



Remedy available for

2024-2025 (JL) Jeep Wrangler Plug-In Hybrid Electric Vehicles (PHEVs)

2024-2025 (WL) Jeep Grand Cherokee Plug-In Hybrid Electric Vehicles (PHEVs)

Remedy not available for

2023 (WL) Jeep Grand Cherokee Plug-In Hybrid Electric Vehicles (PHEVs)

Revision	Edition	Detail
5	July 2026	Long Block Procedure, Parts and LOP Added for JL

Template Version 1.0

SYMPTOM DESCRIPTION

The engine on about 124,151 of the above vehicles may be contaminated with sand from the casting process. Sand from the casting process can contaminate internal engine components, leading to a catastrophic engine failure, which can result in a vehicle fire or an unexpected and unrecoverable loss of propulsion. A vehicle fire can result in increased risk of occupant injury and/or injury to persons outside the vehicle, as well as property damage. A loss of propulsion may result in a vehicle crash without prior warning.

SCOPE

This recall applies only to the above vehicles equipped with a 2.0L engine (sales code ECX).

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

IMPORTANT:

- Some of the involved vehicles may be in dealer new vehicle inventory. Federal law requires you to complete this recall service on these vehicles before retail delivery. Violation of this requirement by a dealer could result in a civil penalty of up to \$27,874 per vehicle.
- Some of the involved vehicles may be in dealer used vehicle inventory. Dealers should complete this recall service on these vehicles before retail delivery.
- Dealers should also perform this recall on vehicles in for service.

Involved vehicles can be determined by using the VIP inquiry process.

REPAIR TO BE PERFORMED

If Safety Recall 68C is open, it must be performed before 78C.

If 68C is being performed at the same time as 78C, use the 0.2 LOP 18-78-C1-80 to perform driving test without flashing the PCM.

If the vehicle is towed in with a catastrophic engine failure, replace the engine. **Catastrophic is defined as a non-running engine with major mechanical failure related to connecting rod bearing damage, such as a broken connecting rod, perforated block or oil pan, seized rod bearing, etc.**

If the engine runs, update the PCM with the latest software, and perform the engine run test as described in **A. Update PCM Software**. If **DTC P2336, P2337, P2338 or P2339** is set, replace the engine.

ALTERNATE TRANSPORTATION

Dealers should proactively minimize customer inconvenience while the recall repair is being performed. Reference the Goodwill Alternate Transportation Guidelines warranty bulletin link within Recall Central on DealerCONNECT for options to support the customer while their vehicle is in service.

COMPLETION REPORTING / REIMBURSEMENT

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

NOTE: The 0.2 (18-78-C1-80) LOP must be submitted on the same claim as the 68C repair, on a separate condition. Failure to do so may result in issues with claim processing. If 68C was performed during a previous repair visit, the 0.2 (18-78-C1-80) hour LOP does not apply.

NOTE: The following modules are not related to the 78C recall remedy but must be updated with the latest module software available. These module updates are included in this bulletin as they contain software updates for continuous improvement and to enable full functionality of the propulsion system. Use the related LOPs for updating the BPCM, AHCP, HCP, IDCM, PCM and TCM if updated software exists for any of those modules.

Use the following labor operation numbers and time allowances:

Labor Description	Number	Hrs
All Applicable Modules were Reprogrammed per Recall Campaign 68C, Perform Vehicle Road Test Only	18-78-C1-80	0.2
Inspect Software Levels of PCM, HCP/AHCP, IDCM, BPCM and TCM	18-78-C1-81	0.2
Inspect, Reprogram PCM Software, and Perform Vehicle Road Test (Includes Reprogramming TCM if Applicable)	18-78-C1-82	0.6
Inspect, Reprogram PCM, Perform Road Test - Includes Additional Updates to (IDCM) or (BPCM) or (BPCM & TCM)	18-78-C1-83	0.7
Inspect, Reprogram PCM, Perform Road Test - Includes Additional Updates to (IDCM & BPCM) or (IDCM & TCM) or (HCP/AHCP) or (HCP/AHCP & TCM)	18-78-C1-84	0.8
Inspect, Reprogram PCM, Perform Road Test - Includes (IDCM & BPCM & TCM) or (HCP/AHCP & BPCM) or (HCP/AHCP &	18-78-C1-85	0.9

Labor Description	Number	Hrs
BPCM & TCM) or (HCP/AHCP & IDCM)		
Inspect, Reprogram PCM, Perform Road Test - Includes Additional Updates to (HCP/AHCP & IDCM & TCM) or (HCP/AHCP & IDCM & BPCM)	18-78-C1-86	1.0
Inspect, Reprogram PCM, Perform Road Test - Includes Additional Updates to (HCP/AHCP & IDCM & BPCM & TCM)	18-78-C1-87	1.1

Related Operations	Number	Hrs
Replace Complete Engine (JL Only)	18-78-C1-52	11.5
Replace Complete Engine (WL Models Only)	18-78-C1-50	13.2

Related Operations	Number	Hrs
Replace Long Block Engine (JL Only)	18-78-C1-53	13.7

Labor Description	Number	Allowance
Floor Plan Reimbursement	95-95-95-97	Calculate See Below

Floor Plan Reimbursement represents the vehicle's average daily allowance (see table below) multiplied by the number of days the vehicle was in dealer inventory and not available for sale. This reimbursement is limited to the number of days from the date of the stop sale to the date that the remedy was made available. Note: If the vehicle was received by your dealership (KZX date) AFTER the stop sale date, you will use the KZX date instead of the stop sale date. For this Recall, the stop sale was initiated on **11/13/2025**. The remedy was made available for 2024 (JL) Jeep Wrangler PHEVs on **04/16/2026**, therefore, the number of days cannot exceed **154** days. The remedy for 2024-2025 (WL) Jeep Grand Cherokee PHEVs was made available on **04/22/2026**, therefore, the number of days cannot exceed **160** days. The remedy for 2025 (JL) Jeep Wrangler PHEVs was made available on **04/24/2026**,

SAFETY RECALL
NORTH AMERICA
Engine Fires



Reference: 78C / NHTSA 25V-766

FCA US LLC

therefore, the number of days cannot exceed **162** days.

Vehicle	Average Daily Allowance
2024 – 2025 (JL) Jeep Wrangler PHEV	██████
2023 – 2025 (WL) Jeep Grand Cherokee PHEV	██████

Add the cost of the recall parts package plus applicable dealer allowance to your claim.

In addition, enter “MATL” in the Part Number section of your claim with the applicable Material Allowance where appropriate.

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

For additional details, reference the Mobile Service Warranty Bulletin - for convenience, a copy has been linked within Recall Central on DealerCONNECT.

PARTS INFORMATION

NOTE:

For JL order: CSMS78C6AA, CSMS78C3AA, CSMS78C7AA, and applicable fluids

For WL order: CSMS78C1AA, CSMS78C4AA, and applicable fluids

Part No.	Qty.	Part Name
C-KITS		
CSMS78C6AA		JL Long Block Engine
CSMS78C1AA		WL Complete Engine
CSMS78C4AA		(WL Only)
	1	GASKET
	2	NUT HEX
	6	BOLT HEX FLANGE HEAD
	2	SCREW HEX FLANGE HEAD
	2	LOCK NUT HEX FLANGE LOCK
	1	BELT SERPENTINE
	1	GASKET
	1	SEAL SLIM LINE
	2	SEAL SLIM LINE
	2	NUT HEX LOCK
	1	NUT PARKING BRAKE
	2	BOLT HEX FLANGE HEAD
	1	O RING
	3	BOLT KIT
	2	BOLT KIT
	4	BOLT KIT
	4	BOLT HEX HEAD
	4	SCREW HEX HEAD
	2	SCREW HEX HEAD
	2	SCREW HEX HEAD
	1	SCREW HEX FLANGE HEAD
	2	SCREW HEX FLANGE HEAD
	1	O RING ENGINE OIL INDI
	6	SCREW HEX FLANGE HEAD
	1	CLAMP EXHAUST
	1	O RING

Part No.	Qty.	Part Name
CSMS78C7AA		(JL Only)
	1	BELT, Serpentine - Water Pump
	2	SCREW, Pan Head - Transmission Shifter Screw
	4	SCREW AND WASHER, Hex Head, M6X1.00X25.50 - Front Floor Console Bolt
	4	SCREW, Pan Head, Adjuster To Floor - Passenger Seat
	12	RIVET, M6.3X25.0, Flare Attaching - Front Wheel Flare to Fender
	12	RIVET, .25x.50 - Rear Wheel Fare to Flare
	1	SEAL, Slim Line, 3/8"
	1	SEAL, A/C LINE
	1	BOLT, M8-1.25x38, Upper to Lower Shaft Attachment -Intermediate Shaft to Column Pinch Bolt
	2	SCREW & WASHER, Hex Flange Head Tapping -
	6	SCREW AND WASHER, Hex Flange Head, M12X1.75X116.50
	2	SPRING RETAINER, Push On Round With Teeth, For M14 Stud - Body Isolator Hold Down
	6	RETAINER, Push On Round With Teeth For M12 Stud - Body Isolator Thru Bolt
	1	GASKET, TURBOCHARGER TO CATALYTIC CONVERTER, Mica Ring Gasket
	1	GASKET, TURBOCHARGER TO CATALYTIC CONVERTER, Mica Ring Gasket
	1	CLAMP, Exhaust, Hot End to Cold End Pipe
	1	GASKET, EGR Tube Gasket

SAFETY RECALL

NORTH AMERICA

Engine Fires

Reference: 78C / NHTSA 25V-766



FCA US LLC

Part No.	Qty.	Part Name
	2	SCREW, Hex Flange Head, M8x1.25x33.00 - EGR Pipe Bolt
	1	O-RING, Engine Oil Indicator Tube
	2	PUSH PIN, M6.3X23.4
	3	PUSH PIN, M6.3X18.60
	1	NUT, U, M6X1.00X23.50, Flare Attaching - Rear Wheelhouse Liner Body Nut
CSMS78C3AA		JL Long Block Kit (Order along with Long Block and CSMS78C7AA)
	1	COOLANT TUBE (O RING)
	4	DOUBLE ENDED (STUD)
	1	FUEL INJECTOR (SEAL)
	1	FUEL (LINE)
	1	INTAKE MANIFOLD (SEAL)
	7	TORX HEAD (BOLT)
	1	TURBOCHARGER TO MANIFOLD (GASKET)
	1	THERMOSTAT (GASKET)
	1	COOLANT TUBE (GASKET)
	1	EGR COOLER (GASKET)
	1	SEAL (GASKET)
	2	TURBOCHARGER LUBRICANT INLET (TURBO)
	1	TURBO OIL DRAIN TUBE (O RING)
	1	SEAL
	4	NUT (M8X1.25)
	1	WATER PUMP (GASKET)
	1	EGR VALVE (O RING)
	2	HEX FLANGE HEAD (M6X1.00X13.00)
	1	HEX FLANGE HEAD (NUT)
MS-90032	4qt.	ANTIFREEZE COOLANT (WL/JL)
MS-13340	5 qt.	OIL 5W30 (WL/JL)
MS-50034	1.5 lbs.	REFRIGERANT 1234AF (WL/JL)

Part No.	Qty.	Part Name
MS-4574	2x (12oz)	BRAKE FLUID (JL)

PARTS RETURN

Return the engine to the PDC following the standard core return policy. Dealers will be reimbursed for applicable core charge once received by the PDC.

SPECIAL TOOLS

Number	Description
NPN	wiTECH MicroPod II / MDP
NPN	Laptop Computer
NPN	wiTECH Software
8875A	Disconnect, Transmission Cooler Line
2076900140	Tool, 2.0L GME Fuel Line Disconnect
2086900080	Test Adapter and Lockout
2035100082	Covers, HEV Battery Terminal
2024800091	Holder, 4 Finger Front Damper Deep
2025508140	Wrench, Fuel Line 17mm
2044500140	Remover, Fuel Rail
2024800090	Holder, Front Damper 4 Finger DEEP
2081700090	Stretch Belt Installation Tool
2025505140	Pliers, Injector Seal Removal
2025504140	Pick, Injector Seal 90 Degree
2025500140	Kit, Fuel Injector
2025501141	Cone, Injector Seal Installer 70mm
2025502140	Installer, Injector Seal to Cone
2025503140	Tool, Injector Seal Calibration
2044400140	Guide, Fuel Rail Installer
399-550000	Tool, UView Airlift™ Cooling System Refill
9546	Disconnect Tool – Transmission Cooler Line
10270	Protector, Half Shaft Drive
8534C	Fixture, Driveline Support - Originally Shipped In Kit Number(s) 8534, 8534B, 8849, 9565

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 / SERVICE SCHEDULING

All involved vehicle owners known to FCA are being notified of the service requirement by first class mail.

They are requested to schedule appointments for this service with their dealers. A generic copy of the owner letter is attached.

VEHICLE LISTS, GLOBAL RECALL SYSTEM, VIP AND DEALER FOLLOW UP

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

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

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

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

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

ADDITIONAL INFORMATION

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

Customer Services / Field Operations
FCA US LLC.

SERVICE PROCEDURE

A. Update PCM Software

WARNING: Part of this recall population contains hybrid vehicles. Follow all safety precautions published in Service Library for the specific vehicle you are working on.

Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 04 - Vehicle Quick Reference / Hoisting / Standard Procedure.

NOTE: The wiTECH scan tool must be used to perform this recall. If the reprogramming flash for the PCM is aborted or interrupted, repeat the procedure.

NOTE: The wiTECH scan tool must be used to perform this Safety Recall. The wiTECH software is required to be at the latest release level before performing this procedure.

NOTE: The BPCM, AHCP, HCP, IDCM, PCM, and TCM must all be updated to the latest available software at the conclusion of this repair procedure. Refer to all applicable published technical service bulletins for detailed repair procedures regarding updating the AHCP, HCP, IDCM, PCM, and TCM software.

CAUTION: If a flash is available, the BPCM must be updated first. Failure to update the AHCP, HCP, IDCM, PCM, and TCM module following an BPCM software update may result in vehicle malfunctions.

NOTE: If performing BPCM flash, disable HV Battery Contactors using wiTECH - Go to the Misc Functions tab / Select Disable HV Battery Contactors / then follow the wiTECH prompts. Wait 5 minutes then use wiTECH to confirm that the contactors are open. If the contactors do not open turn the ignition on then off. Once successful a note will appear on the wiTECH screen indicating the contactors are open.

NOTE: It is normal for the high voltage charging lamp on the dash to flash like there is a charging system failure while performing software updates.

NOTE: If the BPCM reprogramming is aborted or interrupted during reprogramming, it must be restarted. The BPCM software must be at the latest software calibration level after completing this safety recall.

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

NOTE: The vehicle **MUST NOT** be connected to a high voltage battery charger during the flash process.

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

2. Connect the wiTECH MDP to the vehicle data link connector.

NOTE: The same wiTECH MDP **MUST** be used throughout the procedure.

3. Place the ignition in the “**RUN**” position.

4. Open the wiTECH 2.0 website.
5. Enter your “**User id**” and “**Password**” and your “**Dealer Code**”, then select “**Sign In**” at the bottom of the screen. Click “**Accept**”.
6. From the “**Vehicle Selection**” screen, select the vehicle to be updated.
7. From the “**Action Items**” screen, select the “**Topology**” tab.

NOTE: The PCM must be at the latest software calibration level after completing this recall.

8. From the “**Topology**” tab, select the “**Battery Pack Control Module (BPCM)**” icon.
9. Disable HV Battery Contactors using wiTECH - Go to the Misc Functions tab / Select Disable HV Battery Contactors / then follow the wiTECH prompts. Wait 5 minutes then use wiTECH to confirm that the contactors are open. If the contactors do not open turn the ignition on then off. Once successful a note will appear on the wiTECH screen indicating the contactors are open.
10. From the “Topology” tab, select the “Powertrain Control Module (PCM)” module icon.
11. From the “**Flash**” tab, compare the “**Current Electronic Control Unit (ECU) Part Number**” with the “**New ECU Part Number**” listed.
 - If the “**Current ECU part Number**” is the same as the “**New Part Number**”, proceed to **Step 16**.
 - If the “**Current ECU part Number**” is NOT the same as the “**New Part Number**”, continue with **Step 12**.
12. From the PCM tab, select the PCM flash part number. Read the flash special instructions page. Select “**OK**” to continue.
13. From the flash ECU agreement page, agree to terms by checking the box.
14. Select “**Flash ECU**” and then follow the wiTECH screen instructions to complete the flash.
15. Confirm the software is at the latest available calibration level.
16. The AHCP, HCP, IDCM, PCM, and TCM must be updated to the latest available software. Refer to all applicable published technical service bulletins for detailed repair procedures regarding updating the IDCM, PCM, and TCM software. Claim the Related LOPs for AHCP, HCP, IDCM, PCM, and TCM updates if software requires updating.
17. Enable HV Battery Contactors using wiTECH - Go to the Misc Functions tab / Select Enable HV Battery Contactors / then follow the wiTECH prompts.
18. Click “**View DTCs**”, select “**Clear All DTCs**”, click “**Continue**” and then click “**Close**”.
19. Remove the battery charger and close the hood. Leave the wiTECH MDP attached and follow the “**Safety Recall 78C - Engine Test Assist**” routine under “**PCM System Tests**” tab in wiTECH.

