

PUBLISHED: 15-JUL-2020
2020.0 DEFENDER (LE), 501-12

INSTRUMENT PANEL AND CONSOLE

INSTRUMENT PANEL CROSS-CAR BEAM (G2417599)

mcx30.com

REMOVAL AND INSTALLATION

PART(S)

STEP	PART NAME	QUANTITY
Installation Step 4	Heater core and evaporator seals	1
Installation Step 28	Steering column intermediate shaft upper bolt	1
Installation Step 34	Air conditioning pipe O-ring seal(s)	4

REMOVAL



WARNING:

- Take extra care when handling Supplementary Restraint System (SRS) components.
- To avoid accidental deployment, the restraints control module backup power supply must be depleted. Wait at least 1 minute after disconnecting the battery ground cable(s) before commencing any repair or adjustment to the SRS, or any component(s) adjacent to the SRS sensors. Failure to follow these instructions may result in personal injury.
- To minimize the possibility of premature deployment, do not use radio key code savers when working on the supplemental restraint system. Failure to follow this instruction may result in personal injury.
- Do not probe SRS electrical connectors.



CAUTION:

- Do not use excessive force to remove the component. Make sure that all fixings are fully released.
- Before disconnecting any components, make sure the area is clean and free from foreign material. When disconnected all components must be sealed.



NOTE:

- This procedure contains some variation in the illustrations depending on the vehicle specification, but the essential information is always correct.
- This procedure contains illustrations showing certain components removed to provide extra clarity.

-
1. Evacuate the Air Conditioning (A/C) system.

Refer to: [Air Conditioning System Recovery, Evacuation and Charging](#) (412-00 Climate Control System - General Information, General Procedures).

2. Remove the secondary bulkhead center panel.

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

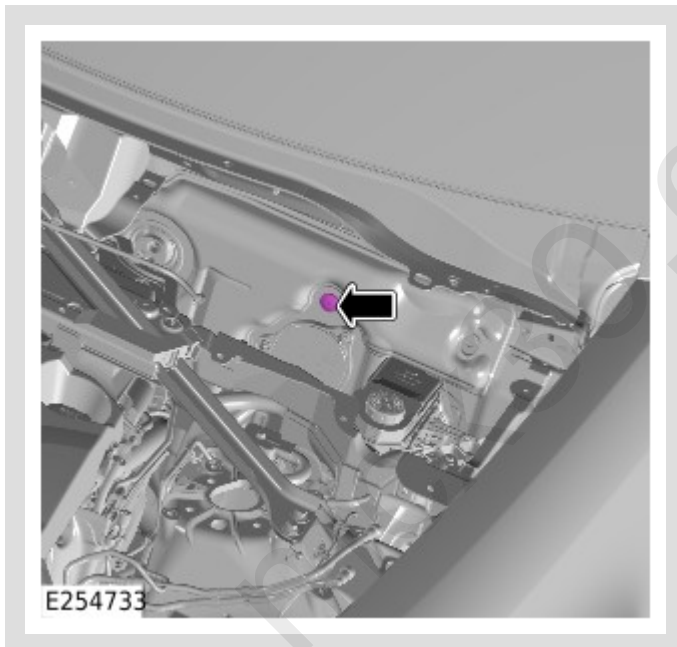
3. Disconnect the startup battery ground cable.

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

4. Remove the windshield wiper motor and linkage assembly.

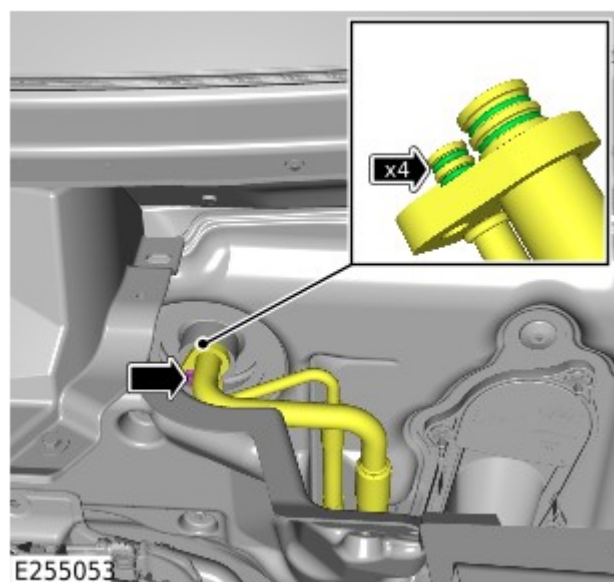
Refer to: [Windshield Wiper Motor and Linkage Assembly](#) (501-16 Wipers and Washers, Removal and Installation).

- 5.



Remove the instrument panel cross-car beam outer bolt.

6.

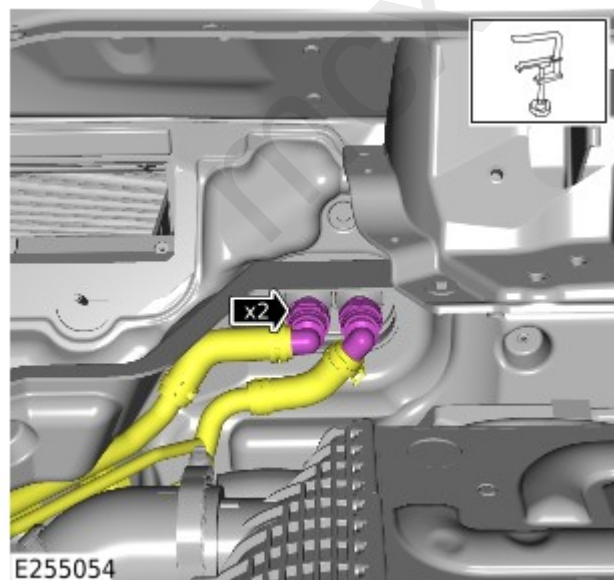


- Remove the bolt.
- Disconnect the A/C refrigerant pipes.
- Remove and discard the 4 O-ring seals.

7.

⚠ CAUTION:

Be prepared to collect escaping coolant.



- Install a clamp on the 2 coolant hoses to prevent coolant loss.
- Disconnect the 2 coolant hoses.

8. Remove the instrument panel upper trim.

Refer to: [Instrument Panel Upper Trim](#) (501-12 Instrument Panel and Console, Removal and Installation).

9. Remove the floor console.

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

10.

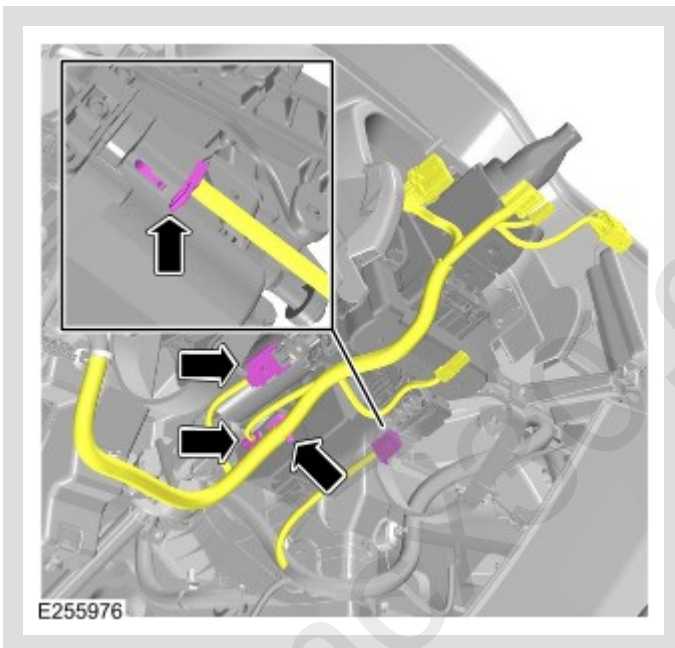
 NOTE:

Repeat this step for the other side.

Remove the front treadplates.

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

11.



- Disconnect the 3 electrical connectors from the steering column assembly.
- Release the wiring harness from the steering column assembly at the clip.

12.

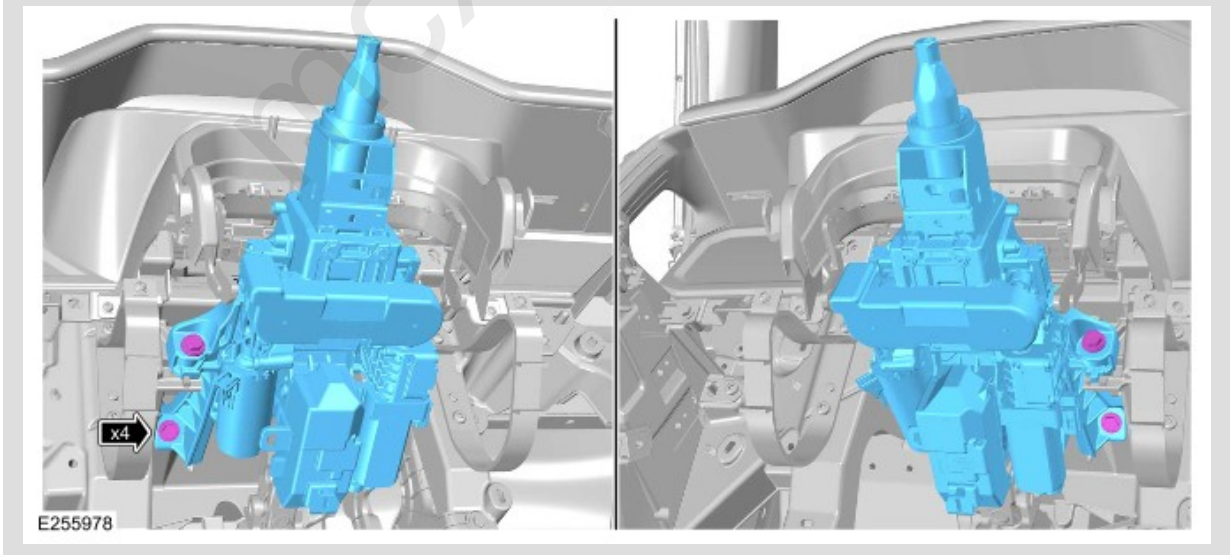
ⓘ CAUTION:

- Note the position of the steering column intermediate shaft.
- Do not turn the steering column, the airbag clockspring may be damaged if the steering is not kept centralized when it is assembled.



- Remove and discard the bolt.
- Release the steering column intermediate shaft from the steering column assembly.

