment pins are flared at the base. The narrow end is used to align the valve body during assembly.

NOTE: There are four pins, two short ones, and two long ones.

1. Install the valve body alignment pins (2) into the case in the same positions they were removed from during disassembly.
2. Clean and install the metal valve body gaskets (1).

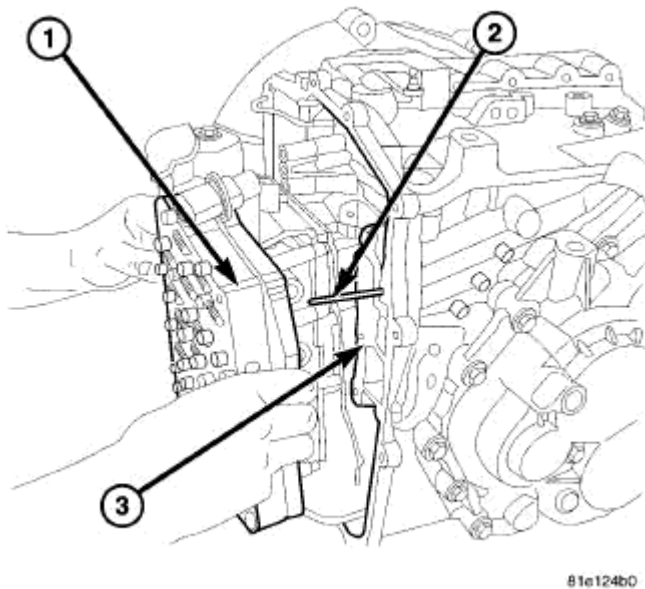


Fig. 358: Valve Body & Alignment Pins
Courtesy of CHRYSLER LLC

3. Move the manual lever to the Drive position.
4. Install new rubber seals on the four valve body towers.
5. Verify the speed sensor wire is positioned so that it will not get pinched between the valve body mounting surfaces during installation of the valve body.
6. Verify that the metal valve body gaskets are installed on the alignment posts.
7. Install a pin/drill bit into the TRS tone wheel.
8. Install the valve body (1).

