

JLRTB02012NAS5

**TECHNICAL BULLETIN**

08 AUG 2023



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NOTE: The information in Technical Bulletins is intended for use by trained, professional Technicians with the knowledge, tools, and equipment required to do the job properly and safely. It informs these Technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by 'do-it-yourselfers'. If you are not a Retailer, do not assume that a condition described affects your vehicle. Contact an authorized Land Rover service facility to determine whether this bulletin applies to a specific vehicle.

**INFORMATION**

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**This reissue replaces all previous versions. Please destroy all previous versions.**

This bulletin supersedes TSB JLRTB02012NAS4/2021 dated 09 MAR 2021, which should either be destroyed or clearly marked to show it is no longer valid (e.g. with a line across the page). Only refer to the electronic version of this Technical Bulletin in TOPIx.

Changes are highlighted in blue

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**SECTION:**

418-02

**SUBJECT/CONCERN:**

'Gearbox Fault Detected' Displayed On The Instrument Panel Cluster (IPC)

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**AFFECTED VEHICLE RANGE:**

MODEL:	MODEL YEAR:	VIN:	ASSEMBLY PLANT:
I-PACE (X590)	2019 Onwards	F60094 Onwards	Graz (Austria)

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**MARKETS:**

NORTH AMERICA

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**CONDITION SUMMARY:****SITUATION:**

A 'Gearbox Fault Detected' warning message may be displayed on the Instrument Panel Cluster Control Module (IPC). If the vehicle is in PARK, the customer may not be able to select DRIVE or, if already in DRIVE, the customer may experience a ratcheting type noise followed by an abrupt stop when the vehicle speed has reduced to 5 km/h (3 mph). The following Diagnostic Trouble Codes (DTC)s may also be stored in the Powertrain Control Module (PCM):

- P07E4-00
- P272C-13
- P303F-15
- P303F-29
- P07E6-00
- P272C-11

**CAUSE:**

**2019 to 2020 model year vehicles:** No retention to the front Electric Drive Unit (EDU) causing strain on the wiring going to the EDU parking lock actuator connector (C1YE113A).

**2021 model year onwards vehicles:** Incorrectly routed parking lock actuator breakout wiring harness.

**Suggested customer concern code - MP2**

**ACTION:**

Follow the instructions below.

**PARTS:**

PART NUMBER	DESCRIPTION	QUANTITY
<b>2019 to 2020 model year vehicles</b>		
T4K12932	Front compartment wiring harness - China	1
T4K12933	Front compartment wiring harness - Japan	1
T4K12931	Front compartment wiring harness - ROW	1
T4K12935	Ground cable	1
T2H3774	Front subframe to body bolts (M12)	4
T2H3162	Front subframe to body bolts (M14)	2
XR857426	Steering column lower shaft lower bolt	1
J9D1171	Washer - Refrigerant hoses	2
T4A16359	Brake carrier bolt	4
T2H6322	Upper wishbone to knuckle bolt	2
XR848057	Upper wishbone to knuckle nut	2
T2H17786	Yolk to lower arm bolt	1
J9D1172	O-ring	1
J9D1169	O-ring	1
C2Z2224	Front EDU upper mounting nut	1
T4K2896	Front EDU mass damper with nut	1
T4K9603	Parking lock actuator (if required)	1
<b>2021 model year onwards vehicles</b>		
Order using VIN though EPC	Front compartment wiring harness	1

PART NUMBER	DESCRIPTION	QUANTITY
C2Z2224	Front EDU upper mounting nut	1
T4K2896	Front EDU mass damper with nut	1
T4A12521	Front halfshaft clips	1
T4K5106	Front lower control arm to subframe front bolts	2
T2H3774	Front lower control arm to subframe rear bolts	2
T2H5007	Front lower control arm to subframe nuts - Up to 1622870	4
T4K5106	Front lower control arm to subframe nuts - From 1622871	4
J9C2719	Front subframe to body bolts	4
T2H3162	Front subframe to body bolts	2
C2Z2224	Stabilizer bar link nut	2
XR857426	Steering column lower shaft lower bolt	1
T2H5057	Steering gear boot clamp	2
T4N8037	Tie rod end nut	2
T2H17786	Yoke to lower arm bolt	2

**WARRANTY:****NOTES:**

- Make sure any required FRED submissions are completed before installing a new front compartment wiring harness. Failure to do so may result in warranty claim rejection.
- \* When submitting your Warranty claim within the Warranty portal, use the Condition Code list shown to select the Condition Code which best describes the vehicle defect.

**NOTES:**

- Repair procedures are under constant review, and therefore times are subject to change; those quoted here must be taken as guidance only. Use TOPIx to obtain the latest repair time.
- The JLR claims submission system requires the use of causal part numbers. Labor only claims must show the causal part number with a quantity of zero.

DESCRIPTION	SRO	TIME (HOURS)	CONDITION CODE	CAUSAL PART
JLRTB02012 - Front compartment wiring harness - Renew - 2019 to 2020 model year	99.01.12	9.6	*	T4K7182/T4K7184/T4K6641
JLRTB02012 - Front compartment wiring harness - Renew - 2021 model year onwards	86.71.37	8.9	*	T4K7182/T4K7184/T4K6641
JLRTB02012 - Front compartment wiring harness and <u>EDU</u> parking lock actuator - Renew - 2019 to 2020 model year	99.01.13	9.7	*	T4K7182/T4K7184/T4K6641/T4K9603

**NOTE:**

Normal Warranty procedures apply.

## SERVICE INSTRUCTION A - 2019 TO 2020 MODEL YEAR VEHICLES ONLY:

**CAUTION:**

**DO NOT** attempt to repair any damaged wiring found on the front compartment wiring harness. If the customer concern is still present after completing step 1 of the service instruction, a new updated front compartment wiring harness **MUST** be installed to repair the customer concern. Failure to follow this instruction may result in rejection of the warranty claim and subsequent repeat repairs due to the customer concern not being rectified in the first instance or the symptoms returning in the future.

**NOTES:**

- Some variation in the illustrations may occur, but the essential information is always correct.
- Some components are shown removed for clarity.

**All vehicles**

1.

**NOTE:**

Make sure any other related repairs are completed before continuing with this technical bulletin.

