FIAT CHRYSLER AUTOMOBILES

September 2022

Dealer Service Instructions for:

Safety Recall Z84 / NHTSA 22V-639 Transmission

Remedy Available

2022 (JT) Jeep® Gladiator

NOTE: This recall applies only to the above vehicles equipped with a 3.0L EXJ engine and DFV automatic transmission 8HP75.

NOTE: Some vehicles above may have been identified as not involved in this recall and therefore have been excluded from this recall.

IMPORTANT: Some of the involved vehicles may be in dealer new vehicle inventory. Federal law requires you to complete this recall service on these vehicles before retail delivery. Dealers should also consider this requirement to apply to used vehicle inventory and should perform this recall on vehicles in for service. Involved vehicles can be determined by using the VIP inquiry process.

Subject

The transmission on about 11 of the above vehicles may have been built with an improperly crimped parking wheel. An improperly crimped parking wheel could become loose and move towards the rear of the transmission housing and potentially compromise the engagement with the parking pawl. The customer may notice a Diagnostic Trouble Code, drive quality change, and/or noise. Compromised engagement of the parking wheel to the parking pawl could result in a loss of park position which may result in inadvertent vehicle movement, which could cause a vehicle crash without prior warning.

Repair

Replace the transmission.

Alternate Transportation

Dealers should attempt to minimize customer inconvenience by placing the owner in a loaner vehicle if the vehicle must be held overnight.

Parts Information

Parts are being sent directly to dealers with involved vehicles.

Parts Return

Transmission core return is required. Reuse the packaging from the NEW transmission to return the suspect transmission following the Mopar standard core return process. Refer to the Mopar® Global Core Return Reference Guide for additional details regarding core return policy requirements. Dealers will be reimbursed for the core once received by the PDC.

All other parts except for transmission may be discarded.

Special Tools

The following special tools are required to perform this repair:

- NPN wiTECH MicroPod II
- NPN Laptop Computer
- NPN wiTECH Software
- 9546 Disconnect Tool – Transmission Cooler Lines
- NPN Offset 15mm Wrench - Torque Converter Bolts

NOTE: An offset 15mm wrench or torque adapter is required to access the torque converter bolts. Shown below in (Figure 1) is FTA35 Snap-on 3/8" drive female/male torque adaptor with FM15 Snap-on 3/8 15mm 12-pt shallow socket, this or simular equivlant is suggested.

Figure 1 – 15mm Offset Wrench or Torque Adapter with Shallow Socket

Service Procedure

1. Open the engine compartment hood.

2. Disconnect and isolate the battery negative cables as follows:

   NOTE: On this dual battery system the auxiliary battery ground cable connects to the main battery cable end and grounds through the main battery ground cable connection to the body, chassis, or engine (depending on vehicle). Therefore, simply disconnecting and isolating the main battery negative cable clamp from the main battery post will not isolate the auxiliary from the vehicle's electrical system. The auxiliary battery will still be grounded through its connection to the main battery negative cable end. If both battery negative cables are not isolated, it will result in the vehicle electrical system and Power Distribution Center (PDC) still having battery connection which can cause vehicle wiring damage or deployment of air bags on re-connection.

   a. Turn the ignition off. Wait five minutes to allow the main modules to go to sleep.

   b. Disconnect and isolate the supplemental (auxiliary) battery negative cable from the main battery negative cable end. This will disconnect and isolate the auxiliary battery ground.

   c. The main battery ground can be disconnected by removing the main battery negative cable from the negative battery cable end, or by disconnecting the IBS connector, loosening the negative battery clamp nut and removing the negative battery cable end from the battery post. Either method will disconnect the main battery. Both batteries should be disconnected from the vehicle electrical system.

   d. Measure the voltage at the PDC positive battery cable connection to verify the vehicle electrical system is powered down.

   NOTE: On some vehicles a small amount of voltage may be present (typically less than approximately 0.5 volts) due to capacitors is some modules still having voltage stored. Anything less than 1.0 volts should be safe.

Service Procedure [Continued]

3. Raise and support the vehicle.

4. Remove the vibration dampener cover nuts (1), vibration dampener cover bolts (3) and the vibration dampener cover (2) (Figure 2).

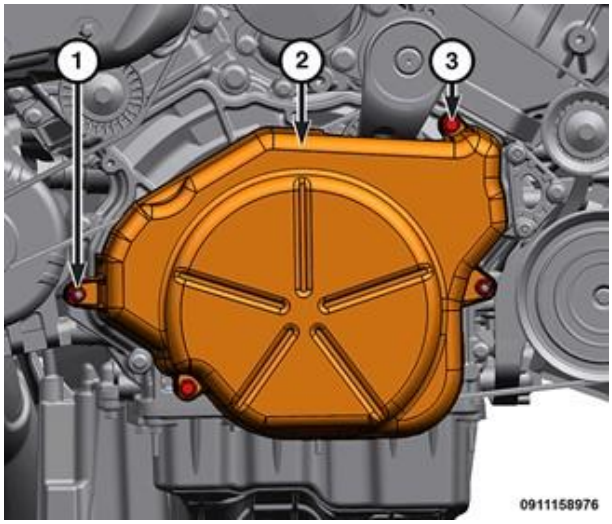

Figure 2 – Vibration Dampener Cover

Remove and **DISCARD** the three bolts securing the front reinforcement crossmember then remove the crossmember from the vehicle (Figure 3).

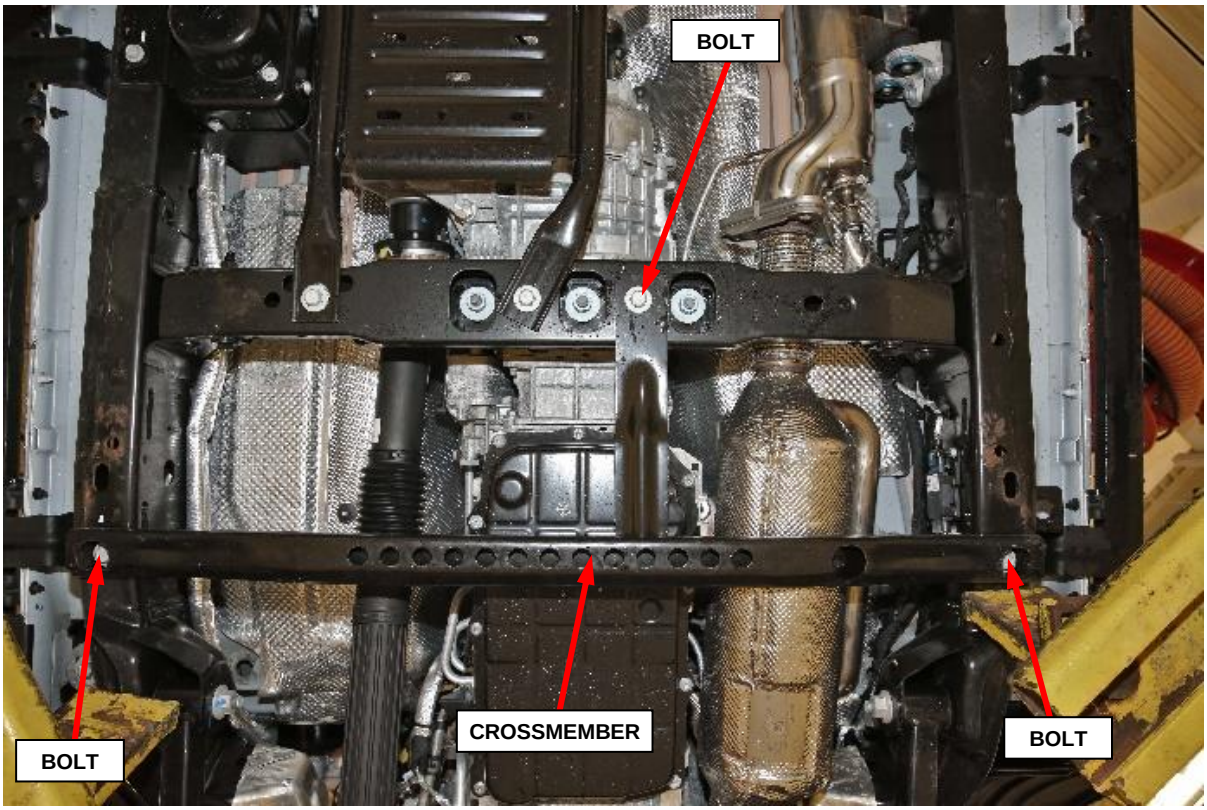

Figure 3 – Front Reinforcement Crossmember

Service Procedure [Continued]

5. Remove the four bolts then remove the Selective Catalytic Reduction (SCR) skid plate (Figure 4). **DISCARD** the rearward two bolts which have thread-lock, they will be replaced. The two forward bolts without thread-lock will be reused.

Figure 4 – SCR Skid Plate

Service Procedure [Continued]

6. Loosen the fuel filter/water separator bracket bolts to allow for movement while removing the transfer case skid plate.

7. Remove and **SAVE** the two bolts securing fuel tank skid plate to transfer case skid plate then remove and **DISCARD** the four bolts securing the transfer case skid plate to the vehicle then remove the transfer case skid plate (Figure 5).

   NOTE: During removal, slide the transfer case skid plate toward the right side (passenger side) of the vehicle to remove it from under the fuel filter bracket and fuel tank skid plate.

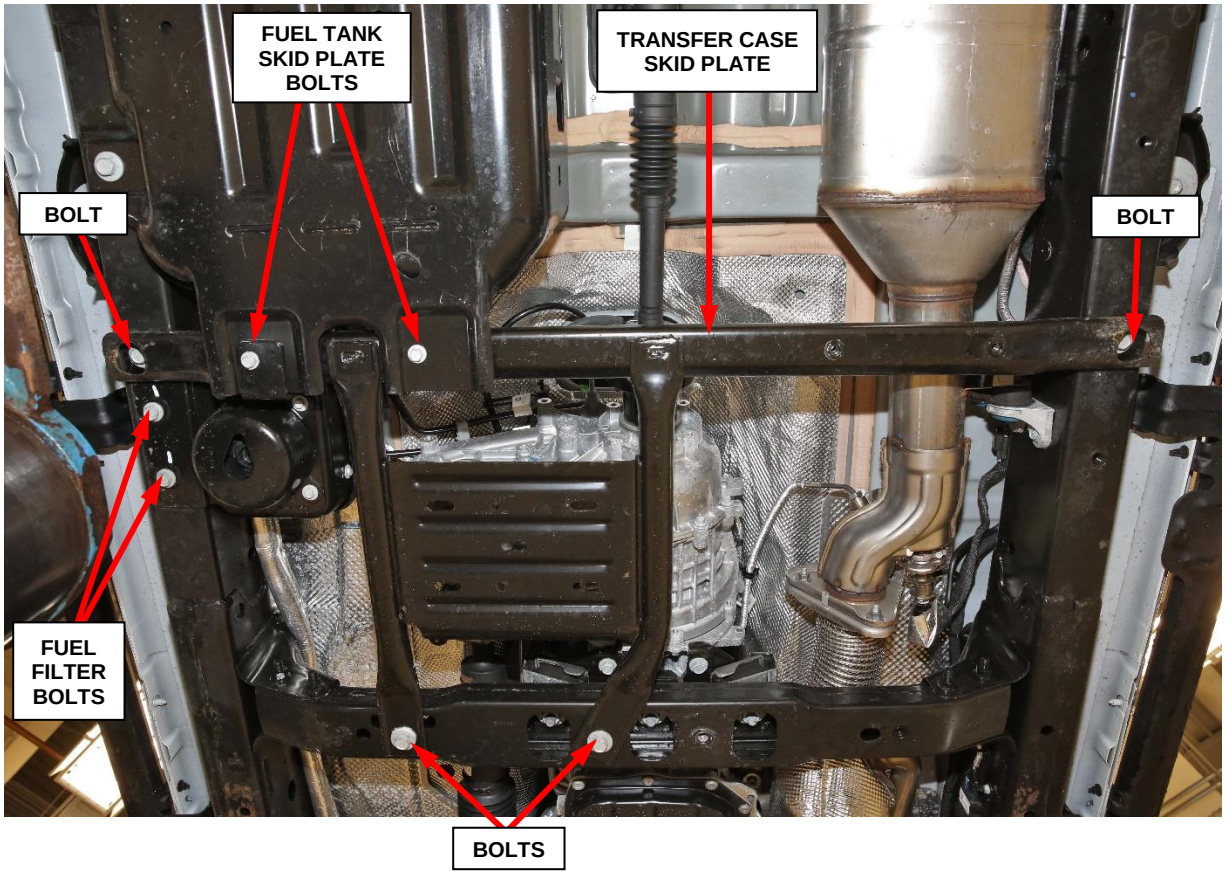

Figure 5 – Transfer Case Skid Plate

Service Procedure [Continued]

8. Saturate the Diesel Particulate Filter (DPF) fasteners and tube connections with Mopar® Rust Inhibitor. Allow for penetration while removing the drive shafts (Figure 6).

