



CHRYSLER

November 2011

Dealer Service Instructions for:

Safety Recall L33 - Engine Block Debris

Models

- 2012 (JC) Dodge Journey
- 2012 (JS) Dodge Avenger and Chrysler 200
- 2012 (LD) Dodge Charger
- 2012 (RT) Dodge Grand Caravan and Chrysler Town & Country
- 2012 (WD/WK) Dodge Durango and Jeep® Grand Cherokee

NOTE: This recall applies only to the above vehicles equipped with a Saltillo built 3.6L engine (sales code ERB) manufactured through September 19, 2011 (MDH 091900).

IMPORTANT: Many of the vehicles within the above build period have already been repaired 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 engine in about 490 of the above vehicles may experience connecting rod bearing failure due to engine block debris. Connecting rod bearing failure could result in a loss of engine power and/or engine seizure. Engine seizure under certain driving conditions could cause a crash without warning.

Repair

The complete engine assembly must be replaced on all involved vehicles.

Parts Information

<u>Part Number</u>	<u>Description</u>
68058487AE	Engine, 3.6L (JC models)
68082646AB	Engine, 3.6L (JS models)
68052837AF	Engine, 3.6L (LD models)
05184464AE	Engine, 3.6L (RT models)
05184895AE	Engine, 3.6L (WD or WK models)

NOTE: Dealers should determine which engine is required for each vehicle at the time appointments are scheduled to assure that the correct engine is available when the customer arrives.

<u>Part Number</u>	<u>Description</u>
68093232AA	Gasket, cylinder head-to-catalytic converter (JC/JS/RT models) (2 Required)
05085685AA	Gasket, cross-under exhaust pipe (JC/JS/RT models)
05184214AE	Gasket, cylinder head-to-exhaust manifold (LD/WD/WK models) (2 Required)
04761838MA	Oil, engine (All models)
05013457AA	Oil, transmission/transaxle (All models)
05136035AA	Oil, differential (LD/WD/WK models)
68048953AB	Coolant, engine (All models)

Special Tools

The following special tools may be required to perform this repair:

- NPN wiTECH VCI Pod Kit
- NPN Laptop Computer
- NPN wiTECH Software
- 10242-1 Bracket, Engine Lifting (Left Side)
- 10242-2 Bracket Engine Lifting (Right Side)
- 6135 Dolly, Powertrain
- 6710A Cradle, Engine Support
- 6848-3 Adapter, Cradle
- 8875A Connector Disconnect, Cooler Line

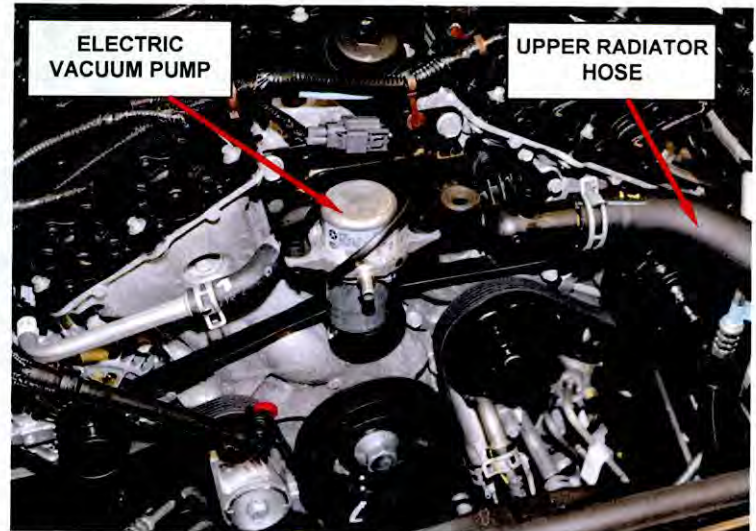
Service Procedure**A. Fuel System Pressure Release**

1. Loosen the fuel fill cap.
 2. **For JS vehicles**, perform the following procedure:
 - a. Remove and save the rear seat.
 - b. Reposition the sound deadening pad.
 - c. Remove the black plastic access plug from the floor pan (Figure 1).
 - d. Disconnect the fuel pump wiring harness from the fuel pump module.
 - e. Continue with Step 4 of this procedure.
 3. **For WD, WK, JC, LD, and RT vehicles**, remove the fuel pump fuse from the Power Distribution Center (PDC). For location of the fuel pump fuse, refer to label on the underside of the PDC cover.
 4. Start and run the engine until it stalls.
 5. Attempt restarting the engine until it will no longer run.
 6. Turn the ignition key to the OFF position.
 7. Place a rag or towel below the fuel supply line quick-connect fitting.
 8. Disconnect the fuel supply line quick-connect fitting at the fuel supply line.
- NOTE: One or more Diagnostic Trouble Codes (DTC) may have been stored in the PCM memory due to fuel pump fuse removal. A diagnostic scan tool must be used to erase a DTC.**
9. Continue with appropriate repair section depending on vehicle model:
 - Section B. Engine Replacement (WD/WK Models)
 - Section C. Engine Replacement (JC/JS/RT Models)
 - Section D. Engine Replacement (LD Models)

**Figure 1 – JS Fuel Pump Access**

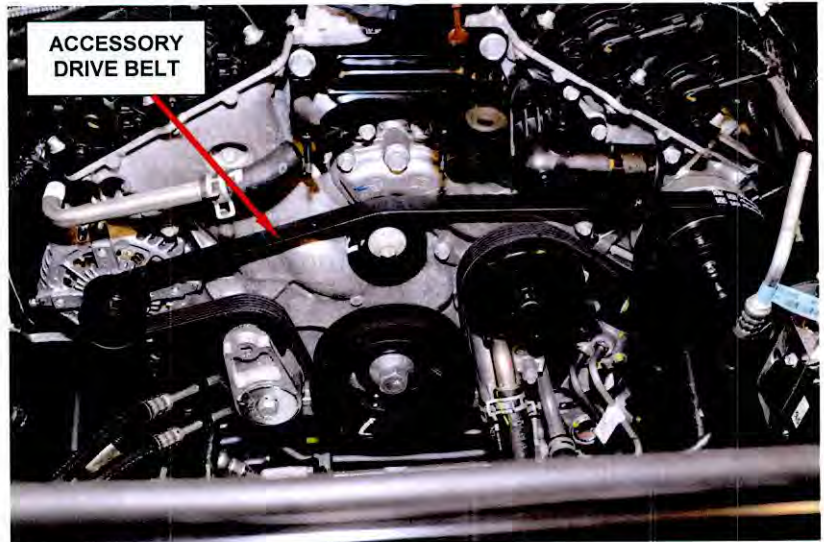
Service Procedure (Continued)**B. Engine Replacement (WD/WK Models)**

1. Move the passenger seat fully forward, disconnect and isolate the negative battery cable at the battery located under the passenger seat.
2. Mark the hood hinge location on the hood. Then remove and save the hood.
3. Remove and save the plastic engine cover.
4. Remove and save the air inlet resonator and the air cleaner body.
5. Remove and save the electric vacuum pump and mounting bracket (Figure 2).
6. Raise the vehicle on an appropriate hoist.
7. If equipped, remove and save the front skid plate, front suspension skid plate, transmission skid plate and the transfer case skid plate.
8. Drain and discard the engine cooling system coolant.
9. Drain and discard the engine oil.
10. Remove and save the nut and bolt from the support brackets of the heater core return tube.
11. Remove and save the A/C compressor mounting studs.
12. Lower the vehicle.
13. Remove and save the push clip from the support bracket of the heater core return tube and reposition the tube.

**Figure 2 – Electric Vacuum Pump**

Service Procedure (Continued)

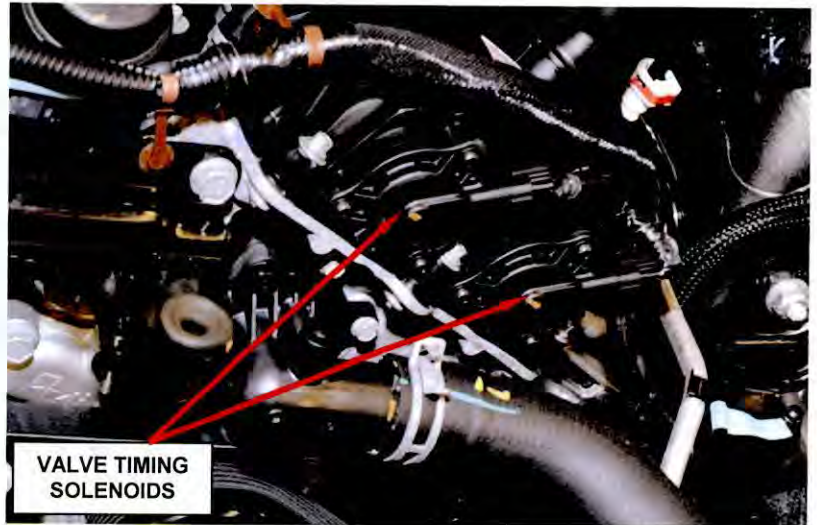
14. Disconnect the vapor purge tube from the fuel purge solenoid.
15. Remove and save the upper windshield cowl assembly.
16. Remove and save the windshield wiper arms and wiper linkage.
17. Remove and save the lower windshield cowl assembly.