20. Start the engine. Place the vehicle in E-Save mode. Drive the vehicle until the engine oil reaches 73°C and 120°C (163°F to 248°F).

NOTE: Driving does not have to be 60 consecutive seconds, just 60 seconds total.

21. Using the shifter / manual mode while driving, hold the vehicle in a gear and operate the engine between 1700 and 3900rpm, and hold the engine at that speed for a total of 60 seconds.
22. The **“Safety Recall 78C – Engine Test Assist”** routine will display a “Test Passed” or “DTC is Present” screen.
- Any of the four DTCs (P2336, P2337, P2338 or P2339) is present: Replace the engine to complete the recall.
 - No DTC set. Complete the recall LOP. Remove the MDP from the vehicle data link connector.
 - If the customer returns at a later date with DTC P2336, P2337, P2338 or P2339 present, replace the engine under Warranty Extension XC2.
23. Return the vehicle to the customer.

SERVICE PROCEDURE

B. Engine Replacement (JL) - Removal

WARNING: Part of this recall population contains hybrid vehicles. Follow all safety precautions published in Service Library for the specific vehicle you are working on.

Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 04 - Vehicle Quick Reference / Hoisting / Standard Procedure.

WARNING: Before performing any diagnostic or service procedure, you must thoroughly read and follow all applicable high voltage safety procedures. You must perform the high voltage power down procedures.

Loss of Isolation (LOI) must be performed before high voltage power up in cases where service has been performed on a high-voltage component or when diagnosing a LOI condition.

Be sure to use the proper safety equipment when working on any high voltage system or component. Failure to do so may result in serious or fatal injury.

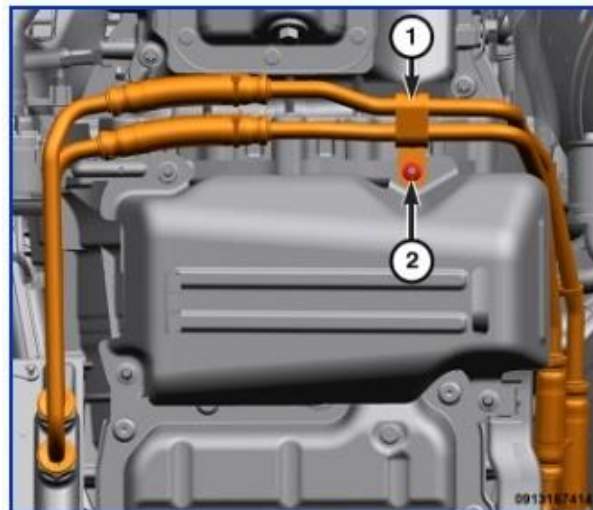
Wait a minimum of two minutes after performing the high voltage battery disconnect procedure before attempting to access the high voltage system. Failure to do so may result in serious or fatal injury.

CAUTION: Do not allow coolant to come in contact with any high voltage component electrical connections. Engine coolant will create a conductive path and cannot be effectively removed resulting in a loss of isolation and replacement of the contaminated high voltage component.

CAUTION: To prevent coolant pooling in the injector bore(s), place an absorbent towel in the valley and over the injector bores. If coolant is accidentally spilled over top of the engine, apply compressed air into each injector bore until all coolant is visually evacuated.

1. Perform the fuel pressure release procedure. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 09 - Engine, 2.0L / Fuel System / Standard Procedure.
2. Power down the high voltage system. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 12 - Electrified Powertrain System / High Voltage Battery / Standard Procedure.
3. Drain the engine oil. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 09 - Engine, 2.0L / Lubrication / Standard Procedure.

4. Remove the nut (2) and reposition the transmission oil cooler lines (1) (Figure 1).



1 - Transmission Oil Cooler Lines
2 - Nut

Figure 1 – Transmission Oil Cooler Lines and Fastener

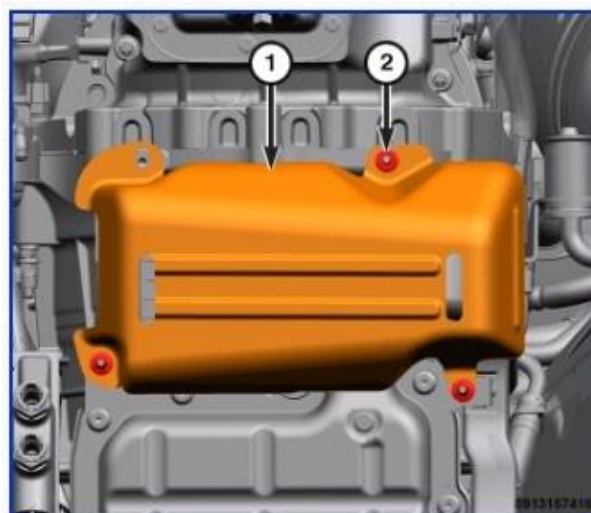
5. Disconnect the transmission oil cooler lines (1) from the transmission heat exchanger (2) using Disconnect, Transmission Cooler Line 8875A (Figure 2).



1 - Transmission Oil Cooler Lines
2 - Transmission Heat Exchanger

Figure 2 – Transmission Oil Cooler Lines to Heat Exchanger

6. Remove the nuts (2) and the wire harness skid plate (1) (Figure 3).

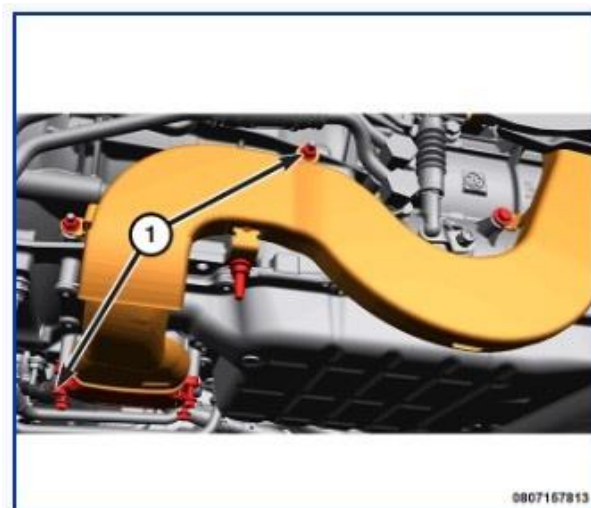


1 – Wire Harness Skid Plate

2 - Nuts

Figure 3 – Wire Harness Skid Plate

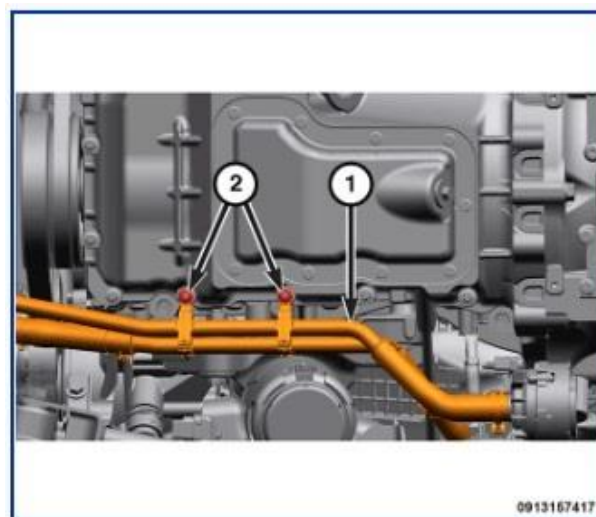
7. Remove the and HV wire harness fasteners (1) (Figure 4).
8. Remove the nut securing the A/C high voltage wire harness to the transmission.



1 - HV Harness Fasteners

Figure 4 – HV Harness

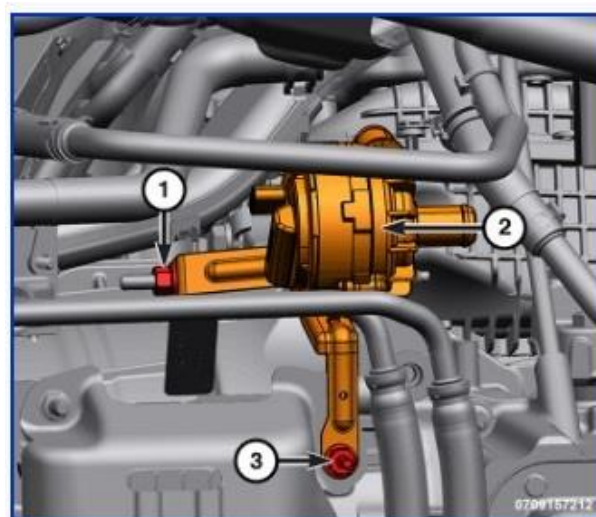
9. Remove two nuts and reposition the coolant hoses (Figure 5).



- 1 - Coolant Hoses
2 - Nuts

Figure 5 – Coolant Hoses

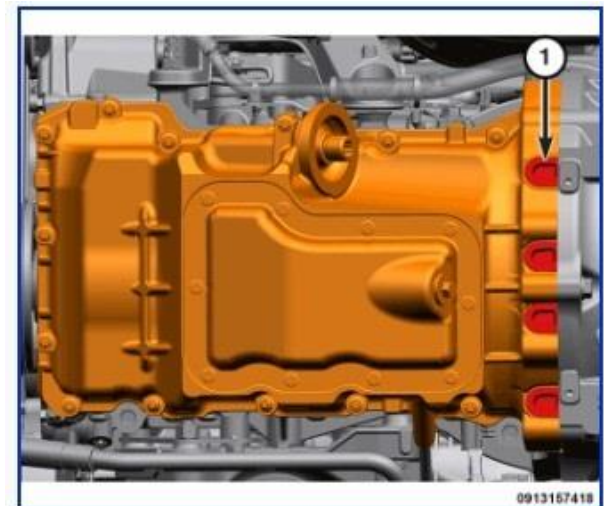
10. Remove the low temperature auxiliary coolant pump 2 stud bolt, nut and position aside the low temperature auxiliary coolant pump 2 (Figure 6).



- 1 - Low Temperature Auxiliary Coolant Pump 2 Nut
2 - Low Temperature Auxiliary Coolant Pump 2
3 - Low Temperature Auxiliary Coolant Pump 2 Stud Bolt

Figure 6 – Low Temperature Auxiliary Coolant Pump

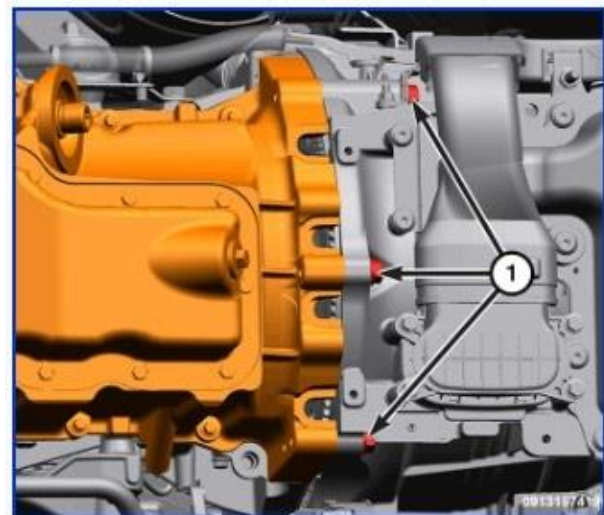
11. Remove the four covers (Figure 7).



1 - Covers

Figure 7 – Covers

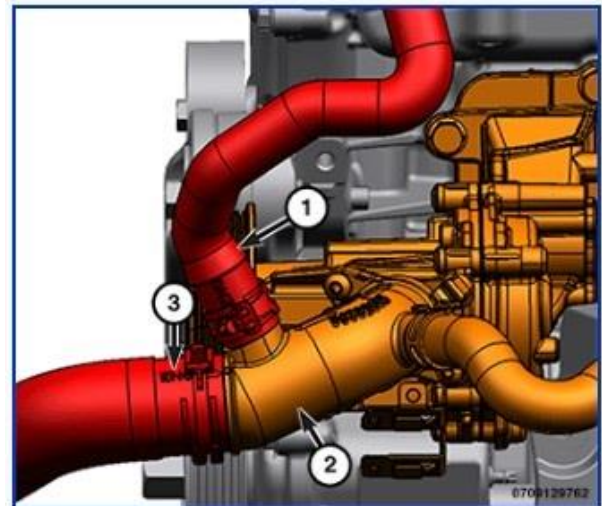
12. Remove the transmission to oil pan bolts (Figure 8).
13. Remove the body. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 23 - Body / Exterior / BODY / Removal and Installation.
14. Remove the catalytic converter. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 11 - Exhaust System / CONVERTER, Catalytic / Removal and Installation.
15. Remove the high voltage wire retainer from coolant hose.



1 - Transmission To Oil Pan Bolts

Figure 8 – Transmission to Oil Pan Bolts

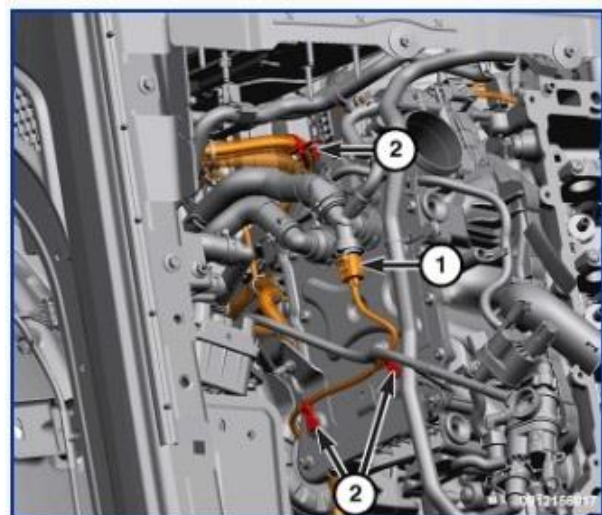
16. Remove the lower radiator hose (3) from the water pump and position aside (Figure 9).
17. Remove the coolant reservoir hose (1) (Figure 9).
18. Remove the high voltage wire retainer from the left engine mount.
19. Remove the high voltage wiring retainer from the coolant hose Y-fitting.
20. Remove the high voltage wiring retainers running along the left side of engine.
21. Remove the A/C Compressor high voltage harness and position aside.



- 1 - Coolant Reservoir Hose
- 2 - Water Pump Inlet Tube
- 3 - Lower Radiator Hose

Figure 9 – Coolant Hoses

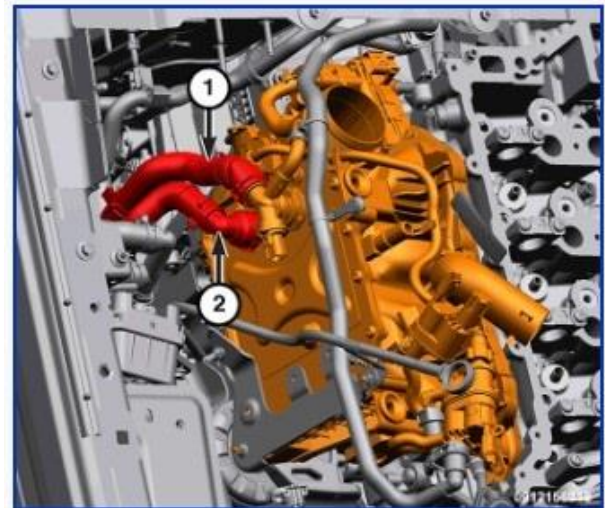
22. Disconnect the CAC coolant temperature sensor wire harness connector (1) and detach the wire harness retainers (2) (Figure 10).
23. Remove the bolt securing the coolant hose.



- 1 - Coolant Temperature Sensor Wire Harness Connector
- 2 - Wire Harness Retainers

Figure 10 – CAC CTS Wire Harness

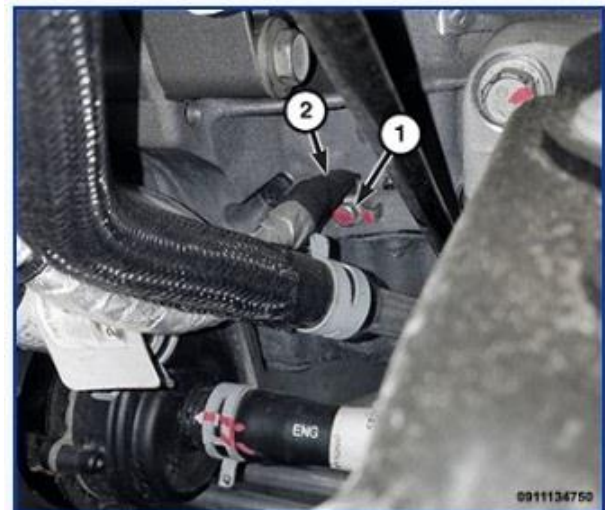
24. Disconnect the coolant outlet hose (1) quick-connect fitting from the Y-fitting then position aside (Figure 11).
25. Disconnect the coolant return hose (2) quick-connect fitting from the Charge Air Cooler (CAC) then position aside (Figure 11).
26. Disconnect the coolant hose from the throttle body.
27. Remove the Motor Generator Unit (MGU) and bracket. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 12 - Electrified Powertrain System / Electric Powertrain Control / MOTORS, Electric Drive / Removal and Installation.



