Revision 2 February 2021

Dealer Service Instructions for:

# Customer Satisfaction Notification W80
# Oil Consumption Inspection

**NOTE: Added additional information in the parts section.**

## Remedy Available

**2015 - 2018 (BU) Jeep® Renegade (FWD)**
**2016 - 2018 (FB) Fiat 500X (FWD) , (AWD)**
**2015 - 2018 (VM) Ram Promaster City**

*NOTE: This recall applies only to the above vehicle equipped with a 2.4L engine* ***(sales code ED6 or ED8 or EDD or EDE)***

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

**IMPORTANT: Some of the involved vehicles may be in dealer new vehicle inventory.** Dealers should also consider this requirement to apply to used vehicle inventory and should perform this campaign on vehicles in for service. Involved vehicles can be determined by using the VIP inquiry process.

## Subject

The engines in about 241,000 of the above vehicles may have an engine that consumes more oil than usual under certain operating conditions like continuous stop and go driving. The condition results when a combination of components with certain manufacturing variances are present and the current engine calibration strategy. While the condition is rare, the vehicles above fall within the population where such variances could cause an oil consumption issue. If the vehicle is subjected to a low oil condition, the oil indicator lamp on the instrument panel

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## Subject[Continued]

cluster may illuminate or the customer will notice an oil level below the dipstick crosshatch range markings when checking the vehicle's oil level as recommended in the Owner's Manual. If left unaddressed, a low oil condition can eventually result in a vehicle stall.

## Repair

Initiate an oil consumption test by following section **A. Oil Consumption Test.** procedure below. If the oil consumption test **fails,** please submit a digital imaging request to the Powertrain Service Center with the oil consumption documentation and photo of the engine serial number for authorization for a long block replacement. The request must be submitted as a Claim Type of "W-Warranty" with the "Actual Cost" field at $1. In the "Repair Issue" section, enter "W80 Oil Consumption failed" with the mileage at which the vehicle returned, as well as the amount of oil that was used in the specified mileage. Once the long block replacement is approved, perform section **B. Long Block Removal Procedure and section C. Long Block Installation Procedure.**

The claim that will be later submitted for reimbursement through the claim system will be "S – Safety" type, but the PTSC request must be submitted as "W-Warranty" as there is no S-Safety type available in the pre authorization system

## Parts Information

**The list of parts below should only be required, if the vehicle fails the oil consumption test in section A. Oil Consumption Test. Part orders will be placed for the dealer upon the successful completion of the Powertrain Service Center approval process. Parts will be blocked from dealer ordering.**

**The only exception is for engine oil, to top off the engine to the full mark on the dipstick, to initiate the oil consumption test.**

## Parts Information [Continued]

| Part Number | Description |
|---|---|
| **CCSKW801AA** | **Part Package** |

Each package contains the following components:

| Quantity | Description |
|---|---|
| 1 | 2.4L Long Block |
| 1 | I-Sheet |

| Part Number | Description |
|---|---|
| **CCSKW803AA** | **Part Package (AWD Vehicles Only)** |

Each package contains the following components:

| Quantity | Description |
|---|---|
| 1 | Bearing Kit, Drive Shaft |

| Part Number | Description |
|---|---|
| **CCSKW802AA** | **Part Package** |

Each package contains the following components:

| Quantity | Description |
|---|---|
| 1 | Gasket, Exhaust Manifold |
| 4 | Gasket, Intake Manifold |
| 2 | Nut, Front Axle |
| 6 | Exhaust Hex Head Bolt |
| 2 | Exhaust Hex Head Nut |
| 1 | Gasket, Catalytic Converter |
| 6 | Bolts, Torque Converter |
| 2 | Seal, Banjo Bolt at Gear |
| 2 | Seal, Banjo Bolt at Pump |
| 10 | Strap, Tie |
| 2 | Nut, Lower Control Arm |
| 2 | Bolt, Lower Control Arm |
| 2 | Nut, Tie Rod |

## Parts Information [Continued]

| Part Number | Description |
|---|---|
| 68163848AB | 1 Gallon Bottle, Antifreeze (MSQ 4), MS-12106, MS-90032 |
| 68088485AB | 1 Pint Bottle, Fluid, Power Steering (MSQ 6) MS-11655 |
| 68523994AA | 1 Quart Bottle, Oil, Engine SAE 0W-20 (MSQ 6) MS-6395 |

**Bulk Fluid PN's**

| | |
|---|---|
| 68140983AA | 55 Gallon Drum, Antifreeze (MSQ 55), MS-12106, MS-90032 |
| 68218951AB | 5L Bottle, Oil, Engine SAE 0W-20 (MSQ 3) MS-6395 |
| 68218952AA | 220 Quart Drum, Oil, Engine SAE 0W-20 (MSQ 220) MS-6395 |

**NOTE: Dealers are encouraged to use bulk fluids to perform this campaign.**

## Parts Return

**This campaign part will be subject to parts return**.

Return the Long Block to the PDC following the standard core return policy. Dealers will be reimbursed for the core once received by the PDC.

## Special Tools

**The following special tools are required to perform this repair:**

| | |
|---|---|
| ➢ NPN | wiTECH MicroPod II |
| ➢ NPN | Laptop Computer |
| ➢ NPN | wiTECH Software |
| ➢ 10288 | Pliers, Hose Clamp |
| ➢ 8875A | Cooler Line Disconnect |
| ➢ 6135 | Dolly, Power Train or Equivalent |
| ➢ 10287 | Tool, Front Hub Staking |

## Service Procedure

### A. Oil Consumption Test.

1. Verify no external oil leaks are present.

   **NOTE: A few drops of external oil leakage per mile, can quickly account for the loss of one quart of oil in a few hundred miles. Ensure no external engine oil leaks are present.**

   **Oil leakage is not the same as oil consumption and all external leakage must be eliminated before any action can be taken to verify and/or correct oil consumption complaints.**

2. Ensure the test vehicle has a minimum of 2400 km (1500 miles) until the next oil change is required. If the vehicle does not have 1500 miles wait until the scheduled oil change to start the test.

3. Check the oil level at least 5 minutes after a hot shutdown with the vehicle on a level surface.

4. Ensure the oil level is at the "FULL" mark, if necessary top off the oil to the" FULL" mark on the dipstick (Figure 1).

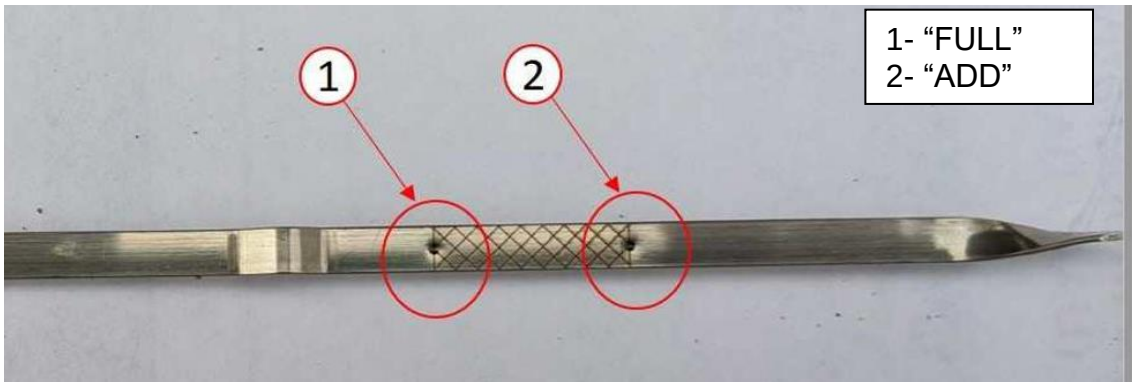



**Figure 1 – Oil Dipstick Levels**

## Service Procedure [Continued]

5. Tamper proof the oil pan drain plug, oil filter, dipstick and oil fill cap with a black light marking device (pen), paint pen or touchup paint.

   **NOTE: The use of a black light marking device is recommended so the marks can only be seen with an ultraviolet light.**

6. Record the vehicle mileage. Note the oil level is at the 'full' mark 5 minutes after hot shutdown and date (Figure 1).

7. Instruct the customer to drive the vehicle as usual.

8. Require the customer to return to the servicing dealer after accumulating between 2400 - 2700 km (1500 - 1700 miles).

   **CAUTION! Failure to confirm the oil level between 2400 - 2700 km (1500 - 1700 miles) voids the test and requires a new test to be performed.**

9. Return the vehicle back to the customer for the 2400 - 2700 km (1500 - 1700 miles) test drive. use LOP (**09-W8-0L-81**) no further action is needed at this time.

10. When the vehicle returns for the remaining steps, verify that no evidence of tampering has occurred.

11. Check the oil level at least 5 minutes after a hot shutdown on a level surface. If the oil level is at or above the "ADD" mark, the engine is in an acceptable condition and no further service action required (Figure 1). Use LOP **09-W8-01-81** to complete the oil consumption inspection.

12. If the oil level is below the "ADD" mark (Figure 1), The vehicle has failed the oil consumption test, proceed to section **B. Long Block Removal Procedure.**

## Service Procedure[Continued]

### B. Long Block Removal Procedure

1. Perform the fuel pressure release procedure:
    a) Loosen the two screws and remove the power distribution center (PDC) cover (Figure 2).
    b) **VM Model**: Remove F83 20Amp Fuse (Fuel Pump) (Figure 2)
    c) **BU/FB Model**: Remove F21 15Amp Fuse
    d) Start and Run the engine until it stalls from fuel starvation.
    e) Attempt to start the engine a few times until the engine will no longer start.
    f) Turn the ignition key to the OFF position.
    g) Return the fuse back into the fuse box (Figure 2).

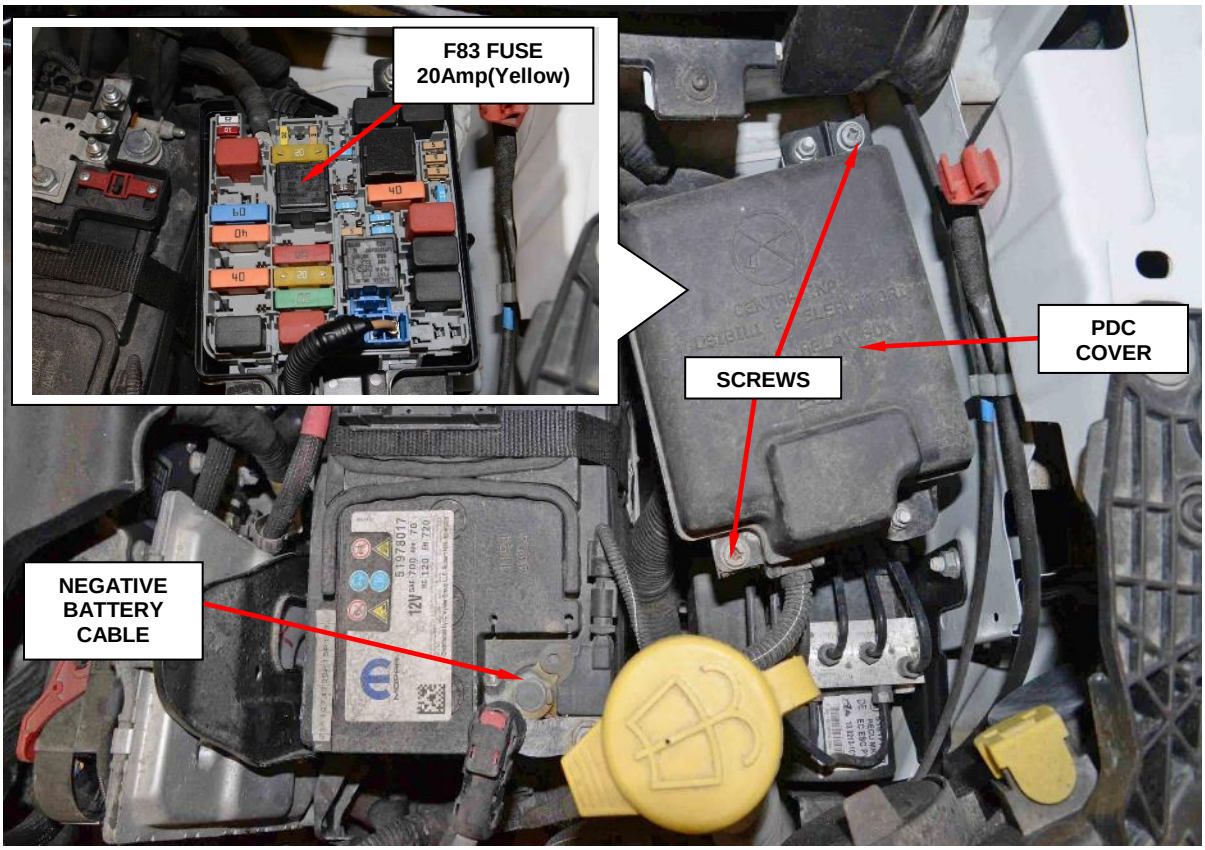



**Figure 2 – VM Model - Power Distribution Center**

**NOTE: VM Model illustrated other models involved are similar.**

## Service Procedure [Continued]

2. Disconnect and isolate the negative battery cable. If equipped with an Intelligent Battery Sensor (IBS), disconnect the IBS connector first before disconnecting the negative battery cable (Figure 2).

3. Remove the bolt and lift the engine cover straight up to disengage the three rubber mount sockets from the ball (Figure 3).

4. **VM Model:** remove the screw at the core support securing the air inlet tube.

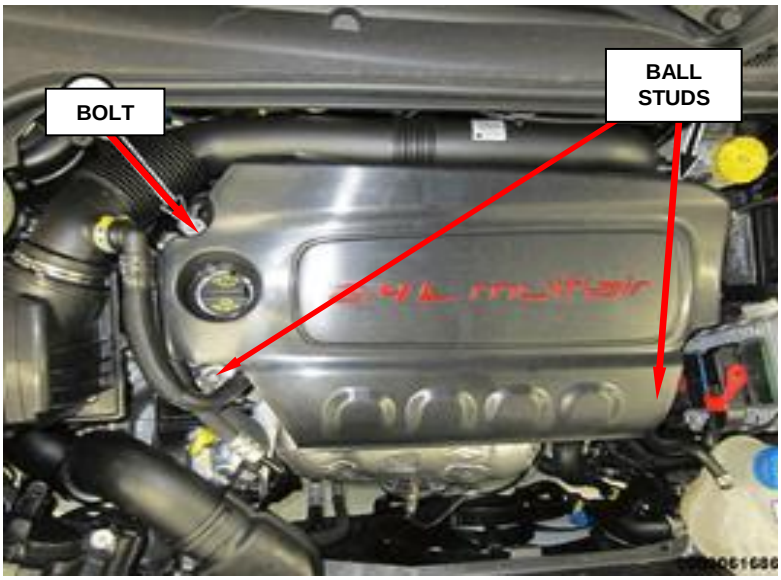



**Figure 3 – Engine Cover**

5. Unlock and disconnect the Inlet Air Temperature (IAT) sensor wire harness connector (Figure 4).

6. Remove the **CLIC E®** type clamp at the throttle body inlet using 10288 Pliers (Figure 4).

7. Remove the make-up air hose from the valve cover (Figure 4).

8. Remove the bolt that secures the clean air hose to the cylinder head cover (Figure 4).

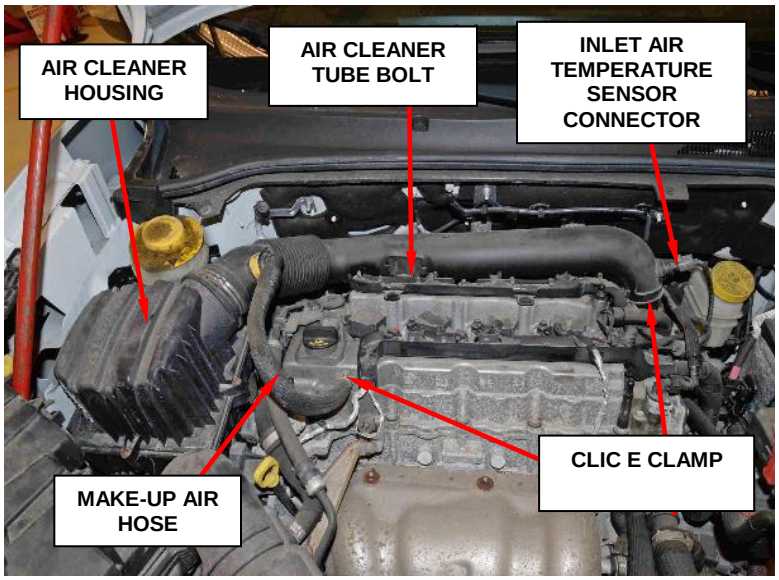



**Figure 4 – Air Intake**

9. Disengage the clean air hose from the throttle body inlet and pull straight up to disengage the rubber grommets from the housing and remove it from the vehicle with the air cleaner hose attached (Figure 4).