**Figure 3 – Accessory Drive Belt**

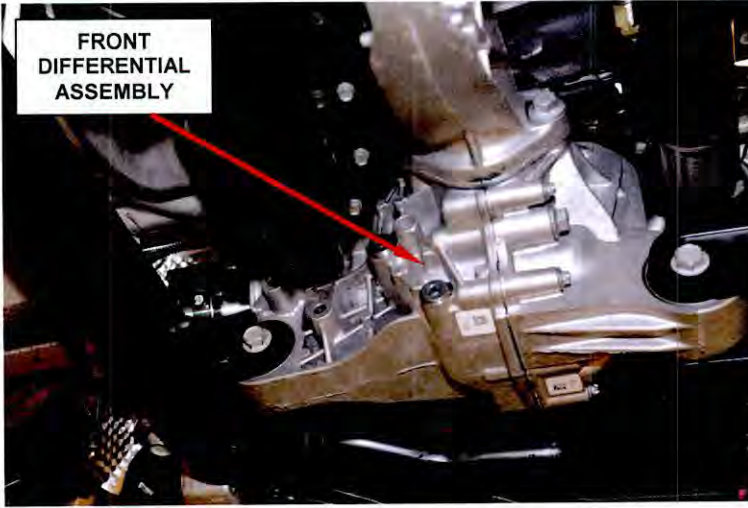
18. Remove and save the HVAC air inlet duct.
19. Remove and save the upper intake manifold and foam insulator.
20. Disengage the clips, remove the make-up air tube from the left cylinder head cover and reposition the transmission vent hose.
21. Disconnect the fuel supply hose from the underbody fuel tube.
22. Remove and save the cooling fan module.
23. Remove and save the accessory drive belt (Figure 3).
24. Remove and save the generator.
25. Disconnect the right and left upstream oxygen sensor connectors from the main wire harness.
26. Remove and save the upper air conditioning compressor fasteners and relocate the compressor. Use bungee cords to hold compressor.

Service Procedure (Continued)

27. Loosen the lower catalytic converter flange bolts.
28. Remove the upper catalytic converter flange bolts and reposition the right and left catalytic converters.
29. Remove the bolts and the engine mount heat shield from both the left and right engine mounts.
30. Disconnect the electrical connectors from the variable valve timing solenoids on the left cylinder head (Figure 4).
31. Disengage the starter harness to main harness retaining clip.
32. Disengage the two starter wire harness retainers from the right cylinder head cover.
33. Disconnect the electrical connector from the right Camshaft Position sensor.
34. Disengage the main wire harness retainer from the right cylinder head cover mounting stud.
35. Disengage the four main wire harness retainers from the right cylinder head cover.
36. Disconnect the oil pump solenoid electrical connector.
37. Disengage the four wire harness retainers.
38. Remove the ground strap from the right engine mount bracket.
39. Disconnect the electrical connectors from the right variable valve timing solenoids.

**Figure 4 – Valve Timing Solenoids**

Service Procedure (Continued)

40. Disengage the two starter wire harness retainers from the left cylinder head cover.
 41. Disconnect the A/C compressor electrical connector and disengage the wire harness retainer from the A/C compressor discharge line.
 42. Disengage the starter wire harness retainers from the upper intake manifold support brackets.
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- A photograph showing the front differential assembly of a vehicle. A red arrow points from a white label that reads "FRONT DIFFERENTIAL ASSEMBLY" to the differential housing. The assembly is metallic and complex, with various bolts and components visible.
43. Disengage one main wire harness retainer from the left cylinder head cover and two retainers from the upper intake manifold support brackets.
 44. Disconnect the Engine Coolant Temperature (ECT) sensor connector.
 45. Disconnect the left camshaft position sensor.
 46. Disengage one main wire harness retainer from the cylinder head cover and one main wire harness retainer from the cylinder head cover mounting stud.
 47. Disengage the main wire harness retainer from the rear of the lower intake manifold.
 48. Remove the upper radiator hose from the engine thermostat housing.
 49. Raise and support the vehicle.
 50. Remove the lower radiator hose from the engine coolant pump housing.
 51. Disconnect the heater core return hose.
 52. **If equipped with AWD**, remove and save the front differential assembly (Figure 5).

Service Procedure (Continued)

53. Remove and save the starter motor (Figure 6).
54. Disengage the starter wire harness retainer and the main wire harness retainer from the engine block.
55. Remove and save the starter wiring heat shield.
56. **If the engine is seized,** continue to Step 60.
57. Rotate the crankshaft in a clockwise direction until the torque converter bolts are accessible through the starter hole. Remove the six torque converter bolts.
58. Reinstall the left engine mount bracket and isolator assembly with the mounting bolts.
59. Unclip the transmission cooler line retainer from the upper oil pan flange.
60. Push back the heat shield from the crankshaft position sensor.
61. Disconnect the main wire harness from the crankshaft position sensor.
62. Disengage one main wire harness retainer from the engine block and one main wire harness retainer from the right engine mounting bracket.
63. **If equipped with a block heater,** disconnect and reposition the power cord from the engine block heater.

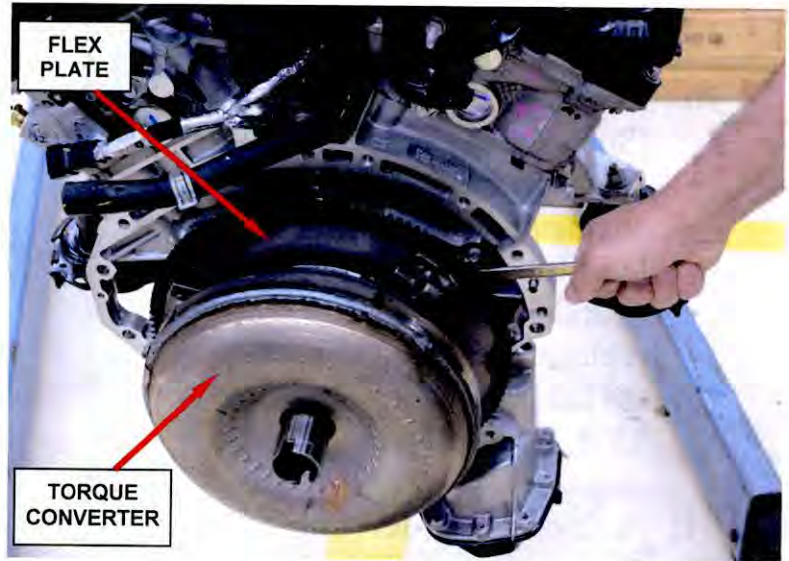
**Figure 6 – Starter Motor**

Service Procedure (Continued)

64. Remove and save the bolt securing the transmission fluid level indicator tube to the transmission housing.
65. Remove and save the transmission fluid level indicator tube.
66. Remove the four upper transmission-to-engine mounting bolts.
67. Remove the torque converter dust shield and mounting bolt.
68. Remove the side engine-to-transmission mounting bolt.
69. Remove the two rubber plugs covering the rear oil seal retainer flange bolts.
70. Remove the four lower transmission-to-engine oil pan bolts.
71. Lower the vehicle.
72. Remove the engine oil level indicator tube.
73. Remove the heater core supply tube and mounting bolt.
74. Disconnect the heater core supply tube at the front of the engine.
75. Disconnect the main harness from the engine injection/ignition harness at the rear of the left cylinder head.
76. Disconnect the main harness from the engine oil pressure/temperature harness at the rear of the left cylinder head.
77. **If equipped with AWD**, disengage the transfer case vent hose retainer from the upper intake manifold support bracket.
78. Remove the left upper intake manifold support brackets and mounting bolts.

Service Procedure (Continued)

79. Install the Driver Side Engine Lifting Bracket 10242-1 on the left cylinder head with bolts provided with the Engine Lifting Bracket. Tighten the bolts to 15 ft. lbs. (21 N·m).
80. Install the Passenger Side Engine Lifting Bracket 10242-2 on the right cylinder head with bolts provided with the Engine Lifting Bracket. Tighten the bolts to 15 ft. lbs. (21 N·m).

**Figure 7 – Seized Engine Torque Converter Removal**

81. Reposition the starter wire harness and the main wire harness to the rear of the engine compartment.
82. Position a load-leveling lifting sling, such as OTC[®] 4305 Engine Load Leveler or equivalent, between the engine lifting brackets and an engine hoist.
83. Support the transmission with a suitable jack.
84. Remove both the left and right engine mount bracket bolts (two per side).
85. Carefully remove the engine from the engine bay area.

CAUTION: While slowly separating the engine from the vehicle, constant checks must be made to assure proper positioning and that no damage to other components or wiring harnesses occurs during the separation process.