1 - Coolant Outlet Hose
2 - Coolant Return Hose

Figure 11 – Coolant Outlet and Return Hoses

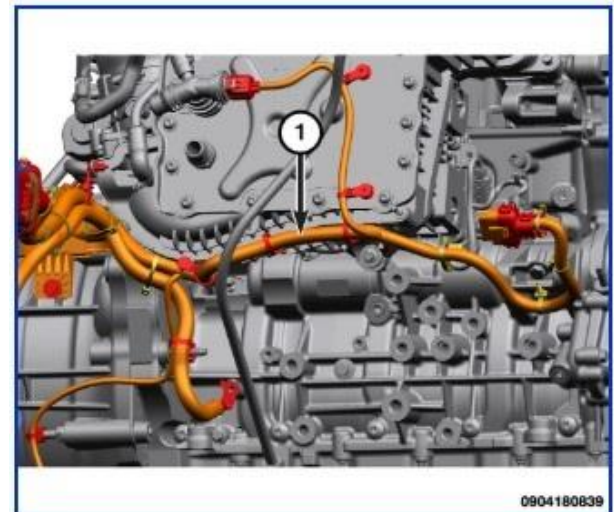
28. Remove the bolt (1) and engine ground cable (2) from the right side of the engine block (Figure 12).



1 - Bolt
2 - Ground Cable

Figure 12 – Engine Ground Cable

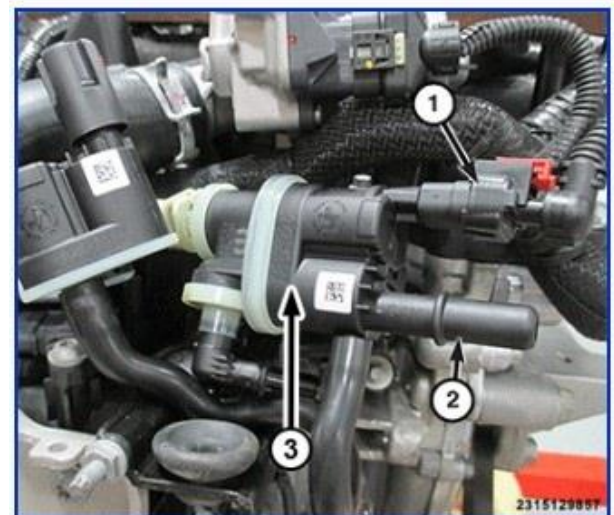
29. Detach the right side engine to transmission wire harness retainers and position aside (Figure 13).



1 - Wire Harness

Figure 13 – Wire Harness

30. Disconnect the fuel vapor purge hose quick coupling from the purge solenoid (Figure 14).
31. Disconnect the purge tube retainers from the intake manifold.



1 - Purge Solenoid Wire Harness Connector

2 - Fuel Vapor Supply Pipe

Figure 14 – Purge Solenoid

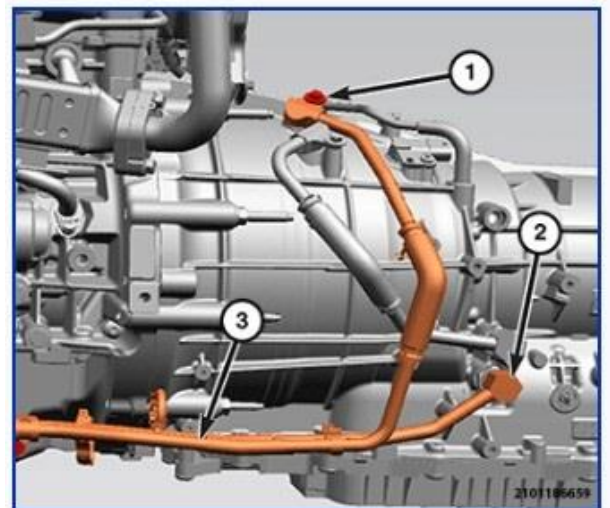
32. Disconnect the fuel vapor purge hose quick-connect fitting (1) at the rear of the engine and remove it (right side) (Figure 15).
33. Position a drain pan.



1 - Fuel Vapor Purge Hose Quick-Connect Fitting

Figure 15 – Fuel Vapor Purge Hose

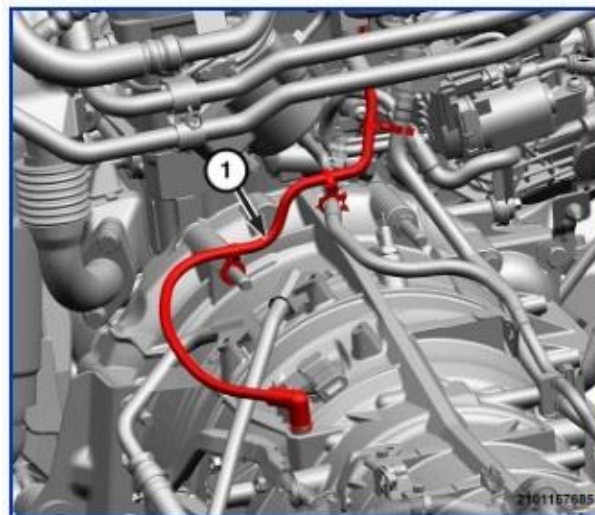
34. Clean any dirt or debris from the areas of the transmission oil cooler line fittings (Figure 16).
35. Remove the transmission oil cooler line to transmission bolts (1) and separate line from transmission (Figure 16).
36. Remove the transmission oil cooler lines (Figure 16).



1 - Transmission Oil Cooler Line to Transmission Bolt
2 - Transmission Oil Cooler Line Quick Connect Fitting
3 - Transmission Oil Cooler Line Bundle

Figure 16 – Transmission Oil Cooler Lines

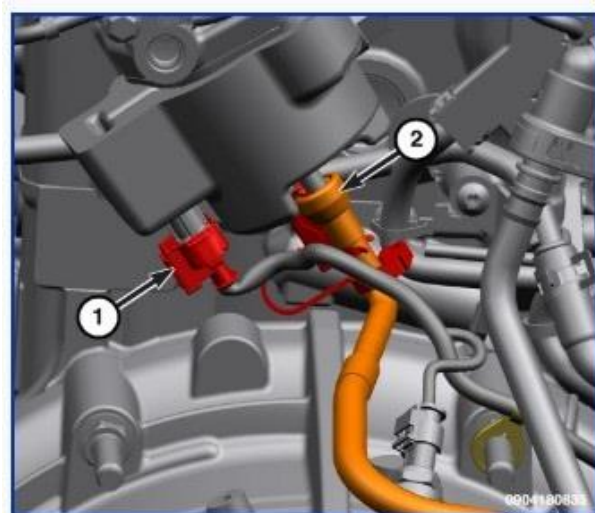
37. Remove the transmission vent tube (1) (Figure 17).



1 - Transmission Vent Tube

Figure 17 – Transmission Vent Tube

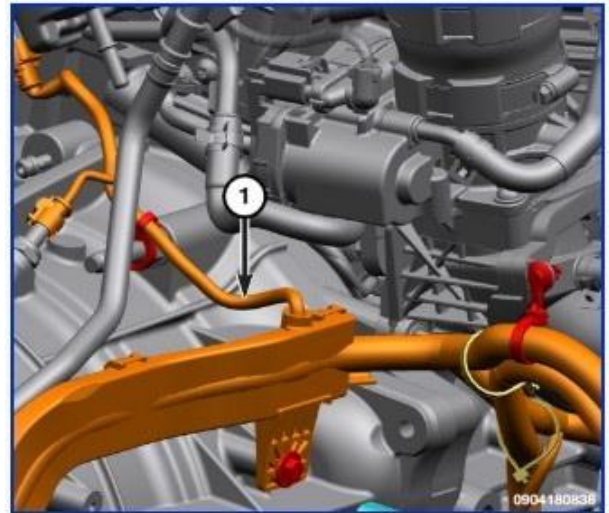
38. Disconnect the fuel pressure regulator wire harness connector (1) (Figure 18).
39. Remove the fuel injection pump cover.
40. Disconnect the front fuel supply pipe using Tool, 2.0L GME Fuel Line Disconnect 2076900140 and remove it from the fuel injection pump.



1 - Fuel Pressure Regulator Wire Harness Connector
2 - Fuel Supply Pipe

Figure 18 – Fuel Pressure Regulator

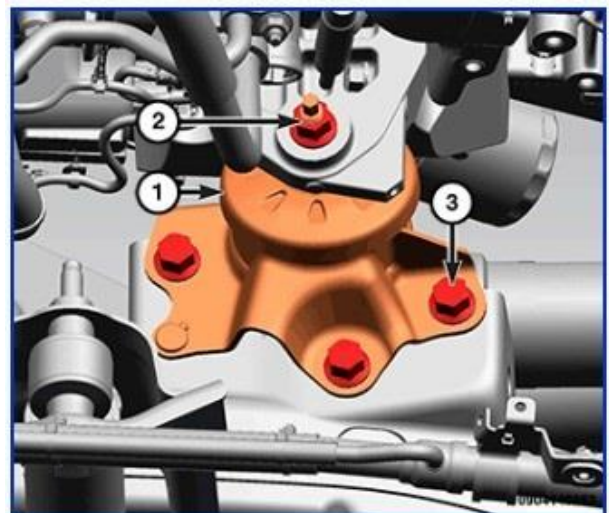
41. Remove the rear engine wire harness retainers on top of the transmission and position aside the wire harness (Figure 19).
42. Remove the bolts and the upper and lower starter hole covers.
43. Remove the upper bell housing bolts.



1 - Rear Engine Wire Harness

Figure 19 – Rear Engine Wire Harness

44. Remove the three bolts from the left engine mount (Figure 20).



1 - Left Engine Mount

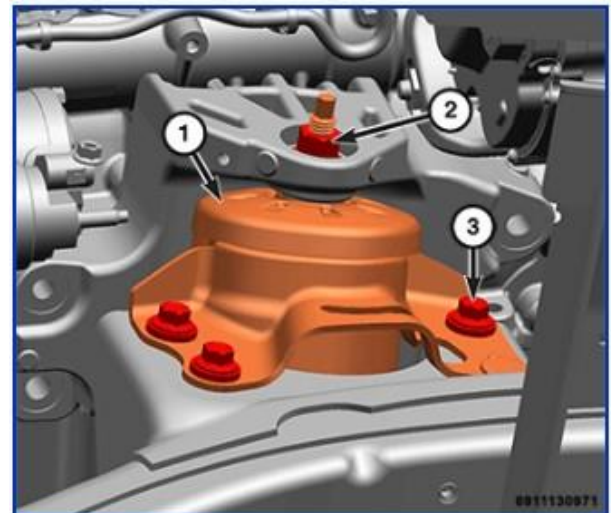
2 - Nut

3 - Bolt

Figure 20 – Left Engine Mount

45. Remove the three bolts (3) from the right engine mount insulator (1) (Figure 21).
46. Detach the engine wire harness retainers from the front of the engine.
47. Install suitable engine lifting brackets to the engine and position a load-leveling lifting sling to the engine.
48. Position the engine hoist and attach the load-leveling lifting sling to the engine hoist.

NOTE: Place a cushion on the jack to avoid damage to the transmission oil pan.



- 1 - Right Engine Mount
- 2 - Nut
- 3 - Bolt

Figure 21 – Right Engine Mount

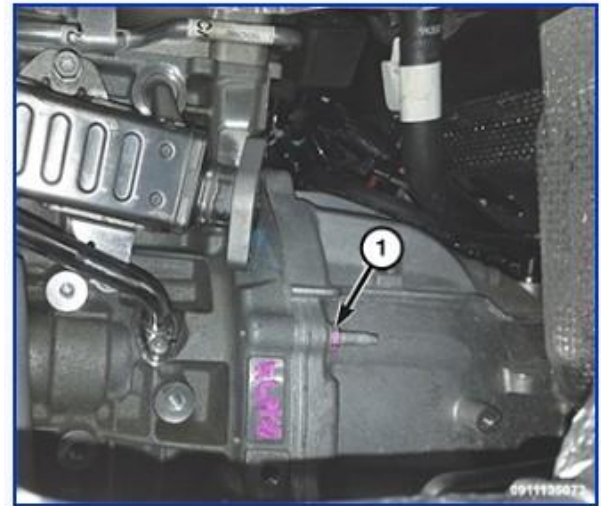
49. Support the transmission with a suitable jack (Figure 22).
50. Slightly raise the engine and transmission.



- 1 - Jack
- 2 - Cushion

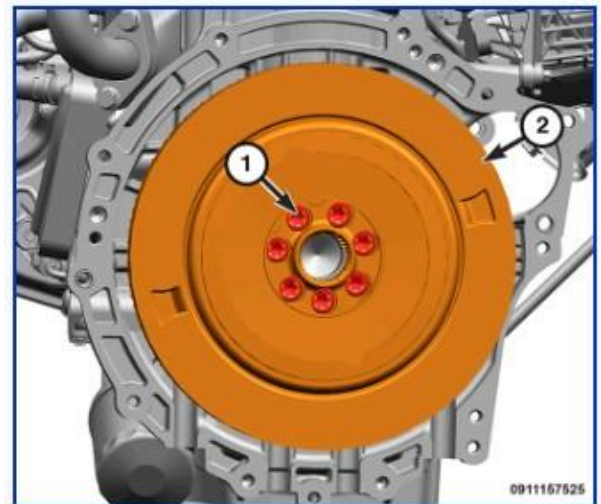
Figure 22 – Jack Under Transmission Pan

51. Remove the remaining engine to bell housing bolts (Figure 23).
52. Lift the engine with the engine hoist while simultaneously raising the transmission with the floor jack until the engine mount insulators are clear of the frame rails.
53. Disengage the engine from the transmission alignment dowels and carefully remove the engine from the engine bay.
54. Remove the necessary components for transfer, such as:
 - Remove the A/C compressor
 - Remove the bolts and the left engine mount bracket
 - Remove the bolts and the right engine mount bracket
 - Remove the bolts and the torsional damper. Discard the bolts, they cannot be reused (Figure 24).



1 - Engine To Bell Housing Bolts

Figure 23 – Bell Housing Bolts



1 - Bolts
2 - Torsional Damper

Figure 24 – Torsional Damper

C. Engine Replacement – Long Block (JL) - Installation

1. Prepare the long block for installation by transferring parts from the old engine to the new. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 09 - Engine, 2.0L / Engine Assembly / Removal and Installation – Long Block Replacement.
2. Carefully lower the engine into the engine bay and engage the engine to the transmission alignment dowels.
3. Install the bell housing bolt and tighten to 48 N·m (35 ft. lbs.) (Figure 23).
4. Install and tighten the three right engine mount insulator bolts (3) and tighten to 55 N·m (41 ft. lbs.) (Figure 21).
5. Install and tighten the three left engine mount insulator bolts (3) and tighten to 55 N·m (41 ft. lbs.) (Figure 20).
6. Remove the floor jack from under the transmission (Figure 22).
7. Install the upper bell housing bolts and tighten to 48 N·m (35 ft. lbs.).
8. Install the upper starter hole cover and tighten the bolts to:
 - Upper bolt to 25 N·m (18 ft. lbs.)
 - Lower bolt 48 N·m (35 ft. lbs.)
9. Install lower starter hole cover and tighten the bolts 25 N·m (18 ft. lbs.).
10. Install the rear engine wire harness on top of the transmission and secure all retainers (Figure 19).
11. Connect the fuel supply pipe (2) to the fuel injection pump (Figure 18).
12. Install the fuel injection pump cover.
13. Connect the fuel pressure regulator wire harness connector (1) (Figure 18).
14. Install the transmission vent tube (Figure 17).
15. Install the transmission oil cooler lines (Figure 16).
16. Install the transmission oil cooler line to transmission and tighten the bolt (1) to 11 N·m (8 ft. lbs.) (Figure 16).
17. Remove the drain pan.
18. Connect the fuel vapor purge hose quick-connect fitting (1) at the rear of the engine. (right side) (Figure 15).
19. Connect the purge tube retainers to the intake manifold.
20. Connect the fuel vapor purge hose quick coupling to the purge solenoid (Figure 14).
21. Position the right side engine harness and attach the wire harness retainers (Figure 13).
22. Install the engine ground cable to the right side of the engine block and tighten the bolt (Figure 12).