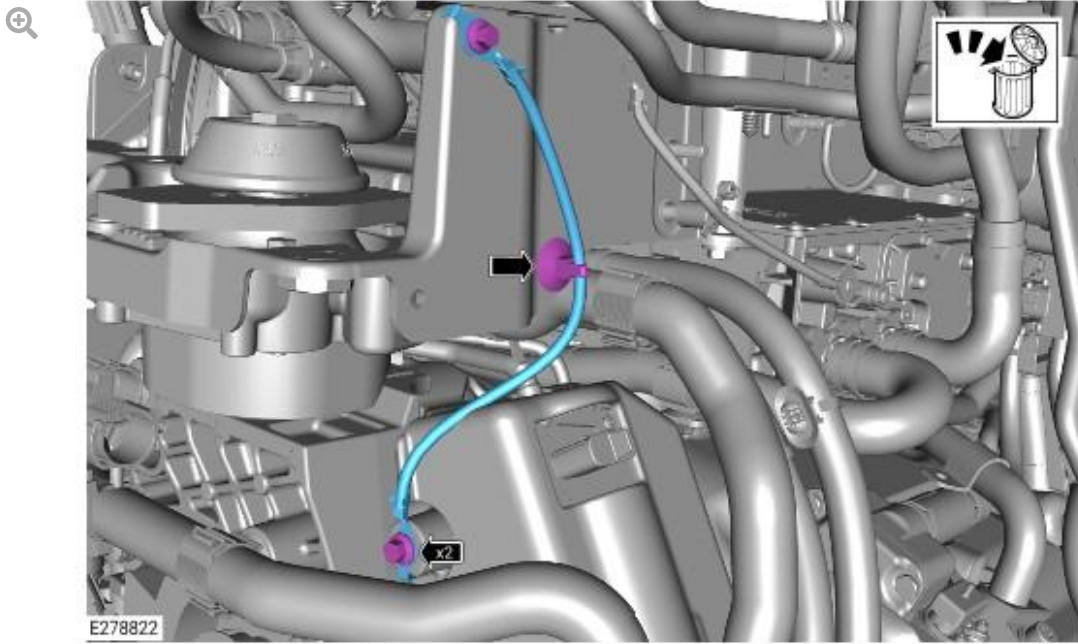


Refer to the TOPIx Workshop Manual section 100-00: General Information - Description and Operation - Diagnostic Trouble Code Index DTC: PCM for diagnosis and testing information relating to DTCs P07E4-00, P272C-13, P303F-15, P303F-29, P07E6-00 and P272C-11.

- If the EDU parking lock actuator connector (C1YE113A) wiring is found to be damaged as per the illustration, **continue to step 2**.
- If no related repairs were identified **and** the customer concern is still present, **continue to step 2**.
- If any related repairs were identified **and** have been rectified **and** the customer concern is still present, **continue to step 2**.
- If any related repairs were identified **and** have been rectified **but** the customer concern is **not** present, **do not continue with this technical bulletin**.

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2. Remove the front compartment wiring harness (see TOPIx Workshop Manual section 418-02: Wiring Harnesses - Removal and Installation - Front Compartment Wiring Harness).

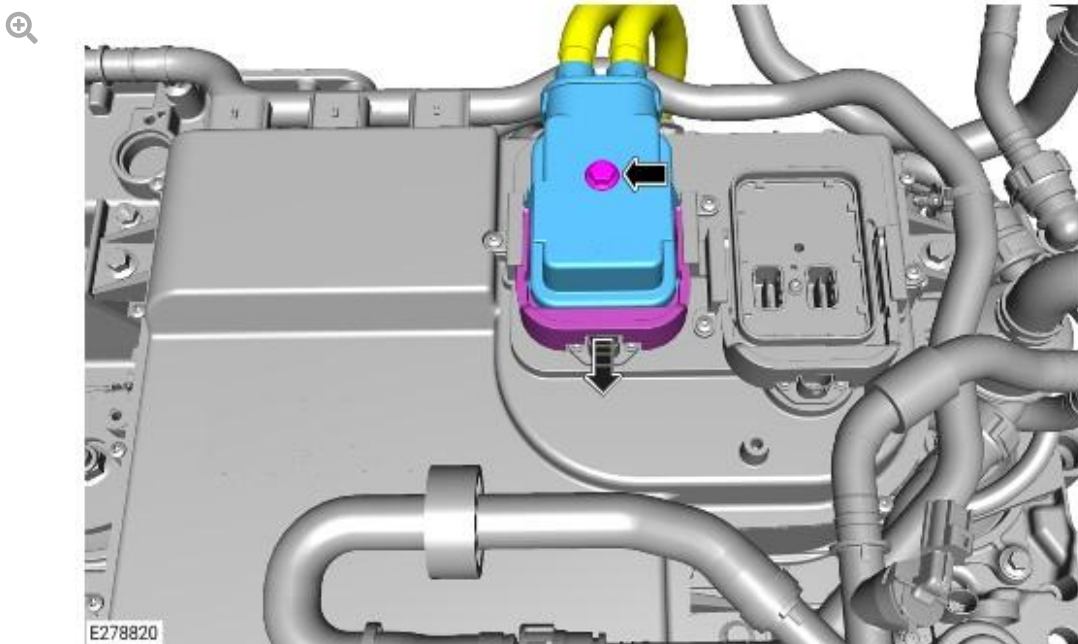
3.



Remove and discard the front EDU ground cable.

- Release the retaining clip.
- Remove the 2 bolts.

4.



Disconnect the high voltage electrical connector from the wired onboard charger.

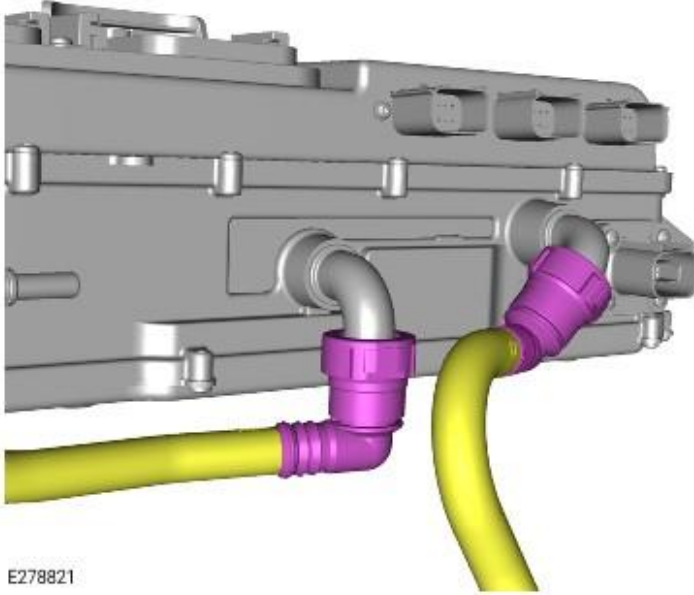
- Remove the bolt.
  - Torque: **8 Nm**



5.

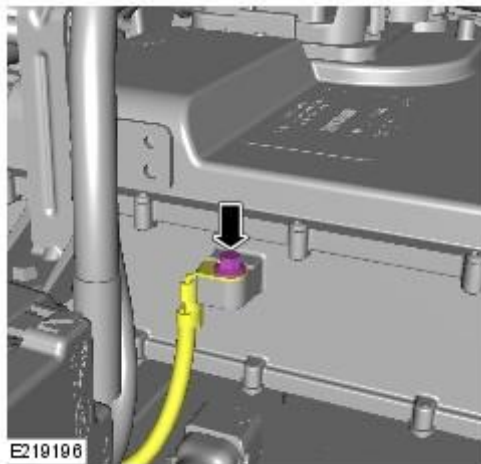
**WARNING:**

Be prepared to collect escaping coolant.



Release the 2 coolant hoses from the wired onboard charger.