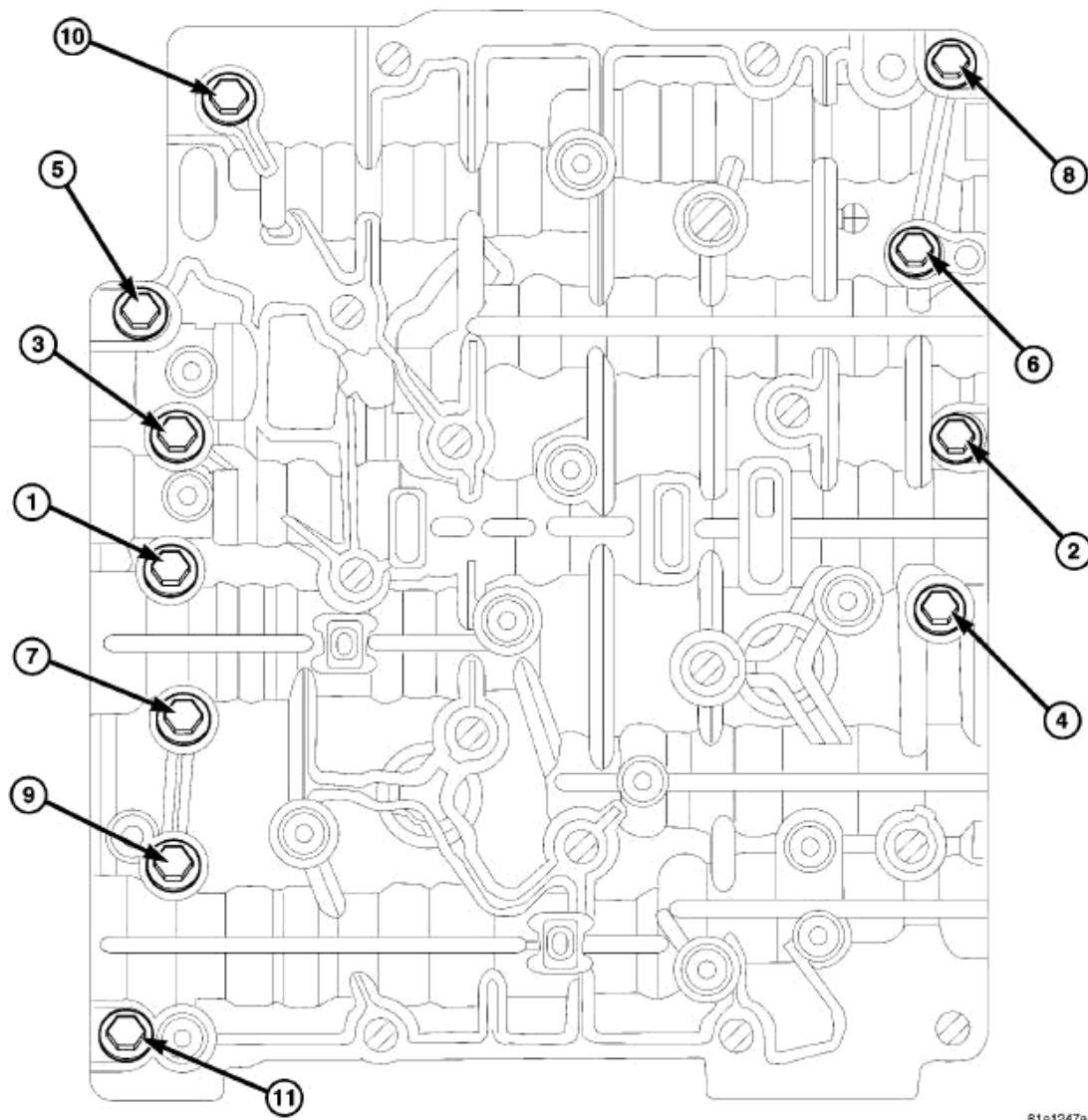
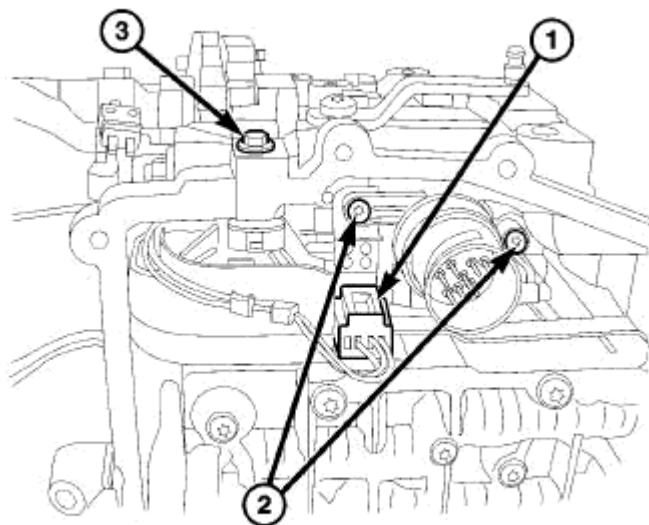


Fig. 359: VALVE BODY BOLTS
Courtesy of CHRYSLER LLC

9. Install the eleven valve body bolts and tighten in two stages in the sequence shown in illustration. In the first stage, tighten the valve body bolts 5 Nm (44 in. lbs.). In the second stage, tighten the valve body bolts to 10 N.m (88 in. lbs.).



81e122e2

Fig. 360: TRS ELECTRICAL CONNECTOR

Courtesy of CHRYSLER LLC

NOTE: Maintain pin/drill bit position in the TRS hole and verify the manual lever stays in the Drive position during TRS installation.

10. Install the TRS into the case.
11. Install the screws (2) at the TRS and tighten to 6 N.m (53 in. lbs.).
12. Install the bolt (3) and a new O-ring at the TRS and tighten to 7 N.m (70 in. lbs.).
13. Remove the previously installed pin/drill bit from the TRS tone wheel.
14. Connect the speed sensor electrical connector (1) to the TRS.