23. Install the MGU and bracket. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 12 - Electrified Powertrain System / Electric Powertrain Control / MOTORS, Electric Drive / Removal and Installation.
24. Connect the coolant hose to the throttle body.
25. Connect the coolant supply hose quick-connect fitting to the CAC (Figure 11).
26. Connect the coolant outlet hose (1) quick-connect fitting to the Y-fitting (Figure 11).
27. Install the bolt securing the coolant hose.
28. Connect the Charge Air Cooler (CAC) coolant temperature sensor wire harness connection (1) and attach the wire harness retainers (Figure 10).
29. Install the A/C Compressor high voltage harness.
30. Install the high voltage wiring retainers running along the left side of engine.
31. Install the high voltage wiring retainer from the coolant hose Y-fitting.
32. Install the high voltage wire retainer from the left engine mount.
33. Install the coolant reservoir hose (1) to the water pump inlet tube (2) and secure the clamp (Figure 9).
34. Install the lower radiator hose (2) to the water pump inlet tube (2) and secure the clamp (Figure 9).
35. Install the high voltage wire retainer to the coolant hose.
36. Install the catalytic converter. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 11 - Exhaust System / CONVERTER, Catalytic / Removal and Installation.
37. Install the body. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 23 - Body / Exterior / BODY / Removal and Installation.
38. Install the three lower transmission to oil pan bolts. Tighten to 48 N·m (35 ft. lbs.) (Figure 8).
39. Install the four covers (Figure 7).
40. Install the low temp auxiliary coolant pump No. 2 and tighten the stud bolt and nut to 10 N·m (7 ft. lbs.) (Figure 6).
41. Install the coolant hoses and tighten the two nuts to 5 N·m (44 in. lbs.) (Figure 5).
42. Install the nut securing the A/C high voltage wire harness to the transmission (Figure 4).
43. Install the and HV wire harness fasteners.
44. Install the wire harness skid plate and tighten the three nuts to 25 N·m (18 ft. lbs.) (Figure 3).
45. Connect the transmission oil cooler lines to the transmission heat exchanger (Figure 2).
46. Install the transmission oil cooler lines and tighten the nut to 5 N·m (44 in. lbs.) (Figure 1).

-
47. Fill the low temp cooling system. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 09 - Engine, 2.0L / Cooling System / Low Temperature Cooling System / Standard Procedure.
 48. Fill the engine cooling system. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 09 - Engine, 2.0L / Cooling System / Engine Cooling / Standard Procedure.
 49. Power up the high voltage system. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 12 - Electrified Powertrain System / High Voltage Battery / Standard Procedure.
 50. Evacuate and charge the refrigerant system. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 24 - Heating and Air Conditioning / Plumbing / Standard Procedure.
 51. Fill the engine crankcase with the proper oil to the correct level. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 04 - Vehicle Quick Reference / Capacities and Recommended Fluids / Specifications.
 52. Remove the support and lower the vehicle.
 53. Start the engine and check for leaks.

SERVICE PROCEDURE

D. Engine Replacement (WL) - Removal

WARNING: Part of this recall population contains hybrid vehicles. Follow all safety precautions published in Service Library for the specific vehicle you are working on.

Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 04 - Vehicle Quick Reference / Hoisting / Standard Procedure.

WARNING: Before performing any diagnostic or service procedure, you must thoroughly read and follow all applicable high voltage safety procedures. You must perform the high voltage power down procedures.

Loss of Isolation (LOI) must be performed before high voltage power up in cases where service has been performed on a high-voltage component or when diagnosing a LOI condition.

Be sure to use the proper safety equipment when working on any high voltage system or component. Failure to do so may result in serious or fatal injury.

Wait a minimum of two minutes after performing the high voltage battery disconnect procedure before attempting to access the high voltage system. Failure to do so may result in serious or fatal injury.

CAUTION: Do not allow coolant to come in contact with any high voltage component electrical connections. Engine coolant will create a conductive path and cannot be effectively removed resulting in a loss of isolation and replacement of the contaminated high voltage component.

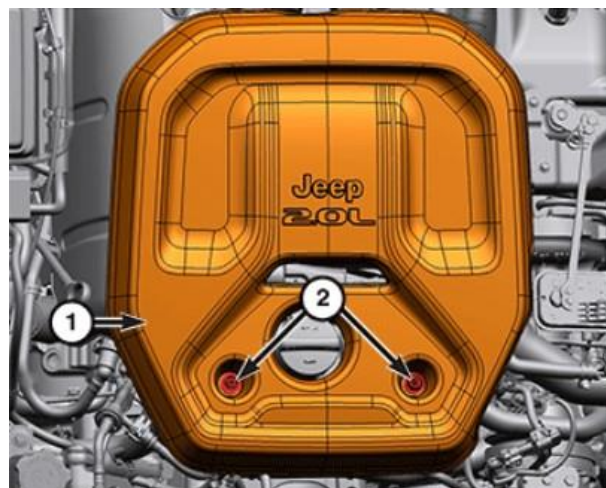
CAUTION: To prevent coolant pooling in the injector bore(s), place an absorbent towel in the valley and over the injector bores. If coolant is accidentally spilled over top of the engine, apply compressed air into each injector bore until all coolant is visually evacuated.

NOTE: The air suspension system can be disabled and enabled by using the Display Screen Module (DSM) in the vehicle under Tire Jack Mode, which is the preferred method. If the disable level control routine in the diagnostic scan tool is used, it will only disable the level control (automatic and manual) for that ignition cycle. The air suspension system can also be enabled by driving the vehicle above 8 km/h (5 mph). The air suspension must be disabled prior to lifting the vehicle or performing any work.

1. With a diagnostic scan tool, using the routines under the Air Suspension Control Module (ASCM), perform the following:
 - Disable Level Control
 - Spring Deflate To Reservoir
2. Power down the HV system. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 12 - Electrified Powertrain System / High Voltage Battery / Standard Procedure.
3. Drain the engine cooling system. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 09 - Engine, 2.0L / Cooling System / Engine Cooling / Standard Procedure.
4. Drain the low temp cooling system. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 09 - Engine, 2.0L / Cooling System / Low Temperature Cooling System / Standard Procedure.

5. Recover the A/C system refrigerant. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 24 - Heating and Air Conditioning / Standard Procedure.
6. Remove the PHEV Integrated Dual Charging Module (IDCM) skid plate. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 23 - Body / Exterior / PANELS, Underbody Protection / Removal and Installation.
7. Remove the PHEV front suspension skid plate. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 23 - Body / Exterior / PANELS, Underbody Protection / Removal and Installation.
8. Remove the PHEV stabilizer bar skid plate. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 23 - Body / Exterior / PANELS, Underbody Protection / Removal and Installation.
9. Remove the PHEV transmission skid plate. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 23 - Body / Exterior / PANELS, Underbody Protection / Removal and Installation.
10. Remove the PHEV transfer case skid plate. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 23 - Body / Exterior / PANELS, Underbody Protection / Removal and Installation.
11. Remove the PHEV secondary battery skid plate. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 23 - Body / Exterior / PANELS, Underbody Protection / Removal and Installation.
12. Remove the PHEV main battery skid plate. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 23 - Body / Exterior / PANELS, Underbody Protection / Removal and Installation.
13. Remove the transmission crossmember support. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 13 - Frame and Bumpers / Frame / CROSSMEMBER / Removal and Installation.
14. Remove the rear drive shaft. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 03 - Differential and Driveline / SHAFTS, Axle/Drive/Half / Removal and Installation.

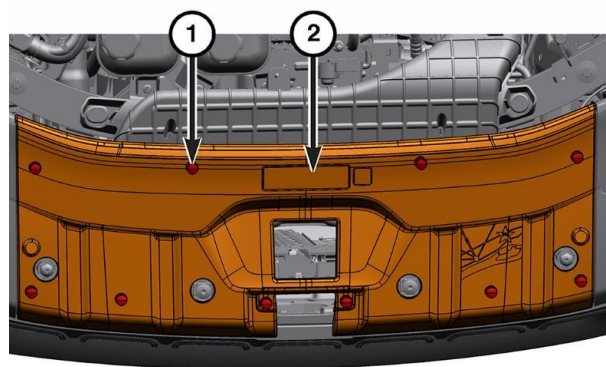
15. Remove the bolts (2) and the top engine cover (1) (Figure 25).



- 1 - Top Engine Cover
2 - Top Engine Cover Bolts

Figure 25 – Engine Cover

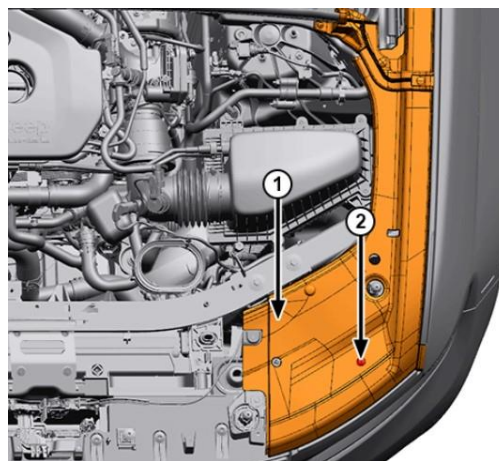
16. Remove the push pin retainers (1) and the center close out panel (2) (Figure 26).



- 1 - Push Pin Fasteners
2 - Upper Radiator Seal

Figure 26 – Center Close Out Panel

17. Remove the push pin retainers (2) and the left and right side close out panels (2) (Figure 27).

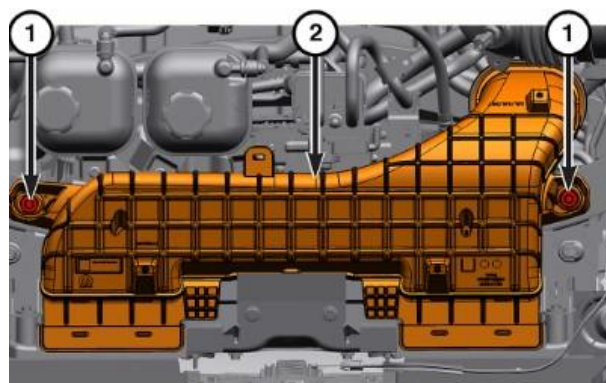


1 - Side Close Out Panel

2 - Push Pin Fasteners

Figure 27 – Center Close Out Panel

18. Remove the bolts (1) and the intake air tube (2) (Figure 28).

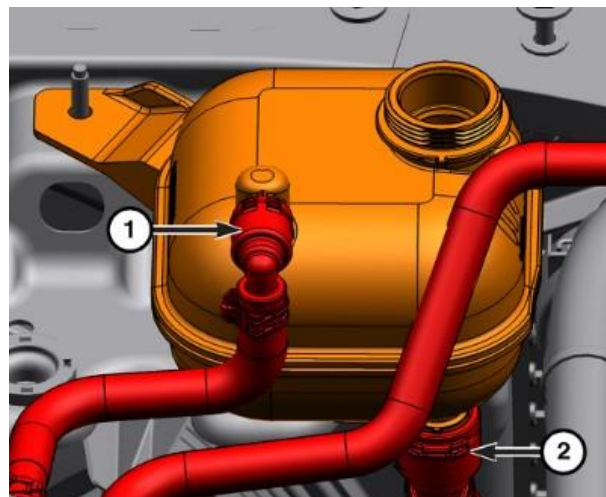


1 - Intake Air Tube Bolts

2 - Intake Air Tube

Figure 28 – Intake Air Tube

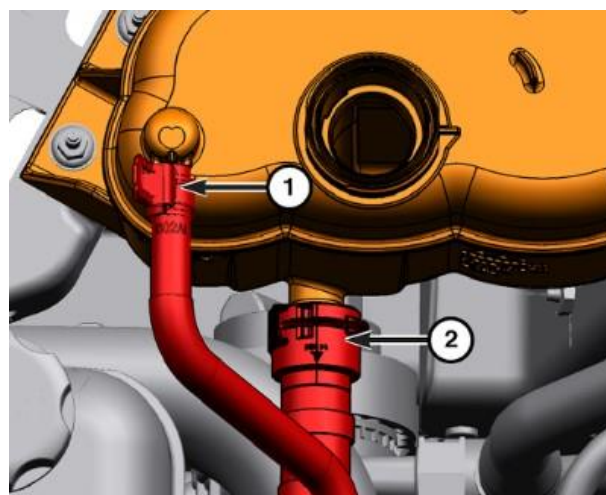
19. Disconnect the low temperature coolant vent hose (1) from the coolant bottle (Figure 29).
20. Disconnect the lower coolant hose (2) and detach the hose retainers (Figure 29).



- 1 - Coolant Vent Hose
2 - Lower Coolant Hose

Figure 29 – Coolant Vent Hose

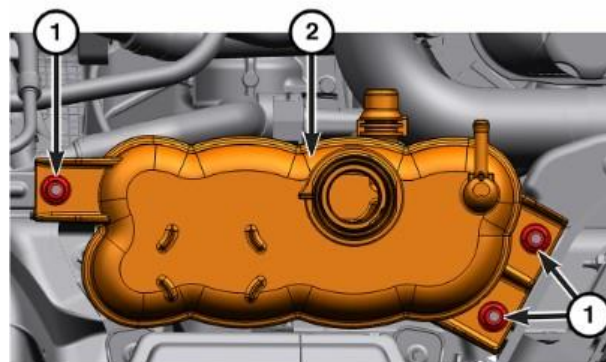
21. Disconnect the coolant vent hose (1) (Figure 30).



- 1 - Coolant Vent Hose
2 - Lower Coolant Hose

Figure 30 – Coolant Vent Hose

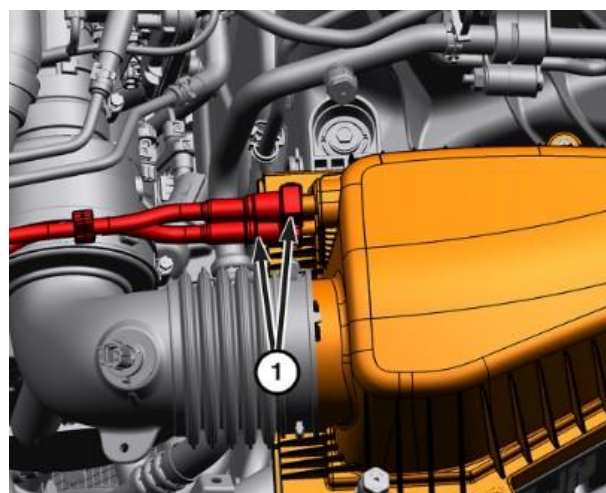
22. Remove the nuts (1) and the pressurized coolant bottle (2) (Figure 31).



- 1 - Pressurized Coolant Bottle Nuts
2 - Pressurized Coolant Bottle

Figure 31 – Pressurized Coolant Bottle

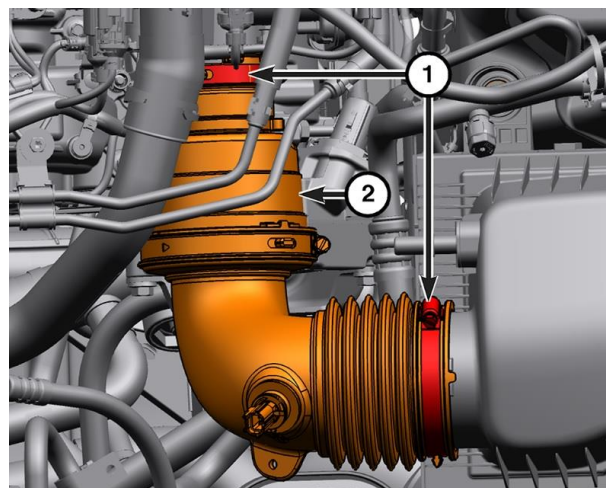
23. Disconnect the two boost vacuum purge tube quick connect fittings (1) from the air cleaner body cover (Figure 32).
24. Disconnect the Inlet Air Temperature (IAT) sensor wire harness connector and detach the wire harness retainer.



- 1 - Boost Vacuum Purge Tube Quick Connect Fittings

Figure 32 – Air Cleaner Body Cover

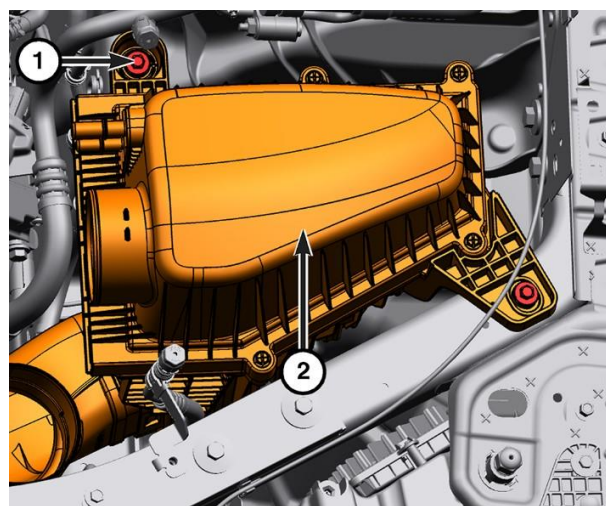
25. Loosen the clamps (1) and remove the clean air hose (2) (Figure 33).



- 1 - Clean Air Hose Clamps
2 - Clean Air Hose

Figure 33 – Clean Air Hose

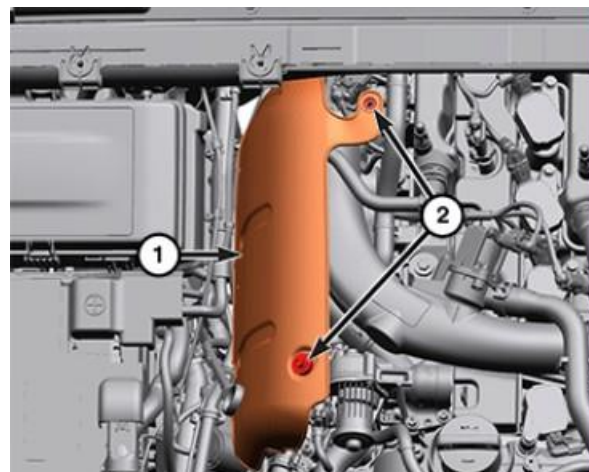
26. Remove the bolts (1) and the air cleaner body (2) (Figure 34).
27. Detach the retainers and position aside the transmission vent hose.