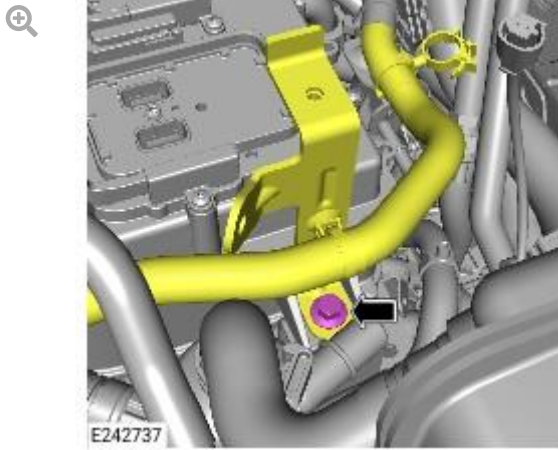
6.



Release the ground cable and reposition away from the wired onboard charger.

- Remove the bolt.
  - Torque: **10 Nm**

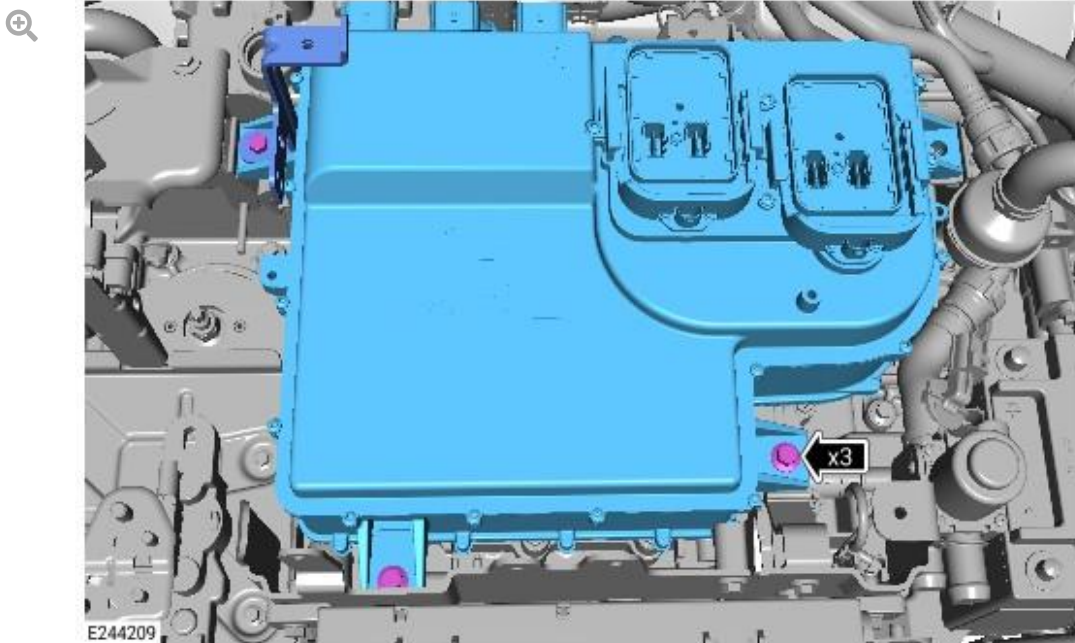
7.



Reposition the coolant hose and bracket away from the wired onboard charger.

- Remove the bolt.
  - Torque: **12 Nm**

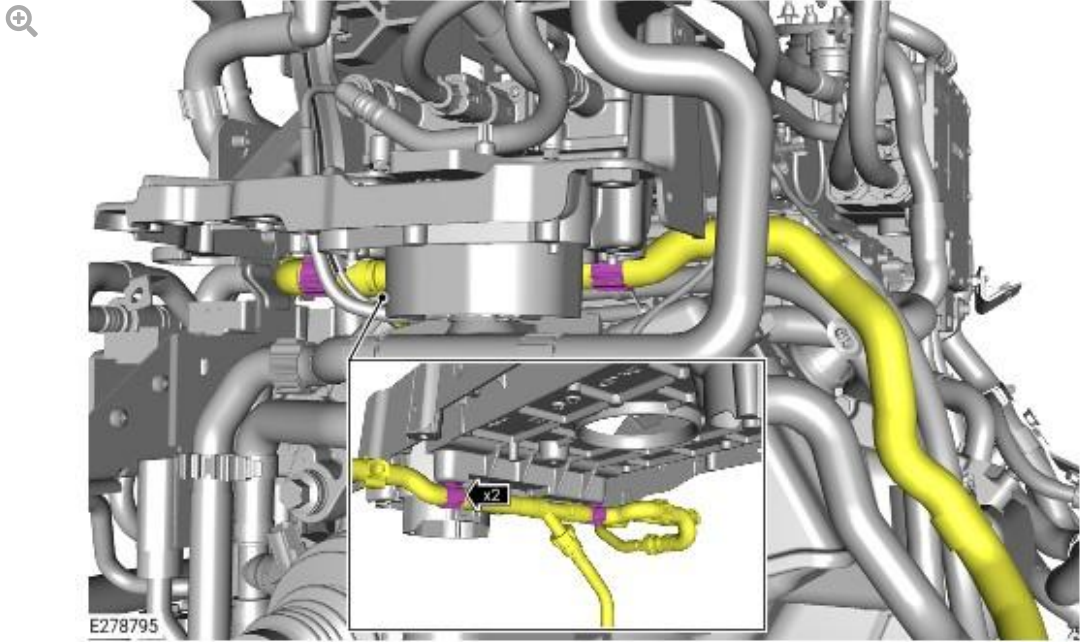
8.



Remove the wired onboard charger.

- Remove the 3 bolts.
  - Torque: **12 Nm**
- Remove the bracket.

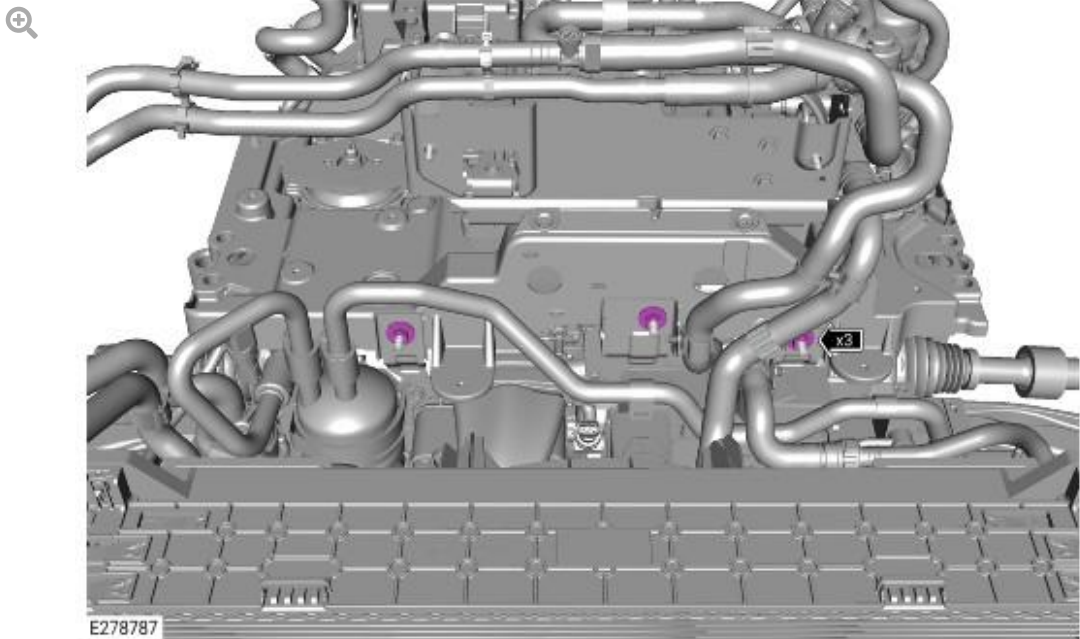
9.



