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2020.0 DEFENDER (LE), 418-02

WIRING HARNESSES

MAIN WIRING HARNESS – 90 (G2416568)

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REMOVAL

The following step(s) applies to:

All vehicles

**NOTES:**

- This procedure contains some variation in the illustrations depending on the vehicle specification, but the essential information is always correct.
- This procedure contains illustrations for left hand drive vehicles, right hand drive vehicles are similar.
- This procedure contains illustrations showing certain components removed to provide extra clarity.

1. Disconnect the startup battery ground cable.
Refer to: [Startup Battery Disconnect and Connect](#) (414-00 Battery and Charging System - General Information, General Procedures).

2. Raise and support the vehicle on a suitable 2 post lift.
Refer to: [Jacking and Lifting](#) (100-02 Jacking and Lifting, Description and Operation).

3. Remove both headlamps.
Refer to: [Headlamp Assembly](#) (417-01 Exterior Lighting, Removal and Installation).

4. Remove both front wheel arch liners.
Refer to: [Front Wheel Arch Liner](#) (501-02 Front End Body Panels, Removal and Installation).

5. Remove both rear wheel arch liners.
Refer to: [Rear Wheel Arch Liner](#) (501-08 Exterior Trim and Ornamentation, Removal and Installation).

6. Remove the left secondary bulkhead panel.
Refer to: [Secondary Bulkhead Left Panel](#) (501-02 Front End Body Panels, Removal and Installation).

7. Remove the right secondary bulkhead panel.
Refer to: [Secondary Bulkhead Right Panel](#) (501-02 Front End Body Panels, Removal and Installation).

The following step(s) applies to:

Vehicles with diesel engine

8. Remove the fuel cooler.

Refer to: [Fuel Cooler](#) (310-01C Fuel Tank and Lines - INGENIUM I4 2.0L Diesel, Removal and Installation).

The following step(s) applies to:

All vehicles

9. Remove the Fuel Fired Booster Heater (FFBH) assembly.

Refer to: [Fuel Fired Booster Heater](#) (412-02 Auxiliary Climate Control, Removal and Installation).

10. Remove the instrument panel cross-car beam.

Refer to: [Instrument Panel Cross-Car Beam](#) (501-12 Instrument Panel and Console, Removal and Installation).

11. Remove the second row seat.

Refer to: [Second Row Seat - 90](#) (501-10 Seating, Removal and Installation).

12. Remove the headliner.

Refer to: [Headliner - 90](#) (501-05, Removal and Installation).

13. Remove the rear bumper.

Refer to: [Rear Bumper](#) (501-19 Bumpers, Removal and Installation).

14. Remove the Central High Mounted Stop Lamp (CHMSL).

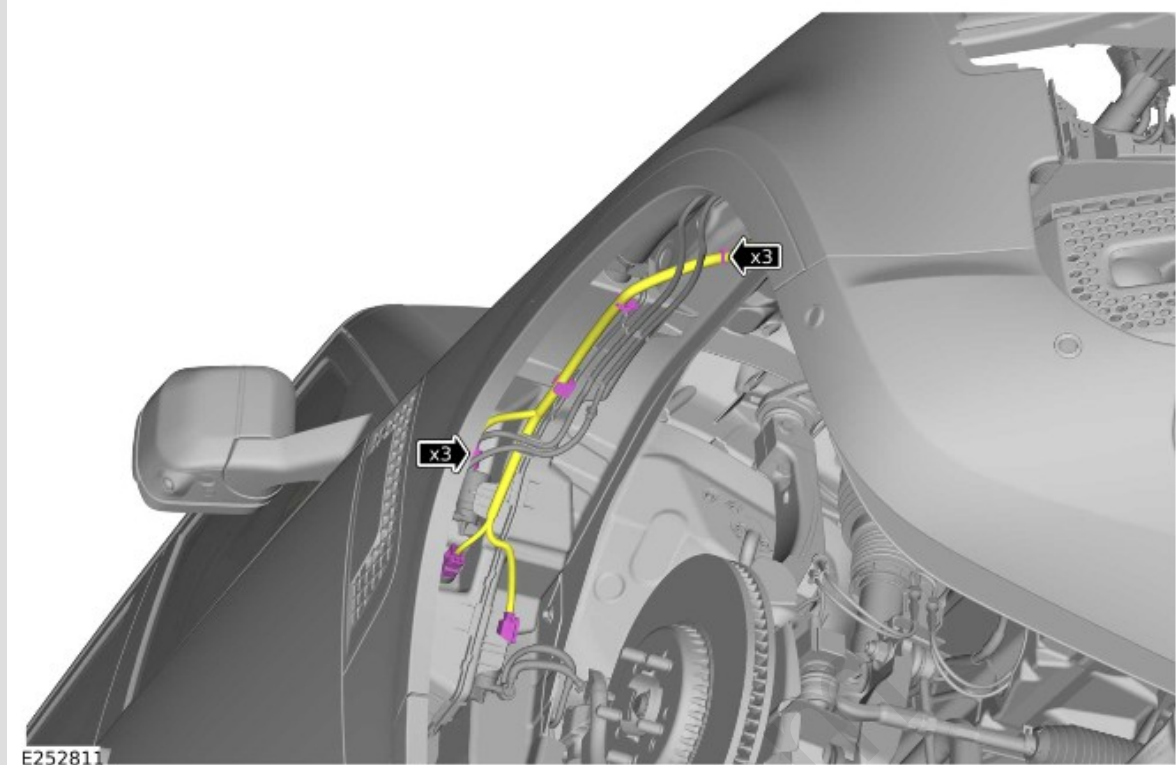
Refer to: [Central High Mounted Stop Lamp](#) (417-01 Exterior Lighting, Removal and Installation).

15. Remove the fuel tank.

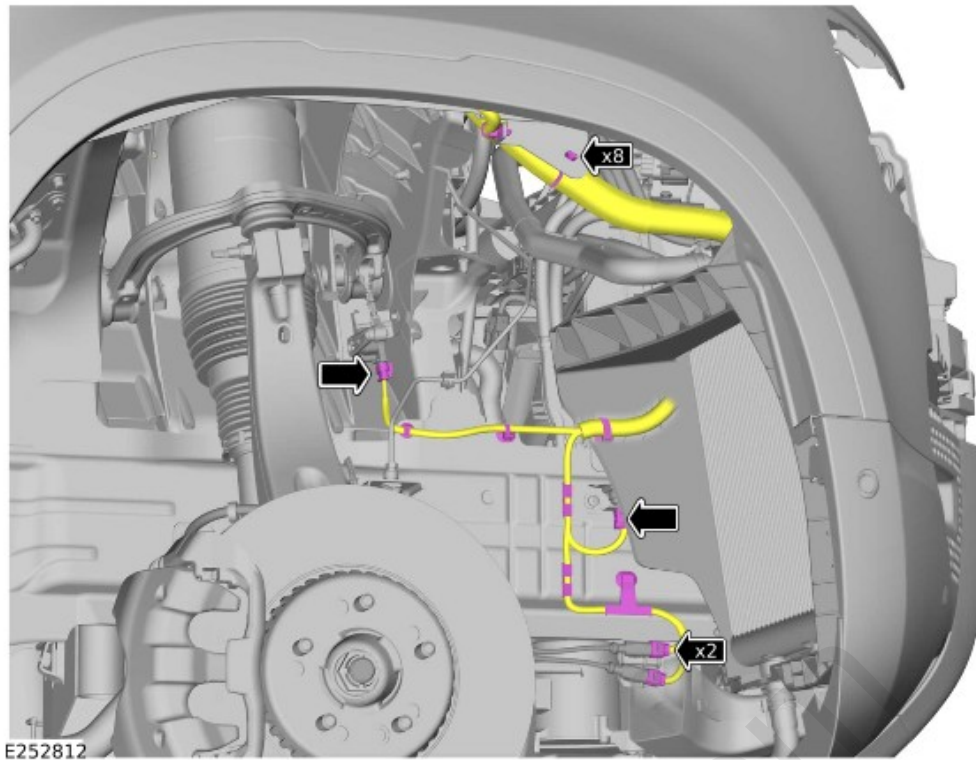
Refer to: [Fuel Tank - INGENIUM I4 2.0L Petrol, 90](#) (310-01A Fuel Tank and Lines - INGENIUM I4 2.0L Petrol/INGENIUM I4 2.0L Petrol - PHEV, Removal and Installation).

Refer to: [Fuel Tank - 90](#) (310-01B Fuel Tank and Lines - INGENIUM I6 3.0L Petrol, Removal and Installation).

Refer to: [Fuel Tank - 90](#) (310-01C Fuel Tank and Lines - INGENIUM I4 2.0L Diesel, Removal and Installation).

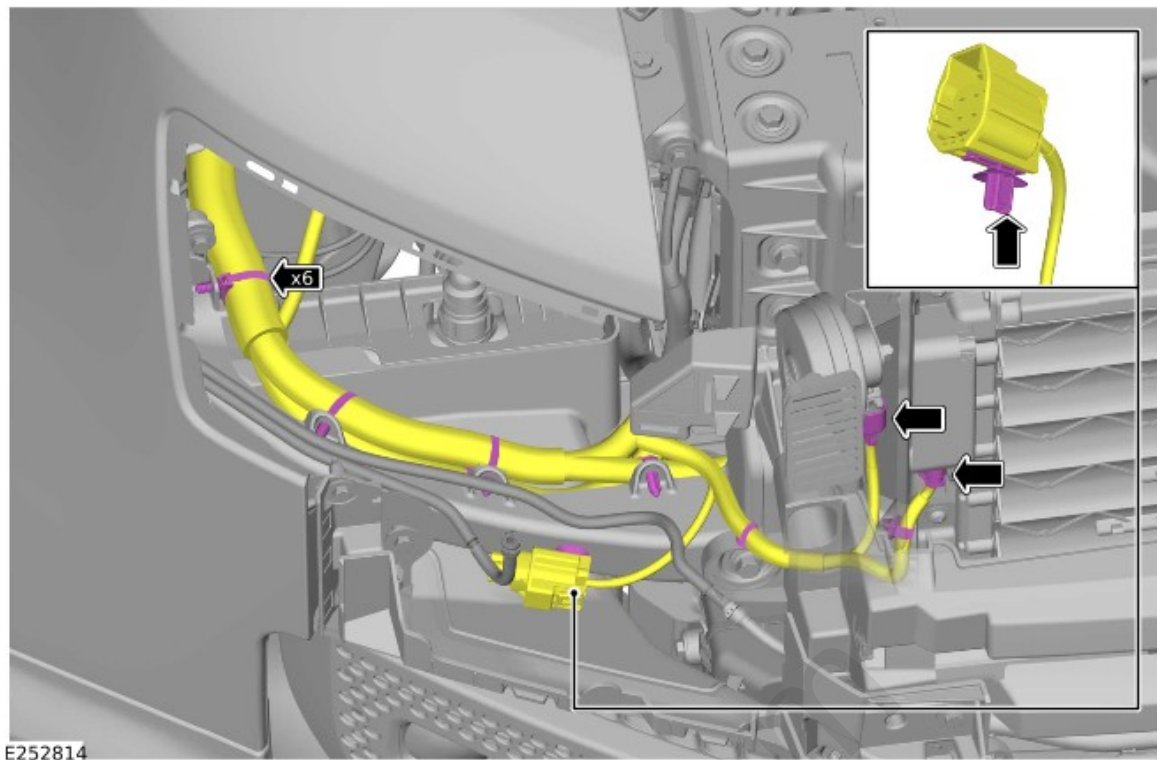


- Disconnect the 3 electrical connectors from the windshield washer reservoir.
- Release the 3 wiring harness clips.



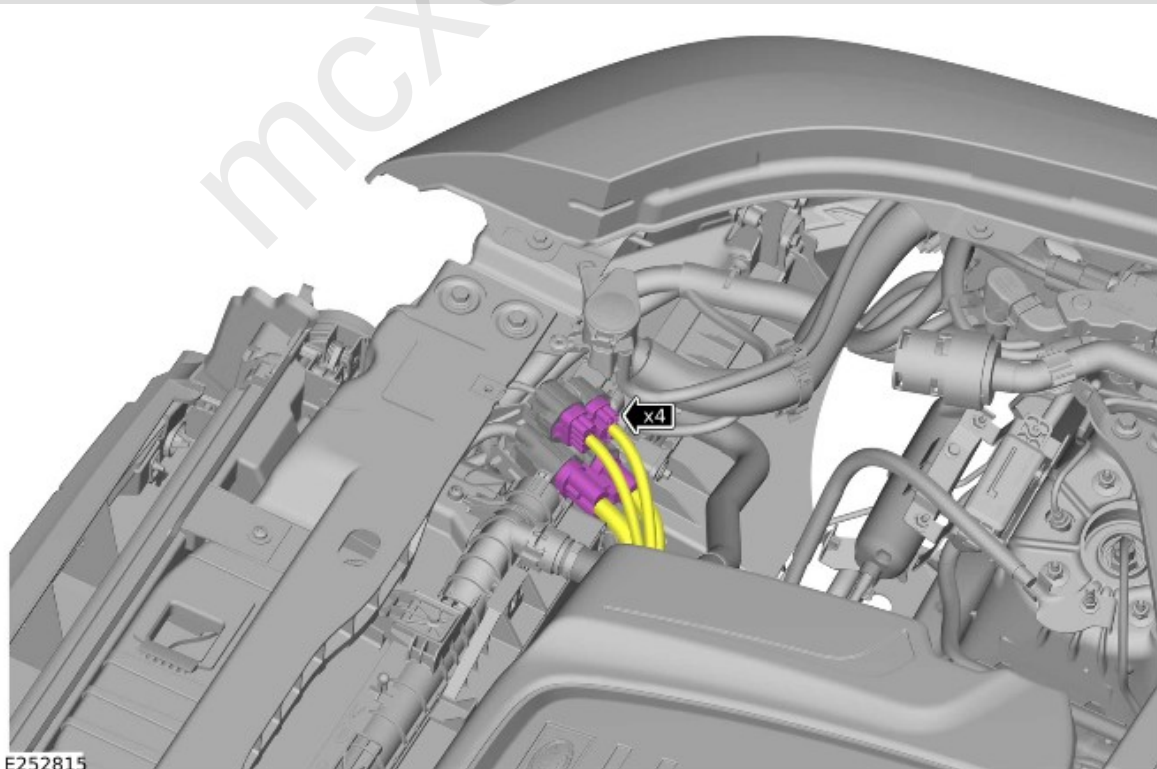
- If equipped, disconnect the 2 front right wheel speed sensor electrical connectors.
- Disconnect the front right accelerometer electrical connector.
- Disconnect the front right height sensor electrical connector.
- Release the 8 wiring harness clips.

18.



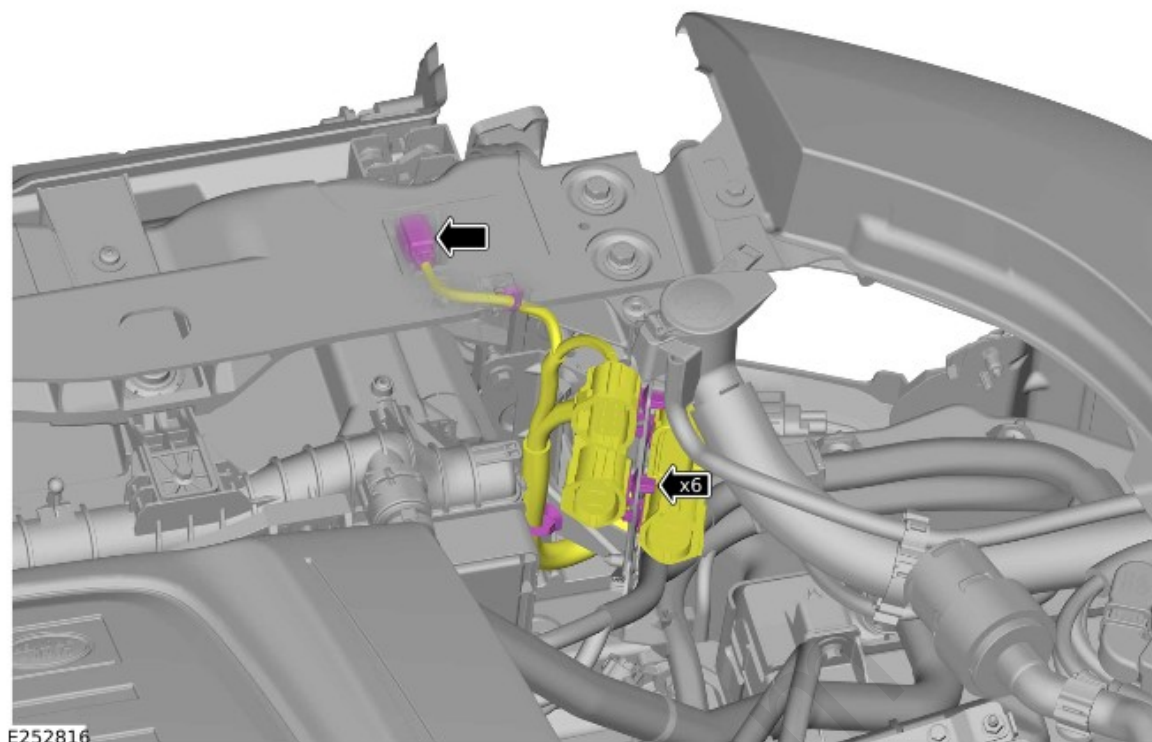
- Disconnect the right horn electrical connector.
- Disconnect the upper active grille air shutter electrical connector.
- Release the 6 wiring harness clips.

19.



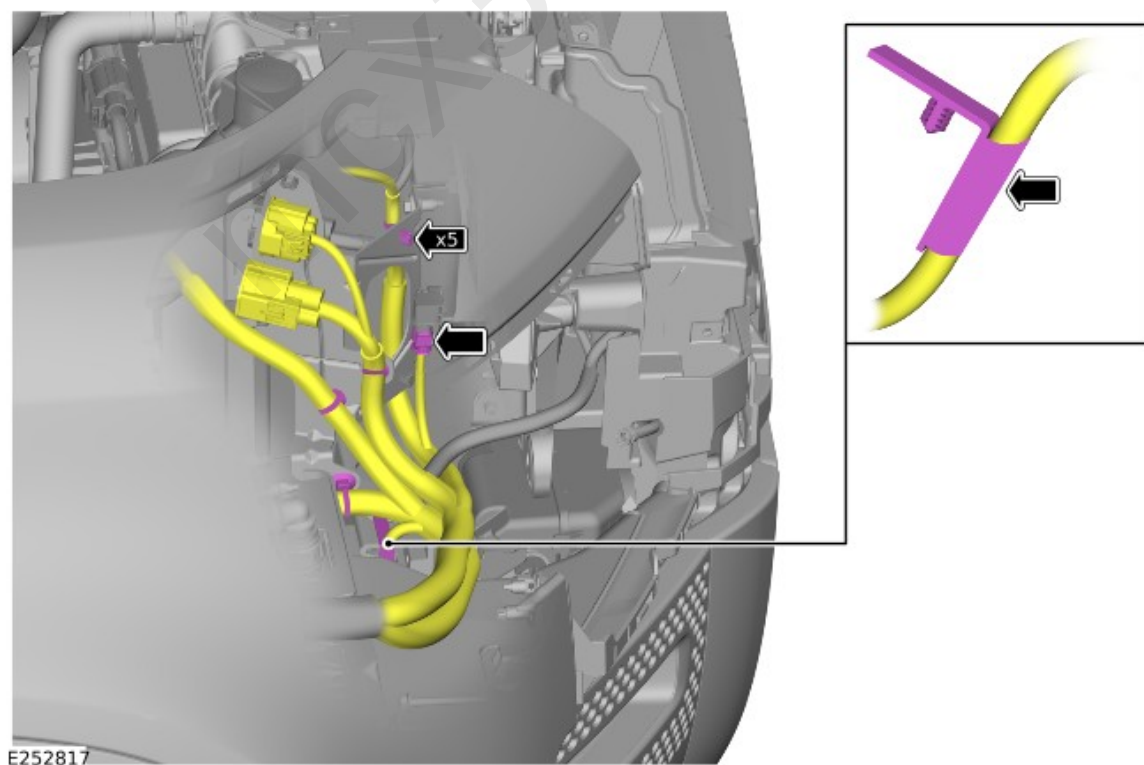
Disconnect the 4 electric power steering link harness electrical connectors.

20.



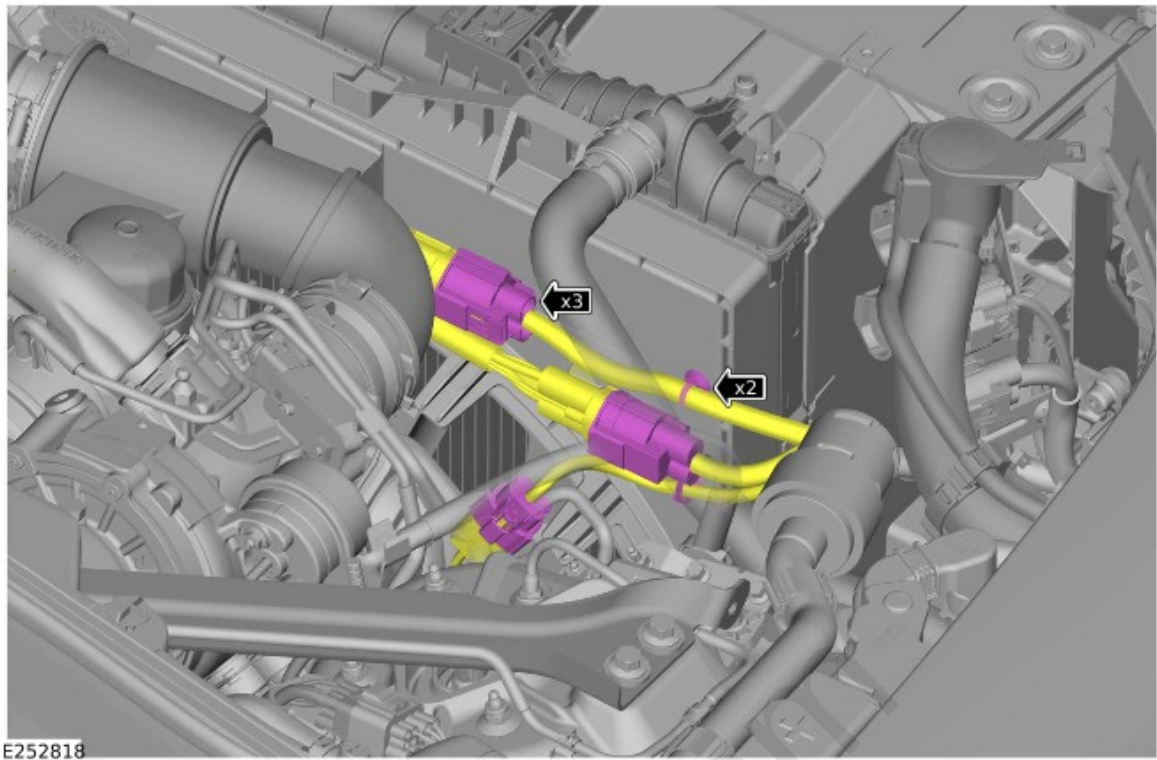
- Disconnect the right hood latch electrical connector.
- Release the 6 wiring harness clips.

21.



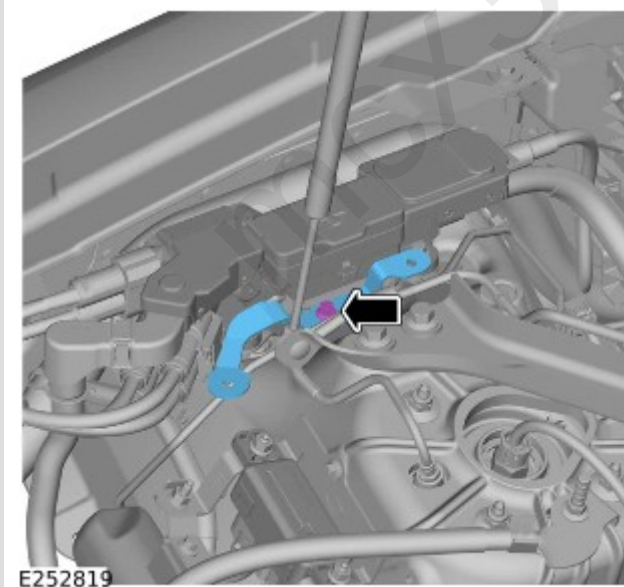
- Disconnect the front right impact sensor electrical connector.
- Release the 5 wiring harness clips.

22.



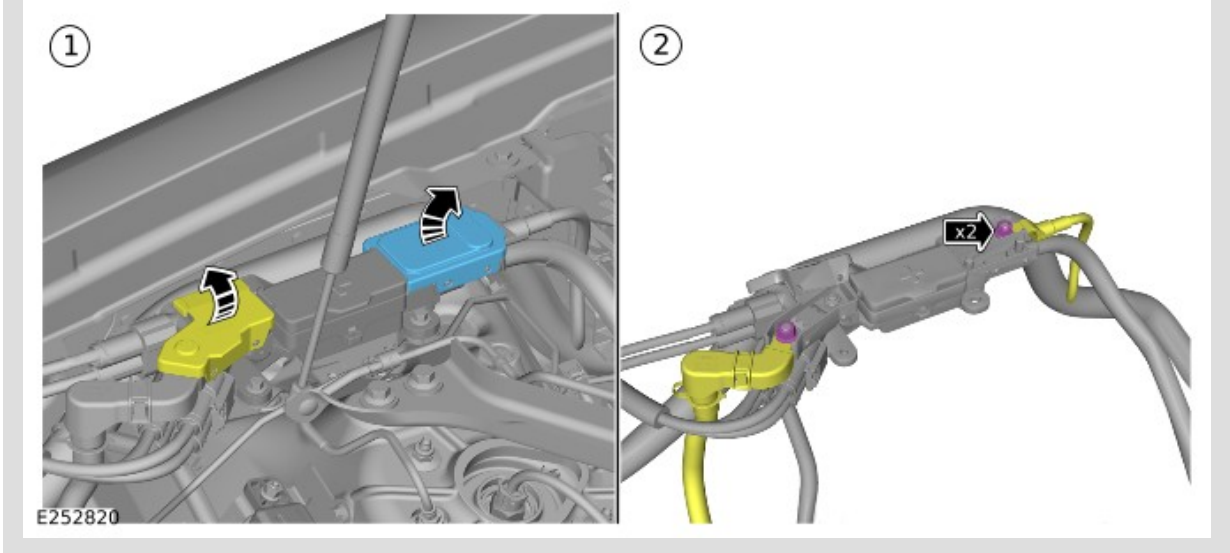
- Disconnect the 3 cooling module link harness electrical connectors.
- Release the 2 wiring harness clips.

23.



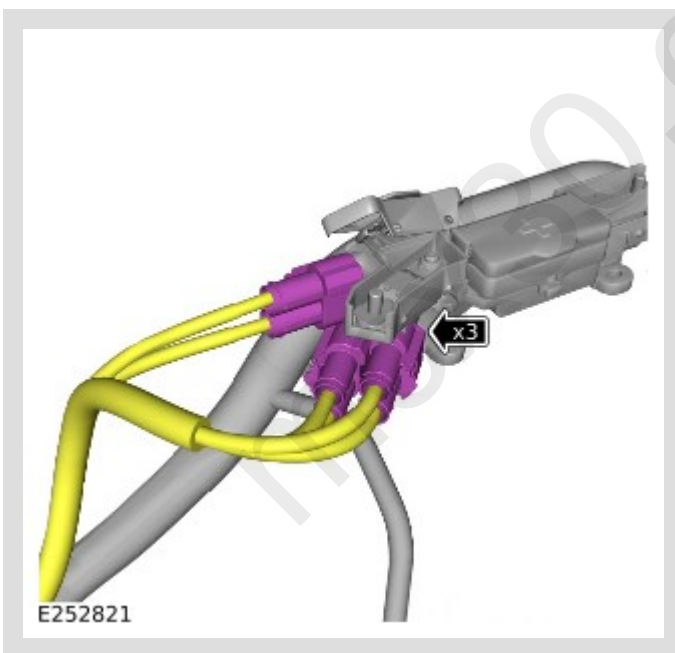
- Remove the bolt.
- Remove the Fuel Fired Booster Heater (FFBH) intake pipe bracket.

24.



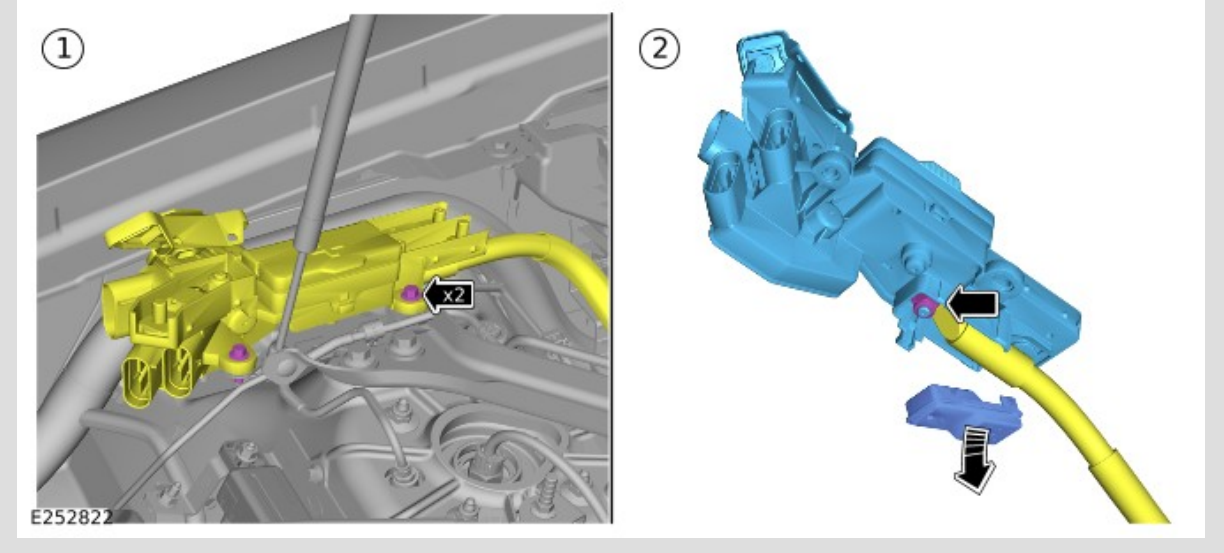
1. Remove and open the jump start terminal junction box access covers as illustrated.
2. Remove the 2 jump start terminal battery cable nuts.

25.



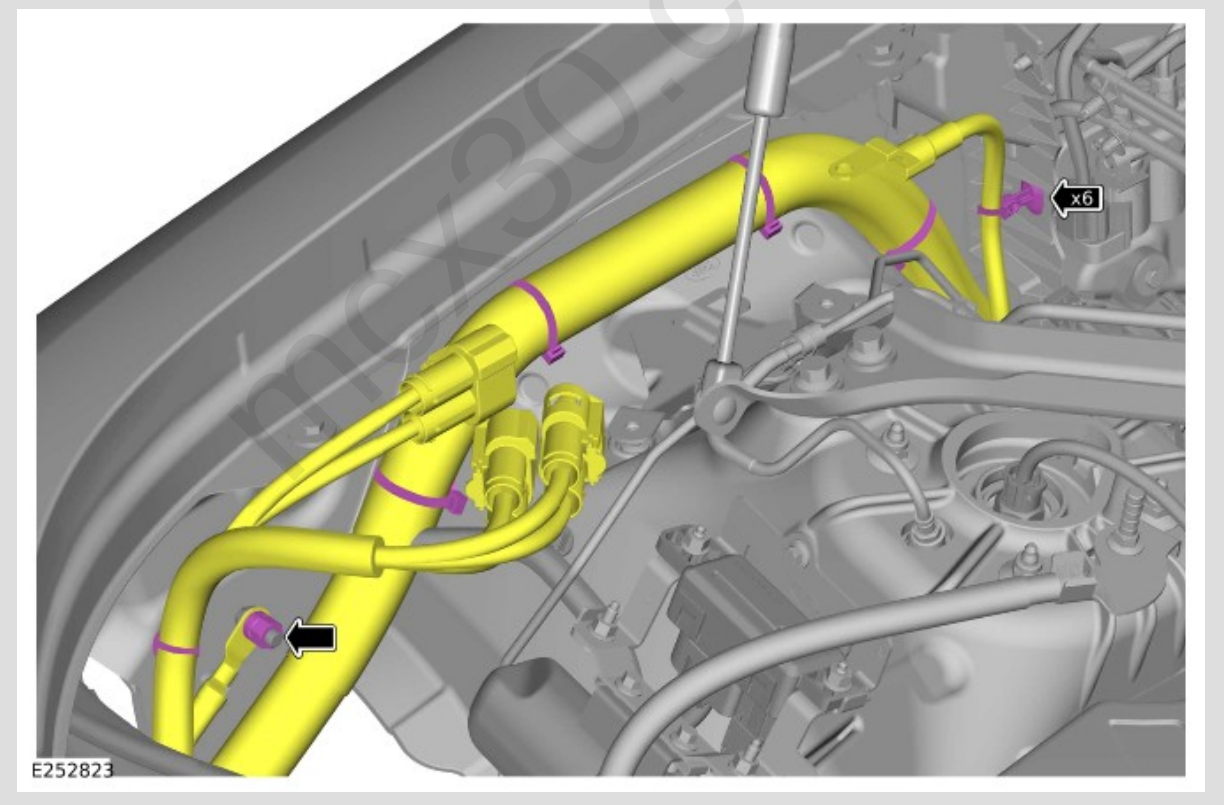
Disconnect the 3 jump start terminal electrical connectors.

26.