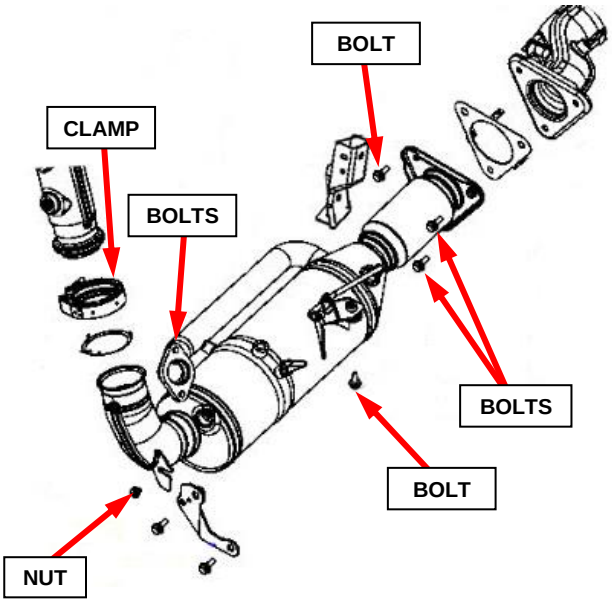

Figure 6 – Diesel Particulate Filter Saturate Fasteners with Rust Inhibitor

9. Index mark the front and rear driveshafts to the rear axle pinion flange and transfer case flange for installation purposes (Figure 7).

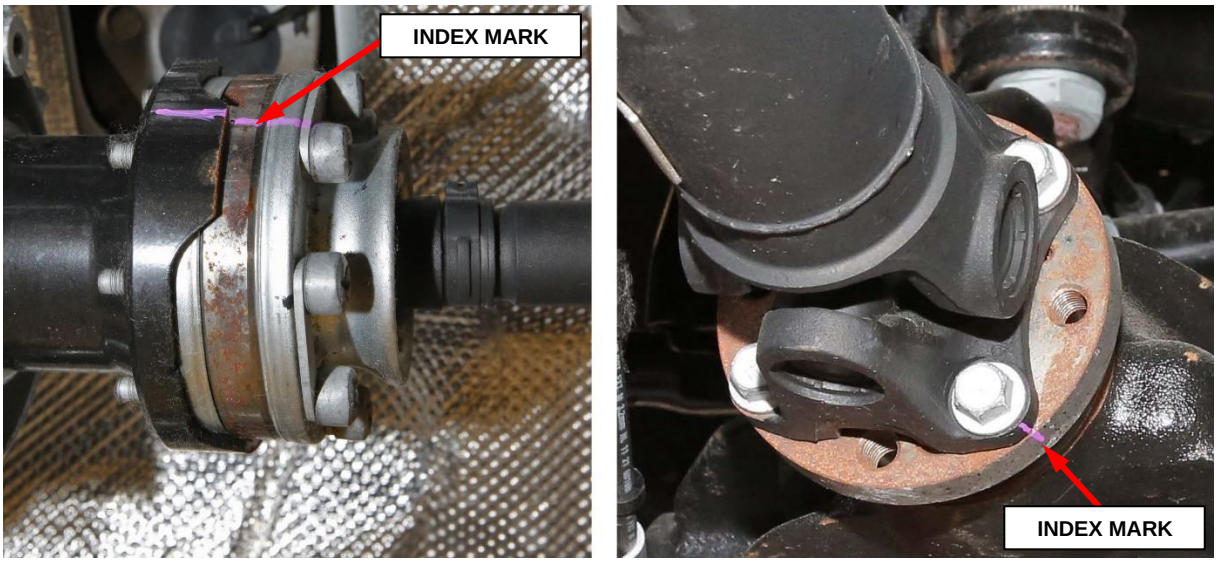

Figure 7 – Index Mark Driveshafts

Service Procedure [Continued]

10. Using a long piece of wood or similar, fasten it to the rear driveshaft with several cable ties to keep the driveshaft from over-articulating during removal and installation (Figure 8).

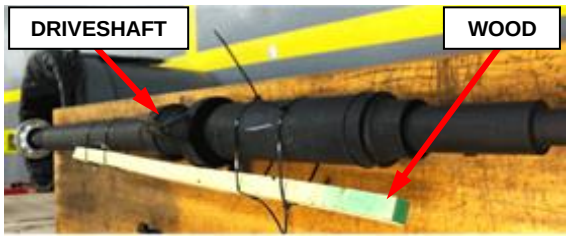

Figure 8 – Stabilize Driveshaft

11. Remove and **DISCARD** the rear driveshaft to pinion flange bolts and shims (Figure 9).

12. Remove and **DISCARD** the driveshaft to transfer case flange bolts (Figure 10).

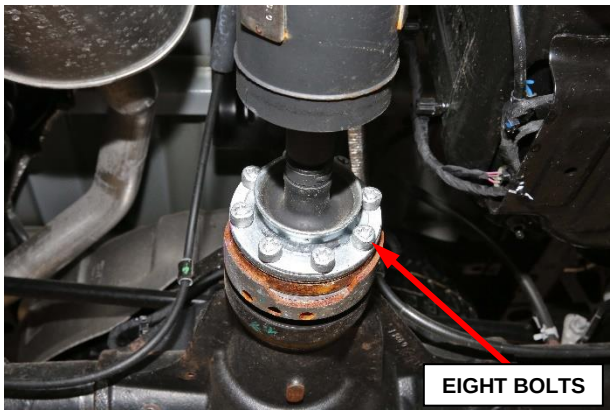

Figure 9 – Rear Axle Pinion Flange

CAUTION: Driveshaft removal is a two-person operation. Never allow the driveshaft to hang from the center bearing, or while only connected to the transmission or rear axle flanges. An assistant is required. If a driveshaft section is hung unsupported, damage may occur to the shaft, joint and center bearing from over-angulation. This may result in driveline vibrations or component failure.

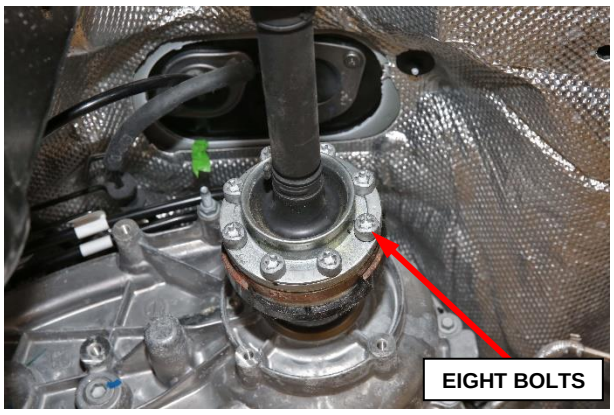

Figure 10 – Transfer Case Flange Rear

Service Procedure [Continued]

13. Remove and **DISCARD** the two center support carrier bearing bolts then remove the rear driveshaft from the vehicle (Figure 11).

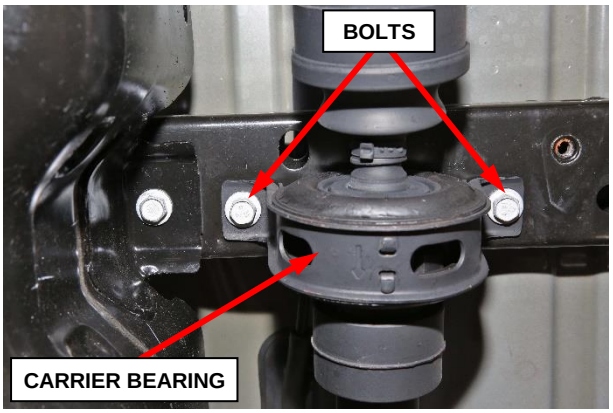

Figure 11 – Center Support Bearing

14. Remove and DISCARD the front driveshaft to transfer case bolts (Figure 12).

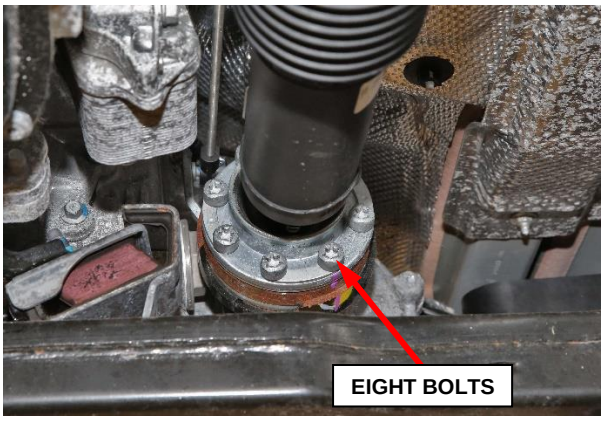

Figure 12 – Transfer Case Flange Front

15. Remove and DISCARD the front axle flange to front driveshaft bolts and remove the driveshaft (Figure 13).

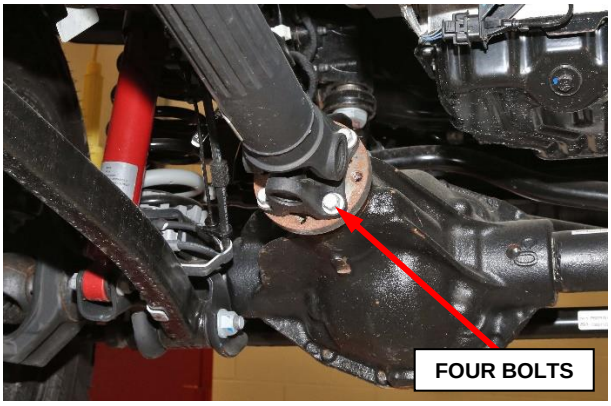

Figure 13 – Front Axle Pinion Flange

Service Procedure [Continued]

16. Remove and **DISCARD** the three bolts securing the Diesel Particulate Filter (DPF) to the Selective Catalytic Reduction (SCR) then separate the flange. The gasket will be replaced during reassembly (Figure 14).

    NOTE: removal of these flange fasteners is necessary to allow transmission and transfer case to be lowered.

17. Remove the transmission mount nuts (Figure 15).

18. Support the transmission with a suitable lifting device.

    NOTE: Be careful not to damage the transmission pan.

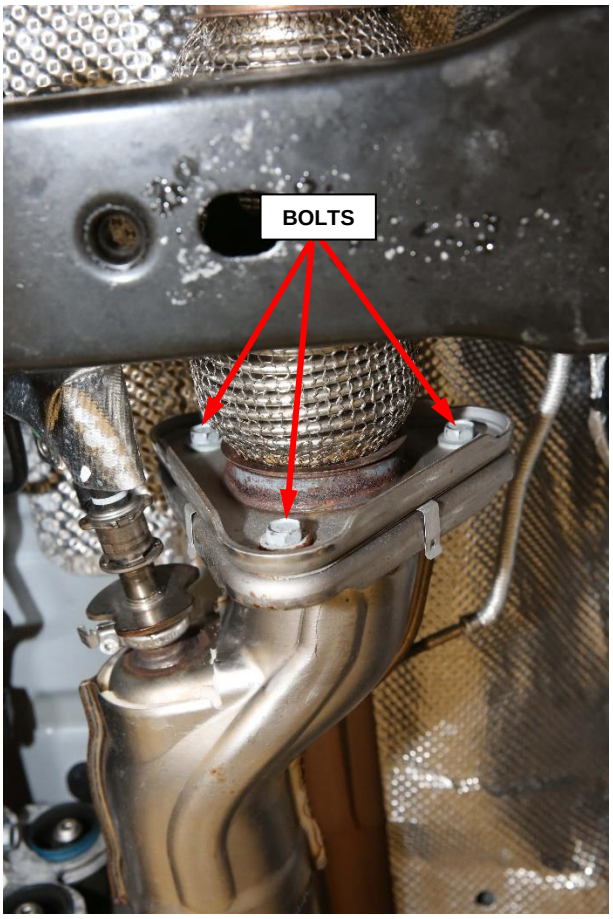

Figure 14 – DPF to SCR Flange

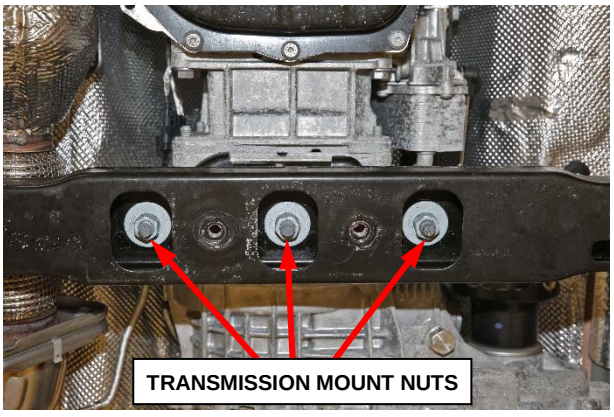

Figure 15 – Transmission Mount Nuts

Service Procedure [Continued]