13.

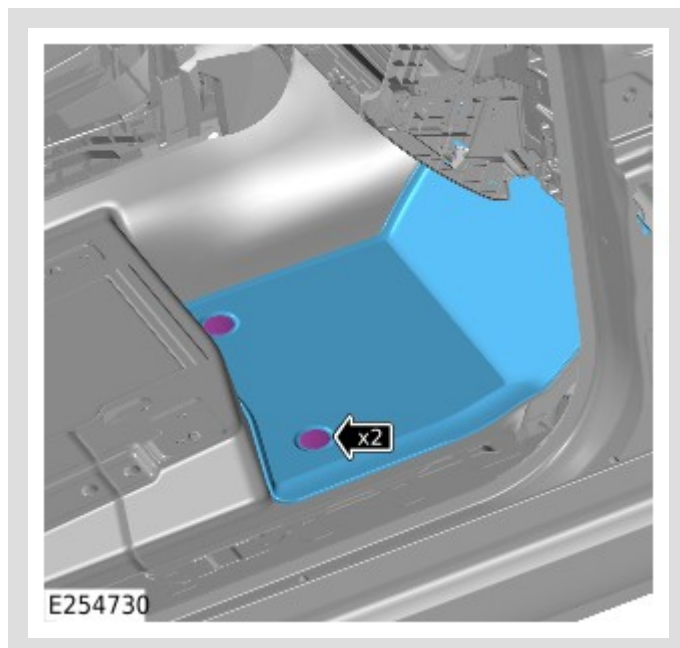


- Remove the 4 bolts.
- Remove the steering column assembly.

14.

 NOTE:

Repeat this step for the other side.

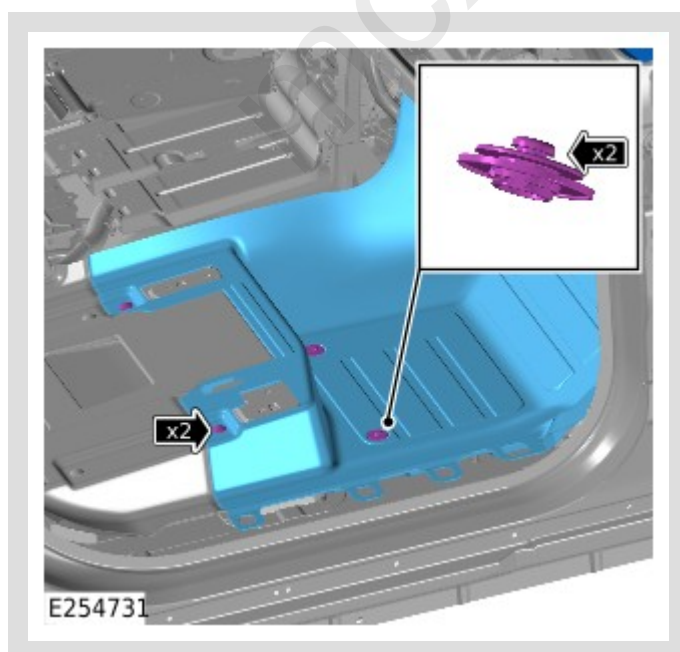


- Release the 2 clips.
- Remove the front carpet mat.

15.

 NOTE:

Repeat this step for the other side.

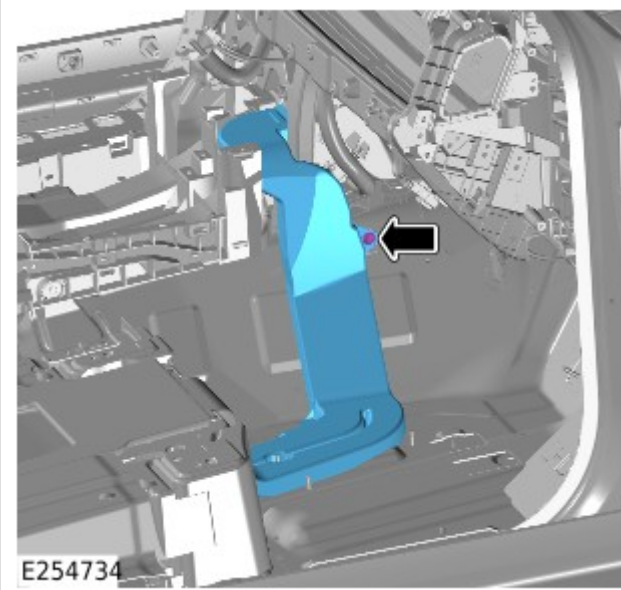


- Release the 4 clips.
- Remove the front floor carpet.

16.

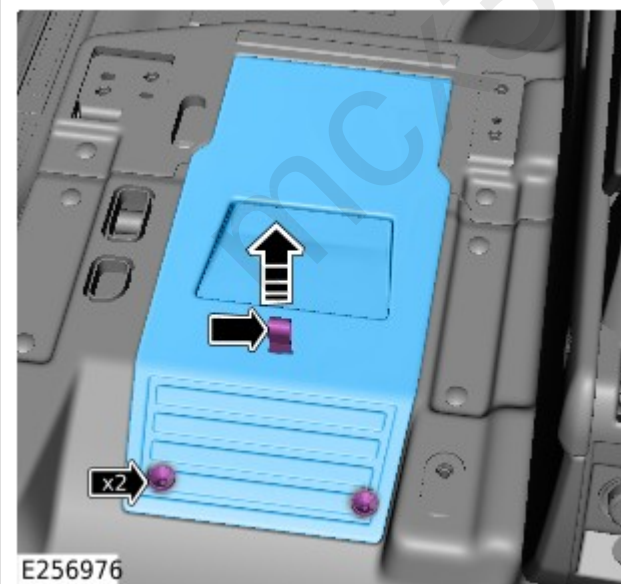
NOTE:

Repeat this step for the other side.



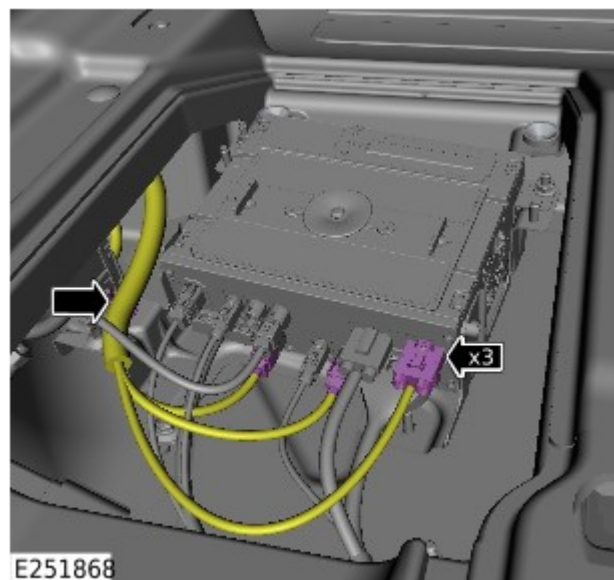
- Remove the bolt.
- Remove the front row seat air duct.

17.



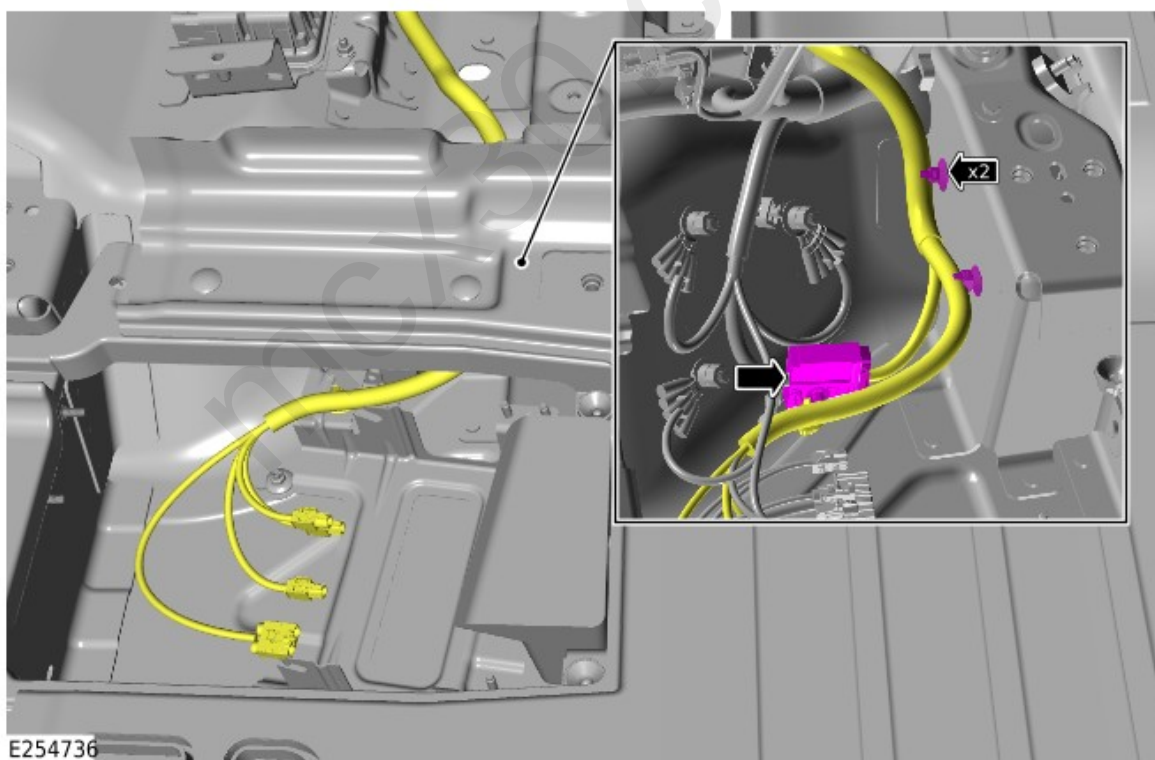
- Release the 2 clips.
- Remove the Front Infotainment Control Module (IGM / ICCM) access cover.

18.