- 1 - Air Cleaner Body Bolts
2 - Air Cleaner Body

Figure 34 – Air Cleaner Body

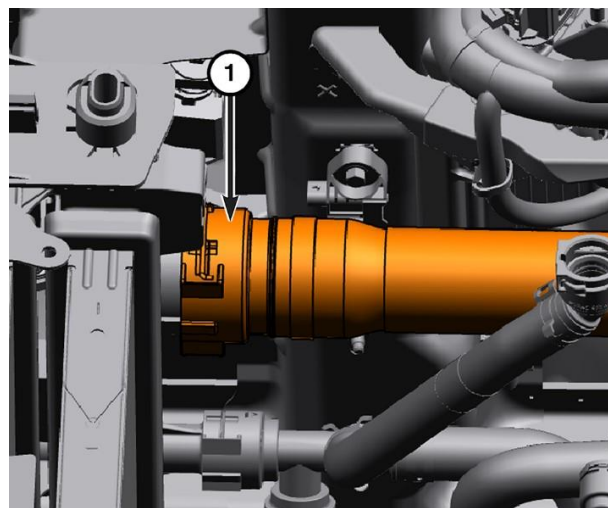
28. Remove the bolts (2) and right side engine cover (1) (Figure 35).
29. Disconnect the EVAP jumper line quick connect fittings and remove the EVAP jumper line.
30. Disconnect the vacuum line quick connect fitting from the intake manifold.
31. Disconnect the EVAP line quick connect fitting from the purge solenoid.



1 - Side Engine Cover
2 - Side Engine Cover Bolts

Figure 35 – Engine Side Cover

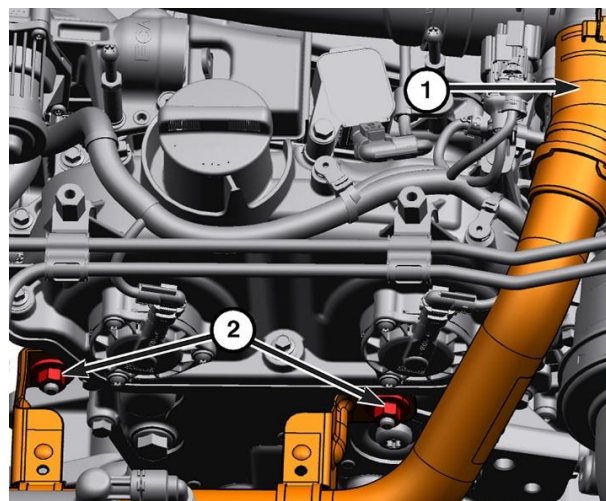
32. Disconnect the upper radiator hose (Figure 36).



1 - Upper Radiator Hose

Figure 36 – Upper Radiator Hose

33. Disconnect the upper radiator hose (1) from the thermostat housing (Figure 37).
34. Remove the nuts (2) and the coolant tube. (Figure37).



- 1 - Radiator Coolant Hose
2 - Coolant Tube Nuts

Figure 37 – Coolant Tube

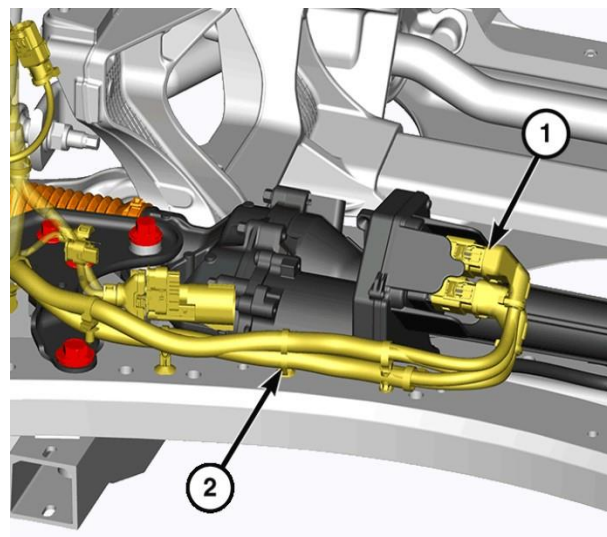
35. DO NOT disconnect the torque sensor wire harness connector (1) (Figure 38).



- 1 - Torque Sensor Wire Harness Connector

**Figure 38 – Torque Sensor Wire
Harness Connector**

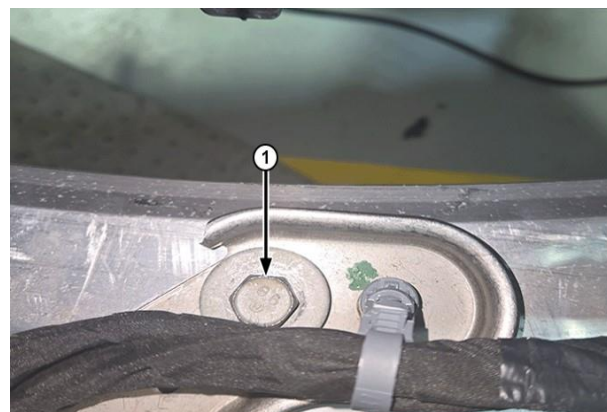
36. Disconnect the steering gear wire harness connectors and detach the wire harness retainers from the crossmember (Figure 39).



- 1 - Wire Harness Connectors
2 - Wire Harness Retainers

Figure 39 – Steering Gear Wire Harness Connector

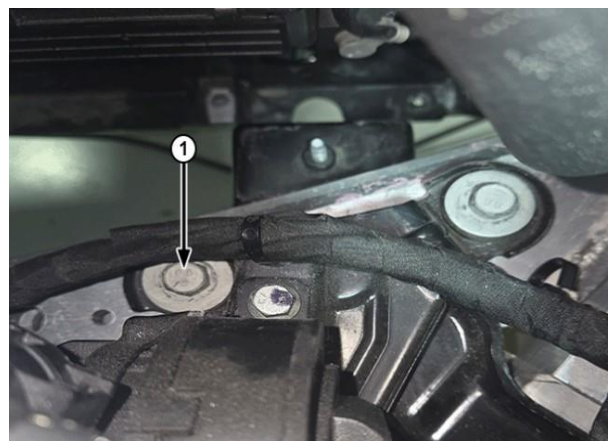
37. Remove the bolts securing the coolant line bracket to crossmember (Figure 40).



- 1 - Coolant Line Bracket Bolt

Figure 40 – Coolant Line Bracket

38. Remove the bolts (1) securing the auxiliary coolant pump to crossmember (Figure 41).



1 - Auxiliary Coolant Pump Bolts

Figure 41 – Aux Coolant Pump Bolts

39. Disconnect the PCM wire harness connector (1) (Figure 42).



1 - PCM Wire Harness Connector

Figure 42 – PCM Connector

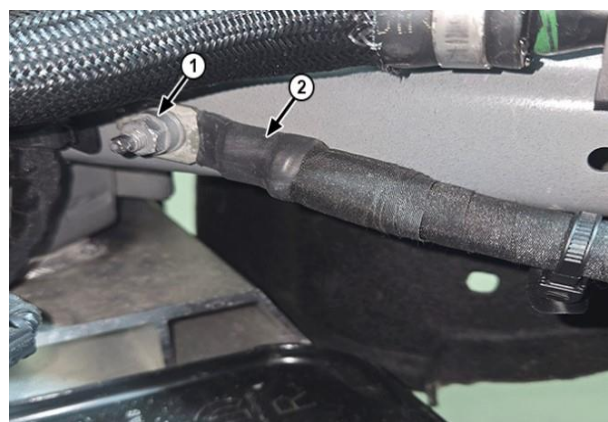
40. Disconnect the two wire harness connectors (1) by the PCM (Figure 43).



1 - Wire Harness Connectors

Figure 43 – Harness Connectors

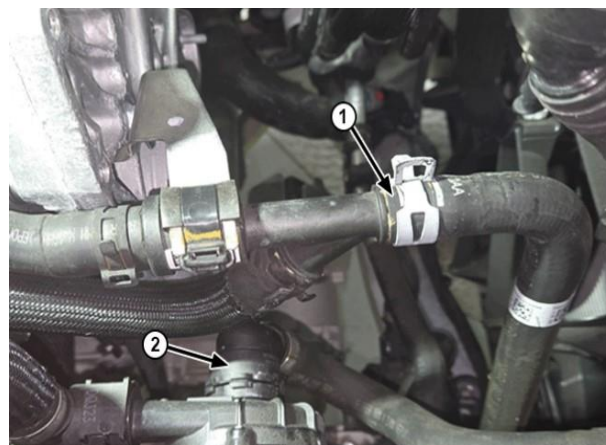
41. Remove the nut (1) securing the ground wire (2) to the right front frame rail. Then detach the wire harness retainer (Figure 44).



1 - Ground Wire Nut
2 - Ground Wire

Figure 44 – Ground Wire

42. Disconnect the coolant hose at the MGU tensioner (1) (Figure 45).
43. Disconnect the coolant hose from the auxiliary coolant pump (2) (Figure 45).



- 1 - Coolant Hose
2 - Coolant Hose

Figure 45 – Coolant Hose

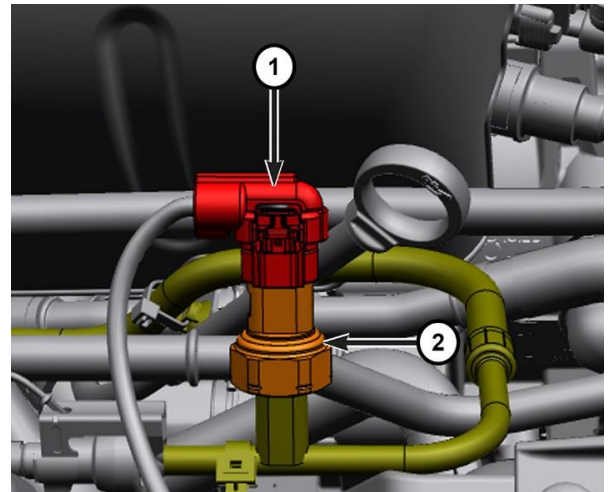
44. Disconnect the coolant hose to (1) the Charge Air Cooler (CAC) by shock tower (Figure 46).



- 1 - Coolant Hose

Figure 46 – Coolant Hose

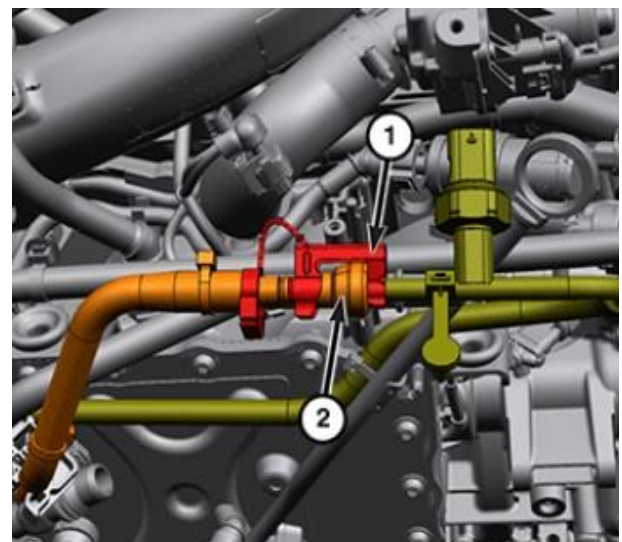
45. Disconnect the fuel pressure sensor wire harness connector (1) and detach the fuel line retainer (Figure 47).



- 1 - Fuel Pressure Sensor Wire Harness Connector
2 - Fuel Pressure Sensor

Figure 47 – Fuel Pressure Sensor Wire

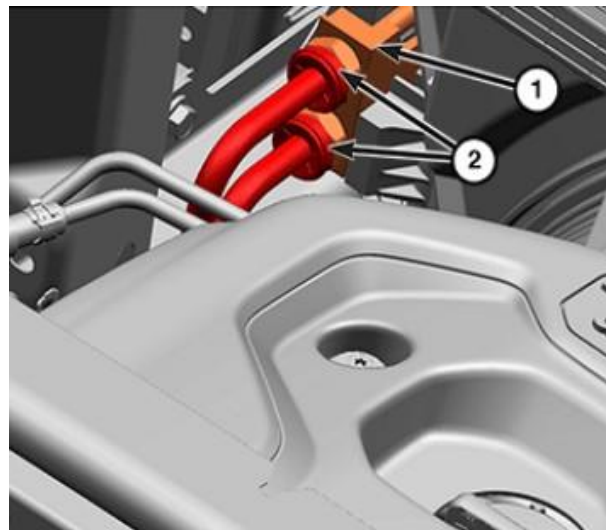
46. Remove the fuel line safety lock (1) (Figure 48).
47. Disconnect the front fuel supply line quick-connect fitting (2) (Figure 48).



- 1 - Fuel Line Safety Lock
2 - Fuel Supply Line Quick-Connect Fitting

Figure 48 – Front Fuel Supply Line

48. Disconnect the transmission oil cooler lines (2) from the transmission oil cooler (1) using Disconnect Tool 9546 (Figure 49).



- 1 - Transmission Oil Cooler
2 - Transmission Oil Cooler Lines

Figure 49 – Transmission Oil Cooler Lines

49. Disconnect the lower radiator hose (1) from the radiator (Figure 50).



- 1 - Lower Radiator Hose

Figure 50 – Lower Radiator Hose

50. Disconnect the coolant hose (1) from the front of the water pump (Figure 51).



1 - Coolant Hose

Figure 51 – Coolant Hose at Water Pump

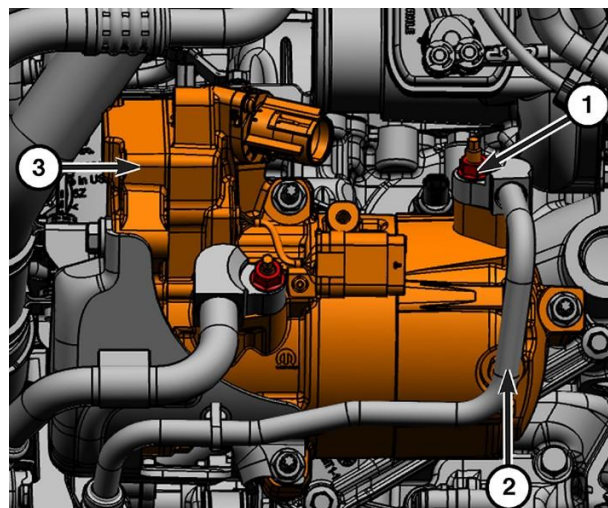
51. Disconnect the A/C compressor high voltage wire harness connector (1) (Figure 52).



1 - A/C Compressor High Voltage Wire Harness Connector

Figure 52 – Compressor High Voltage Connector

52. Remove the nuts (1) and the A/C discharge line (2) and A/C suction jumper from the compressor (3) (Figure 53).



- 1 - Nuts
- 2 - A/C Lines
- 3 - A/C Compressor

Figure 53 – A/C Lines

53. Remove the bolt (1) and the intermediate shaft from the steering gear (Figure 54).



- 1 - Intermediate Shaft Bolt

Figure 54 – Intermediate Shaft

54. Disconnect the coolant hose (1) from the top of the turbocharger (Figure 55).



1 - Coolant Hose

Figure 55 – Coolant Hose

55. Disconnect the O2 sensor wire harness connector (1) and detach the wire harness retainers (Figure 56).
56. Remove the front fascia. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 23 - Body / Exterior / BUMPER/FASCIA / Removal and Installation.

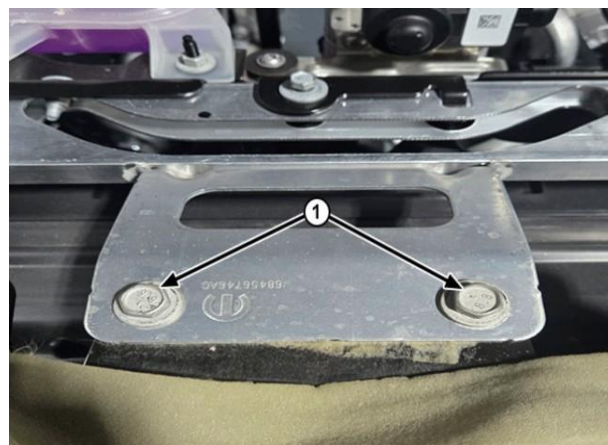


1 - O2 Sensor Wire Harness Connector

Figure 56 – O2 Wire Harness Connector

57. Remove the radiator crossmember front two bolts (1) (Figure 57).

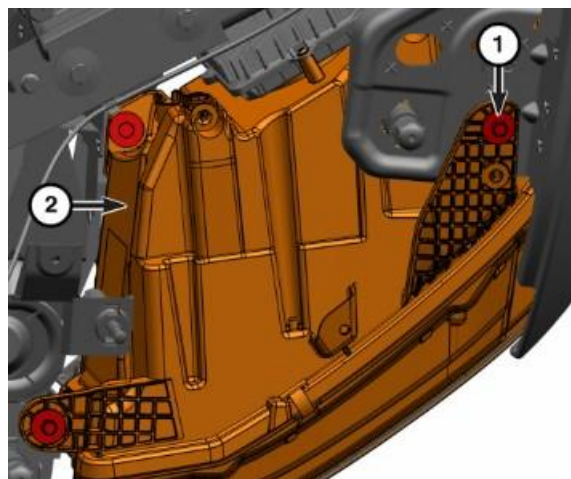
58. Remove the right side lower inner highlight bolt.