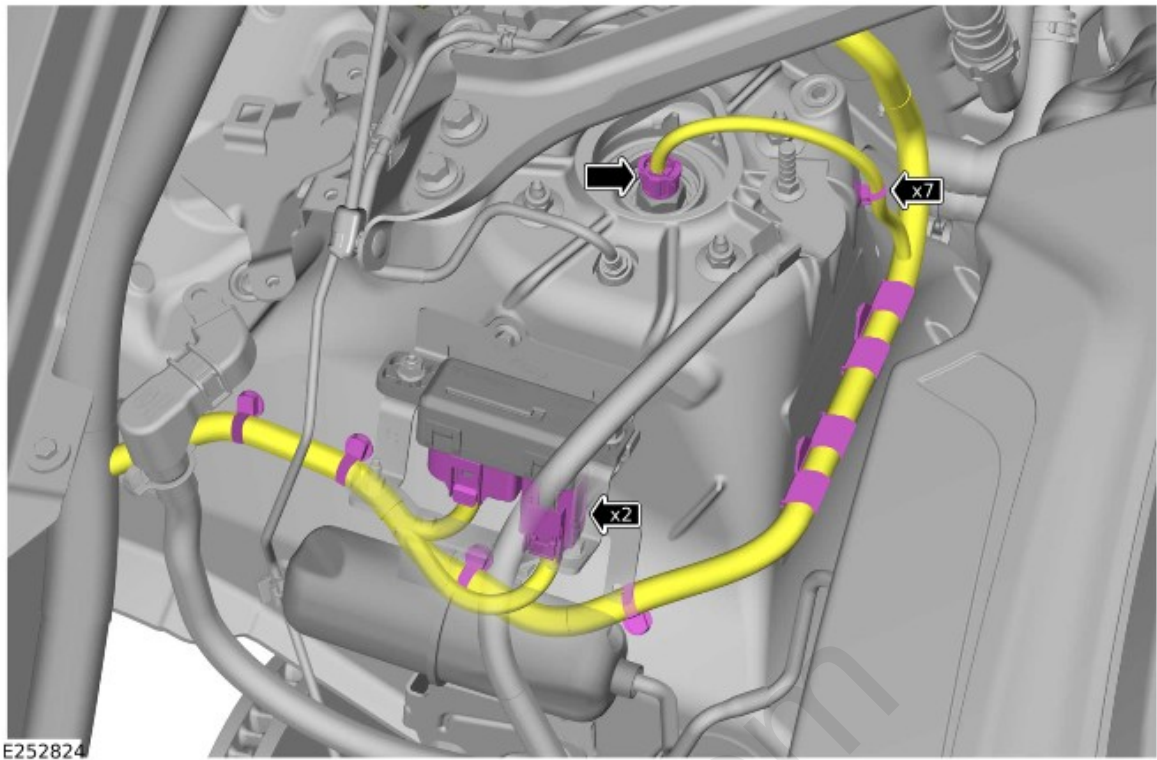


1. Remove the 2 bolts and release the jump start terminal.
2. Remove the access cover and remove the lower battery cable nut. Remove the jump start terminal.

27.



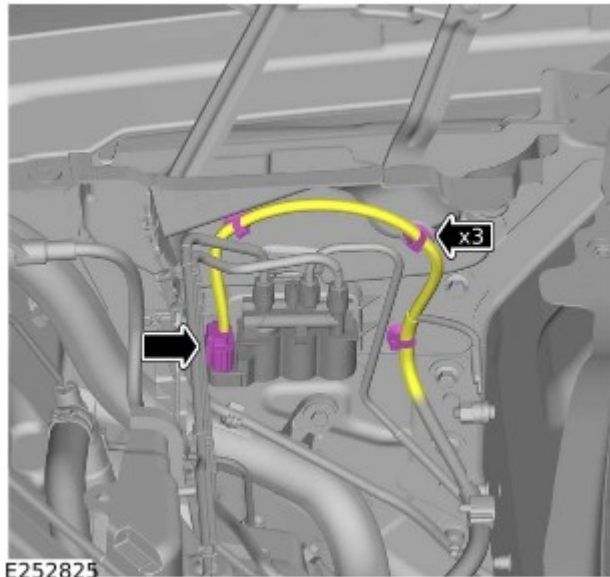
- Release the 6 wiring harness clips in the area of the front right wheel arch.
- Remove the ground cable nut.



- Disconnect the front right adaptive shock absorber electrical connector.
- If equipped, disconnect the 2 glow plug control module electrical connectors.
- Release the 7 wiring harness clips.

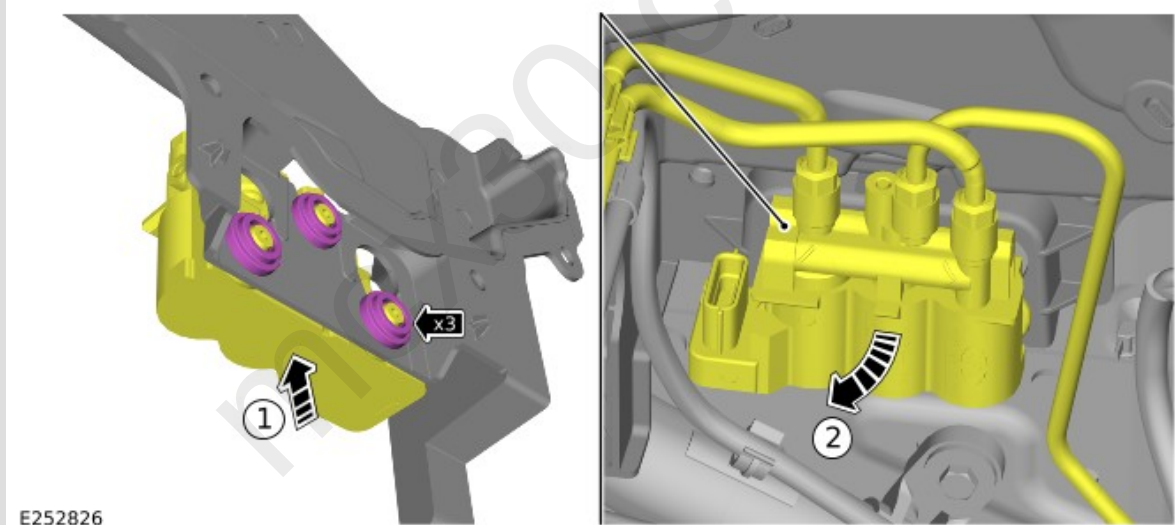
The following step(s) applies to:
Vehicles with air suspension

29.



- Disconnect the air suspension front valve block electrical connector.
- Release the 3 wiring harness clips.

30.

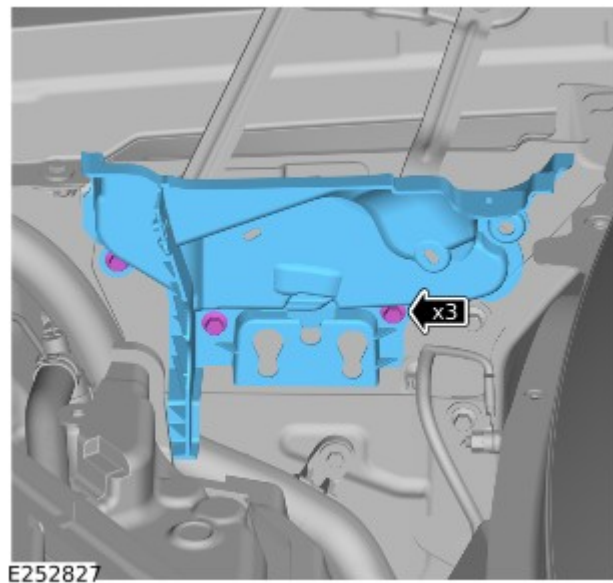


Release and reposition the air suspension valve block.

The following step(s) applies to:

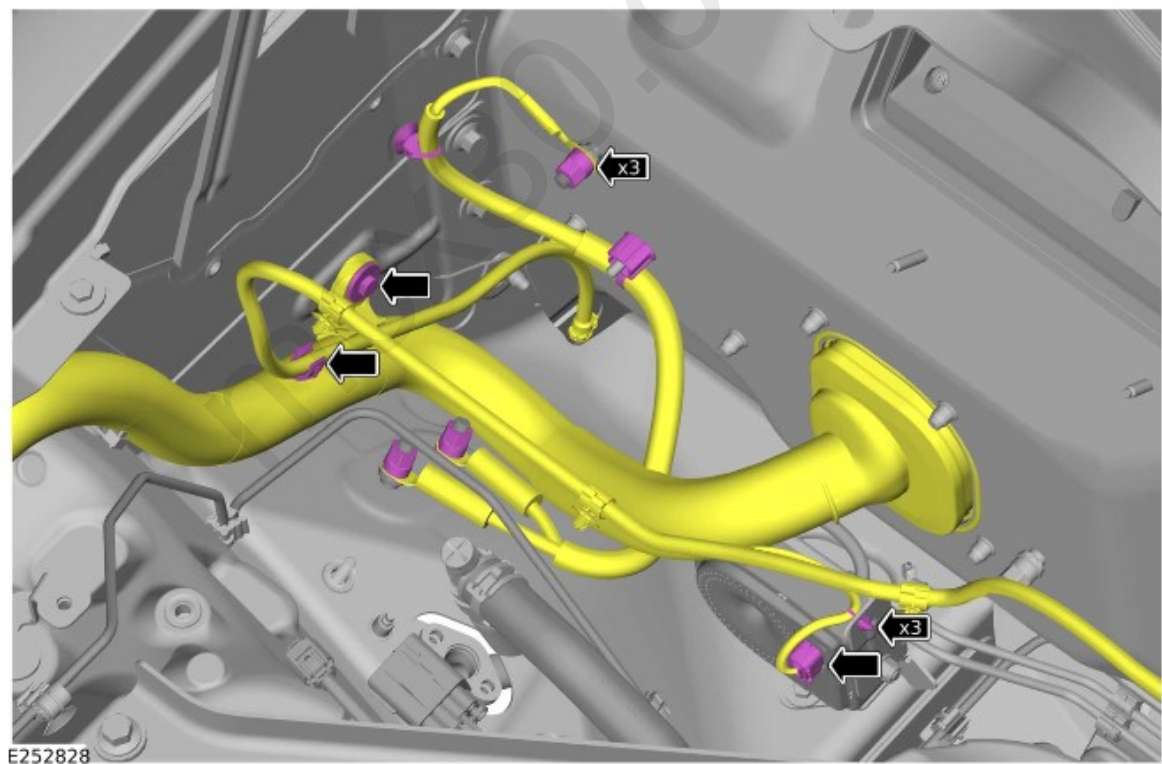
All vehicles

31.

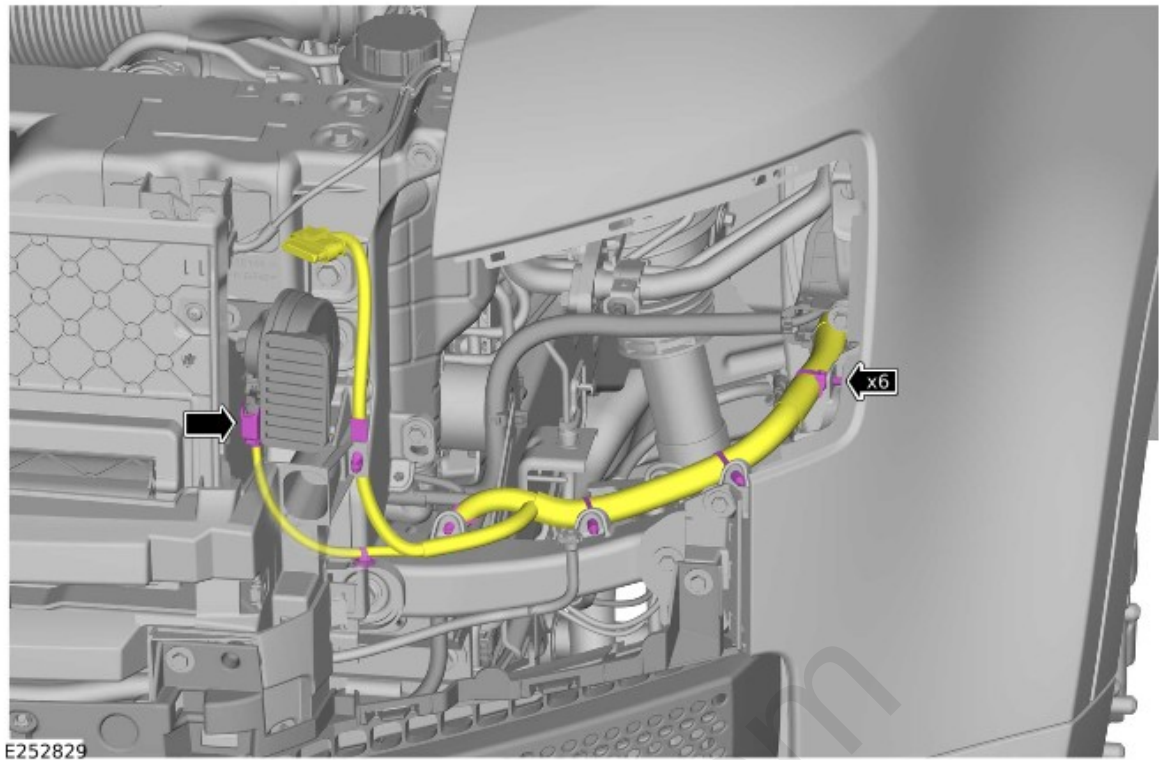


- Remove the 3 bolts.
- Remove the right bulkhead bracket.

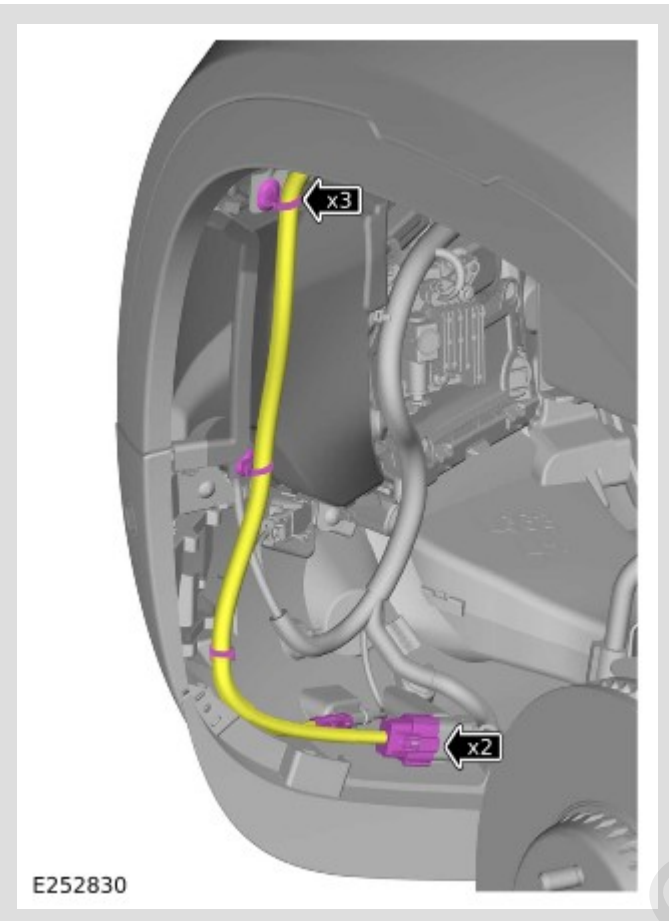
32.



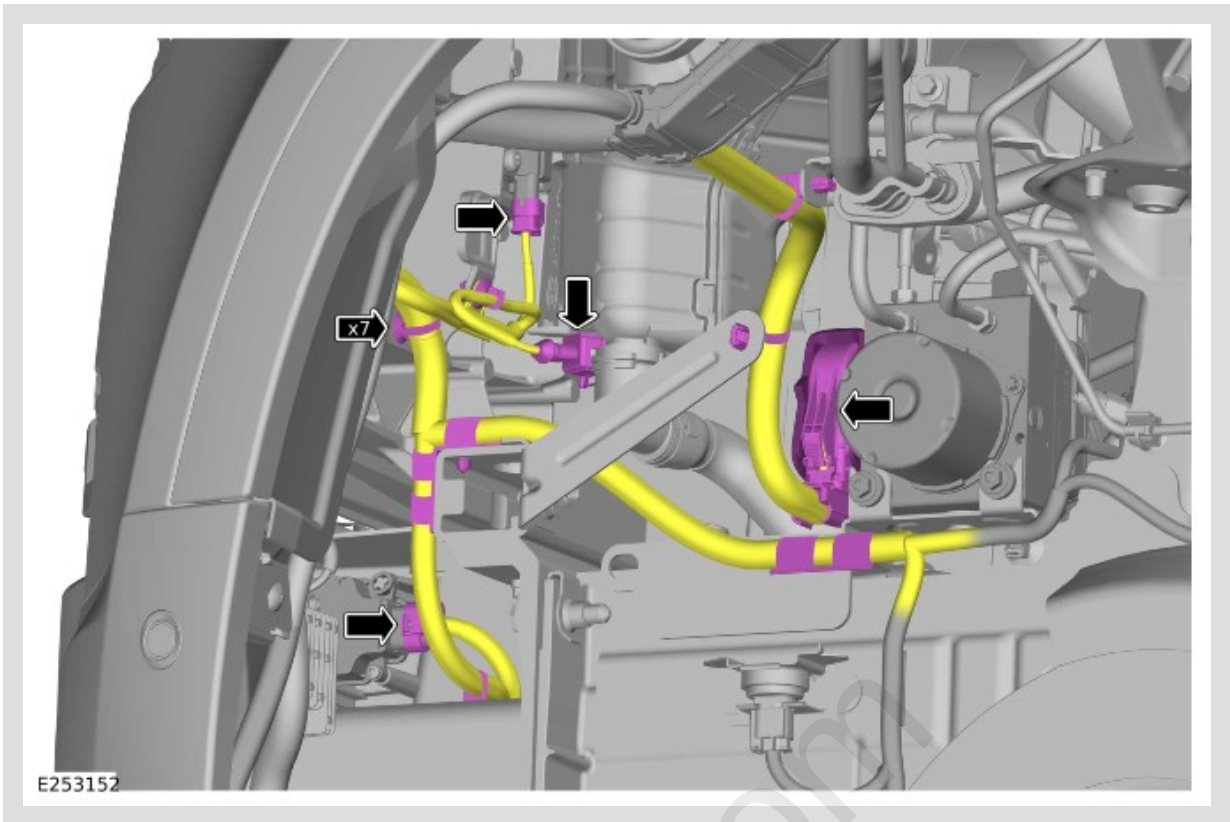
- Disconnect the Battery Back-Up Sounder (BBUS) electrical connector.
- Remove the 3 ground cable nuts.
- Remove the wiring harness bracket bolt.
- Release the 3 wiring harness clips.
- Release the washer fluid hose.



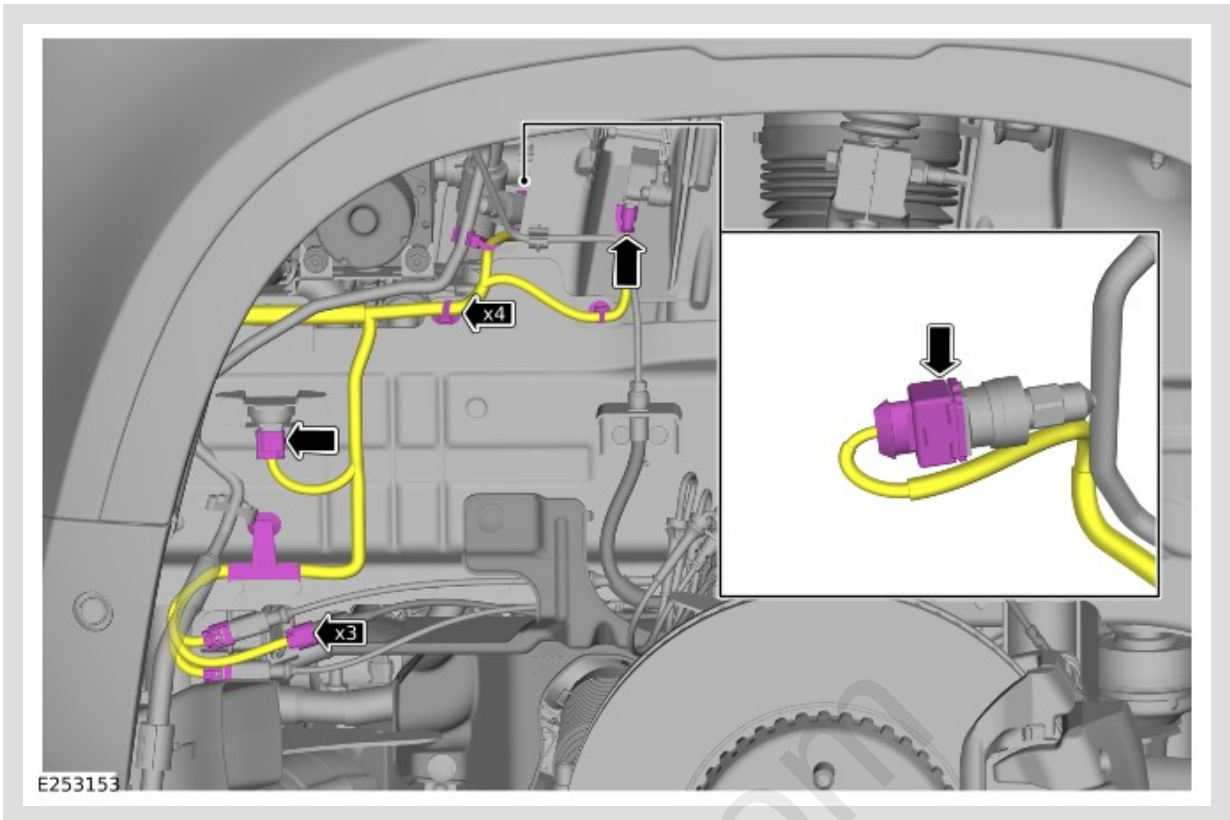
- Disconnect the left horn electrical connector.
- Release the 6 wiring harness clips.



- Disconnect the front bumper link harness electrical connector.
- Release the 3 wiring harness clips.

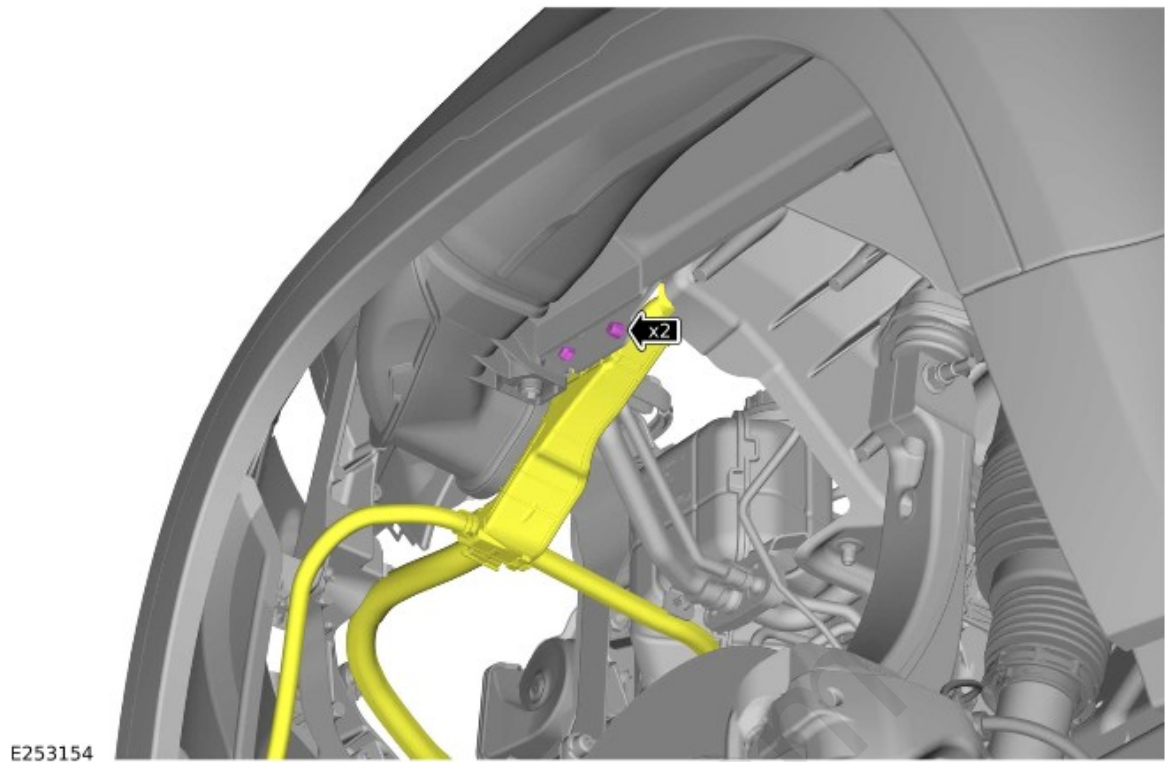


- Disconnect the Anti-Lock Brake System Control Module (ABS) electrical connector.
- Disconnect the front left impact sensor electrical connector.
- Disconnect the lower active grille air shutter electrical connector.
- Disconnect the coolant expansion tank level sensor electrical connector.
- Release the 7 wiring harness clips.



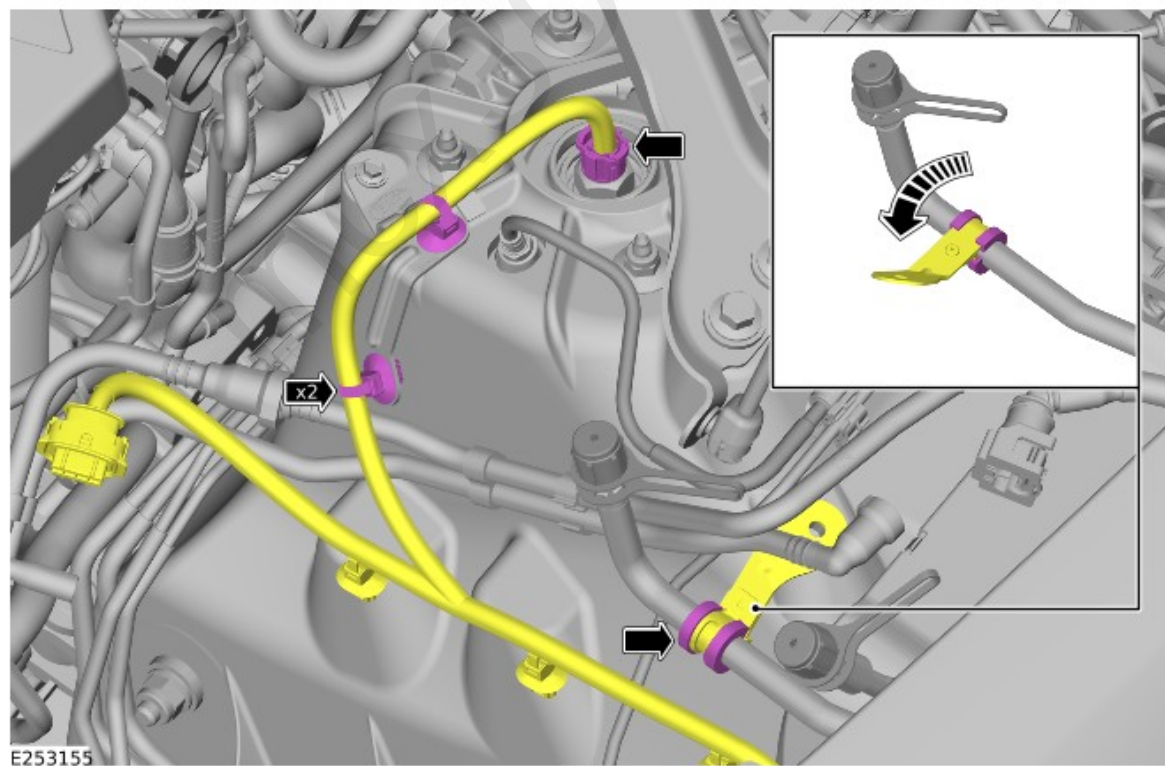
- If equipped, disconnect the 2 front left wheel speed sensor electrical connectors.
- Disconnect the front left accelerometer electrical connector.
- Disconnect the front left height sensor electrical connector.
- Disconnect the Air Conditioning (A/C) refrigerant pressure sensor electrical connector.
- Disconnect the brake pad wear sensor electrical connector.

37.



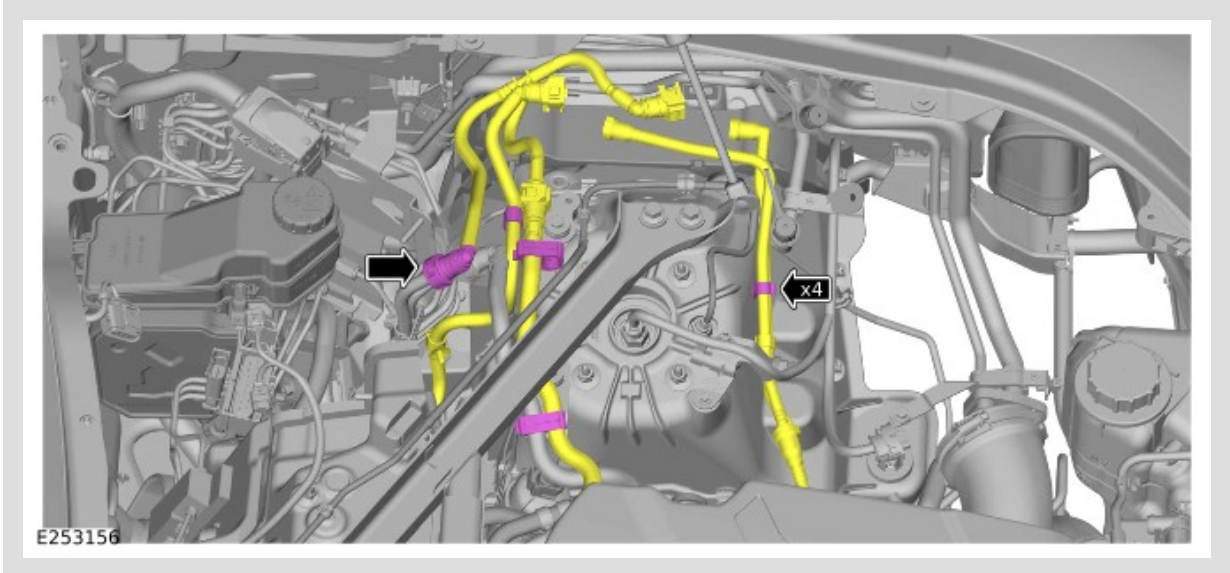
Release the wiring harness bracket from the front left wheel arch.

38.



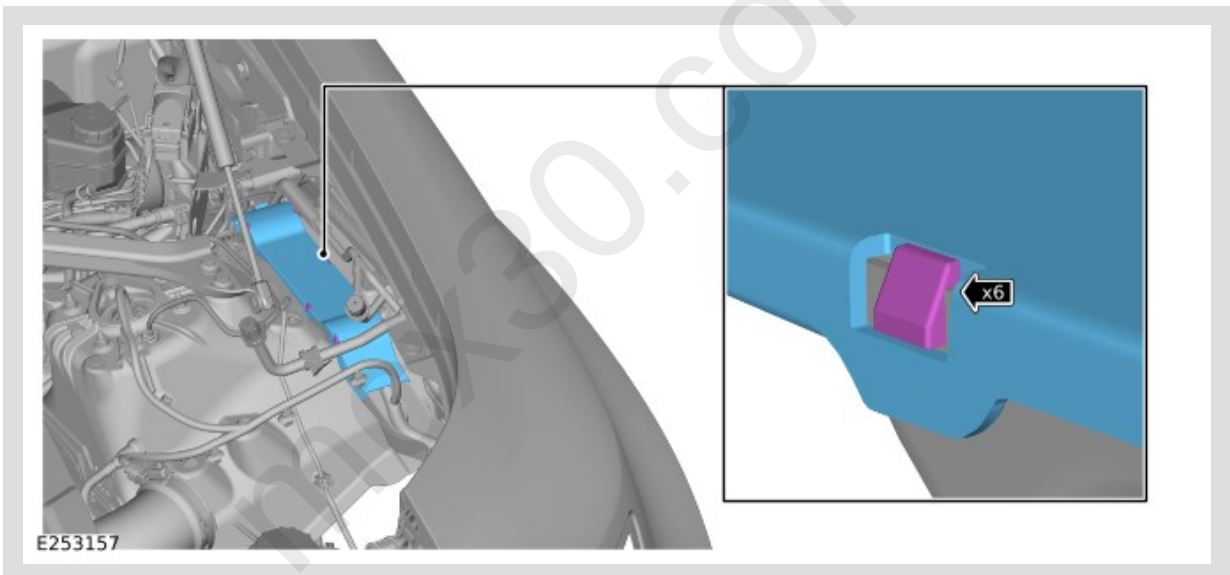
- Disconnect the front left adaptive shock absorber electrical connector.
- Release the 2 wiring harness clips.
- Reposition the A/C pipe bracket.

39.



- Release the fuel cooler fuel line.
- Release the 4 pipe clips.

40.