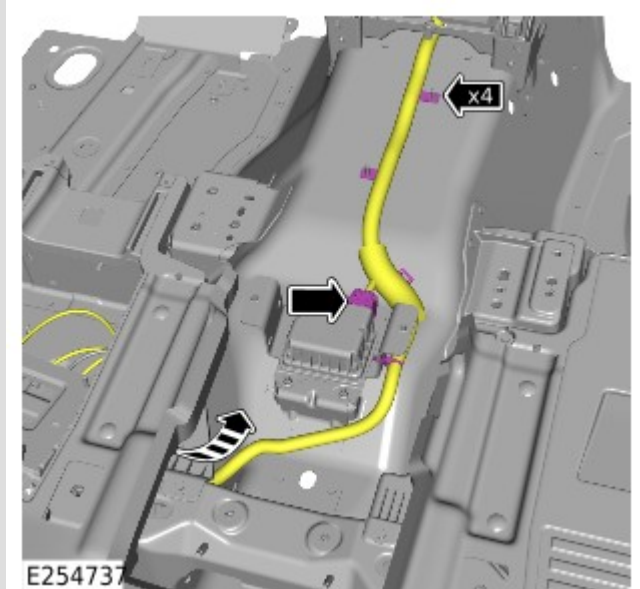
- Disconnect the 3 electrical connectors from the IGM / ICCM.
- Release the wiring harness clip.

19.



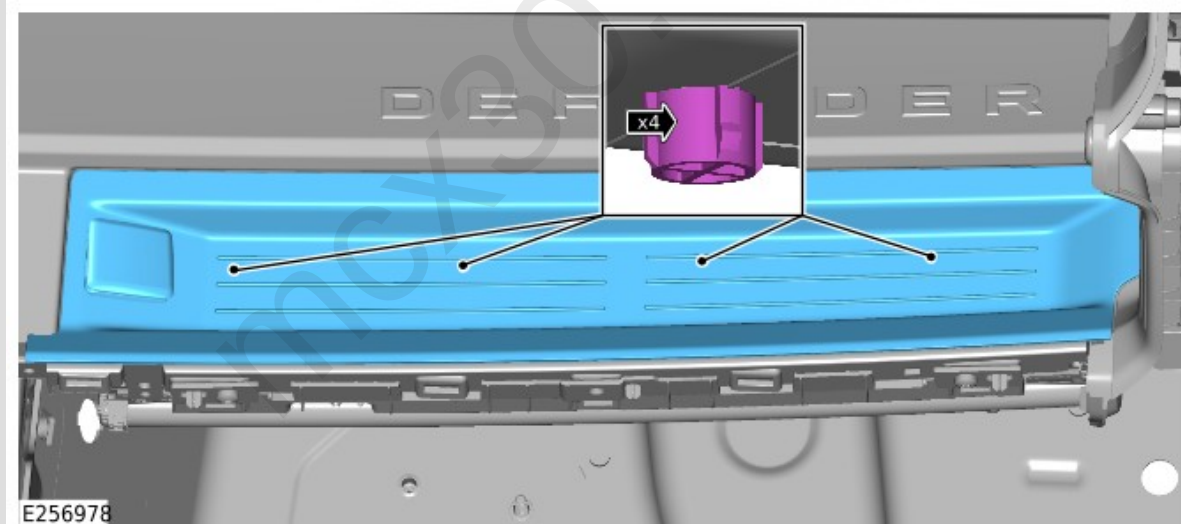
- Release the 2 wiring harness clips.
- Disconnect the electrical connector from the ground cable.

20.



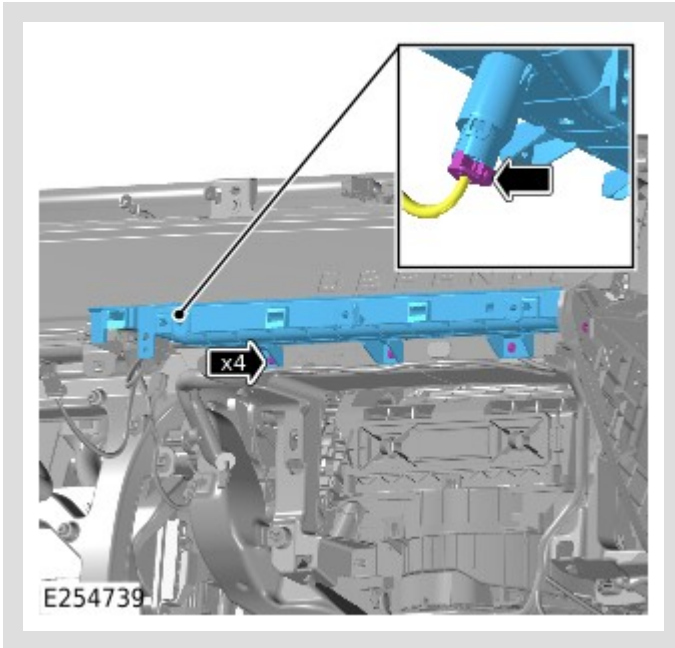
- Disconnect the electrical connector from the Restraints Control Module (RCM).
- Release the 4 clips.
- Reposition the instrument panel wiring harness away from the rear floor carpet.

21.



- Release the 4 clips.
- Remove the upper tray on the passenger instrument panel.

22.



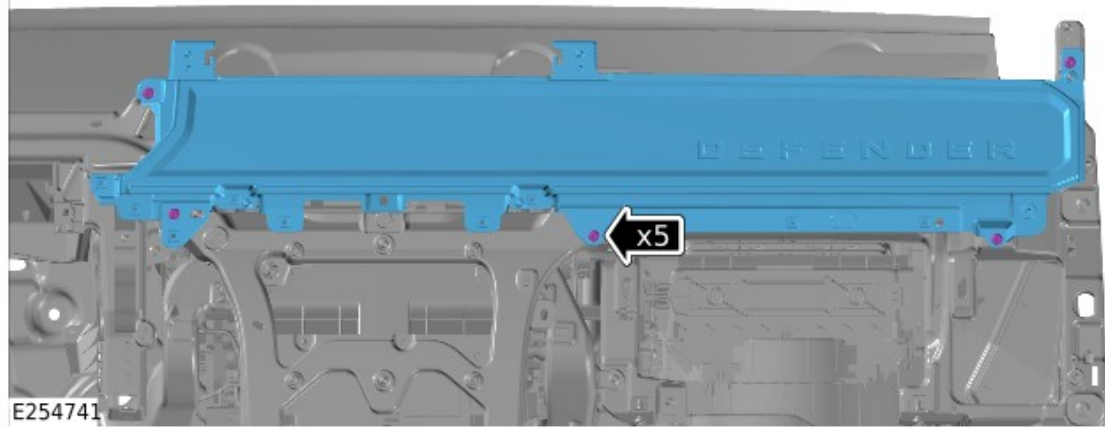
- Remove the 4 bolts.
- Reposition the bracket to get access to the electrical connector.
- Disconnect the electrical connector from the 5V accessory socket.
- Remove the bracket of the instrument panel passenger upper tray.

23.



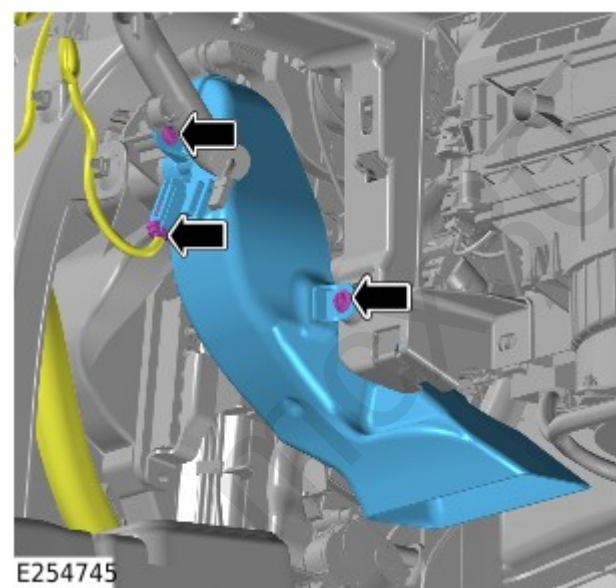
- Remove the 3 bolts.
- Remove the side mounting bracket from the passenger instrument panel.

24.



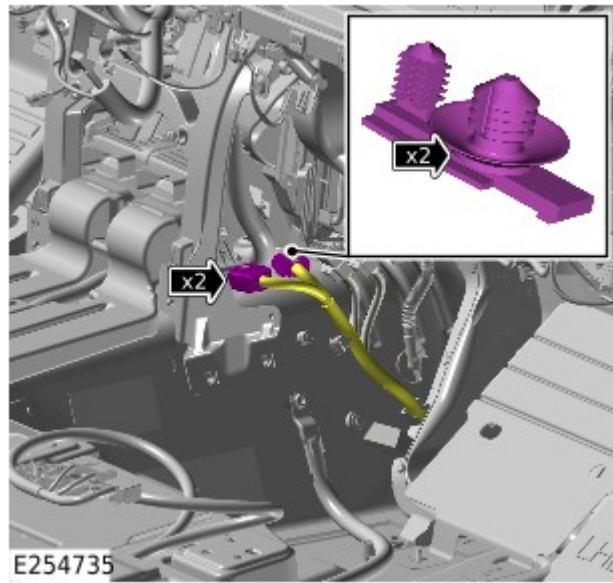
- Remove the 5 bolts.
- Remove the trim panel of the instrument panel cross-car beam.

25.



- Remove the fastener.
- Remove the screw.
- Disconnect the electrical connector from the passenger footwell air duct.
- Remove the passenger footwell air duct.

26.



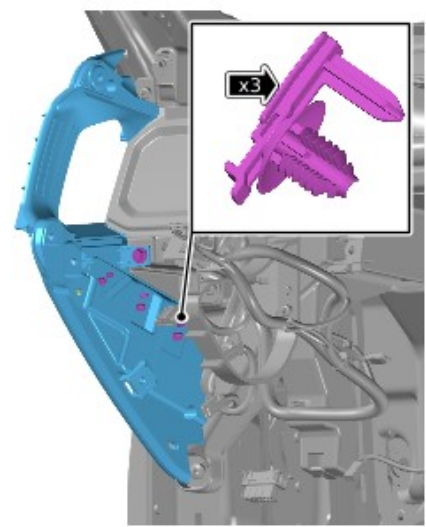
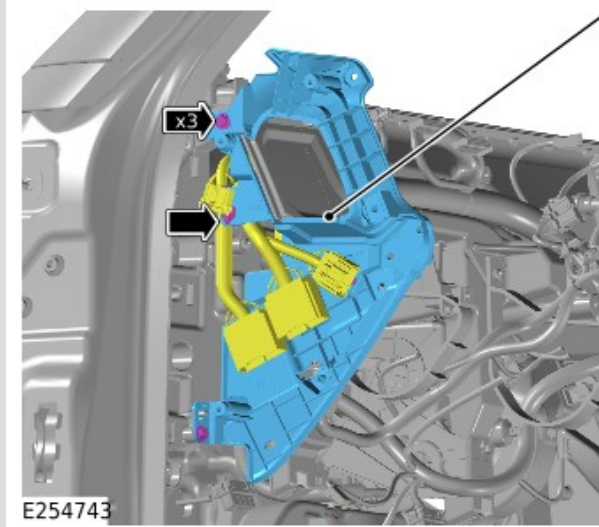
- Release the 2 wiring harness clips.
- Disconnect the 2 electrical connectors from the HVAC Control Module (HVAC) housing.