Release the coolant hose from the front high voltage module structure.

- Release the 2 retaining clips.

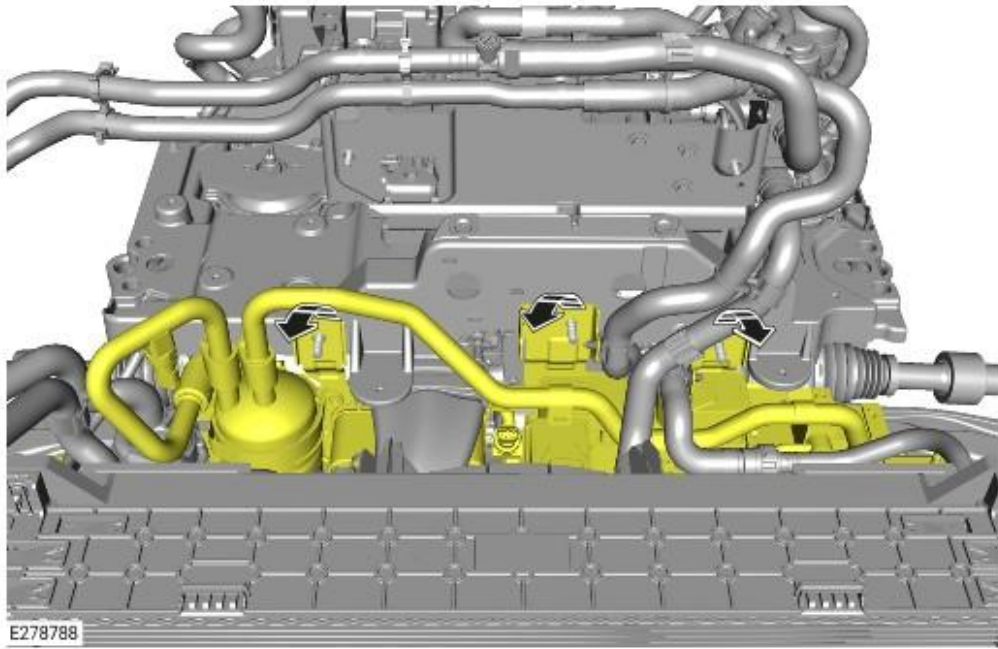
10.



Remove the 3 nuts from the electric drive temperature control bracket.

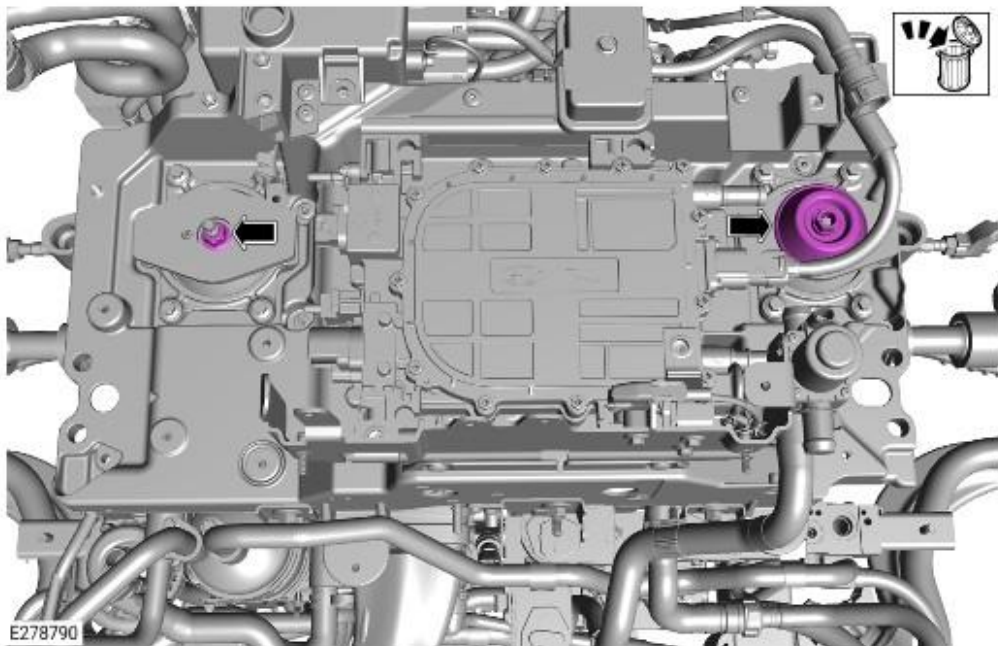
- Torque: **9 Nm**

11.



Use suitable tool to release the electric drive temperature control bracket from the front high voltage module structure studs.

12.



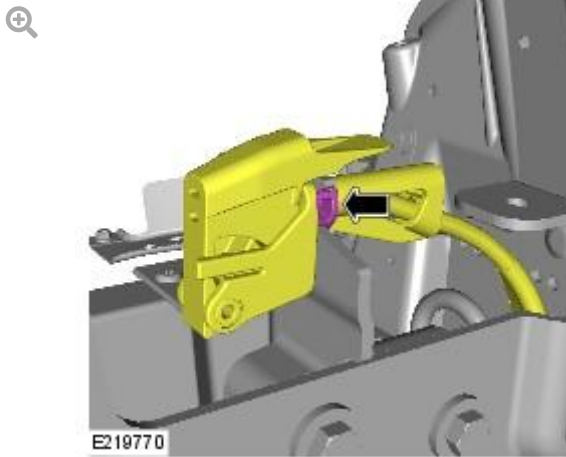
Remove and discard both front EDU nuts.

- Torque
  - Stage 1: **60 Nm**
  - Stage 2: **60 °**

13.