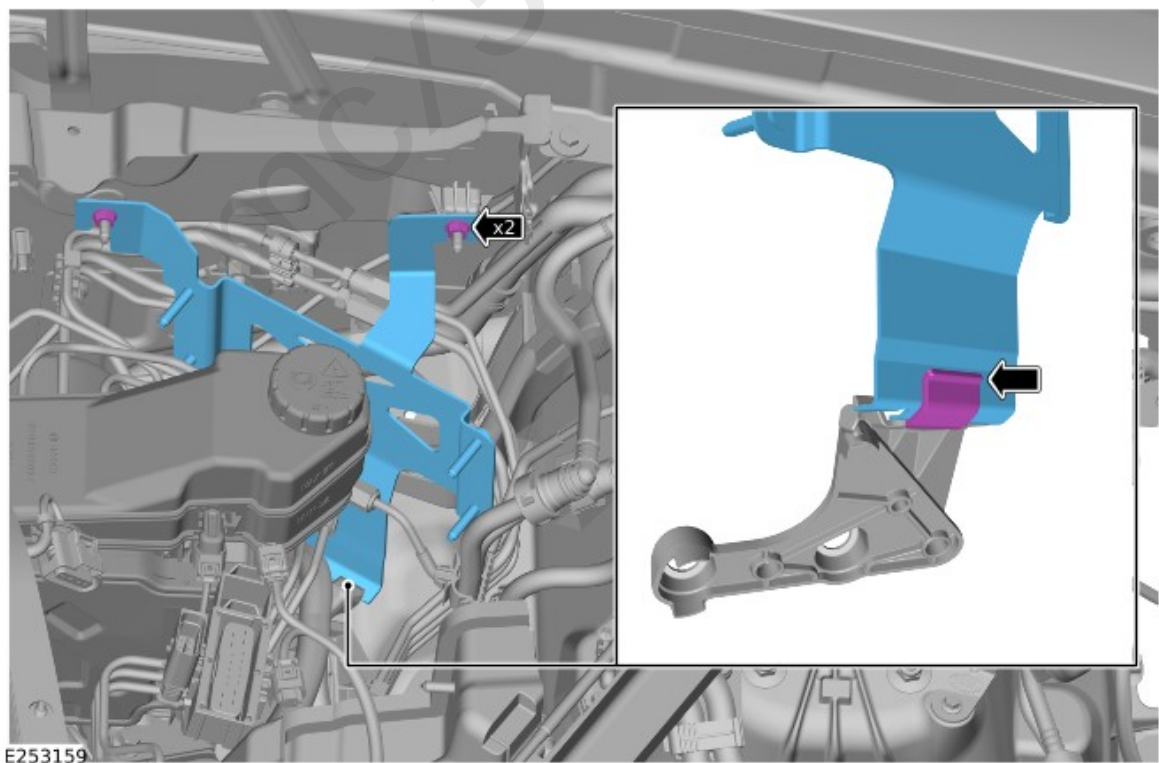
Remove the front left wheel arch wiring harness bracket cover.

41.

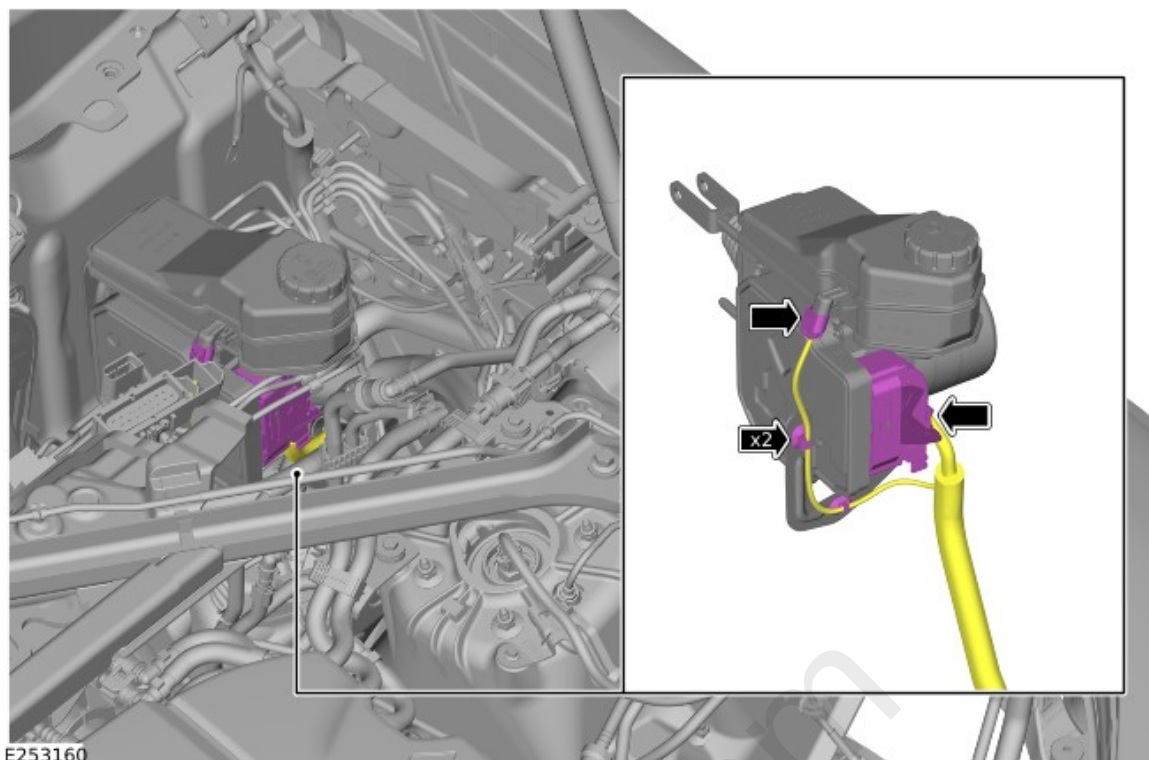


- Release the 9 windshield wiper motor link harness clips.
- Remove the 2 ground cable nuts.

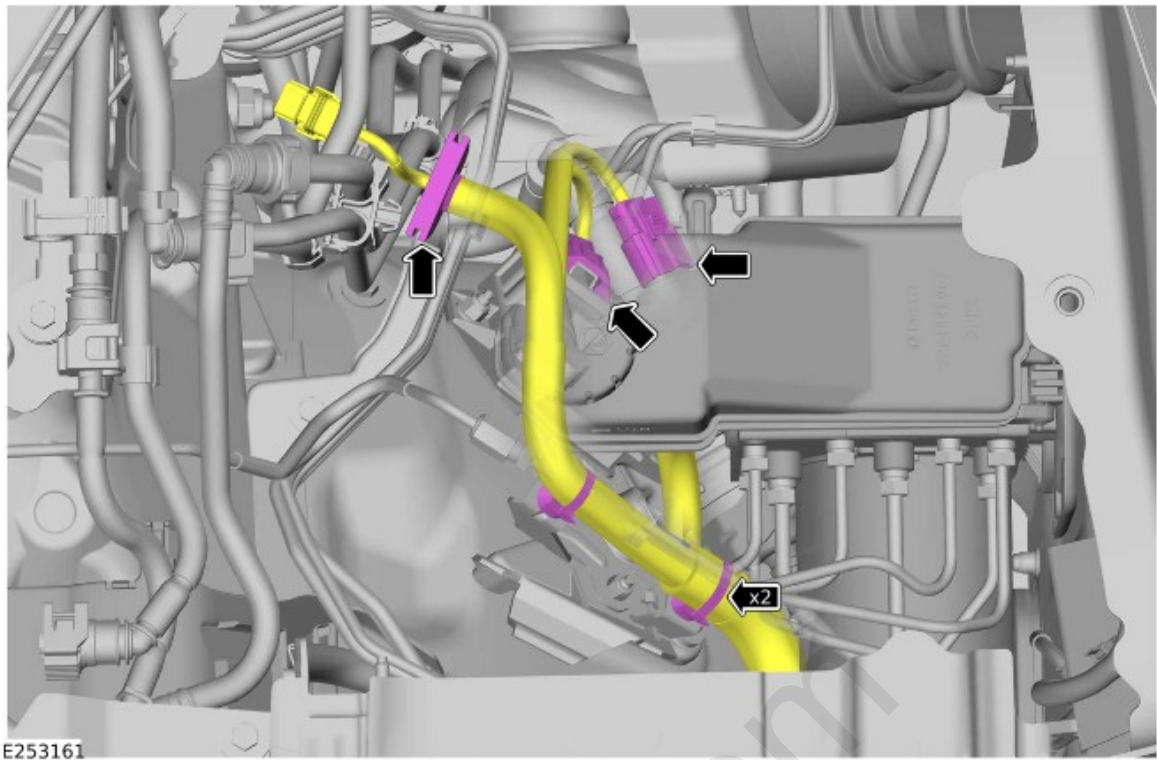
42.



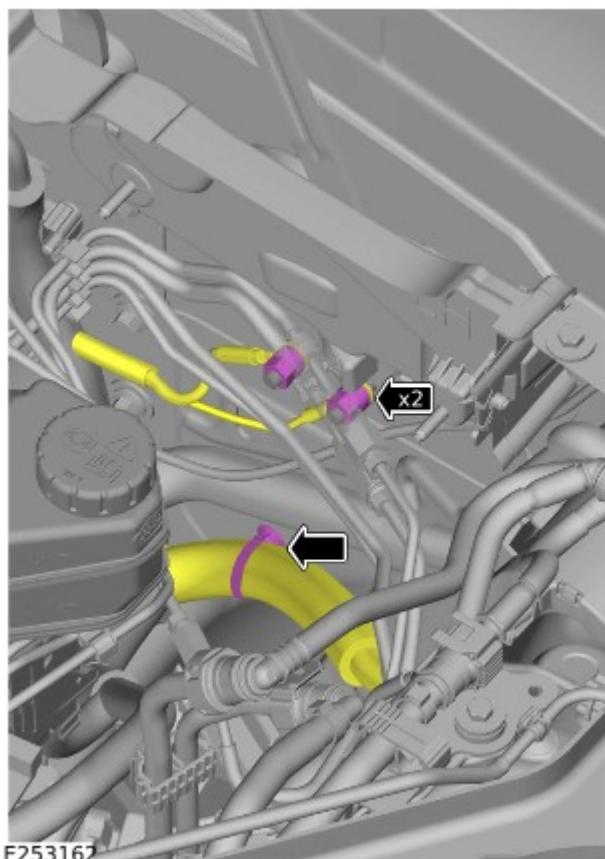
- Remove the 2 nuts.
- Remove the Powertrain Control Module (PCM) bracket.



- Disconnect the Brake Booster Module (BBM) electrical connector.
- Disconnect the brake fluid level sensor electrical connector.
- Release the 2 wiring harness clips.

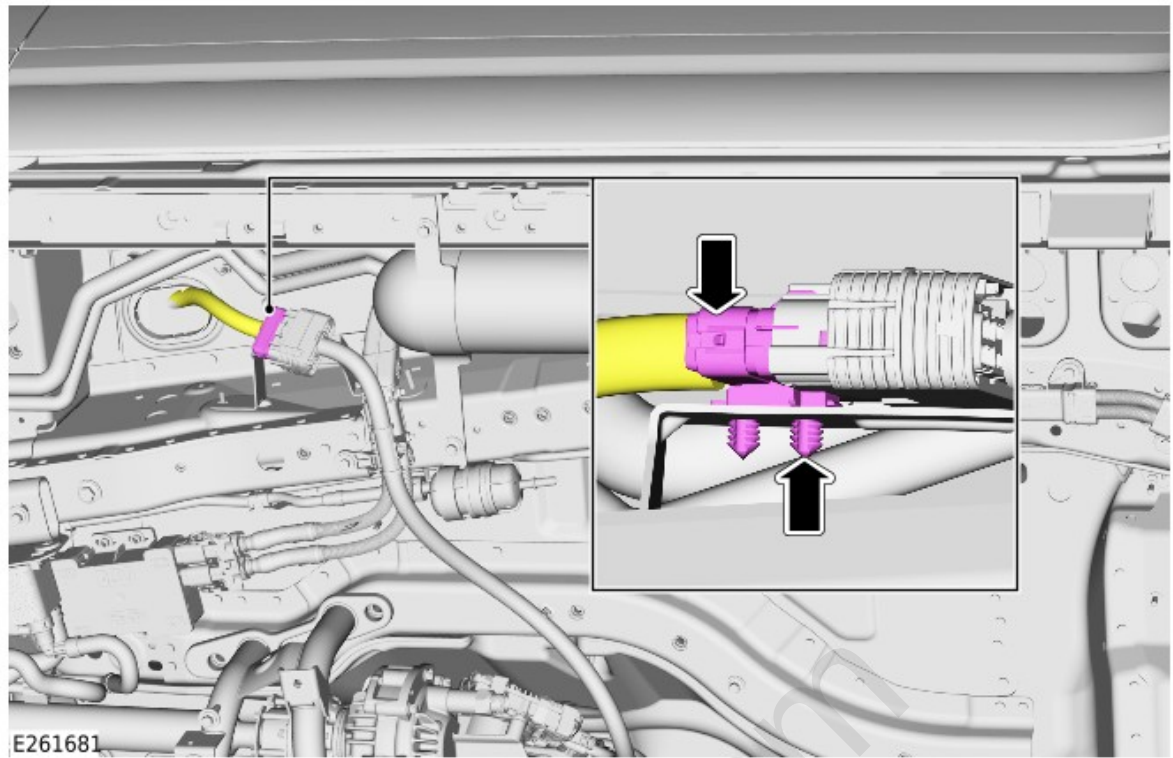


- If equipped, disconnect the auxiliary fuel pump electrical connector.
- If equipped, disconnect Fuel Pump Driver Module (FPDM) electrical connector.
- Release the 2 wiring harness clips.
- Release the wiring harness grommet from the left secondary bulkhead panel.



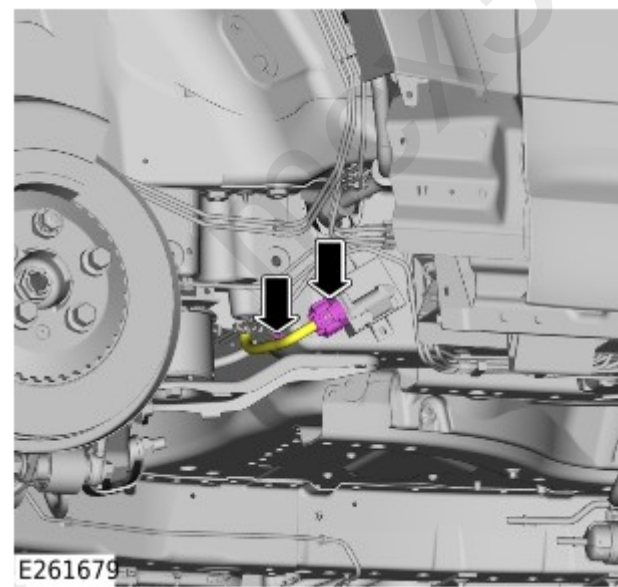
- Remove the 2 ground cable nuts at the area of the left bulkhead bracket.
- Release the wiring harness clip.

46.



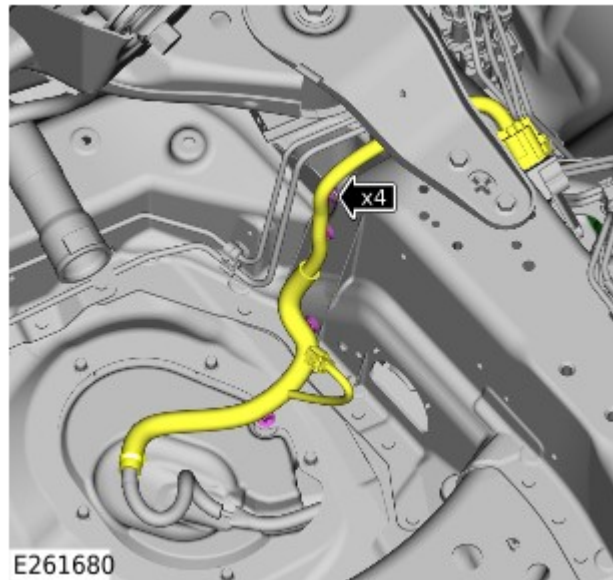
- Release the wiring harness clips.
- Disconnect the transmission link harness electrical connector.

47.



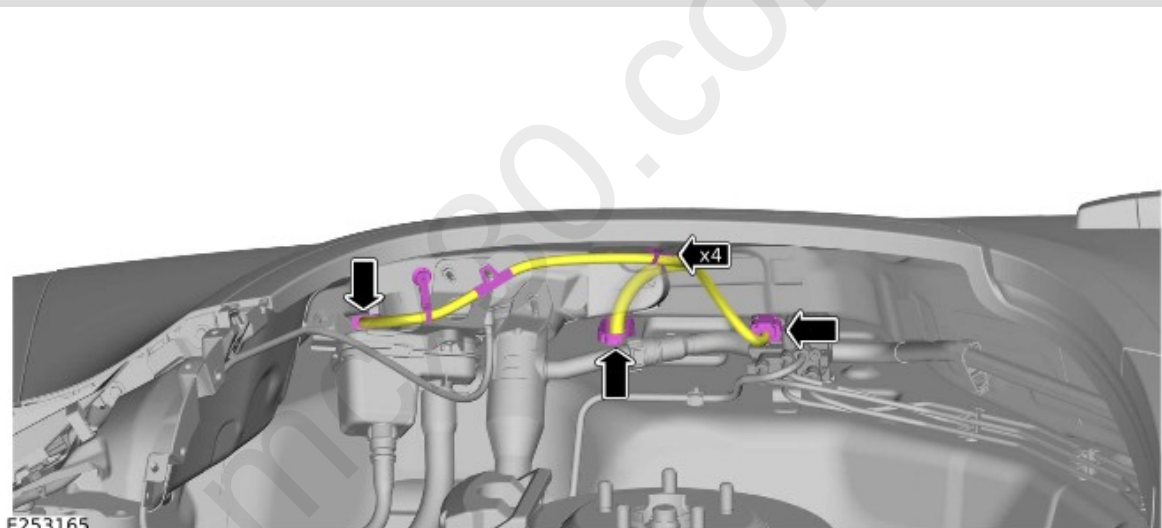
- Disconnect the FPDM electrical connector.
- Release the wiring harness clip.

48.



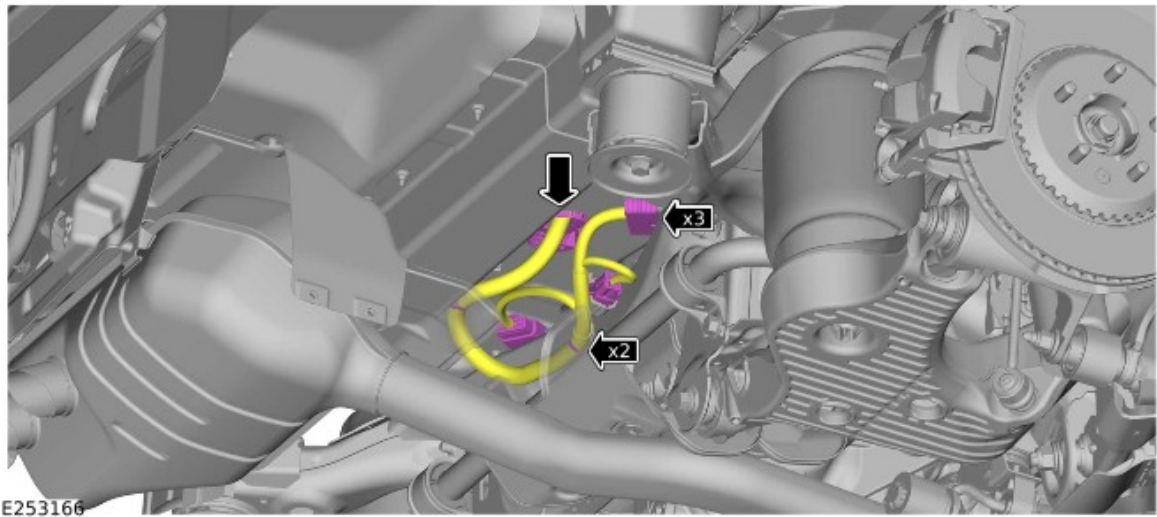
Release the 4 wiring harness clips.

49.



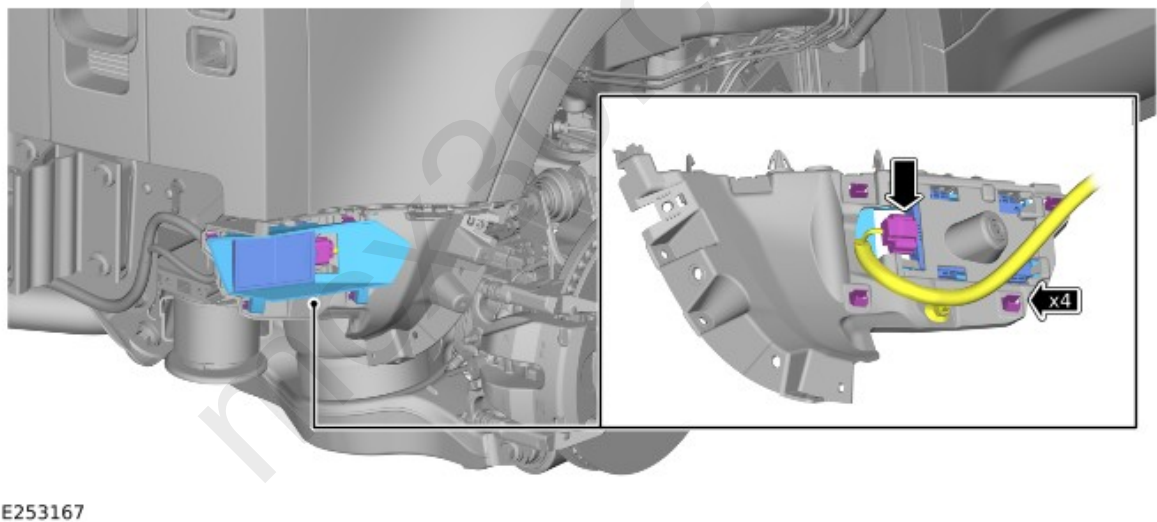
- If equipped, disconnect the air suspension rear valve block electrical connector.
- Disconnect the fuel flap assembly electrical connector.
- Release the 4 wiring harness clips.
- Release the wiring harness grommet.

50.



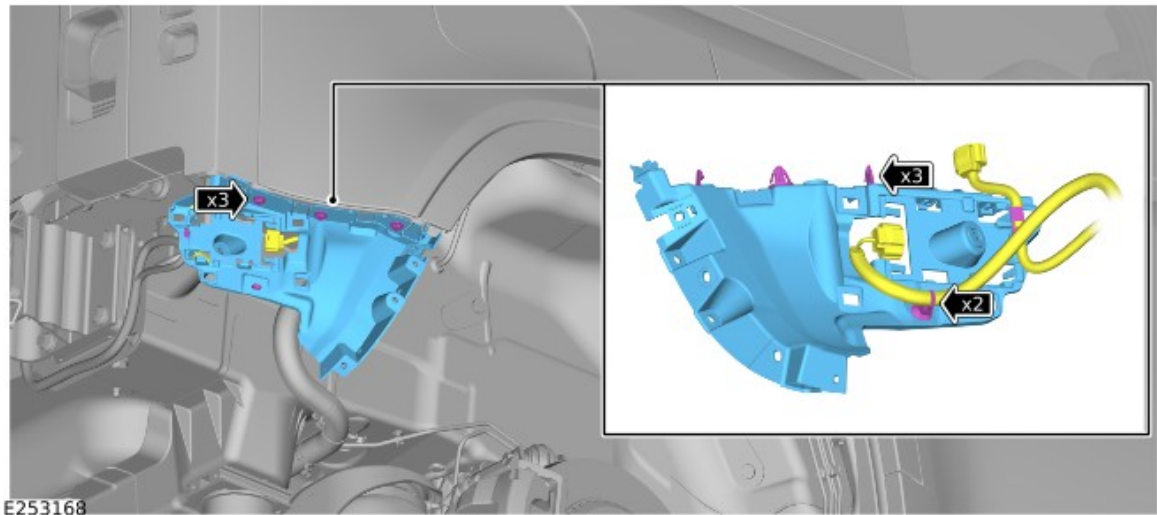
- Disconnect the 3 rear subframe link harness electrical connectors.
- Release the 3 wiring harness clips.
- Release the wiring harness grommet.

51.



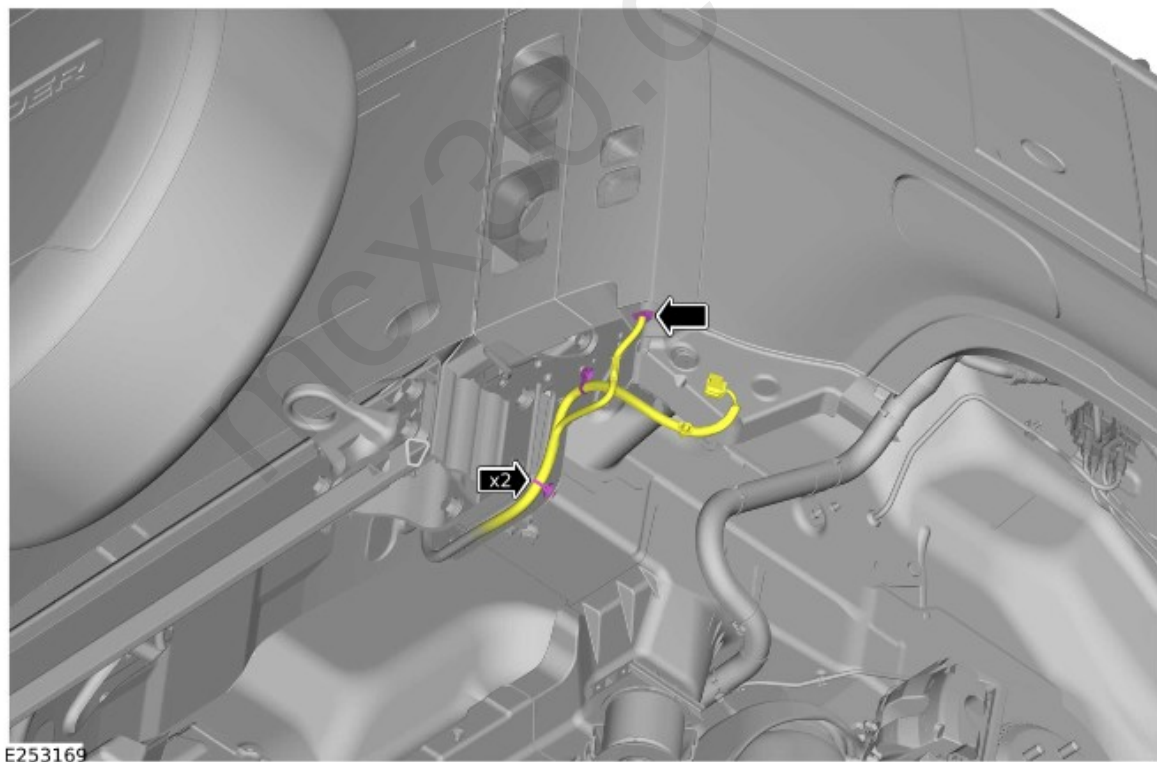
- Disconnect the right Side Obstacle Detection Control Module - Right (SODR) electrical connector.
- Release the SODR bracket.
- Remove the SODR with the bracket.

52.



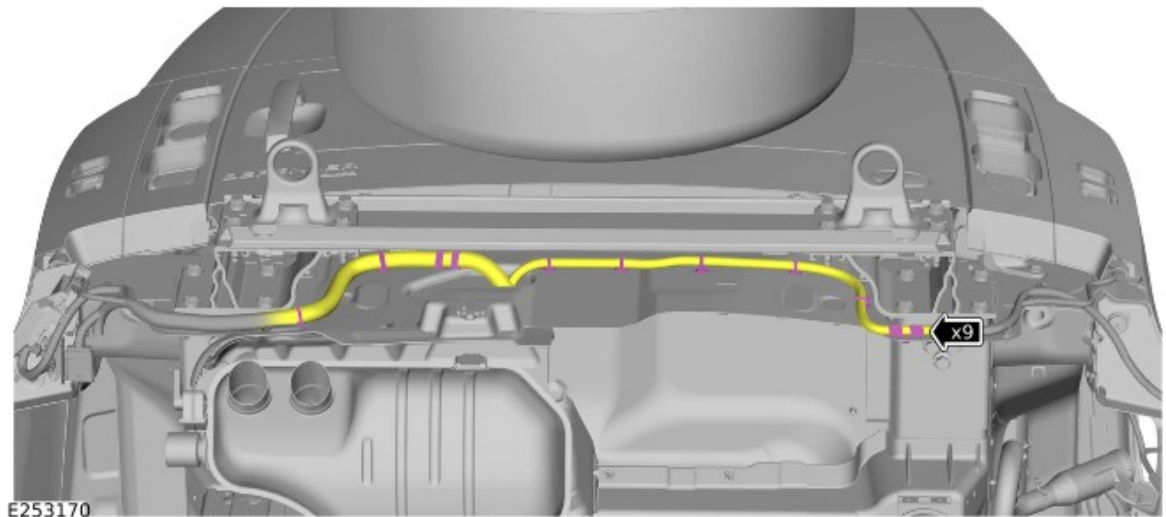
- Release the 2 wiring harness clips.
- Remove the 3 bolts.
- Release the 3 clips and remove the rear bumper right mounting bracket.

53.



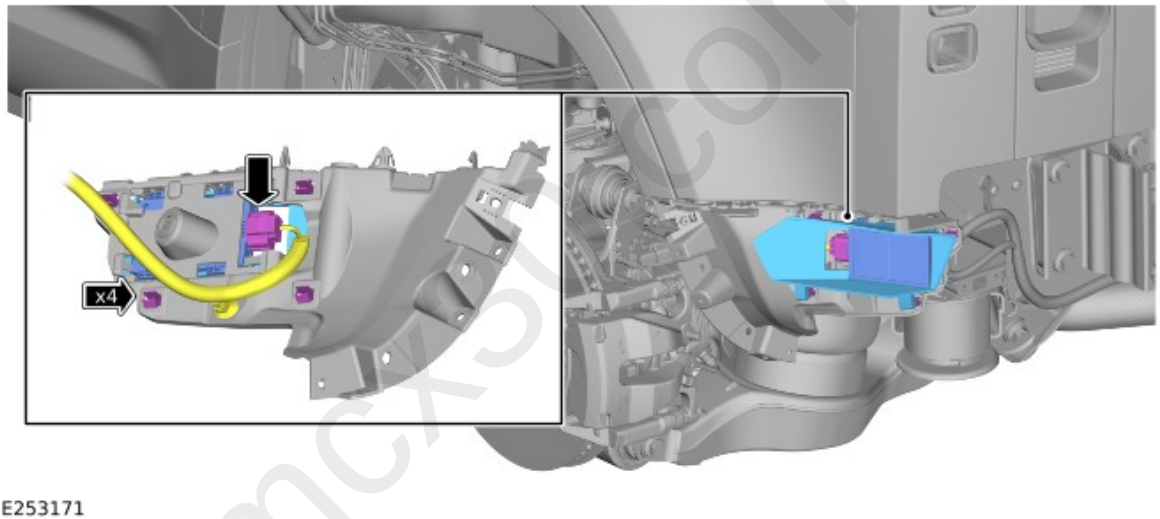
- Disconnect the right tail lamp electrical connector.
- Release the 2 wiring harness clips.

54.



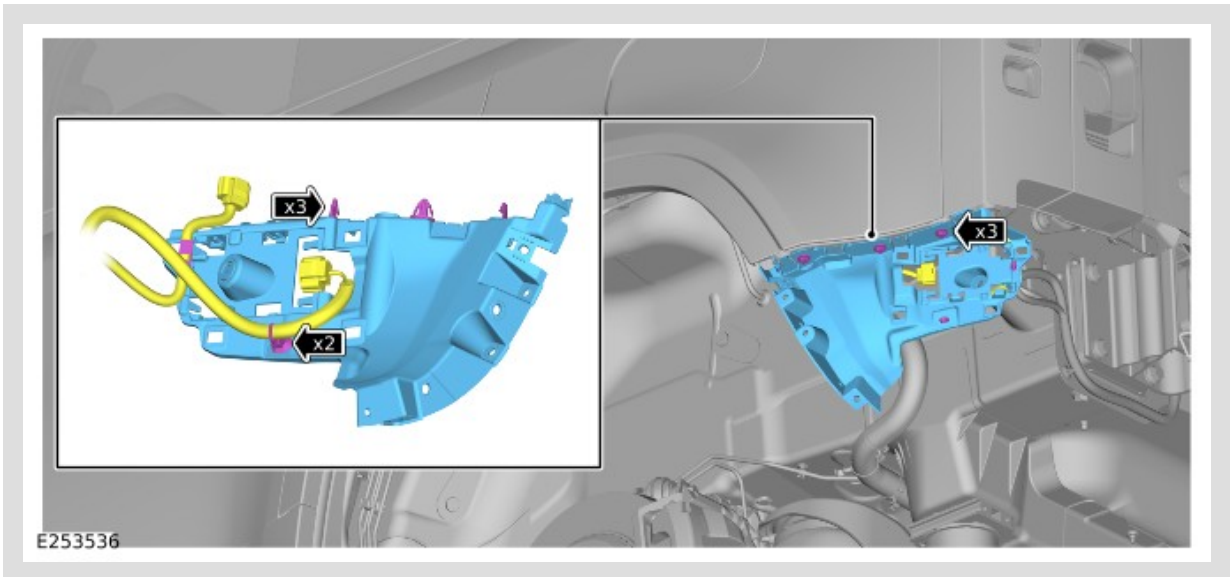
Release the 9 wiring harness clips in the area of the rear bumper armature.

55.