27.



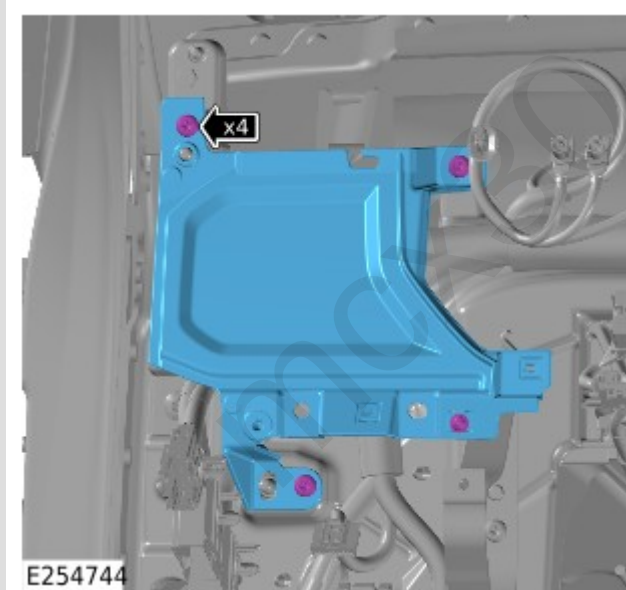
Disconnect the 4 electrical connectors from the instrument panel driver side mounting bracket.

28.



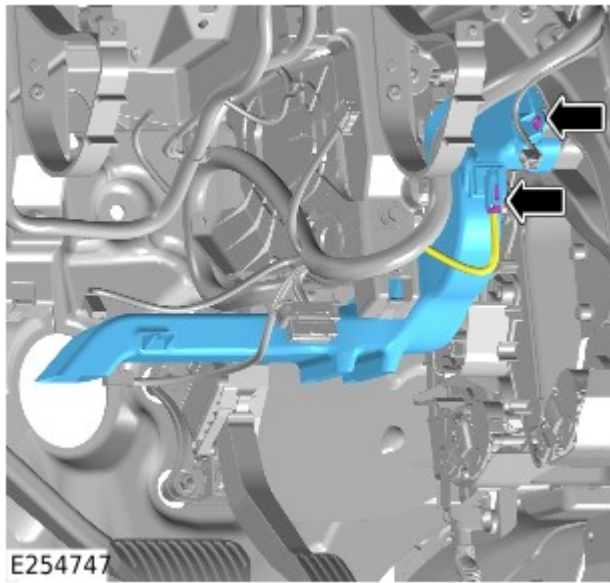
- Remove the 3 bolts.
- Release the 4 wiring harness clips.
- Remove the driver side mounting bracket

29.



- Remove the 4 bolts.
- Remove the bracket from the driver instrument panel cross-car beam.

30.

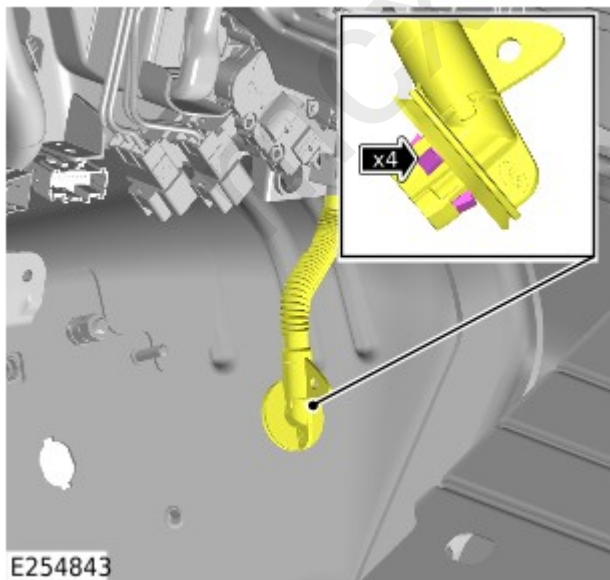


- Remove the screw.
- Remove the air duct.
- Disconnect the electrical connector from the driver footwell air duct.

31.

NOTE:

Repeat the step for the other side.

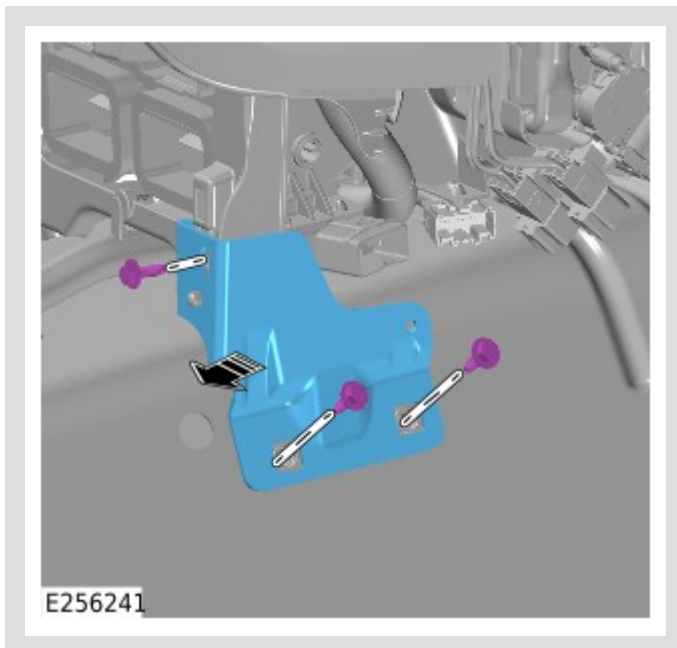


- Release the drain hose.
- Release the 4 clips.

32.

NOTE:

Repeat this step for other side.

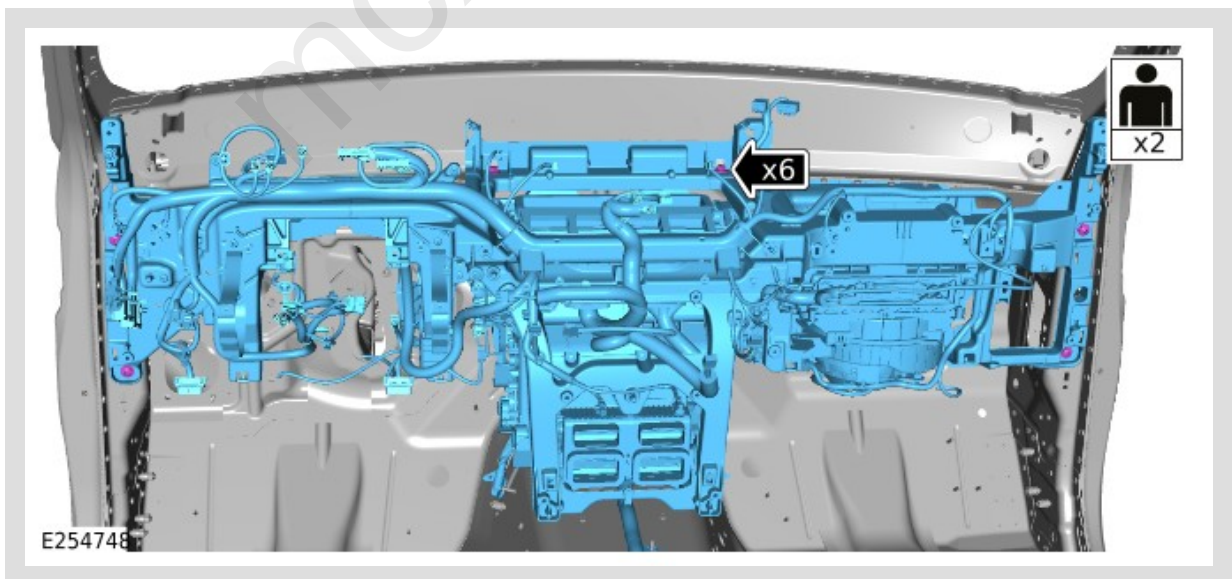


- Remove the 3 bolts.
- Remove the lower bracket.

33.

CAUTION:

Make sure the wiring harness and electrical connectors are not damaged during this operation.

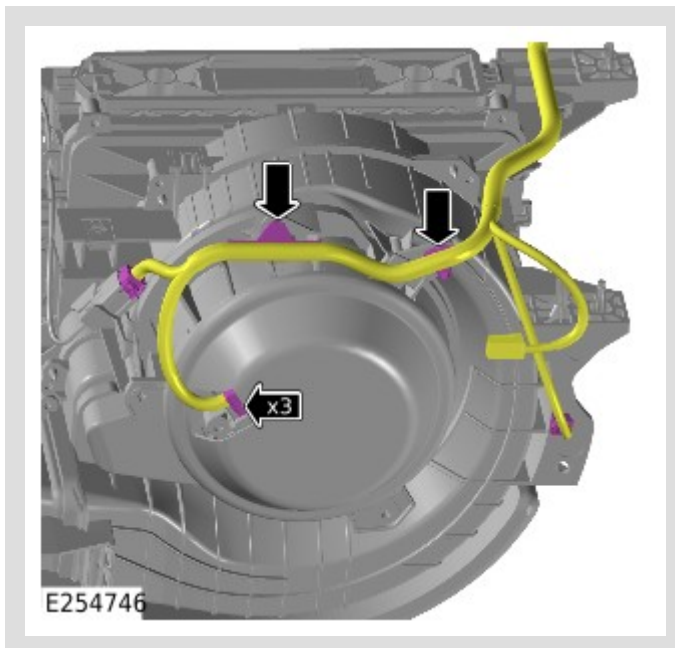


- Remove the 6 bolts.
- With assistance, remove the instrument panel cross-car beam and climate control assembly.