86. Transfer all components from the original engine to the replacement engine.
87. **For seized engines**, remove the torque converter bolts and remove the torque converter from the flex plate (Figure 7).
88. **For seized engines**, install the original torque converter into the transmission.

Service Procedure (Continued)

89. Remove the intake manifold from the replacement engine.
90. Remove the lifting brackets (Special Tool 10242-1 and 10242-2) from the original engine and install the right and left lifting brackets on the cylinder heads of the replacement engine. Tighten the lift bracket bolts to 15 ft. lbs. (21 N·m).
91. Position a load-leveling lifting sling, such as OTC[®] 4305 Engine Load Leveler or equivalent, between the engine lifting brackets and an engine hoist.

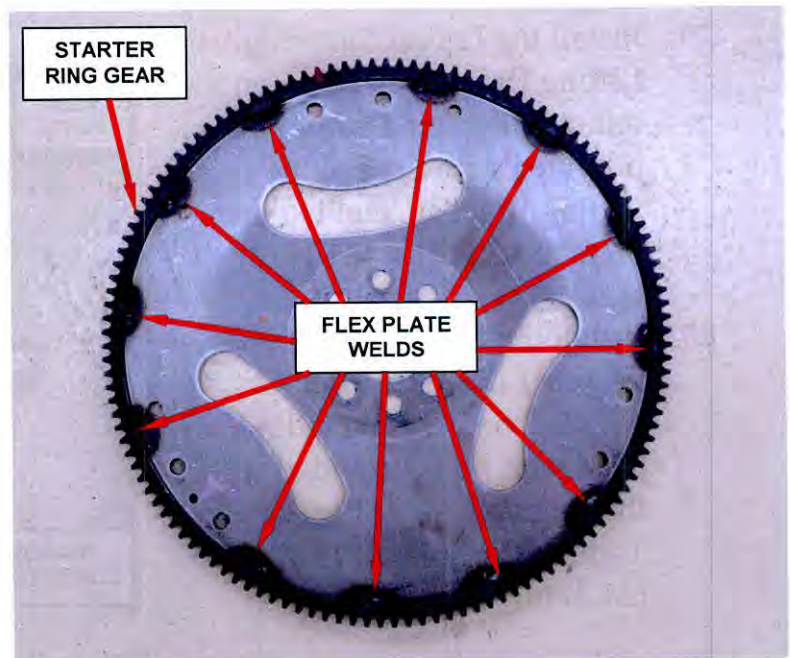


Figure 8 – Flex Plate Welds may not Clear Torque Converter Lugs

92. Reposition the starter wire harness and the main wire harness to the rear of the engine compartment.
93. Align one of the torque converter lugs at the 6 o'clock position.
94. Align the flex plate torque converter fastener holes at the 6 o'clock position.

CAUTION: Make sure to align the flex plate holes with the torque converter lugs before installing the engine. The torque converter lugs will not clear the welds for the ring gear (Figure 8).

95. Position the engine in the vehicle while aligning the two locator dowels into the transmission housing.
96. Install the four upper transmission-to-engine bolts. Tighten the bolts to 41 ft. lbs. (55 N·m).
97. Align the tab on the isolators with the notch in the engine mount brackets and lower the engine so the weight is resting on the isolators.

Service Procedure (Continued)

98. Install the left and right engine mount bolts and tighten to 45 ft. lbs. (61 N·m).
99. Remove the engine lifting brackets and install the left upper intake manifold support brackets. Loosely install the stud-bolts.
100. Route the main wire harness and starter wire harness on the engine.
101. Engage two starter wire harness retainers to the upper intake manifold support brackets.
102. Engage one main wire harness retainer to the left cylinder head cover and two retainers to the upper intake manifold support brackets.
103. Connect the Engine Coolant Temperature (ECT) sensor connector.
104. Connect the electrical connector to the left Camshaft Position (CMP) sensor.
105. Engage one main wire harness retainer to the cylinder head cover and one main wire harness retainer to the cylinder head cover mounting stud.
106. Engage the main wire harness retainer to the rear of the lower intake manifold.
107. Connect the electrical connector to the right Camshaft Position (CMP) sensor.
108. Engage the main wire harness retainer to the right cylinder head cover mounting stud.
109. Engage the four main wire harness retainers to the right cylinder head cover.
110. Connect the electrical connectors to the variable valve timing solenoids on the right cylinder head.
111. Engage the two starter wire harness retainers to the right cylinder head cover.
112. Engage the starter harness to main harness retainer.
113. Connect the oil pump solenoid electrical connector.
114. Engage the four wire harness retainers.

Service Procedure (Continued)

115. Install the ground strap to the right engine mount bracket.
116. Raise and support the vehicle.
117. Install the four transmission-to-engine oil pan bolts. Tighten the bolts to 41 ft. lbs. (55 N·m).
118. Install the two rubber plugs covering the rear oil seal retainer flange bolts.
119. Install the side engine-to-transmission bolt. Tighten the mounting bolt to 41 ft. lbs. (55 N·m).
120. Install the torque converter dust shield with the mounting bolt. Tighten the mounting bolt to 106 in. lbs. (12 N·m).
121. Install the transmission fluid indicator tube.
122. Install the bolt securing the transmission fluid level indicator tube to the transmission housing and tighten to 106 in. lbs. (12 N·m).
123. Connect the main harness to the engine oil pressure/temperature harness at the rear of the left cylinder head.
124. **For vehicles with AWD**, raise the rear of the engine, reinstall six crossmember bolts and three crossmember brace bolts. Tighten all bolts to 41 ft. lbs. (55 N·m).
125. Rotate the crankshaft in a clockwise direction and install the six torque converter bolts through the starter hole. Tighten the bolts to 31 ft. lbs. (42 N·m).
126. Clip the transmission cooler line retainer to the oil pan flange.
127. Engage the starter wire harness retainer and the main wire harness retainer to the engine block.
128. Install the starter.
129. **If equipped with a block heater**, connect the power cord to the engine block heater.

Service Procedure (Continued)

130. Connect the main wire harness to the crankshaft position sensor.
131. Engage one main wire harness retainer to the engine block and one main wire harness retainer to the right engine mounting stud.
132. Position the heat shield over the crankshaft position sensor.
133. **If equipped with AWD**, install the front differential assembly.
134. Lower the vehicle.
135. **If equipped with AWD**, engage the transfer case vent hose retainer to the upper intake manifold support bracket.
136. Install the heater core supply tube with one bolt and tighten to 106 in. lbs. (12 N·m).
137. Install the engine oil level indicator tube with bolt tightened 106 in. lbs. (12 N·m).
138. Install the A/C compressor with two bolts tightened to 18 ft. lbs. (25 N·m).
139. Connect the heater core return hose.
140. Install the lower radiator hose to the engine coolant pump housing.
141. Install the upper radiator hose to the engine thermostat housing.
142. Connect the main harness to the engine injection/ignition harness at the rear of the left cylinder head.
143. Connect the electrical connectors to the left variable valve timing solenoids.
144. Engage the two starter wire harness retainers to the left cylinder head cover.
145. Connect the A/C compressor electrical connector and engage the wire harness retainer to the A/C compressor discharge line.
146. Install the engine mount heat shield to both the left and right engine mounts with two bolts tightened to 106 in. lbs. (12 N·m).

Service Procedure (Continued)

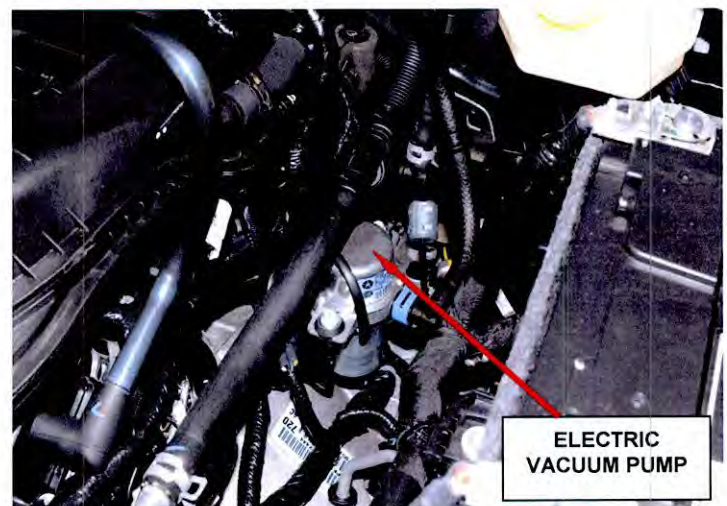
147. Install the right and left catalytic converters onto the partially installed lower catalytic converter flange bolts.
148. Install the upper catalytic converter flange bolts and tighten bolts to 17 ft. lbs. (23 N·m).
149. Connect the right and left upstream oxygen sensor connectors to the main wire harness.
150. Install the generator.
151. Install the accessory drive belt.
152. Install the cooling fan module.
153. Connect the fuel supply hose to the underbody fuel tube.
154. Install the upper intake manifold and insulator.
155. Install the make-up air tube to the left cylinder head cover and engage the clips to the transmission vent hose.
156. Install the PCV hose to the PCV valve.
157. Install the vapor purge tube to the fuel purge solenoid.
158. Install the nut to the support bracket of the heater core return tube and tighten to 106 in. lbs. (12 N·m).
159. Raise and support the vehicle.
160. Install the A/C compressor mounting studs and tighten to 18 ft. lbs. (25 N·m).
161. Install the nut and bolt to the support brackets of the heater core return tube. Tighten to 106 in. lbs. (12 N·m).
162. If equipped, install the transfer case skid plate, the transmission skid plate, the front suspension skid plate and the front skid plate.