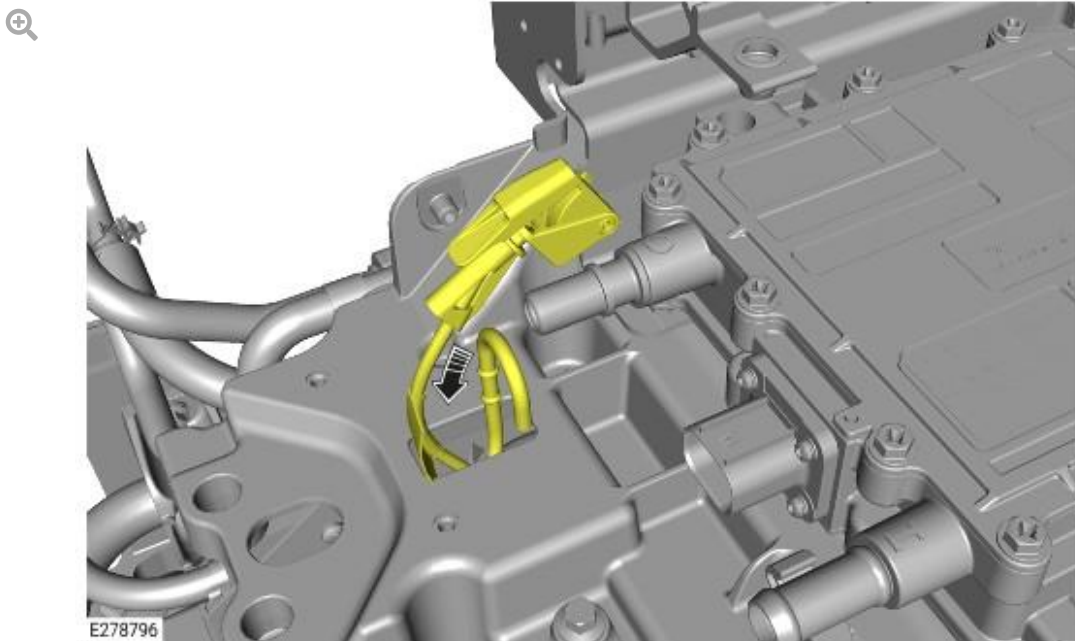
**NOTE:**

Make sure the Emergency Park Release (EPR) lever is in the inactive position.



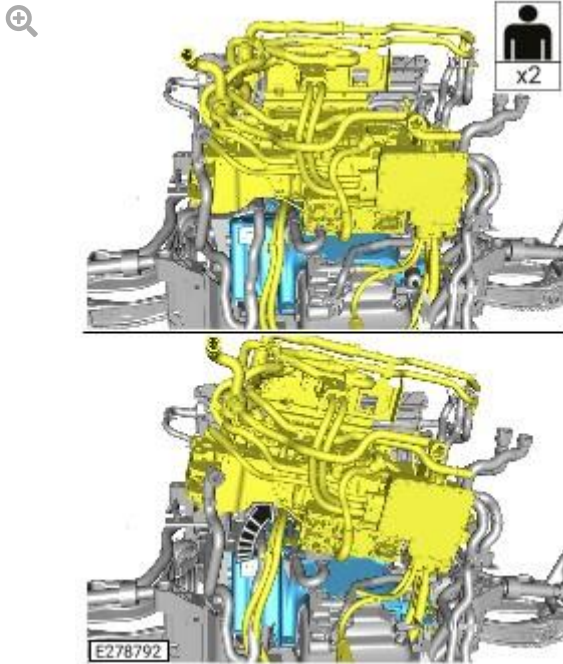
Reposition the EPR lever away from the fixing.

14.



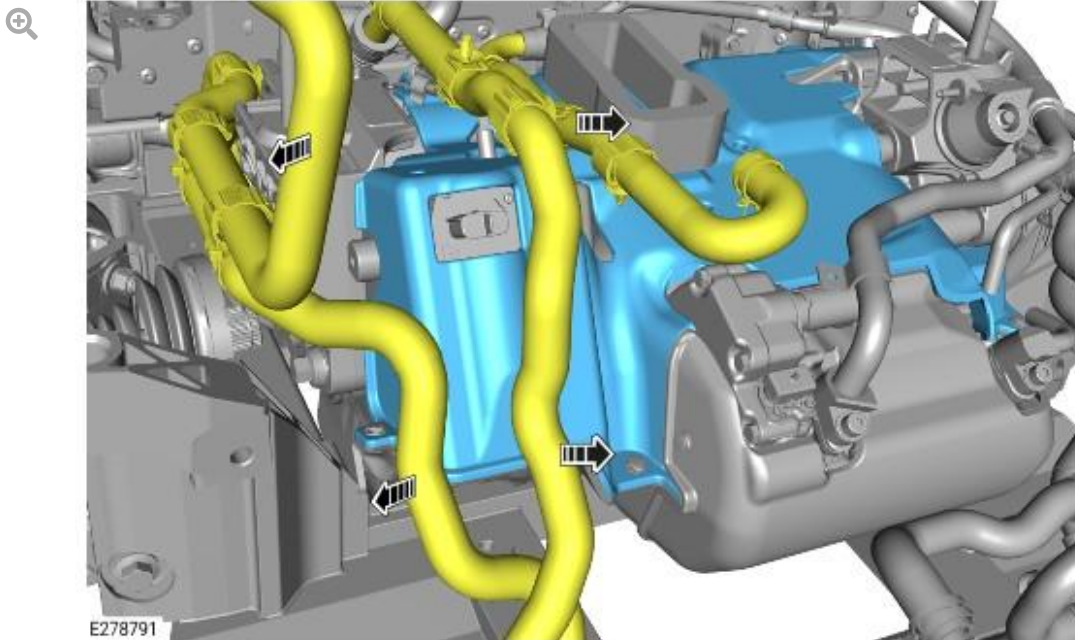
Reposition the EPR and breather pipe through the hole in the front high voltage module structure.

15.



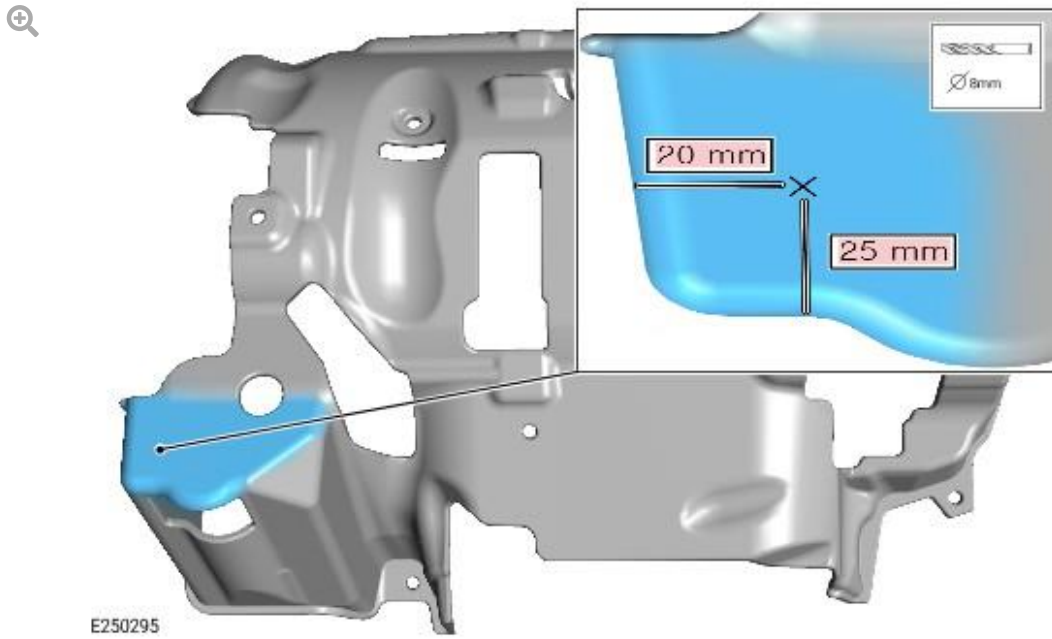
With the assistance of a second technician, raise and support the front high voltage module structure assembly high enough to access the front EDU upper Noise, Vibration and Harshness (NVH) cover.