## Service Procedure [Continued]

10. Recover the refrigerant from the air conditioning system.

11. Remove the battery and battery tray:
    a) Disconnect the starter cable from the power distribution center.
    b) Disconnect the generator cable from the power distribution enter.
    c) Disconnect the positive battery clamp.
    a) Remove the battery.
    b) Disconnect the Powertrain Control Module(PCM) electrical connectors and the ground wire from the mount.
    c) Remove any wiring harness retainers from the battery tray.
    d) Remove the battery tray bolts.
    e) Remove the battery tray from the vehicle.

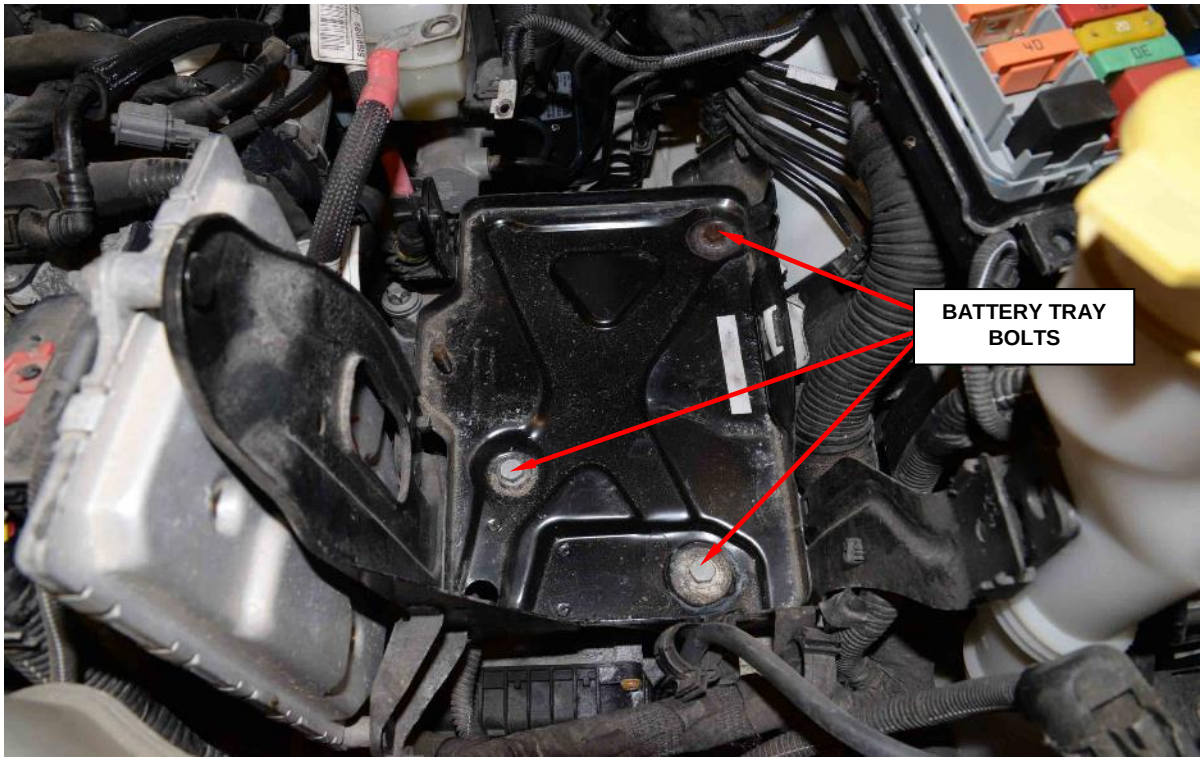



**Figure 5 – Battery Tray**

## Service Procedure [Continued]

12. **VM Model**: Remove the Transmission Control Module (TCM) and mounting bracket nuts and the ground wires nuts (Figure 6).

13. **FB AWD Model:** Disconnect the TCM module electrical connector.

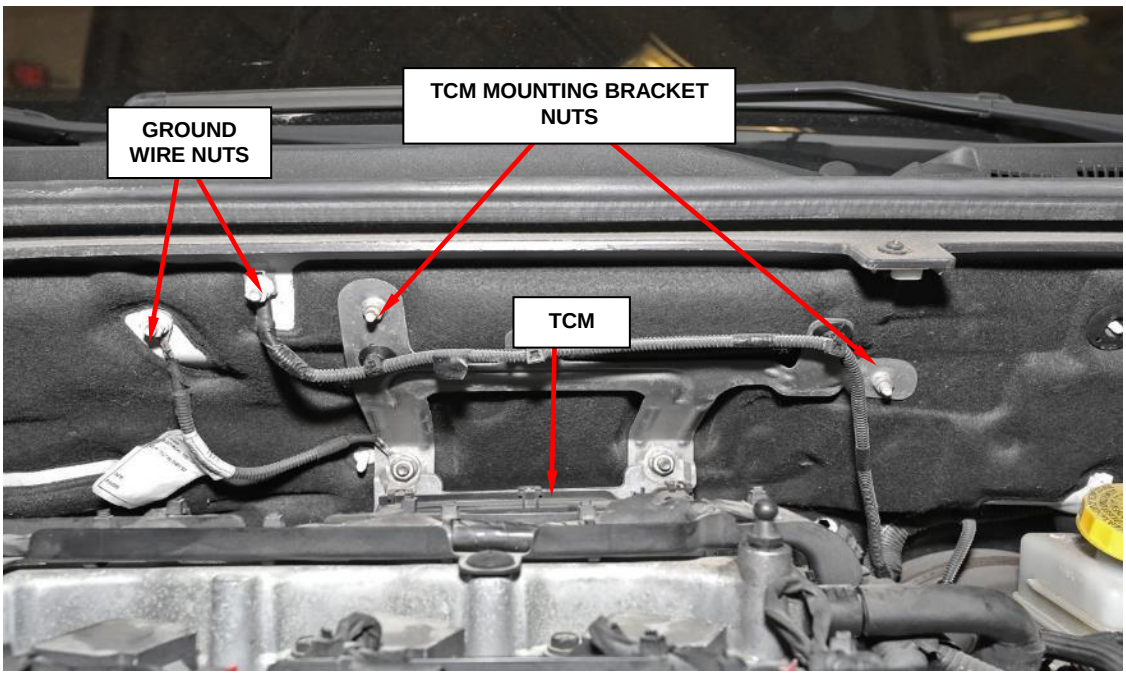



**Figure 6 – VM Model Transmission Control Module Mounting Bracket**

14. Disconnect the vacuum hose quick-connect fitting from the vacuum pump and disengage the vacuum hose from the support bracket (Figure 7).

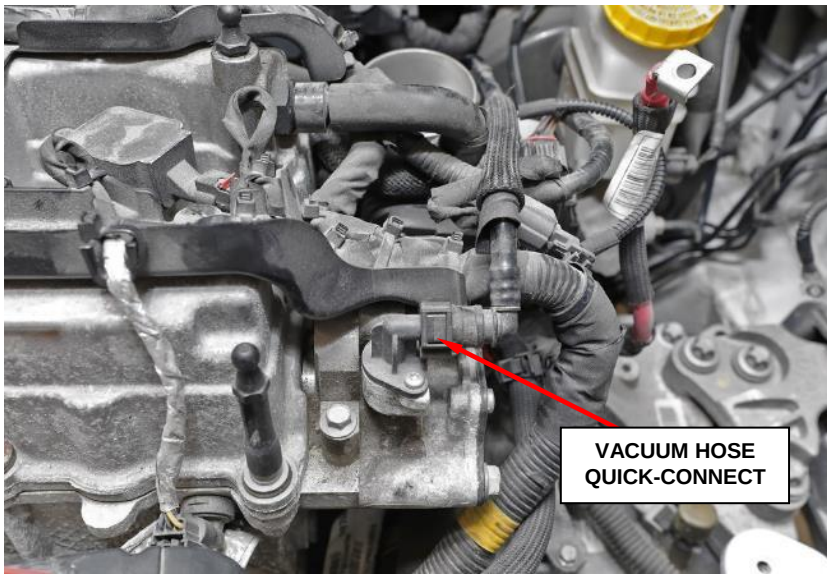



**Figure 7 – Vacuum Pump Hose**

## Service Procedure [Continued]

15. **VM Model**: Remove the banjo bolt at the power steering pump (Figure 8).

16. **VM Model:** Disconnect the power steering return line at the power steering pump (Figure 8).

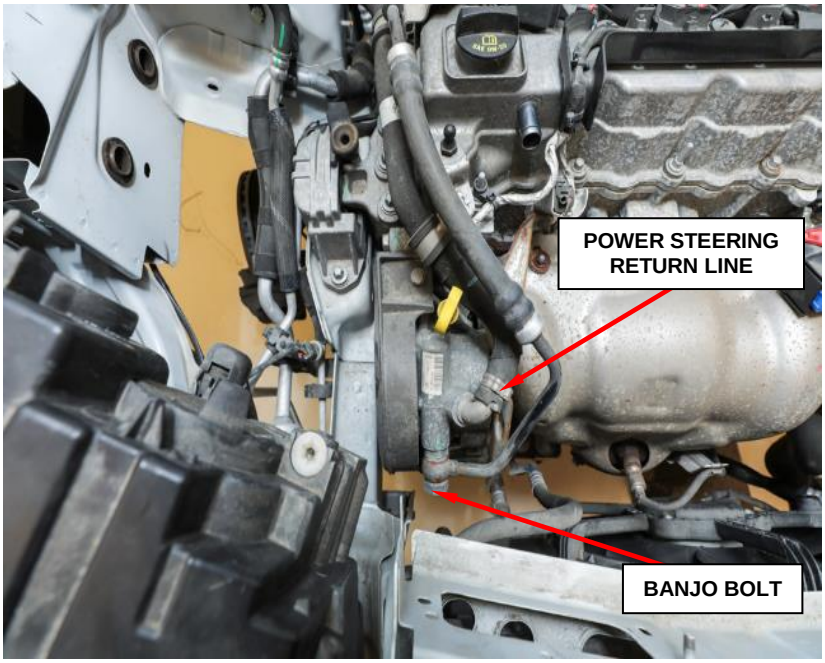



**Figure 8 – Power Steering Pump**

17. **VM Model** : Disengage the power steering hose retainer from the support bracket at the rear of the cylinder head cover and reposition the power steering pump (Figure 9).

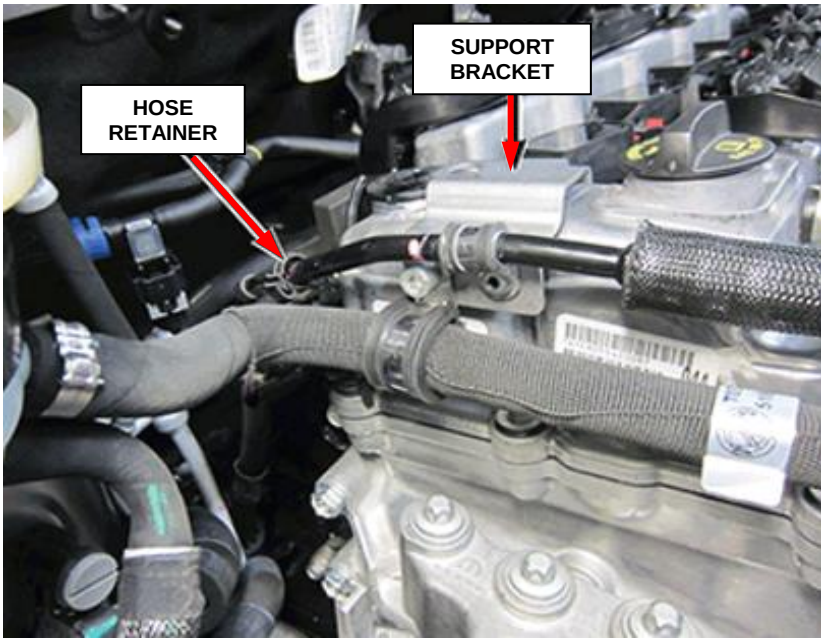



**Figure 9 – Power Steering Retainer**

## Service Procedure [Continued]

18. Position a drain pan under the lower radiator hose.

19. Disengage the quick-connect coupling and carefully remove the lower radiator inlet hose from the radiator (Figure 10).