Service Procedure (Continued)

163. Lower the vehicle.
164. Install the HVAC air inlet duct.
165. Install the lower windshield cowl assembly.
166. Install the windshield wiper arms and wiper linkage.
167. Install the upper windshield cowl assembly.
168. Install the electric vacuum pump and mounting bracket.
169. Install the air inlet resonator and the air cleaner body.
170. Fill the cooling system with coolant.
171. Check the engine oil level and fill as required.
172. Install the plastic engine cover.
173. Tighten the fuel fill cap.
174. Install and align the hood.
175. Install the fuel pump fuse into the Power Distribution Center (PDC).
176. Connect the negative battery cable and tighten nut to 45 in. lbs. (5 N·m).
177. Run the engine until it reaches normal operating temperature. Check cooling system and transmission for correct fluid level.
178. Turn off the engine and recheck the engine oil level. Add oil as required.
179. Connect the wiTECH scan tool and erase any Diagnostic Trouble Codes (DTC's).

Service Procedure (Continued)**C. Engine Replacement (JC/JS/RT Models)**

1. Disconnect and isolate the negative battery cable.
2. Raise and support the vehicle.
3. Remove the underbody splash shield (Figure 9).
4. Drain the cooling system and engine oil.
5. Lower the vehicle.
6. Remove and save the engine cover.
7. Recover the refrigerant from the refrigerant system.
8. Remove and save the air cleaner body and resonator.
9. Remove and save the electric vacuum pump and mounting bracket (Figure 10).
10. Remove and save the coolant recovery bottle.
11. Disconnect the fuel line from the fuel rail inlet.
12. Disconnect the heater core supply and return hoses.
13. Remove and save the nut, bolt and the heater core return tube.
14. Disconnect all accessible vacuum hoses from the engine.

**Figure 9 – Underbody Splash Shield (JC Shown)****Figure 10 – Electric Vacuum Pump**

Service Procedure (Continued)

15. Remove and save the upper intake manifold.
16. Disconnect the upper radiator hose from the engine.
17. Remove and save the cooling fan module.
18. Remove and save the accessory drive belt.
19. Remove and save the generator.
20. Disconnect all electrical connectors accessible from the top side of the engine.
21. Raise and support the vehicle.
22. Remove and save both front tire and wheel assemblies.
23. Remove and save the left and right lower splash shield.
24. Remove and save both axle shafts and the intermediate shaft.
25. Remove and save the front fore and aft crossmember (Figure 11).
26. Remove and save the cross-under pipe (Figure 12).
27. Disconnect the oxygen sensor connectors from the main wire harness and remove both catalytic converters.



Figure 11 – Front Fore/Aft Crossmember

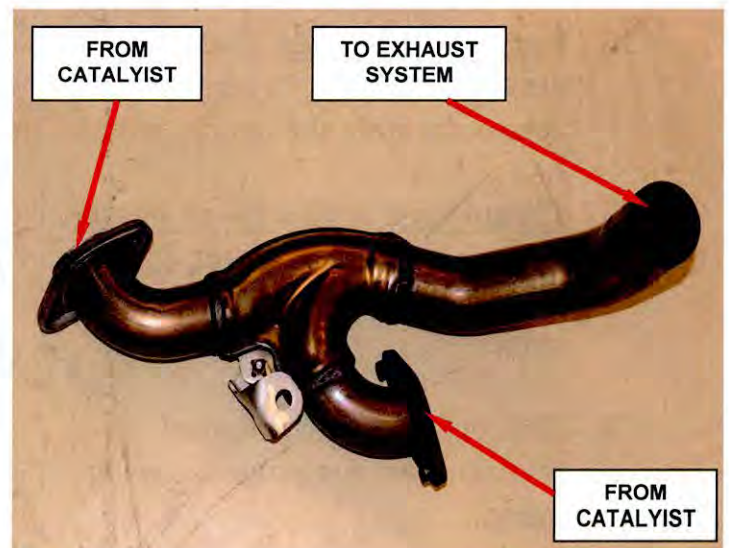


Figure 12 – Cross-Under Pipe

Service Procedure (Continued)

28. **If equipped with AWD**, remove and save the Power Takeoff Unit (PTU).
29. Remove and save the three bolts and the front engine mount bracket (Figure 13).
30. Remove and save the starter motor (Figure 14).
31. Disconnect the lower radiator hose from the engine.
32. Remove and save the A/C compressor from the engine compartment.
33. **For Front Wheel Drive (FWD) vehicles**, remove two bolts and the rear engine mount heat shield.
34. Push back the heat shield from the crankshaft position sensor and disconnect the crankshaft position sensor electrical connector.
35. Disengage one wire harness retainer from the engine block and one wire harness retainer from the transmission mounting stud.
36. **For FWD vehicles**, disengage the downstream oxygen sensor connector from the engine mount.
37. **If equipped with a block heater**, disconnect and reposition the power cord from the engine block heater.
38. Disengage the wire harness retainer from the power steering pump.

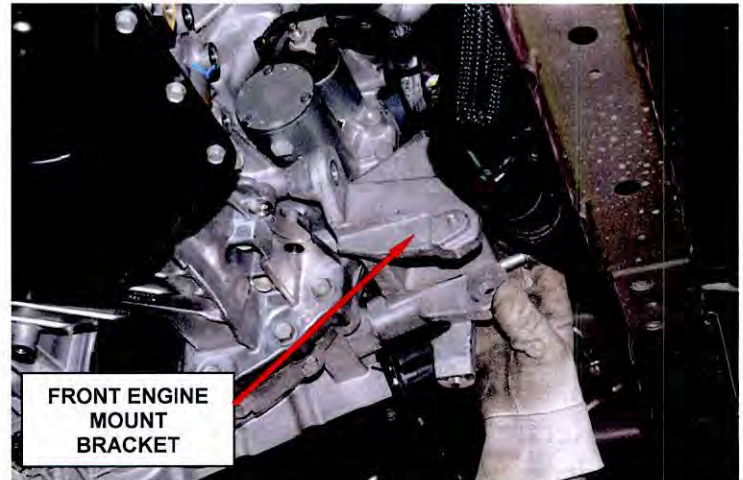


Figure 13 – Front Engine Mount Bracket

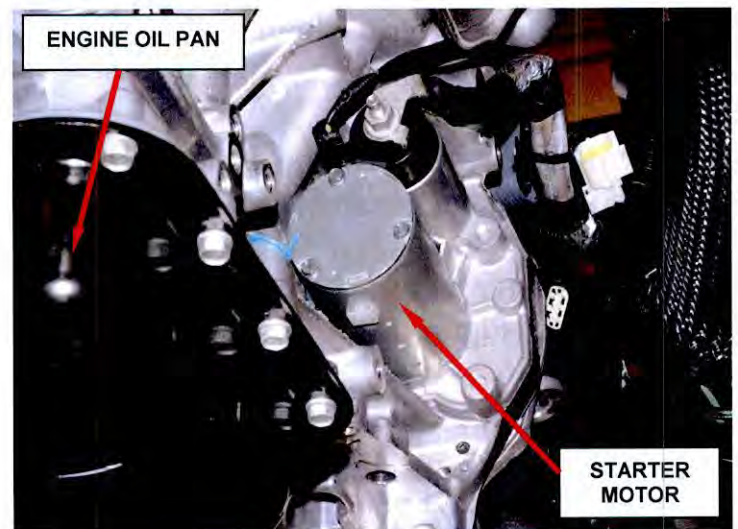


Figure 14 – Starter Location

Service Procedure (Continued)

39. Remove and save the three mounting bolts and reposition the power steering pump and bracket as an assembly. **Do not** disconnect the power steering lines from the pump.
40. Disconnect the oil pump solenoid electrical connector.
41. Disengage the wire harness retainer from the engine block.
42. Disengage the three main wire harness retainers from the right cylinder head cover.
43. **For FWD vehicles**, remove five bolts and remove the rear engine mount bracket.
44. **If equipped with AWD**, remove the rear engine mount bracket and isolator assembly.
45. Remove the transaxle torque converter housing dust cover and rubber plugs (Figure 15).
46. Remove and discard the torque converter-to-drive plate bolts. Upon removing the bolts, a tight-tolerance (slotted) bolt will be encountered. Mark this location (flex plate and converter) with paint for assembly reference.
47. Remove and save the four transaxle-to-engine lower bolts.
48. Lower the vehicle.
49. Disconnect the transmission solenoid harness connector.
50. Disengage the main wire harness retainer from the transmission valve body pan.
51. Disconnect the transmission input shaft speed sensor connector.