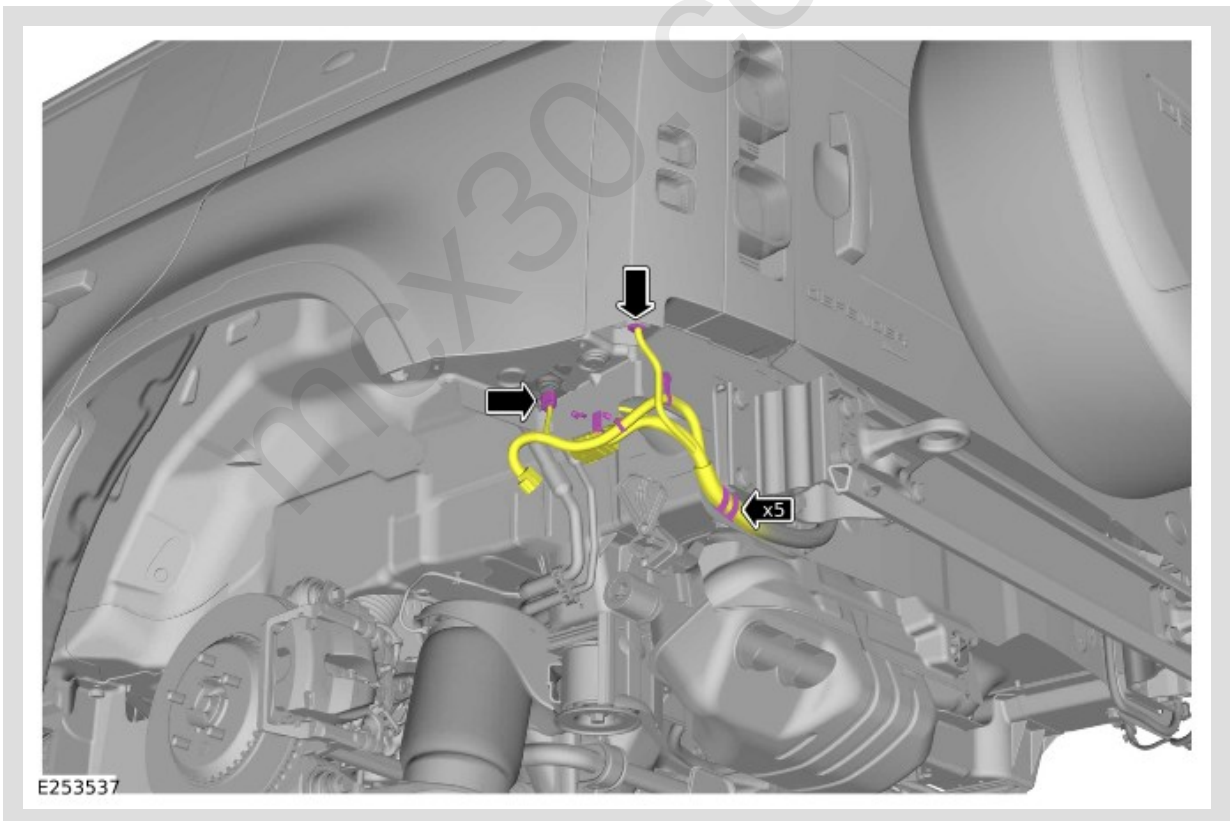
- Disconnect the left SODR electrical connector.
- Release the SODR bracket.
- Remove the SODR with the bracket.

56.



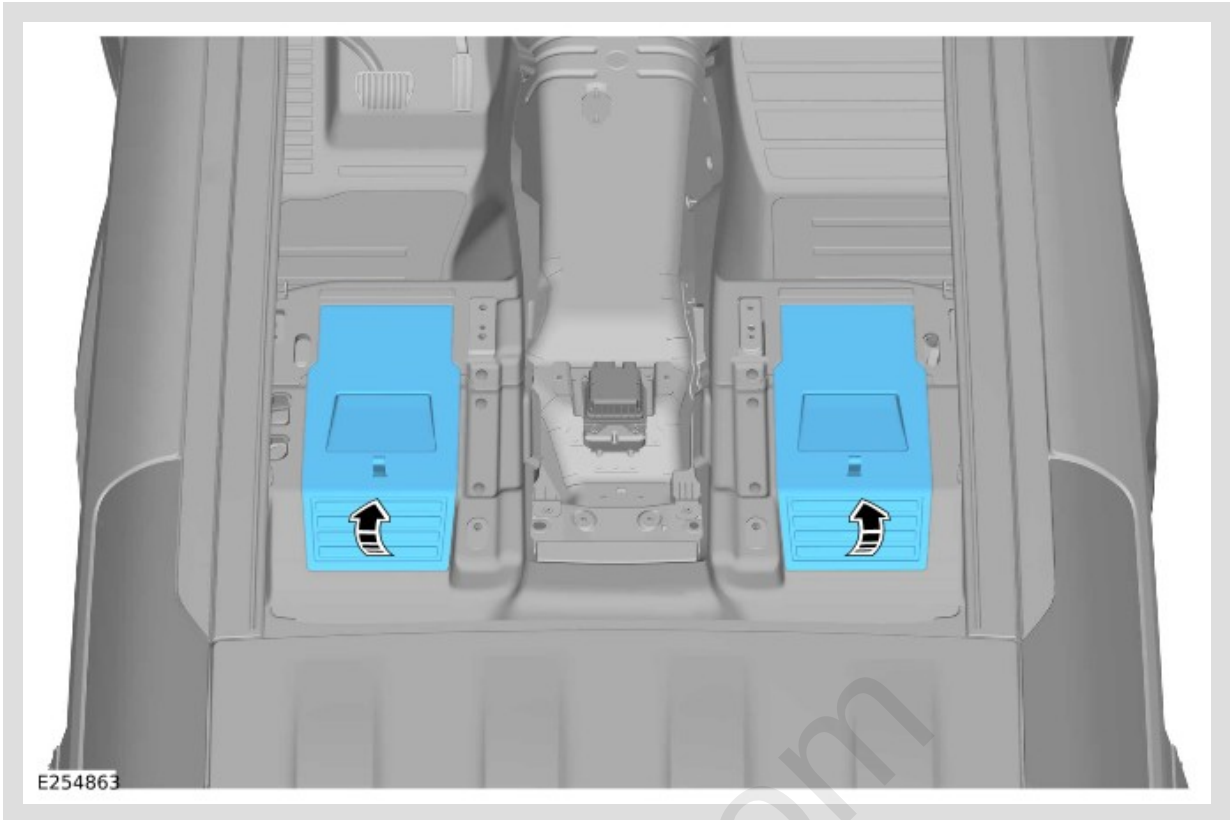
- Release the 2 wiring harness clips.
- Remove the 3 bolts.
- Release the 3 clips and remove the rear bumper left mounting bracket.

57.



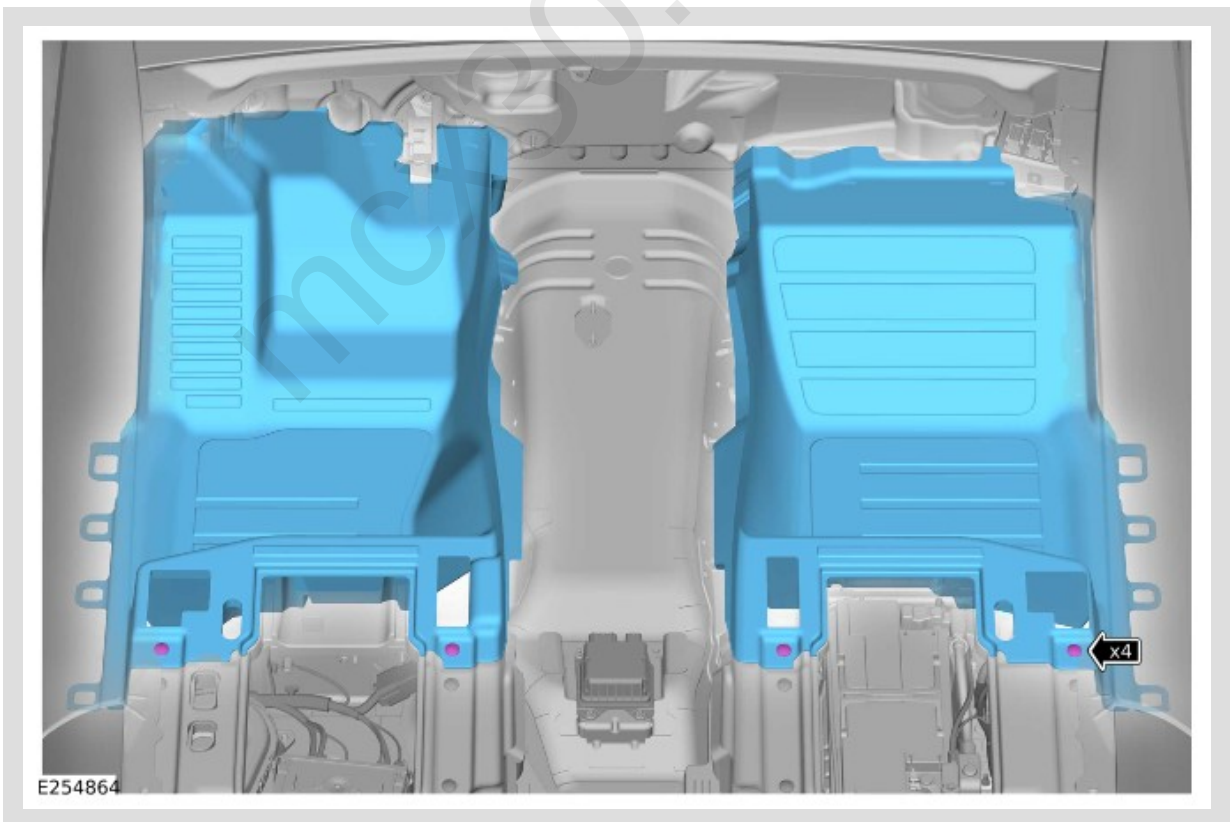
- Disconnect the left tail lamp electrical connector.
- Disconnect the rear left accelerometer electrical connector.
- Release the 5 wiring harness clips.

58.



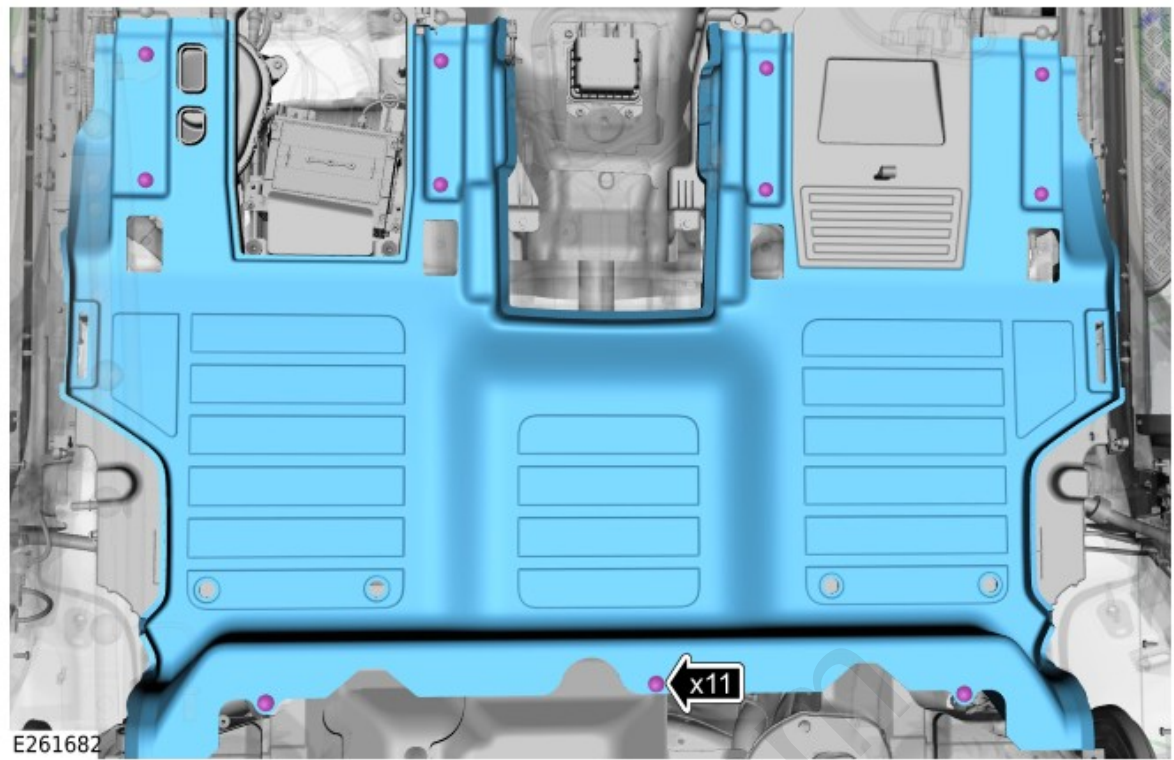
Remove the front floor carpet access covers.

59.



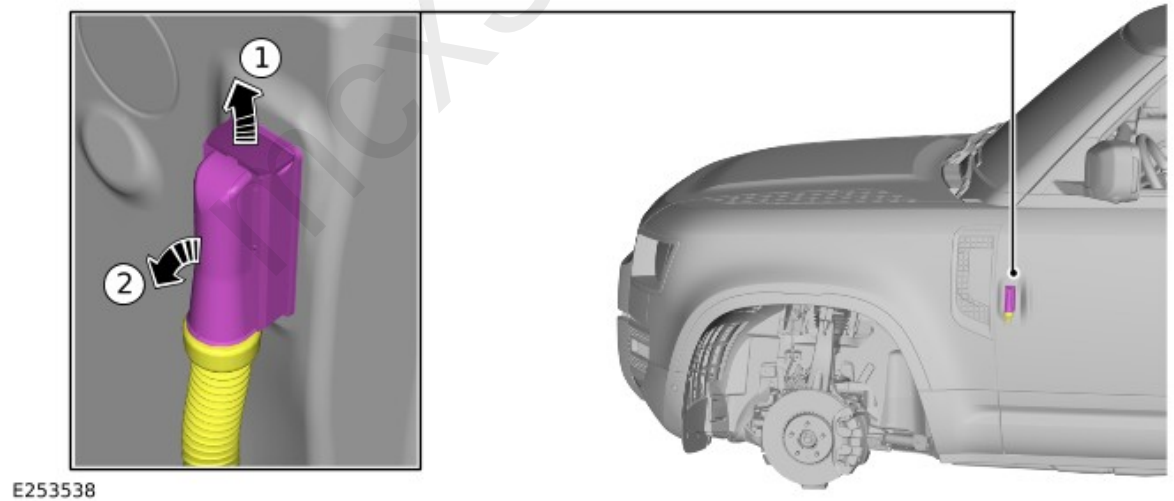
- Remove the 4 clips.
- Remove the front floor carpets.

60.



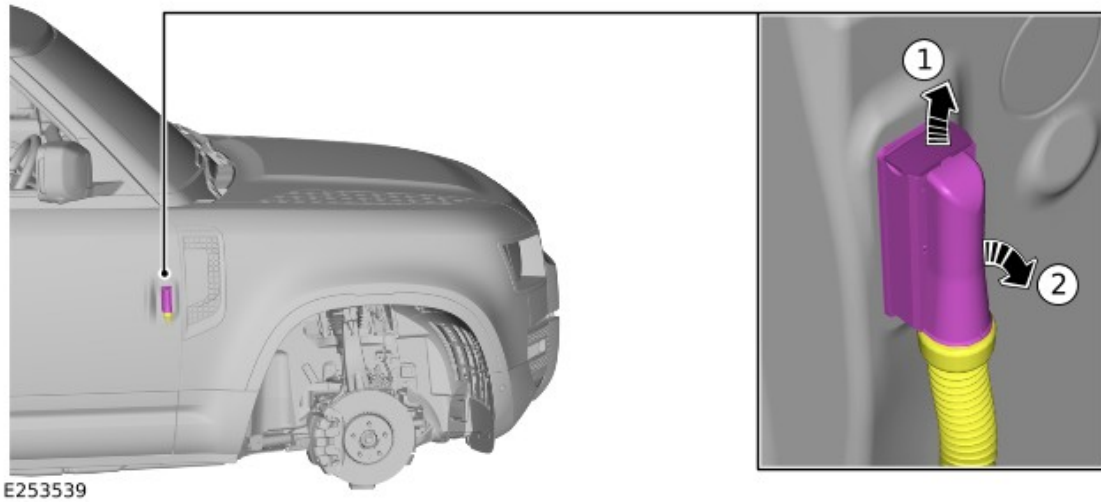
- Remove the 11 clips.
- Remove the rear floor carpet.

61.



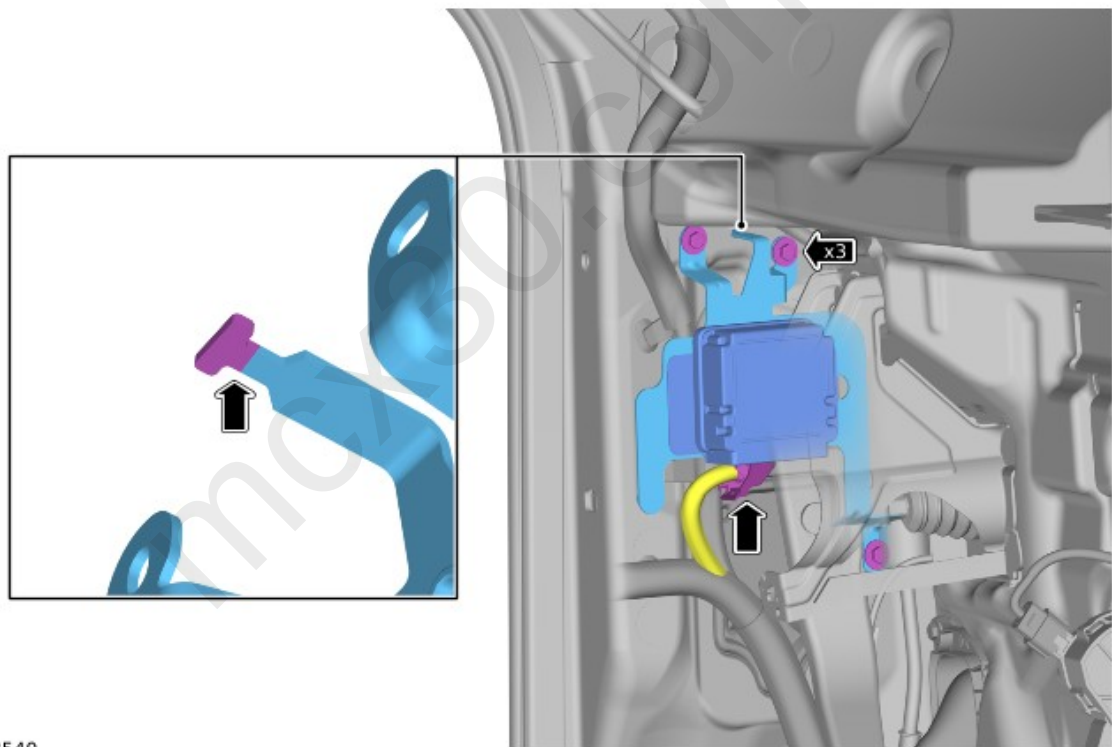
Disconnect the front left door harness electrical connector as illustrated.

62.

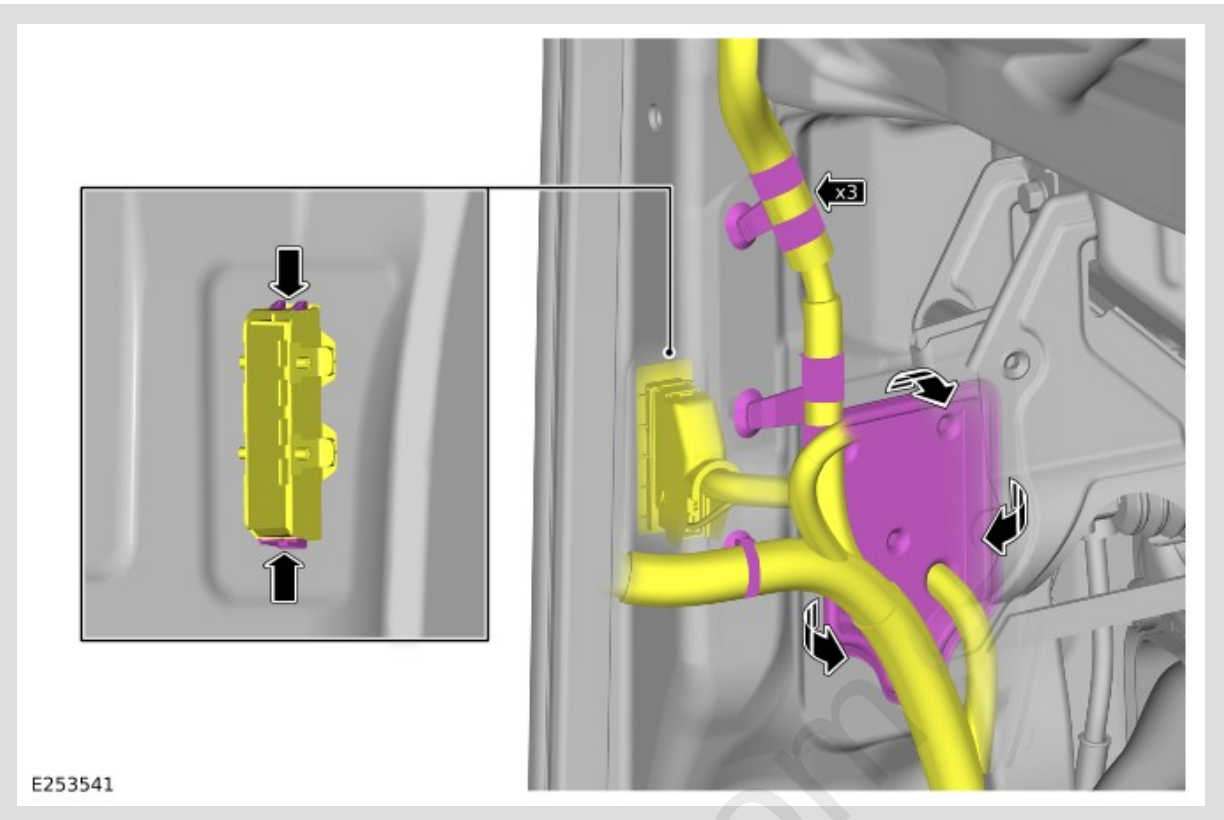


Disconnect the front right door harness electrical connector as illustrated.

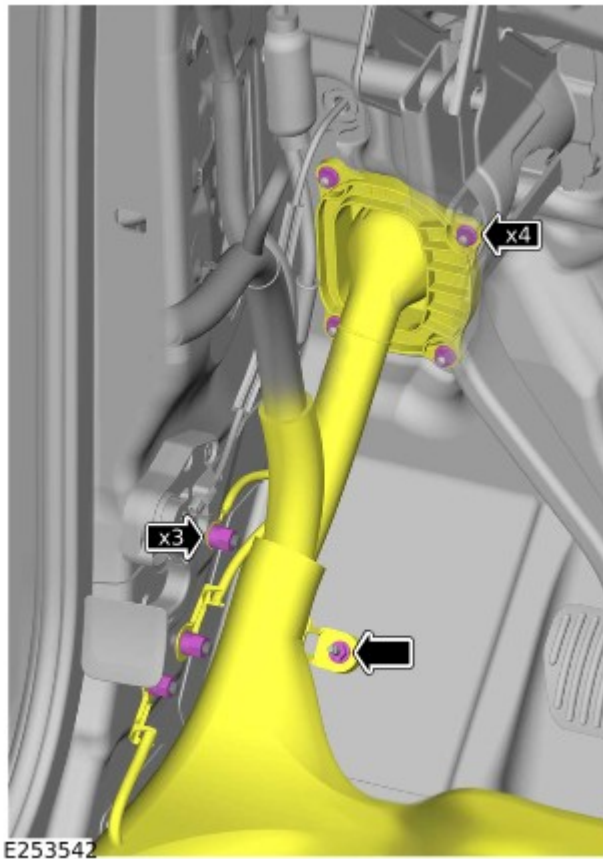
63.



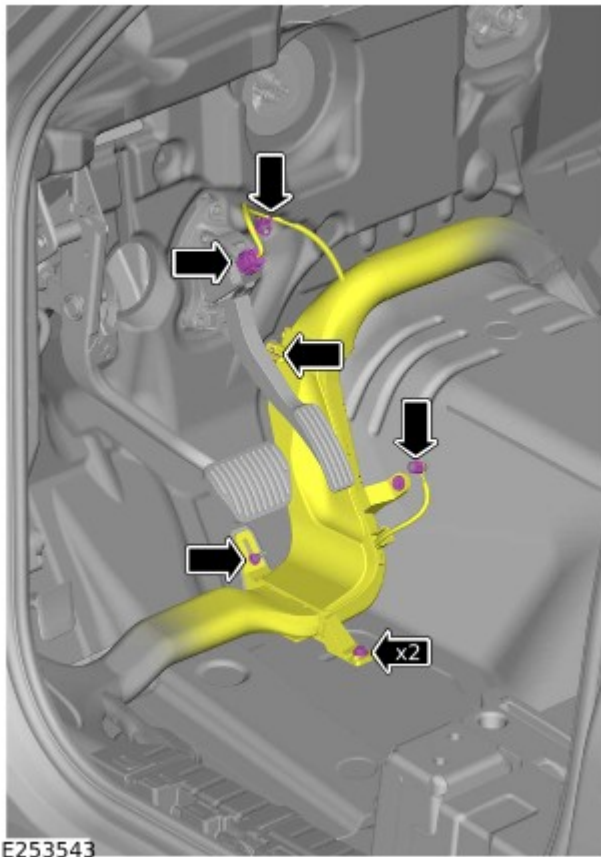
- Remove the 3 bolts.
- Disconnect the Driver Assistance Domain Controller (DADC) electrical connector.
- Remove the DADC and the bracket.



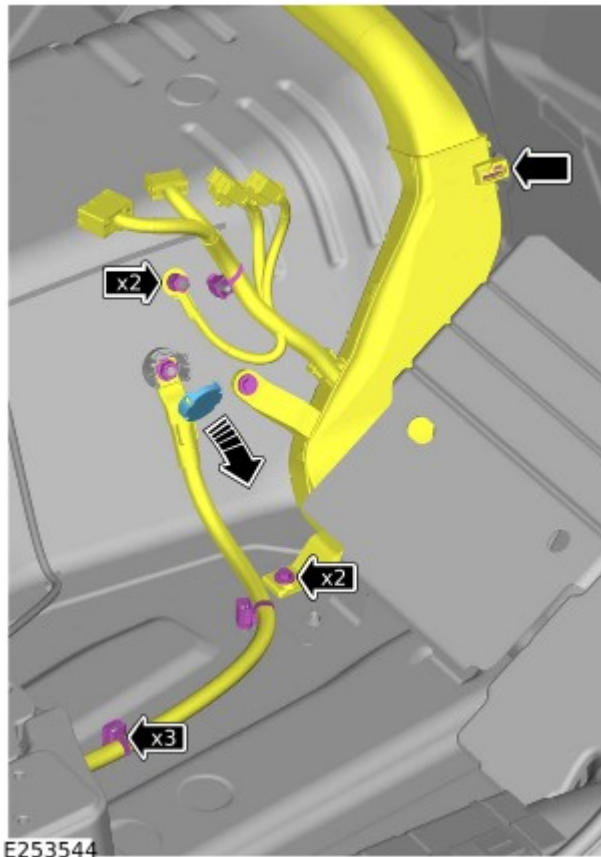
- Release the front left door wiring harness connector from the A-pillar.
- Release the front left door harness grommet.
- Release the 3 wiring harness clips.



- Remove the 3 ground cable nuts in the area of the lower left A-pillar.
- Remove the wiring harness bracket nut.
- Remove the 4 wiring harness firewall bracket nuts.

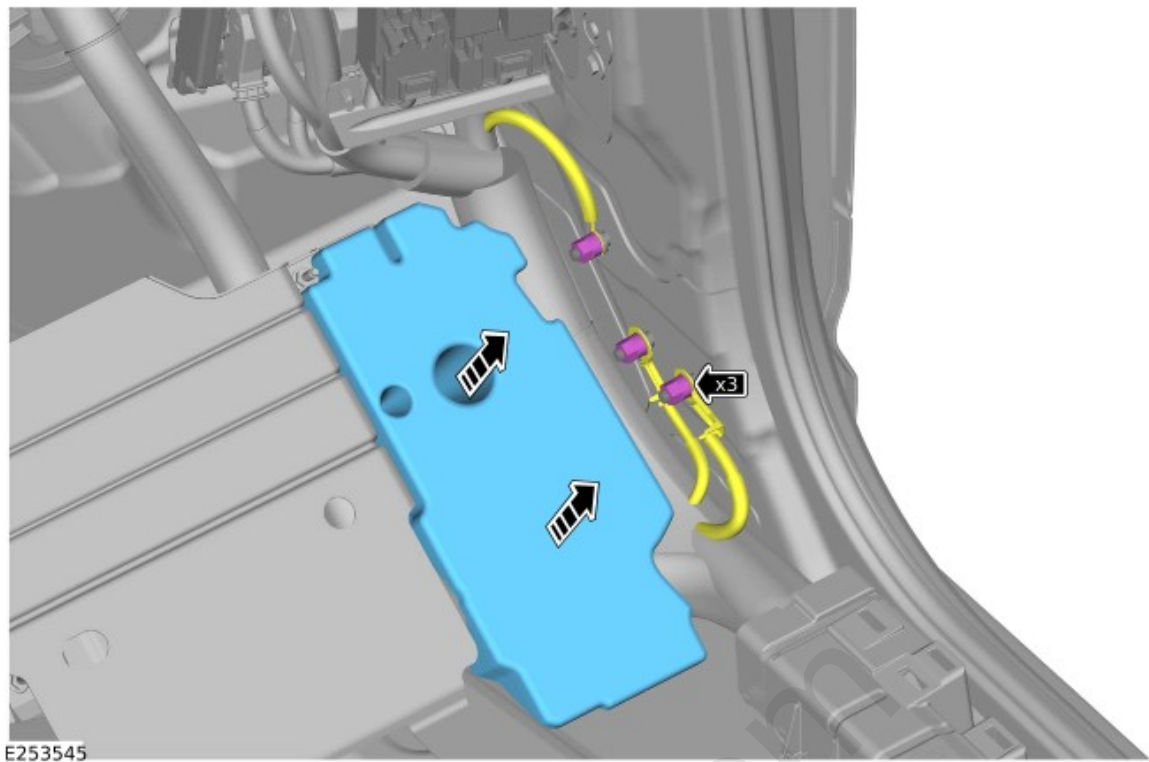


- Disconnect the Accelerator Pedal Position (APP) sensor electrical connector.
- Remove the 2 wiring harness bracket bolts.
- Remove the wiring harness bracket nut.
- Remove the ground cable nut.
- Release the wiring harness clip.
- Release the wiring harness bracket.



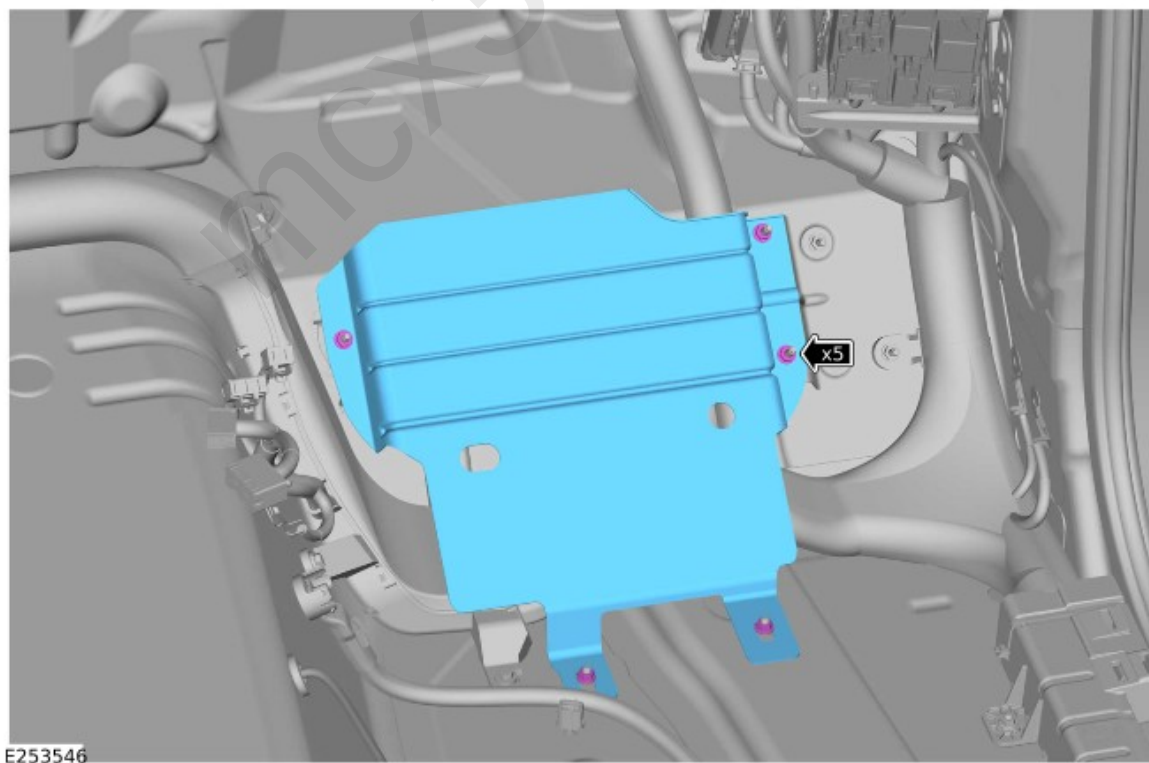
- Release the 3 wiring harness clips in the front left footwell area.
- Remove the 2 wiring harness bracket bolts.
- Remove the ground cable nut access cover.
- Remove the 2 ground cable nuts.
- Release the wiring harness bracket.

68.