19. Remove the crossmember bolts and nuts then remove the crossmember (Figure 16).

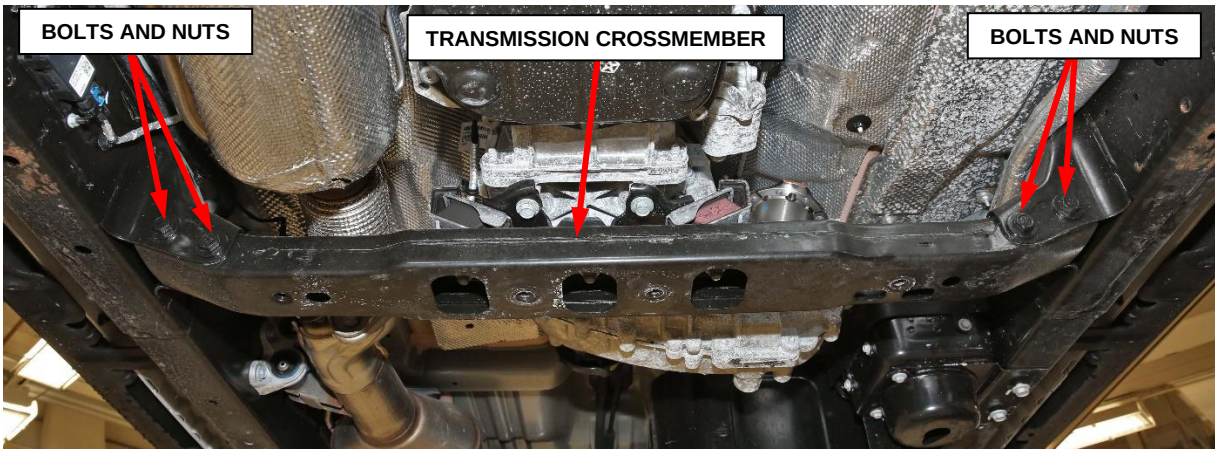

Figure 16 – Transmission Crossmember

20. Remove the four bolts securing the transmission mount then remove the mount (Figure 17).

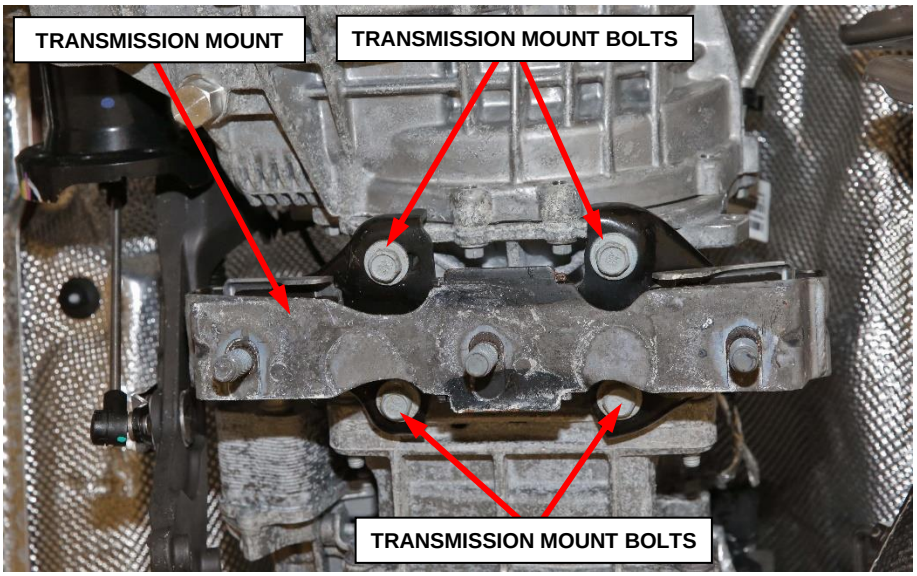

Figure 17 – Transmission Mount

Service Procedure [Continued]

21. Lower the jack stand as necessary to access the transfercase.

22. Disconnect the wire harness connector (1) from the transfer case position sensor (Figure 18).

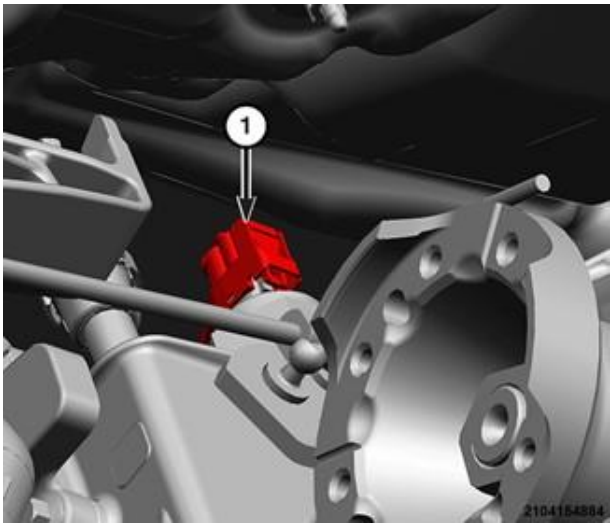

Figure 18 – Electrical Connector

23. Release the wire harness retainers from the transfer case (Figure 19).

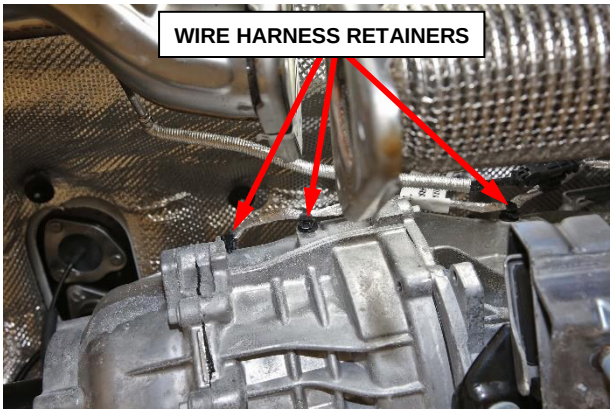

Figure 19 – Wire Harness Retainers

Service Procedure [Continued]

24. Disconnect the shift rod (1) at the transfer case (Figure 20).

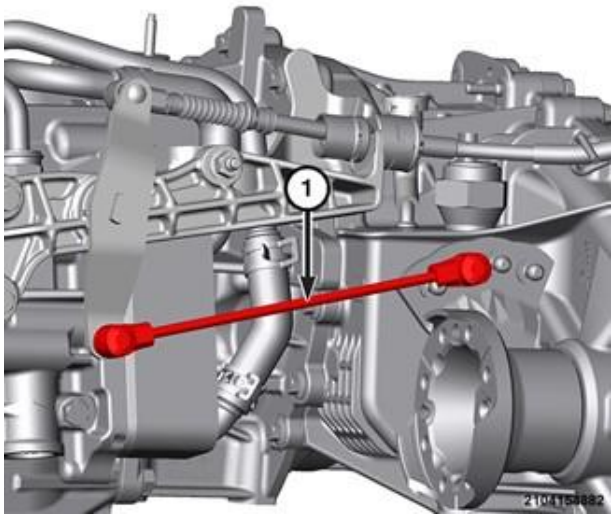

Figure 20 – Transfer Case Shift Rod

25. Remove the two bolts (1) and one nut securing the transfer case shift bracket (2) to the transmission then remove the shift bracket (2) from the transmission leaving cable and shift rod attached (Figure 21).

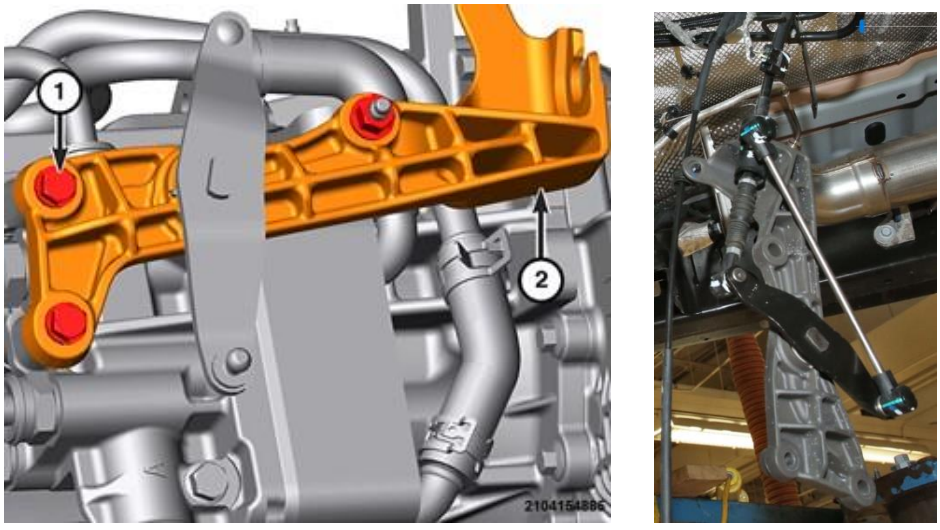

Figure 21 – Transfer Case Shift Bracket

Service Procedure [Continued]

26. Remove the four nuts securing the fuel tube bracket and shift cable retaining bracket to the transfer case then remove both brackets (Figure 22).

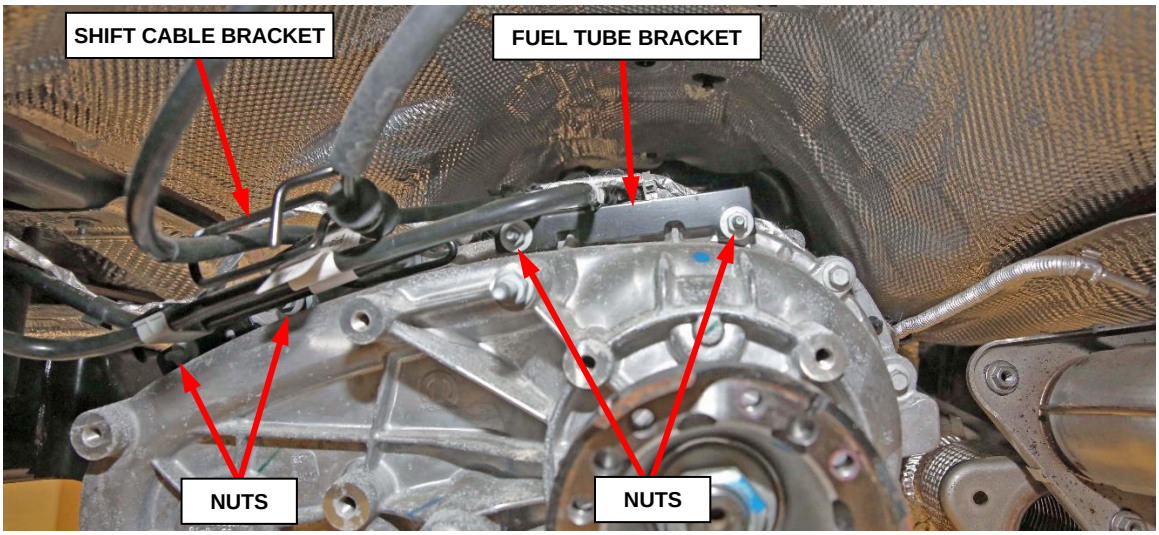

Figure 22 – Shift Cable and Fuel Tubes Brackets

27. Using a suitable jack, support the transfer case. Using safety chains, secure transfer case to the jack (Figure 23).

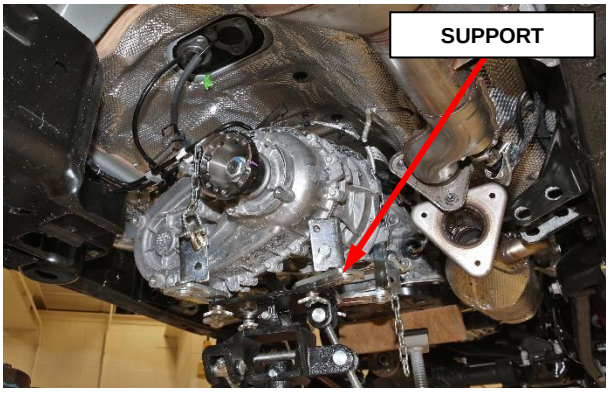

Figure 23 – Support Transfer Case

Service Procedure [Continued]

28. Remove the seven bolts (1) securing the transfer case to the transmission (Figure 24).

    NOTE: The transfer case shift bracket covers the bolt at the top of the transfer case so bolts to either side (2) will need to be removed first to release the bracket (1) and expose the top bolt (Figure 25).

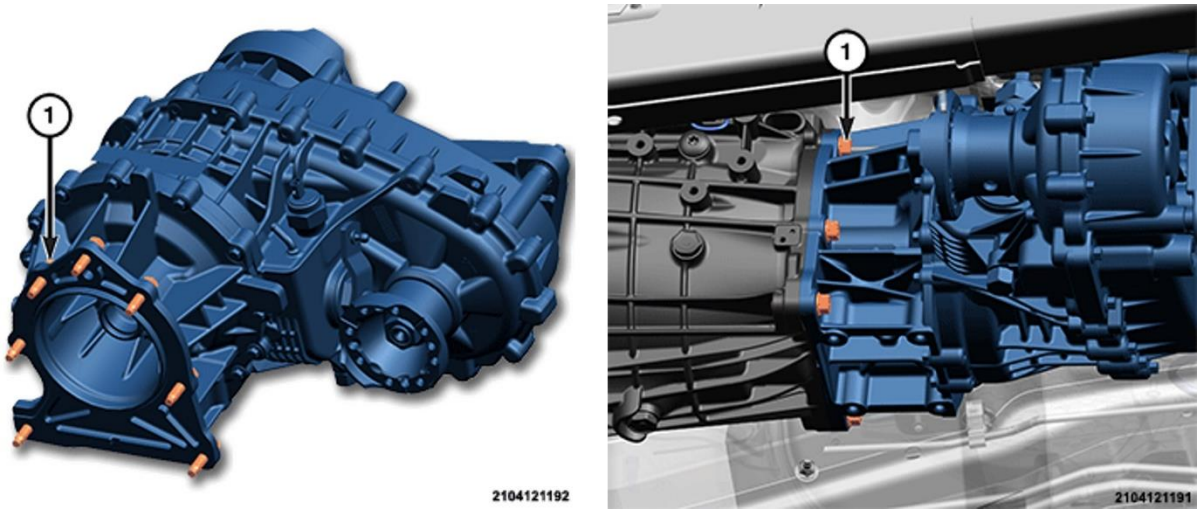

Figure 24 – Transfer Case to Transmission Bolts

29. Remove the transfer case shift bracket (1) from the top of the transfer case (Figure 25).

30. Move the transfer case assembly rearward until it is free of the transmission output shaft.

31. Lower the jack and remove the transfer case from under the vehicle.

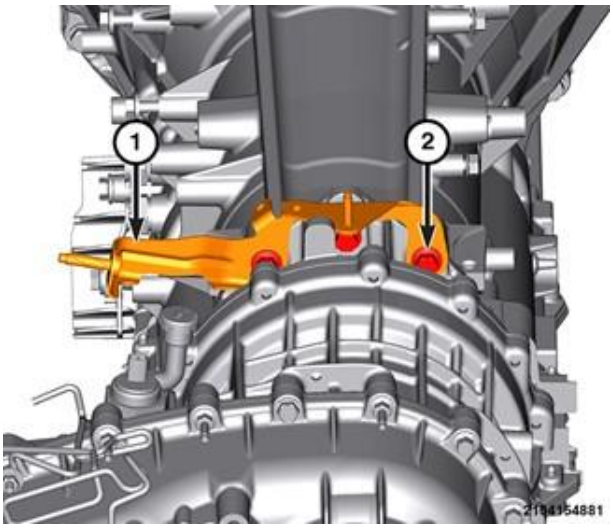

Figure 25 – Support Transfer Case

Service Procedure [Continued]

NOTE: The DPF electrical and sensor hose connections can be accessed by reaching above the DPF from the rear of the DPF.