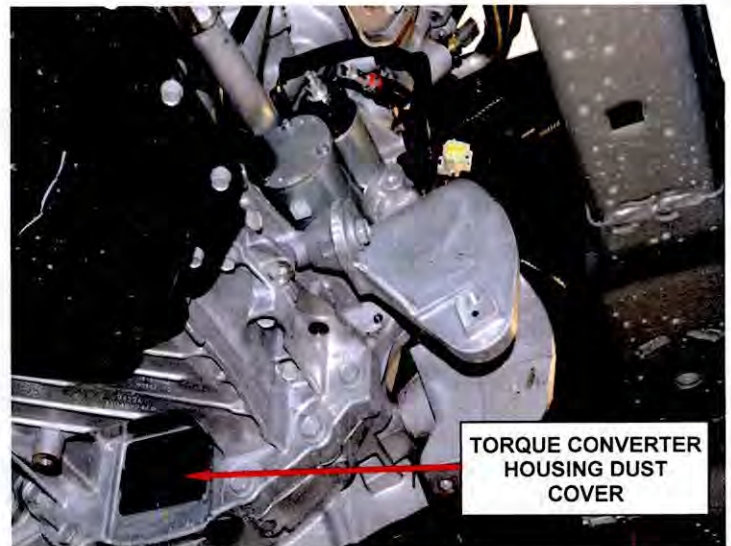
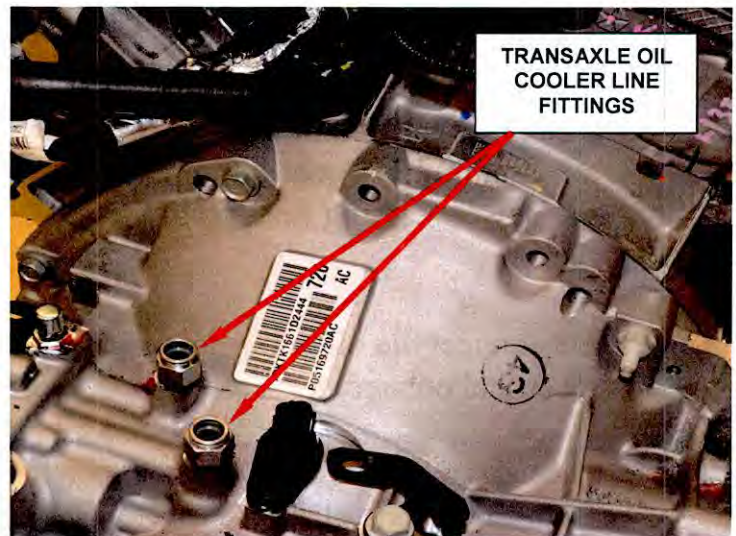


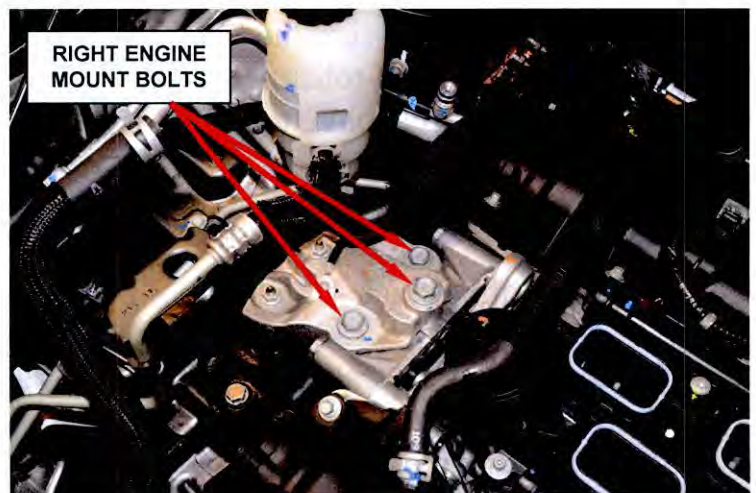
Figure 15 – Torque Converter Housing Dust Cover

Service Procedure (Continued)

52. Disconnect the oil cooler lines from transaxle using Special Tool 8875A (Figure 16).
53. Disconnect the gearshift cable from the transaxle manual valve lever and cable mounting bracket.
54. Disconnect the two output shaft speed sensors connectors.
55. Disengage the wire harness retainer from the gearshift cable bracket.

**Figure 16 – Transaxle Oil Cooler Lines**

56. Reposition the main wire harness away from the engine.
57. Raise and position the vehicle height to allow Powertrain Dolly 6135 and Engine Support Cradle 6710A to be installed under the engine/transaxle assembly.
58. Loosen the cradle engine mounts to allow movement for positioning onto the engine locating holes on the engine block and oil pan rail. Place Adapter 6848-3 on the front post and align to the oil pan mounting stud. Lower the vehicle and position cradle until the engine is resting on the posts. Tighten the post mounts to the cradle frame. Secure the engine/transaxle assembly to the dolly/cradle with safety straps.
59. Lower the vehicle so that the weight of the engine and transmission ONLY is on the cradle.
60. Remove and save the three bolts from the right engine mount bracket (Figure 17).

**Figure 17 – Right Engine Mount Bolts**

Service Procedure (Continued)

61. Remove and save the two bolts from the left transaxle mount bracket (Figure 18).
62. Slowly raise the vehicle in short length spans. Inspect at each interval for potential engine or transaxle contact to vehicle components (Figure 19). Move the cradle/dolly fixture as necessary to allow for removal clearance.
63. Position a transmission jack under the transaxle. Secure the transaxle to the transmission jack.

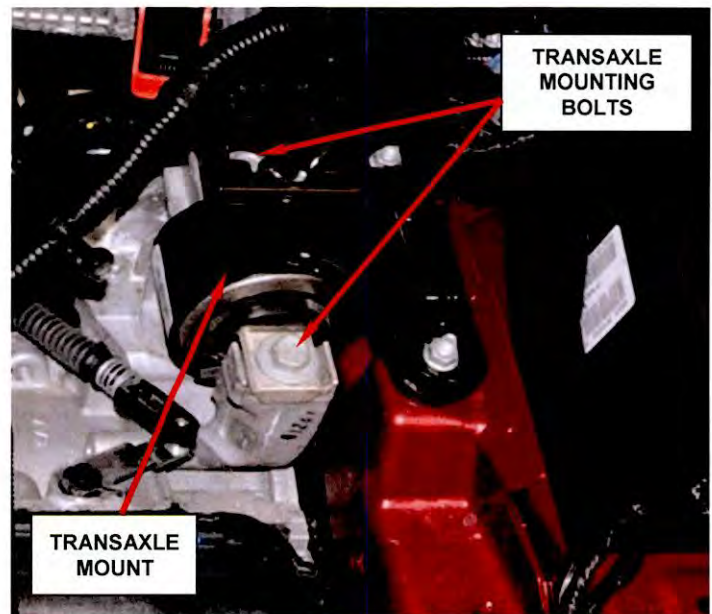


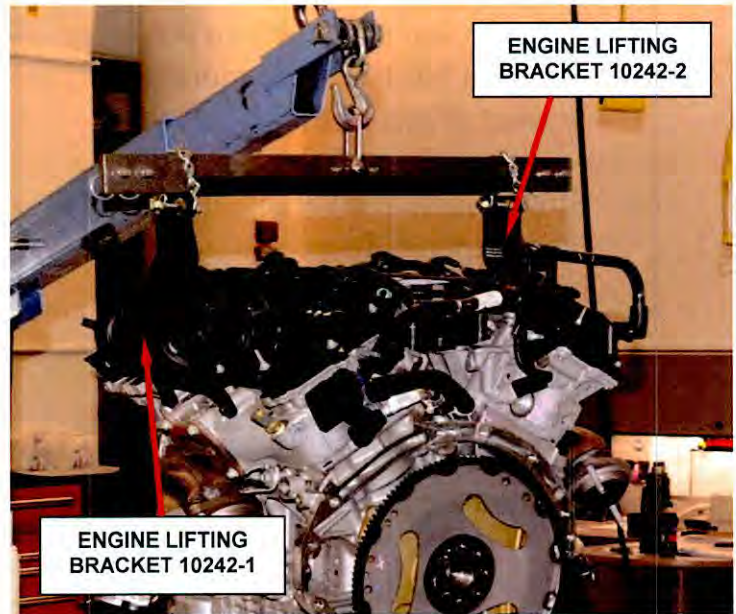
Figure 18 – Left Transaxle Mount



Figure 19 – Guide Engine During Removal

Service Procedure (Continued)

64. Remove and save the remaining six transaxle upper bellhousing-to-block bolts.
65. Separate the transaxle from the engine.
66. Remove and save the bolts and remove the upper intake manifold support brackets.
67. Remove and save the two bolts and the heater core supply tube.