1 - Bolts

Figure 57 – Radiator Crossmember Bolts

59. Remove the left side lower inner highlight bolt (1) (Figure 58).



1 - Fasteners
2 - Headlamp Unit

Figure 58 – Lower Inner Bolt

60. Loosen the right side tow hook bolts (1) (Figure 59).



1 - Tow Hook Bolts

Figure 59 – Right Tow Hook Bolts

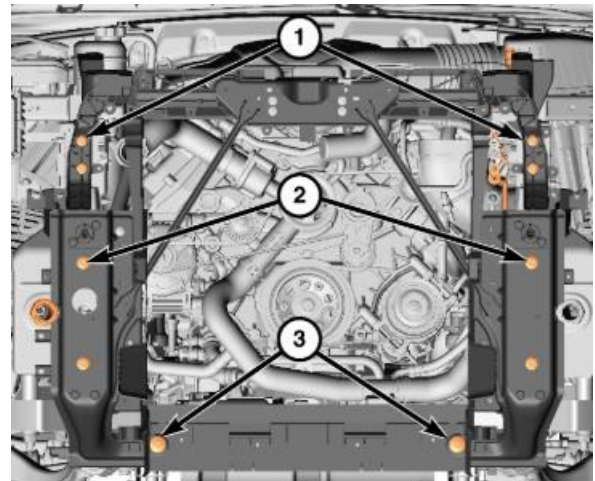
61. Loosen the left side tow hook bolts (1) (Figure 60).



1 - Tow Hook Bolts

Figure 60 – Left Tow Hook Bolts

62. Remove the radiator closure panel bolts (1, 2 and 3) and position it forward and secure (Figure 61).

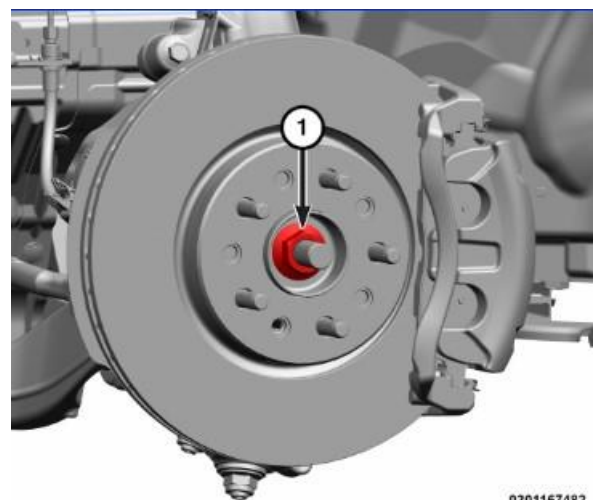


- 1 - Radiator Closure Panel Upper Bolts M8x1.25x45
- 2 - Radiator Closure Panel Side Bolts M10x1.5x35
- 3 - Radiator Closure Panel Lower Bolts M8x1.25x47

Figure 61 – Radiator Closure Panel Bolts

63. Remove and **DISCARD** the left halfshaft hub nut (1) (Figure 62).

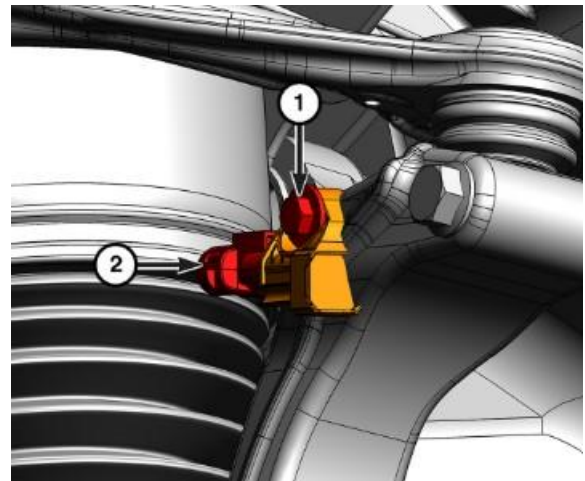
NOTE: The halfshaft splines may be stuck and must be released from the bearing spline prior to proceeding with further removal steps. **NEVER** strike the halfshaft stem directly with a hammer!



- 1 - Halfshaft Hub and Bearing Nut

Figure 62 – Halfshaft Nut

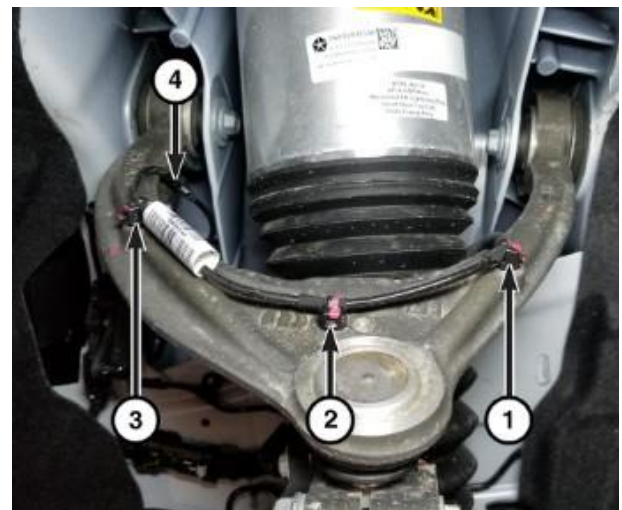
64. Disconnect the left active damping sensor wire harness connectors (2) (if equipped with Air Suspension) (Figure 63).
65. Remove the bolt and the left front speed sensor.
66. Remove the bolts and the left side brake caliper.



1 - Active Damper Sensor Bolt
2 - Wire Harness Connector

Figure 63 – Left Active Damping Sensor Wire Harness Connector

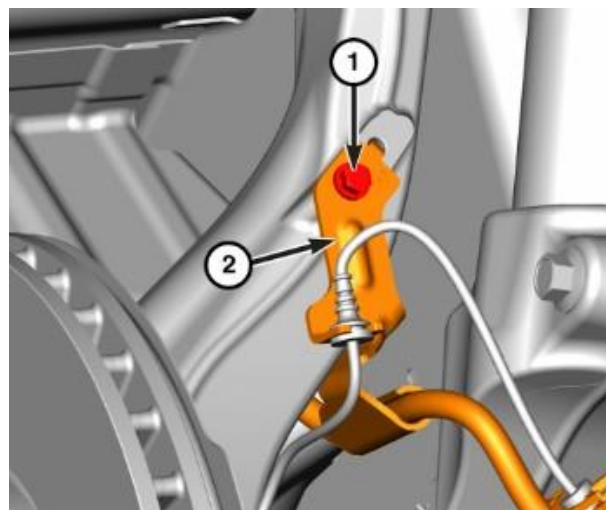
67. Detach the wire harness routing clips (1-4) from the left upper control arm (if equipped with Air Suspension) (Figure 64).



1-4 - Wire Harness Routing Clips

Figure 64 – Left Upper Control Arm

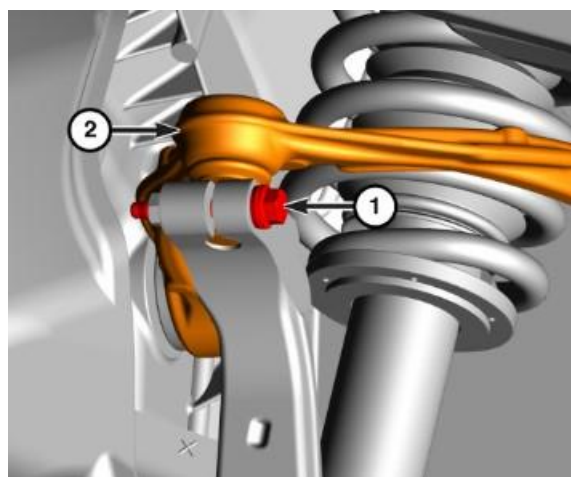
68. Remove the bolt (1) and the left brake line bracket (2) from the steering knuckle (Figure 65).



- 1 - Brake Line Bracket Bolt
2 - Brake Line Bracket

Figure 65 – Left Brake Line Bracket

69. Remove the bolt and separate the left ball joint from the steering knuckle (Figure 66).



- 1 - Steering Knuckle Pinch Bolt
2 - Upper Control Arm

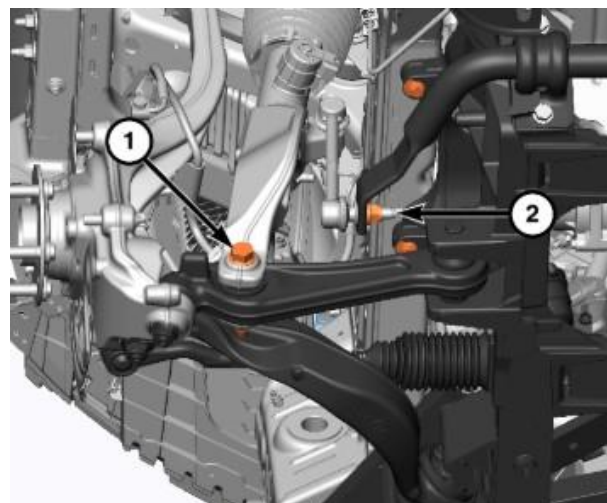
Figure 66 – Left Ball Joint

70. Remove the left clevis lower bolt (1) (Figure 67).

71. Pull back the steering knuckle and slide the left halfshaft from the hub.

CAUTION: Avoid over angulating the C/V joints when handling the halfshaft.

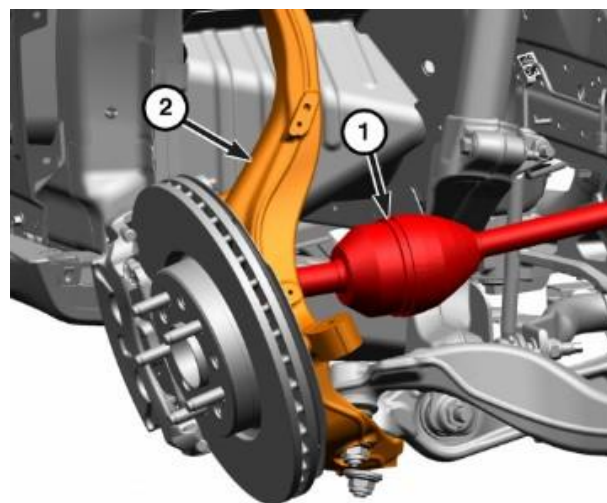
Halfshafts exposed to battery acid, transmission fluid, brake fluid, differential fluid or gasoline may cause the boots to deteriorate. Failure to follow these instructions will result in damage.



1 - Clevis Lower Bolt
2 - Tension Link

Figure 67 – Left Lower Clevis

72. Remove the left halfshaft from the front axle disconnect and remove from vehicle (Figure 68).

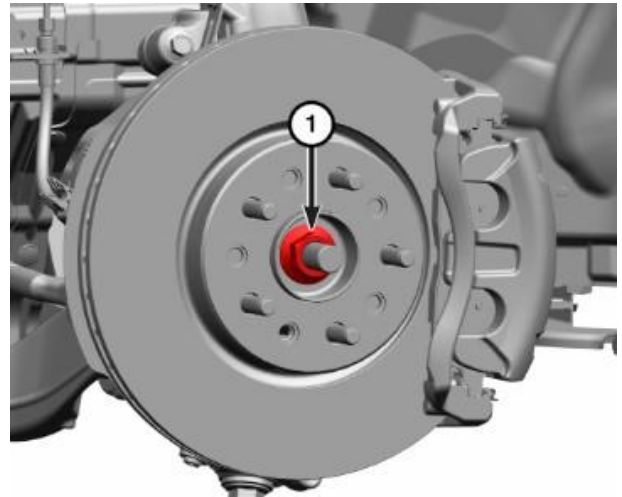


1 - Front Halfshaft
2 - Steering Knuckle

Figure 68 – Left Halfshaft

73. Remove and **DISCARD** the right halfshaft hub nut (Figure 69).

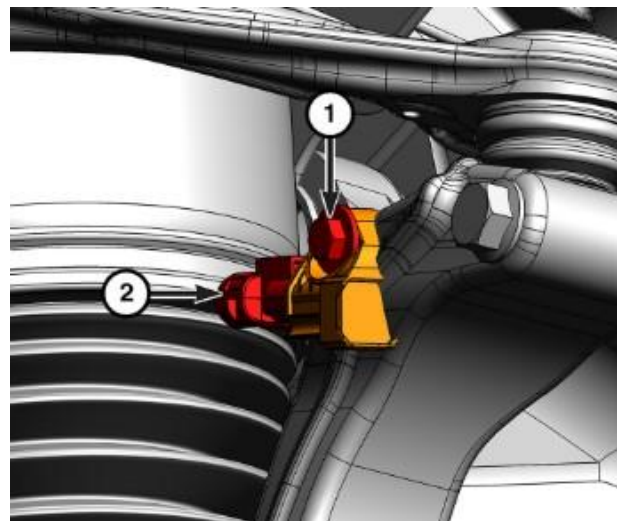
NOTE: The halfshaft splines may be stuck and must be released from the bearing spline prior to proceeding with further removal steps. **NEVER** strike the halfshaft stem directly with a hammer!



1 - Halfshaft Hub and Bearing Nut

Figure 69 – Right Halfshaft

74. Disconnect the right active damping sensor wire harness connectors (2) (if equipped with Air Suspension) (Figure 70).



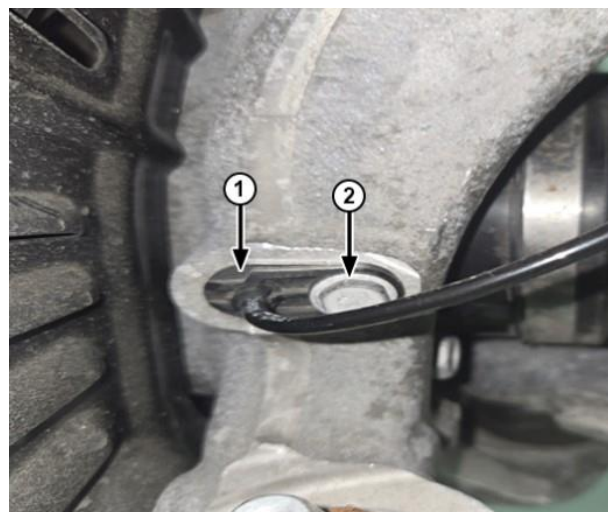
1 - Active Damper Sensor Bolt

2 - Wire Harness Connector

Figure 70 – Right Active Damping Sensor Wire Harness Connector

75. Remove the bolt (2) and the right front speed sensor (1) (Figure 71).

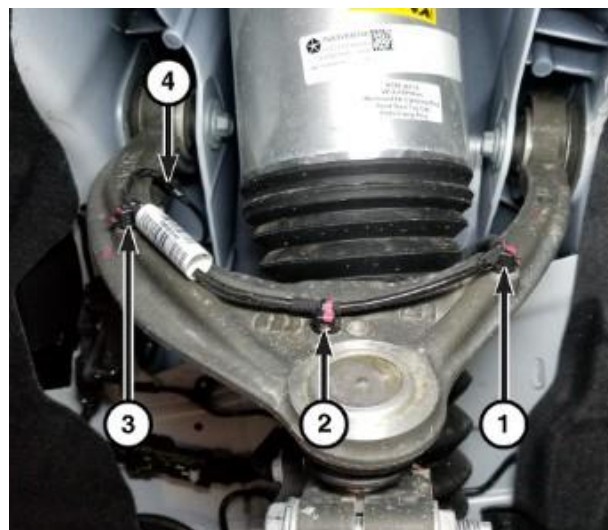
76. Remove the bolts and the right side brake caliper.



1 - Speed Sensor
2 - Bolt

Figure 71 – Right Front Speed Sensor

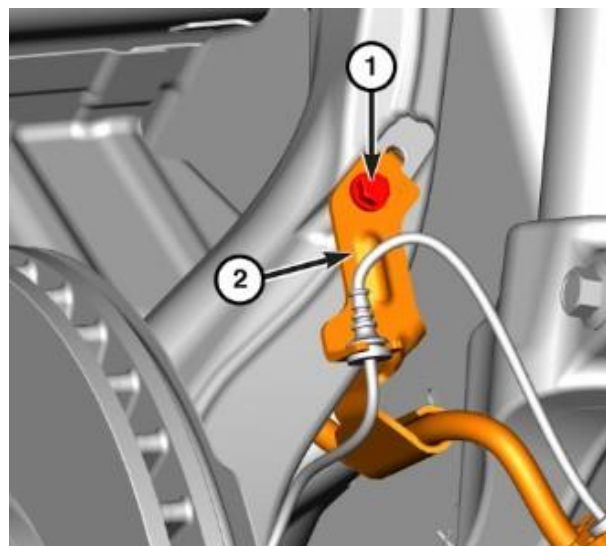
77. Detach the wire harness routing clips (1-4) from the right upper control arm (if equipped with Air Suspension) (Figure 72).