32. Disconnect the Exhaust Gas Temperature (EGT) 1/3 wire harness connector and open the wire retainer (2) (Figure 26).

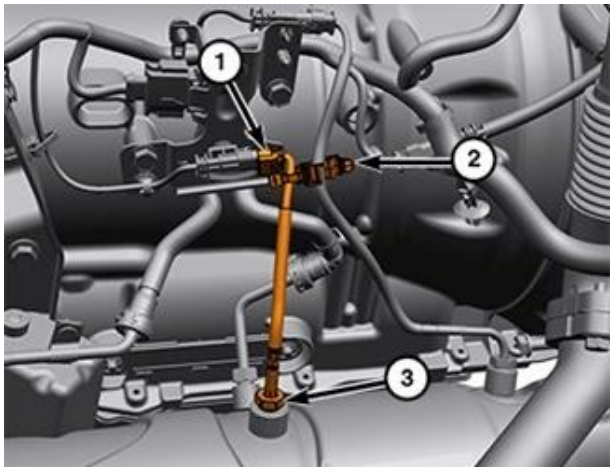

Figure 26 – EGT Sensor 1/3

33. Disconnect the electrical connector (1) and release the wire harness retainer (2) for the Exhaust Gas Temperature (EGT) sensor 1/2 (Figure 27).

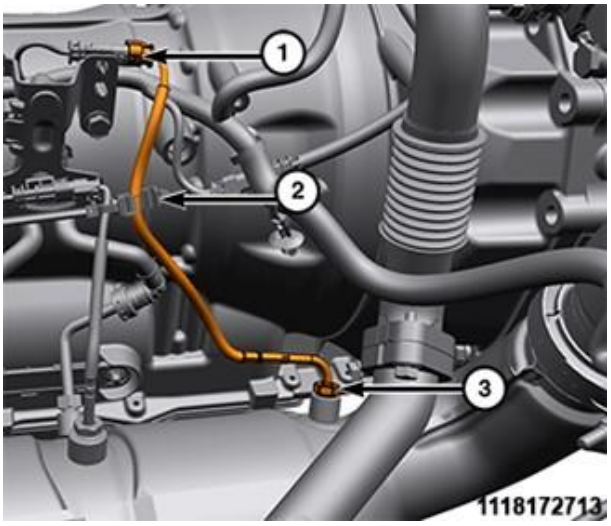

Figure 27 – EGT Sensor 1/2

34. Disconnect both differential pressure sensor hoses (1) (Figure 28).

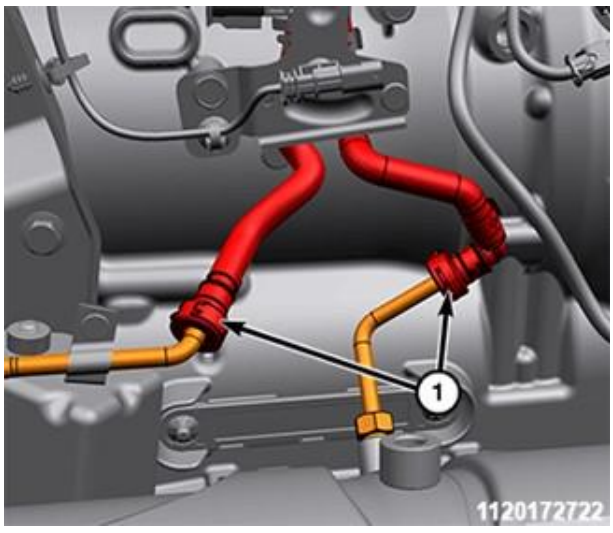

Figure 28 – Differential Pressure Hoses

Service Procedure [Continued]

35. Position a jack stand under the DPF.

36. Remove and **DISCARD** the front steady rest bracket nut (Figure 29).

37. Remove the two transmission bell housing bolts securing the front steady rest bracket then remove the front steady rest bracket (Figure 29).

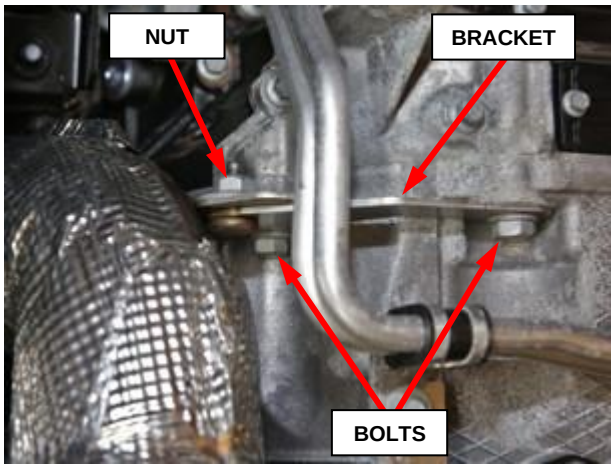

Figure 29 – Front Steady Rest Bracket

38. Remove the Low Pressure (LP) Exhaust Gas Recirculation (EGR) tube bolts (1) then **DISCARD** the bolts and gasket (Figure 30).

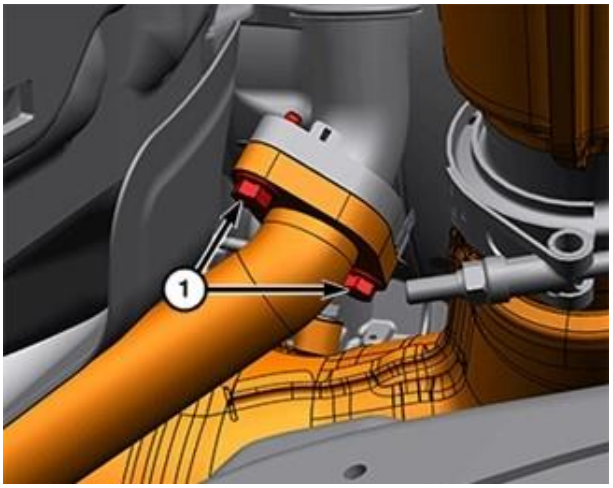

Figure 30 – EGR Tube

39. Remove the DPF inlet elbow band clamp (1) then **DISCARD** the band clamp and gasket (Figure 31).

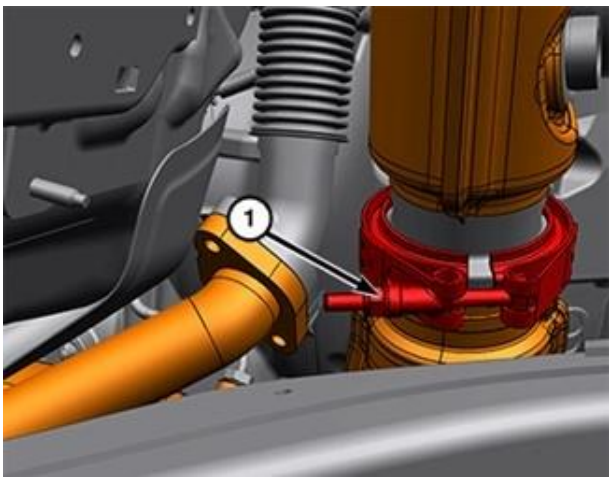

Figure 31 – DPS Band Clamp

Service Procedure [Continued]

40. Remove and **DISCARD** the DPF to transmission rear steady rest bracket bolt and two red rubber isolators, they will be replaced (Figure 32).

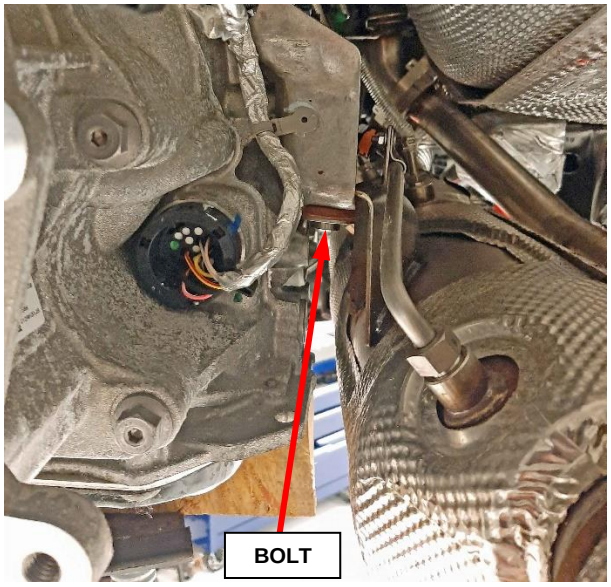

Figure 32 – Rear Steady Rest Bracket

41. Carefully remove the DPF (1) from the vehicle (Figure 33).

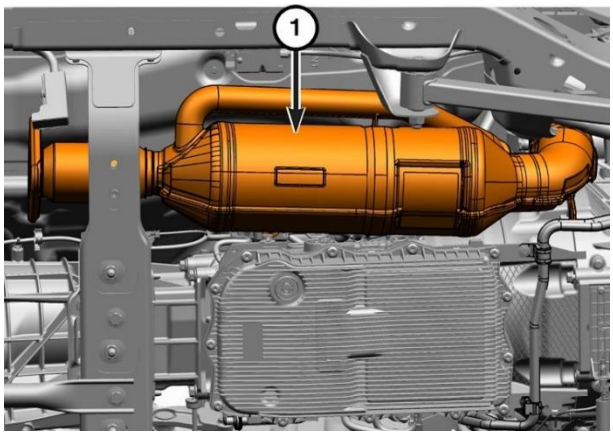

Figure 33 – DPF

Service Procedure [Continued]

42. Disconnect Crankshaft Position (CKP) sensor wire harness connector and release the retainer (Figure 34).

43. Detach the CKP wire harness connector from the bracket (Figure 34).

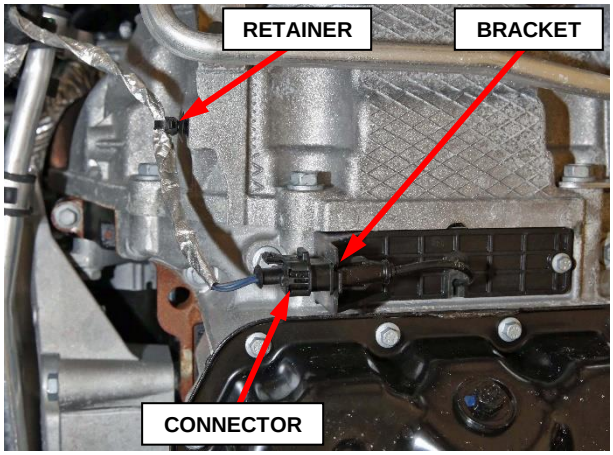

Figure 34 – CKP Harness Connector

44. Remove the access cover bolts and the access cover (Figure 35).

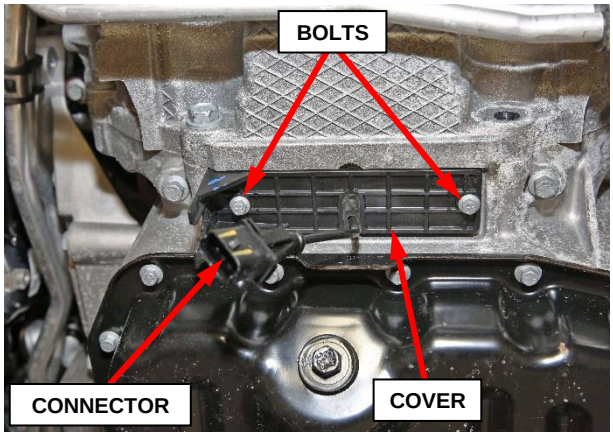

Figure 35 – CKP Access Cover

45. Remove the CKP sensor bolt and the CKP sensor (Figure 36).

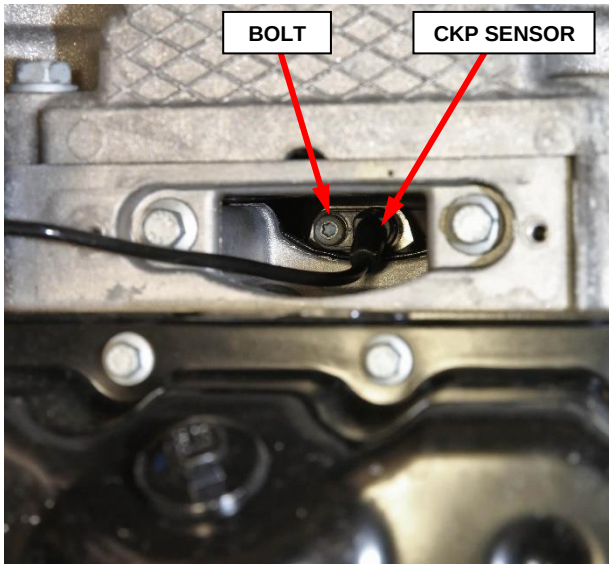

Figure 36 – Crankshaft Position Sensor

Service Procedure [Continued]

NOTE: In the next three steps, leave the wire harness retainers attached to the brackets. They do not need to be remove from the vehicle.