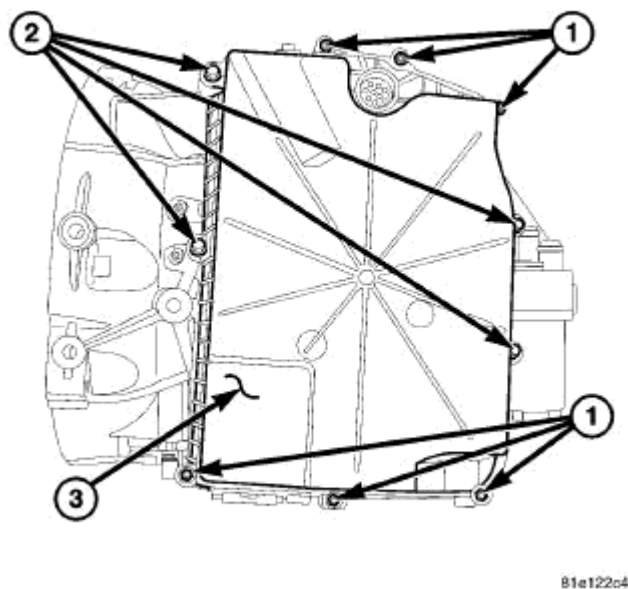


Fig. 361: Valve Body Oil Pan & Bolts
Courtesy of CHRYSLER LLC

15. Install the valve body oil pan (3).
16. Install the bolts (1 and 2) at the valve body oil pan and tighten to 8 N.m (70 in. lbs.)

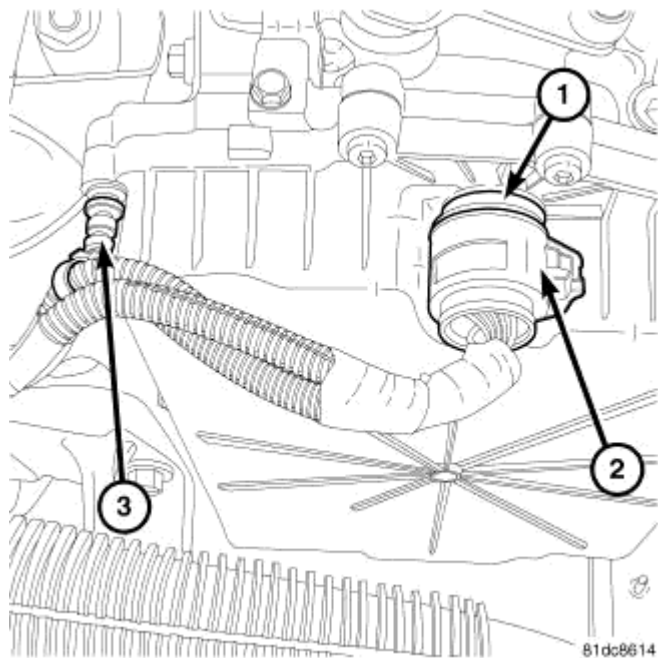


Fig. 362: Solenoid Pack Electrical Connector
Courtesy of CHRYSLER LLC

17. Install the harness retaining clip (3) to the stud at valve body cover.
18. Connect the electrical connector (2) to the TRS (1).