**NOTE: DO NOT WASTE reusable coolant. If the solution is clean, drain the coolant into a clean container for reuse.**

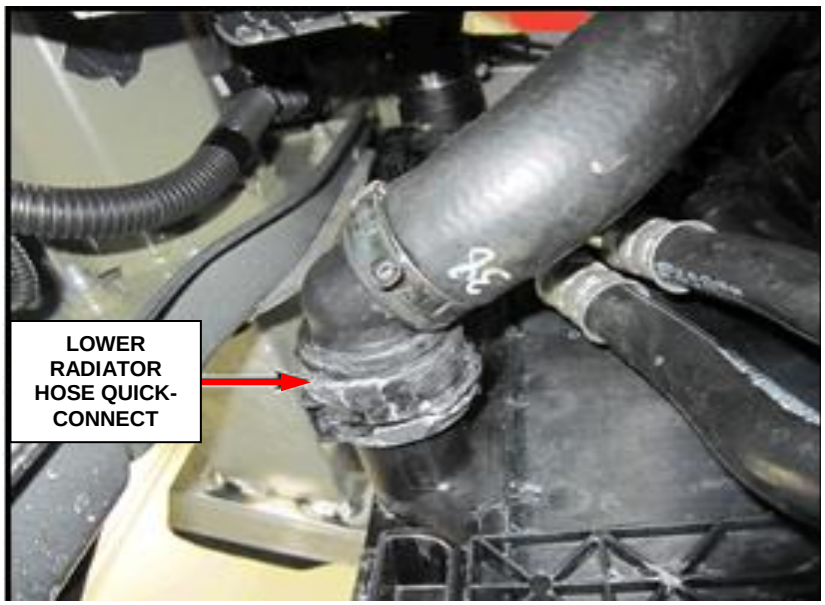



**Figure 10 – Lower Radiator Hose**

20. Remove the coolant pressurized coolant reservoir bolts (Figure 11).

**NOTE: VM model illustrated others are similar.**

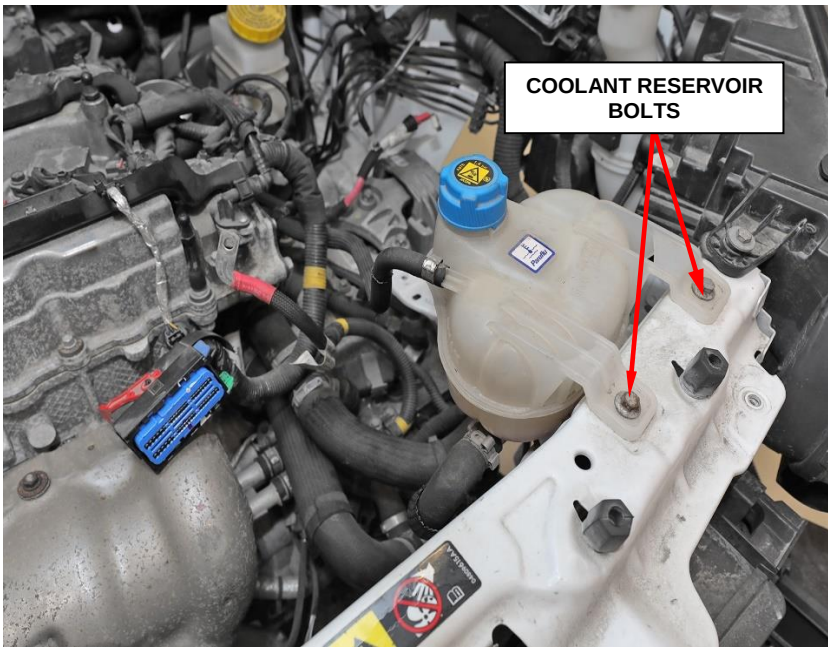



**Figure 11 – VM Model - Pressurized Coolant Reservoir**

## Service Procedure [Continued]

21. Remove the bolt and the A/C discharge line/suction line manifold from the A/C compressor (Figure 12).

22. Install plugs in, or tape over, the opened refrigerant line fittings and A/C compressor ports.

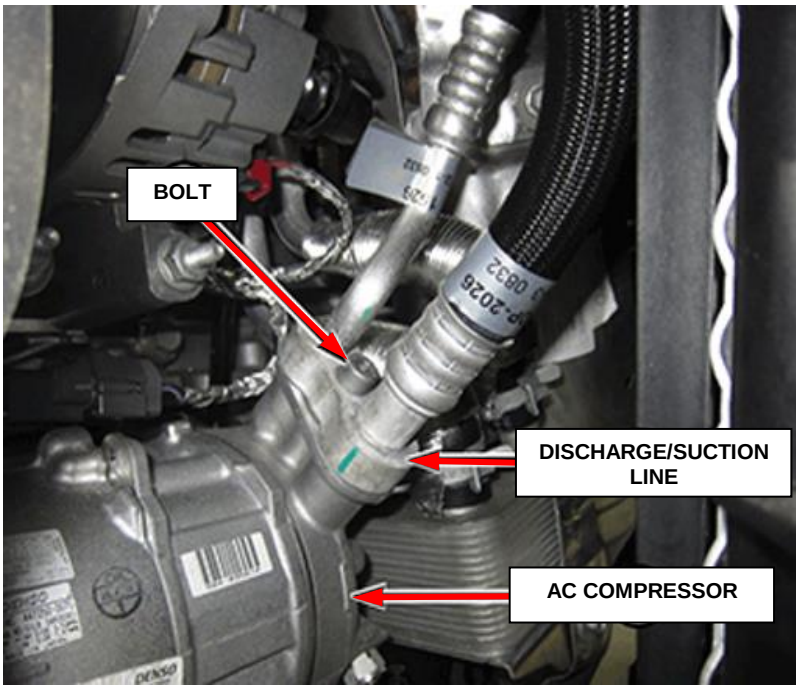



**Figure 12 – AC Lines**

23. From inside the vehicle remove the bolt and separate the universal joint (Figure 13).

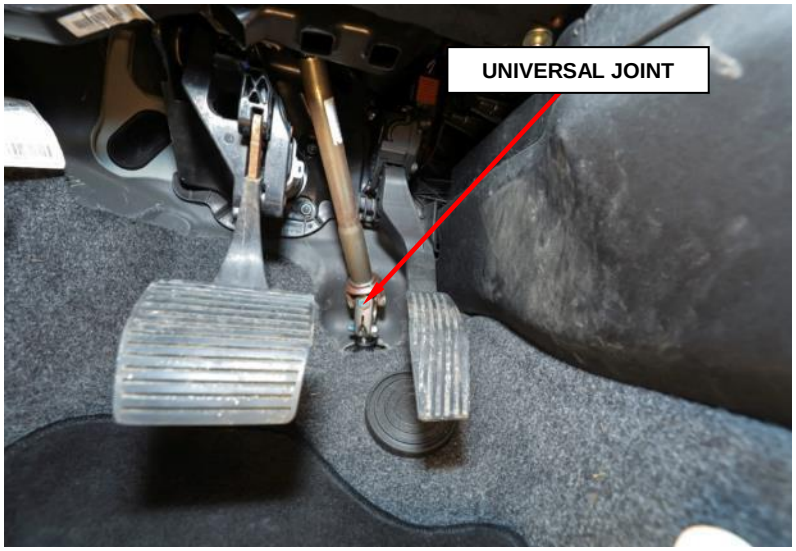



**Figure 13 – Steering Shaft Joint**

## Service Procedure [Continued]

24. Disconnect the purge vapor line from the purge solenoid (Figure 14).

25. Disconnect the fuel line from the fuel rail (Figure 14).

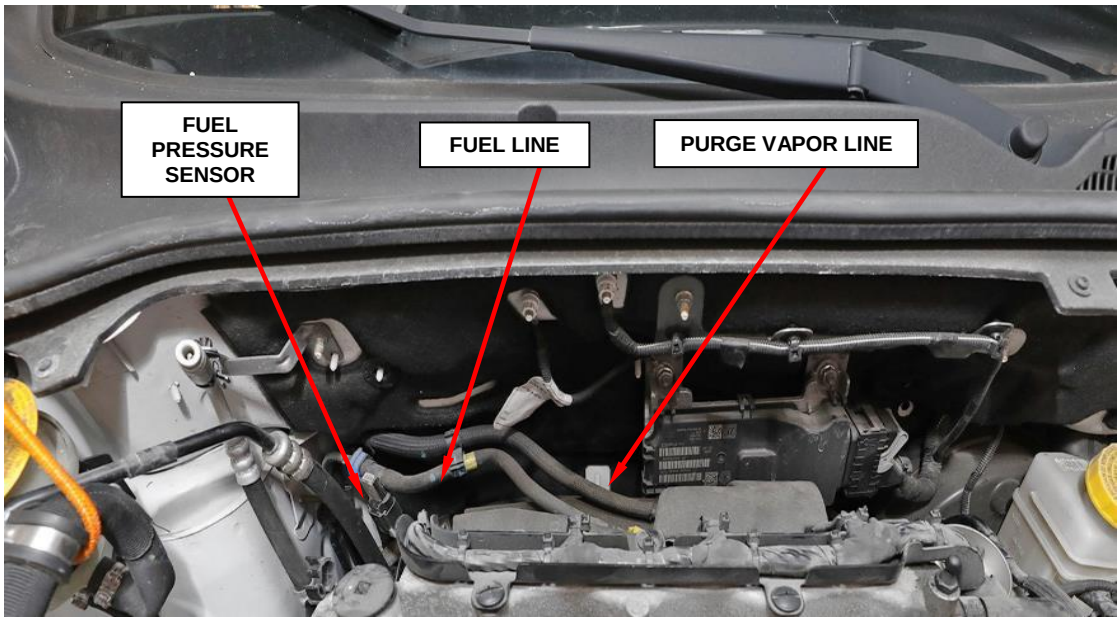



**Figure 14 – Fuel Line**

26. **If equipped**: Disconnect the electrical connector at the fuel pressure sensor (Figure 14).

27. Disconnect the quick-connect coupling and remove the upper radiator inlet hose from the radiator (Figure 15).

28. **FB AWD Model:** Disconnect the power transfer unit actuator wire harness connector.

29. **FB AWD Model:** Open the retaining clip and disconnect the Transmission Control Module (TCM) wire harness connector.

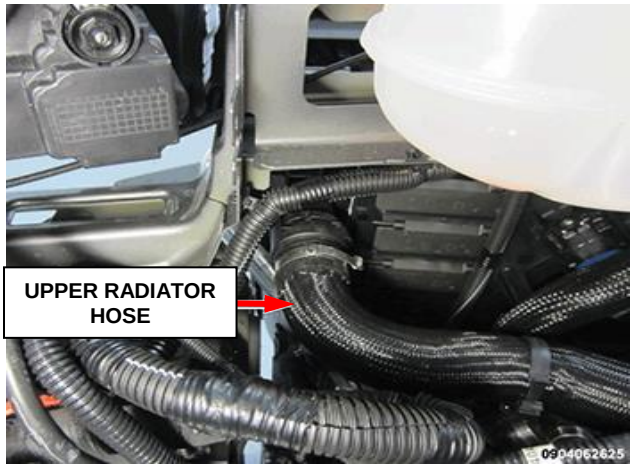



**Figure 15 – Upper Radiator Hose**

## Service Procedure [Continued]

30. Disengage the wire harness retainer from the upper radiator inlet hose at the thermostat housing (Figure 16).

31. **If equipped:** Disconnect the block heater wire harness connector (Figure 16).

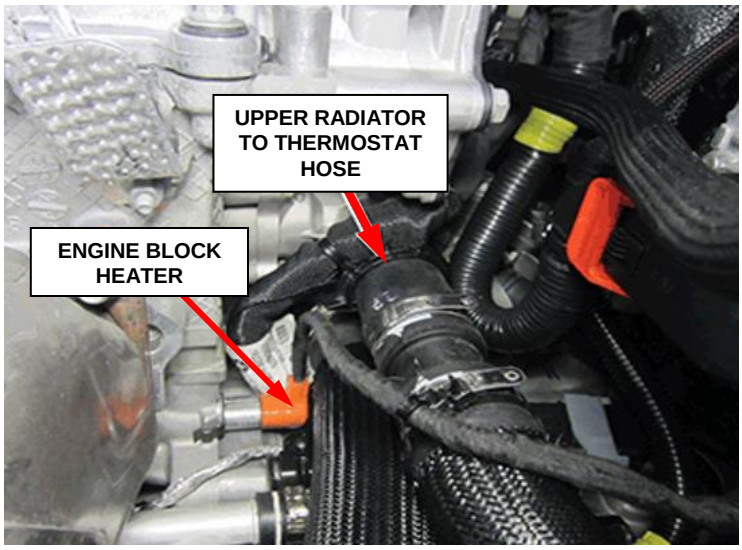



**Figure 16 – Thermostat Housing**

32. Loosen the **CLIC E®** type clamp using the Pliers, Hose Clamp 10288 and remove the engine oil cooler inlet and outlet hoses (Figure 17).

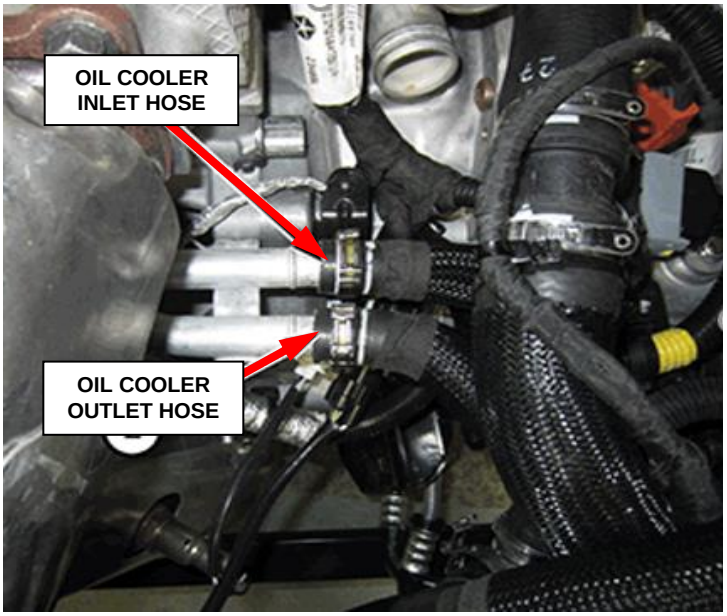



**Figure 17 – Oil Cooler Hoses**

## Service Procedure [Continued]

33. Disengage the heater core hose retainer at the rear of the transmission (Figure 18).

34. Loosen the **CLIC E®** type clamp using the Pliers, Hose Clamp 10288 and remove the heater core outlet hose from the coolant return pipe (Figure 18).

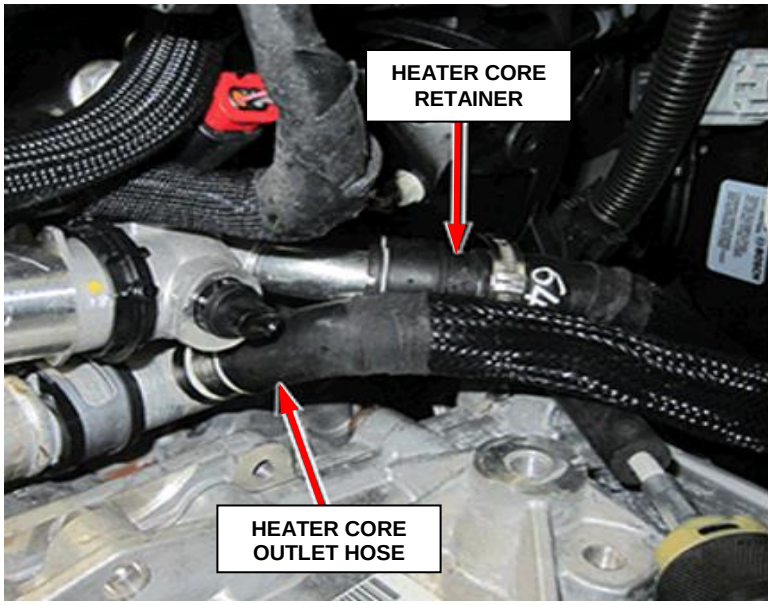



**Figure 18 – Heater Hoses**

35. Remove the shifter cable from the manual lever by pushing down on release button while pulling up on cable end (Figure 19).

36. Slide the gear shift cable collar back and pull the cable out of the cable bracket (Figure 20).

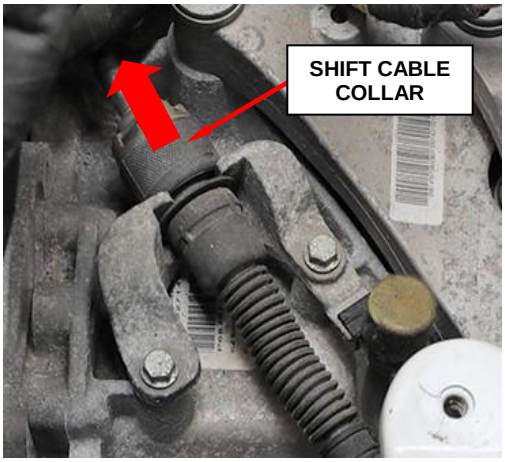



**Figure 20 – Shift Cable**

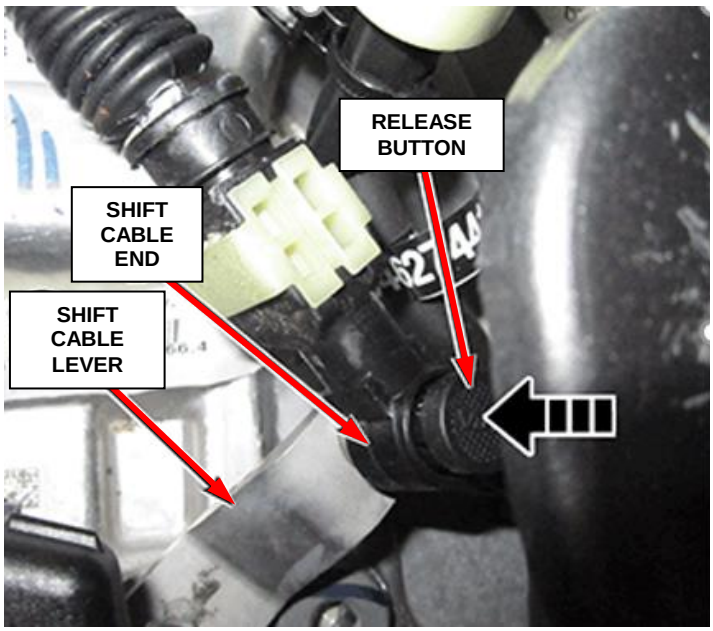



**Figure 19 – Shift Cable Release**

## Service Procedure [Continued]

37. Disconnect the transmission wire harness connector from the transmission by rotating the lock lever counterclockwise (Figure 21).