1-4 - Wire Harness Routing Clips

Figure 72 – Right Upper Control Arm

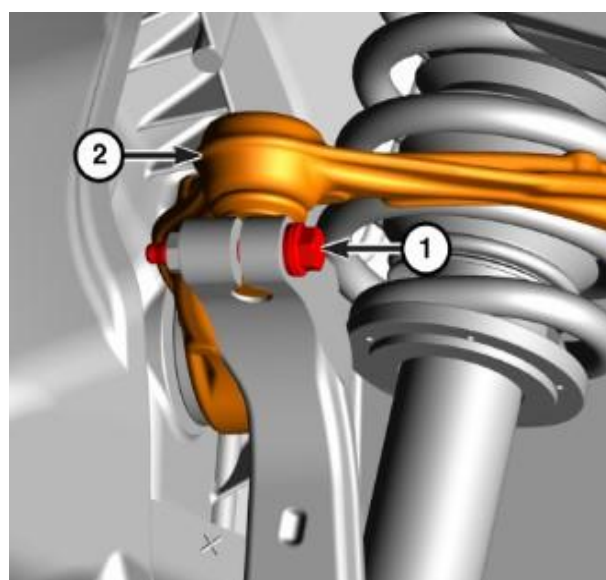
78. Remove the bolt (1) and the right brake line bracket (2) from the steering knuckle (Figure 73).



1 - Brake Line Bracket Bolt
2 - Brake Line Bracket

Figure 73 – Right Brake Line Bracket

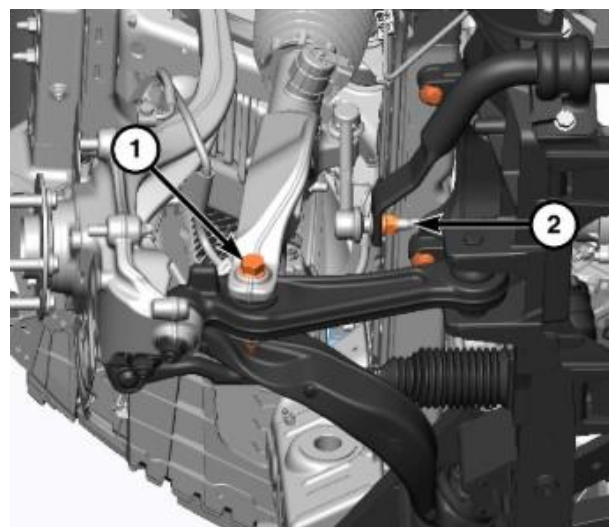
79. Remove the bolt (1) and separate the right ball joint (2) from the steering knuckle (Figure 74).



1 - Steering Knuckle Pinch Bolt
2 - Upper Control Arm

Figure 74 – Right Ball Joint

80. Remove the bolt (1) and separate the right ball joint from the steering knuckle (Figure 75).
81. Remove the stabilizer bar. Refer to the detailed service procedures available in DealerCONNECT/Service Library under: Service Info> 02 - Front Suspension/Front/STABILIZER BAR, Front/Removal and Installation.



1 - Clevis Lower Bolt
2 - Tension Link

Figure 75 – Right Lower Clevis

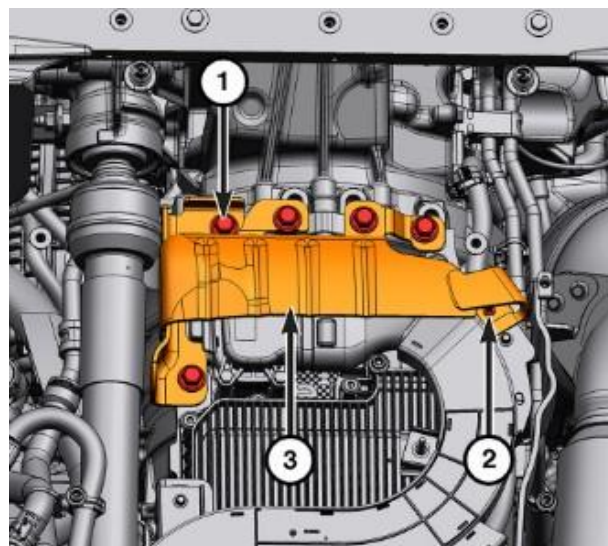
82. Disconnect the PIM outlet to MGU coolant hose (1) (Figure 76).



1 - Coolant Hose

Figure 76 – MGU Coolant Hose

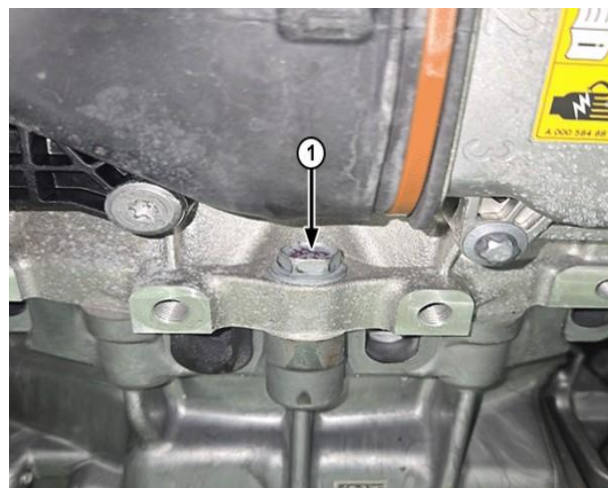
83. Remove the bolts (1-2) and the blocker (3) from the transmission (Figure 77).



- 1 - Blocker Bolts
- 2 - Blocker Screw
- 3 - Blocker

Figure 77 – Transmission Blocker

84. Remove the center lower bell housing bolt (by high voltage harness) (Figure 78).



- 1 - Bell Housing to Oil Pan Bolts

Figure 78 – Bell Housing Bolts

85. Remove the nut (1) and retainer (2) securing the high voltage wire harness (Figure 79).



1 - Nut
2 - Retainer

Figure 79 – HV Wiring Harness

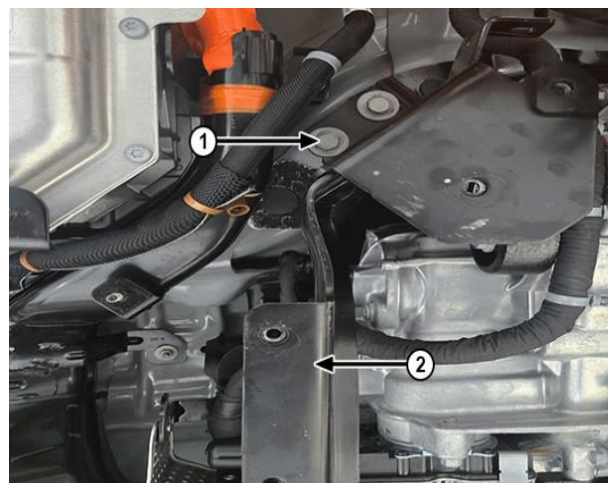
86. Remove the bolt (1) securing the high voltage wire harness to the transfer case skid plate bracket (Figure 80).



1 - Bolt

Figure 80 – HV Wiring Harness to Transfer Case

87. Remove the bolts (1) and the transfer case skid plate bracket (2) (Figure 81).



- 1 - Bolts
2 - Transfer Case Skid Plate Bracket

Figure 81 – Transfer Case Skid Plate Bracket

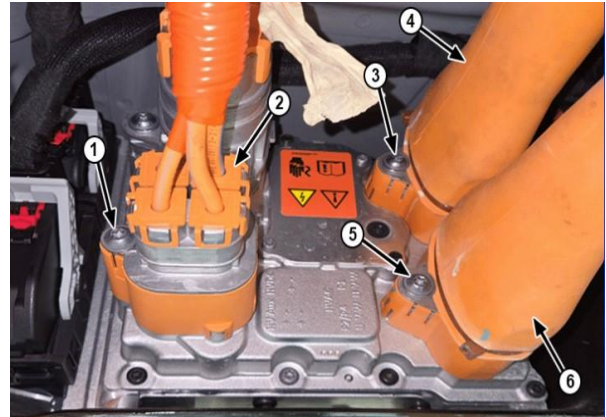
88. Remove the upper (1) and lower (2) wire harness retainer bolts (Figure 82).



- 1 – Upper Bolt
2 – Lower Bolt

Figure 82 – Wire Harness Retainer Bolts

89. Remove the bolts (1) and disconnect the square high voltage wire harness connector (2) from the PIM (Figure 83).
90. Remove the torx bolt (3) and disconnect the lower high voltage cable wire harness connector (4) from the PIM (Figure 83).
91. Remove the torx bolt (5) and retainer securing the upper high voltage cable (6) (Figure 83).
92. Remove the upper high voltage cable wire harness connector from the PIM (6) (Figure 83).



- 1 - Torx Bolt
- 2 - Square High Voltage Wire Harness Connector
- 3 - Torx Bolt
- 4 - Lower High Voltage Wire Harness Connector
- 5 - Torx Bolt
- 6 - Upper High Voltage Wire Harness Connector

Figure 83 – Wire Harness Connector at PIM

93. Disconnect the upper and lower cam lock 12 volt PIM wire harness connector (1-2) (Figure 84).



- 1 - Upper Cam Lock 12 Volt PIM Wire Harness Connector
- 2 - Lower Cam Lock 12 Volt PIM Wire Harness Connector

Figure 84 – Cam Lock Connectors

NORTH AMERICA Engine Fires



Reference: 78C / NHTSA 25V-766

FCA US LLC

94. Disconnect the high voltage cabin heater cable wire harness connector and detach the wire harness retainer (Figure 85).



1 - High Voltage Cabin Heater Cable Wire Harness Connector

Figure 85 – HV Cabin Heater Harness

95. Remove lower right front wheelhouse splash shield bolts (1) (Figure 86).



1 - Right Front Wheelhouse Splash Shield Bolts

Figure 86 – Right Wheelhouse Splash Shield Bolts

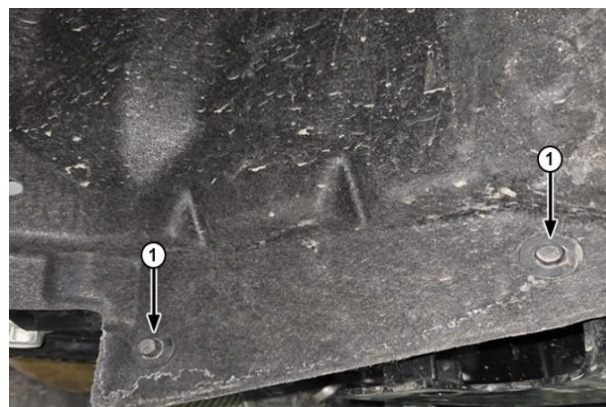
96. Remove the bolts (1-2) and the right shear plate (3) (Figure 87).



- 1 - Shear Plate Bolt
- 2 - Shear Plate Bolts
- 3 - Right Shear Plate

Figure 87 – Right Shear Plate

97. Remove lower left front wheelhouse splash shield bolts (Figure 88).

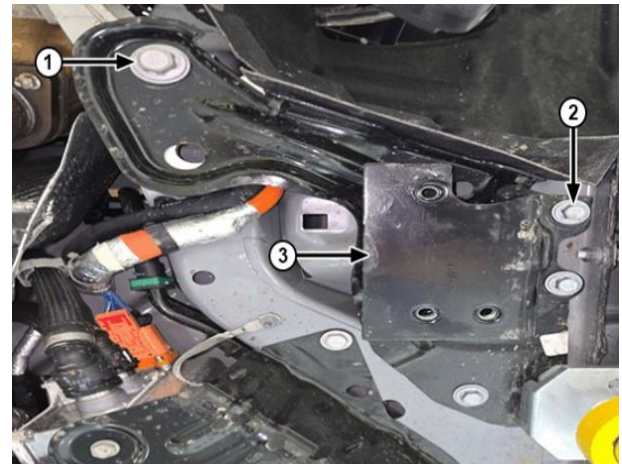


- 1 - Left Front Wheelhouse Splash Shield Bolts

Figure 88 – Left Wheelhouse Splash Shield Bolts

98. Remove the bolts (1-2) and the left shear plate (3) (Figure 89).
99. Position a suitable stand under the rear suspension crossmember.
100. Using a marker or equivalent, mark the rear position of the crossmember on the frame mount.

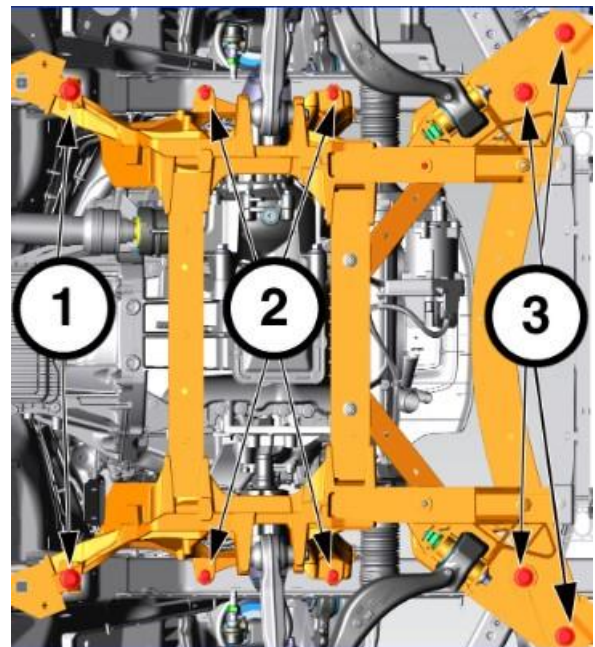
NOTE: The cross member will not drop straight down, it must be angled down at the back and slid rearward in order to remove it.



- 1 - Shear Plate Bolt
- 2 - Shear Plate Bolts
- 3 - Left Shear Plate

Figure 89 – Left Shear Plate

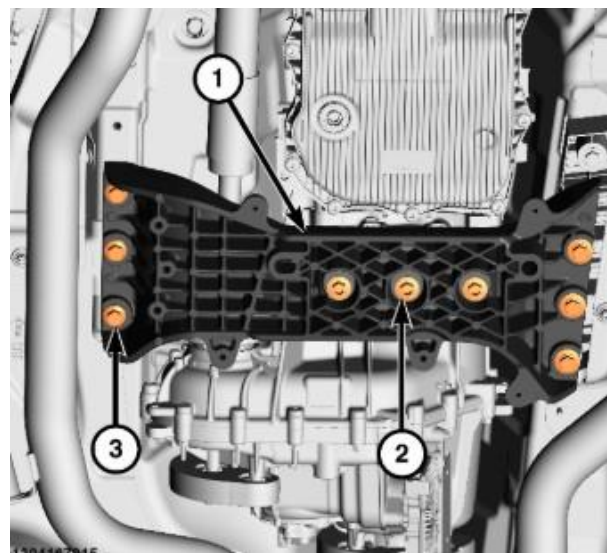
101. Support the crossmember with a suitable lift table, then remove and **DISCARD** the bolts (1, 2 and 3) (Figure 90).



- 1 - Front Crossmember to Body Bolts - Rear
- 2 - Front Crossmember to Body Bolts - Middle
- 3 - Front Crossmember to Body Bolts - Front

Figure 90 – Crossmember to Body Bolts

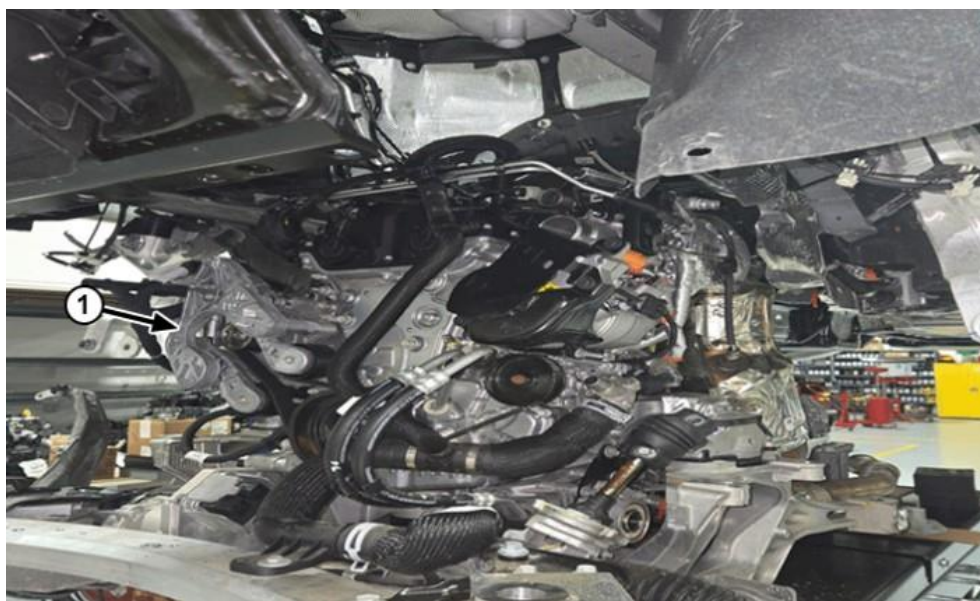
102. Remove the transmission crossmember bolts (3) (Figure 91).



- 1 - Transmission Crossmember
2 - Nuts
3 - Bolts

Figure 91 – Transmission Crossmember Bolts

103. Carefully lower the powertrain assembly (1) guiding it around the radiator close out panel and remove it from under vehicle (Figure 92).