34.

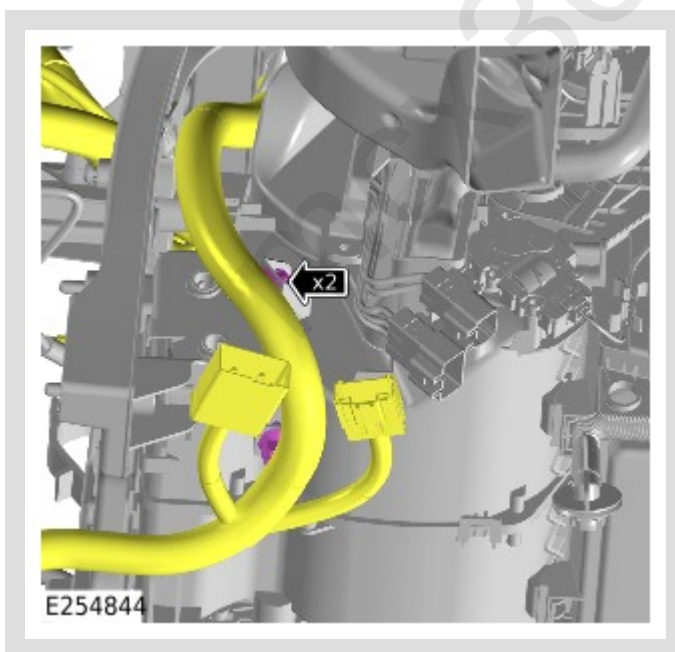
NOTE:

Only complete the following step(s) if a new component is to be installed.



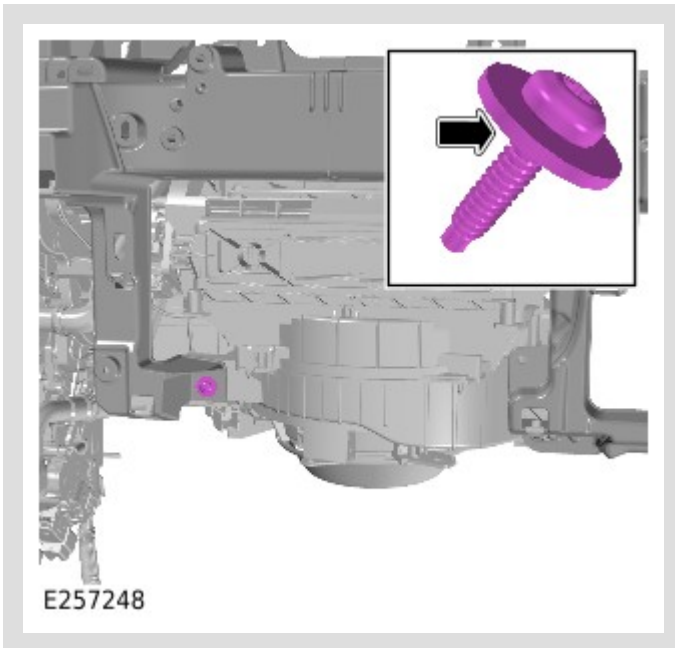
- Disconnect the 3 electrical connectors from the climate control assembly.
- Release the 2 wiring harness clips.

35.



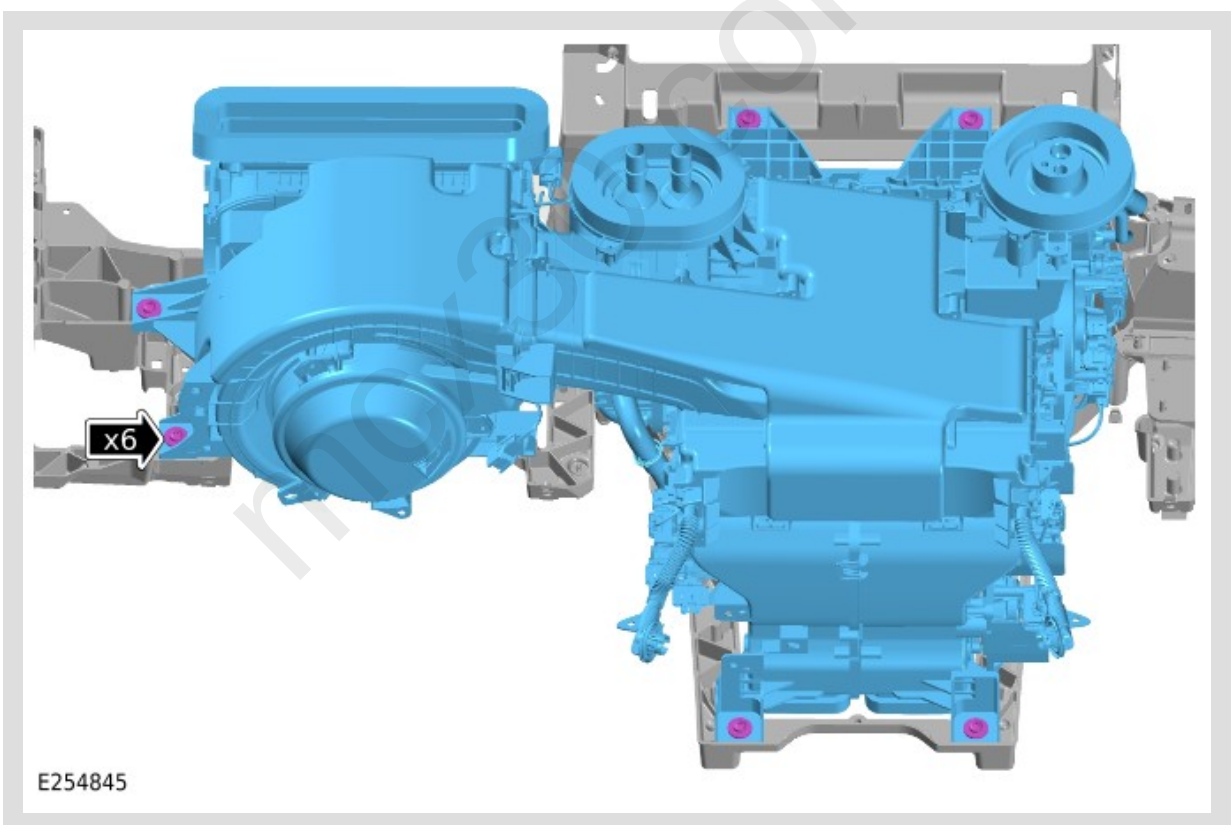
Release the 2 wiring harness clips from the climate control assembly.

36.

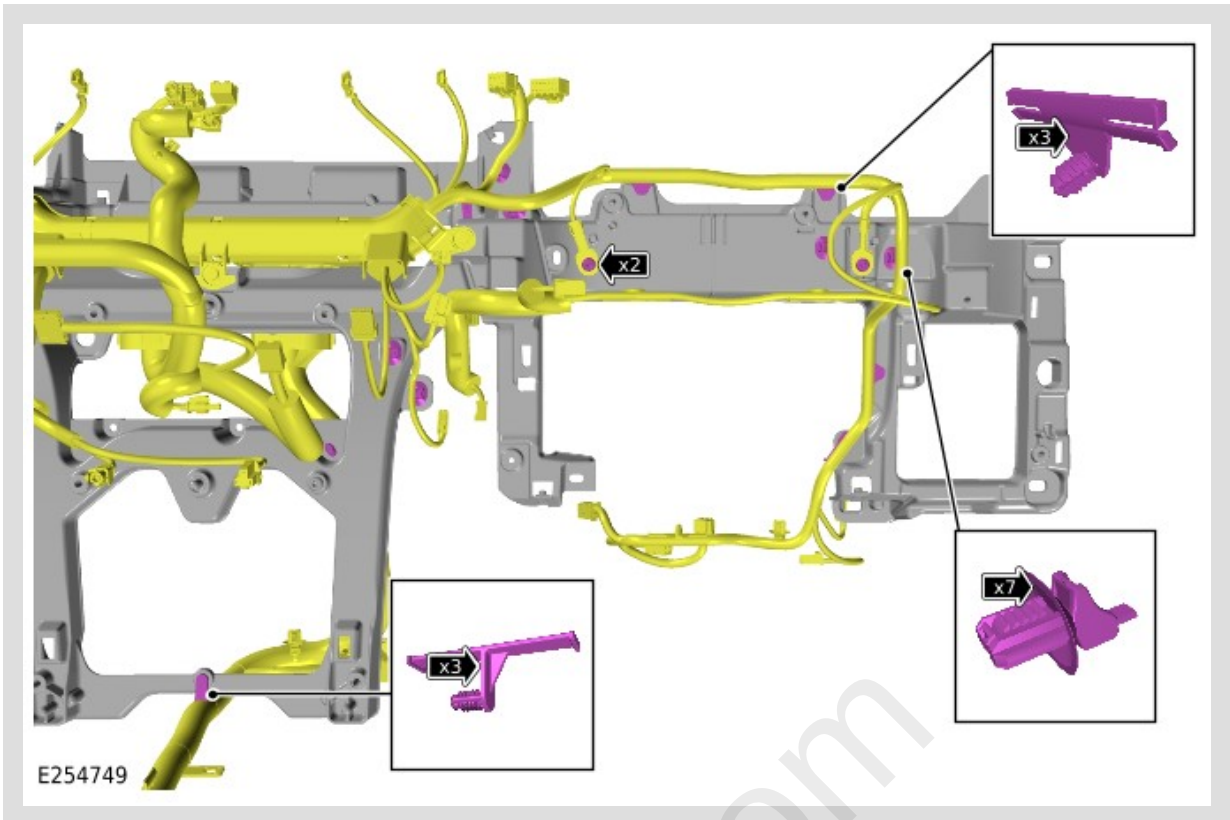


Remove the bolt from the rear of the assembly.