38. **FB (AWD Models):** Disconnect the power transfer unit actuator wire harness connector.

39. Remove the two bolts and separate the wire harness bracket from the transmission (Figure 22).

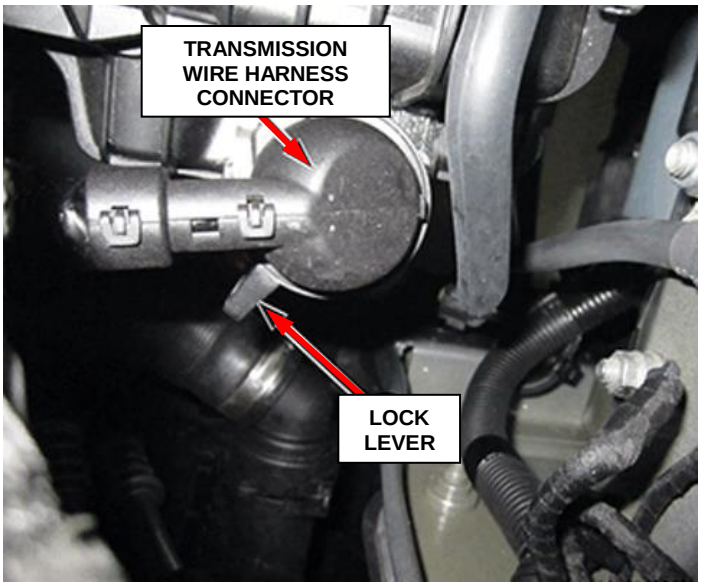



**Figure 21 – Harness Connector**

40. Unlock and disconnect the engine wire harness connector. Reposition the main wire harness away from the engine (Figure 22).

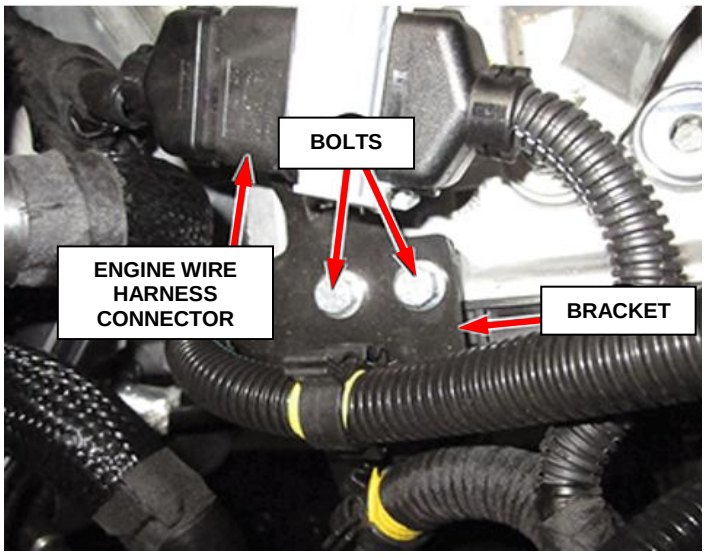
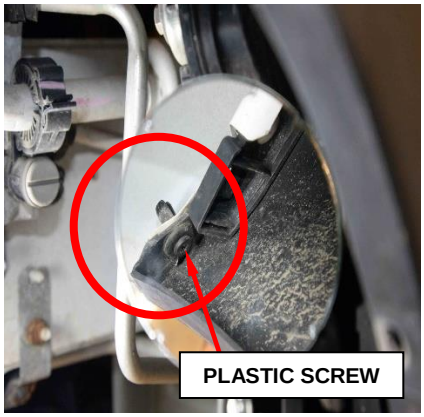



**Figure 22 – Wire Harness Bracket**

## Service Procedure [Continued]

41. **BU/FB Model:** Disengage the hood latch cable and the retainer from the hood latch.
42. Raise and support the vehicle.
43. Remove the front tire and wheel assemblies,
44. **If equipped**: Remove the front belly pan.
45. Remove the screws from the outer side of the fascia on both sides.
46. Remove the screws securing the front wheel splash shields to the fascia (Figure 23).
47. **BU/FB Model**: Partially release the fender molding retainers (Figure 24).
48. **FB Model:** Release the fascia from the retainers, along the side profile, then slightly separate it from the body.



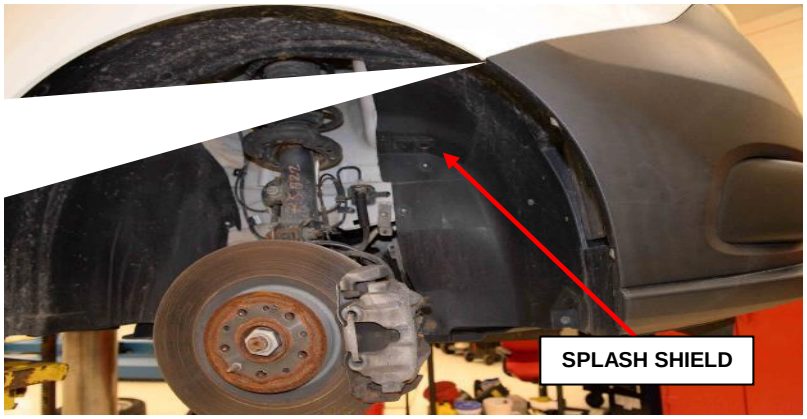




**Figure 23 - VM Model Wheelhouse Splash Shield**

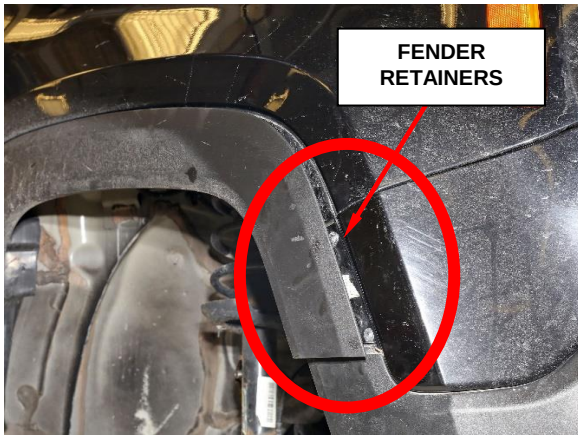



**Figure 24 – BU Fender Retainers**

**NOTE: BU model illustrated, FB model is similar.**

## Service Procedure [Continued]

49. Remove the upper fascia screws **VM Model Illustrated other models similar.** (Figure 25).

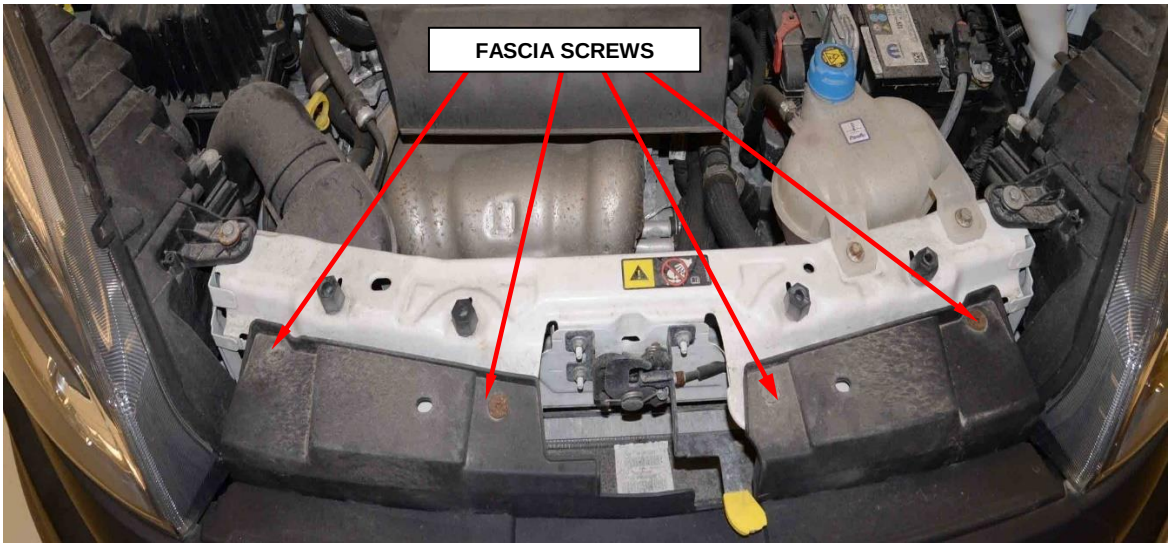



**Figure 25 – Upper Fascia Screws**

50. Remove the lower fascia screws **VM Model Illustrated other models similar** (Figure 26).

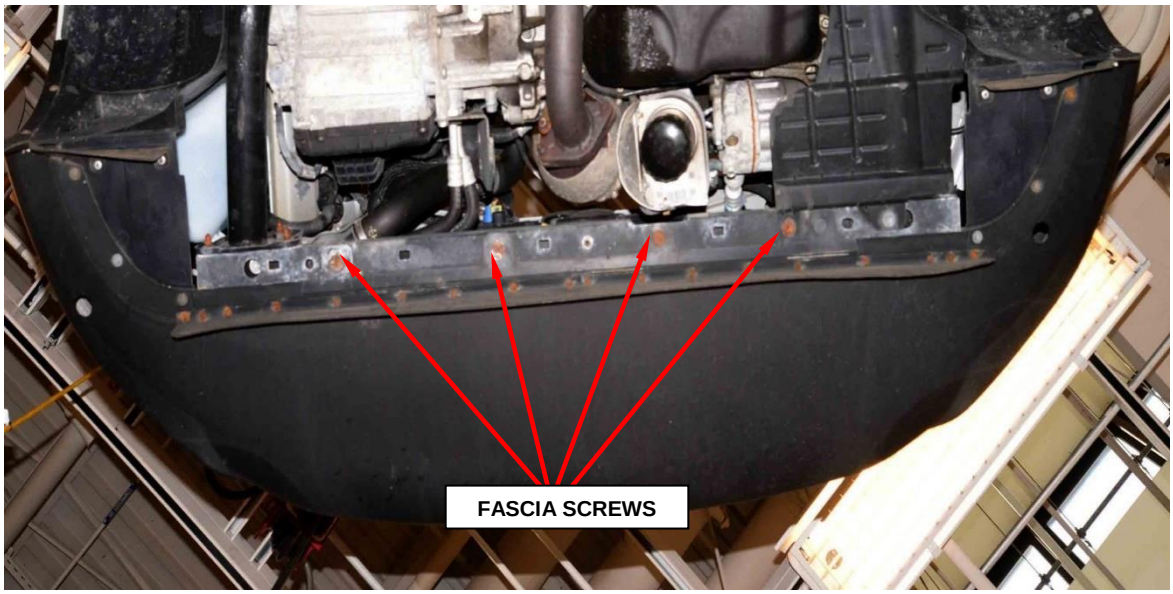



**Figure 26 – Lower Fascia Screws**

## Service Procedure [Continued]

51. **If equipped:** Disconnect the fog light electrical connectors.

52. Release the side ends from the fascia seats.

53. Remove the front fascia.

54. **VM Model**: Remove the screws and the right lower splash shield (Figure 27).

55. **FB Model:** Remove the right and left frame bolts and the frame braces.

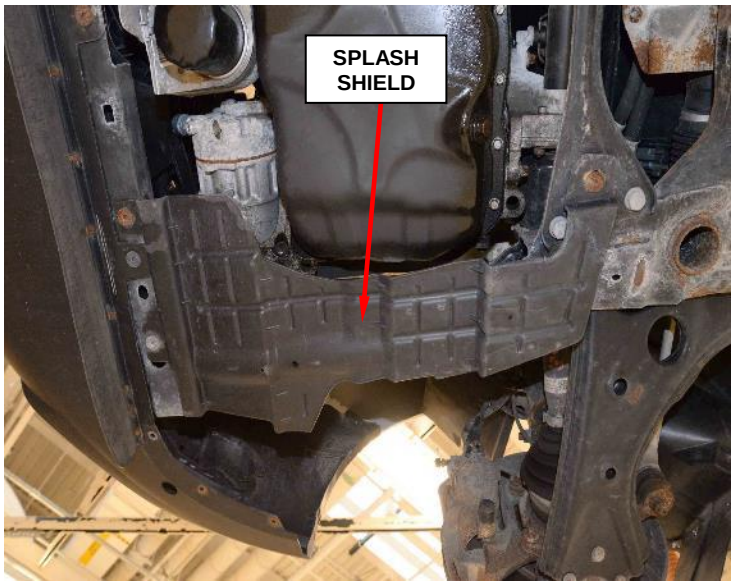



**Figure 27 – Lower Splash Shield**

56. **VM Model:** Remove the four bolts crossmember bolts (Figure 28).

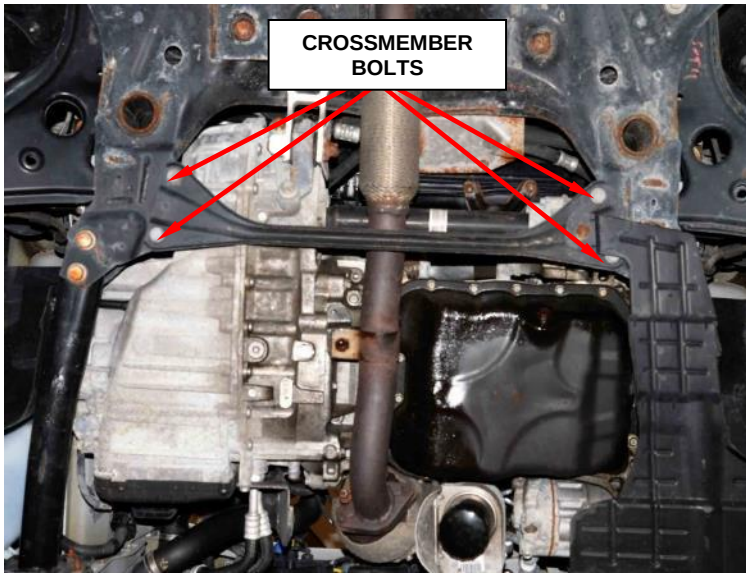



**Figure 28 – Crossmember Bracket**

## Service Procedure [Continued]

57. Remove the exhaust pipe:
    a) Remove the 2 nuts at the Catalytic Converter (Figure 29).
    **NOTE: Nuts may require to be cut off to remove.**

    b) Loosen the exhaust band clamp at the rear and remove the bolt at the front support bracket.

    c) Disconnect the rubber isolators.

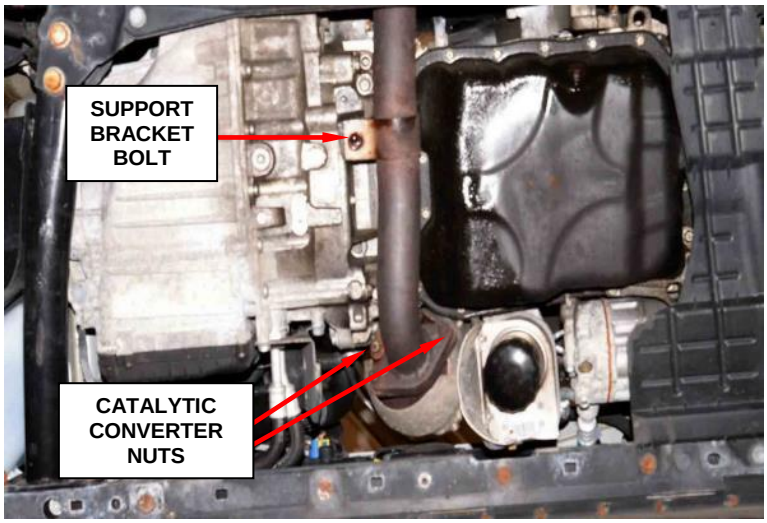



**Figure 29 – Exhaust Pipe**

58. Remove the bolt holding the ground cable to the transmission and reposition the cable (Figure 30).

59. **FB (AWD) Models**: Position a suitable hydraulic lift under the powertrain.