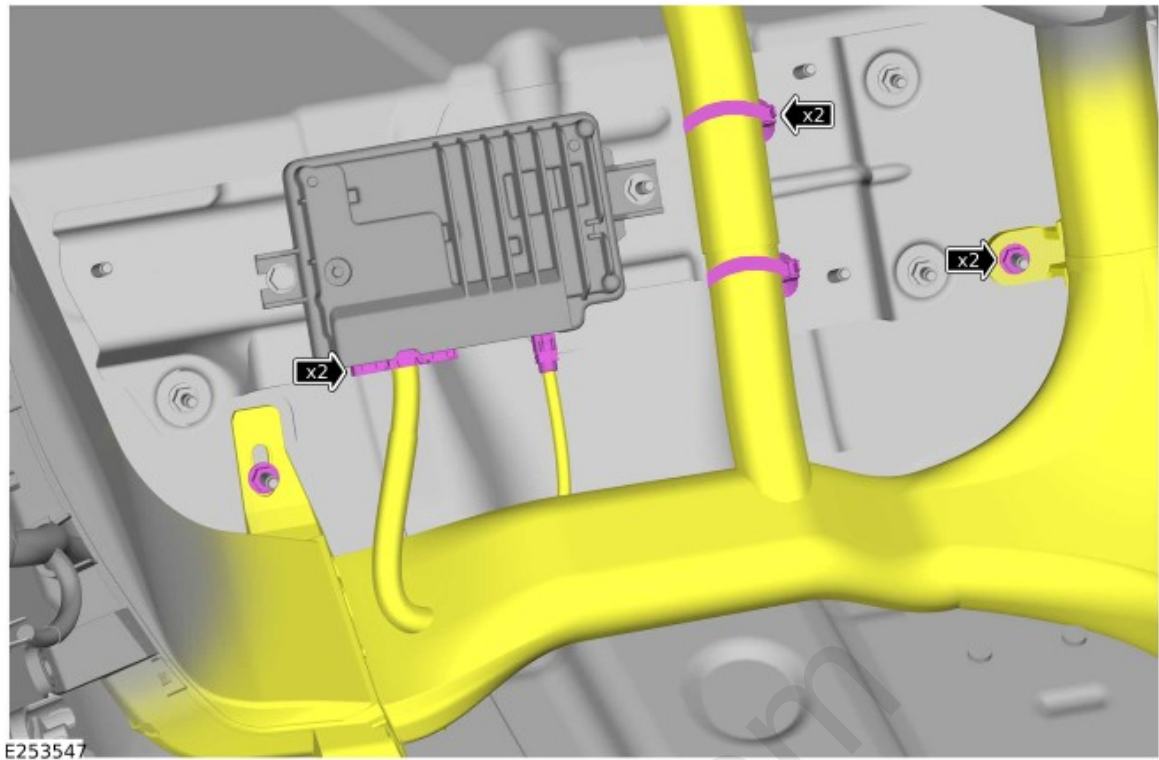


- Remove the front right floor carpet insulator.
- Remove the 3 ground cable nuts in the area of the lower right A-pillar.

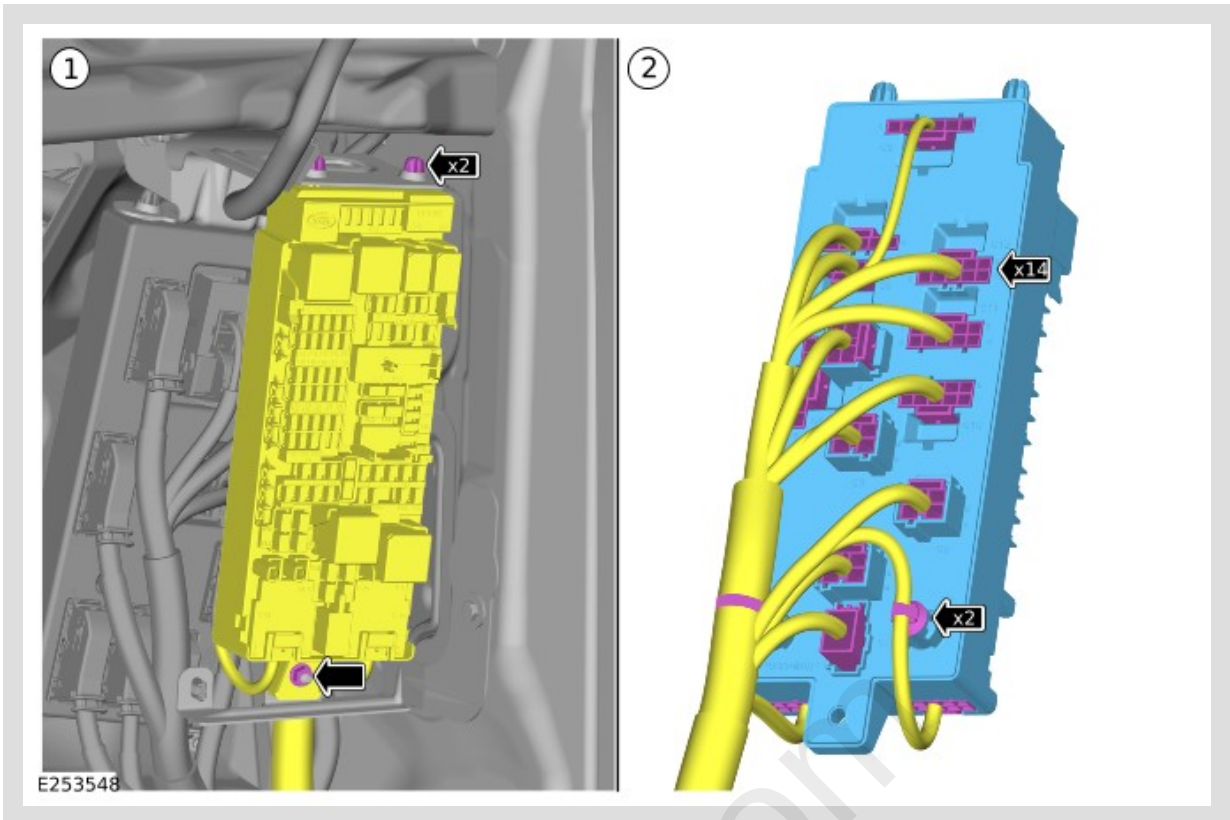
69.



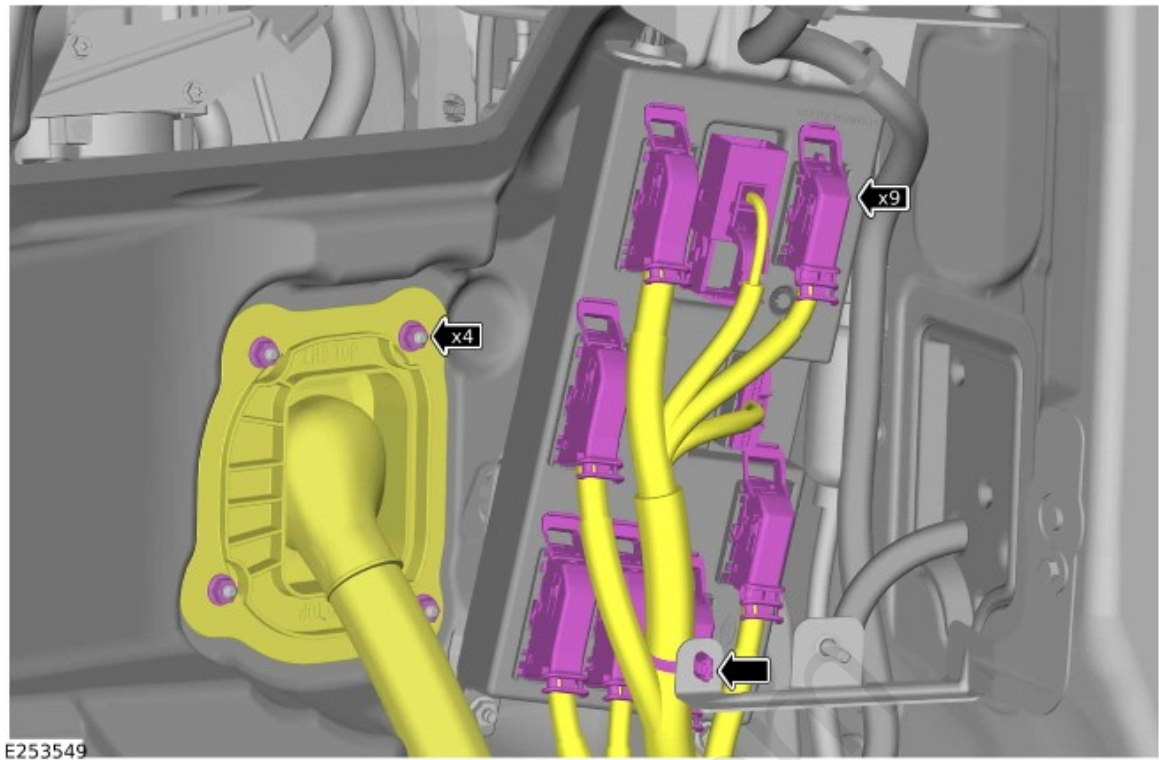
- Remove the 5 nuts.
- Remove the front right footwell carpet bracket.



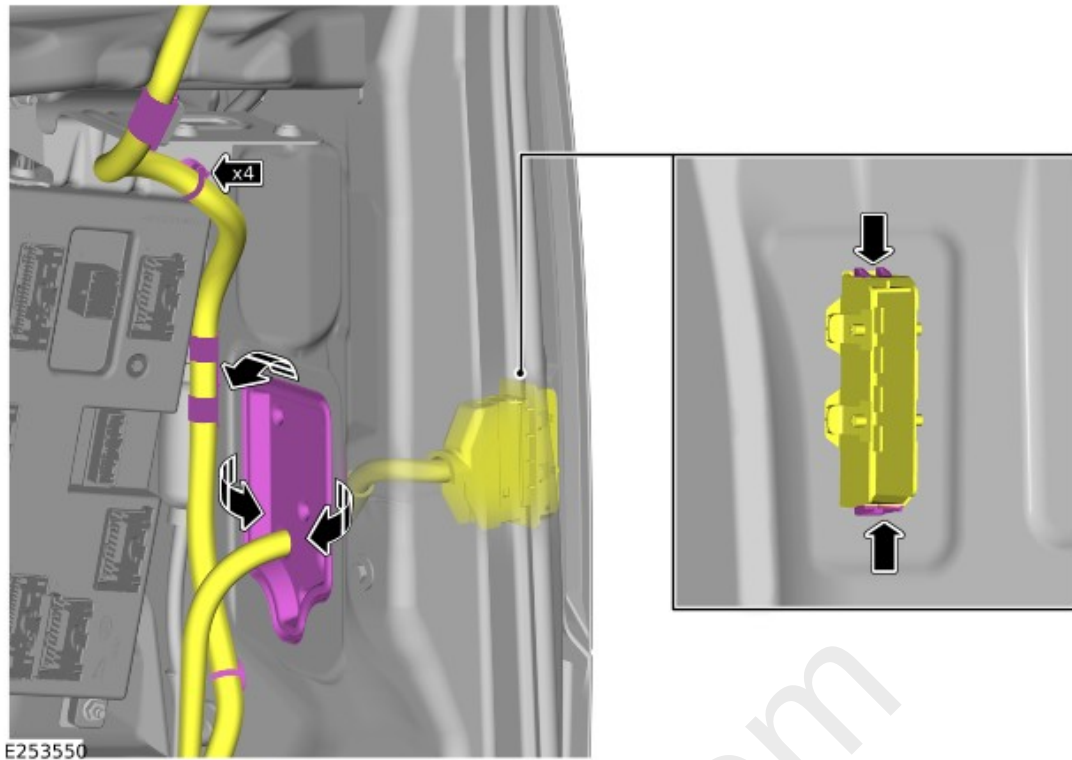
- Disconnect the 2 Near Field Sensing Module (NFSM) electrical connectors.
- Remove the 2 wiring harness bracket nuts.
- Release the 2 wiring harness clips.



- Remove the nut.
- Release the passenger junction box.
- Disconnect the 14 electrical connectors.
- Release the 2 wiring harness clips.
- Remove the passenger junction box.

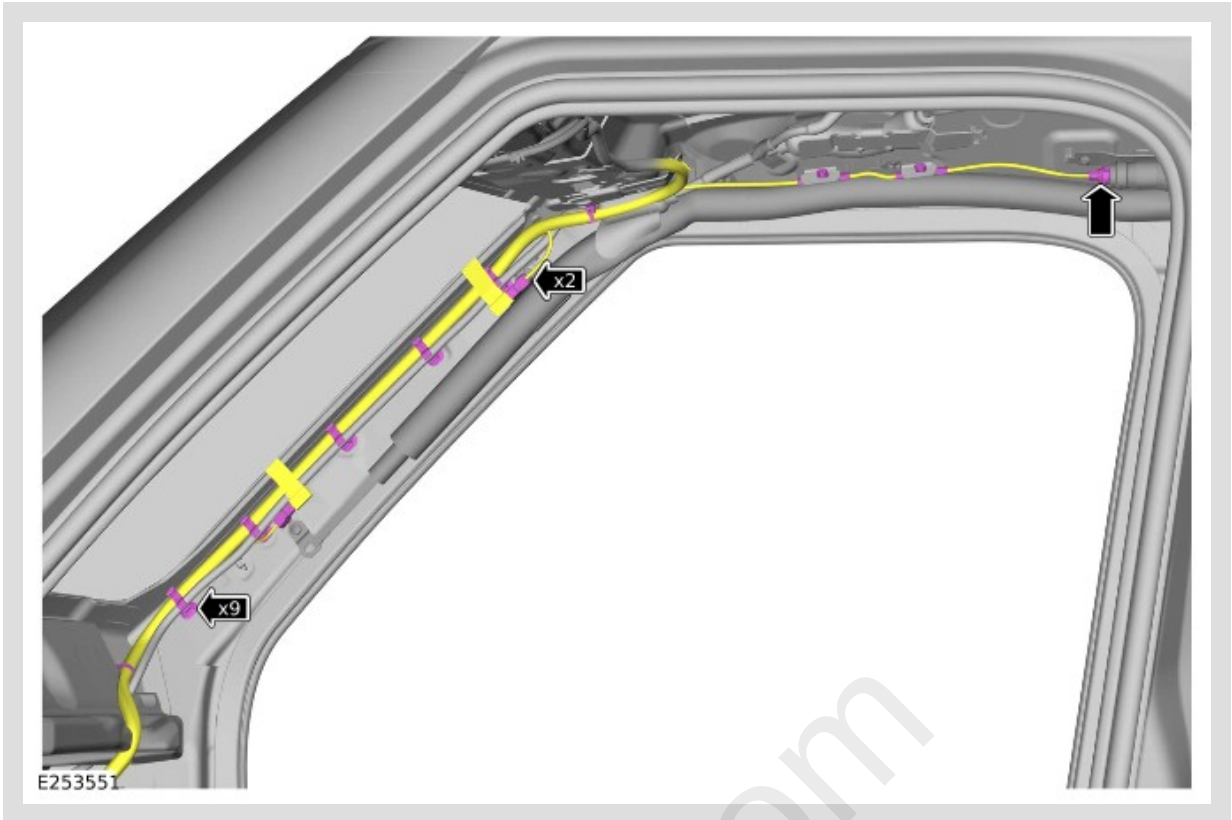


- Disconnect the 9 Gateway Module A (GWM) electrical connectors.
- Release the wiring harness clip.
- Remove the 4 wiring harness firewall bracket nuts.



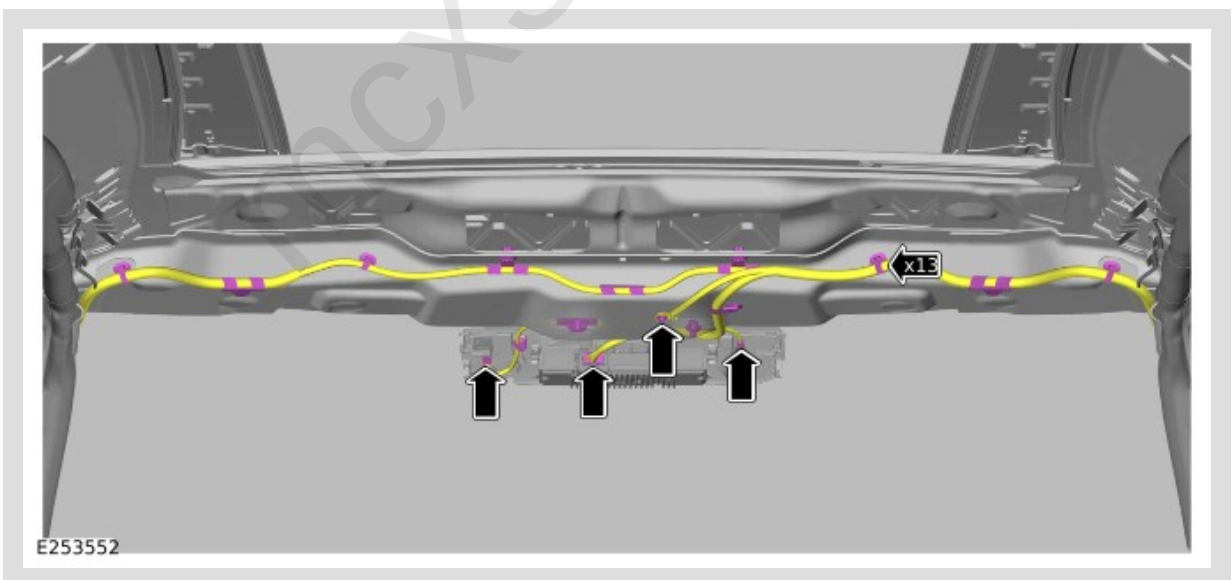
- Release the front right door wiring harness connector from the A-pillar.
- Release the front right door harness grommet.
- Release the 4 wiring harness clips.

74.

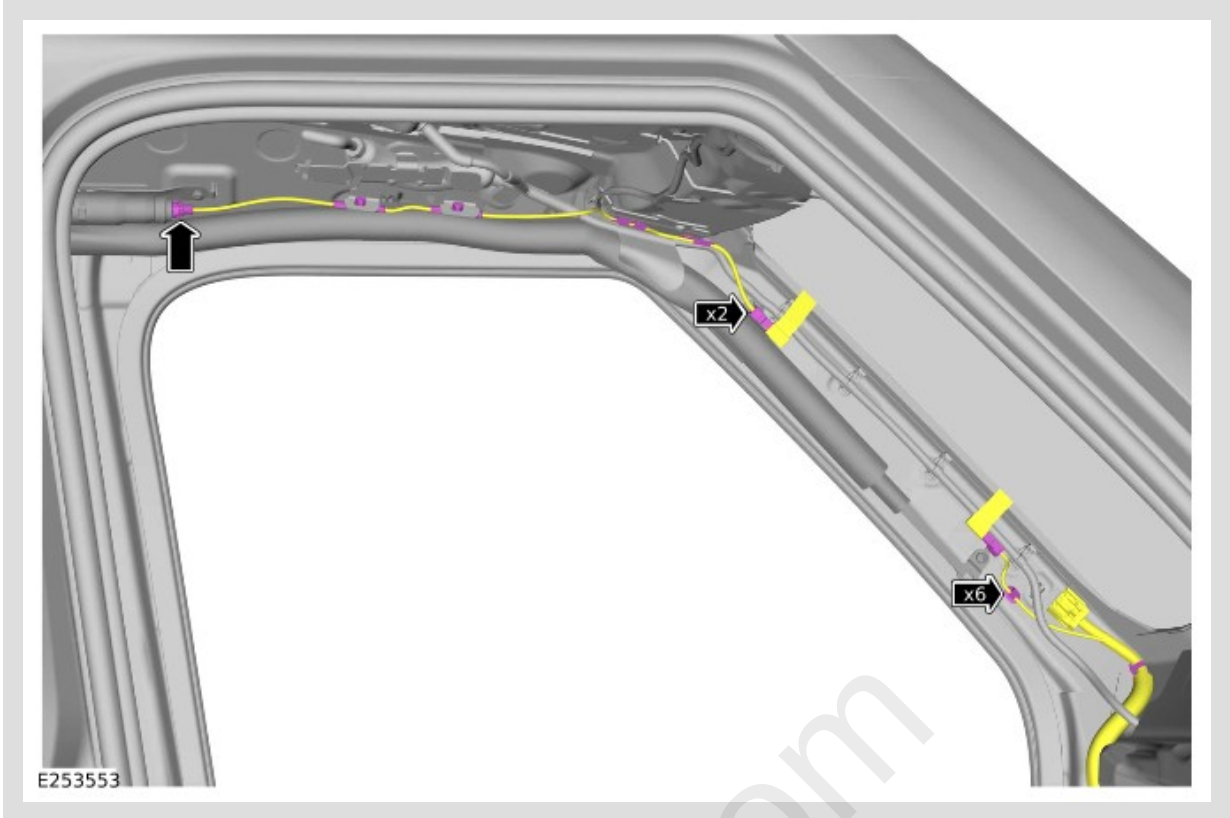


- Disconnect the right side air curtain electrical connector.
- Disconnect the 2 right windshield heater element electrical connectors.
- Release the 9 wiring harness clips.

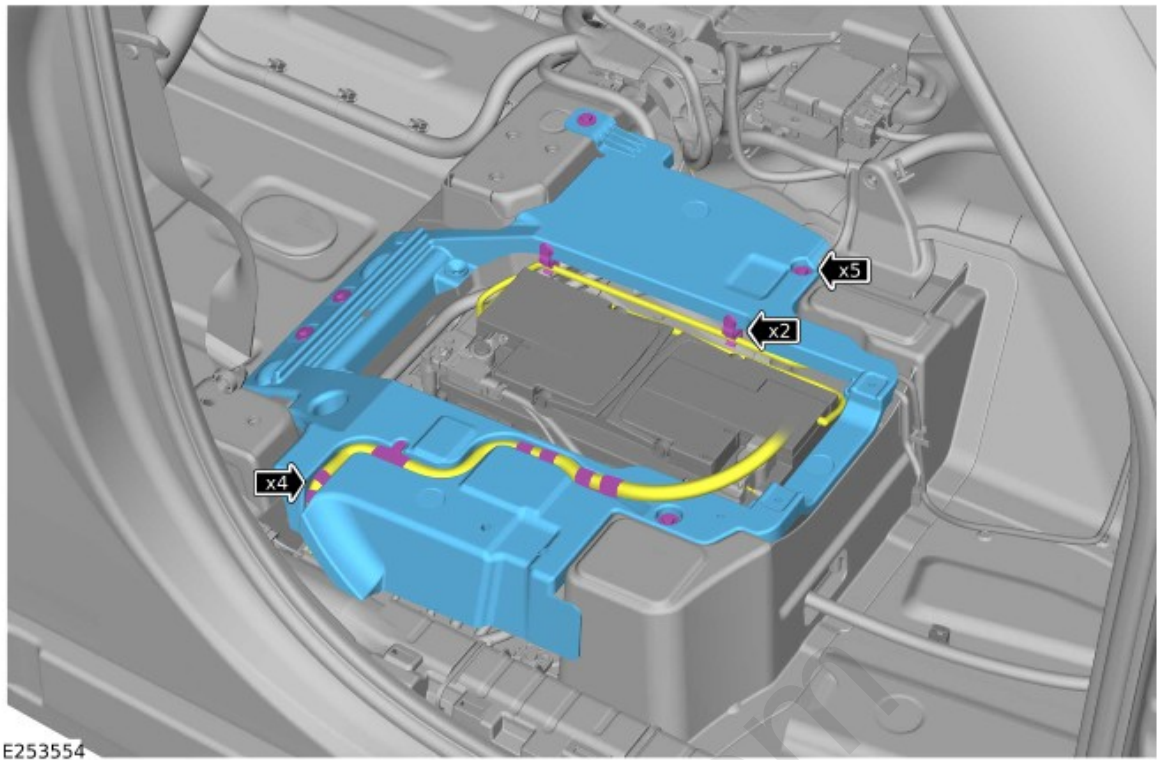
75.



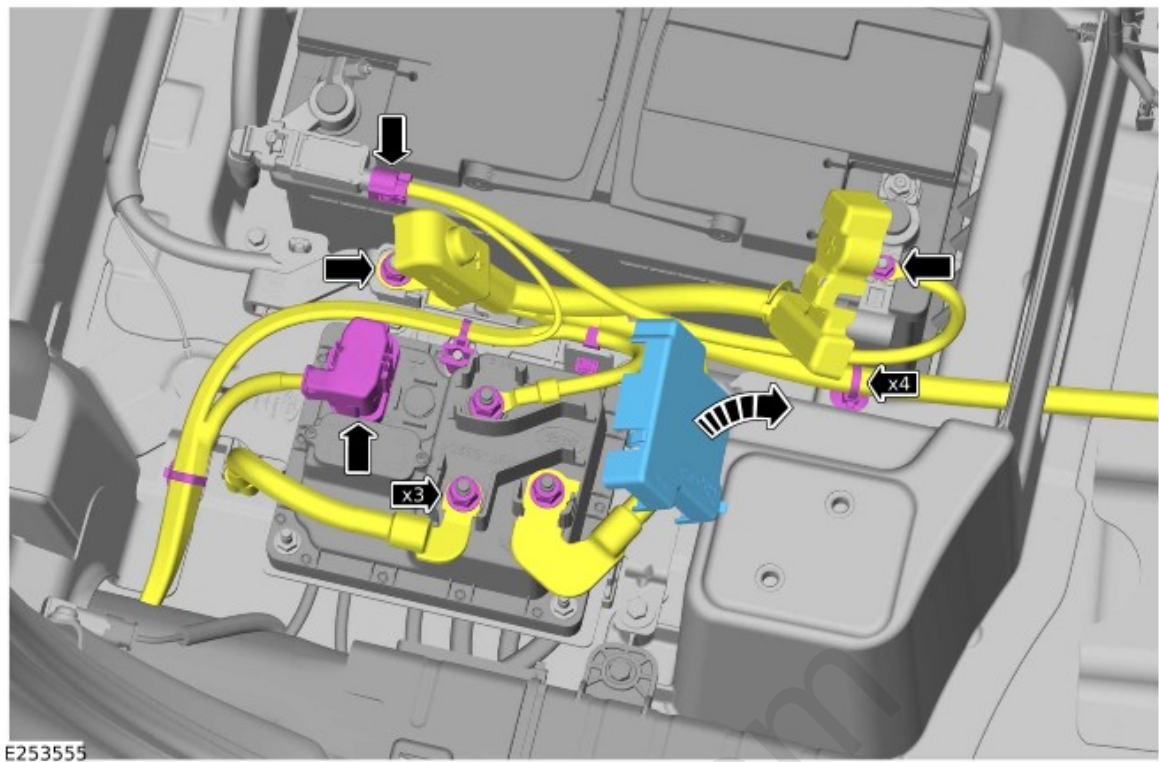
- Disconnect humidity sensor electrical connector.
- Disconnect the rain/light sensor electrical connector.
- Disconnect the Image Processing Module 'A' (IPMA) electrical connector.
- Remove the ground cable bolt.
- Release the 13 wiring harness clips.



- Disconnect the left side air curtain electrical connector.
- Disconnect the 2 left windshield heater element electrical connectors.
- Release the 6 wiring harness clips.

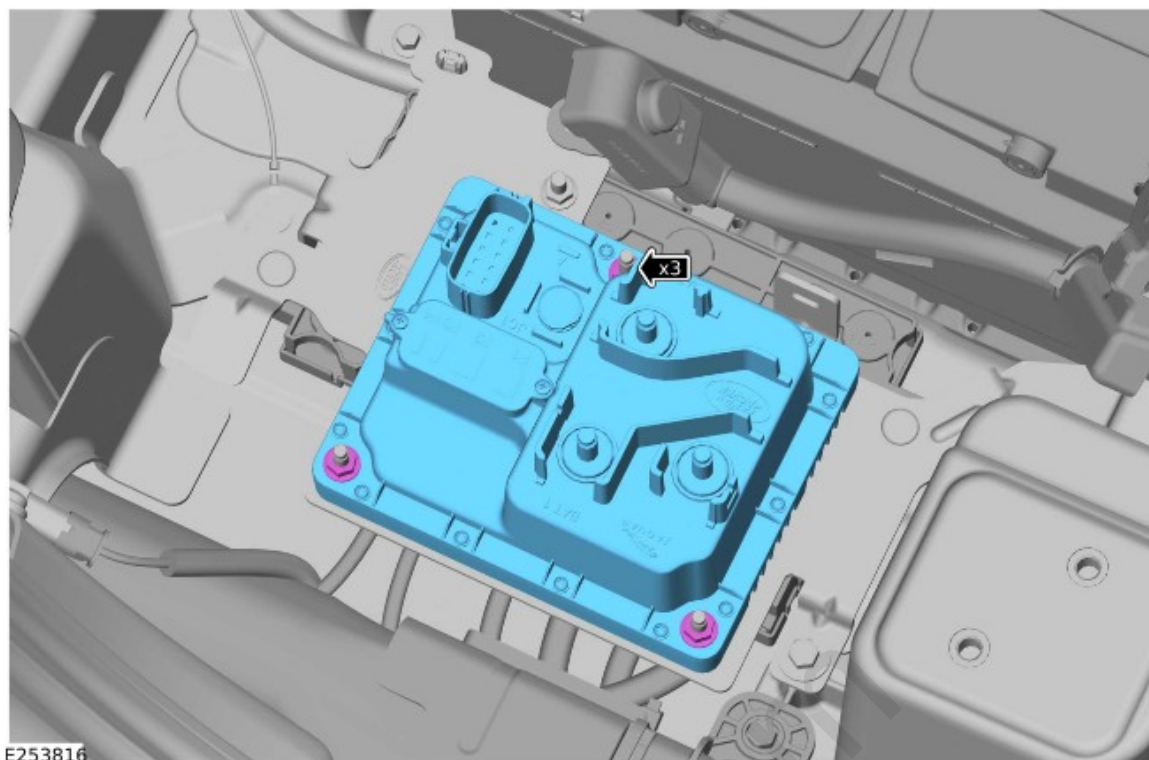


- Release the 4 front right seat link harness clips.
- Release the 2 startup battery breather pipe clips.
- Remove the 5 bolts.
- Remove the front right carpet bracket.



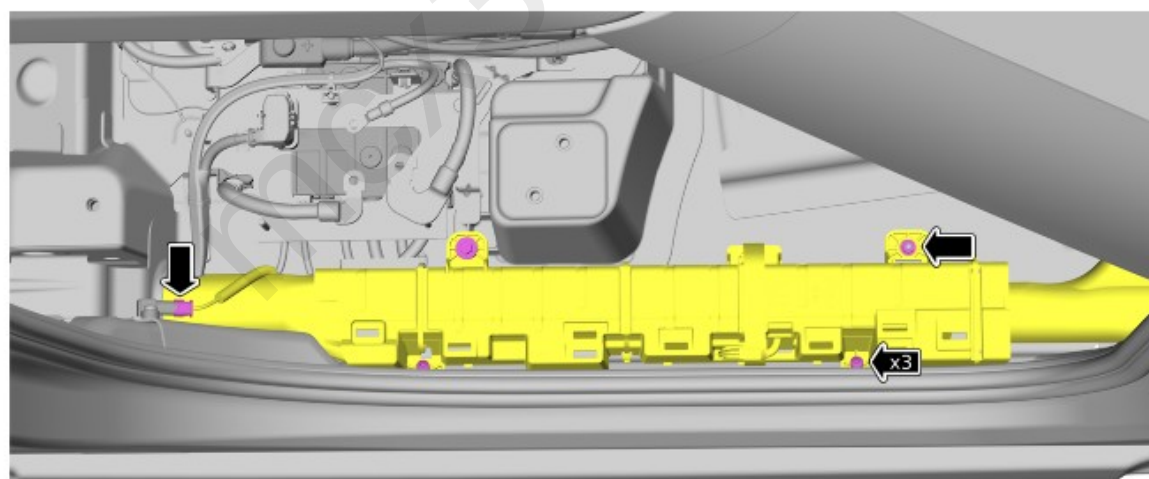
- Disconnect the Battery Monitoring System (BMS) electrical connector.
- Release the access cover and remove the positive terminal battery cable nut.
- Remove the access cover and remove the 3 Power Supply Distribution Box (PSDB) battery cable nuts.
- Disconnect the PSDB electrical connector.
- Release the access cover and remove the Battery Junction Box (BJB) battery cable nut.
- Release the 4 wiring harness clips.

79.



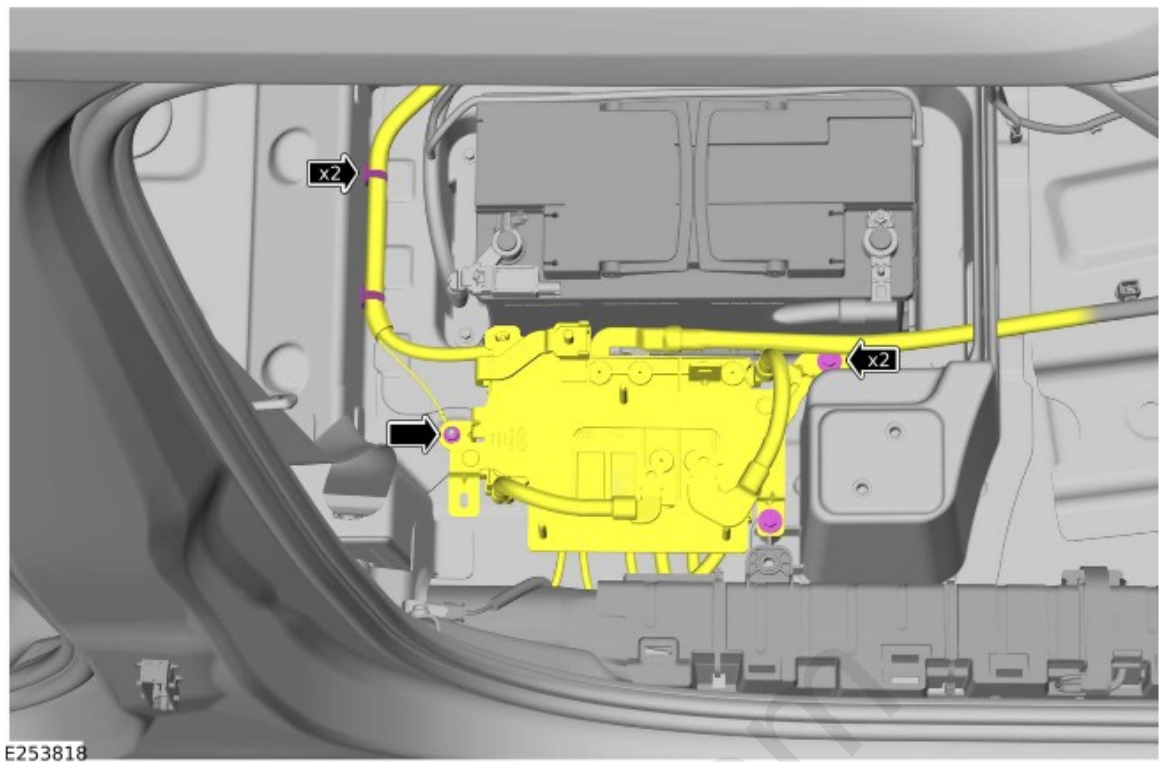
- Remove the 3 nuts.
- Remove the PSDB.