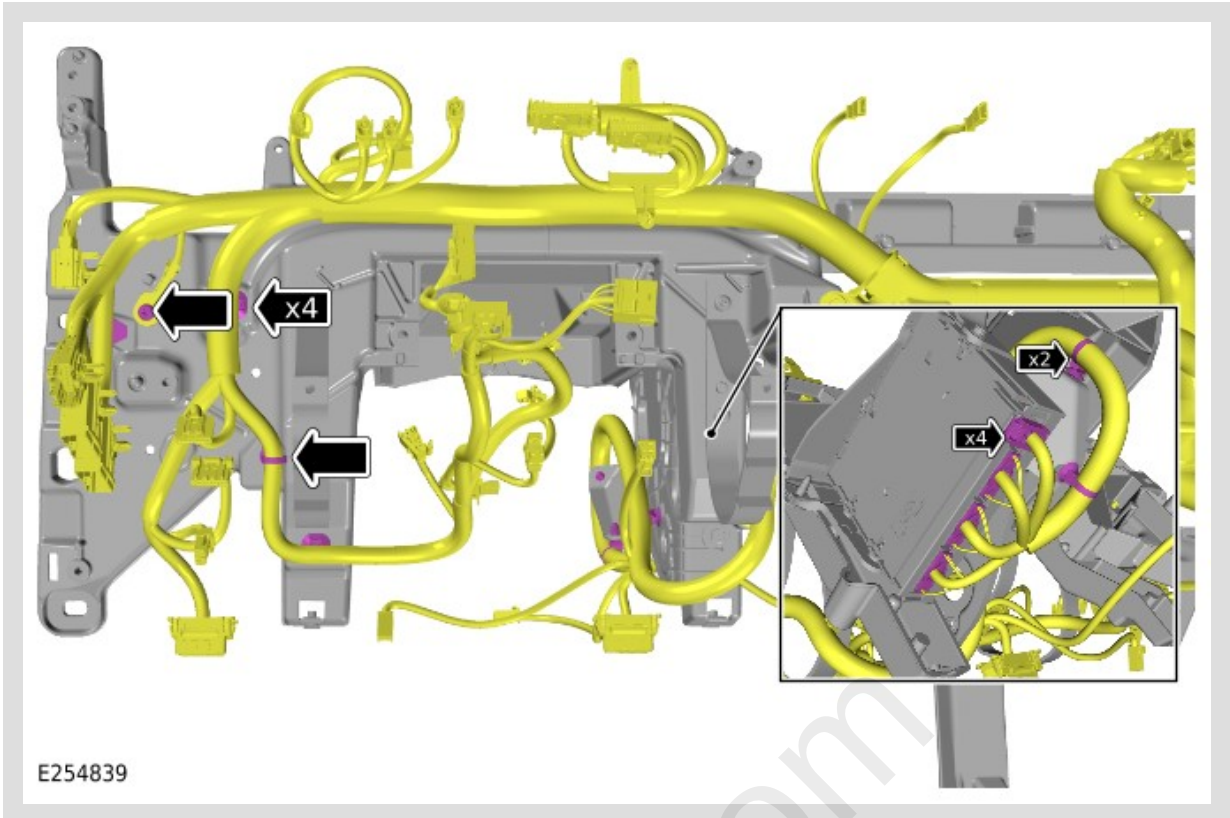
37.



- Remove the 6 bolts from the front of the assembly.
- Remove the climate control assembly.

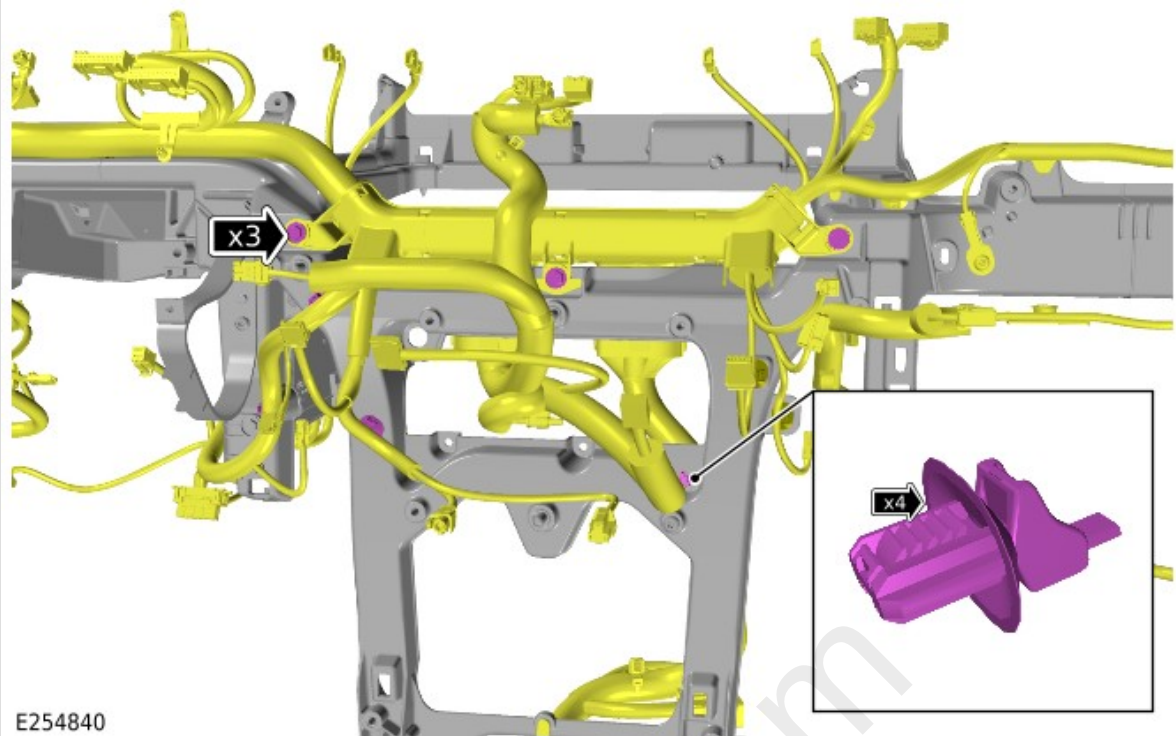


- Release the 13 wiring harness clips.
- Remove the 2 ground cable bolts.



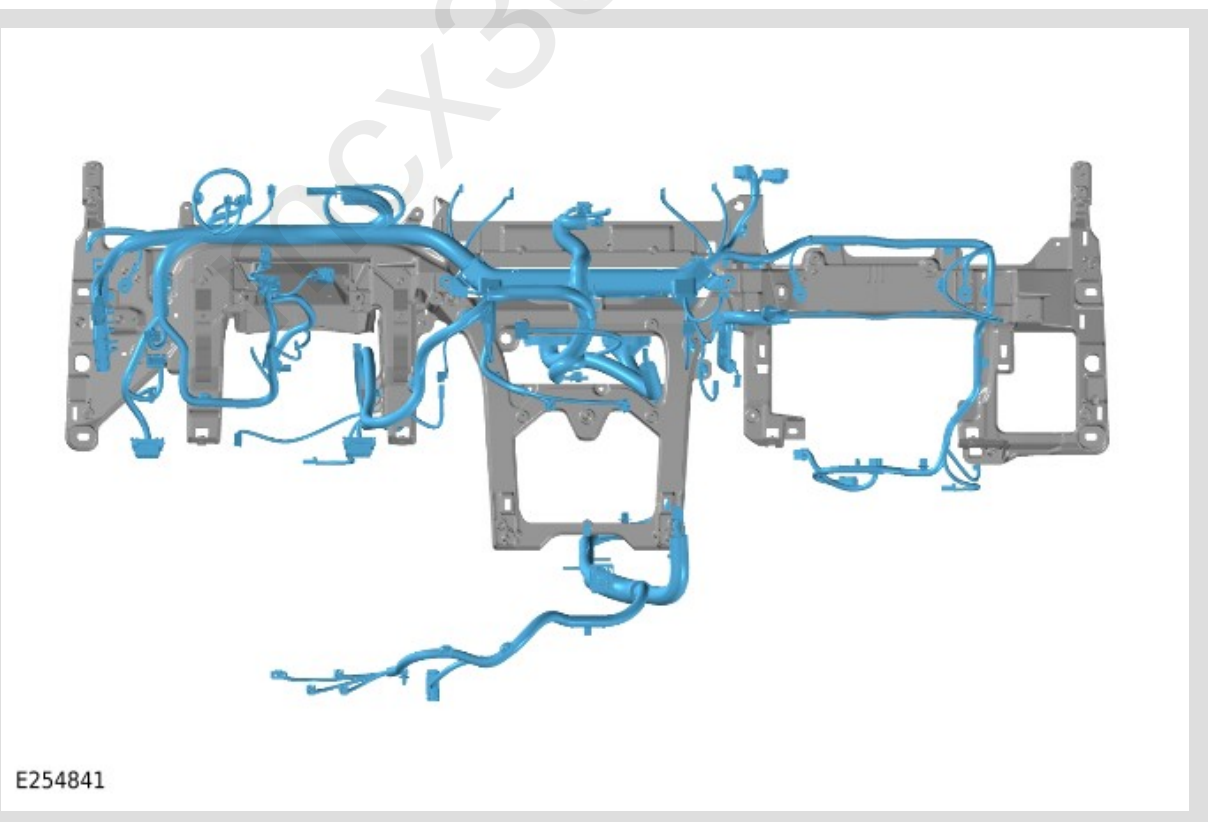
- Remove the ground cable bolt.
- Disconnect the 4 electrical connectors.
- Release the 7 wiring harness clips.

40.



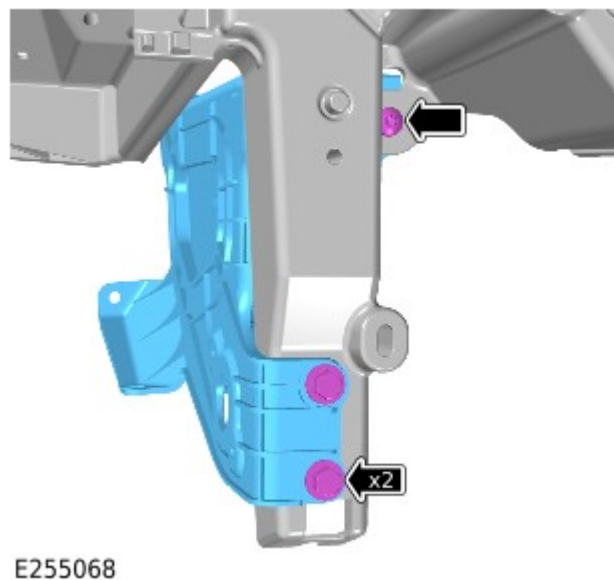
- Release the 4 wiring harness clips.
- Remove the 3 wiring harness bolts.

41.