60. **FB (AWD) Models**: Using the hydraulic lift, move the powertrain up and forward as much as permitted by the right and left engine mounts.

61. **FB (AWD) Models**: Pull back the dust cover.

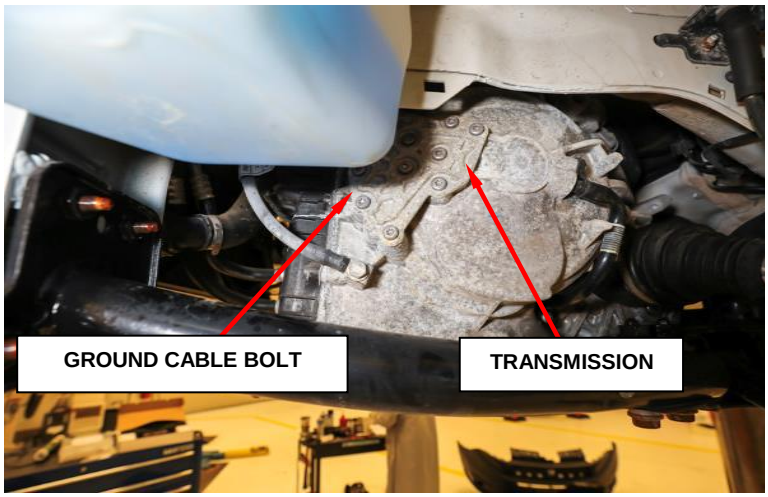



**Figure 30 – Ground Cable**

62. **FB (AWD) Models**: For NAFTA market, use commercially available snap ring pliers to open the snap ring. For EMEA market, using tool 2019500030 Retractor, open the snap ring.

63. **FB (AWD) Models** Pull back the driveshaft to disengage it from the PTU and reposition the shaft on the crossmember.

## Service Procedure [Continued]

64. Separate the cooler lines from the transmission, install suitable cap-plugs in the male and female ends of the cooler lines to prevent leakage (Figure 31).

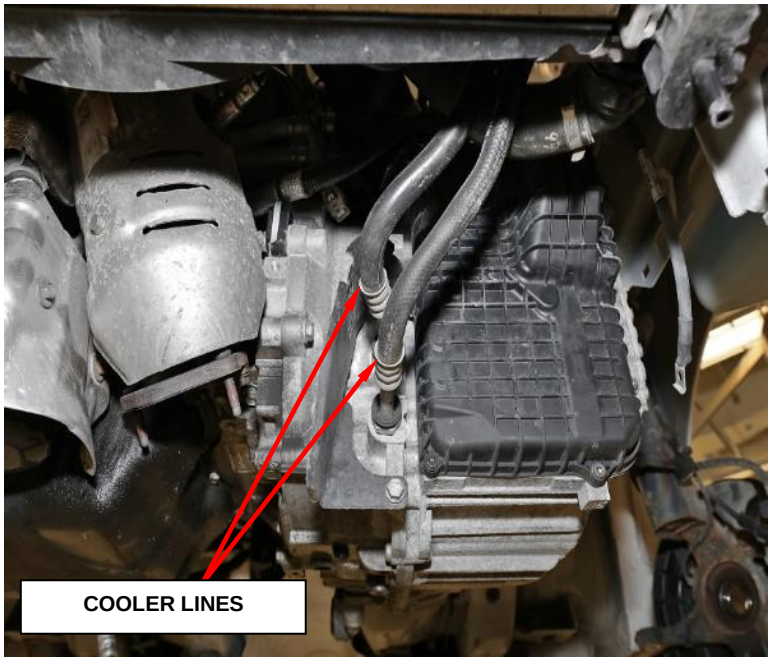



**Figure 31 – Cooler Lines**

65. Remove the four bolts holding the front of the right and left load beams to the radiator support. Do **not** remove the nut (Figure 32).

**NOTE: FB model remove the left side impact block.**

**NOTE: Right side shown, left side similar.**

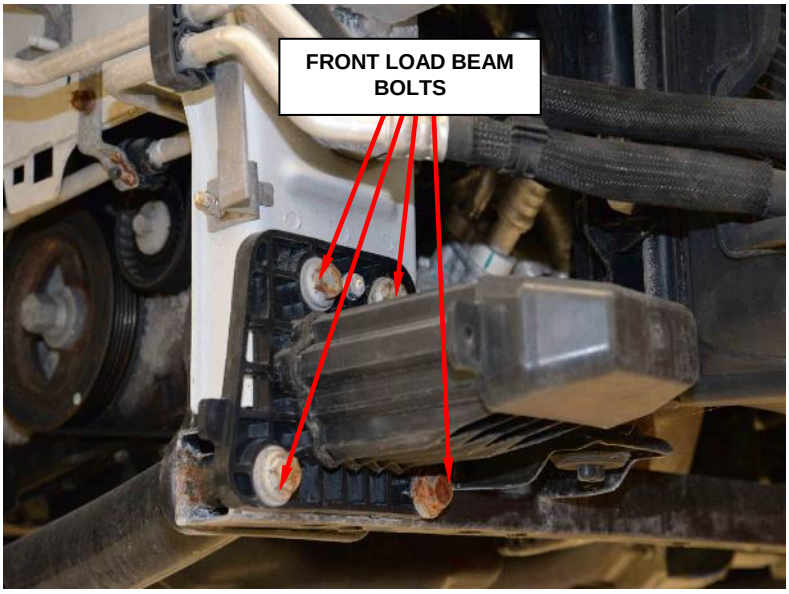



**Figure 32 – Load Beam Support**

## Service Procedure [Continued]

66. Remove the two lower load beam to cradle bolts and both left and right lower load beams (Figure 33).

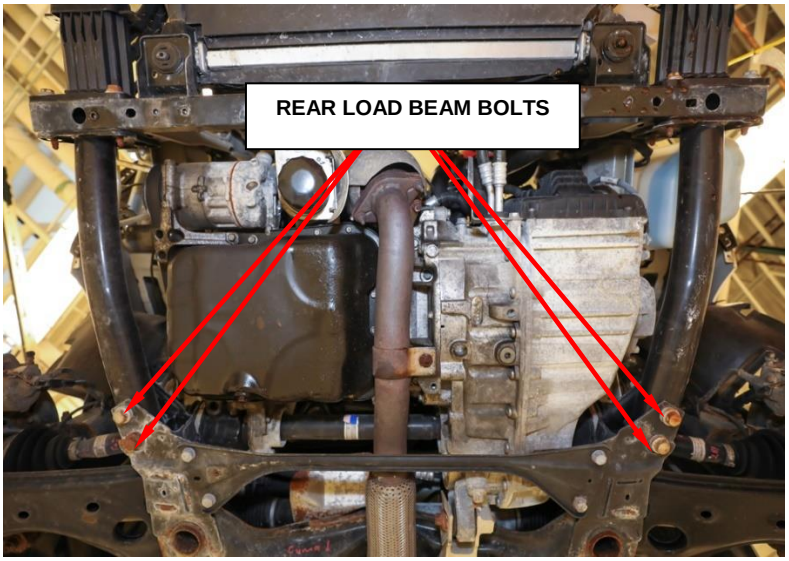



**Figure 33 – Load Beams**

67. **VM Model**: Remove the two lower bolts and the lower radiator core support (Figure 34).

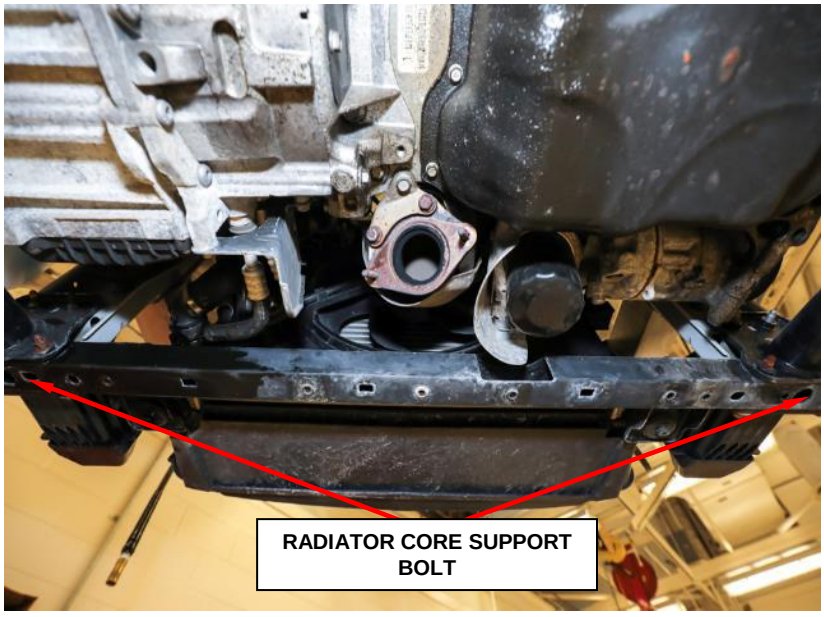



**Figure 34 – Radiator Core Support**

## Service Procedure [Continued]

68. Remove the rear engine mount insulator bolt (Figure 35).

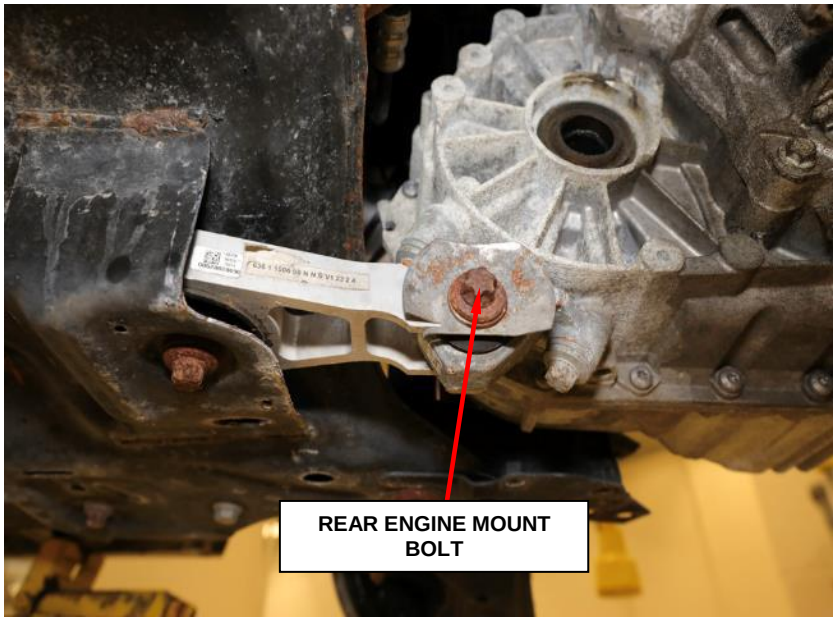



**Figure 35 – Rear Engine Mount**

69. Remove the nuts from the outer tie rod ends (Figure 36).

70. Remove the nuts and separate the sway bar links (Figure 36).

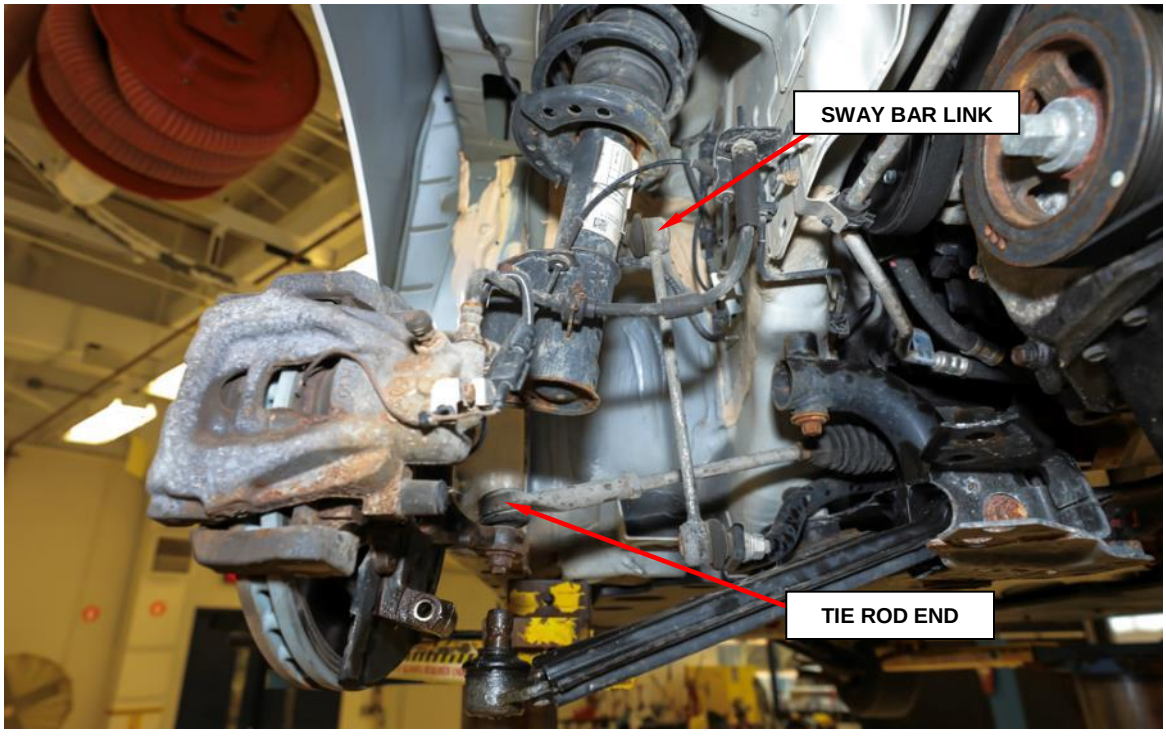



**Figure 36 – Front Suspension**

## Service Procedure [Continued]

71. Using a suitable punch, lift the two staked areas in the hub nut to avoid damaging the halfshaft.

72. While a helper applies the brakes to keep the hub from rotating, remove the hub nut from the halfshaft and **DISCARD**. **The used hub nut is not reusable.**

73. Remove and **DISCARD** the lower ball joint pinch bolt and nut.

74. **If Equipped** with Intermediate Shaft.
    Remove bolts holding the support bearing to the engine bracket.
    **NOTE: Use care when separating the ball joint stud from the knuckle so the ball joint boot does not get cut.**
    b) Insert a pry bar in the opening between the control arm front mounting bolt and the front fascia support beam.
    c) Pry down on the control arm until the ball joint stud is clear of the knuckle. Position the knuckle assembly to the side until it is clear of the ball joint stud. Slowly release the control arm.
    d) Swing the steering knuckle outward and off the halfshaft end.
    e) Place a drain pan under the transmission to catch fluid that may spill from the transmission when the halfshaft is removed.

75. **VM Model**: Remove the retaining bolt at the Power Steering gear (Figure 37).

76. **VM Model:** Disconnect the power steering return line (Figure 37).