**Figure 20 – Engine Lifting Brackets**

68. Install the Driver Side Engine Lifting Bracket 10242-1 on the left cylinder head with bolts provided with the Engine Lifting Bracket (Figure 20). Tighten the bolts to 15 ft. lbs. (21 N·m).
69. Install the Passenger Side Engine Lifting Bracket 10242-2 on the right cylinder head with bolts from the Engine Lifting Bracket (Figure 20). Tighten the bolts to 15 ft. lbs. (21 N·m).
70. Position a load-leveling lifting sling such as OTC[®] 4305 Engine Load Leveler or equivalent, between the engine lifting brackets and an engine hoist.
71. Remove the engine from the cradle/dolly fixture.
72. Carefully remove and save the intake manifold from the replacement engine.
73. Transfer engine lifting brackets (10242-1 and 10242-2) onto the replacement engine.
74. **For seized engines only**, pour one quart of transmission fluid into the new torque converter and install the torque converter into the transmission.
75. Install the transaxle to the engine. Secure with six transaxle upper bellhousing-to-block bolts and tighten to 52 ft. lbs. (70 N·m).

Service Procedure (Continued)

76. Position the engine/transaxle assembly on the Powertrain Dolly 6135 and Engine Support Cradle 6710A.
77. Loosen the cradle engine mounts to allow movement for positioning onto the engine locating holes on the engine block and oil pan rail. Place Adapter 6848-3 on the front post and align to the oil pan mounting stud. Tighten the post mounts to the cradle frame. Secure the engine/transaxle assembly to the dolly/cradle with safety straps. Remove both engine lifting brackets.
78. Transfer all necessary components from the original engine to the replacement engine.
79. Position the engine/transaxle assembly under the vehicle. Slowly lower the vehicle in short length spans. Inspect at each interval for potential engine or transaxle contact to vehicle components. Move the cradle/dolly fixture as necessary to allow for clearance.
80. Install the three bolts to the right engine mount bracket and tighten bolts to 41 ft. lbs. (55 N·m).
81. Install the two bolts to the left engine (transmission) mount bracket.
82. Remove the engine safety strap, raise the vehicle slightly and remove the powertrain dolly from under the vehicle.
83. Lower the vehicle and connect all accessible electrical connectors.
84. Connect the gearshift cable to the mounting bracket and transaxle manual valve lever.
85. Connect the oil cooler lines to the transaxle.
86. Raise and support the vehicle.
87. Install the four transaxle-to-engine lower bolts and tighten to 52 ft. lbs. (70 N·m).
88. Install the torque converter-to-drive plate bolts and tighten to 65 ft. lbs. (88 N·m).
89. Install the transaxle torque converter housing dust cover and rubber plugs.

Service Procedure (Continued)

90. **For FWD vehicles**, install the rear engine mount bracket and the bolts to 81 ft. lbs. (110 N·m).
91. **If equipped with AWD**, install the bolt to the rear engine mount isolator and tighten to 44 ft. lbs. (60 N·m).
92. Lower the vehicle.
93. Install the heater core supply tube with two bolts and tighten to 106 in. lbs. (12 N·m).
94. Install the left upper intake manifold support brackets. Loosely install the stud bolts.
95. Engage three main wire harness retainers to the right cylinder head cover.
96. Raise and support the vehicle.
97. Connect the oil pump solenoid electrical connector.
98. Engage the wire harness retainer to the engine block.
99. Install the power steering pump and bracket as an assembly with three bolts and tighten to 18 ft. lbs. (25 N·m).
100. Engage the wire harness retainer to the power steering pump.
101. Install the power steering pump heat shield. Tighten bolts to 18 ft. lbs. (25 N·m).
102. **For vehicles with a block heater**, connect the power cord to the engine block heater.
103. Connect all underbody electrical connectors and wiring harness retainers.
104. **For FWD vehicles**, install the rear engine mount heat shield. Tighten bolts to 124 in. lbs. (14 N·m).

Service Procedure (Continued)

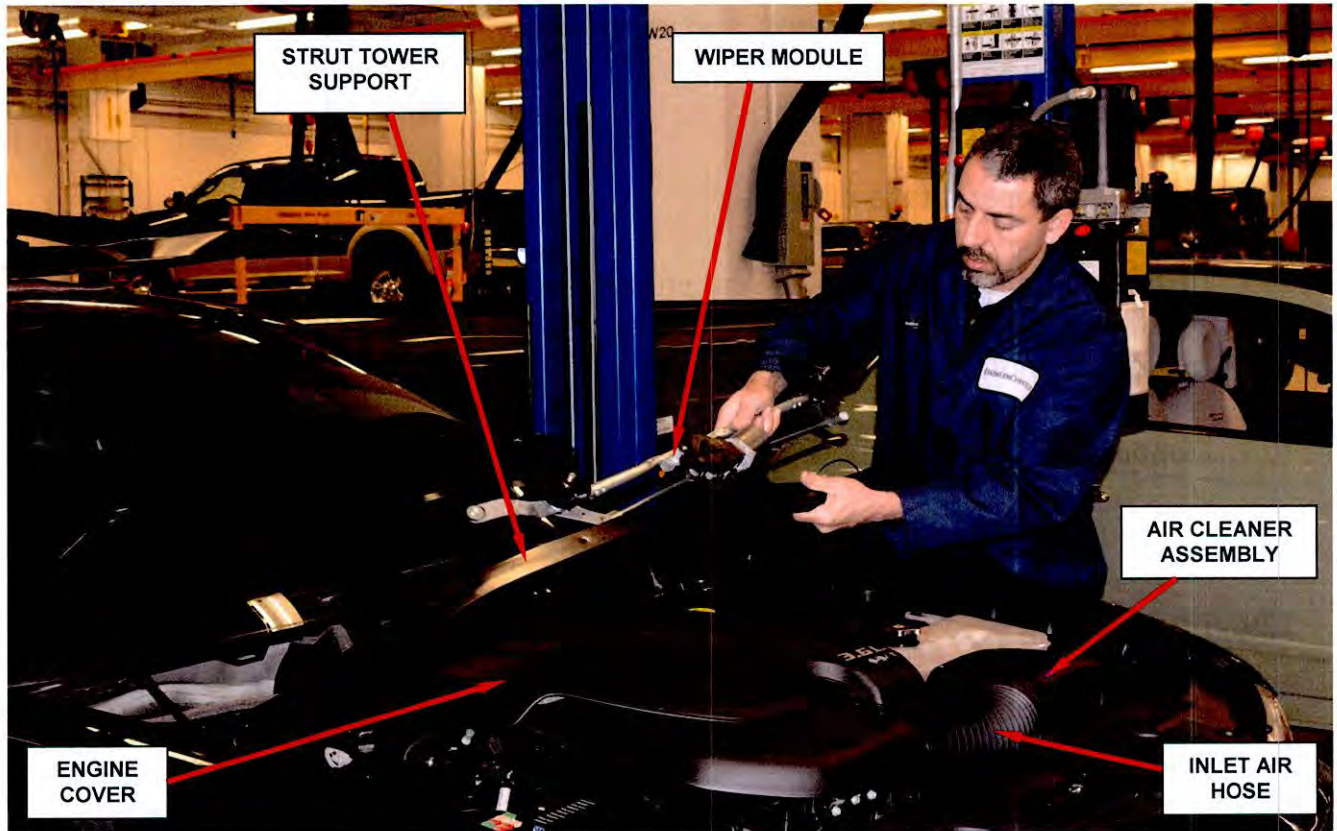
105. Install the A/C compressor. Install and tighten the two bolts and two nuts in the following sequence:
 - a. Install all bolts and nuts hand tight.
 - b. Tightened upper nut to 30 ft. lbs. (40 N·m).
 - c. Tightened lower nut to 30 ft. lbs. (40 N·m).
 - d. Tightened upper bolt to 17 ft. lbs. (23 N·m).
 - e. Tightened lower bolt to 17 ft. lbs. (23 N·m).
106. Install the lower radiator hose.
107. Place the starter motor into position and install the starter motor retaining bolts. Tighten the bolts to 40 ft. lbs. (55 N·m).
108. Install the front engine mount bracket. Tighten bolts to 40 ft. lbs. (55 N·m).
109. If equipped with AWD, install the Power Take Off Unit (PTU).
110. Install both catalytic converters using the following process:
 - a. If new gaskets need replacing, position new gasket onto the manifold flange and install the lower retainer plate. Loosely install all four bolts to align the gasket. Tighten lower retainer bolts to 27 ft. lbs. (37).
 - b. Position the catalytic converter against the exhaust manifold. Position the converter flange to the retainer.
 - c. Install the upper flange bolts. Tighten upper bolts to 27 ft. lbs. (37 N·m).
111. Connect the oxygen sensor connectors to the main wire harness.
112. Install the cross-under pipe using the following procedure:
 - a. Position new gaskets onto the catalytic converter flanges.
 - b. Position the cross-under pipe into its position between the catalytic converters.
 - c. Install the front flange mounting nuts. Tighten the nuts to 250 in. lbs. (28 N·m).
 - d. Install the rear flange bolts. Tighten the bolts to 22 ft. lbs. (30 N·m).
 - e. Install the cross-under support bolts. Tighten the nuts to 250 in. lbs. (28 N·m).