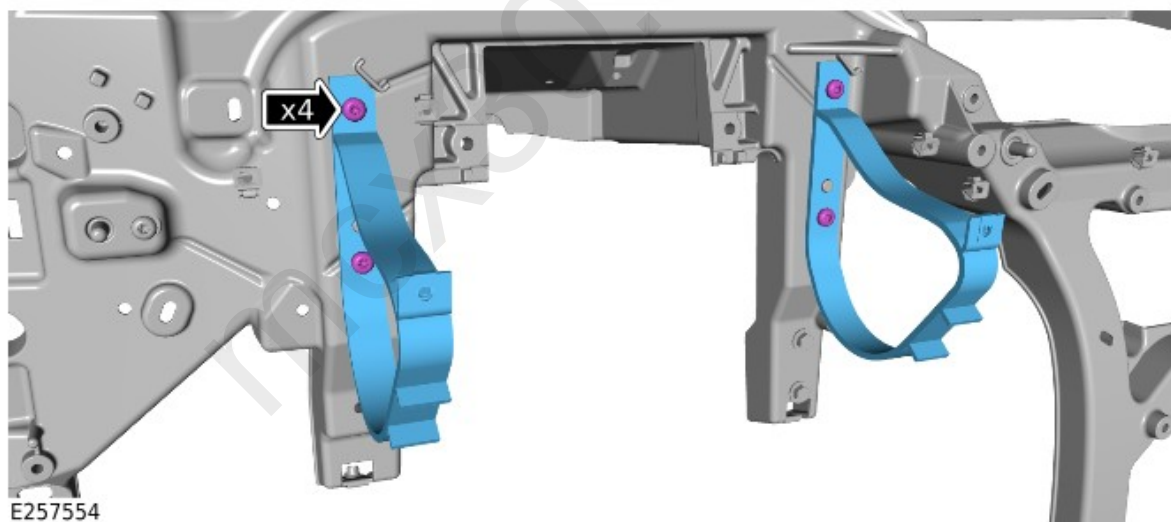
Remove the instrument panel wiring harness.

42.



- Remove the 2 bolts.
- Remove the screw.
- Remove the climate control module and bracket assembly.

43.



- Remove the 4 bolts.
- Remove the 2 mounting brackets from the instrument panel cross-car beam.

INSTALLATION

1.



NOTE:

Only complete the steps 1 to 8 if the component was previously removed.

- Install the 2 mounting brackets to the instrument panel cross-car beam.
- Install and tighten the 4 bolts.

Torque: 9Nm

2.

- Install the climate control module and bracket assembly.
- Install and tighten the 2 bolts.
- Install and tighten the screw.

Torque: 9Nm

Torque: 2.5Nm

3.



NOTE:

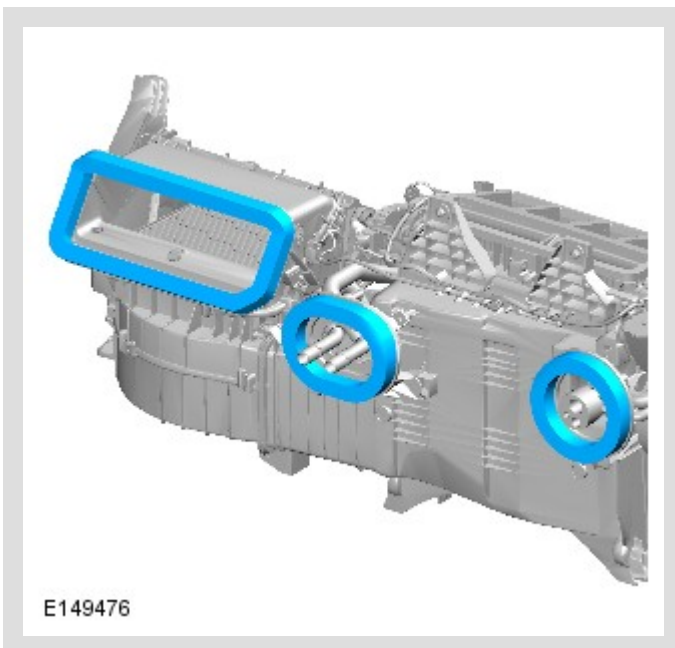
Make sure that all the clips are correctly installed.

- Install the instrument panel wiring harness.
- Install the 24 wiring harness clips.
- Connect the 4 electrical connectors to the climate control module.
- Install and tighten the 3 ground cable bolts.
- Install and tighten the 3 wiring harness bracket bolts.

Torque: 12Nm

Torque: 9Nm

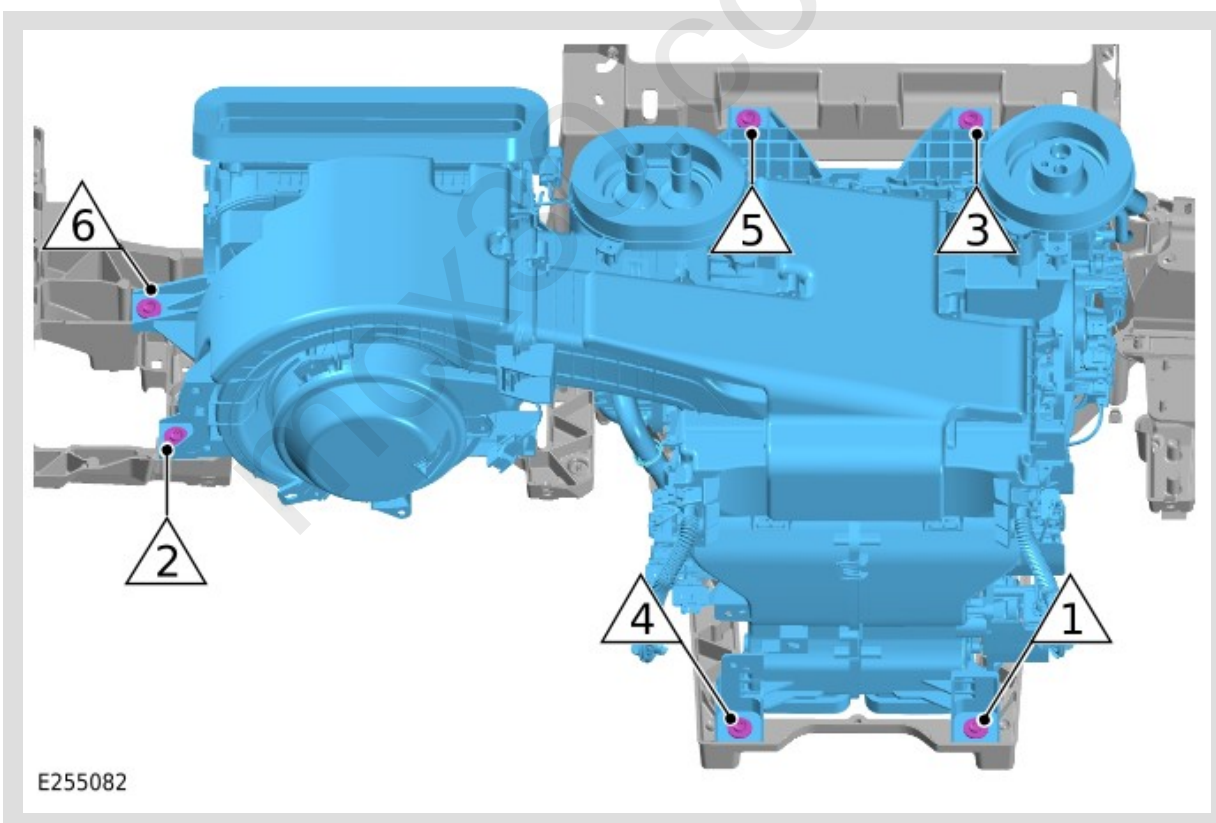
4.



Install the 3 new seals.

Renew Part: *Heater core and evaporator seals* Quantity: 1.

5.

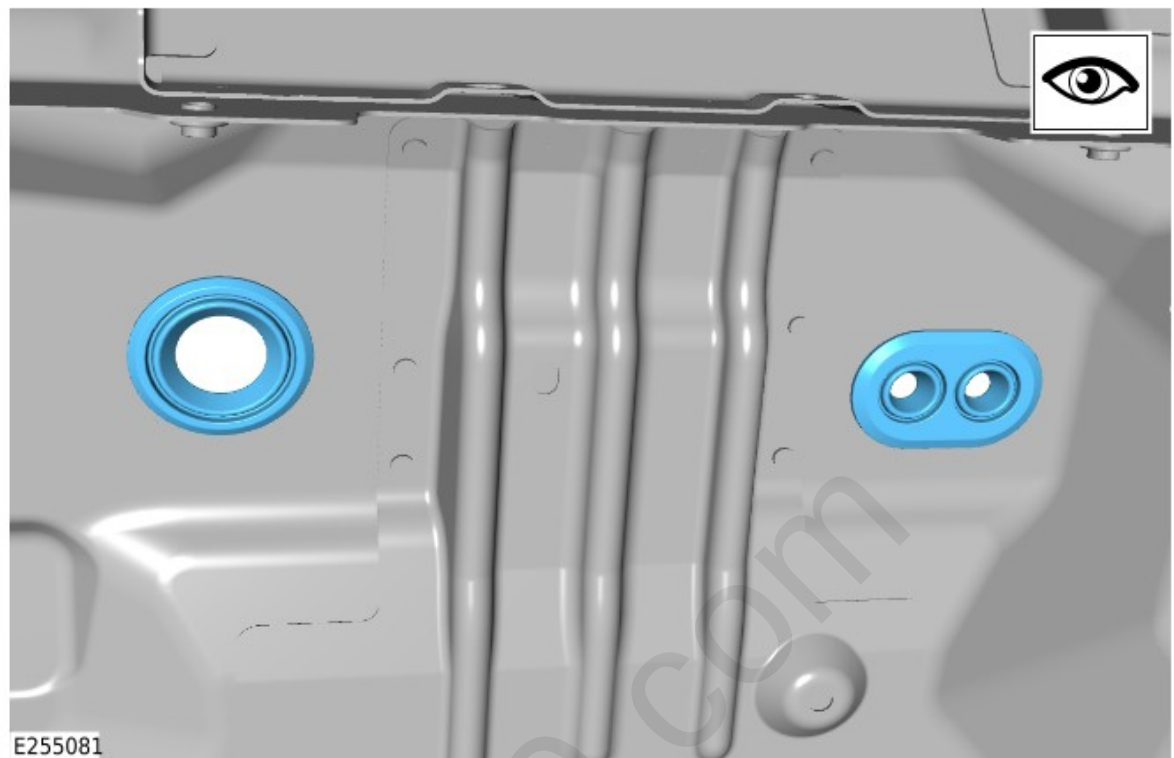


- Install the climate control assembly.
- Install and finger tighten the 6 front bolts.
- Install and tighten the rear bolt.
Torque: 2.5Nm
- Tighten the 6 front bolts evenly in the sequence shown.
Torque: 12Nm

6.