16.



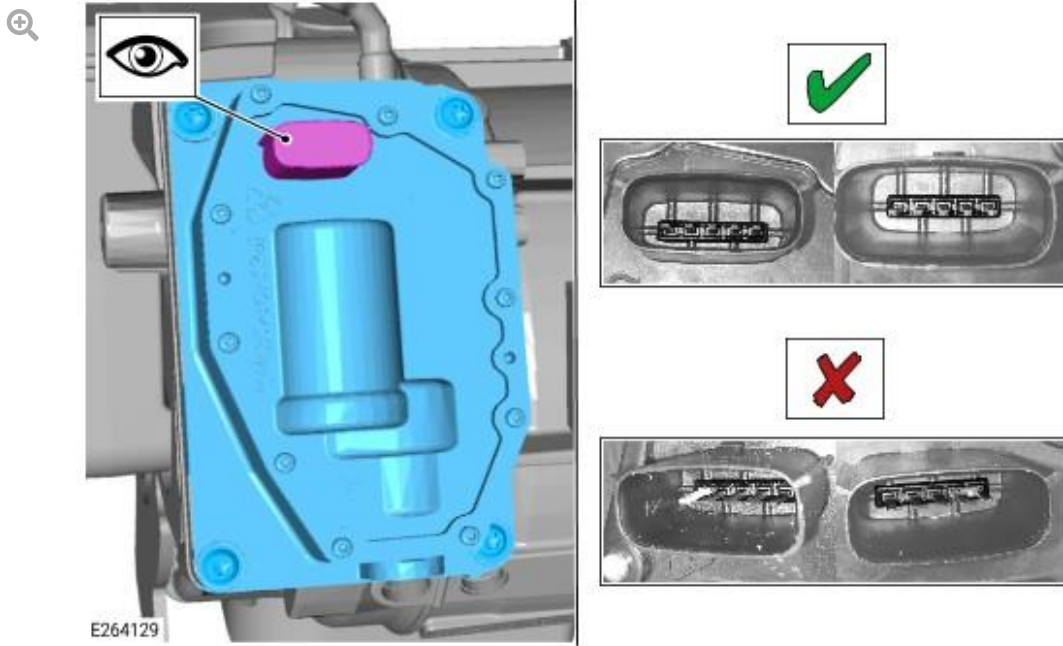
Move aside the coolant hoses in the directions shown in the illustration.

17.



Use a suitable sized drill to create an 8 mm hole in the front EDU upper NVH cover, as shown in the illustration.

18.



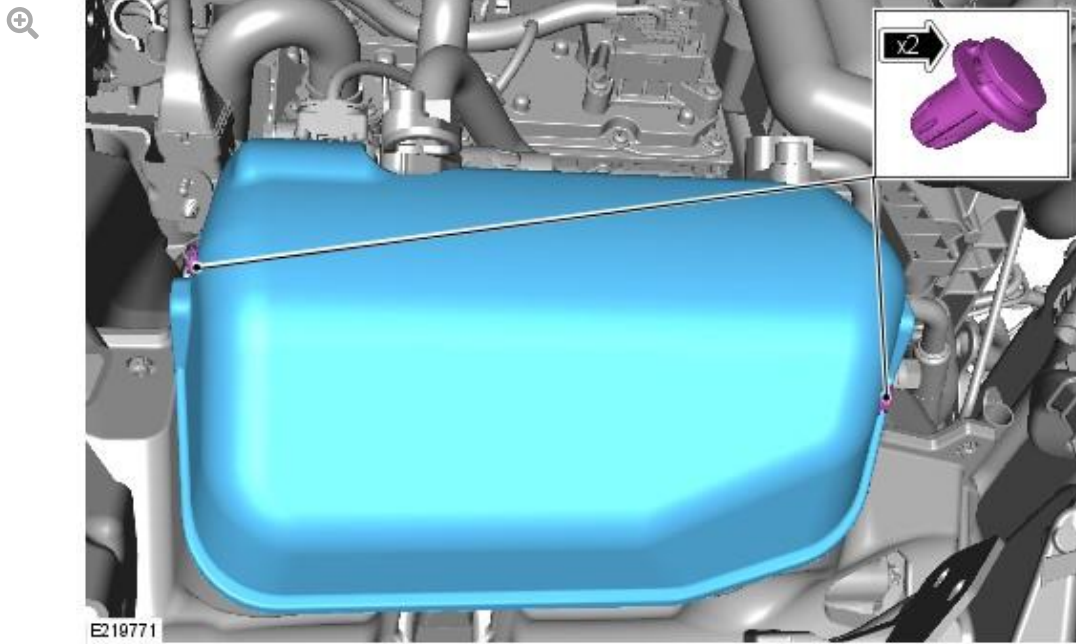
Inspect the electrical connector pins of the EDU parking lock actuator for signs of water ingress or corrosion.

- If signs of water ingress or corrosion **are not** present on the electrical connector pins of the EDU parking lock actuator, as shown in the image with a **GREEN '✓'**, **the vehicle has passed the inspection.**
  - **Continue to step 24.**
- If signs of water ingress or corrosion **are** present on the electrical connector pins of the EDU parking lock actuator, as shown in the images with a **RED 'X'**, **the vehicle has failed the inspection.**
  - **Continue to step 19.**

### Vehicles that failed the inspection only

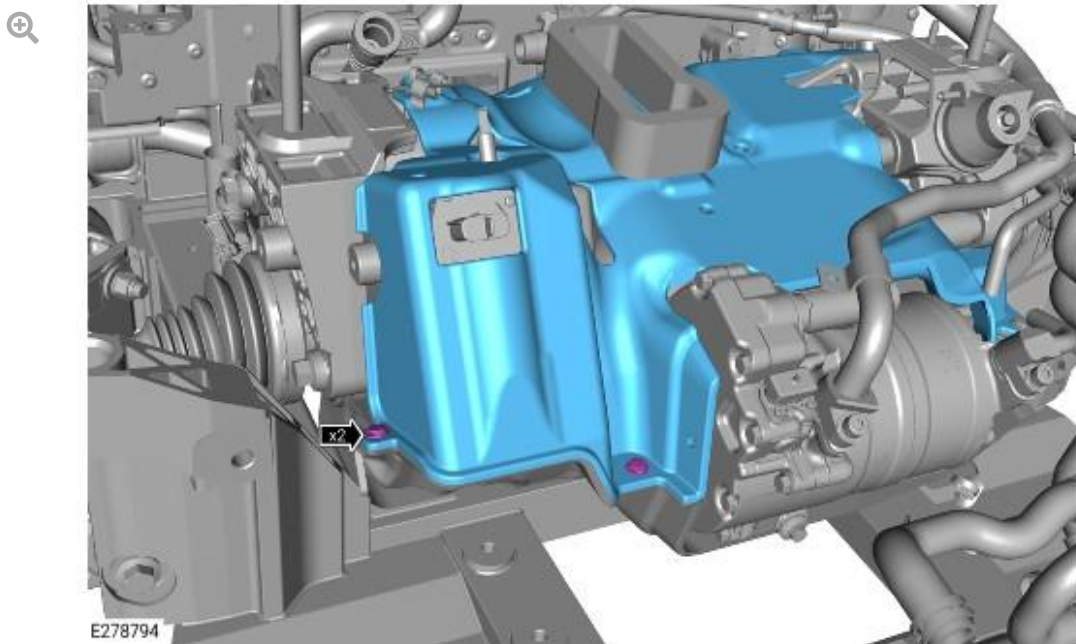


19.