Service Procedure (Continued)

113. Install the front fore and aft crossmember using the following procedure:
 - a. Position fore-aft crossmember in engine compartment and install mounting bolts.
 - b. Tighten forward mounting bolts to 83 ft. lbs. (113 N·m).
 - c. Tighten rearward mounting bolts at suspension crossmember to 41 ft. lbs. (55 N·m).
114. Install the right side intermediate shaft and then both axle shafts using the following procedure:
 - a. Install the intermediate shaft into position.
 - b. Install the three bolts holding the mid-shaft bearing to the block and tighten to 39 ft. lbs. (54 N·m).
 - c. Install the tripod joint into the transaxle side gear as far as possible by hand. Be sure to engage splines prior to applying force.
 - d. Forcefully push the tripod joint onto the intermediate shaft, until the snap-ring is engaged.
 - e. Install the half shaft into the hub/bearing assembly.
 - f. Install and tighten the hub nut to 118 ft. lbs. (160 N·m).
115. Install the generator and tighten the generator mounting retainers to 18 ft. lbs. (25 N·m).
116. Install the accessory drive belt.
117. Install the right and left lower splash shields.
118. Install both front tire and wheel assemblies.
119. Install the underbody splash shield.
120. Lower the vehicle.

Service Procedure (Continued)

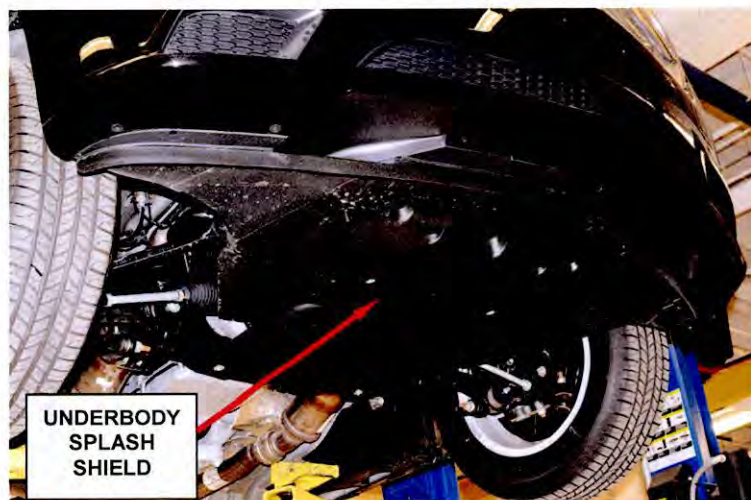
121. Connect all accessible vacuum hose to the engine.
122. Connect the heater core supply and return hoses.
123. Install the cooling fan module.
124. Install the upper intake manifold.
125. Install the upper radiator hose and engage the hose retainer to the intake manifold.
126. Install the coolant recovery bottle.
127. Connect the fuel line to the fuel rail inlet tube.
128. Install the air cleaner body and resonator.
129. Install the electric vacuum pump and mounting bracket.
130. Recharge air conditioning system.
131. Fill the cooling system.
132. Install the engine cover.
133. **For all models except JS**, install the fuel pump fuse.
134. **For JS models**, connect the wiring harness to the fuel pump module.
135. **For JS models**, install the black plastic access plug, sound deadening pad and rear seat.
136. Check the engine oil level and fill if required.
137. Connect the negative battery cable and tighten nut to 45 in. lbs. (5 N·m).
138. Run the engine until it reaches normal operating temperature. Check cooling system for correct fluid level.
139. **For vehicles with a seized engine**, check transmission fluid level and add as required.
140. Connect the wiTECH scan tool and erase any Diagnostic Trouble Codes (DTC's).

Service Procedure (Continued)**D. Engine Replacement (LD Model)****Figure 21 – Strut Tower Support**

1. Remove the hood.
2. Remove the cowl panel cover.
3. Remove the strut tower support and windshield wiper module (Figure 21).
4. Disconnect and isolate the negative battery cable, located in the trunk.
5. Perform the Refrigerant System Recovery procedure.
6. Lift the engine cover retaining grommets off the ball studs and remove the engine cover (Figure 21).
7. Remove the air cleaner assembly and throttle body air inlet hose (Figure 21).

Service Procedure (Continued)

8. Raise and support the vehicle.
9. Remove and save the underbody splash shield (Figure 22).
10. Drain the cooling system and engine oil.
11. **For vehicles with All Wheel Drive (AWD)**, remove the front axle assembly.
12. Disconnect both the left and right upstream oxygen sensor electrical connectors.
13. Remove the exhaust down pipe to catalytic converter retaining nuts from both the left and right down pipes.
14. Remove and save the starter motor (Figure 23).
15. **If the engine is seized**, continue to Step 17.
16. Rotate the crankshaft in a clockwise direction until the torque converter bolts are accessible through the starter mounting hole in the transmission bellhousing. Remove the six torque converter bolts.
17. Lower the vehicle.
18. Remove the coolant bottle return hose.

**Figure 22 – Underbody Splash Shield****Figure 23 – Starter Removal**

Service Procedure (Continued)

19. Remove the heater core purge hose from the coolant bottle.
20. Remove and save the coolant bottle retaining bolts and coolant bottle (Figure 24).
21. Disconnect all accessible vacuum hoses from the engine.
22. Disconnect all electrical connectors from the engine.
23. Remove the fresh air makeup hose from the rear of the intake manifold.
24. Remove the upper intake manifold and insulator.
25. Disconnect the fuel supply hose from the underbody fuel supply tube (Figure 25).

**Figure 24 – Coolant Bottle****Figure 25 – Fuel Supply Tube**

Service Procedure (Continued)

26. Remove the cooling fan module (Figure 26).
27. Rotate the accessory drive belt tensioner counterclockwise until it contacts the stop and remove the accessory drive belt, then slowly rotate the tensioner into the free arm position.
28. Remove the generator.
29. Remove the ground strap from the right engine mount bracket.
30. Remove the upper radiator hose from the engine thermostat housing.
31. Remove the lower heater core return hose from the engine coolant pump housing.
32. Remove the lower radiator hose from the engine coolant pump housing.
33. Remove the heater core return tube lower support bracket retaining nut.
34. Disconnect the heater core return hose.
35. Remove the heater core return tube upper support bracket retaining nut and remove tube.
36. Remove the A/C compressor.
37. Raise and support the vehicle.
38. Unfasten the starter wire harness retainer and the main wire harness retainer from the engine block.
39. Remove the bolt and reposition the transmission cooling lines.

**Figure 26 – Cooling Fan Module**

Service Procedure (Continued)

40. Disconnect all electrical connections from the engine accessible from under the vehicle.
41. Remove the two upper side transmission-to-engine retaining bolts.
42. Remove the side engine-to-transmission bolt.
43. Remove the transmission dust shield retaining bolt and remove the dust shield.
44. Remove and save the two rubber plugs covering the rear oil seal retainer flange bolts.
45. Remove and save the four transmission-to-the engine oil pan bolts.
46. Lower the vehicle.
47. Remove the two bolts and remove the heater core inlet tube.
48. Remove the bolt and remove the engine oil dipstick tube.
49. Remove the left intake manifold support bracket retaining bolts and remove the support brackets.
50. Install the left side engine lifting bracket 10242-1 on the left cylinder head with bolts provided with the engine lifting bracket and tighten bolts to 15 ft. lbs. (21 N·m).
51. Install the right side engine lifting bracket 10242-2 on the right cylinder head with bolts provided with the engine lifting bracket and tighten bolts to 15 ft. lbs. (21 N·m).
52. Position a load-leveling lifting sling, such as OTC[®] 4305 Engine Load Leveler or equivalent, between the engine lifting brackets and an engine hoist.
53. Reposition the starter wire harness and the main wire harness to the rear of the engine compartment.

Service Procedure (Continued)

54. Support the transmission with a suitable jack.
55. Remove the two upper transmission-to-engine retaining bolts and remove the electric vacuum pump.
56. Remove both the left and right engine mount lower retaining bolts.
57. Using an engine hoist, carefully remove the engine from the engine compartment (Figure 27).