80.



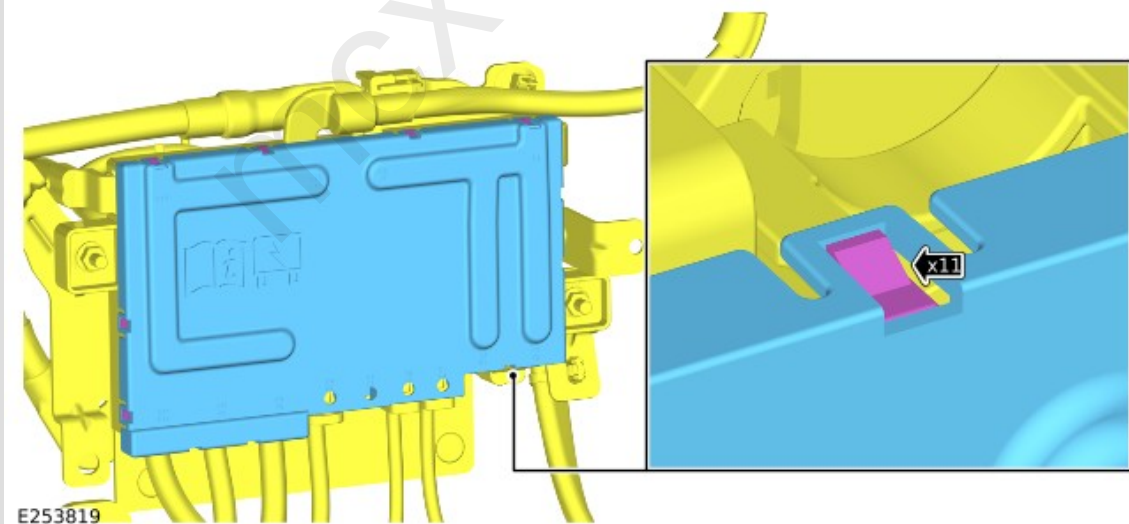
- Disconnect the right B-pillar impact sensor electrical connector.
- Remove the 3 front right treadplate bracket bolts.
- Remove the front right treadplate bracket nut.

81.

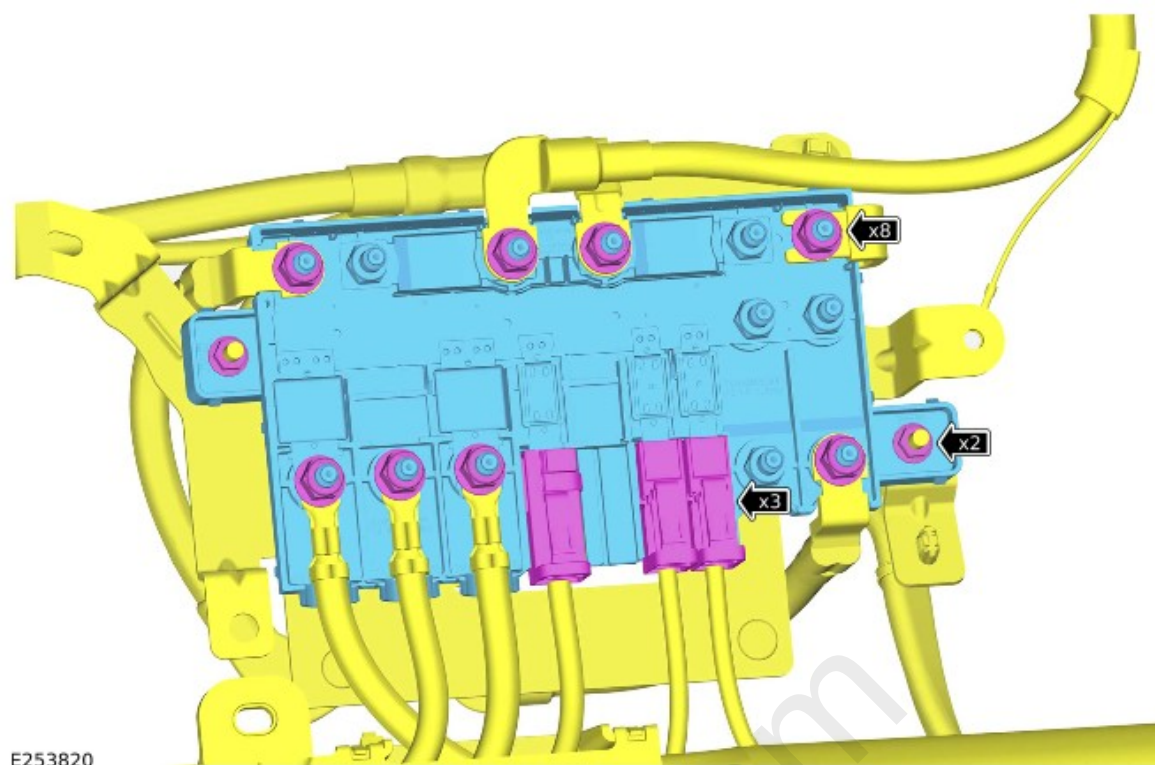


- Remove the 2 BJB bracket bolts.
- Remove the BJB bracket nut.
- Release the 2 wiring harness clips.

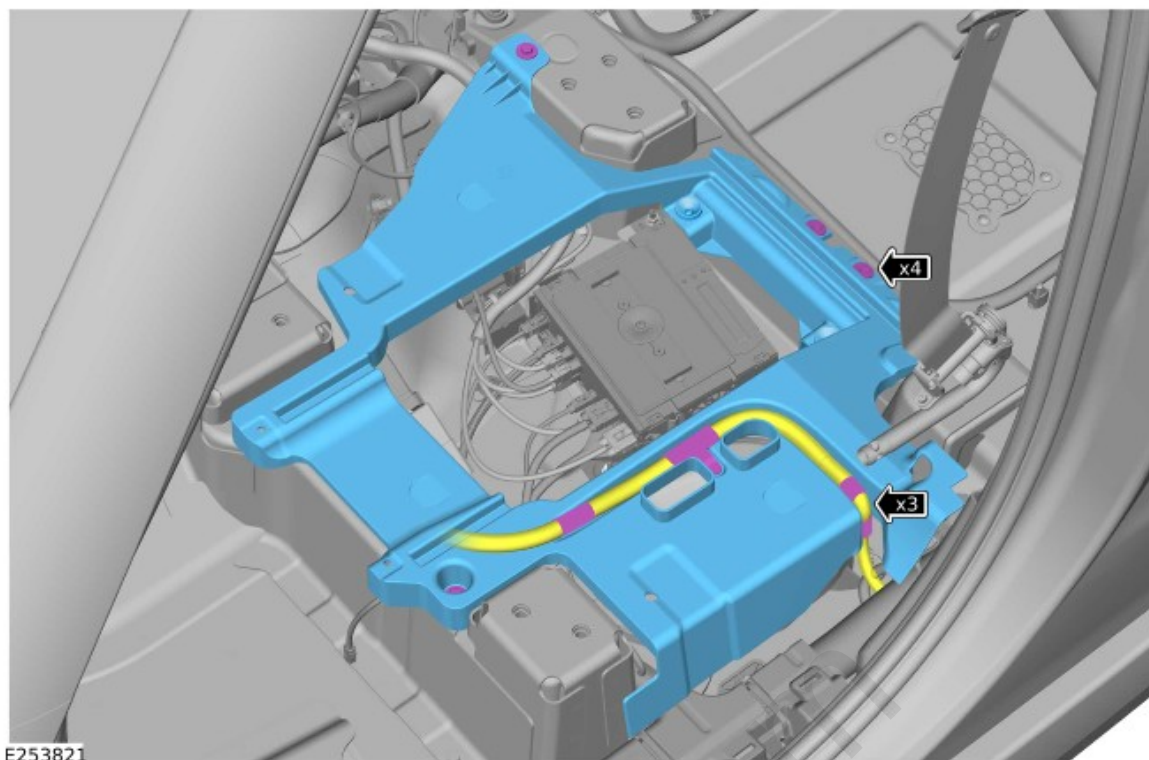
82.



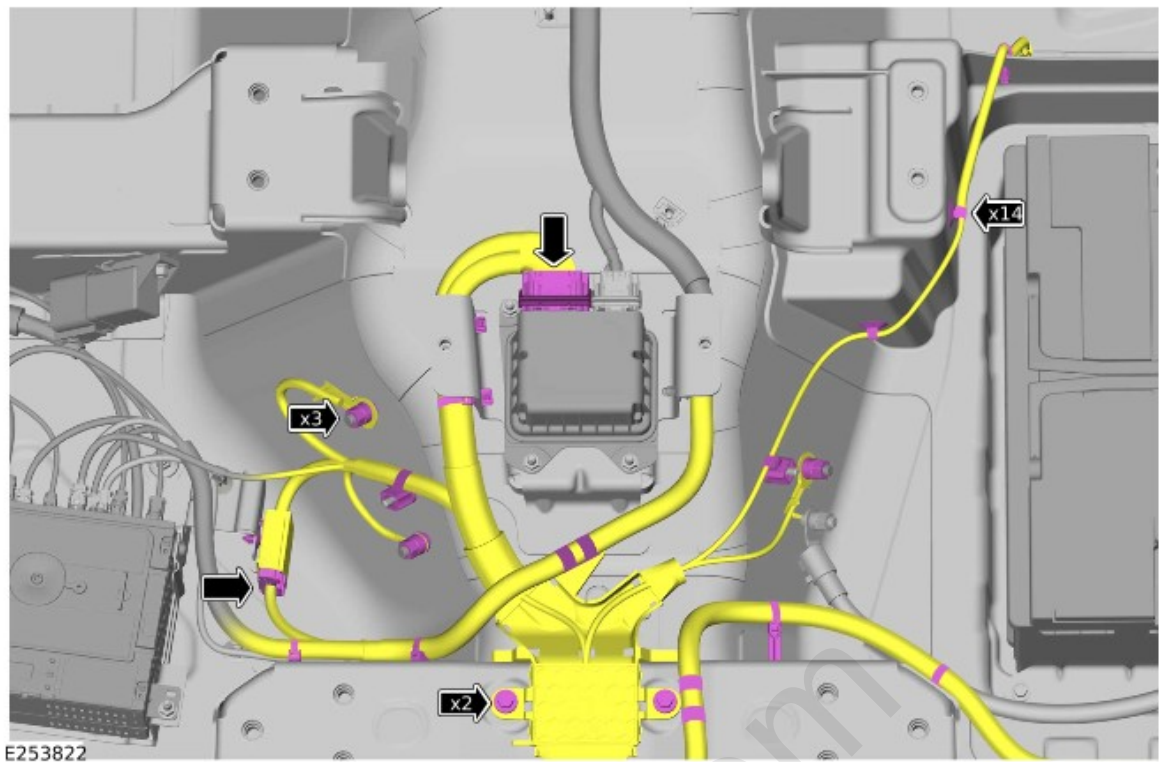
Remove the BJB access cover.



- Disconnect the 3 BJB connectors.
- Remove the 8 battery cable nuts.
- Remove the 2 BJB nuts.
- Remove the BJB.



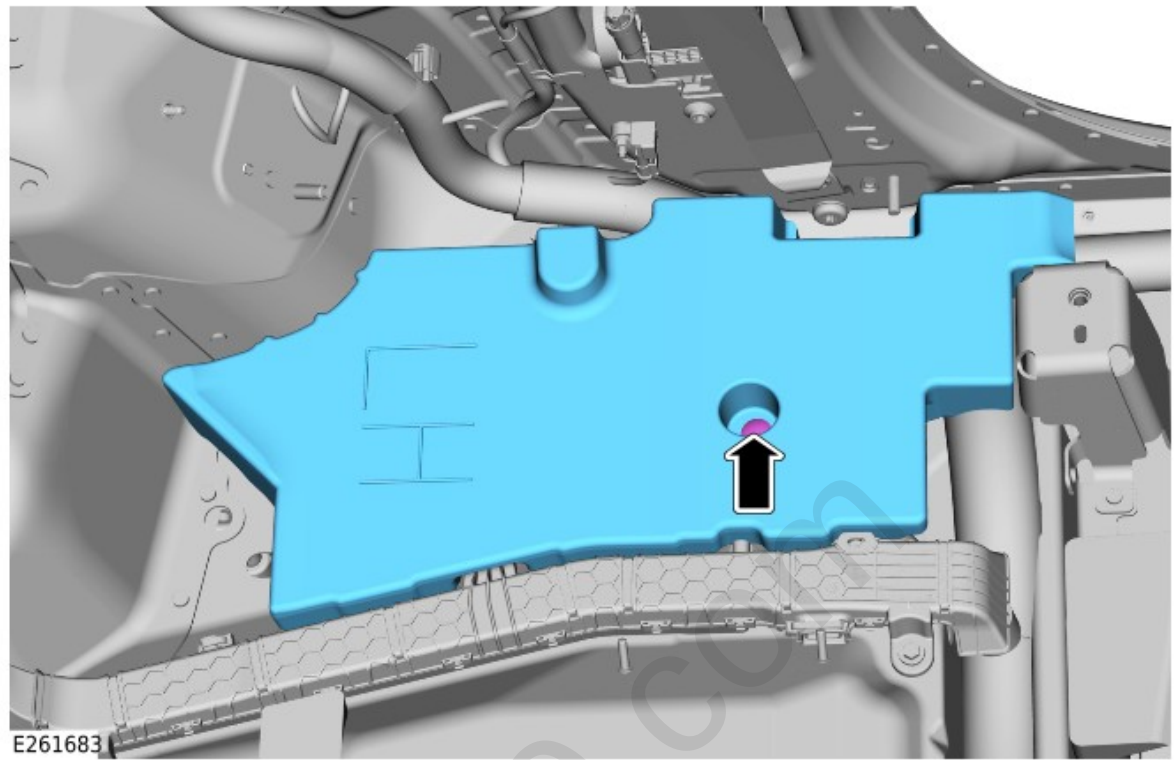
- Release the 3 front left seat link harness clips.
- Remove the 4 bolts.
- Remove the front left carpet bracket.



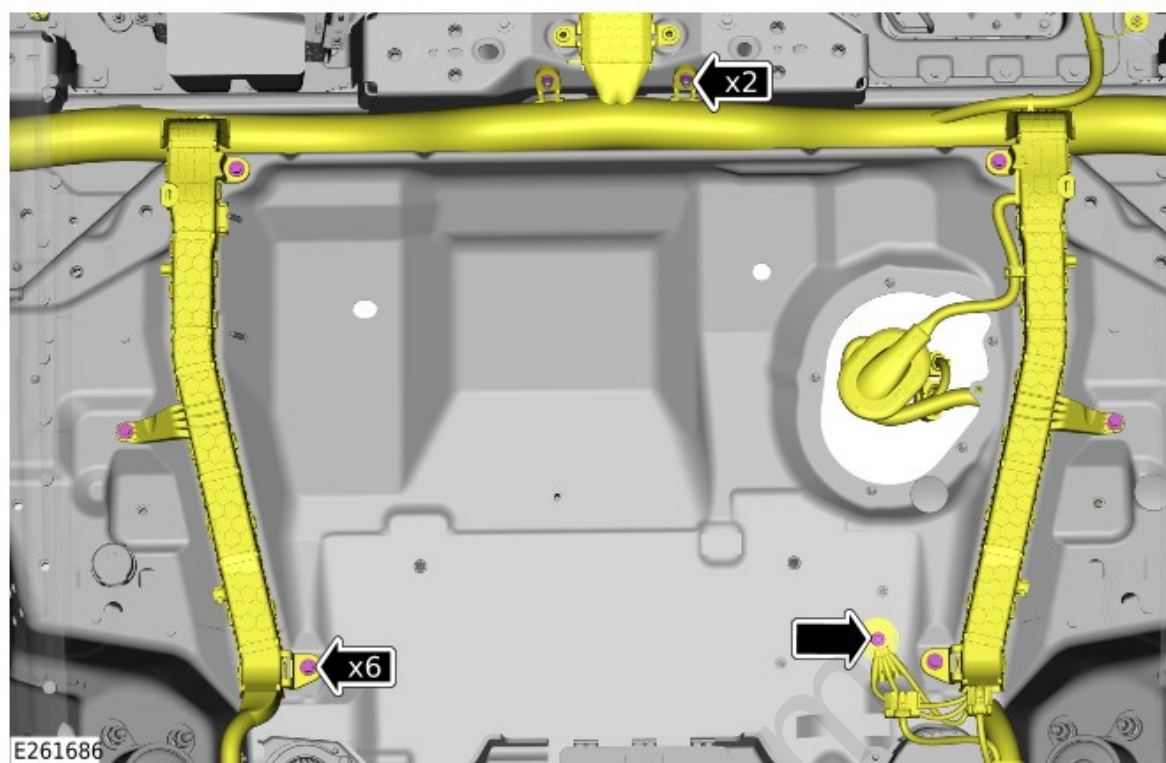
- Disconnect the Restraints Control Module (RCM) electrical connector.
- Remove the 2 wiring harness bracket bolts.
- Remove the 3 ground cable nuts.
- Release the 14 wiring harness clips.

 NOTE:

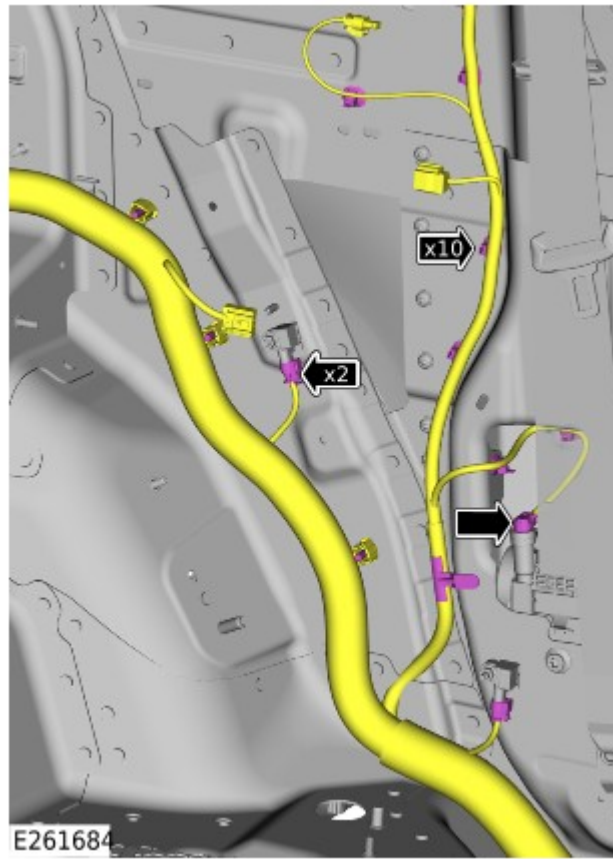
Repeat the step for the other side.



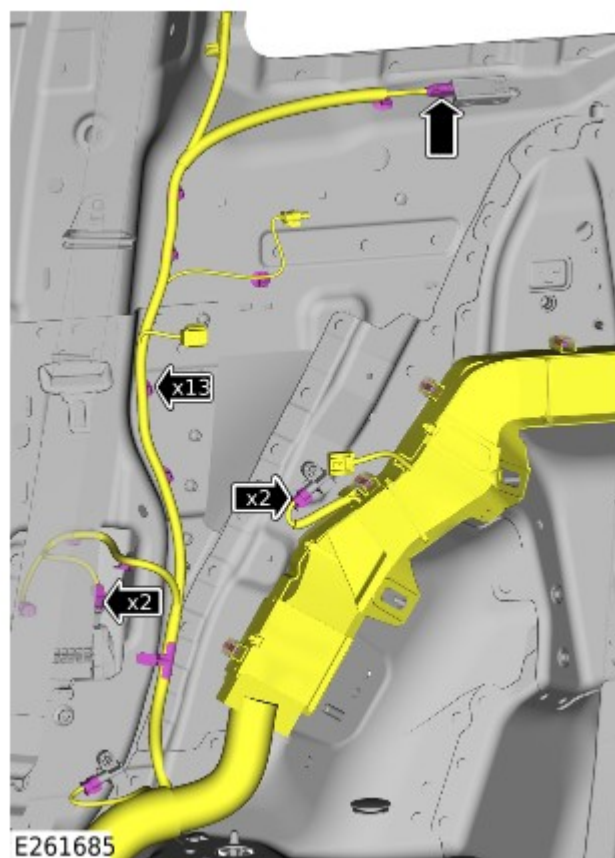
- Remove the clip.
- Remove the rear floor carpet insulator.



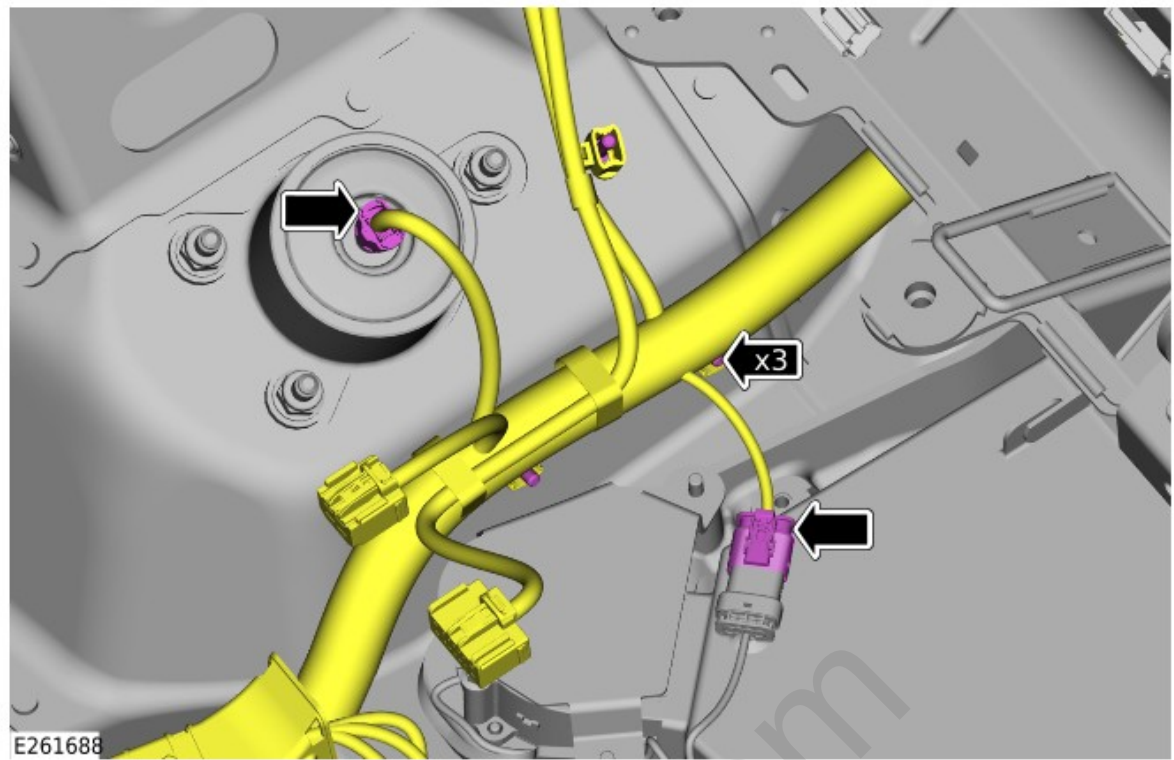
- Remove the 6 wiring harness bolts.
- Remove the 2 wiring harness bracket nuts.
- Remove the ground cable nut.



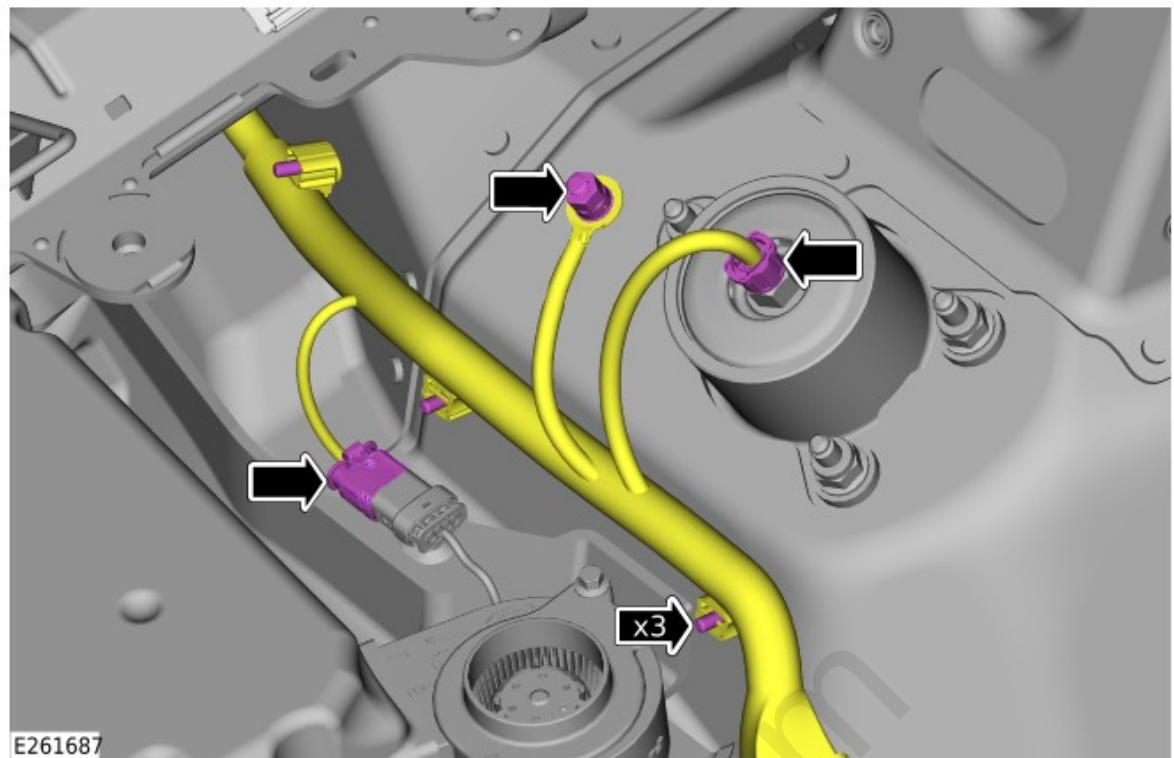
- Release the 10 wiring harness clips.
- Disconnect the 2 impact sensor electrical connectors.
- Disconnect the left second row seatbelt retractor electrical connector.



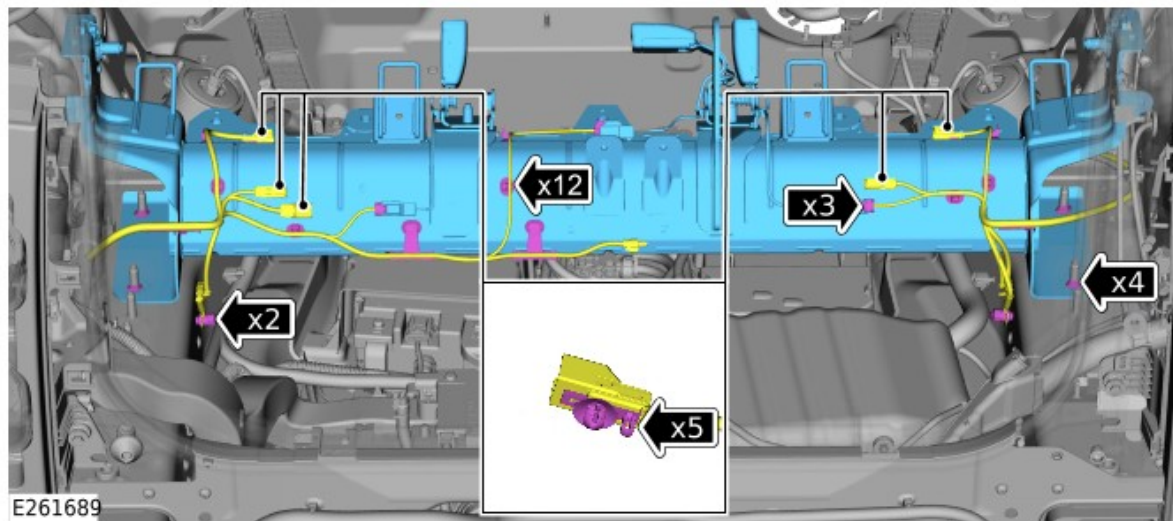
- Disconnect the 2 impact sensor electrical connectors.
- Release the 13 wiring harness clips.
- Disconnect the 2 right second row seatbelt retractor electrical connectors.
- Disconnect the antenna amplifier electrical connector.



- Release the 3 wiring harness clips.
- Disconnect the rear right adaptive damping electrical connector.
- Disconnect the Direct Current to Direct Current converter (DC/DC) converter cooling fan electrical connector.

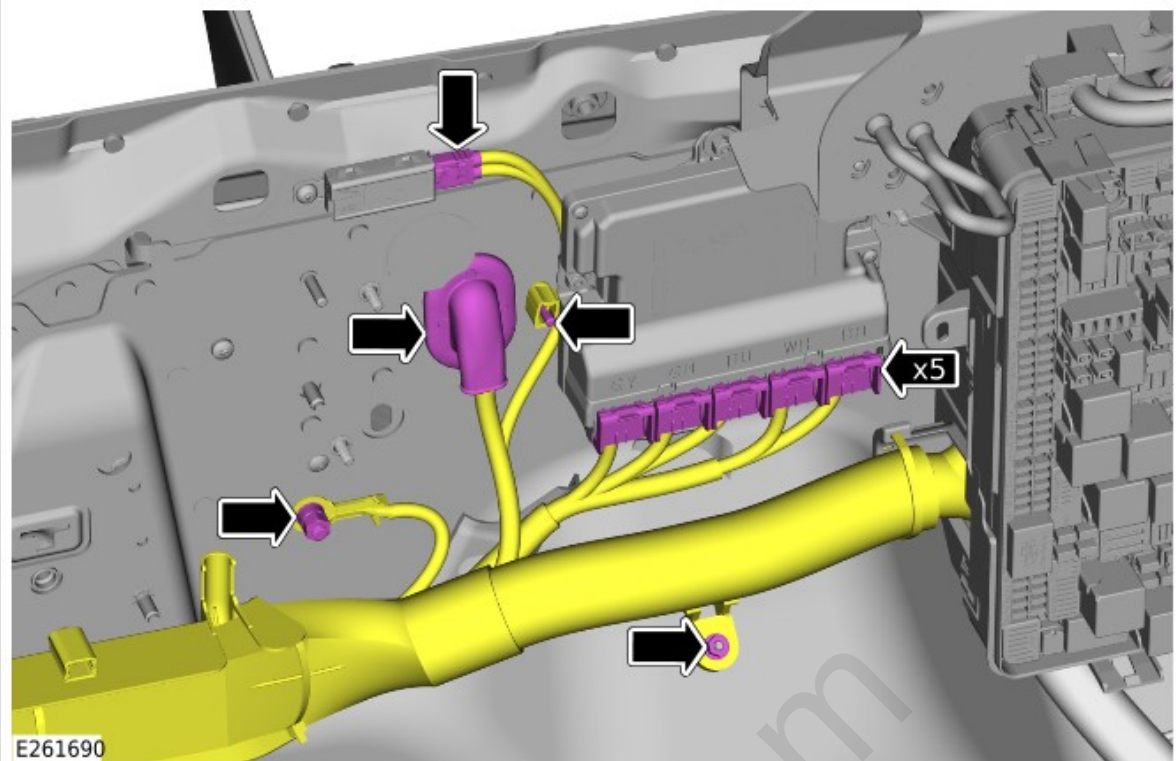


- Remove the ground cable nut.
- Release the 3 wiring harness clips.
- Disconnect the rear left adaptive damping electrical connector.
- Disconnect the DC/DC converter cooling fan electrical connector.



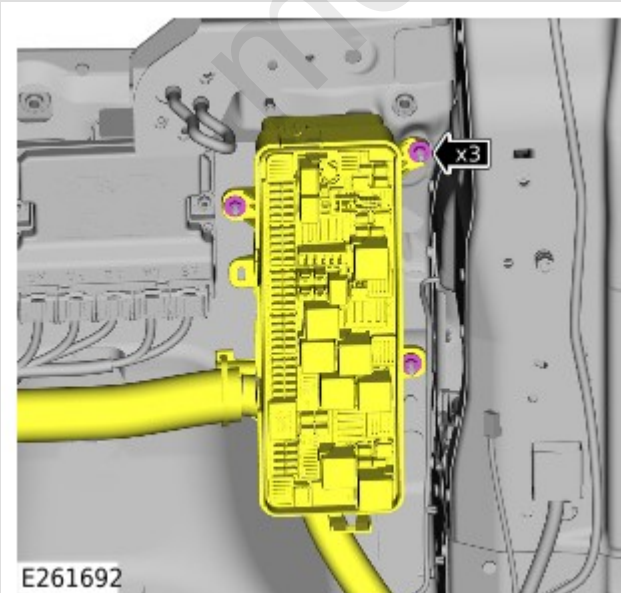
- Remove the 4 nuts.
- Remove the 2 ground cable nuts.
- Disconnect the 3 second row seatbelt buckle electrical connectors.
- Release the 17 wiring harness clips.
- Remove the second row seat frame assembly.

94.