77. **VM Model:** Disconnect the power steering supply line (Figure 37)

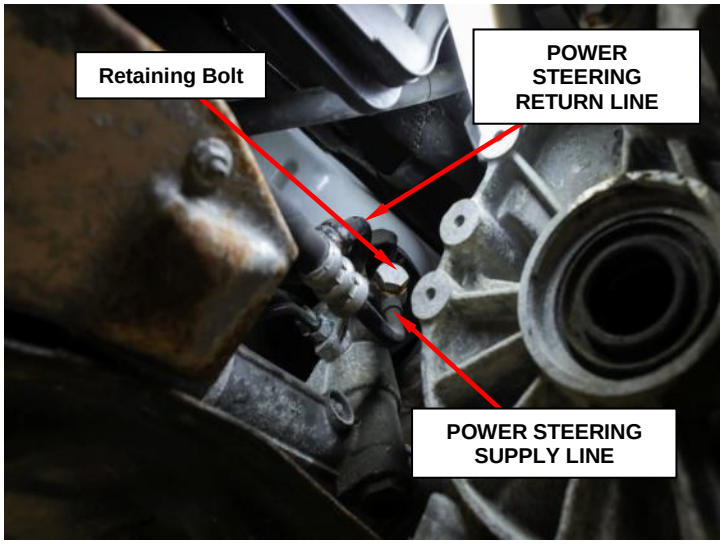



**Figure 37 – Power Steering Lines**

## Service Procedure [Continued]

78. **VM Model**: Remove the power steering support bracket bolt (Figure 38).

79. Support the crossmember with a suitable lifting device.

80. Remove the bolts and separate the crossmember assembly from the frame rails (Figure 39).

81. Lower the crossmember and set aside.

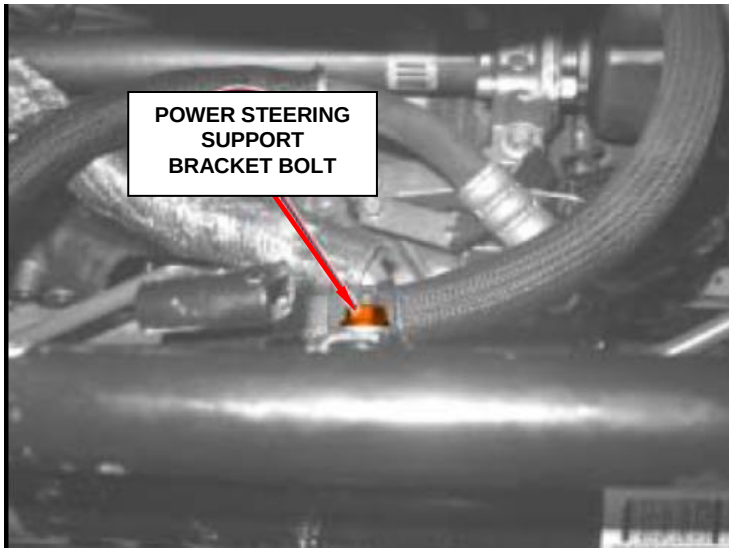



**Figure 38 – Support Bracket Bolt**

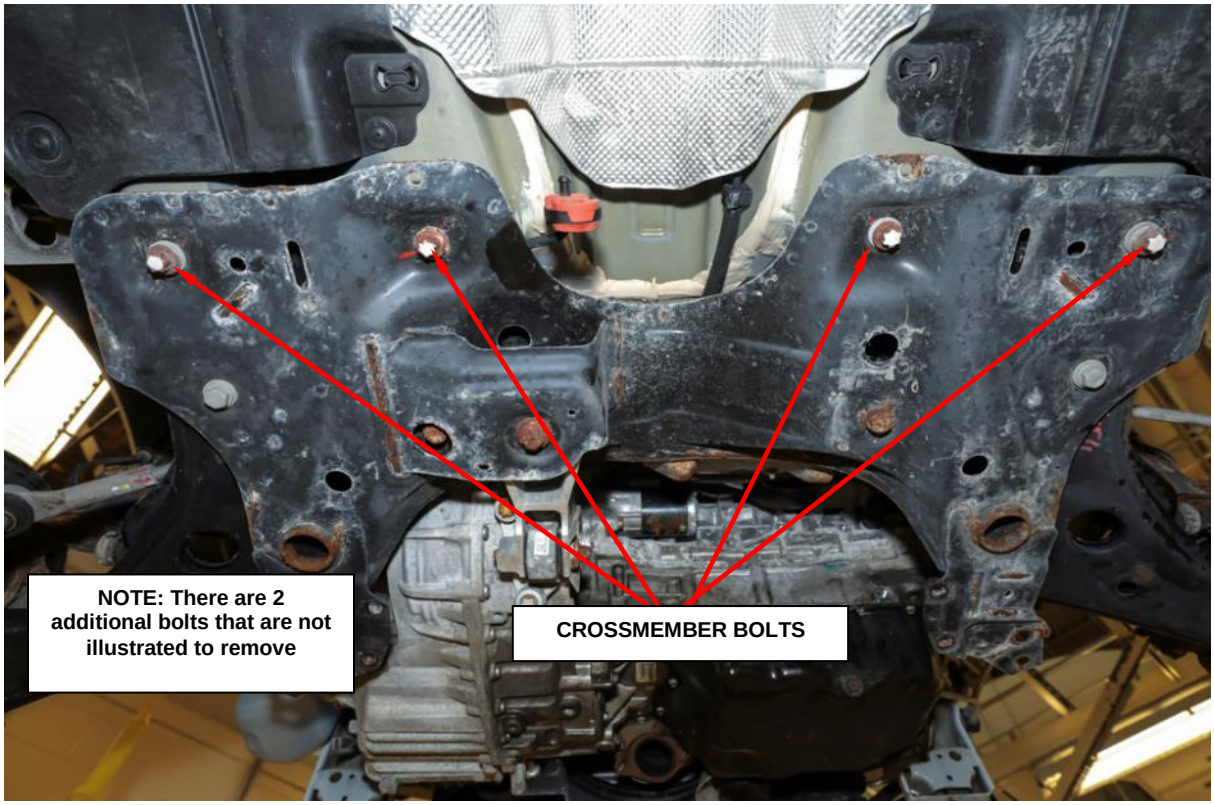



**Figure 39 - Crossmember**

## Service Procedure [Continued]

82. Position the vehicle height to allow the Dolly, Power Train 6135 and Cradle, Engine Support 6710A or equivalent to be installed under the engine/transmission assembly.

83. Loosen the cradle engine mounts to allow movement for positioning onto the engine locating holes on the engine block and oil pan rail. Align the powertain to the engine support cradle. Position/adjust as necessary. Tighten the posts to the cradle frame. Secure the engine/transaxle assembly to the dolly/cradle with safety straps.

84. Remove the 3 left engine mount insulator bolts (Figure 40).

85. Remove the 3 right engine mount insulator bolts (Figure 41).

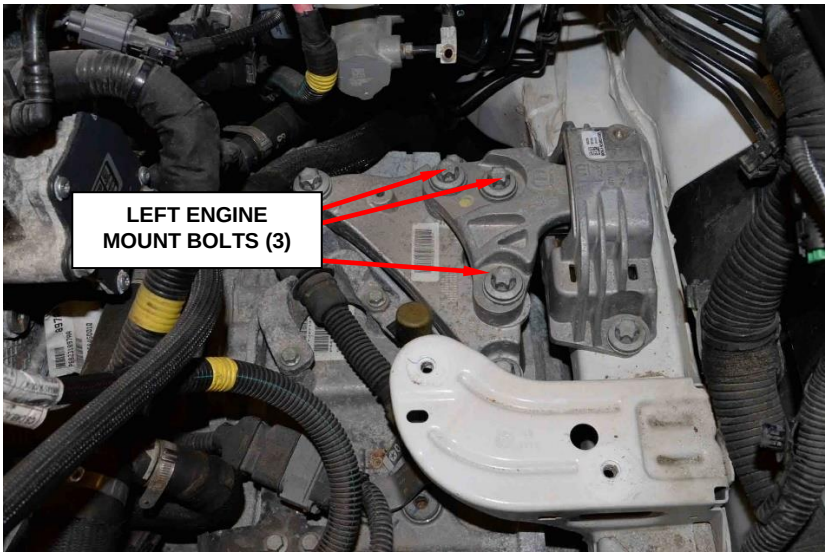



**Figure 40 – Left Engine Mount**

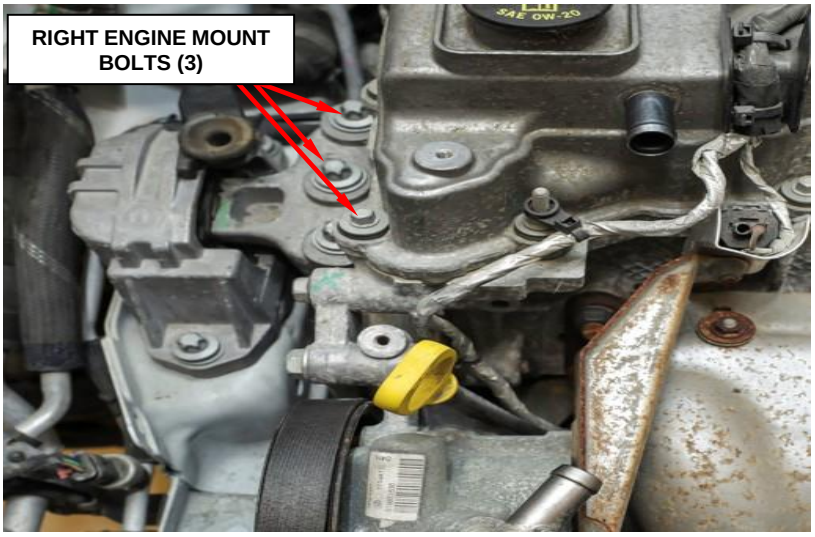



**Figure 41 – Right Engine Mount**

## Service Procedure [Continued]

86. Slowly raise the vehicle to allow it to clear the powertrain assembly.

    **CAUTION: Make sure that all components are clear of obstructions while raising the vehicle off the powertrain assembly.**

87. Remove the bolt supporting the catalytic converter to the engine block, loosen the other 2 bolts on the support bracket (Figure 42).

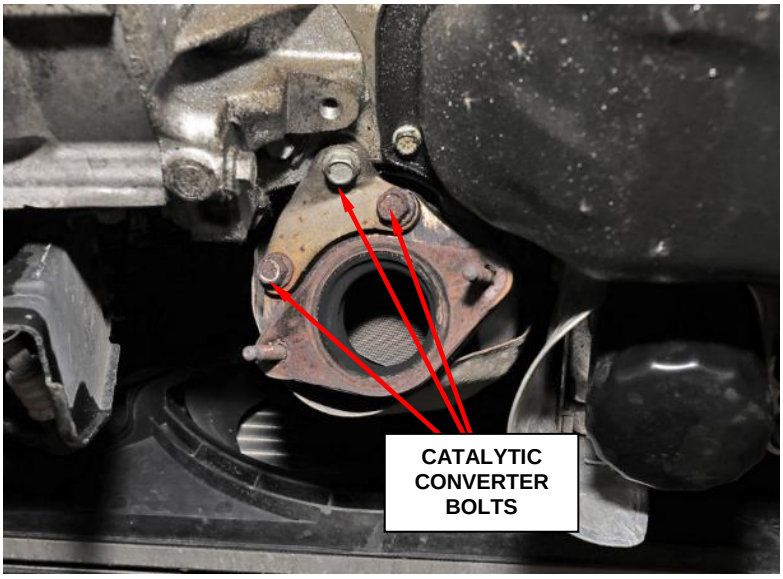



**Figure 42 – Support Bracket**

88. Remove the catalytic converter heat shields from the exhaust manifold (Figure 43).

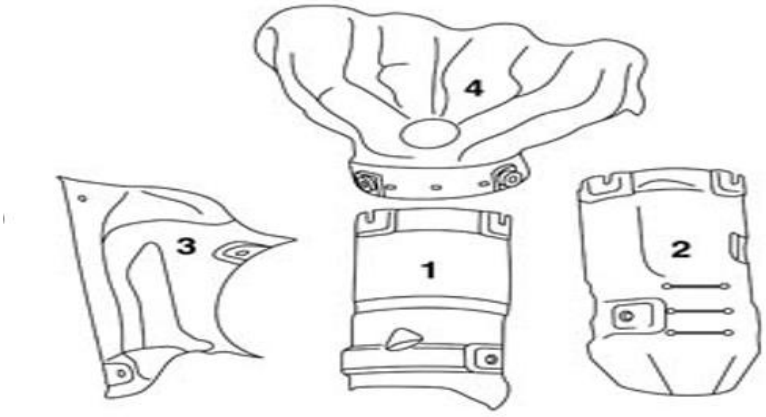



**Figure 43 – Heat Shields**

## Service Procedure [Continued]

89. Remove the exhaust manifold bolts and remove the exhaust manifold gasket and **DISCARD**.

90. Remove the bolt retaining the torque converter bolt access cover (Figure 44).

**NOTE: There are three pairs of bolts 120° apart attaching the flexplate to the torque converter**.

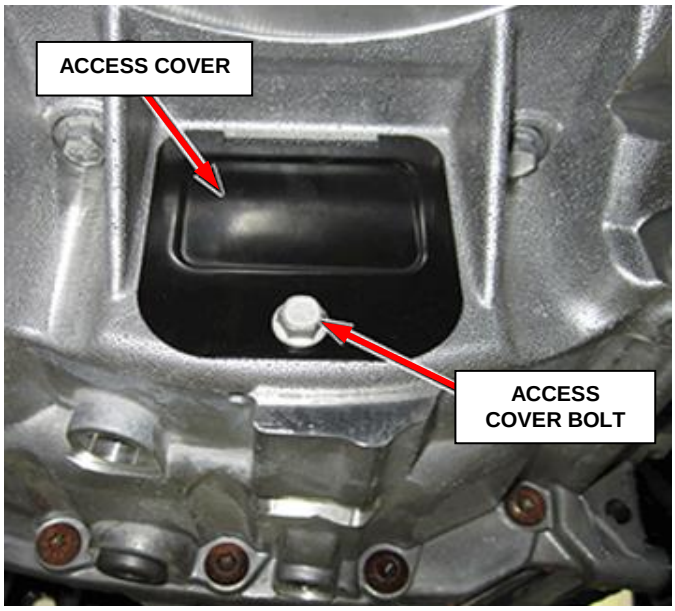



**Figure 44 – Access Cover**

91. Through the access door opening, remove the bolts holding the flexplate to the torque converter. Rotate the crankshaft to bring each set of bolts into view through the access door (Figure 45).

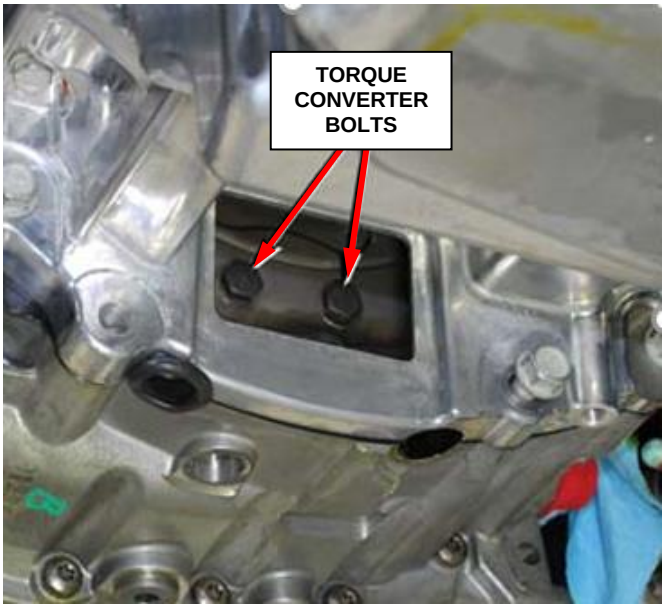



**Figure 45 – Torque Converter Bolts**

## Service Procedure [Continued]

92. **FB AWD Model:**

    a) Remove the fasteners and remove the lower intake manifold support bracket.

    b) Remove the bolts and remove the Power Transfer Unit (PTU) support racket.

    c) Remove the bolts and remove the PTU from the transmission.