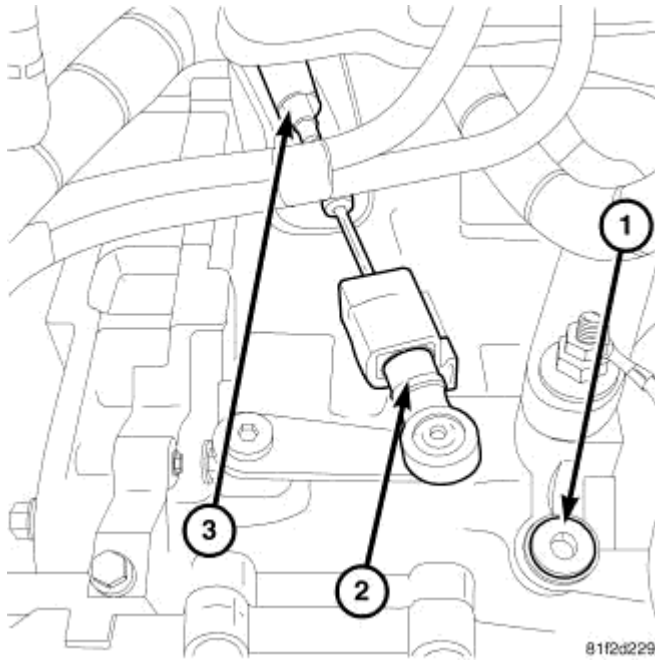


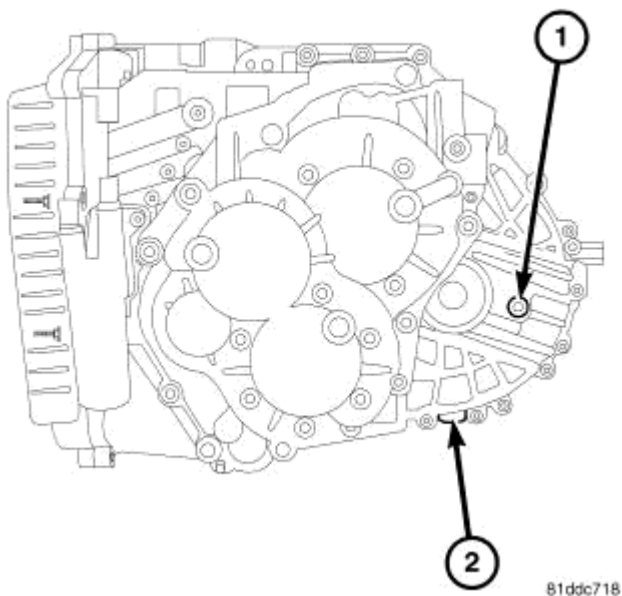
Fig. 363: FILL PLUG

Courtesy of CHRYSLER LLC

19. Lower the vehicle.
20. Remove the transaxle fill plug (1) located on the top of the transaxle.

NOTE: Use only BOT 341 fluid which is a full synthetic SAE 75W transmission fluid.

21. Add approximately 5.5 Liters of BOT 341 fluid and temporarily install the transaxle fill plug.
22. Start the vehicle and allow the engine to reach normal operating temperature. This may take up to 15 minutes if the engine and transmission are cold.
23. Apply the brake and slowly cycle the gear shift through all ranges.

**Fig. 364: DRAIN AND FILL PLUGS****Courtesy of CHRYSLER LLC**

24. Shut off the engine, raise and support the vehicle and remove the transaxle fluid level check plug.
25. The fluid level should be at the top of the transaxle check hole (1) approximately 5.5 Liters. The vehicle must be level and the engine and transaxle must be warm when checking the level of the fluid. If the external transmission oil filter has been replaced, then an additional 0.1 Liter of BOT 341 fluid may be required. If the transaxle cooler and lines are empty, approximately 0.52 Liters of fluid may be required
26. When the fluid is at the correct level, install the transaxle fluid level check plug. Tighten the check plug (1) to 35 N.m (25 ft. lbs.).
27. If equipped, install the engine belly pan.

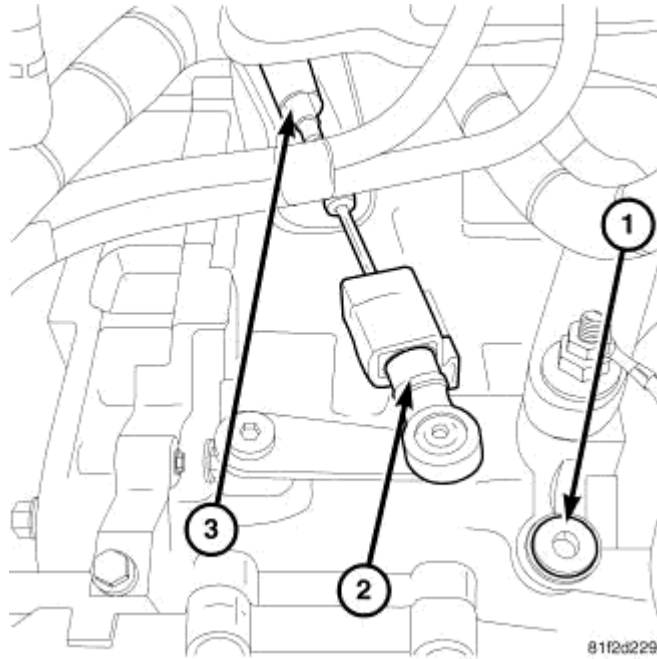


Fig. 365: FILL PLUG

Courtesy of CHRYSLER LLC

28. Lower the vehicle.
29. Install the transaxle fill plug (1) on the top of the transaxle. Tighten fill plug (1) to 35 N.m (25 ft. lbs.).
30. Install the air filter housing.
31. Reconnect the negative battery cable.