- Install the 4 wiring harness clips to the climate control module.
- Connect the 3 electrical connectors to the climate control assembly.

7.

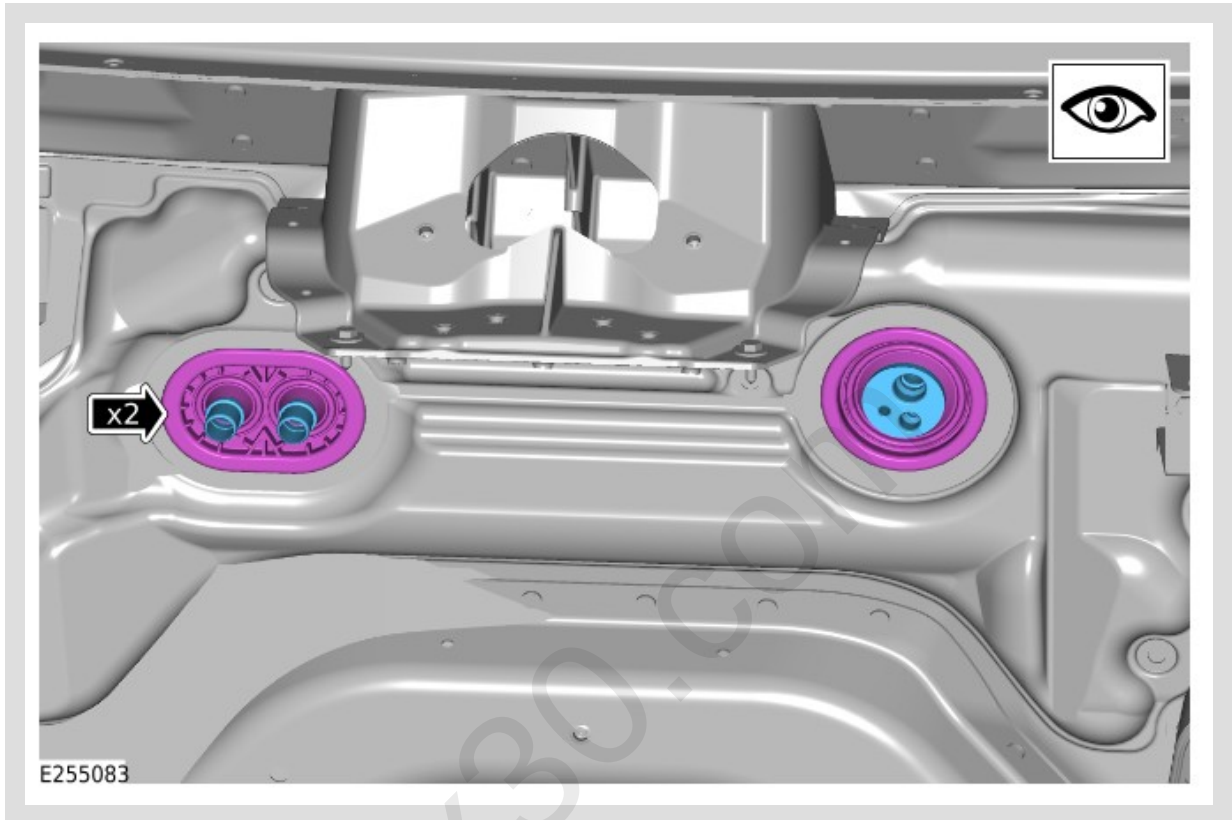


Make sure that the grommets are correctly installed.

8.

⚠ CAUTION:

- Make sure the wiring harness and the electrical connectors are not damaged during this operation.
- Take extra care not to damage the component.



- With assistance, carefully install the instrument panel cross-car beam and climate control assembly.
- Reposition the climate control assembly pipes into the correct location.
- Install, but do not fully tighten the 6 bolts.

9.

- Install the 2 lower brackets to the instrument panel cross-car beam assembly.
- Install, but do not fully tighten the 6 bolts.

10.

Install and tighten the outer bolt to the instrument panel cross-car beam.

Torque: 25Nm

11.

- Tighten the 6 lower bracket bolts.
Torque: 25Nm
- Tighten the 6 instrument panel cross-car beam bolts.
Torque: 25Nm

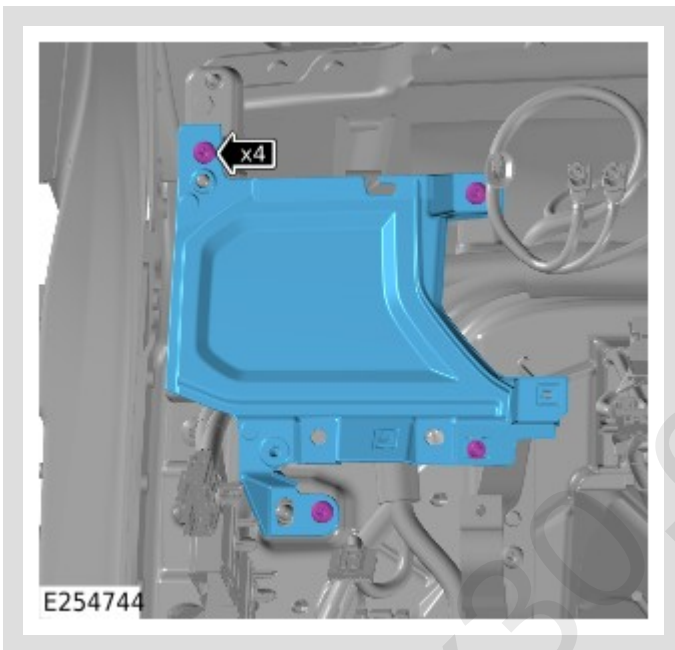
12.

- Install the 2 drain hoses of the climate control assembly.
- Install the drain hoses clips.

13.

- Install the driver footwell air duct.
- Connect the electrical connector to the driver footwell air duct.
- Install and tighten the bolt.
Torque: 1.7Nm

14.



- Install the bracket on the driver instrument panel cross-car beam.
- Install and tighten the 4 bolts.
Torque: 9Nm

15.

- Install the side mounting bracket on the driver instrument panel.
- Install and tighten the 3 bolts.
Torque: 9Nm
- Connect the 3 electrical connectors to the instrument panel wiring harness.
- Install the 4 wiring harness clips.

16.

- Install the passenger footwell air duct.
- Connect the electrical connector to the passenger footwell air duct.
- Install and tighten the bolt.
Torque: 1.7Nm

17.

- Install the passenger bracket of the instrument panel cross-car beam.
- Install and tighten the 5 bolts.

Torque: 9Nm

18.

- Install the passenger upper tray bracket to the instrument panel.
- Install and tighten the 3 bolts.

Torque: 9Nm

19.

- Connect the electrical connector to the 5V accessory socket.
- Install the instrument panel passenger upper tray bracket.
- Install and tighten the side bolt.
- Install and tighten the 3 lower bolts.

Torque: 2.5Nm

Torque: 1.7Nm

20.

- Install the instrument panel passenger upper tray bracket.
- Install the passenger upper tray.
- Make sure the 4 clips are installed.

21.

- Connect the electrical connector to the Restraints Control Module (RCM).
- Install the 4 wiring harness clips.
- Reposition the instrument panel wiring harness into the correct location.

22.

- Install the 2 wiring harness clips.
- Connect the electrical connector to the ground cable.

23.

- Connect the 3 electrical connectors to the IGM / ICCM.
- Install the wiring harness clip.

24.

Reposition the IGM / ICCM access cover into the correct location.

25.

 NOTE:

Repeat this step for the other side.

- Install the front row passenger seat air duct.
- Install and tighten the bolt.

Torque: 6Nm

26.

 NOTE:

Repeat this step for the other side.

- Install the front floor carpet.
- Install the 4 clips.

27.

 NOTE:

Repeat this step for the other side.

- Install the front carpet mats.
- Install the 2 clips.

28.

 CAUTION:

- Make sure that the bolts are installed to the noted removal position.
- Make sure that the steering column intermediate shaft Universal Joint thread is clean and free of foreign material.
- Make sure that the steering column intermediate shaft is installed to the position noted in the removal steps.

- Install the steering column assembly.
- Install and tighten the 4 bolts.
- Install the steering column intermediate shaft to the steering column assembly.
- Install and tighten the new bolt.

Renew Part: [Steering column intermediate shaft upper bolt](#) Quantity: 1.

Torque: 44Nm

29.

- Connect the electrical connector to the Electric Steering Column Lock (ESCL).
- Install the 3 wiring harness clips.

30.



NOTE:

Repeat this step for the other side.

Install the treadplate.

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

31.

Install the floor console.

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

32.

Install the instrument panel upper trim.

Refer to: [Instrument Panel Upper Trim](#) (501-12 Instrument Panel and Console, Removal and Installation).

33.

- Connect the 2 coolant hoses to the heater core.
- Remove the hose clamps.

34.

- Lubricate the 4 new O-ring seals with clean A/C refrigerant oil.
Refer to: [Specifications](#) (412-00 Climate Control System - General Information, Specifications).
- Install the 4 new O-ring seals.
Renew Part: [Air conditioning pipe O-ring seal\(s\)](#) Quantity: 4.
- Install the A/C refrigerant pipes to the Thermostatic Expansion Valve (TXV).
- Install and tighten the bolt.
Torque: 9Nm

35.

Fill the engine cooling system with the correct amount of coolant fluid.

Refer to: [Cooling System Partial Draining and Vacuum Filling](#) (303-03A Engine Cooling - INGENIUM I4 2.0 L Diesel, General Procedures).

36.

Install the windshield wiper motor and linkage assembly.

Refer to: [Windshield Wiper Motor and Linkage Assembly](#) (501-16 Wipers and Washers, Removal and Installation).

37.

Connect the startup battery ground cable.

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

38.

Install the secondary bulkhead center panel.

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

39. Charge the A/C system with the correct amount of refrigerant.

Refer to: [Air Conditioning System Recovery, Evacuation and Charging](#) (412-00 Climate Control System - General Information, General Procedures).

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