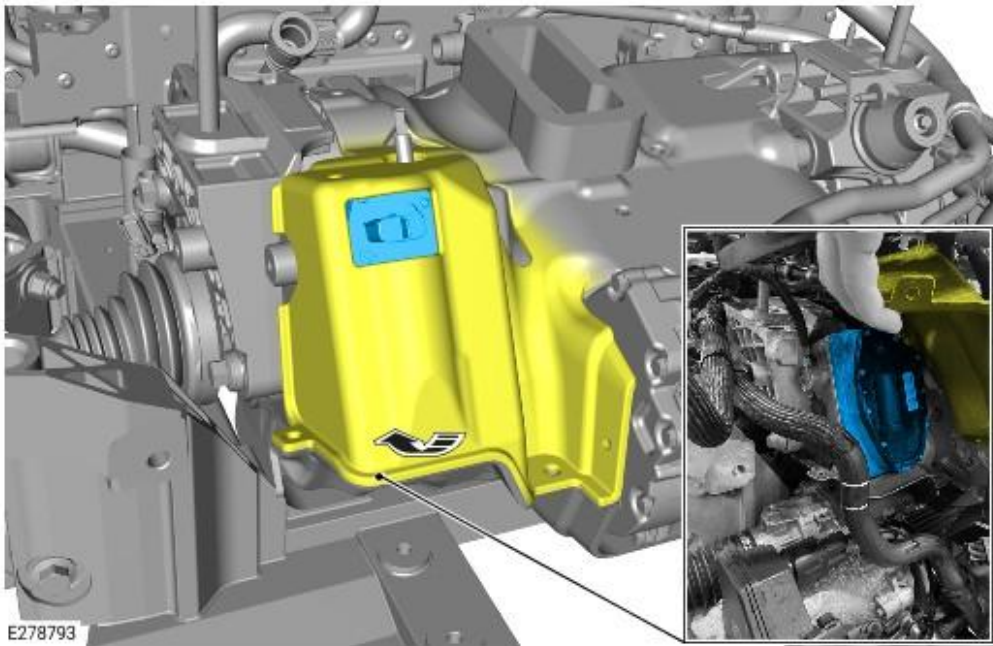
Remove the Air Conditioning (A/C) compressor NVH cover.

20.



Remove the 2 front EDU NVH cover retaining clips.

21.



Reposition the front **EDU NVH** cover to gain access to the front **EDU** parking lock actuator.

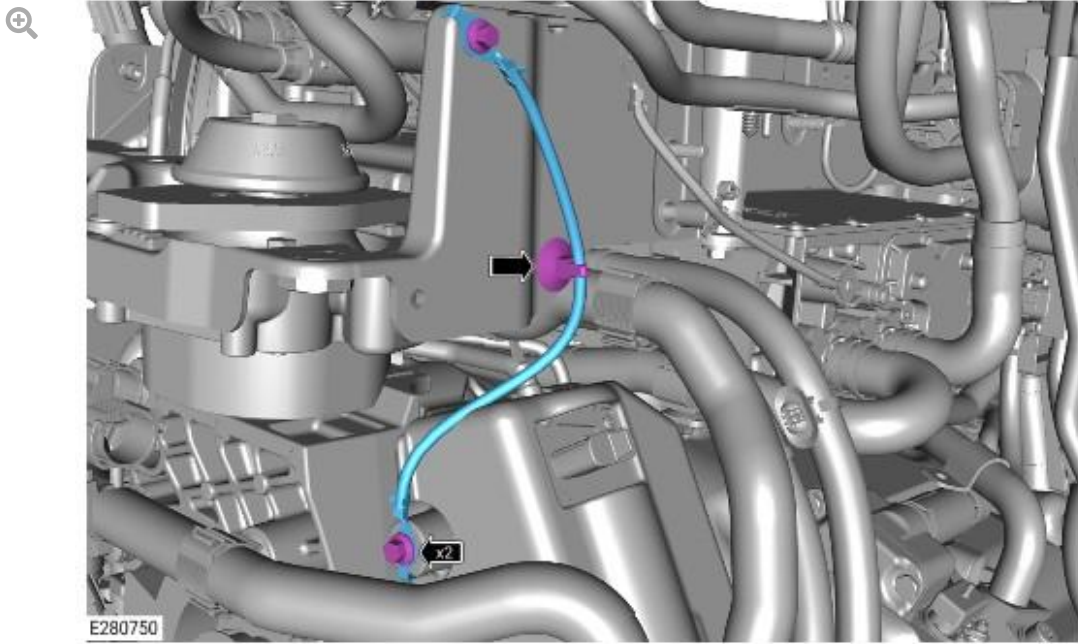
22. Renew the front **EDU** parking lock actuator (see TOPIx Workshop Manual section 601-01: Electrical Drive Unit - Removal and Installation - Electric Drive Unit Parking Lock Actuator).

23. Reverse steps 19 to 21.

### All vehicles

24. Reverse steps 4 to 16.

25.



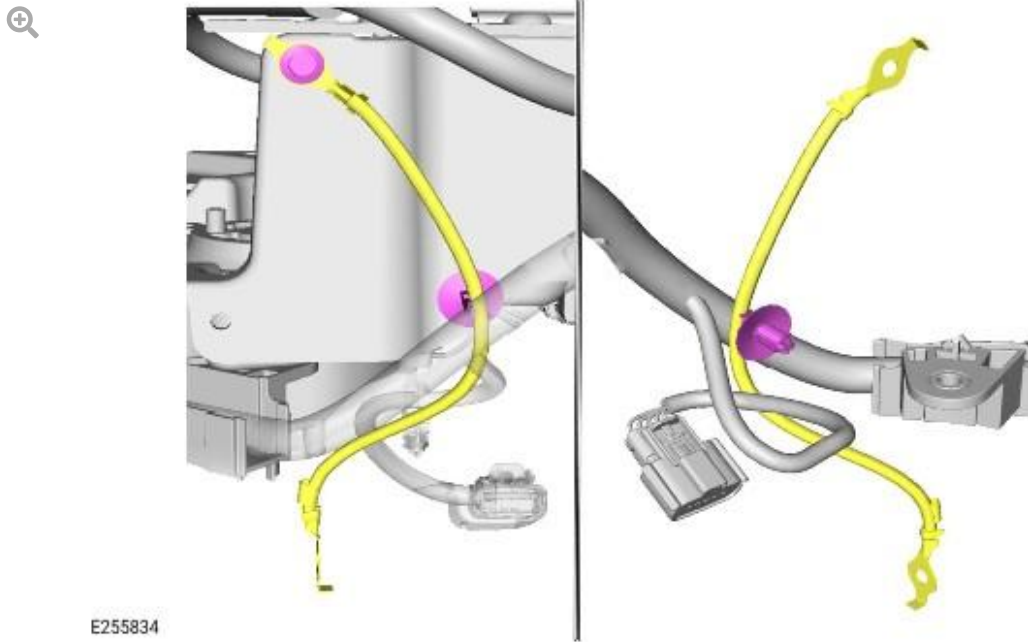
Install the new front EDU ground cable.