46. Remove the fasteners (2) then position aside the DPF bracket with wire harness attached (Figure 37).

47. Remove the fasteners (1) then position aside the pressure differential sensor and bracket with wire harness attached (Figure 37).

48. Remove the fastener (3) then position aside the transmission heater coolant hoses bracket with wire harness attached (Figure 37).

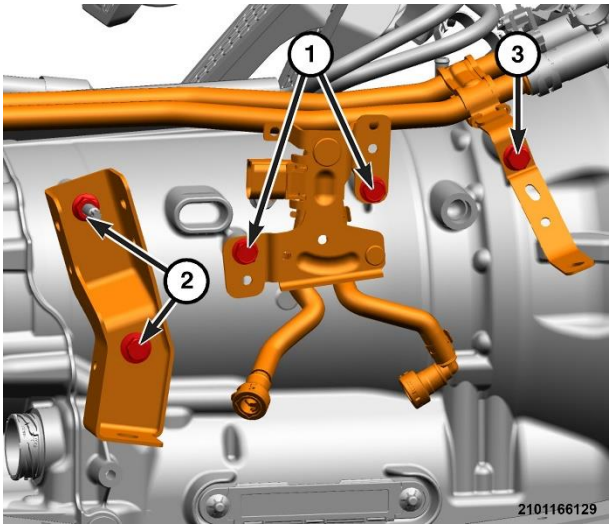

Figure 37 – Brackets

49. Disconnect the 13-pin plug connector (2). Turn the connector counter-clockwise to release (Figure 38).

50. Release all remaining wiring harness retainers attached directly to the transmission (Figure 38).

    NOTE: There is a wire harness retainer which must be released located on the right side of the transmission bell housing under the EGR tube.

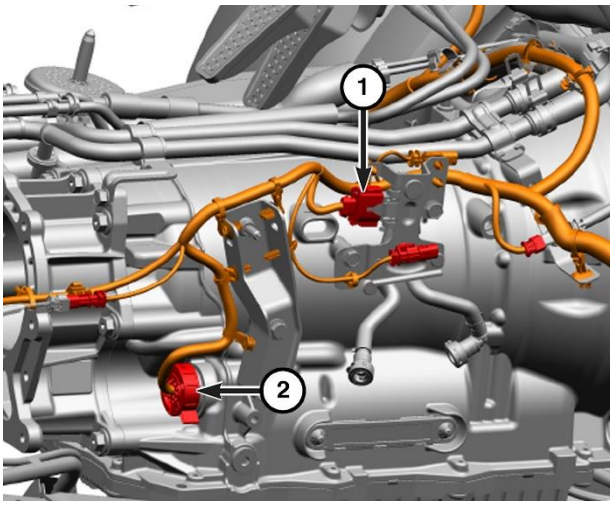

Figure 38 – Electrical Connectors

Service Procedure [Continued]

51. Remove the fastener (1) that hold the transmission heater coolant hoses (2) to the transmission (Figure 39).

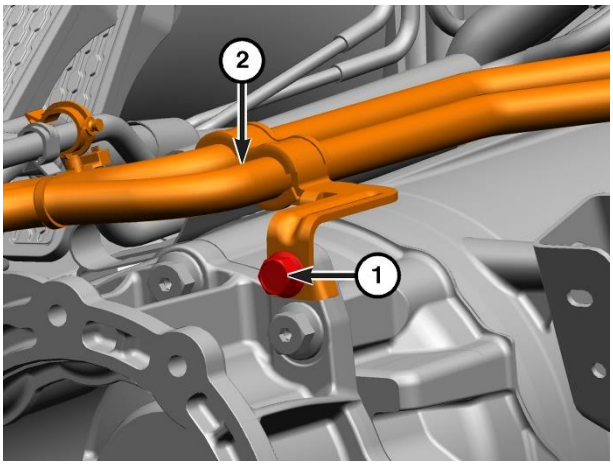

Figure 39 – Coolant Hoses

52. Remove the fuel tube bracket fasteners (1) then let the bracket with tubes (2) hang freely (Figure 40).

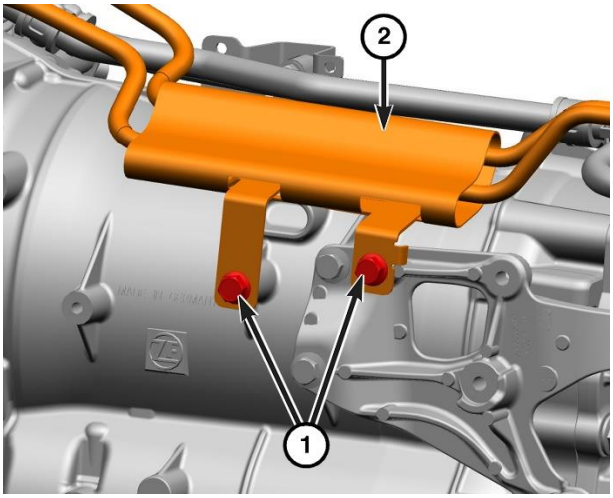

Figure 40 – Fuel Tube Bracket

Service Procedure [Continued]

53. Remove the two bolts retaining the transmission heater coolant hoses on left side of vehicle (Figure 41).

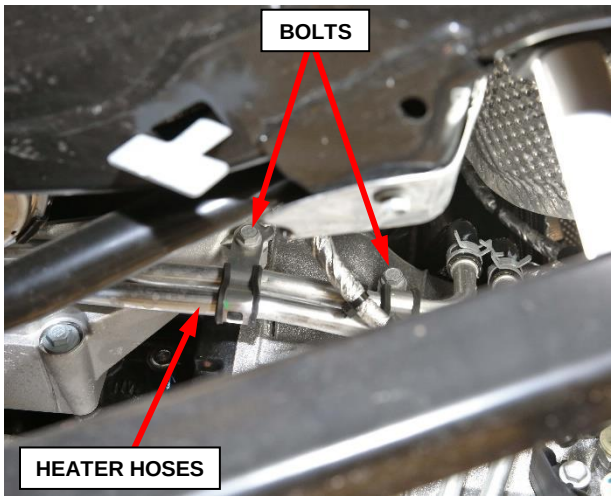

Figure 41 – Oil Heater Hoses

54. Remove the fasteners (1) from the transmission oil cooler pipes (2) and position aside (Figure 42).

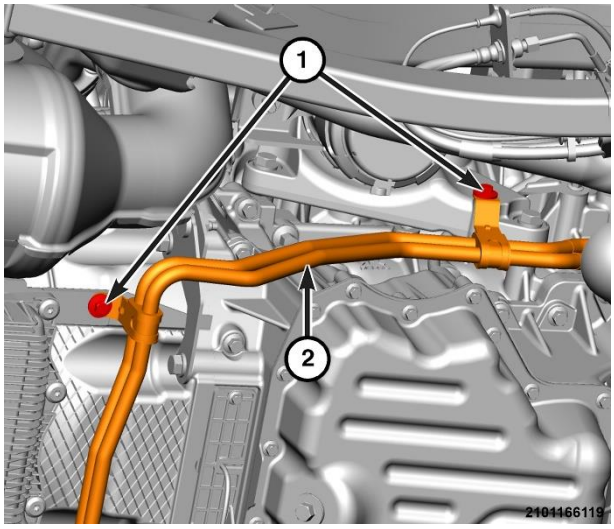

Figure 42 – Oil Cooler Pipes

Service Procedure [Continued]

55. Disconnect the Manual Park Release (MPR) cable (2) from the MPR lever (3) (Figure 43).

56. Remove the bolts (1) from the MPR cable bracket (2) then position the MPR cable with bracket aside (Figure 43).

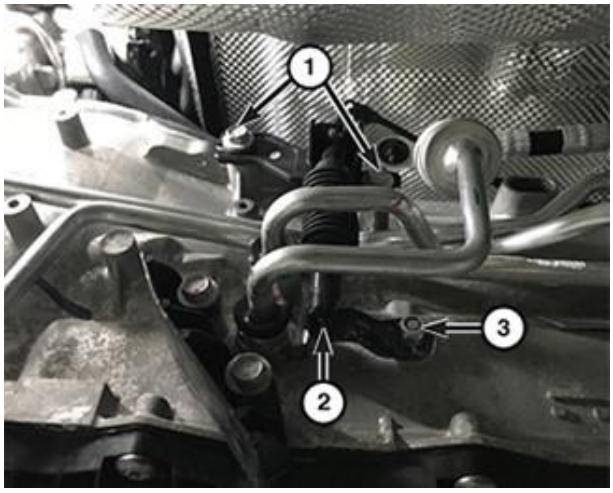

Figure 43 – Manual Park Release

57. Remove the fastener (1) retaining the transmission oil heater (2). Position the transmission oil heater aside (Figure 44).

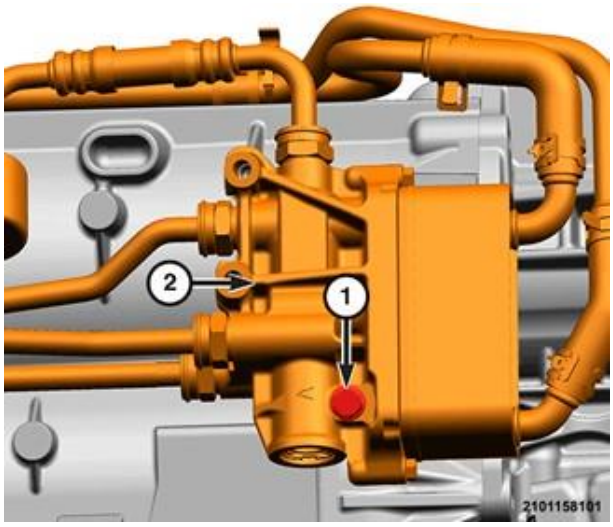

Figure 44 – Transmission Oil Heater

58. Using the Disconnect Tool 9546, disconnect the transmission oil cooler lines (1) from the transmission (Figure 45).

59. Cap the cooler lines and transmission ports to prevent loss of transmission fluid.

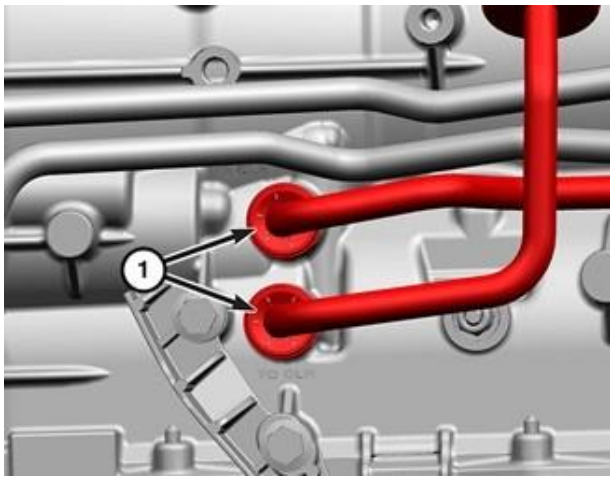

Figure 45 – Oil Cooler Lines

Service Procedure [Continued]

60. Rotate the crankshaft clockwise and remove six torque converter bolts (1) through the crank position sensor pocket (Figure 46).

    NOTE: There are three sets of two torque converter bolts located 120° apart from each other

    NOTE: 15mm Offset Wrench or Torque Adapter with Shallow Socket will be necessary for accessing the torque converter bolts. Refer to the Special Tools table Page 3 for suggested tool.

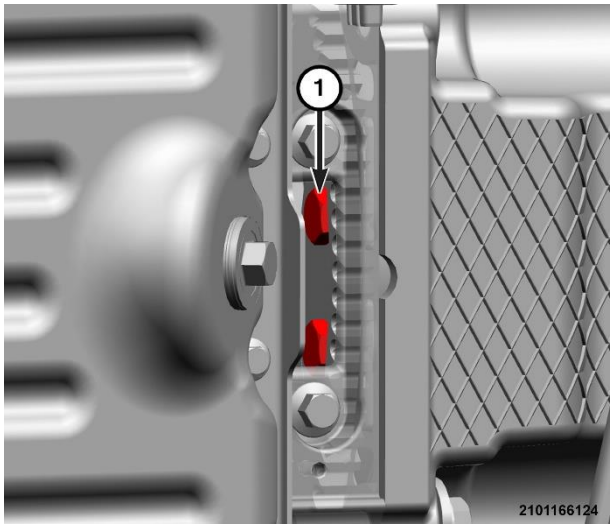

Figure 46 – Torque Converter Bolts

61. Support engine with a suitable stand before removing transmission.

62. Support the transmission using a suitable jack. Using safety chains, secure the transmission to the jack (Figure 47).