- 1 - Powertrain Assembly

Figure 92 – Powertrain Assembly

SERVICE PROCEDURE

E. Engine Replacement (WL) - Installation

1. Prepare the complete engine for installation by transferring parts from the old engine to the new as needed.
2. Install the torsional damper and tighten the **NEW** bolts in crisscross pattern 105 N·m (77 ft. lbs.).
3. Transfer the necessary components, such as:
 - Install MGU
 - Install the right engine mount bracket and tighten the bolts to 63 N·m (46 ft. lbs.)
 - Install the left engine mount bracket and tighten the bolts to 63 N·m (46 ft. lbs.)
 - Install the A/C Compressor, etc.
4. Carefully position the lift table with the powertrain assemble under the vehicle (Figure 93).
5. Slowly and carefully raise the powertrain in place while guiding the intermediate around the engine.
6. While raising the Powertrain in position pay attention to the coolant pumps at the right side rear.
7. With the help of an assistant, slightly pull the radiator core support forward while guiding the cradle up.



1 - Lift Table

Figure 93 – Powertrain Assembly

8. Raise and fully seat the crossmember to the body using the marks made previously during removal, line up the crossmember with the rear marks made previously.
9. Install the **NEW** crossmember bolts and tighten to (Figure 90):
 - Front Crossmember to Body Bolts – Rear (1) 150 N·m (111 ft. lbs.)
 - Front Crossmember to Body Bolts – Middle (2) 49 N·m (36 ft. lbs.)
 - Front Crossmember to Body Bolts – Front (3) 150 N·m (111 ft. lbs.)

NOTE: Be sure the MGU wire harness is outside the transmission crossmember.

10. Install the transmission crossmember bolts (3) and tighten to 110 N·m (73 ft. lbs.) (Figure 91).
11. Remove the safety stand under the rear suspension crossmember.
12. Remove the lift table.
13. Install the left shear plate and tighten the bolts (Figure 89):
 - Shear Plate to Cradle to 63 N·m (46 ft. lbs.)
 - Shear Plate to Body to 100 N·m (74 ft. lbs.)
 - Shear Plate to Torque Box Crossmember 20 N·m (15 ft. lbs.)
14. Install the lower left front wheelhouse splash shield bolts (1) and tighten to 5 N·m (44 in. lbs.) (Figure 88).
15. Install the right shear plate and tighten the bolts to (Figure 87):
 - Shear Plate to Cradle to 63 N·m (46 ft. lbs.)
 - Shear Plate to Body to 100 N·m (74 ft. lbs.)
 - Shear Plate to Torque Box Crossmember 20 N·m (15 ft. lbs.)
16. Install the lower right front wheelhouse splash shield bolts (1) and tighten to 5 N·m (44 in. lbs.) (Figure 86).
17. Connect the high voltage cabin heater cable wire harness connector (1) and attach the wire harness retainer (Figure 85).
18. Connect the upper and lower cam lock (1-2) 12 volt PIM wire harness connector (Figure 84).
19. Connect the upper high voltage cable (4) wire harness connector to the PIM and securely tighten the torx bolt (3) (Figure 83).
20. Connect the lower high voltage cable (6) wire harness connector to the PIM and securely tighten the torx bolt (5) (Figure 83).
21. Connect the square high voltage wire harness connector (2) to the PIM and securely tighten the torx bolt (1) (Figure 83).
22. Install the upper and lower wire harness retainer bolts (1-2) and tighten to 8 N·m (71 in. lbs.) (Figure 82).
23. Install the transfer case skid plate bracket (2) and tighten the bolts (1) to 55 N·m (40 ft. lbs.) (Figure 81).

24. Install the bolt (1) securing the high voltage wire harness to the transfer case skid plate bracket and tighten to 8 N·m (71 in. lbs.) (Figure 80).
25. Install the high voltage wire harness retainer; then tighten the nut (1) to 6 N·m (53 in. lbs.) (Figure 79).
26. Install the middle lower bell housing bolt (1) (Figure 78).
27. Install the blocker (3) to transmission and tighten the bolts (1) to 48 N·m (35 ft. lbs.) (Figure 77).
28. Connect the PIM outlet to MGU coolant (1) hose (Figure 76).
29. Install the stabilizer bar. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 02 - Front Suspension/Front/STABILIZER BAR, Front/Removal and Installation.
30. For the right side halfshaft, use tool 10270 to protect the output seal, install the right front halfshaft.
31. Use Push-Pull-Push method to ensure halfshaft circlip is engaged on the inner joint (Should feel circlip engagement).

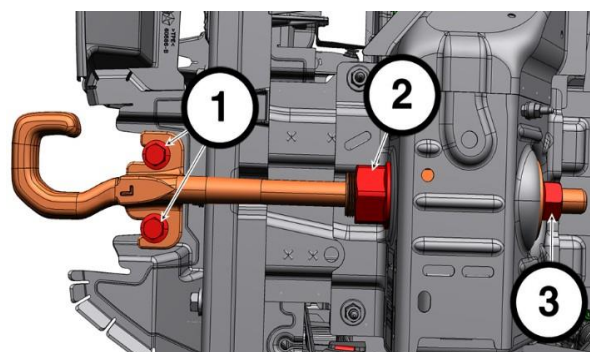
NOTE: Fastener must be torqued with the vehicle at normal ride height.

32. Install the clevis lower bolts (1) and tighten to 308 N·m (227 ft. lbs.) (Figure 75).
33. Install the upper control arm (2) from the steering knuckle and tighten the upper ball joint bolt (1) (Figure 74):
 - Steering Knuckle Pinch Bolt (with captive nut) to 60 N·m (44 ft. lbs.)
 - Steering Knuckle Pinch Bolt (without captive nut) to 40 N·m (30 ft. lbs.)
34. Install the brake line bracket (2) to the steering knuckle and tighten the bolt (1) to 7 N·m (62 in. lbs.) (Figure 73).
35. Attach the wire harness routing clips (1-4) (if equipped with Air Suspension) (Figure 72).
36. Install the right side brake caliper to bracket bolts and tighten to 60 N·m (44 ft. lbs.).
37. Install the right front speed sensor (1) and tighten the bolt (2) to 6 N·m (53 in. lbs.) (Figure 71).
38. Connect the active damping sensor wire harness connectors (2) (if equipped with Air Suspension) (Figure 70).
39. Install a **NEW** hub nut (1) on the outer CV joint shaft and tighten to 310 N·m (229 ft. lbs.) (Figure 69).
40. Install the left front halfshaft (1) (Figure 68).
41. Use Push-Pull-Push method to ensure halfshaft circlip is engaged on the inner joint (Should feel circlip engagement).

NOTE: Fastener must be torqued with the vehicle at normal ride height.

42. Install the left clevis lower bolts (1) and tighten to 308 N·m (227 ft. lbs.) (Figure 67).
43. Install the left upper control arm (2) to the steering knuckle and tighten the upper ball joint bolt (1) (Figure 66).

- Steering Knuckle Pinch Bolt (with captive nut) to 60 N·m (44 ft. lbs.)
 - Steering Knuckle Pinch Bolt (without captive nut) to 40 N·m (30 ft. lbs.)
44. Install the left brake line bracket (2) to the steering knuckle and tighten the bolt (1) to 7 N·m (62 in. lbs.) (Figure 65).
 45. Attach the wire harness routing clips (1-4) (if equipped with Air Suspension) (Figure 64).
 46. Install the left side brake caliper to bracket bolts and tighten to 60 N·m (44 ft. lbs.).
 47. Install the left front speed sensor (1) and tighten the bolt (2) to 6 N·m (53 in. lbs.) (Figure 71).
 48. Connect the active damping sensor wire harness connectors (2) (if equipped with Air Suspension) (Figure 63).
 49. Install a **NEW** hub nut (1) on the outer CV joint shaft and tighten to 310 N·m (229 ft. lbs.) (Figure 62).
 50. Install the radiator closure panel bolts (3) to the crossmember and tighten to 15 N·m (11 ft. lbs.) (Figure 61).
 51. Position the left and right tow hooks and tighten the bolts (1) to 48 N·m (35 ft. lbs.) (Figure 94).
 52. Install the left side lower inner highlight bolt (1) and securely tighten (Figure 58).
 53. Install the right side lower inner highlight bolts and securely tighten.
 54. Install the radiator crossmember front bolts (1) (Figure 57).
 55. Install the lower fascia. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 23 - Body / Exterior / BUMPER/FASCIA / Removal and Installation.
 56. Connect the O2 sensor wire harness connector (1) and attach the wire harness retainers (Figure 56).
 57. Connect the coolant hose (1) to the top of the turbocharger (Figure 55).
 58. Install the intermediate shaft onto the steering and tighten the **NEW** bolt (1) to 45 N·m (33 ft. lbs.) (Figure 54).
 59. Using **NEW** seals, lubricate and install the A/C discharge line and A/C suction jumper to the compressor and tighten the nut (1) to 20 N·m (15 ft. lbs.) (Figure 53).
 60. Connect the A/C compressor high voltage wire harness connector (1) (Figure 52).
 61. Connect the coolant hose (1) to the front of the water pump (Figure 51).
 62. Connect the lower radiator hose (1) to the radiator (Figure 50).
 63. Connect the transmission cooler lines (2) to the transmission cooler (1) (Figure 49).



1 - Front Tow Hook Bolts
2 - Front Tow Hook Bracket Nut
3 - Front Tow Hook Nut

Figure 94 – Tow Hook Fasteners

64. Connect the fuel line (2) and engage the safety clip (1) (Figure 48).
65. Connect the fuel pressure sensor wire harness connector (1) and attach the wire harness retainer (Figure 47).
66. Connect the coolant hose (1) at the right shock tower (Figure 46).
67. Connect the coolant hose to the auxiliary pump (Figure 45).
68. Connect the coolant hose at the MGU tensioner.
69. Install the ground wire to the right front frame rail and tighten the bolt (1) to 12 N·m (9 ft. lbs.). Then attach the wire harness retainer (2) (Figure 44).
70. Connect the two wire harness connectors (1) by the PCM (Figure 43).
71. Connect the PCM wire harness connector (1) (Figure 42).
72. Install the auxiliary coolant pump to crossmember bolts (1) and tighten to 14 N·m (10 ft. lbs.) (Figure 41).
73. Install the coolant line bracket to crossmember bolts (1) and tighten to 14 N·m (10 ft. lbs.) (Figure 40).
74. Connect the steering gear wire harness connectors (1) and attach the wire harness retainers (2) to the crossmember (Figure 39).
75. Install the upper radiator hose assembly and tighten the nuts (2) to 25 N·m (18 ft. lbs.) (Figure 37).
76. Connect the upper radiator hose to the thermostat housing.
77. Connect the upper radiator hose to the radiator (Figure 36).
78. Connect the EVAP line quick connect fitting to the purge solenoid.
79. Connect the vacuum line quick connect fitting to the intake manifold.
80. Connect the EVAP jumper line quick connect fitting.
81. Install the right side engine cover and tighten the bolts (2) to 5 N·m (44 in. lbs.) (Figure 35).
82. Position the transmission vent hose and attach the retainers.
83. Install the air cleaner body and tighten the bolts (1) to 7 N·m (53 in. lbs.) (Figure 34).
84. Install the clean air hose and tighten the clamps (1) to 15 N·m (11 ft. lbs.) (Figure 33).
85. Connect the Inlet Air Temperature (IAT) sensor wire harness connector and attach the wire harness retainer.
86. Connect the two boost vacuum purge tube quick connect fittings (1) from the air cleaner body cover (Figure 32).
87. Install the pressurized coolant bottle (2) and tighten the nuts (1) to 7 N·m (62 in. lbs.) (Figure 31).
88. Connect the coolant vent hose (1) (Figure 30).

89. Connect the lower coolant hose (2) and attach the hose retainers (Figure 30).
90. Connect the low temperature coolant vent hose (1) from the coolant bottle (Figure 29).
91. Install the intake air tube and tighten the bolts to 7 N·m (61 in. lbs.) (Figure 28).
92. Install the left and right side close out panel and the push pin retainers (Figure 27).
93. Install the center close out panel and the push pin retainers (Figure 26).
94. Install the top engine cover and tighten the bolts (2) to 5 N·m (44 in. lbs.) (Figure 25).
95. Install the rear drive shaft. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 03 - Differential and Driveline / SHAFTS, Axle/Drive/Half / Removal and Installation.
96. Install the transmission crossmember support. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 13 - Frame and Bumpers / Frame / CROSSMEMBER / Removal and Installation.
97. Install the PHEV main battery skid plate. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 23 - Body / Exterior / PANELS, Underbody Protection / Removal and Installation.
98. Install the PHEV secondary battery skid plate. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 23 - Body / Exterior / PANELS, Underbody Protection / Removal and Installation.
99. Install the PHEV transfer case skid plate. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 23 - Body / Exterior / PANELS, Underbody Protection / Removal and Installation.
100. Install the PHEV transmission skid plate. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 23 - Body / Exterior / PANELS, Underbody Protection / Removal and Installation.
101. Install the PHEV stabilizer bar skid plate. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 23 - Body / Exterior / PANELS, Underbody Protection / Removal and Installation.
102. Install the PHEV front suspension skid plate. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 23 - Body / Exterior / PANELS, Underbody Protection / Removal and Installation.
103. Install the PHEV Integrated Dual Charging Module (IDCM skid plate). Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 23 - Body / Exterior / PANELS, Underbody Protection / Removal and Installation.
104. Evacuate and charge the A/C system. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 24 - Heating and Air Conditioning / Standard Procedure.

SAFETY RECALL
NORTH AMERICA
Engine Fires



Reference: 78C / NHTSA 25V-766

FCA US LLC

-
105. Fill the low temp cooling system. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info>09 - Engine, 2.0L / Cooling System / Low Temperature Cooling System / Standard Procedure.
 106. Fill the engine cooling system. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 09 - Engine, 2.0L / Cooling System / Low Temperature Cooling System / Standard Procedure.
 107. Power up the HV system. Refer to the detailed service procedures available in DealerCONNECT/ Service Library under: Service Info> 12 - Electrified Powertrain System / High Voltage Battery / Standard Procedure.

This notice applies to your vehicle,

[Model Year and Model]

VIN XXXXXXXXXXXXXXXXXX

78C/NHTSA 25V-766

LOGO

VEHICLE PICTURE

YOUR SCHEDULING OPTIONS

1. RECOMMENDED OPTION

Call your authorized Chrysler / Jeep® / Dodge / 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. The last eight characters of your VIN are provided above.

DEALERSHIP INSTRUCTIONS

Please reference Safety Recall 78C.

IMPORTANT SAFETY RECALL

2.0L Engine Fires

Dear [Name],

This notice is sent to you in accordance with the National Traffic and Motor Vehicle Safety Act.

FCA US LLC has decided that a defect, which relates to motor vehicle safety, exists in certain [2023-2025 Model Year (WL) Jeep Grand Cherokee and 2024-2025 Model Year (JL) Jeep Wrangler] Plug-In Hybrid Electric Vehicles (PHEVs).

It is extremely important to take steps now to repair your vehicle to ensure the safety of you and your passengers.

WHY DOES MY VEHICLE NEED REPAIRS?

The 2.0L engine in your vehicle ^[1] may be contaminated with sand from the casting process. Sand from the casting process can contaminate internal engine components, leading to a catastrophic engine failure, which can result in a vehicle fire or an unexpected and unrecoverable loss of drive power. **A vehicle fire can result in increased risk of occupant injury and/or injury to people outside the vehicle, as well as property damage. A loss of drive power may result in a vehicle crash without prior warning.**

HOW DO I RESOLVE THIS IMPORTANT SAFETY ISSUE?

FCA US LLC will repair your vehicle ^[2] free of charge (parts and labor). To do this, your dealer will reprogram the Powertrain Control Module (PCM) with new software to detect, and monitor for, potential pending engine bearing failure. If the engine bearing failure is confirmed by the software, FCA US will replace the long block or engine. FCA US will provide a Warranty Extension (FCA campaign ID #XC2) for all impacted customers experiencing messaging related to the defect to replace the long block or engine. Warranty Extension terms are unlimited years/unlimited mileage. The estimated repair time is 40 minutes to 13 hours. In addition, your dealer will require your vehicle for proper check-in, preparation, and check-out during your visit, which may require more time. Your time is important to us, so we recommend that you schedule a service appointment to minimize your inconvenience. Ask your dealer for alternate transportation options while your vehicle is in service. Please bring this letter with you to your dealership.

**TO SCHEDULE YOUR FREE REPAIR,
CALL YOUR CHRYSLER, JEEP®, DODGE 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. ^[3] 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 recall repair performed.

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

Customer Assistance/Field Operations
FCA US LLC



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] If your dealer fails or is unable to remedy this defect without charge and within a reasonable time, you may submit a written complaint to the Administrator, National Highway Traffic Safety Administration, 1200 New Jersey Ave., S.E., Washington, DC 20590, or you can call the toll-free Vehicle Safety Hotline at 1-888-327-4236 (TTY 1-888-275-9171), or go to safercar.gov.

[3] 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.

Note to lessors receiving this recall notice: Federal regulation requires that you forward this recall notice to the lessee within 10 days.