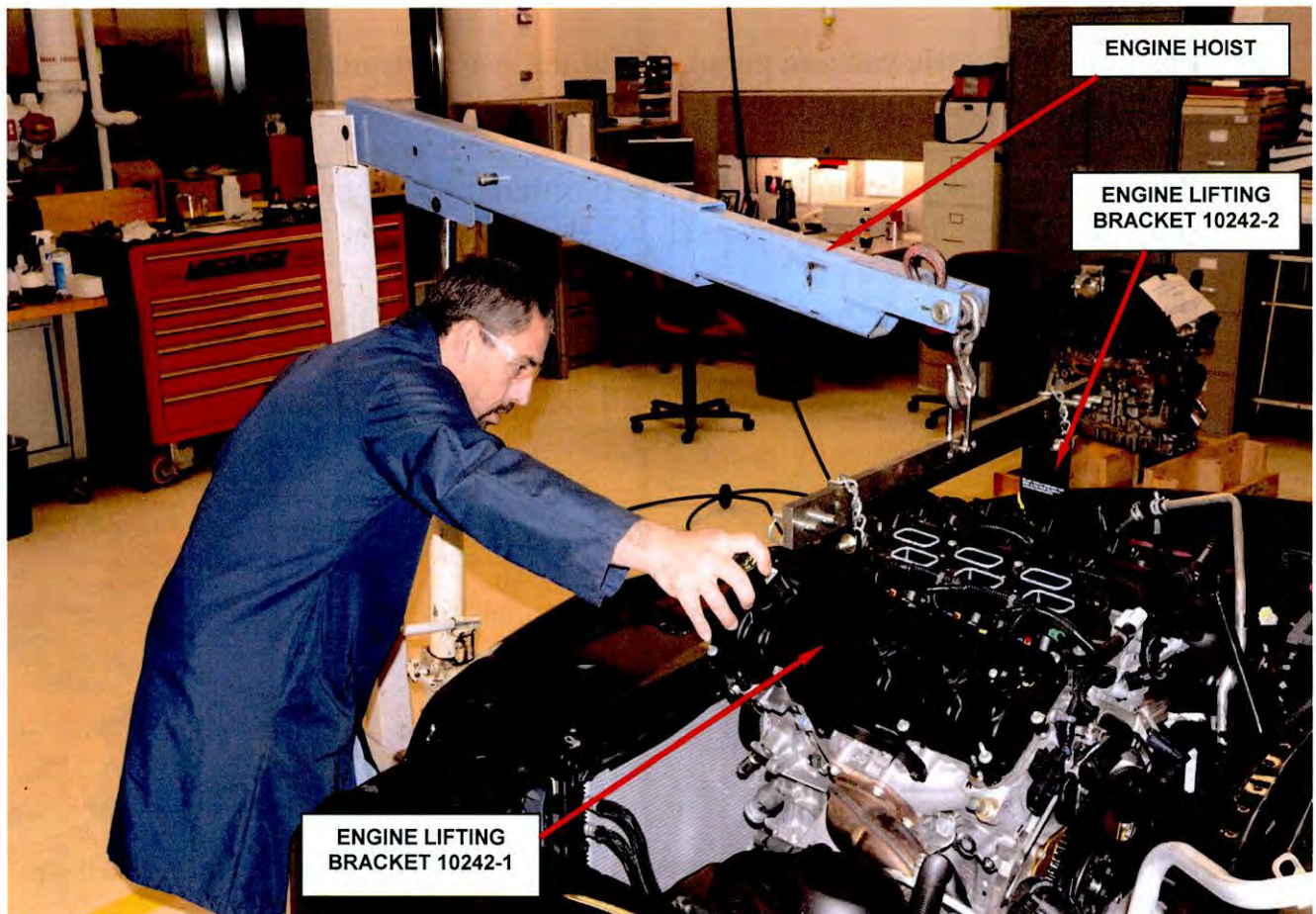


Figure 27 – Engine Removal

Service Procedure (Continued)

58. Transfer all necessary components from the original engine to the replacement engine.
59. Remove and save the upper intake manifold from the replacement engine.
60. Transfer the engine lifting brackets (10242-1 and 10242-2) onto the replacement engine.
61. Carefully lower the replacement engine into the engine compartment while aligning the two locator dowels into the transmission housing. Install two bell housing bolts to hold engine against the transmission bellhousing.
62. Align the engine mounts, install both the left and right engine mount lower retaining bolts and tighten to 50 ft. lbs. (68 N·m).
63. Position the electric vacuum pump, install the two transmission to engine retaining bolts and tighten to 41 ft. lbs. (55 N·m).
64. Remove the engine lifting brackets and position the left upper intake manifold support brackets and install the retaining studs finger tight.
65. Route the main wire harness and starter wire harness on the engine.
66. Route the wiring harness and connect all electrical connections accessible from the top of the engine.
67. Connect all vacuum hoses accessible from the top of the engine.
68. Install the ground strap to the right engine mount bracket.
69. Remove the jack supporting the transmission.
70. Raise and support the vehicle.
71. Install the four transmission-to-the engine oil pan retaining bolts and tighten to 41 ft. lbs. (55 N·m).
72. Install the two rubber plugs covering the rear oil seal retainer flange bolts.

Service Procedure (Continued)

73. Install the side engine-to-transmission retaining bolt and tighten to 41 ft. lbs. (55 N·m).
74. Position the torque converter dust shield, install the retaining bolt and tighten to 12 N·m (9 ft. lbs.).
75. Install the two upper side transmission-to-engine retaining bolts and tighten to 55 N·m (41 ft. lbs.).
76. Connect the main harness to the engine oil pressure/temperature harness at the rear of the left cylinder head.
77. Rotate the crankshaft in a clockwise direction and install the six torque converter bolts through the starter mounting hole and tighten to 31 ft. lbs. (42 N·m).
78. Install the transmission cooling lines and tighten the bolt to 106 in. lbs. (12 N·m).
79. Secure the starter wire harness retainer and the main wire harness retainer to the engine block.
80. Install the starter motor.
81. Connect all engine electrical connectors accessible from under the vehicle.
82. **If equipped with AWD**, install the front axle assembly with propeller shaft, intermediate shaft, halfshafts, wheels and tires.
83. Position both left and right exhaust down pipes to the catalytic converters, install the retaining nuts and tighten to 22 ft. lbs. (30 N·m).
84. Install the underbody splash shield.
85. Lower the vehicle.
86. Connect the main harness to the engine injection/ignition harness at the rear of the left cylinder head.

Service Procedure (Continued)

87. Install the upper intake manifold and insulator.
88. Install the engine oil dipstick tube. Tighten the attaching bolt to 9 ft. lbs. (12 N·m).
89. Position the heater core inlet tube and install two bolts tightened to 9 ft. lbs. (12 N·m).
90. Install the A/C compressor.
91. Position the heater core return tube, install the upper support bracket retaining nut and tighten to 9 ft. lbs. (12 N·m).
92. Connect the heater core return hose.
93. Position the heater core return tube lower support bracket onto the A/C lower retaining stud, install the retaining nut and tighten to 9 ft. lbs. (12 N·m).
94. Install the lower heater core return hose to the engine coolant pump housing.
95. Install the lower radiator hose to the engine coolant pump housing.
96. Install the upper radiator hose to the engine thermostat housing.
97. Install the generator.
98. Rotate the accessory drive belt tensioner counterclockwise until it contacts the stop and install the accessory drive belt, then slowly rotate the tensioner into position.
99. Install the cooling fan module.
100. Connect the fuel supply hose to the underbody fuel supply tube.
101. Connect the fresh air makeup hose to the rear of the intake manifold.
102. Install the coolant bottle. Tighten the retaining bolts to 9 ft. lbs. (12 N·m).
103. Install the air cleaner housing. Tighten the retaining bolt to 9 ft. lbs. (12 N·m).

Service Procedure (Continued)

104. Connect the fresh air makeup hose to the air cleaner housing.
105. Install the strut tower support.
106. Install the windshield wiper module.
107. Install the cowl panel cover.
108. Install the hood.
109. Fill the cooling system with engine coolant.
110. Perform the Refrigerant System Charge procedure.
111. Position the engine cover and secure the retaining grommets onto the ball studs.
112. Connect the negative battery cable and tighten nut to 45 in. lbs. (5 N·m).
113. Check and fill engine oil as required.
114. Start engine and allow it to warm up. Then check the coolant level.
115. **For seized engines**, check the transaxle fluid level.
116. Connect the wiTECH scan tool and erase any Diagnostic Trouble Codes (DTC's).

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 submitted will be used by Chrysler to record recall service completions and provide dealer payments.

Use the following labor operation numbers and time allowances:

	Labor Operation Number	Time Allowance
Replace engine assembly (JC models)	09-L3-31-82	7.7 hours
Replace engine assembly (JS models)	09-L3-31-83	7.1 hours
Replace engine assembly (LD models)	09-L3-31-84	6.1 hours
Replace engine assembly (RT models)	09-L3-31-85	7.5 hours
Replace engine assembly (WK models)	09-L3-31-86	8.2 hours

Optional Equipment

JC models with All Wheel Drive	09-L3-31-60	0.8 hours
LD models with All Wheel Drive	09-L3-31-61	2.3 hours
WK models with All Wheel Drive	09-L3-31-62	1.9 hours

Related Operation:

WK models, remove torque converter with seized engine	09-L3-31-50	0.4 hours
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Add the cost of the recall parts package plus applicable dealer allowance to your claim.

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 Chrysler 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.

Enclosed with each owner letter is an Owner Notification postcard to allow owners to update our records if applicable.

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
Chrysler Group LLC