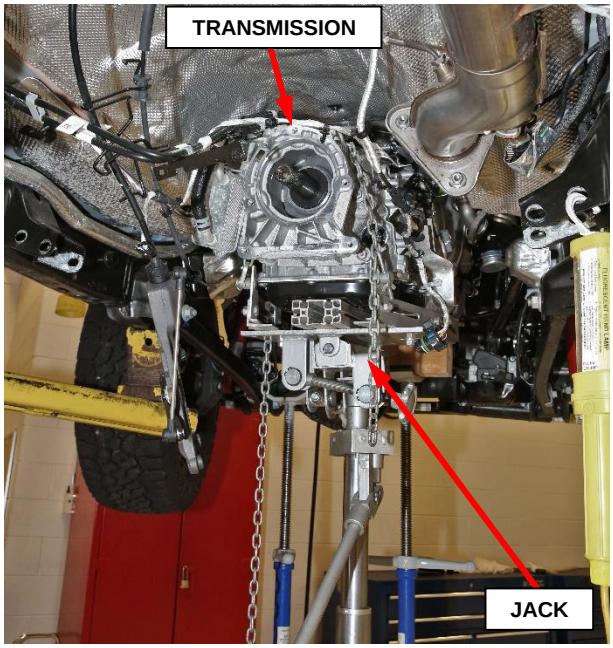

Figure 47 – Support Engine and Support Transmission

Service Procedure [Continued]

63. Remove the transmission to engine fasteners. It is recommended to remove the double ended studs (2) prior to removing the bolts (1) (Figure 48).

64. Carefully maneuver the transmission and the torque converter assembly rearward off the engine block dowels. Hold the torque converter in place during removal of the transmission.

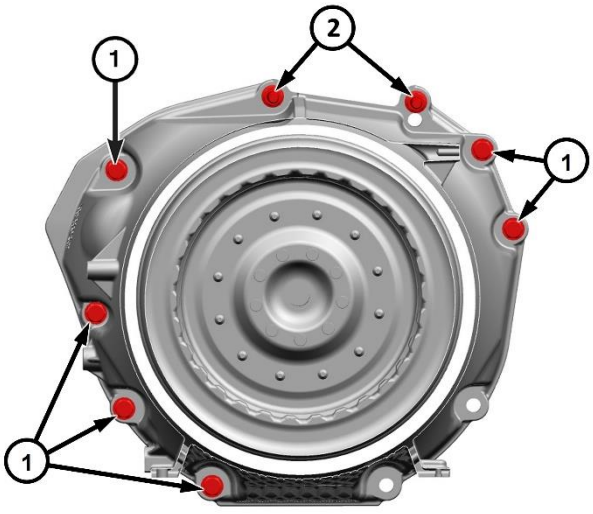

Figure 48 – Transmission Bolts

NOTE: Be careful not to damage or bend the transmission oil cooler pipes and watch carefully for cables and wires which may become entangled with transmission during removal.

65. Disconnect the transmission vent hose at the top of the transmission housing then lower the transmission to remove it from under the vehicle.

66. Transmission core return is required. Reuse the packaging from the **NEW** transmission to return the suspect transmission. Transfer the torque converter Retaining bracket from **NEW** transmission to the suspect transmission for core return (Figure 49). Follow the Mopar core return process. Refer to the Mopar® Global Core Return Reference Guide for additional details regarding core return requirements.

NOTE: The NEW transmission comes prefilled with the proper amount of fluid. There should be no reason to inspect fluid level unless an excessive amount of fluid is lost either during transport or installation.

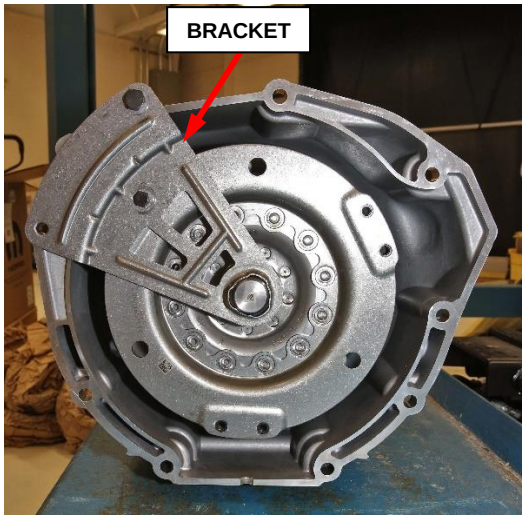

Figure 49 – Torque Converter Retaining Bracket

Service Procedure [Continued]

67. Transfer any remaining brackets and parts from suspect transmission to **NEW** transmission which may not have been supplied with the NEW transmission before preparing the suspect transmission for core return (Figure 50).
    - DPF bracket stud. Tighten to 26 N·m (19 Ft. Lbs.)
    - Splash shield. Tighten to 17 N·m (13 Ft. Lbs.)
    - Manual park release lever. Tighten to 20 N·m (15 Ft. Lbs.)
    - Transmission heater bracket. Tighten to 23 N·m (17 Ft. Lbs.)

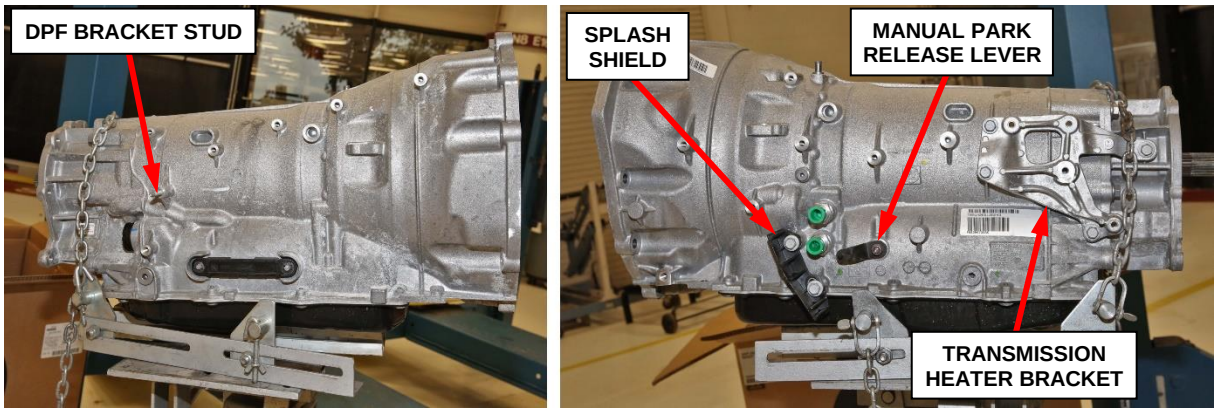

Figure 50 – Transfer Remaining Parts to NEW Transmission

68. Apply a light coating of Mopar® High Temp Grease to the torque converter hub pocket in the rear pocket of the engine crankshaft and to the output shaft splines (Figure 51).

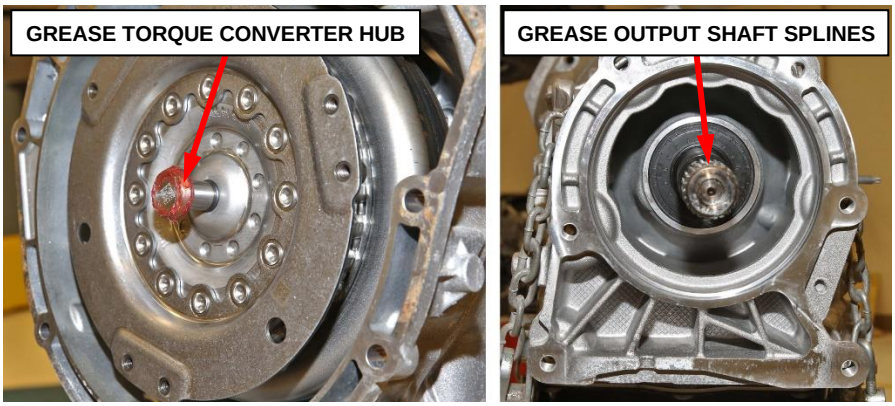

Figure 51 – Grease Torque Converter Hub and Output Shaft Splines

Service Procedure [Continued]

69. Secure the **NEW** transmission to a suitable jack using safety chains.

70. Rotate the crankshaft in a clockwise direction to line up the alignment hole in the flex plate with the access hole at bottom of engine.

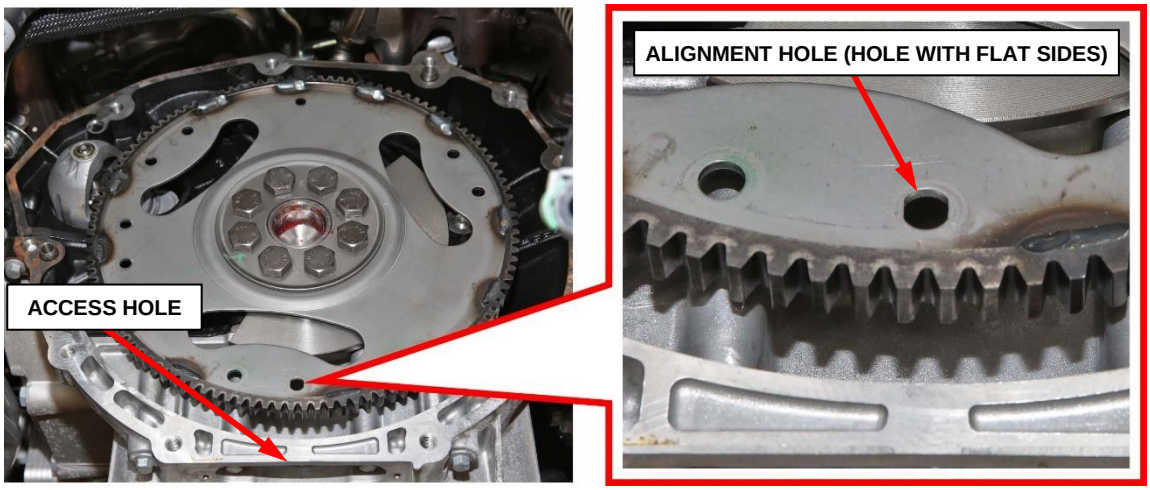

Figure 52 – Position the Flex Plate Alignment Hole to the Access Hole

71. Raise the transmission and connect the vent hose at the top of the transmission housing.

72. Align the torque converter bolt holes with the flex plate bolt holes and the transmission converter housing with the engine block.

73. Move the transmission forward. Then maneuver the transmission to align the converter housing with the engine block dowels.

    NOTE: It may be necessary to use a suitable jack to support the rear of the engine during transmission installation.

74. Carefully maneuver the transmission forward and over the engine block dowels until the converter hub is seated in the crankshaft. Verify that no loose wires became trapped between the engine block and the transmission.

Service Procedure [Continued]

75. Install the transmission to engine bolts. Tighten all of the bolts to the proper torque specification (Figure 48).
    - Double Ended Studs 48 N·m (35 Ft. Lbs.)
    - Bolts 50 N·m (37 Ft. Lbs.)

76. Beginning with the alignment hole in the flex plate, start the first **NEW** torque converter bolt (1) through the crank position sensor pocket (Figure 46).

    NOTE: Install all torque converter bolts by hand first. There are three sets of two bolts 120° apart.

    NOTE: Use a commercially available torque adapter to install the torque converter bolts. Refer to Special Tools table Page 3 for suggested tool.

77. Rotate the crankshaft in a clockwise direction until the flexplate to torque converter bolt holes are accessible. There are three sets of two bolts 120° apart (Figure 46). After all six bolts have been hand installed, then tighten the bolts to 41 N·m (30 Ft. Lbs.).

78. Connect the transmission lines (1) to the transmission. Be sure that the lines are fully seated. Snap the lock ring over the line fitting (Figure 45).

79. Position the transmission oil heater (2), install the fastener (1) then tighten to 23 N·m (17 Ft. Lbs.) (Figure 44).

80. Install the MPR cable and bracket assembly to the transmission. Install the bolts and tighten to 20 N·m (15 Ft. Lbs.) (Figure 43).

81. Connect the Manual Park Release (MPR) cable (2) to the MPR lever (3) (Figure 43).

Service Procedure [Continued]

82. Position the transmission oil cooler lines. Install the fasteners and tighten to 9 N·m (80 In. Lbs.) (Figure 42).

83. Position the transmission oil heater lines on left side of the vehicle then install the two bolts and tighten to 20 N·m (15 Ft. Lbs.) (Figure 41).

84. Position the fuel tube bracket (2) then install the fasteners (1) and tighten to 11 N·m (8 Ft. Lbs.) (Figure 40).

85. Position the transmission heater coolant hoses (2) to the transmission and install the fastener (1), tighten to 22 N·m (16 Ft. Lbs.) (Figure 39).

86. Position the transmission heater coolant hoses to the transmission and tighten the fastener (3) to 22 N·m (16 Ft. Lbs.) (Figure 37).

87. Position the pressure differential sensor and bracket to the transmission and tighten the fasteners (1) to 18 N·m (13 ft. Lbs.) (Figure 37).

88. Position the diesel particulate filter bracket and tighten the fasteners (2) to 26 N·m (19 Ft. Lbs.) (Figure 37).

89. Connect the 13-pin plug connector. Turn the connector clockwise to lock. (Figure 38).

90. Install all remaining wiring harness retainers to the transmission (Figure 38).

    NOTE: There is a wire harness retainer located on the right side of the transmission bell housing under the EGR tube.