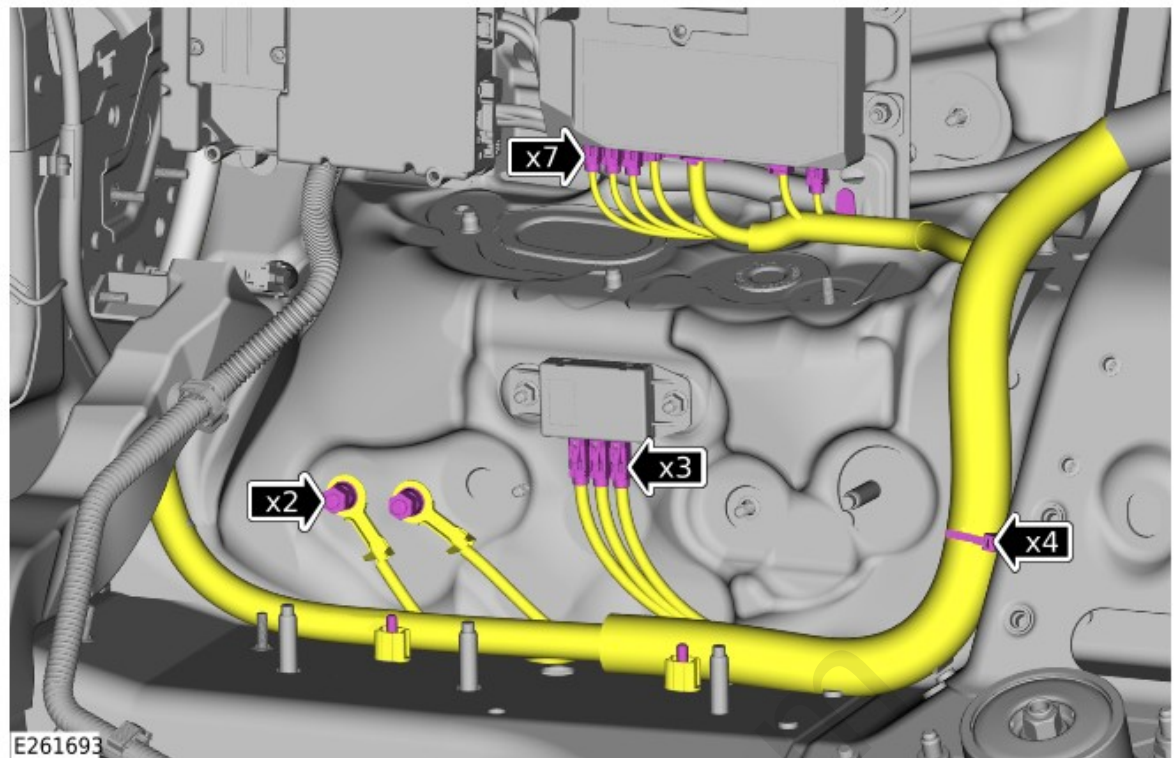


- Remove the wiring harness nut.
- Remove the ground cable nut.
- Remove the wiring harness clip.
- Disconnect the 5 Chassis Control Module (CHCM) electrical connectors.
- Release the wiring harness grommet.

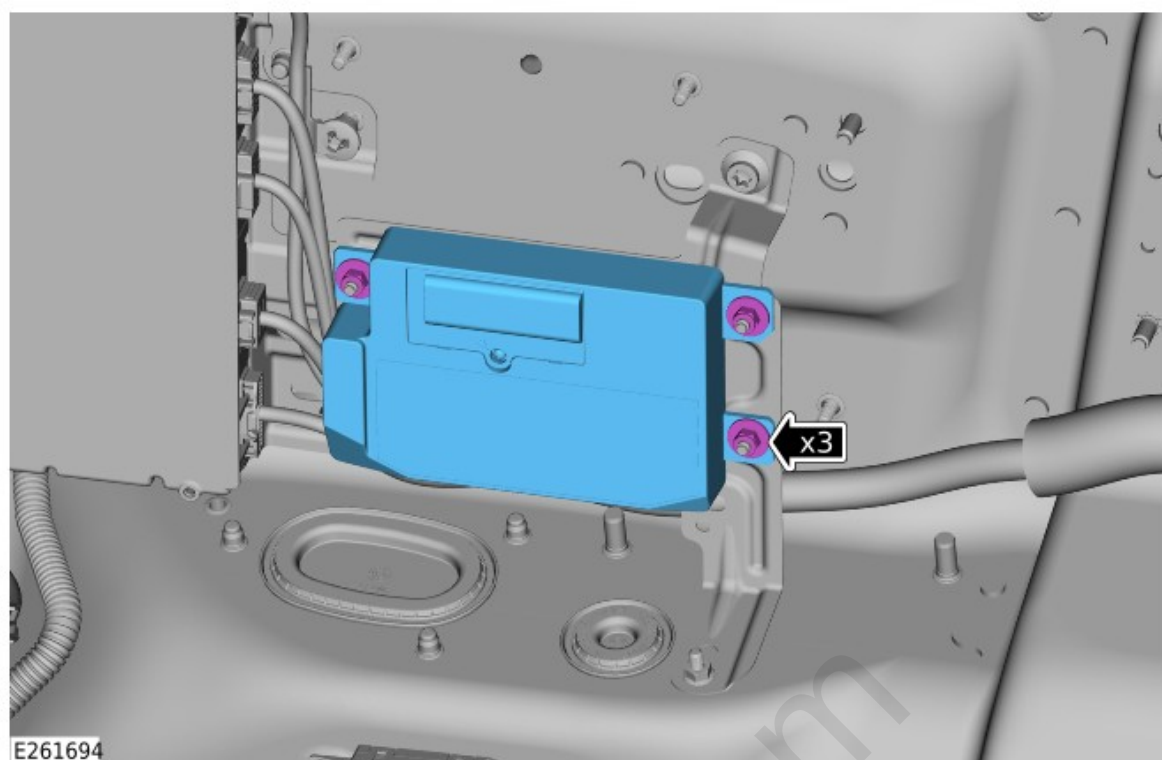
95.



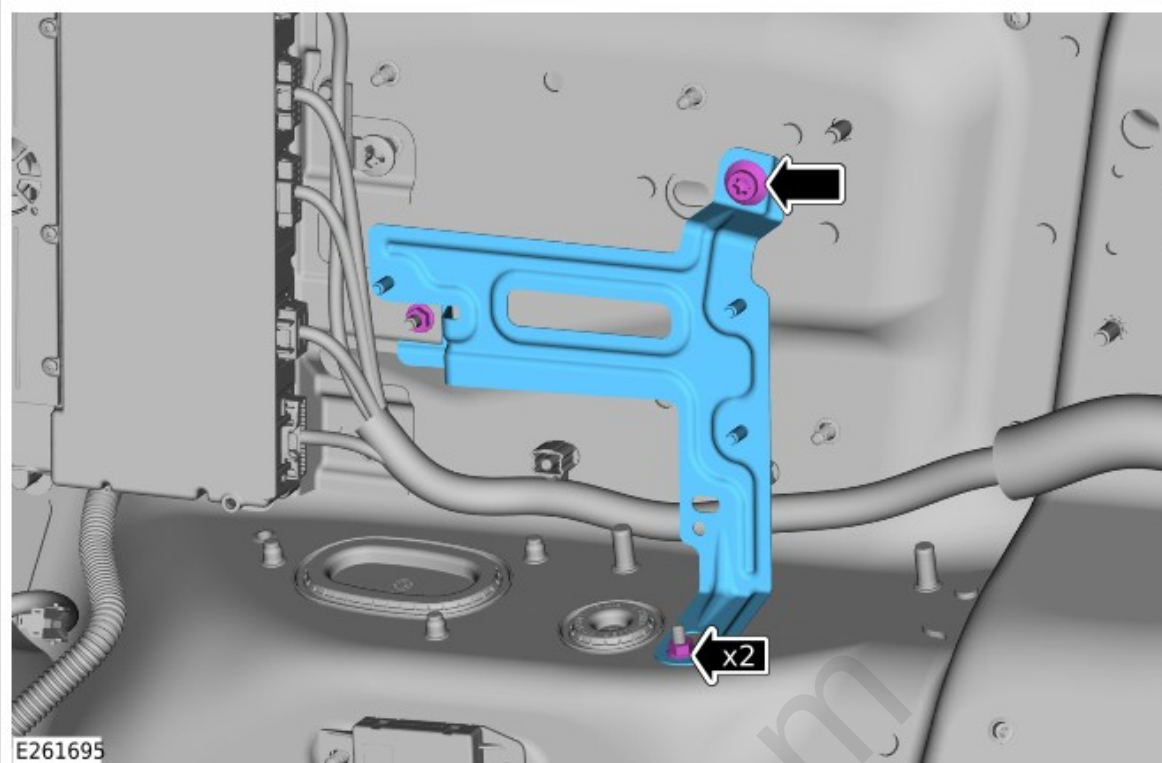
Remove the 3 rear junction box nuts.



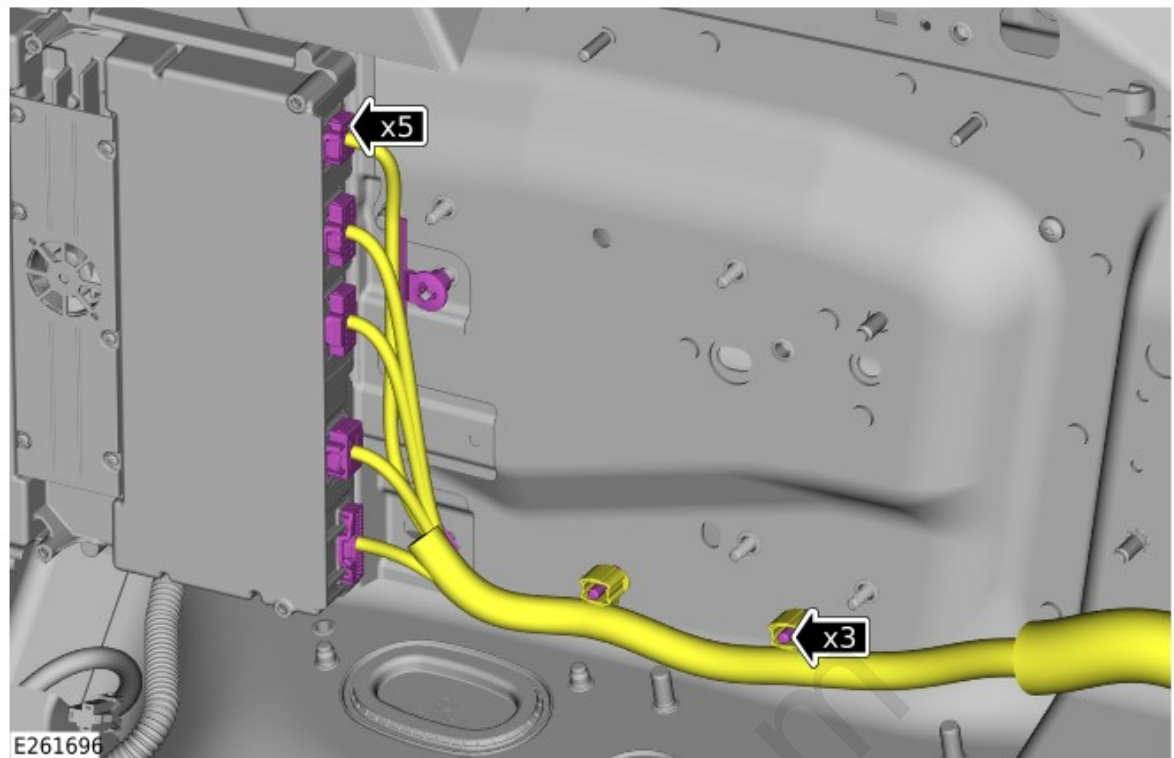
- Disconnect the 7 Telematic Control Unit Module (TCU) electrical connectors.
- Remove the 2 ground cable nuts.
- Release the 4 wiring harness clips.
- Disconnect the 3 Global Navigation Satellite System (GNSS) electrical connectors.



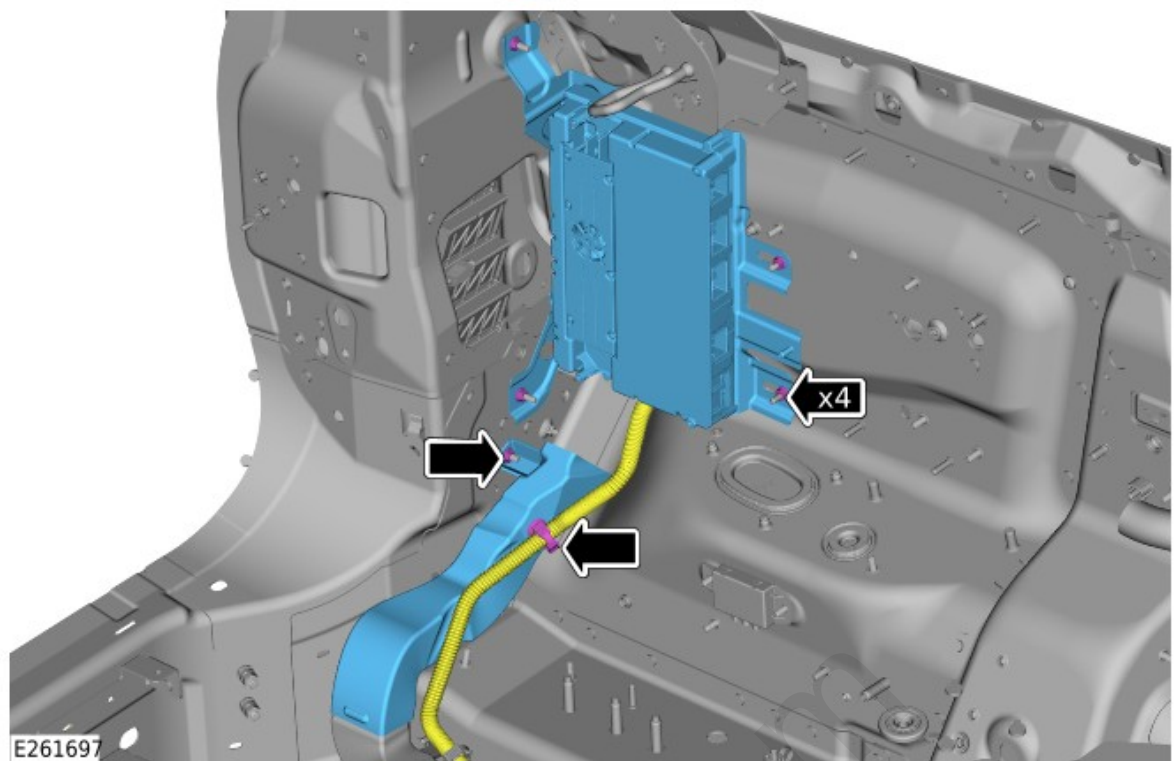
- Remove the 3 nuts.
- Remove the TCU.



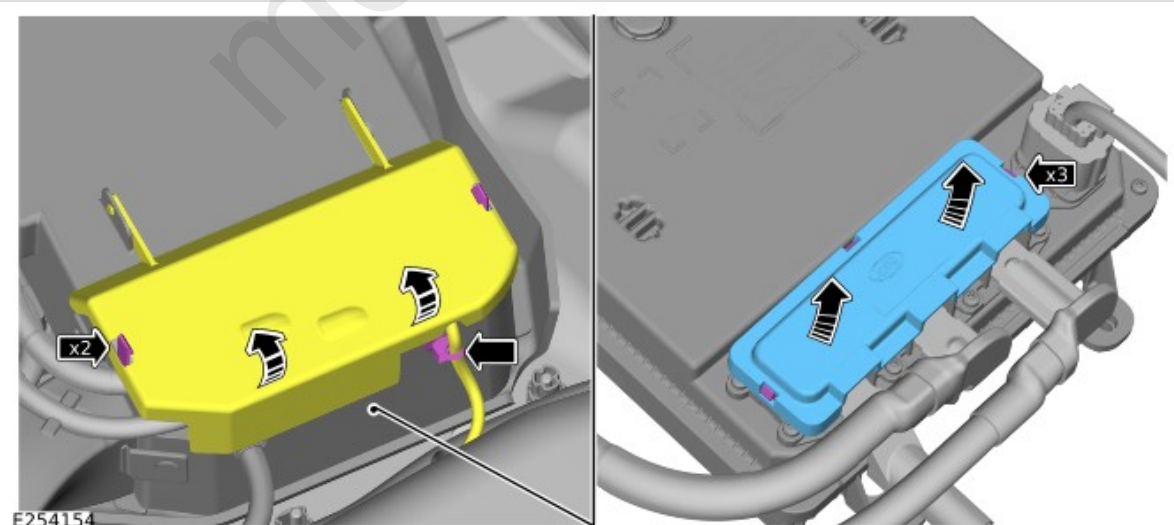
- Remove the bolt.
- Remove the 2 nuts.
- Remove the TCU bracket.



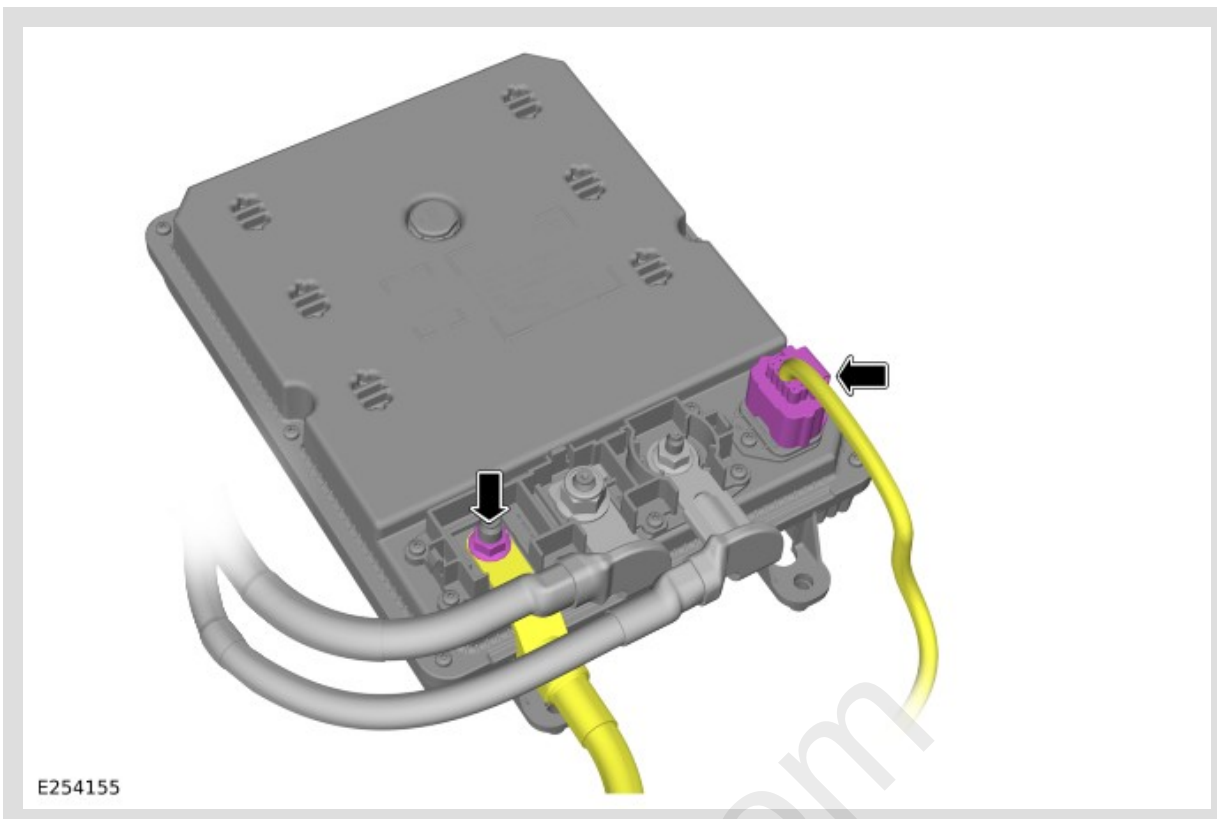
- Release the 4 wiring harness clips.
- Disconnect the 5 Audio Amplifier Module (AAM) electrical connectors.



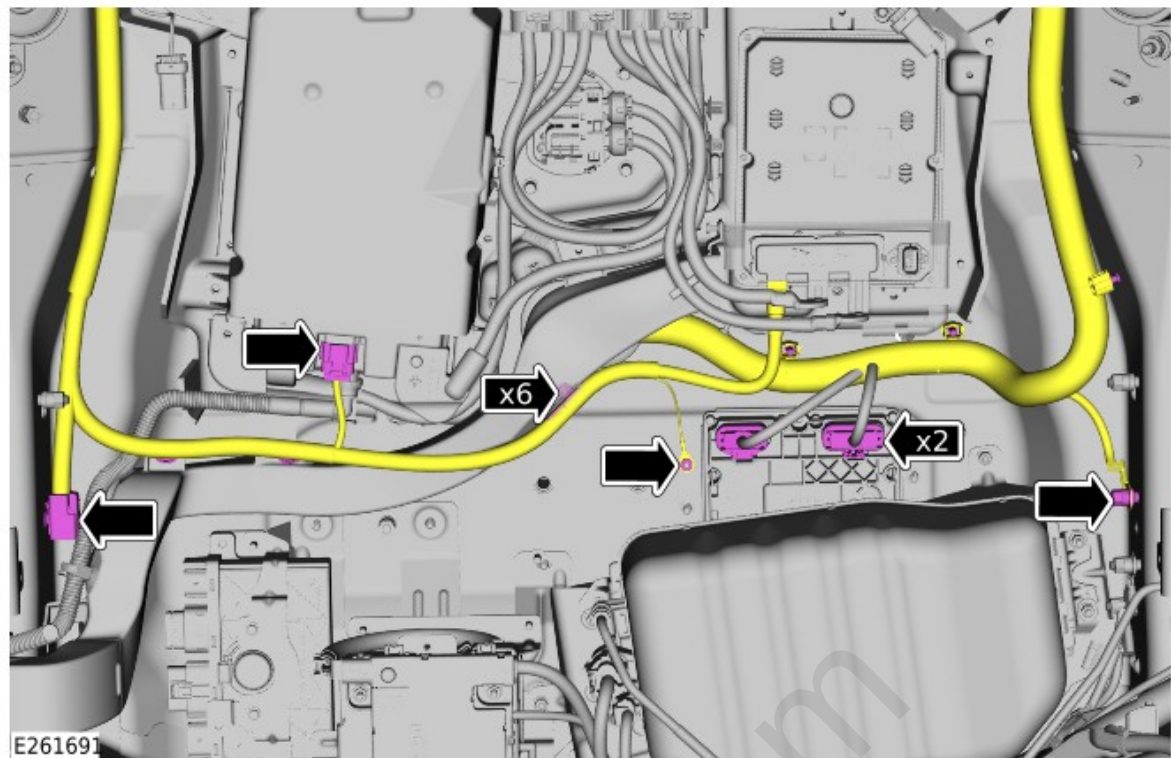
- Release the Mild Hybrid Electric Vehicle (MHEV) breather pipe clip.
- Remove the nut.
- Remove the MHEV battery air duct.
- Remove the 4 nuts.
- Remove the AAM and bracket assembly.



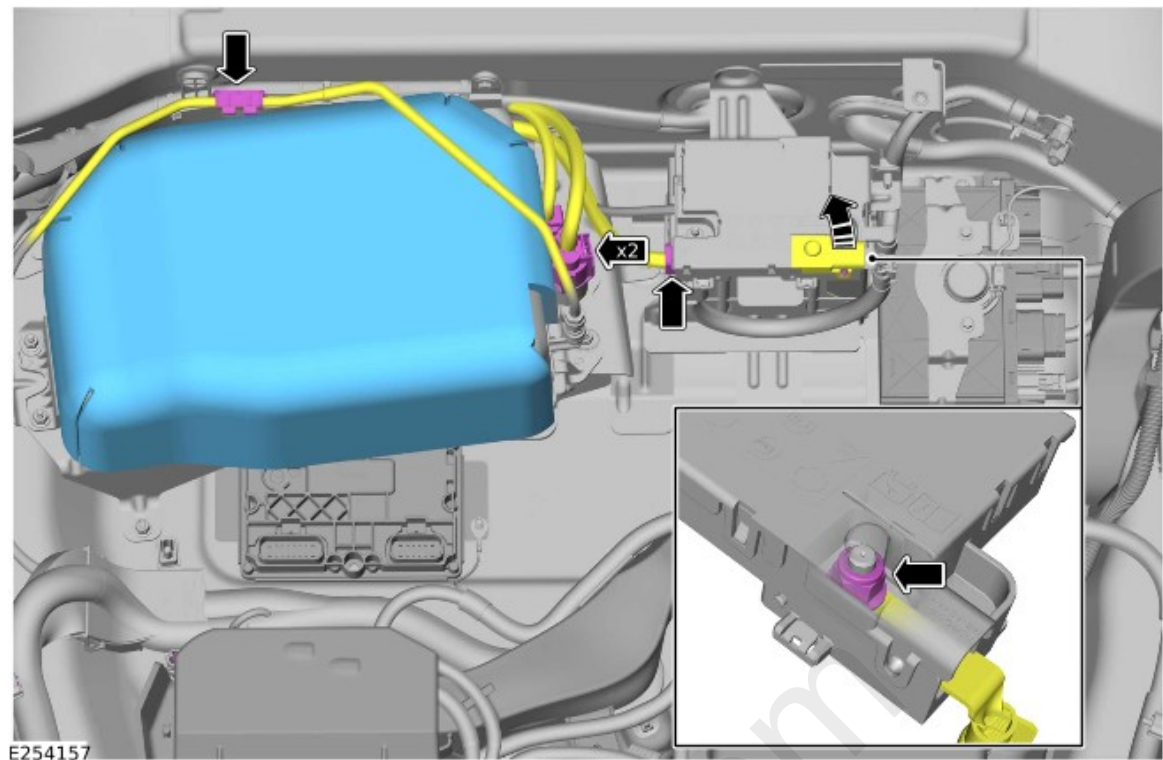
- Release the DC/DC converter access cover.
- Release the wiring harness clip.
- Remove the DC/DC converter terminal cover.



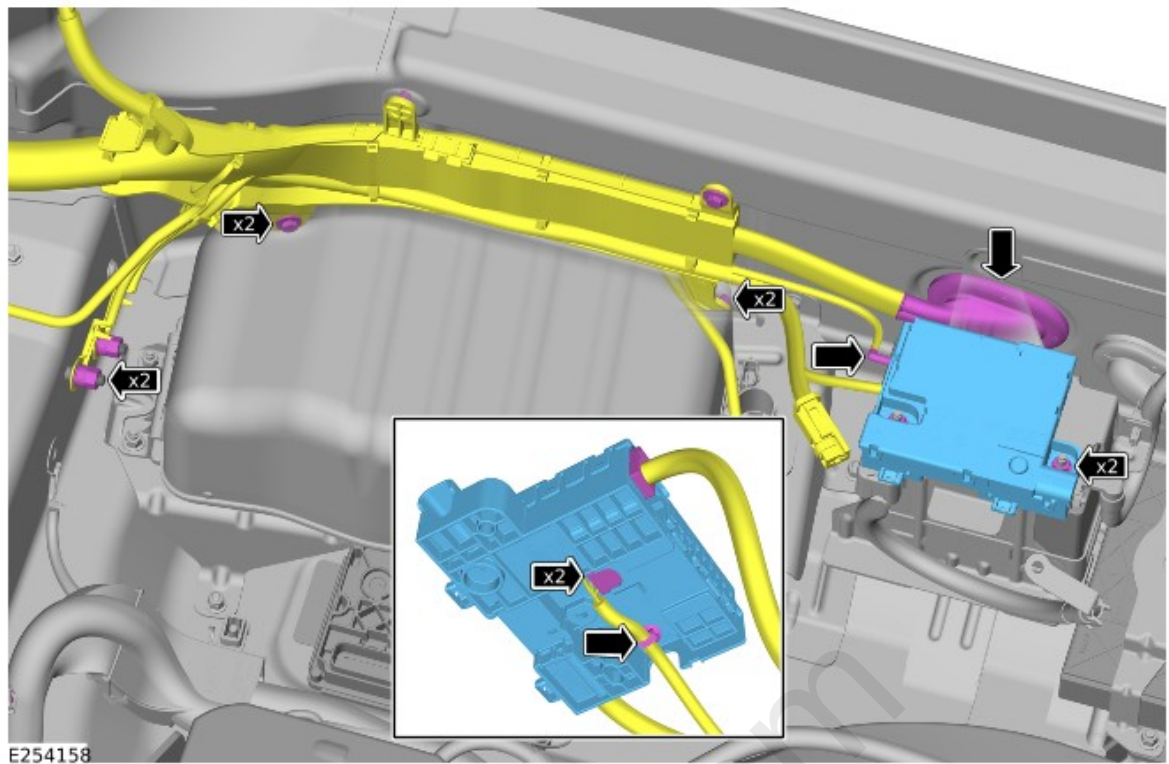
- Disconnect the DC/DC converter electrical connector.
- Remove the battery cable nut.



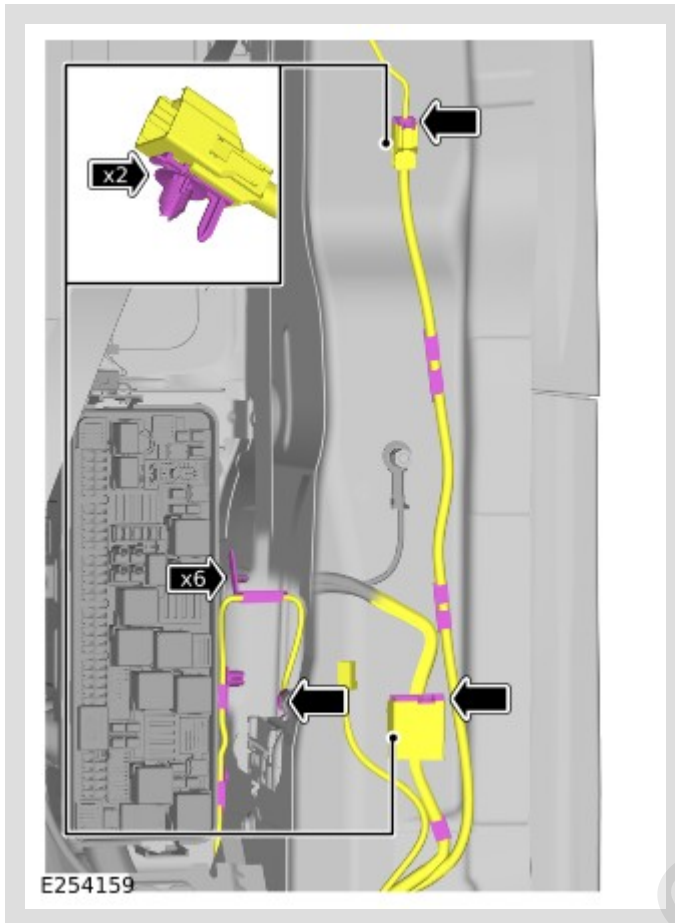
- Remove the 2 ground cable nuts.
- Disconnect the MHEV battery electrical connector.
- Disconnect the 2 Transfer Case Control Module (TCCM) electrical connectors.
- If equipped, disconnect the Tow Bar Control Module (TBM) link harness electrical connector.
- Release the 6 wiring harness clips.



- If equipped, remove the air suspension compressor Noise, Vibration and Harshness (NVH) material.
- Disconnect the 2 air suspension compressor electrical connectors.
- Release the air suspension pipe.
- Disconnect the auxiliary battery junction box electrical connector.
- Release the auxiliary battery terminal access cover.
- Remove the battery cable nut.

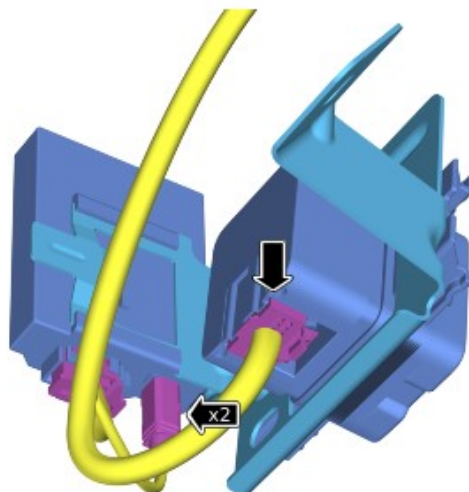
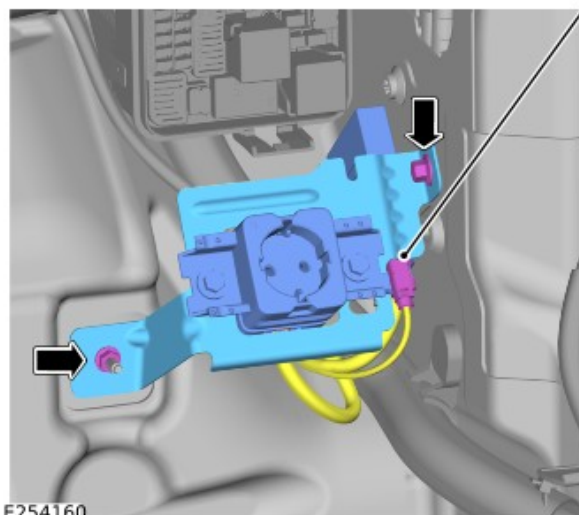


- Remove the 2 auxiliary battery junction box nuts.
- Release the wiring harness clip and disconnect the 2 auxiliary battery junction box electrical connectors.
- Remove the auxiliary battery junction box.
- Remove the 2 ground cable nuts.
- Release the auxiliary battery breather pipe.
- Remove the 2 wiring harness bracket bolts and release the wiring harness grommet.
- Release the wiring harness bracket.