- Secure the ground cable with the retaining clip.
- Tighten the 2 bolts.
  - Torque: **12 Nm**

26.

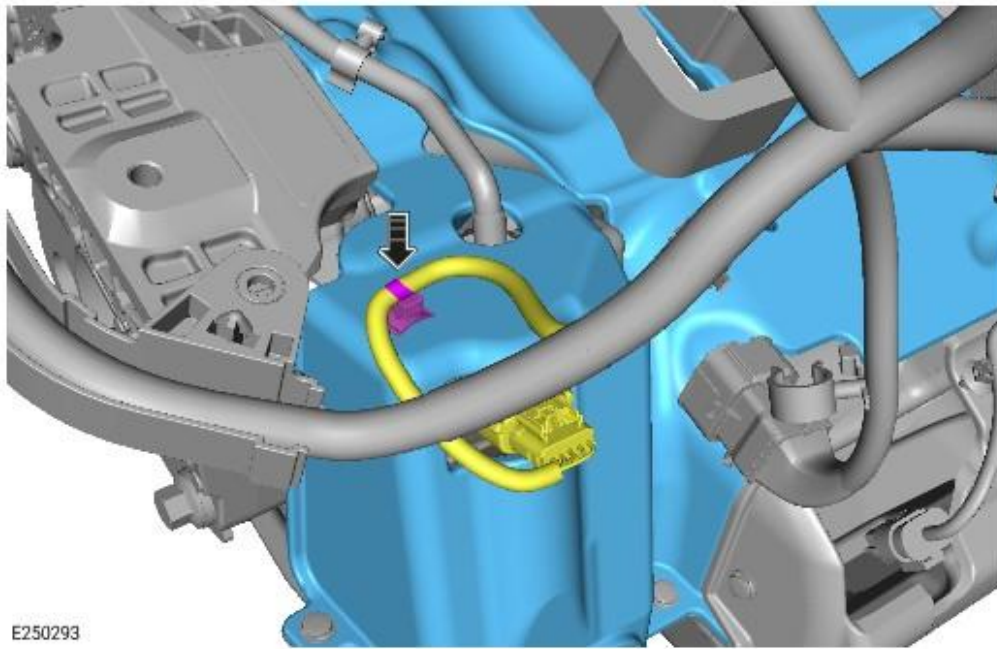
**NOTE:**

When installing the new front compartment wiring harness make sure the new front EDU ground cable **IS NOT** routed through the loop formed by the front EDU parking lock actuator break out harness, as shown in the illustration.



Install the new updated front compartment wiring harness (see TOPIx Workshop Manual section 418-02: Wiring Harnesses - Removal and Installation - Front Compartment Wiring Harness).

27.



E250293

During the installation of the front EDU, make sure the new wiring harness clip is installed in the NVH cover, as shown in the illustration.

28. An Electronic Product Quality Report (EPQR) must be submitted to provide a clear photograph of any damage found on the original front compartment wiring harness. A clear photograph of the electrical connector pins of the front EDU parking lock actuator, showing the signs of water ingress or corrosion, should also be provided.

**SERVICE INSTRUCTION B - 2021 MODEL YEAR ONWARDS VEHICLES ONLY:**

**CAUTION:**

**DO NOT** attempt to repair any damaged wiring found on the front compartment wiring harness. If the customer concern is still present after completing step 1 of the service instruction, a new front compartment wiring harness **MUST** be installed to repair the customer concern. Failure to follow this instruction may result in rejection of the warranty claim and subsequent repeat repairs due to the customer concern not being rectified in the first instance or the symptoms returning in the future.

**NOTES:**

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- Some components are shown removed for clarity.

**All vehicles**

1.

**NOTE:**

Make sure any other related repairs are completed before continuing with this technical bulletin.



E256857



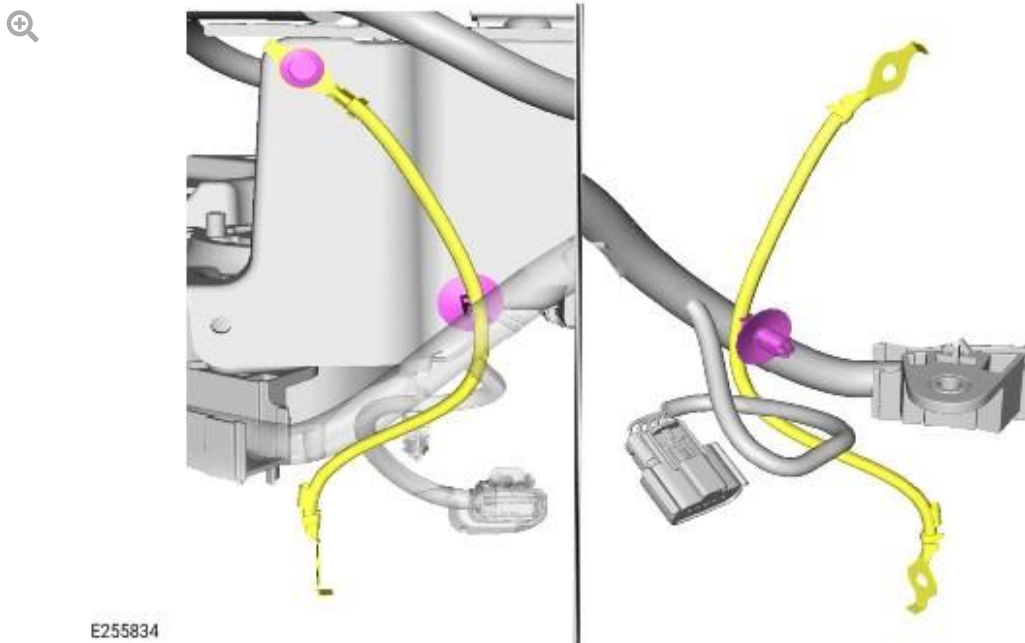
Refer to the TOPIx Workshop Manual section 100-00: General Information - Description and Operation - Diagnostic Trouble Code Index DTC: PCM for diagnosis and testing information relating to DTCs P07E4-00, P272C-13, P303F-15, P303F-29, P07E6-00 and P272C-11.

- If the EDU parking lock actuator connector (C1YE113A) wiring is found to be damaged as per the illustration, **continue to step 2**.
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- If any related repairs were identified **and** have been rectified **but** the customer concern is **not** present, **do not continue with this technical bulletin**.

2.

**NOTE:**

When installing the new front compartment wiring harness make sure the new front EDU ground cable **IS NOT** routed through the loop formed by the front EDU parking lock actuator break out harness, as shown in the illustration.



Renew the front compartment wiring harness (see TOPIx Workshop Manual section 418-02: Wiring Harnesses - Removal and Installation - Front Compartment Wiring Harness).

3. An EPQR must be submitted to provide a clear photograph of any damage found on the original front compartment wiring harness.