Service Procedure [Continued]

91. Install the CKP sensor and bolt. Tighten the bolt to 6 N·m (53 In. Lbs.) (Figure 36).

92. Install the access cover and bolts. Tighten the bolts to 8 N·m (71 In. Lbs.) (Figure 35).

93. Attach the CKP wire harness connector to the bracket (Figure 34).

94. Connect the Crankshaft Position Sensor (CKP) wire harness connector and install the retainer (Figure 34).

95. Clean all Diesel Particulate Filter (DPF) gasket sealing surfaces.

96. Carefully position the DPF in the vehicle and support using a suitable jack stand under the DPF (Figure 33).

    NOTE: NEW DPF gaskets, fasteners, and band clamp are provided in the parts kit. It is recommended to pre-install the gaskets and band clamp prior to installing the DPF to the vehicle.

97. Align the DPF to the transmission rear steady rest bracket then install a **NEW** bolt, do not tighten at this time (Figure 32).

98. Install a **NEW** gasket on the DPF inlet elbow and install a **NEW** band clamp, do not tighten at this (Figure 31).

99. Install a **NEW** gasket on the Low Pressure (LP) Exhaust Gas Recirculation (EGR) tube then hand start the **NEW** bolts, do not tighten at this time (Figure 30).

100. Tighten the DPF inlet elbow band clamp to 10 N·m (89 In. Lbs.) (Figure 31).

101. Tighten the LP EGR tube bolts to 25 N·m (18 Ft. Lbs.) (Figure 31).

Service Procedure [Continued]

102. Install the front steady rest bracket and transmission bell housing bolts securing the bracket then install a **NEW** nut securing the DPF. Tighten the bolts to 50 N·m (37 Ft. Lbs.) and tighten the nut to 28 N·m (21 Ft. Lbs.) (Figure 29).

103. Tighten the DPF to the transmission rear steady rest bracket bolt to 26 N·m (19 Ft. Lbs.) (Figure 32).

NOTE: The DPF electrical and sensor hose connections can be accessed by reaching above the DPF from the rear of the DPF.

104. Connect the rear differential pressure sensor hoses (Figure 28).

105. Connect the electrical connector (1) and secure the wire harness retainer (2) for the Exhaust Gas Temperature (EGT) sensor 1/2 (Figure 27).

106. Connect the Exhaust Gas Temperature (EGT) 1/3 wire harness connector and close the wire retainer (Figure 23).

107. Secure the transfer case to a suitable jack using safety chains.

108. Carefully maneuver the transfer case in alignment with the transmission. Verify that there no wires or hoses have become trapped between the transfer case and the transmission.

Service Procedure [Continued]

109. Position the transfer case shift bracket (1) on top of the transfer case (Figure 25).

     NOTE: The transfer case shift bracket (1) covers the bolt at the top of the transfer case so the top bolt must be installed and tightened prior to installing the bolts to either side (2) (Figure 25).

110. Install the transfer case to transmission bolts then tighten all seven bolts to 60 N·m (45 Ft. Lbs.) (Figure 24).

111. Position both the fuel tube bracket and shift cable retaining bracket to the transfer case then install the four nuts securing the brackets. Tighten the nuts to 19 N·m (14 Ft. Lbs.) (Figure 22).

     NOTE: Route the transfer case shift cable as shown, should pass through center of first support, pass over second support, and under third support (Figure 53).

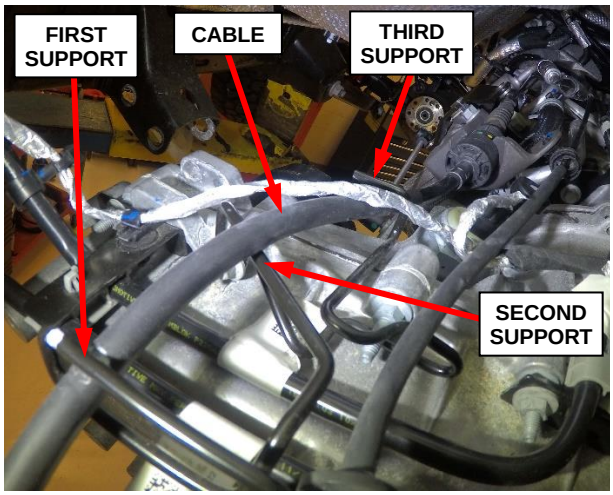

Figure 53 – Shift Cable Routing

112. Position the shift bracket (2) to the transmission then install the two bolts and one nut (1) securing the transfer case shift bracket to the transmission. Tighten the two bolts and one nut to 23 N·m (11 Ft. Lbs.) (Figure 21).

113. Connect the shift rod (1) to the transfer case (Figure 20).

Service Procedure [Continued]

114. Attach the wire harness retainers to the transfer case (Figure 19).

115. Connect the wire harness connector (1) to the transfer case position sensor (Figure 18).

116. Position the transmission mount to the transmission then install the four bolts securing remove the mount. Tighten the bolts to 55 N·m (41 Ft. Lbs.) (Figure 17).

117. Position the crossmember to the vehicle (Figure 16).

118. Install the crossmember bolts and nuts. Tighten to 70 N·m (52 Ft. Lbs.) (Figure 16).

119. Install the three transmission mount nuts. Tighten the nuts to 175 N·m (129 Ft. Lbs.) (Figure 15).

120. Insert a **NEW** gasket between the Diesel Particulate Filter (DPF) and Selective Catalytic Reduction (SCR) then install three **NEW** bolts securing them. Tighten the bolts to 30 N·m (22 Ft. Lbs.) (Figure 14).

Service Procedure [Continued]

121. Position the front driveshaft in the vehicle and align the driveshaft alignment marks to the front axle pinion flange and transfer case output flange (Figure 7).

122. Install **NEW** front driveshaft bolts (Figures 12 and 13).

123. Tighten the Front Driveshaft to Front Axle Flange Bolts in a crisscross pattern to 121 N·m (89 Ft. Lbs.) (Figure 54).

124. Tighten the Front Driveshaft to Transfer-Case Flange Bolts in a crisscross pattern to 39 N·m (29 Ft. Lbs.) (Figure 55).

125. Position the rear driveshaft in the vehicle and install two **NEW** center support carrier bearing bolts. Tighten the two bolts to 62 N·m (46 Ft. Lbs.) (Figure 11).

126. Align the rear driveshaft to the alignment marks on the rear axle pinion flange and transfer case output flange (Figure 7).

127. Install **NEW** rear driveshaft bolts (Figures 9 and 10).

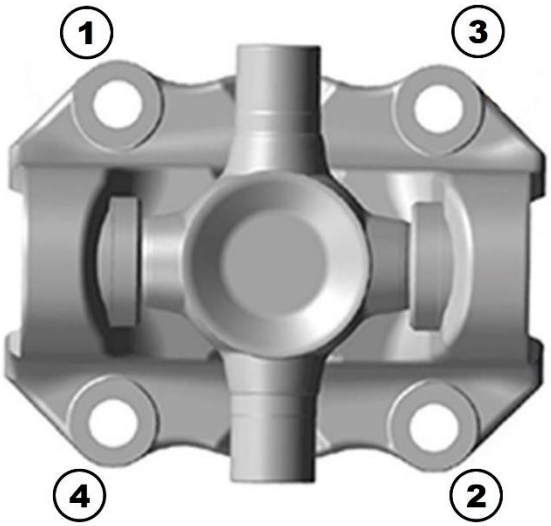

Figure 54 – Tightening Sequence

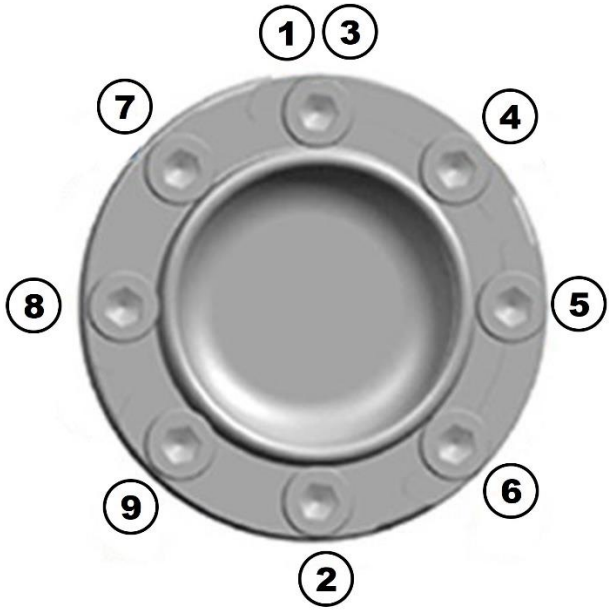

Figure 55 – Tightening Sequence

128. Tighten the rear driveshaft flange bolts in a crisscross pattern to 39 N·m (29 Ft. Lbs.) (Figure 55).

Service Procedure [Continued]

129. Position the transfer case skid plate to the vehicle then install two bolts securing fuel tank skid plate to transfer case skid plate and four **NEW** bolts securing the transfer case skid plate to the vehicle (Figure 5). Tighten the bolts to:
    - Bolts transfer case skid plate to vehicle 75 N·m (55 Ft. Lbs.).
    - Bolts fuel tank skid plate to transfer case skid plate 20 N·m (15 Ft. Lbs.).

130. Tighten the fuel filter/water separator bracket bolts to 30 N·m (22 Ft. Lbs.) (Figure 5).

131. Position the SCR skid plate to the vehicle. Reuse the two front bolts and install two **NEW** rear bolts (Figure 4). Tighten the bolts to:
    - Rear bolt skid plate to frame 75 N·m (55 ft. lbs.).
    - Rear bolt skid plate to crossmember 62 N·m (46 ft. lbs.).
    - Front bolts skid plate to transfer case skid plate 22 N·m (16 ft. lbs.).

132. Position the front reinforcement crossmember to the vehicle. Install 2 **NEW** crossmember to frame bolts and reuse the center leg bolt (Figure 3). Tighten the bolts to:
    - Bolts crossmember to outer frame rails: 95 N·m (70 ft. lbs.).
    - Bolt crossmember center leg to transfer case skid plate: 75 N·m (55 ft. lbs.).

133. Position the vibration dampener cover (2) then install the nuts (1) and bolts (3) (Figure 2). Tighten the fasteners to:
    - Bolts vibration dampener cover: 10 N·m (7 Ft. Lbs.)
    - Nuts vibration dampener cover: 9 N·m (80 In. Lbs.)

134. Lower the vehicle.

135. Connect the main battery negative cable clamp to the battery negative post then tighten to 7 N·m (62 In. Lbs.).

136. Connect the IBS harness connector if disconnected.

137. Connect the auxiliary battery negative cable to the main battery negative cable clamp. Tighten the nut to 8 N·m (71 In. Lbs.).

    NOTE: Overtightening of the nuts connecting the negative cables to the IBS may cause damage to the IBS or break the stud.

Service Procedure [Continued]

NOTE: The wiTECH scan tool must be used to perform this recall. The wiTECH software is required to be at the latest release level before performing this procedure. If the reprogramming flash for the Transmission Control Module (TCM) is aborted or interrupted, repeat the procedure. The TCM software must be at the latest software calibration level after completing this recall.

138. Open the hood. Install a battery charger and verify that the charging rate provides 13.0 to 13.5 volts. Do not allow the charger to time out during the flash process. Set the battery charger timer (if so equipped) to continuous charge.

    NOTE: Use an accurate stand-alone voltmeter. The battery charger volt meter may not be sufficiently accurate. Voltages outside of the specified range will cause an unsuccessful flash. If voltage reading is too high, apply an electrical load by activating the park or headlamps and/or HVAC blower motor to lower the voltage

139. Connect the wiTECH micro pod II to the vehicle data link connector.

140. Place the ignition in the "**RUN**" position.

141. Open the wiTECH 2.0 website.

142. Enter your "**User id**" and "**Password**" and your "**Dealer Code**", then select "**Sign In**" at the bottom of the screen. Click "**Accept**".

143. From the "**Vehicle Selection**" screen, select the vehicle to be updated.

144. From the "**Action Items**" screen, select the "**Topology**" tab.

145. From the "**Topology**" tab, select the "**TCM**" module icon.

Service Procedure [Continued]

146. From the "**Flash**" tab, compare the "**Current Electronic Control Unit (ECU) Part Number**" with the "**New ECU Part Number**" listed.
    - If the "**Current ECU part Number**" is the same as the "**New Part Number**", proceed to **Step 153**.
    - If the "**Current ECU part Number**" is NOT the same as the "**New Part Number**", continue with **Step 147**.

147. From the TCM tab, select the TCM flash part number. Read the flash special instructions page. Select "**OK**" to continue.

148. From the flash ECU agreement page, agree to terms by checking the box.

149. Select "**Flash ECU**" and then follow the wiTECH screen instructions to complete the flash.

150. Confirm the software is at the latest available calibration level.

151. Cycle the ignition to the "**OFF**" position then back to the "**RUN**" position before clearing any DTCs that may have been set in any module during the flash process.

152. Click "**View DTCs**", select "**Clear All DTCs**", click "**Continue**" and then click "**Close**".

153. Start engine and check transmission for fluid leaks.

154. Perform the TCM quick learn procedure:
    a. Drive the vehicle briefly to ensure all clutches have been engaged at least twice. Keep the engine running throughout the remainder of this procedure.
    b. With the scan tool, activate the "**Reset Adaptive Values**" routine.
    c. With the scan tool, activate the "**Quick Learn**" routine and follow the on-screen instructions.