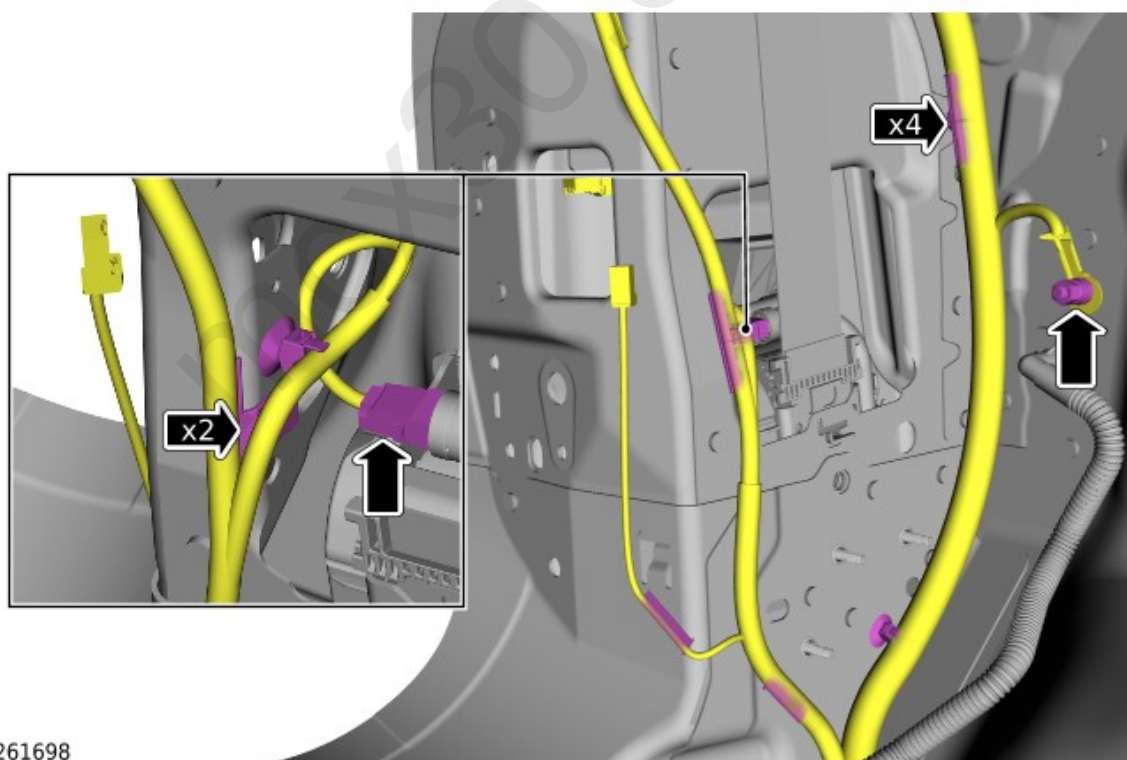
- If equipped, disconnect the right third row seatbelt retractor electrical connector.
- Disconnect the tailgate wiring harness electrical connector.
- Disconnect the roof opening panel link harness electrical connector.
- Release the 8 wiring harness clips.

107.

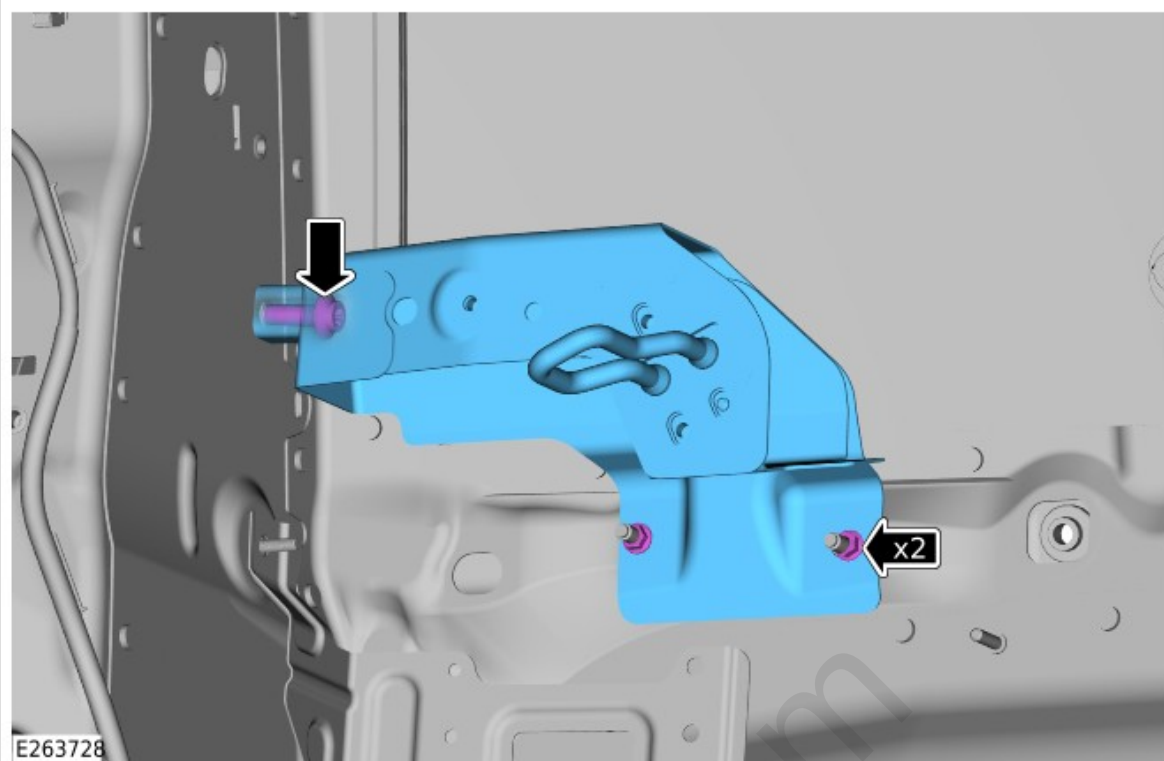


- Remove the 2 domestic voltage socket bracket nuts.
- Disconnect the domestic voltage socket electrical connector.
- Disconnect the 2 FFBH control module electrical connectors.
- Remove the domestic voltage socket and the FFBH control module with the bracket.

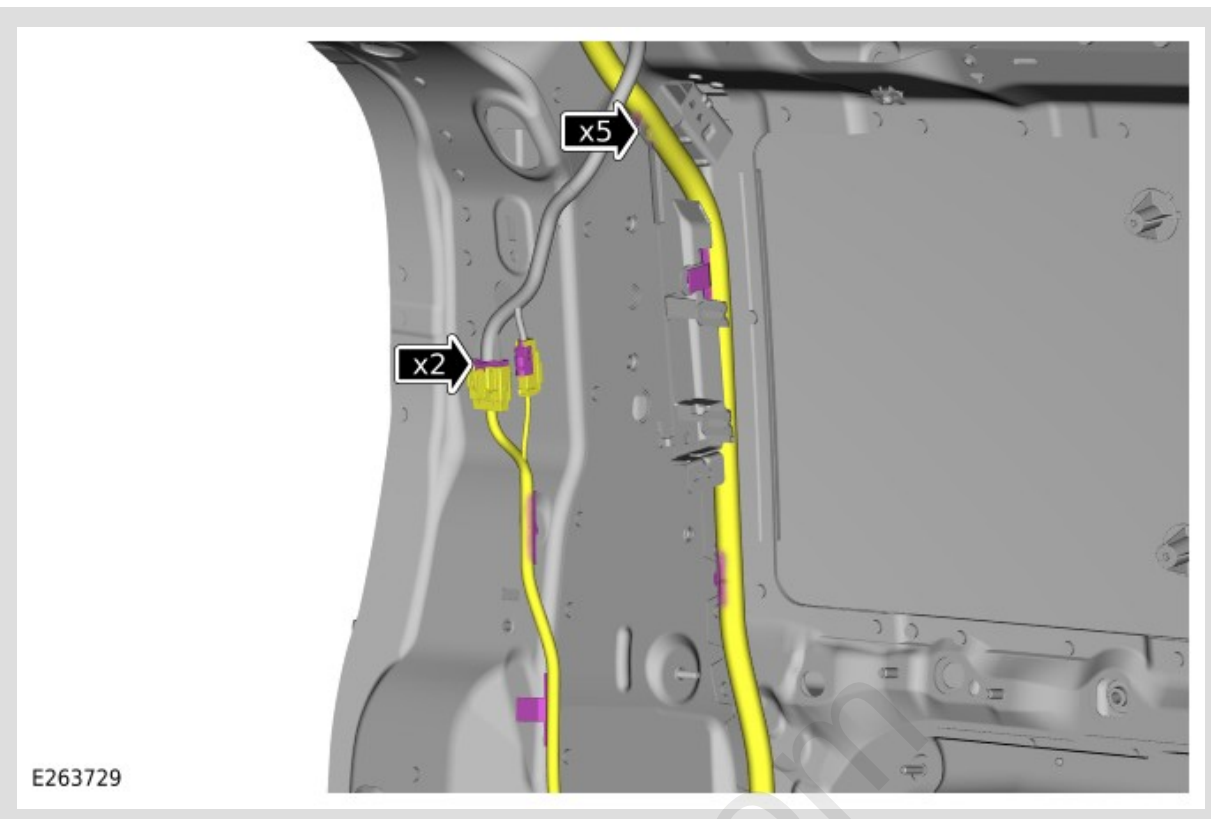
108.



- Remove the ground cable nut.
- Release the 6 wiring harness clips.
- Disconnect the second row seatbelt retractor electrical connector.

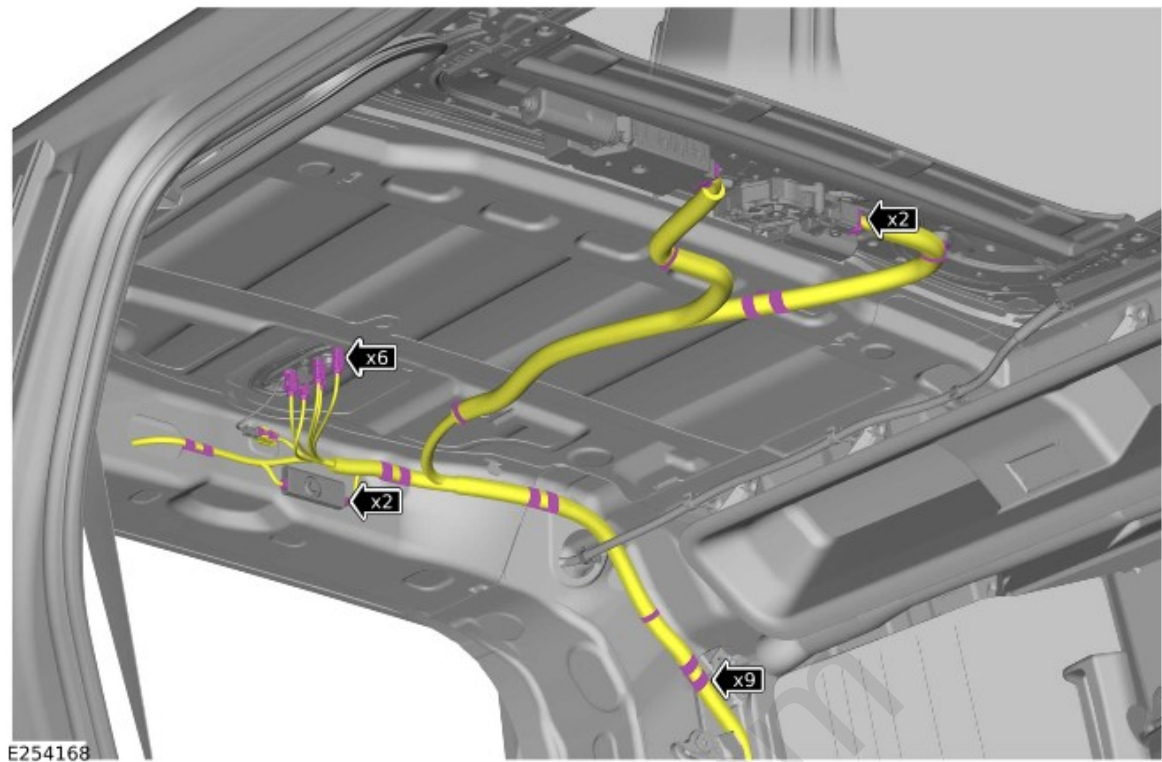


- Remove the bolt.
- Remove the 2 nuts.
- Remove the left rear seat support bracket.



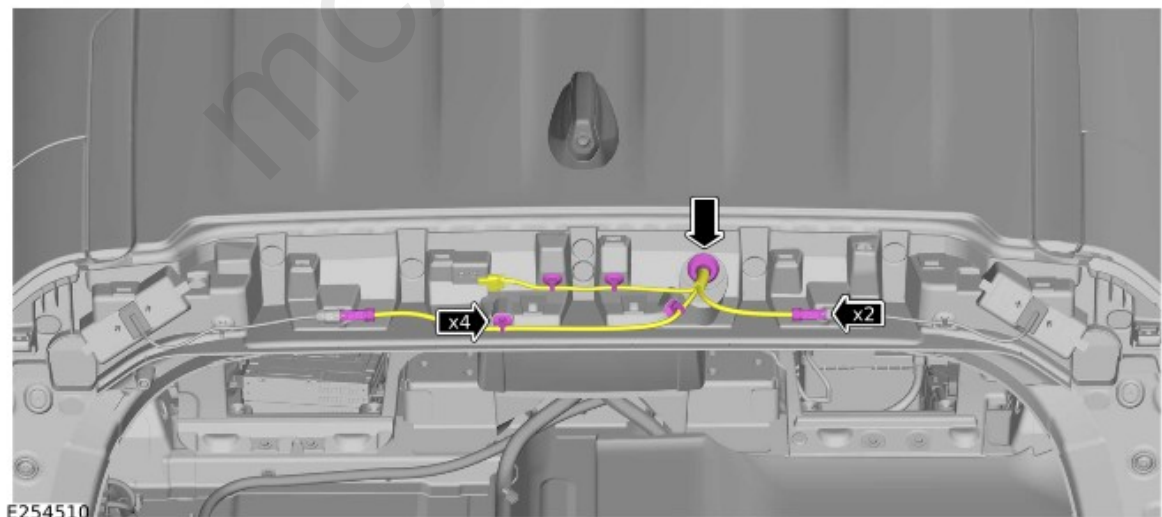
- Release the 5 wiring harness clips.
- Disconnect the 2 link harness electrical connectors.

111.

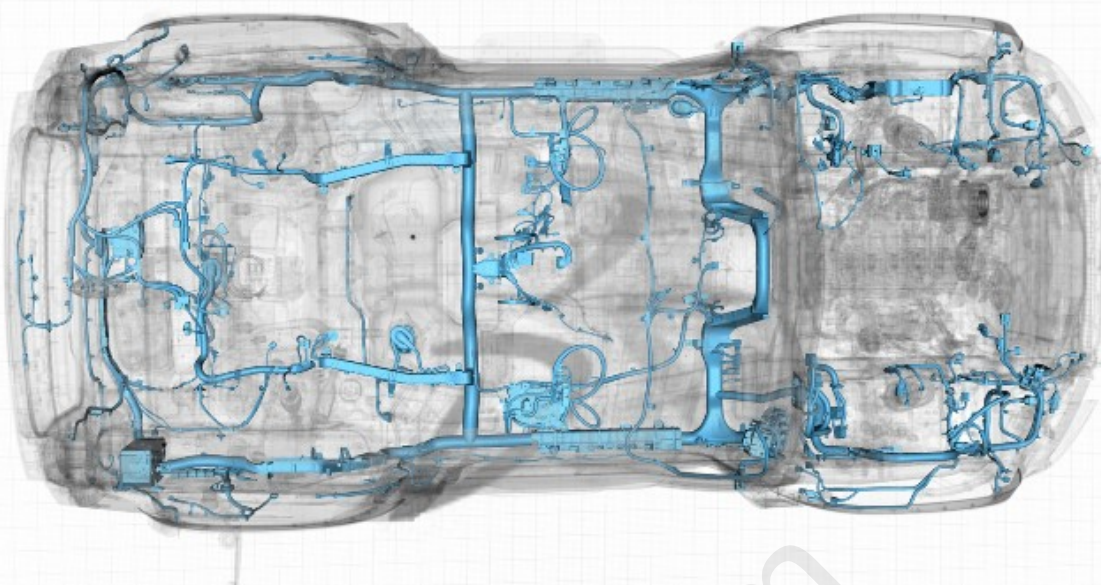


- Disconnect the 6 roof pod electrical connectors.
- Release the 9 wiring harness clips.
- Disconnect the 2 roof opening panel electrical connectors.
- Disconnect the 2 CHMSL suppressor electrical connectors.

112.



- Disconnect the 2 Software Over The Air (SOTA) antenna link harness electrical connectors.
- Release the 4 wiring harness clips.
- Release the wiring harness grommet.



E263642

Remove the main wiring harness.

INSTALLATION

The following step(s) applies to:

All vehicles

1. Install the main wiring harness.

2.

- Install the wiring harness grommet.
- Install the 4 wiring harness clips.
- Connect the 2 SOTA antenna link harness electrical connectors.

3.

- Connect the 6 roof pod electrical connectors.
- Install the 9 wiring harness clips.
- Connect the 2 roof opening panel electrical connectors.
- Connect the 2 CHMSL suppressor electrical connectors.

4.

- Install the 5 wiring harness clips.
- Connect the 2 link harness electrical connectors.

5.

- Install the left rear seat support bracket.
- Install and tighten the bolt.
Torque: 40Nm
- Install and tighten the 2 nuts.
Torque: 12Nm

6.

- Install and tighten the ground cable nut.
Torque: 9Nm
- Install the 6 wiring harness clips.
- Connect the second row seatbelt retractor electrical connector.

7.

- Connect the domestic voltage socket electrical connector.
- Connect the 2 FFBH control module electrical connectors.
- Install the domestic voltage socket and the FFBH control module with the bracket.
- Install and tighten the 2 domestic voltage socket bracket nuts.
Torque: 9Nm

8.

- If equipped, connect the right third row seatbelt retractor electrical connector.
- Connect the tailgate wiring harness electrical connector.
- Connect the roof opening panel link harness electrical connector.
- Install the 8 wiring harness clips.

9.

- Install the wiring harness bracket and the grommet.
 - Install the auxiliary battery breather pipe.
 - Connect the 2 auxiliary battery junction box electrical connectors.
 - Install the auxiliary battery junction box.
 - Install and tighten the 2 auxiliary battery junction box nuts.
Torque: 10Nm
 - Install the wiring harness clip.
 - Install and tighten the 2 ground cable nuts.
Torque: 9Nm
 - Install and tighten the 2 wiring harness bracket bolts.
Torque: 10Nm
-

10.

- If equipped, install the air suspension compressor NVH material.
- Connect the 2 air suspension compressor electrical connectors.
- Install the air suspension pipe.
- Connect the auxiliary battery junction box electrical connector.
- Install and tighten the battery cable nut.
Torque: 12Nm
- Install the auxiliary battery terminal access cover.

11.

- Install and tighten the 2 ground cable nuts.
Torque: 9Nm
- Connect the MHEV battery electrical connector.
- Connect the 2 Remote Driver Utility Module (RDUM) control unit electrical connectors.
- If equipped, connect the TBM link harness electrical connector.
- Install the 6 wiring harness clips.

12.

- Connect the DC/DC converter electrical connector.
- Install and tighten the battery cable nut.
Torque: 12Nm

13.

- Install the DC/DC terminal cover.
- Install the wiring harness clip.
- Install the DC/DC access cover.

14.

- Install the AAM and bracket assembly.
- Install and tighten the 4 nuts.
Torque: 9Nm
- Install the MHEV battery air duct.
- Install and tighten the nut.
Torque: 9Nm
- Install the MHEV breather pipe clip.

15.

- Connect the 5 AAM electrical connectors.
 - Install the 4 wiring harness clips.
-

16.

- Install the TCU bracket.
- Install and tighten the bolt.
Torque: 9Nm
- Install and tighten the 2 nuts.
Torque: 9Nm

17.

- Install the TCU.
- Install and tighten the 3 nuts.
Torque: 9Nm

18.

- Connect the 3 GNSS electrical connectors.
- Install the 4 wiring harness clips.
- Install and tighten the 2 ground cable nuts.
Torque: 9Nm
- Connect the 7 TCU electrical connectors.

19.

- Install and tighten the 3 rear junction box nuts.
Torque: 9Nm

20.

- Install the wiring harness grommet.
- Connect the 5 CHCM electrical connectors.
- Install the wiring harness clip.
- Install the wiring harness nut.
Torque: 9Nm
- Install and tighten the ground cable nut.
Torque: 9Nm

21.

- Install the second row seat frame assembly.
 - Install and tighten the 4 nuts.
Torque: 40Nm
 - Install the 17 wiring harness clips.
 - Connect the 3 second row seatbelt buckle electrical connectors.
 - Install and tighten the 2 ground cable nuts.
Torque: 9Nm
-

22.

- Connect the DC/DC cooling fan electrical connector.
- Connect the rear left adaptive damping electrical connector.
- Install the 3 wiring harness clips.
- Install and tighten the ground cable nut.

Torque: 9Nm

23.

- Connect the DC/DC converter cooling fan electrical connector.
- Connect the rear right adaptive damping electrical connector.
- Install the 3 wiring harness clips.

24.

- Connect the antenna amplifier electrical connector.
- Connect the 2 right second row seatbelt retractor electrical connectors.
- Install the 13 wiring harness clips.
- Connect the 2 impact sensors electrical connector.

25.

- Connect the left second row seatbelt retractor electrical connector.
- Connect the 2 impact sensors electrical connector.
- Install the 10 wiring harness clips.

26.

- Install and tighten the 6 wiring harness bolts.
Torque: 10Nm
- Install and tighten the 2 wiring harness bracket nuts.
Torque: 10Nm
- Install and tighten the ground cable nut.
Torque: 9Nm

27.

- Connect the subwoofer speaker electrical connector.
- Connect the 6 IMC electrical connectors.
- If equipped, connect the DEF heater control unit electrical connector.
- Connect the left B-pillar impact sensor electrical connector.
- Install the 4 wiring harness clips.
- Install and tighten the 2 ground cable bolts.

Torque: 9Nm

28.

 NOTE:

Repeat the step for the other side.

- Install the rear floor carpet insulator.
- Install the clip.

29.

- Connect the RCM electrical connector.
- Install and tighten the 2 wiring harness bracket bolts.
Torque: 10Nm
- Install and tighten the 3 ground cable nuts.
Torque: 9Nm
- Install the 14 wiring harness clips.

30.

- Install the front left carpet bracket.
- Install and tighten the 4 bolts.
Torque: 9Nm
- Install the 3 front left seat link harness clips.

31.

- Install the BJB.
- Install and tighten the 2 BJB nuts.
Torque: 10Nm
- Connect the 3 BJB connectors.
- Install and tighten the 8 battery cable nuts.
Torque: 12Nm
- Install and tighten the 2 BJB nuts.
Torque: 10Nm

32.

Install the BJB access cover.

33.

- Install and tighten the 2 BJB bracket bolts.
Torque: 10Nm
- Install and tighten the BJB bracket nut.
Torque: 10Nm
- Install the 2 wiring harness clips.

34.

- Install and tighten the front right treadplate bracket nut.
Torque: 10Nm
- Install and tighten the 3 front right treadplate bracket bolts.
Torque: 10Nm
- Connect the right B-pillar impact sensor electrical connector.

35.

- Install the PSDB.
- Install and tighten the 3 nuts.
Torque: 8Nm

36.

- Connect the PSDB electrical connector.
- Install and tighten the 3 PSDB battery cable nuts.
Torque: 12Nm
- Install the access cover.
- Install and tighten the positive terminal battery cable nut.
Torque: 12Nm
- Install the access cover.
- Connect the BMS electrical connector.
- Install the BJB battery cable nut.
Torque: 12Nm
- Install the access cover.
- Install the 4 wiring harness clips.

37.

- Install the front right carpet bracket.
- Install and tighten the 5 bolts.
Torque: 9Nm
- Install the 2 startup battery breather pipe clips.
- Install the 4 front right seat link harness clips.

38.

- Connect the left side air curtain electrical connector.
 - Connect the 2 left windshield heater element electrical connectors.
 - Install the 6 wiring harness clips.
-

39.

- Connect humidity sensor electrical connector.
- Connect the rain/light sensor electrical connector.
- Connect the IPMA electrical connector.
- Install and tighten the ground cable bolt.

Torque: 9Nm

- Install the 13 wiring harness clips.
-

40.

- Connect the right side air curtain electrical connector.
 - Connect the 2 right windshield heater element electrical connectors.
 - Install the 9 wiring harness clips.
-

41.

- Install the front right door wiring harness connector to the A-pillar.
 - Install the front right door harness grommet.
 - Install the 4 wiring harness clips.
-

42.

- Install and tighten the 4 wiring harness firewall bracket nuts.
Torque: 10Nm
 - Connect the 9 GWM electrical connectors.
 - Install the wiring harness clip.
-

43.

- Connect the 14 electrical connectors.
 - Install the Passenger Junction Box.
 - Install and tighten the nut.
Torque: 10Nm
 - Install the 2 wiring harness clips.
-

44.

- Connect the 2 NFSM electrical connectors.
 - Install and tighten the 2 wiring harness bracket nuts.
Torque: 10Nm
 - Install the 2 wiring harness clips.
-

45.

- Install the front right footwell carpet bracket.
 - Install and tighten the 5 nuts.
Torque: 9Nm
-

46.

- Install the front right floor carpet insulator.
- Install and tighten the 3 ground cable nuts in the area of the lower right A-pillar.
Torque: 9Nm

47.

- Install and tighten the 4 wiring harness firewall bracket nuts.
Torque: 10Nm
- Install and tighten the 3 ground cable nuts in the area of the lower left A-pillar.
Torque: 9Nm
- Install and tighten wiring harness bracket nut.
Torque: 10Nm

48.

- Install the front left door wiring harness connector to the A-pillar.
- Install the front left door harness grommet.
- Install the 3 wiring harness clips.

49.

- Install the wiring harness bracket.
- Install and tighten the 2 wiring harness bracket bolts.
Torque: 10Nm
- Install and tighten the 2 ground cable nuts.
Torque: 9Nm
- Install the ground cable nut access cover.
- Install the 3 wiring harness clips in the front left footwell area.

50.

- Install the wiring harness bracket.
- Connect the APP sensor electrical connector.
- Install and tighten the 2 wiring harness bracket bolts.
Torque: 10Nm
- Install and tighten the wiring harness bracket nut.
Torque: 10Nm
- Install and tighten the ground cable nut.
Torque: 9Nm
- Install the wiring harness clip.

51.

- Install the DADC and the bracket.
 - Install and tighten the 3 bolts.
Torque: 9Nm
 - Connect the DADC electrical connector.
-

52. Connect the front right door harness electrical connector.

53. Connect the front left door harness electrical connector.

-
- 54.
- Install the rear floor carpet.
 - Install the 11 clips.

-
- 55.
- Install the front floor carpets.
 - Install the 4 clips.

56. Install the front floor carpet access covers.

-
- 57.
- Connect the left tail lamp electrical connector.
 - Connect the rear left accelerometer electrical connector.
 - Install the 5 wiring harness clips.

-
- 58.
- Install the rear bumper left mounting bracket.
 - Install and tighten the 3 bolts.
Torque: 9Nm
 - Install the 2 wiring harness clips.

-
- 59.
- Install the Side Obstacle Detection Control Module - Left (SODL) with the bracket.
 - Connect the left SODL electrical connector.

60. Install the 9 wiring harness clips in the area of the rear bumper armature.

-
- 61.
- Connect the right tail lamp electrical connector.
 - Install the 2 wiring harness clips.

-
- 62.
- Install the rear bumper right mounting bracket.
 - Install and tighten the 3 bolts.
Torque: 9Nm
 - Install the 2 wiring harness clips.
-

63.

- Install the SODR with the bracket.
- Connect the right SODR electrical connector.

64.

- Connect the 3 rear subframe link harness electrical connectors.
- Install the 3 wiring harness clips.
- Install the wiring harness grommet.

65.

- Install the wiring harness grommet.
- If equipped, connect the air suspension rear valve block electrical connector.
- Connect the fuel flap assembly electrical connector.
- Install the 4 wiring harness clips.

66.

Install the 4 wiring harness clips.

67.

- Connect the FPDM electrical connector.
- Install the wiring harness clip.

68.

- Connect the transmission link harness electrical connector.
- Install the wiring harness clips.

69.

- Install and tighten the 2 ground cable nuts at the area of the left bulkhead bracket.
Torque: 9Nm
- Install the wiring harness clip.

70.

- If equipped, connect the auxiliary fuel pump electrical connector.
- If equipped, connect the FPDM electrical connector.
- Install the 2 wiring harness clips.
- Install the wiring harness grommet to the left secondary bulkhead panel.

71.

- Connect the BBM electrical connector.
 - Connect the brake fluid level sensor electrical connector.
 - Install the 2 wiring harness clips.
-

72.

- Install the PCM bracket.
- Install and tighten the 2 nuts.

Torque: 9Nm

73.

- Install the 9 windshield wiper motor link harness clips.
- Install and tighten the 2 ground cable nuts.

Torque: 9Nm

74.

Install the front left wheel arch wiring harness bracket cover.

75.

- Install the fuel cooler fuel line.
- Install the 4 pipe clips.

76.

- Connect the front left adaptive shock absorber electrical connector.
- Install the 2 wiring harness clips.
- Reposition the A/C pipe bracket.

77.

Install the wiring harness bracket to the front left wheel arch.

78.

- If equipped, connect the 2 front left wheel speed sensor electrical connectors.
- Connect the front left accelerometer electrical connector.
- Connect the front left height sensor electrical connector.
- Connect the A/C refrigerant pressure sensor electrical connector.
- Connect the brake pad wear sensor electrical connector.

79.

- Connect the ABS electrical connector.
- Connect the front left impact sensor electrical connector.
- Connect the lower active grille air shutter electrical connector.
- Connect the coolant expansion tank level sensor electrical connector.
- Install the 7 wiring harness clips.

80.

- Connect the front bumper link harness electrical connector.
 - Install the 3 wiring harness clips.
-

81.

- Connect the left horn electrical connector.
- Install the 6 wiring harness clips.

82.

- Connect the BBUS electrical connector.
- Install and tighten the 3 ground cable nuts.
Torque: 9Nm
- Install and tighten the wiring harness bracket bolt.
Torque: 10Nm
- Install the 3 wiring harness clips.
- Install the washer fluid hose.

83.

- Install the right bulkhead bracket.
- Install and tighten the 3 bolts.
Torque: 9Nm

The following step(s) applies to:

Vehicles with air suspension

84.

Install the air suspension front valve block.

85.

- Connect the air suspension front valve block electrical connector.
- Install the 3 wiring harness clips.

The following step(s) applies to:

All vehicles

86.

- Connect the front right adaptive shock absorber electrical connector.
- If equipped, connect the 2 glow plug control module electrical connectors.
- Install the 7 wiring harness clips.

87.

- Install the 6 wiring harness clips in the area of the front right wheel arch.
- Install and tighten the ground cable nut.
Torque: 9Nm

88.

- Install the Battery cable.
- Install and tighten the lower battery cable nut.
Torque: 12Nm
- Install the access cover.
- Install the jump start terminal.
- Install and tighten the 2 bolts.
Torque: 10Nm

89.

Connect the 3 jump start terminal electrical connectors.

90.

- Install and tighten the 2 jump start terminal battery cable nuts.
Torque: 12Nm
- Install the 2 jump start terminal junction box access covers.

91.

- Install the FFBH intake pipe bracket.
- Install and tighten the bolt.
Torque: 9Nm

92.

- Connect the right hood latch electrical connector.
- Install the 6 wiring harness clips.

93.

Connect the 4 electric power steering link harness electrical connectors.

94.

- Connect the 3 cooling module link harness electrical connectors.
- Install the 2 wiring harness clips.

95.

- Connect the front right impact sensor electrical connector.
- Install the 5 wiring harness clips.

96.

- Connect the right horn electrical connector.
 - Connect the upper active grille air shutter electrical connector.
 - Install the 6 wiring harness clips.
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97.

- If equipped, connect the 2 front right wheel speed sensor electrical connectors.
- Connect the front right accelerometer electrical connector.
- Connect the front right height sensor electrical connector.
- Install the 8 wiring harness clips.

98.

- Connect the 3 electrical connectors to the windshield washer reservoir.
- Install the 3 wiring harness clips.

99.

Install the fuel tank.

Refer to: [Fuel Tank - INGENIUM I4 2.0L Petrol, 90](#) (310-01A Fuel Tank and Lines - INGENIUM I4 2.0L Petrol/INGENIUM I4 2.0L Petrol - PHEV, Removal and Installation).

Refer to: [Fuel Tank - 90](#) (310-01B Fuel Tank and Lines - INGENIUM I6 3.0L Petrol, Removal and Installation).

Refer to: [Fuel Tank - 90](#) (310-01C Fuel Tank and Lines - INGENIUM I4 2.0L Diesel, Removal and Installation).

100.

Install the CHMSL.

Refer to: [Central High Mounted Stop Lamp](#) (417-01 Exterior Lighting, Removal and Installation).

101.

Install the rear bumper.

Refer to: [Rear Bumper](#) (501-19 Bumpers, Removal and Installation).

102.

Install the headliner.

Refer to: [Headliner - 110](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).

103.

Install the second row seat.

Refer to: [Second Row Seat - 90](#) (501-10 Seating, Removal and Installation).

104.

Install the instrument panel cross-car beam.

Refer to: [Instrument Panel Cross-Car Beam](#) (501-12 Instrument Panel and Console, Removal and Installation).

105.

Install the FFBH assembly.

Refer to: [Fuel Fired Booster Heater](#) (412-02 Auxiliary Climate Control, Removal and Installation).

The following step(s) applies to:

Vehicles with diesel engine

106. Install the fuel cooler.

Refer to: [Fuel Cooler](#) (310-01C Fuel Tank and Lines - INGENIUM I4 2.0L Diesel, Removal and Installation).

The following step(s) applies to:

All vehicles

107. Install the right secondary bulkhead panel.

Refer to: [Secondary Bulkhead Right Panel](#) (501-02 Front End Body Panels, Removal and Installation).

108. Install the secondary bulkhead left panel.

Refer to: [Secondary Bulkhead Left Panel](#) (501-02 Front End Body Panels, Removal and Installation).

109. Install both rear wheel arch liners.

Refer to: [Rear Wheel Arch Liner](#) (501-08 Exterior Trim and Ornamentation, Removal and Installation).

110. Install both front wheel arch liners.

Refer to: [Front Wheel Arch Liner](#) (501-02 Front End Body Panels, Removal and Installation).

111. Install both headlamps.

Refer to: [Headlamp Assembly](#) (417-01 Exterior Lighting, Removal and Installation).

112. Connect the startup battery ground cable.

Refer to: [Startup Battery Disconnect and Connect](#) (414-00 Battery and Charging System - General Information, General Procedures).