93. Remove the three oil pan to transmission bolts (Figure 46).

94. Affix a chain to the transmission mount bracket to be used as a lifting point.

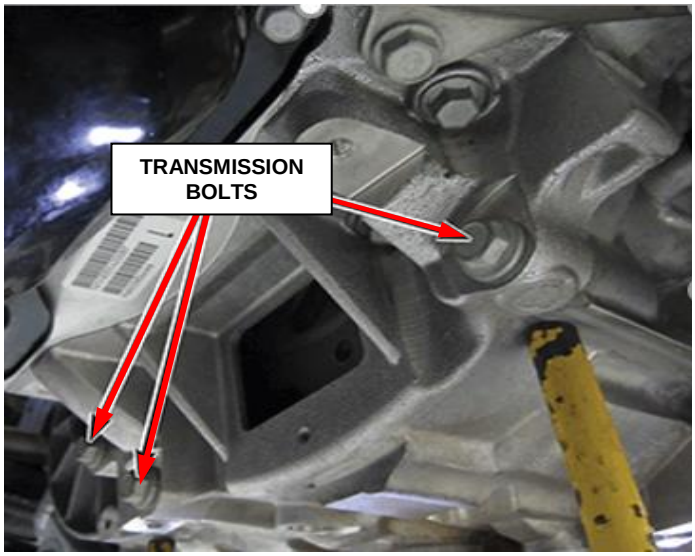



**Figure 46 – Transmission Bolts**

95. Remove the left upper transmission to engine bolt and bracket (Figure 47).

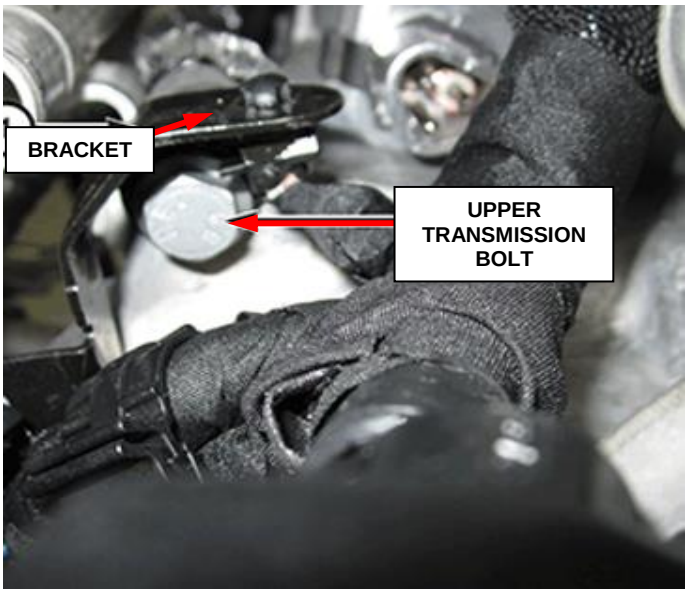



**Figure 47 – Left Upper Transmission Bolt**

## Service Procedure [Continued]

96. Remove the left lower bolt holding the transmission to the engine block.

97. Remove the right upper transmission to engine bolt.

98. Remove the upper starter bolt.

99. Remove the lower starter bolt and the starter from the transmission bellhousing (Figure 48).

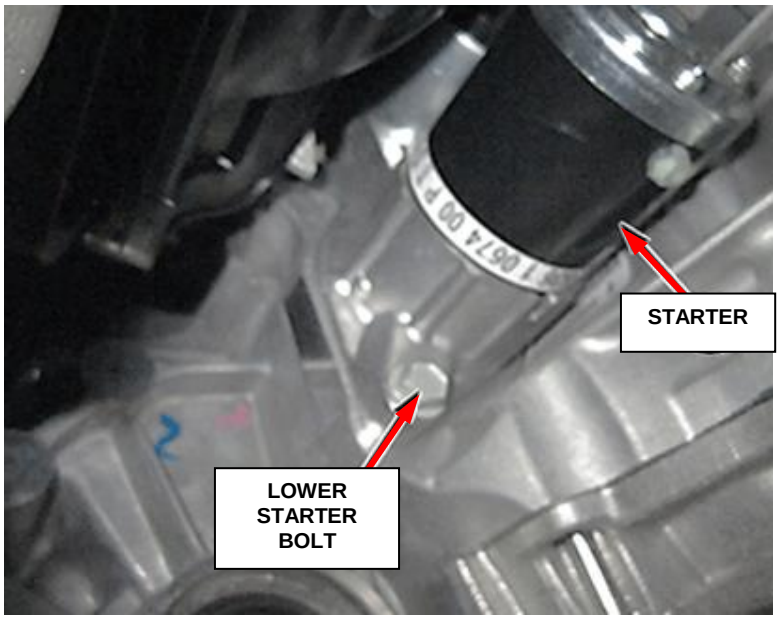



**Figure 48 - Starter**

100. Remove the left engine to transmission bolt and bracket.

101. Using a suitable prying tool, pry the bell housing away from the engine block.

102. **VM Model:** Remove the bolt securing the top of the belt cover and the three nuts (Figure 49).

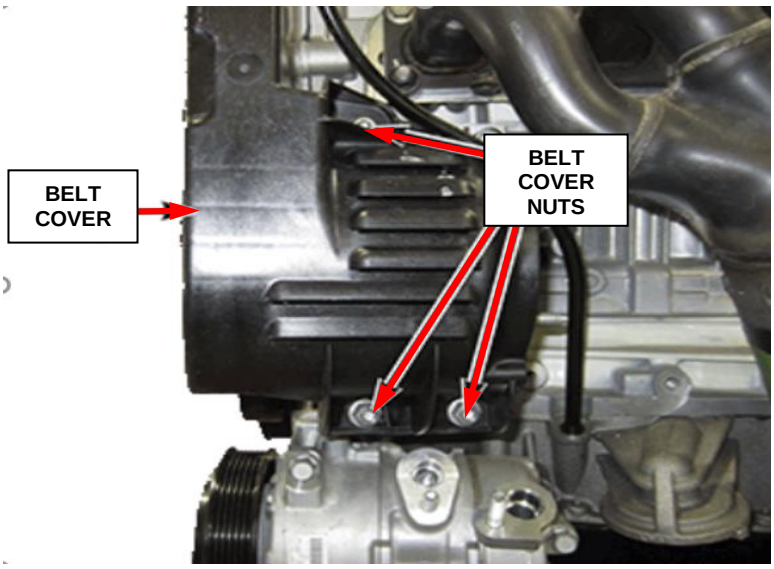



**Figure 49 – Accessory Belt Cover**

## Service Procedure [Continued]

103. Decrease the belt tension by rotating the center bolt of the tensioner pulley counterclockwise, lift the belt off one of the pulleys and slowly release the tensioner of the fully extended position (Figure 50).

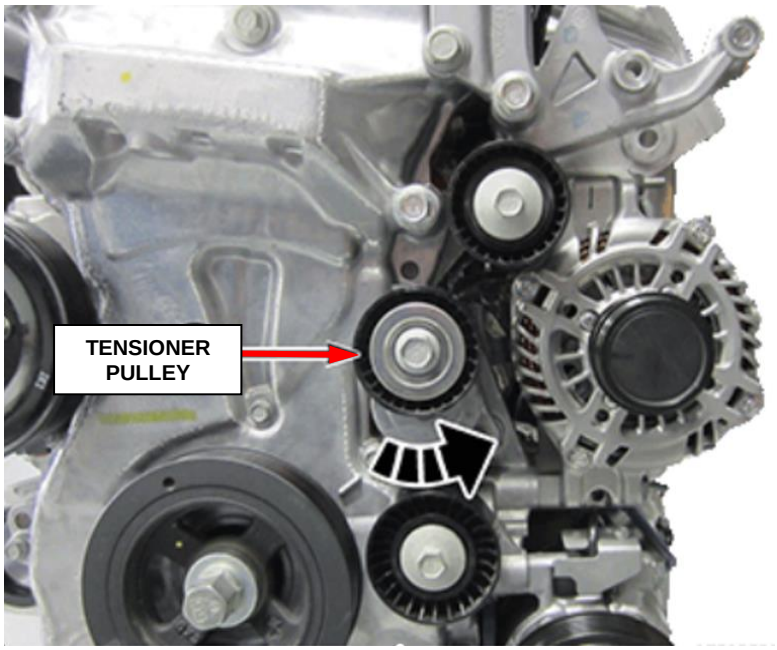



**Figure 50 – Belt Tensioner**

104. The following components will have to be transferred to the **NEW** engine:
- Intake manifold.
- Exhaust manifold/Cat. Conv.
- A/C compressor and mounting bracket.
- Generator and mounting bracket.
- Accessory drive belt tensioner.
- Accessory drive belt.
- Power steering pump and mounting bracket.
- **If equipped**: Intermediate drive shaft bearing housing.
- Engine wire harness.
- **If equipped**: Block heater.
- Engine cover mounting post and the power steering hose support bracket.
- If equipped: Accessory belt cover.

**NOTE: Please reference Instructions Sheet (I-Sheet) K6855974AD for additional information.**

## Service Procedure [Continued]

**NOTE: VM model is equipped with a power steering pump, please remove the two front bolts on the NEW engine and DISCARD use the original bolts (Figure 51).**

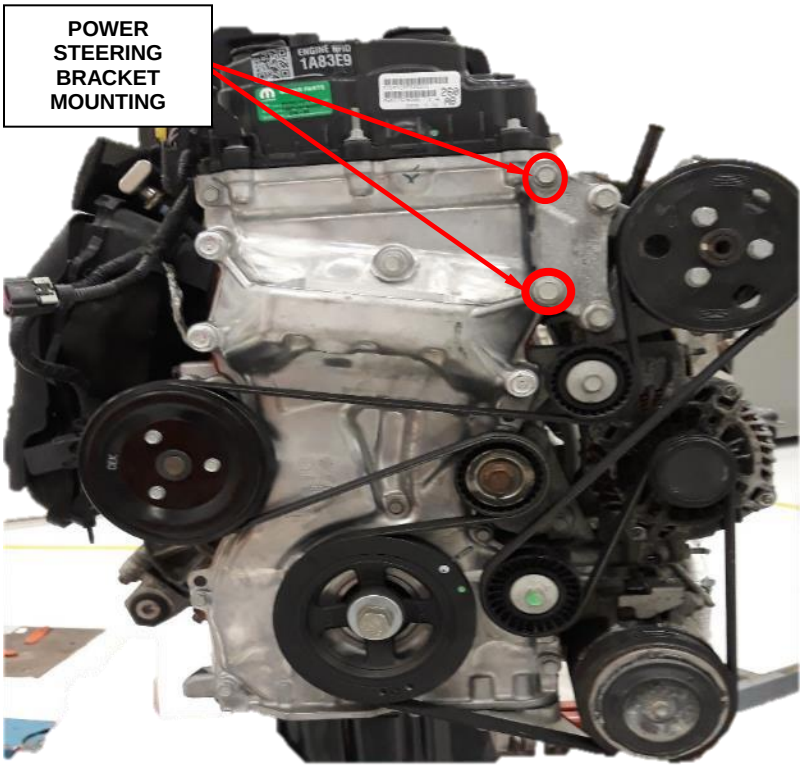



**Figure 51 – 2.4L Engine Assy. (VM Model)**

## Service Procedure [Continued]

### C. Long Block Installation Procedure

1. Place the **NEW** engine on the Dolly, Power Train 6135 or equivalent and the Cradle, Engine Support:
    - Loosen the cradle engine mounts to allow movement for positioning to the engine locating holes on the engine block and oil pan rail.
    - Lower the engine until it is resting on the posts.
    - Tighten the post mounts to the cradle frame.
    - Secure the engine to the dolly/cradle with safety straps.

    **NOTE: Perform the following steps to install the transmission to the engine**.

2. Lightly grease the torque converter hub pocket in the end of the crankshaft.

    **NOTE: The close tolerance torque converter bolt hole is oval shaped, and will aid in aligning the flexplate to the torque converter if the torque converter bolt is installed in this location first.**

3. Rotate the flexplate so the close tolerance bolt hole is at the six o'clock position.

4. Push the bell housing against the engine block and engage the guide pins.

5. Align the wire harness bracket and install the engine block to transmission bolt hand tight.

6. Install the starter and the lower starter bolt hand tight.

7. Install the three bolts to hold the oil pan to the transmission hand tight.

8. Install the transmission to engine bolt hand tight.

## Service Procedure [Continued]

9. Install the left upper transmission to engine bolt through the wiring harness bracket hand tight.

10. Install the right upper transmission to engine bolt hand tight.

11. Install the upper starter bolt and tighten all nine installed bolts to 36N·m (27ft. lbs.).

    **CAUTION: It is essential that correct length bolts be used to attach the converter to the flexplate. Failure to follow this caution may result in transmission damage.**

12. Through the access door opening, install **NEW** bolts to hold the flexplate to the torque converter hand tight. Rotate the crankshaft to bring each set of bolts into view through the access door.

    **NOTE: There are three pairs of bolts 120° apart attaching the flexplate to the torque converter.**

13. Tighten all the torque converter bolts to 40N·m (30ft. lbs.) (Figure 44).

14. Install the torque converter bolt access door and tighten the bolt to 9N·m (80In. lbs.) (Figure 43).

15. Install a new exhaust manifold gasket **DO NOT APPLY SEALER**.

## Service Procedure [Continued]

16. Set the manifold into position and install the manifold bolts.

17. Tighten the bolts following the sequence shown to 34N·m (25ft. lbs.) (Figure 52).

18. Install the catalytic converter heat shields to the exhaust manifold and tighten the bolts to 12N·m (9ft. lbs.).

19. Install the catalytic converter lower support bracket and tighten the bolts to 20N·m (15ft. lbs.).

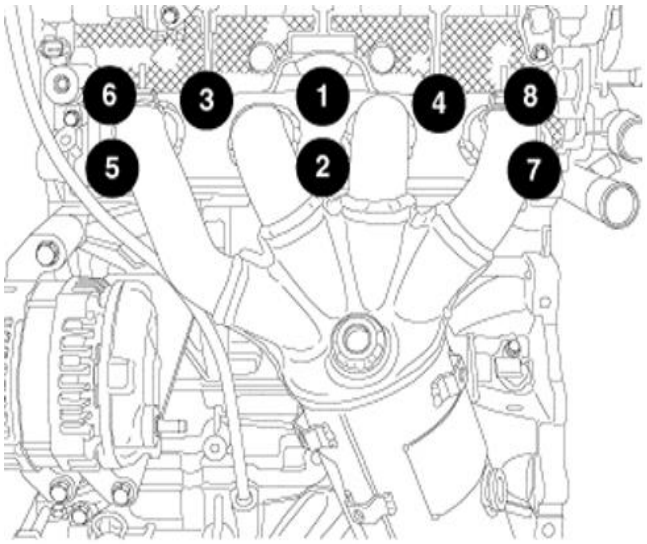



**Figure 52 – Manifold Torque Sequence**

20. **FB AWD Model:**
    a) Install the PTU to the transmission and tighten the bolts to 55N·m (41ft. lbs.).
    b) Install and tighten the stud to the intake manifold.
    c) Install the PTU support bracket and tighten the bolts to 55N·m (41ft. lbs.).
    d) Install the lower intake manifold support bracket and tighten the fasteners to 24N·m (18ft. lbs.).

21. Position the vehicle height to allow the power train dolly, cradle and engine to be installed into the engine compartment. Slowly lower the vehicle to allow it to clear the powertrain assembly.

22. Install the right engine mount insulator bolts and tighten to 113N·m (83 ft. lbs.)

23. Install the left engine mount insulator bolts and tighten to 125N·m (92ft. lbs.).

24. Remove the strap and the power train dolly.

25. Raise and support the vehicle.

## Service Procedure [Continued]

26. **FB AWD Model:** Install a **NEW** driveshaft cover, snap ring and install the driveshaft into the transfer unit and engage the snap ring.
27. Install the muffler and exhaust pipe as an assembly. Temporarily attach the exhaust pipe to the catalytic converter.
27. Support the crossmember on a suitable lifting device and position back onto the vehicle frame rails.
28. Center the steering gear back in place.
29. Install the crossmember bolts and hand tighten only.
30. Remove the support device.
31. Install the load beams and install the front load beam bolts and hand tighten only.
32. Position the halfshaft under the vehicle and over the lower control arm.