Service Procedure [Continued]

155. Perform the TCM Adaptation Procedures:

The two procedures to relearn these values are called Fast Filling Adaptation and Standard Clutch Filling Adaptation. Depending on the repair or complaint, one or both procedures must be performed as described below.

NOTE: Performing a reset of the Transmission Adaptation values does not automatically trigger the TCM to relearn the Adaptation values. If a reset is performed, both procedures must be performed to restore optimal shift quality. Do not reset these values unless specifically instructed to do so.

NOTE: This procedure does not need to be performed if the existing TCM is re-flashed and that was the only repair performed.

One or both TCM Adaptation procedures should be performed depending on the situation. Failure to perform these procedures when required could cause shift quality issues.

Fast Filling Adaptation Procedure

Perform the following procedure when the TCM or Transmission assembly has been replaced, or when the adaptation values have been reset. This procedure should be performed before performing the Standard Clutch Filling Adaptation Procedure when these components are replaced.

NOTE: Perform this procedure on a smooth road surface. The TCM will abort the adaptation process if it senses rough road conditions. The road should be clear of traffic due to the start, stop, and slow vehicle speeds required during this procedure.

1. With the Scan Tool, erase Diagnostic Trouble Codes (DTCs).
2. Setup the scan tool to display the Transmission Oil Temperature, Torque, Turbine (Input) Speed Sensor rpm, and Clutch ‘X’ - Filling Counter for each clutch.
3. Drive the vehicle until the Transmission Oil Temperature is above 30° C (86° F).
4. Stop the vehicle.

Service Procedure [Continued]

5. Drive the vehicle to perform upshifts for all gears under the following conditions:
   - Light to medium throttle position
   - Turbine (Input) Speed between 1,250 - 2,000 rpm
   - Torque between 100 N·m and 150 N·m (74 ft. lbs. and 111 ft. lbs.)
6. Release the throttle (0% position) to coast and allow a 6-5 down-shift.
7. Perform steps 4-6 until the Filling Counters for each clutch displays 10 counts.

   The tables below may be used as an alternate reference for the optimal conditions required to learn the Fast Filling Adaptations.

Fast Filling Adaptation Conditions Table

Conditions Where Fast Filling Adaptations Occur			
Condition	**Transmission Temperature**	**Torque N·m (ft. lbs.)**	**Input Speed (rpm)**
Upshifts	Between 30° C and 100° C (86° F and 212° F)	Between 100 N·m and 150 N·m (74 ft. lbs. and 111 ft. lbs.)	Between 1250 and 2000 rpm
6-5 Downshifts for B Clutch	Between 30° C and 100° C (86° F and 212° F)	Between negative (-) 60 N·m and negative (-) 40 N·m (negative (-) 44 ft. lbs. and negative (-) 30 ft. lbs.)	Between 750 and 1100 rpm

Service Procedure [Continued]

Clutch vs Shift Table

Shifts Where Each Clutch Will Fast Adapt					
	A Clutch	**B Clutch**	**C Clutch**	**D Clutch**	**E Clutch**
Shift	6 - 7	6 - 5	2 - 3 and 4 - 5	3 - 4	1 - 2 and 5 - 6
Optimal conditions under which adaptation learning occurs.	Best performed at highway speeds in excess of 80 kph (50 mph).	Coasting with throttle at 0% position.	Best performed at light to medium-throttle - normal vehicle launch.	Best performed at light to medium-throttle - normal vehicle launch.	Best performed at light to medium-throttle - normal vehicle launch.

8. Perform the Standard Clutch Filling Adaptation Procedure.

Standard Clutch Filling Adaptation Procedure

Perform the following procedure when a Transmission internal component, Torque Converter, TCM, or Transmission has been replaced, or when the adaptation values have been reset. This procedure should also be performed if it is suspected that the vehicle has not been driven in a manner that encourages clutch adaptation learning in highway or city driving conditions.

NOTE: Perform this procedure on a smooth road surface. The TCM will abort the adaptation process if it senses rough road conditions. The road should be clear of traffic due to the start, stop, and slow vehicle speeds required during the procedure.

NOTE: The TCM learns the Standard Clutch Filling Adaptation values when the applicable clutch is not applied.

Service Procedure [Continued]

1. With the Scan Tool, erase DTCs.
2. Setup the scan tool to display the Transmission Oil Temperature, Torque, Turbine (Input) Speed Sensor rpm, and Clutch 'X' - Fast Filling Counter for each clutch.
3. Drive the vehicle until the Transmission Oil Temperature is above 50° C (122° F).

   NOTE: Adaptation learning will be aborted if the Transmission Oil Temperature is above 100° C (212° F).

4. Stop the vehicle.
5. Drive the vehicle using the paddle shifters or Gear +/- buttons on steering wheel in order to hold the transmission in the desired gear.

   NOTE: First and second gears do not require a Standard Clutch Filling Adaptation procedure.

   NOTE: If attempting to resolve a specific shift quality issue, use the Gear vs Clutch Table below to see which clutches require further adaptation. For instance, if a rough 2-1 downshift is noted, note that clutch C and clutch E are applying and releasing. Then use the Clutch vs Shift Table above to note that clutch C and clutch E require the adaptation procedure performed in 4th and 7th gear.

6. In 3rd gear, drive the vehicle within the following conditions until the Clutch D - Fast Filling Counter increments by one count:
   - Vehicle speed between 32-56 kph (20-35 mph)
   - Turbine (Input) speed between 950 - 1750 rpm
   - Torque between 25 N·m - 180 N·m (18 ft. lbs. - 133 ft. lbs.)

7. In fourth gear, drive the vehicle within the following conditions until the Clutch C - Fast Filling Counter increments by one count:
   - Vehicle speed between 32-56 kph (20-35 mph)
   - Turbine (Input) speed between 950 - 1750 rpm
   - Torque between 25 N·m - 120 N·m (18 ft. lbs. - 89ft. lbs.)

Service Procedure [Continued]

NOTE: Fifth gear does not require a Standard Clutch Filling Adaptation procedure.

8. In sixth gear, drive the vehicle within the following conditions until the Clutch A - Fast Filling Counter increments by one count:
   - Vehicle speed between 73-81 kph (45-50 mph)
   - Turbine (Input) speed between 950 - 1750 rpm
   - Torque between 50 N·m - 120 N·m (37 ft. lbs. - 89ft. lbs.)

9. In seventh gear, drive the vehicle within the following conditions until the Clutch B- Filling Counter and Clutch E Fast Filling Counter each increment by one count:
   - Vehicle speed between 73-81 kph (45-50 mph)
   - Turbine (Input) speed between 950-1750 rpm
   - Torque between 50 N·m-120 N·m (37 ft. lbs.-89ft. lbs.)

The **Standard Clutch Filling Adaptation Conditions Table** below may be used as an alternate reference for the optimal conditions required to learn the Standard Clutch Filling Adaptations.

Service Procedure [Continued]

Standard Clutch Filling Adaptation Conditions Table

Steady State Gears And Conditions Where Each Clutch Will Adapt					
Clutch	**Gear**	**Optimal Vehicle Speed**	**Input Speed (rpm)**	**Torque N·m (ft. lbs.)**	**Transmission Temperature**
A Clutch	6th	73-81 kph (45-50 mph).	Between 950 and 1750 rpm	Between 50 N·m and 120 N·m (37 ft. lbs. and 89 ft. lbs.)	Between 50° C and 100° C (122° F and 212° F)
B Clutch	7th	73-81 kph (45-50 mph).	Between 950 and 1750 rpm	Between 50 N·m and 120 N·m (37 ft. lbs. and 89 ft. lbs.)	Between 50° C and 100° C (122° F and 212° F)
C Clutch	4th	32-56 kph (20-35 mph).	Between 950 and 1750 rpm	Between 25 N·m and 120 N·m (18 ft. lbs. and 89 ft. lbs.)	Between 50° C and 100° C (122° F and 212° F)
D Clutch	3rd	32-56 kph (20-35 mph).	Between 950 and 1750 rpm	Between 25 N·m and 180 N·m (18 ft. lbs. and 133 ft. lbs.)	Between 50° C and 100° C (122° F and 212° F)
E Clutch	7th	73-81 kph (45-50 mph).	Between 950 and 1750 rpm	Between 50 N·m and 120 N·m (37 ft. lbs. and 89 ft. lbs.)	Between 50° C and 100° C (122° F and 212° F)

Service Procedure [Continued]

10. Perform steps 4-9 until the Fast Filling Counters for each clutch has incriminated by at least five counts.

11. Evaluate shift performance for all gears. If the shift quality for any gear is insufficient, execute the appropriate driving conditions until shift quality improves. Incrementing the Fast Filling Counters by 12 counts for each clutch may be necessary to properly learn the adaptation values.

The following table Controller Area Network (CAN) be used to determine which clutches are involved in a specific up-shift or down-shift quality issue. 'X' indicates when a clutch is applied. The Standard Clutch Filling Adaptation learning occurs when the applicable clutch is not applied and the transmission is in a steady state (not shifting).

Gear vs Clutch Table

Gear	Clutch A	Clutch B	Clutch C	Clutch D	Clutch E
1st	X	X	X		
2nd	X	X			X
3rd		X	X		X
4th		X		X	X
5th		X	X	X	
6th			X	X	X
7th	X		X	X	
8th	X			X	X
Reverse	X	X		X	

Service Procedure [Continued]

Read the information below for details regarding this procedure.

Reading Clutch Adaptation Data

The Clutch Packs will each have 4 scan tool data labels to observe under the TCM section. Using Clutch A as an example, the data labels are:

- **Clutch A- Fast Filling Counter:** This data label displays the number of Clutch Filling Pressure adaptations that have been performed. These adaptations are the first learned values on a new transmission or after clutch adaptation values are reset. You will need to allow 5 to 12 fast filling counts per clutch to properly learn the clutch adaptations. If the shift quality is sufficient after 5 counts, no further adaptation learns for that clutch are necessary.
- **Clutch A- Filling Counter:** This data label displays the number of Clutch Filling Time adaptations that have been performed. You will need to allow 5 to 12 filling counts per clutch to properly learn the clutch adaptations. If the shift quality is sufficient after 5 counts, no further adaptation learns for that clutch are necessary.
- **Clutch A- Filling Pressure:** This data label displays the clutch filling pressure value that is learned during the TCM Adaptation procedure. The TCM adaptation software will increase or decrease the clutch fluid filling pressure to improve shift performance. The clutch Filling Pressure value will change over the life of the transmission based first on initial transmission build variation and then due to normal clutch wear.
- **Clutch A- Filling Time:** This data label displays the clutch filling time value that is learned during the TCM Adaptation procedure. The TCM adaptation software will increase or decrease the Clutch Filling Time to improve shift performance. The clutch Filling Time value will change over the life of the transmission based first on initial transmission build variation and then due to normal clutch wear.

Service Procedure [Continued]

156. Place the ignition in the "**OFF**" position and then remove the wiTECH micro pod II device from the vehicle.

157. Remove the battery charger from the vehicle.

158. Close the engine compartment hood and return the vehicle to the customer or inventory.

Completion Reporting and Reimbursement

Claims for vehicles that have been serviced must be submitted on the DealerCONNECT Claim Entry Screen located on the Service tab. Claims paid will be used by FCA to record recall service completions and provide dealer payments.

Use the following labor operation number and time allowance:

	Labor Operation Number	Time Allowance
Replace Transmission	21-Z8-41-82	8.1 hours
Floor Plan Reimbursement	95-95-95-97	Calculate See Below

Floor Plan Reimbursement represents the vehicle's average daily allowance (see table below) multiplied by the number of days the vehicle was in dealer inventory and not available for sale. This reimbursement is limited to the number of days from the date of the stop sale to the date that the remedy was made available. Note: If the vehicle was received by your dealership (KZX date) AFTER the stop sale date, you will use the KZX date instead of the stop sale date. For this Recall, the stop sale was initiated on 08/26/2022 and the remedy was made available on 09/08/2022, therefore, the number of days cannot exceed 13 days.

Vehicle	Average Daily Allowance
2022 (JT) Jeep Gladiator	[redacted]

NOTE: See the Warranty Administration Manual, Recall Claim Processing Section, for complete recall claim processing instructions.

Dealer Notification

To view this notification on DealerCONNECT, select "Global Recall System" on the Service tab, then click on the description of this notification.

Owner Notification and Service Scheduling

All involved vehicle owners known to FCA are being notified of the service requirement by first class mail. They are requested to schedule appointments for this service with their dealers. A generic copy of the owner letter is attached.

Vehicle Lists, Global Recall System, VIP and Dealer Follow Up

All involved vehicles have been entered into the DealerCONNECT Global Recall System (GRS) and Vehicle Information Plus (VIP) for dealer inquiry as needed.

GRS provides involved dealers with an updated VIN list of their incomplete vehicles. The owner's name, address and phone number are listed if known. Completed vehicles are removed from GRS within several days of repair claim submission.

To use this system, click on the **"Service"** tab and then click on **"Global Recall System."** Your dealer's VIN list for each recall displayed can be sorted by: those vehicles that were unsold at recall launch, those with a phone number, city, zip code, or VIN sequence.

Dealers must perform this repair on all unsold vehicles *before* retail delivery. Dealers should also use the VIN list to follow up with all owners to schedule appointments for this repair.

Recall VIN lists may contain confidential, restricted owner name and address information that was obtained from the Department of Motor Vehicles of various states. Use of this information is permitted for this recall only and is strictly prohibited from all other use.

Additional Information

If you have any questions or need assistance in completing this action, please contact your Service and Parts District Manager.

Customer Services / Field Operations
FCA US LLC