    **NOTE: Apply a light coat of grease to the splines prior to installation.**

    **NOTE: If equipped with an intermediate shaft: The intermediate shaft bearing isolator must be installed on the intermediate bearing for proper half shaft installation.**

    **NOTE: Never handle the halfshaft assembly by the inner or outer boots. This can cause damage to the boot, which will allow contaminants to enter the Constant Velocity (CV) joint.**

    **NOTE: The inner tripod joint is designed with a retention feature that prevents the tripod rollers from coming out of the inner joint housing up to a specific load. If this feature is overcome and the rollers are pulled past the retention feature the joint will lock up and no longer function properly. The entire halfshaft assembly must be replaced if this occurs.**

33. Slip the halfshaft shaft into the differential seal and lightly twist until intermediate shaft slides all the way into the differential.
34. Swing the steering knuckle outward and engage the halfshaft end into the hub bearing spline.

## Service Procedure [Continued]

35. Position the lower ball joints back into the steering knuckles and install **NEW** bolt and nut and hand tighten only.

36. **If equipped**: Position the intermediate bearing bracket onto the engine support bracket and align the bolt holes.

37. **If equipped:** Install the bolts to hold intermediate support bearing to the engine bracket and tighten to 10N·m (89in. lbs.).

38. Install a **NEW** hub nut and while a helper applies the brakes, tighten the nut using the following procedure;
    - tighten the nut to 150 N·m (111ft. lbs.)
    - loosen the nut 90°
    - tighten the nut to 70 N·m (52ft. lbs.)
    - tighten the nut an additional 63°

39. Using the Tool, Front Hub Staking 10287 , align the leading cutting edge of Tool, Front Hub Staking 10287 with the top left side channel on axle as shown (Figure 54). Tighten fastener on Tool, Front Hub Staking 10287 with hand tools until the threads bottom out completely.

**NOTE: The hub nut must be staked so that it looks similar to Figure 53. Both edges must be split and bent into the shape shown (3). The staking must be opposite of the direction to tighten the nut.**

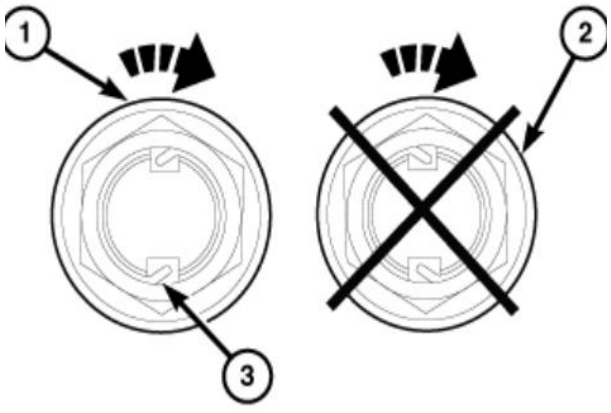



**Figure 53 – Axle Nut Staking**

## Service Procedure [Continued]

40. Connect the sway bar link and install the nut and hand tighten only.

41. Connect the outer tie rod ends to the knuckles and install the nuts and hand tighten only.

42. Tighten the crossmember bolts to 125N·M (92ft. lbs.).

43. Tighten the front load beam bolts to 38N·M (28ft. lbs.).

44. Tighten the rear load beam bolts to 38N·M (28ft. lbs.).

45. Install the four bolts to hold the front of the right and left load beams to the radiator support panel and tighten all the installed bolts to 50N·m (37ft.lbs.).

46. Install the rear engine mount insulator tighten the bolts to 210N·m (155ft. lbs.).

47. Connect the exhaust pipe complete with a **NEW** gasket to the catalytic converter and tighten the new nuts to 25N·m (18ft. lbs.).

48. Install the exhaust support bolt and tighten to 25N·m (18ft. lbs.).

49. **VM Model:** Connect the power steering supply line and tighten the bolt to 40N·m (30ft. lbs.).

50. **VM Model:** Connect the return line and tighten to 30N·m (22ft. lbs.).

51. **VM Model:** Install the power steering line support bracket bolt.

52. Tighten the lower ball joint nuts to 168N·m (124ft. lbs.).

53. Tighten the sway bar link nut to 63N·m (46ft. lbs.).

54. Tighten the outer tie rod end nuts to 90N·m (66ft. lbs.).

## Service Procedure [Continued]

55. **VM Model**: Position the lower radiator core support, while aligning the radiator to the bushings and install the two lower bolts hand tight.

56. Place the ground cable in position on the transmission and tighten the bolt to 22N·m (16ft. lbs.).

57. Install the front crossmember bracket and tighten the bolts to 20N·m (15ft. lbs.).

58. Remove the tape or plugs from the opened refrigerant line fittings and the A/C compressor ports.

59. Lubricate the O-ring seals with clean refrigerant oil and install them onto the refrigerant line fittings. Use only the specified O-ring seals as they are made of a special material for the system. Use only refrigerant oil of the type recommended for the A/C compressor in the vehicle.

60. Install the A/C discharge line/suction line manifold to the A/C compressor and tighten the nut to 20N·m (15ft. lbs.).

61. Connect the transmission cooler lines to the transmission.

62. **If equipped**: Install the right and left frame brace and tighten the bolts to 20N·m (15ft. lbs.).

63. Install the right lower splash shield with four bolts and screws tightened to 50N·m (37ft. lbs.).

64. Install the wire harness routing bracket with two bolts and tighten to10N·m (88In. lbs.).

65. Connect and lock the engine wire harness connector.

66. Connect the transmission wire harness connector to the transmission and rotate the locking lever clockwise.

## Service Procedure [Continued]

67. Hold down the release button down while attaching the shifter cable end to the manual lever.
68. Install the heater core outlet hose to the coolant return pipe with the **CLIC E®** type clamp using the Pliers, Hose Clamp 10288 .
69. Install the heater core inlet hose to the thermostat housing and engage the quick-connect coupling.
70. Secure the heater core hoses in the retainer at the rear of the transmission.
71. Install the engine oil cooler inlet and outlet hoses with the **CLIC E®** type clamp using the Pliers, Hose Clamp 10288 .
72. Install the upper radiator inlet and lower radiator outlet hoses with the **CLIC E®** type clamp using the Pliers, Hose Clamp 10288.
73. **If equipped**: Connect the block heater wire harness connector.
74. Engage the wire harness retainer to the upper radiator inlet hose at the thermostat housing.
75. Install the upper radiator inlet hose to the radiator and engage the quick-connect coupling.
76. Install the lower radiator outlet hose to the radiator and engage the quick-connect coupling.
77. Install the degas hose to the pressurized coolant bottle with the **CLIC E®** type clamp using the Pliers, Hose Clamp 10288.
78. Connect the vacuum hose quick-connect fitting to the vacuum pump and secure the vacuum hose to the support bracket.
79. Connect the starter cable to the power distribution center and tighten the nut to10N·m (90In. lbs.).
80. Connect the generator cable to the power distribution center and tighten the nut to 4N·m (36In. lbs.).

## Service Procedure [Continued]

81. Connect fuel line to the fuel rail.

82. Connect the purge vapor line to the purge solenoid.

83. **If equipped**: Connect the Power Takeoff Unit (PTU) wire harness connector

84. From inside the vehicle position the steering shaft back and install the bolt and tighten to 25N·m (18ft. lbs.).

85. **BU/FB Models**: Engage the hood latch release cable to the hood latch and retainers.

86. Install the front fascia.
    a) Position the fascia back onto the vehicle.
    b) Secure the side ends in their housings.
    c) Install the upper screws.
    d) Install the lower screws.
    e) If equipped, connect the fog light electrical connectors.
    f) Install the plastic fender screw.
    g) Position the wheelhouse splash shield back and install the screws.

87. **BU/FB Models**: Reattach the fender molding retainers to fender.

88. Install the battery tray and battery tighten the bolts securely.

89. Install the air cleaner body.
    a) If required, recover the rubber mount socket from the bottom of the air cleaner body and reinstall it to the right engine mount.
    b) Lubricate the three rubber mount sockets with Mopar® Rubber Bushing Installation Lube.
    c) Align the air cleaner body to the rubber mount sockets and press firmly downwards.
    d) Engage the air inlet duct to the radiator core support, install the bolt and tighten to 8N·m (71In. lbs.).

90. **VM Model:** Fill the power steering reservoir with power steering fluid.

91. Fill the cooling system.

## Service Procedure [Continued]

**NOTE: The preferred method to remove air and fill the cooling system is to perform the Coolant Air Evacuation procedure using the Mopar Essential Tools and Service Equipment Tool, UView Airlift Cooling System Refill 3999-550000 or equivalent.**

92. Install the front tire and wheel assemblies and tighten the nuts to 120N·m (89ft.lbs.) Aluminum Wheels , 86N·m (64ft. lbs.) Steel Wheels.

93. Install the clean air hose and engine over.

94. Connect the negative battery cable. If equipped with an Intelligent Battery Sensor (IBS), connect the IBS connector.

95. Evacuate and charge the refrigerant system.

**NOTE: The Cam/Crank Variation Relearn procedure must be performed using the scan tool anytime there has been a repair/replacement made to a powertrain system, for example: flywheel, valvetrain, camshaft and/or crankshaft sensors or components.**

a) Connect the wiTECH tool to the diagnostic connector.
b) Erase all DTC's.
c) Navigate to "Miscellaneous Functions" and perform all Relearn Procedures/Routines that are related to the component or system that was repaired.

96. Start the engine and run it at idle.

97. Run the engine until it reaches normal operating temperature. Check the cooling system and the transmission for correct fluid levels.

98. After it has cooled check that the fluid level is positioned at the MAX mark on the tank. Add coolant if required. Install the cap.

99. Check for leaks and road test the vehicle.

## 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 Customer Satisfaction Notification service completions and provide dealer payments.

Use the following labor operation numbers and time allowances:

| | **Labor Operation Number** | **Time Allowance** |
|---|---|---|
| Initiate an Oil Consumption Test | 09-W8-0L-81 | 0.3 hours |
| Complete **Successful** Oil Consumption Test (**Only after 1500-1700-mile road test 2400 - 2700 km**) | 09-W8-01-81 | 0.2 hours |
| Complete **Failed** Oil Consumption Test and Replace long block (**VM model**) | 09-W8-01-82 | 9.4 hours |
| Complete **Failed** Oil Consumption Test and Replace long block (**BU model**) | 09-W8-01-83 | 7.8 hours |
| Complete **Failed** Oil Consumption Test and Replace long block (**FB model**) | 09-W8-01-84 | 7.8 hours |
| **Related Operation** | | |
| R-1234yf Refrigerant A/C Evac and Recharge **2015-2018 BU, 2016-2018 FB** | 09-W8-01-51 | 0.9 hours |
| R-134a Refrigerant A/C Evac and Recharge (**VM Model Only**) 2015-2018 | 09-W8-01-52 | 0.5 hours |
| **Optional Equipment** | | |
| AWD Equipped (**FB Model Only**) | 09-W8-01-60 | 0.4 hours |
| Skid plate/Splash Shield equipped | 09-W8-01-63 | 0.2 hours |

Add the cost of the parts package plus applicable dealer allowance to your claim.
NOTE**:** See the Warranty Administration Manual, Recall Claim Processing Section, for complete 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 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 campaign displayed can be sorted by: those vehicles that were unsold at campaign launch, those with a phone number, city, zip code, or VIN sequence.

**Dealers should 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.

*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 notification 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 Service / Field Operations
FCA US LLC

**This notice applies to your vehicle,**

[Model Year and Model]
VIN XXXXXXXXXXXXXXXXX

**W80**

LOGO

VEHICLE PICTURE

**YOUR SCHEDULING OPTIONS**

1. **RECOMMENDED OPTION**
   **Call your authorized Chrysler / Dodge / Jeep® / RAM Dealership**

2. **Call the FCA Recall Assistance Center at 1-800-853-1403. An agent can confirm part availability and help schedule an appointment**

3. **Visit recalls.mopar.com, scan the QR code below, or download the Mopar Owner's Companion App.**

QR Code

Get access to recall notifications, locate your nearest dealer, and more through this website or Mopar Owner's Companion App. You will be asked to provide your Vehicle Identification Number (VIN) to protect and verify your identity.

**DEALERSHIP INSTRUCTIONS**
Please reference CSN W80.

# CUSTOMER SATISFACTION NOTIFICATION

## Oil Consumption Inspection

Dear [Name],

At FCA US LLC, we recognize that the success of our business depends on the satisfaction of our customers. We are constantly monitoring the quality of our products and looking for opportunities to improve our vehicles even after they are sold. Because your long-term satisfaction is important to us, we are contacting you on important improvements we would like to make to your vehicle [1]. This will be done at no charge to you.

We are recommending the following improvements be performed on certain [2015 -2018 Model Year (BU) Jeep Renegade, (VM) Ram Promaster City and 2016 -2018 Fiat 500X] vehicles equipped with a 2.4L engine.

### WHY DOES MY VEHICLE NEED REPAIRS?

FCA US has determined that some vehicles may have an engine that consumes more oil than usual under certain operating conditions like continuous stop and go driving. The condition results when a combination of components with certain manufacturing variances are present and the current engine calibration strategy. While the condition is rare, your vehicle [1] falls within the population where such variances could cause an oil consumption issue. If your vehicle is subjected to a low oil condition, the oil indicator lamp on your instrument panel cluster may illuminate or you will notice an oil level below the dipstick crosshatch range markings when checking your vehicle's oil level as recommended in your Owner's Manual. If left unaddressed, a low oil condition can eventually result in a vehicle stall.

### HOW DO I RESOLVE THIS CUSTOMER SATISFACTION NOTIFICATION?

FCA US will repair your vehicle free of charge (parts and labor). In the rare event that a low oil indicator lamp illuminates on your vehicle, or you notice an oil level below the dipstick crosshatch range markings when checking your vehicle's oil level, you should take your vehicle to a dealership for an oil consumption test. FCA US will perform the oil consumption test free of charge to determine if your vehicle has normal engine oil usage. If your vehicle is found to have the manufacturing variances resulting in abnormal engine oil usage, your dealer will replace the components necessary to correct the condition, free of charge.

An oil consumption test will require two dealership visits, one to initiate the testing and one to confirm the results. Your time is important to us, so we recommend that you schedule a service appointment to minimize your inconvenience. Please bring this letter with you to your dealership.

**TO SCHEDULE YOUR FREE REPAIR,**
**CALL YOUR CHRYSLER, DODGE, JEEP OR RAM DEALER TODAY**

### WHAT IF I ALREADY PAID TO HAVE THIS REPAIR COMPLETED?

If you have already experienced this specific condition and have paid to have it repaired, you may visit **www.fcarecallreimbursement.com** to submit your reimbursement request online. [2] Once we receive and verify the required documents, reimbursement will be sent to you within 60 days. If you have had previous repairs performed and/or already received reimbursement, you may still need to have the repair performed.

We apologize for any inconvenience, but are sincerely concerned about your satisfaction. Thank you for your attention to this important matter.

Customer Assistance/Field Operations
FCA US LLC

FIAT CHRYSLER AUTOMOBILES

**Mr. Mrs. Customer**
**1234 Main Street**
**Hometown, MI 48371**

[1] If you no longer own this vehicle, please help us update our records. Call the FCA Recall Assistance Center at 1-800-853-1403 to update your information.

[2] You can also mail in your original receipts and proof of payment to the following address for reimbursement consideration: FCA Customer Assistance, P.O. Box 21-8004, Auburn Hills, MI 48321-8007, Attention: Recall Reimbursement.