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2020.0 DEFENDER (LE), 311-01

AUTOMATIC TRANSMISSION

TRANSMISSION – INGENIUM I6 3.0L PETROL (G2391380)

mcx30.com

INSTALLATION

INSTALLATION

SPECIAL TOOL(S)

303-1069



E53727

303-1069

Adapter, Wrench



E238238

JLR-303-1676

Engine lifting eyes

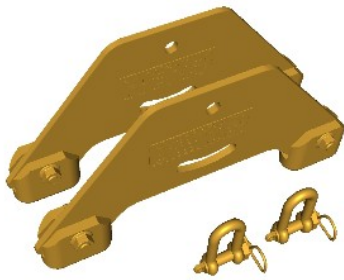


E243070

JLR-303-1692

Engine Support

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E264520

JLR-303-1692-04

Engine Bridge Adaptor



E263279

JLR-303-1713

Engine Brace Mountings

GENERAL EQUIPMENT

EQUIPMENT NAME
Transmission jack

PART(S)

STEP	PART NAME	QUANTITY
Step 3	Transmission gasket	1
Step 22	Torque converter bolts	6

STEP	PART NAME	QUANTITY
Step 30	Transmission fluid cooler tubes to transmission O-ring seals	2

⚠ CAUTION:

New transmission assemblies are supplied pre-filled with transmission fluid.

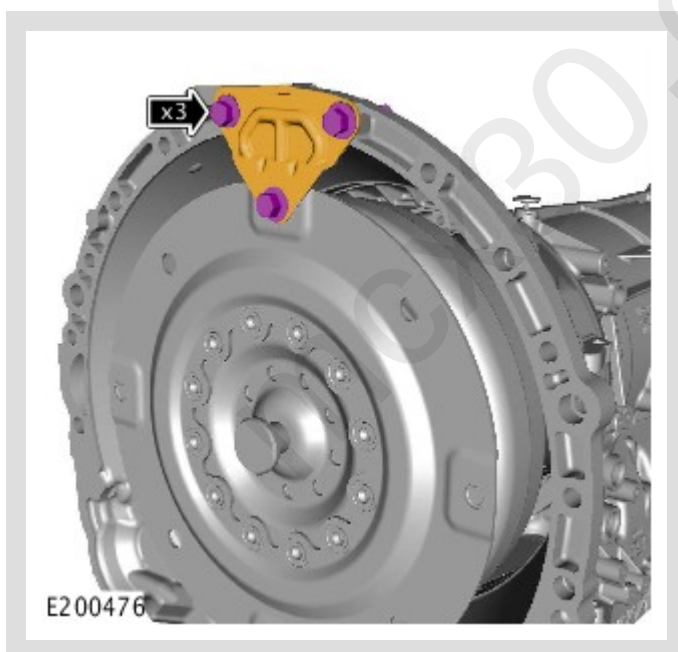
△ NOTES:

- This procedure contains illustrations showing certain components removed to provide extra clarity.
- This procedure contains some variation in the illustrations depending on the vehicle specification, but the essential information is always correct.
- Steps 2 to 16 are only required if the components were previously removed.

1.

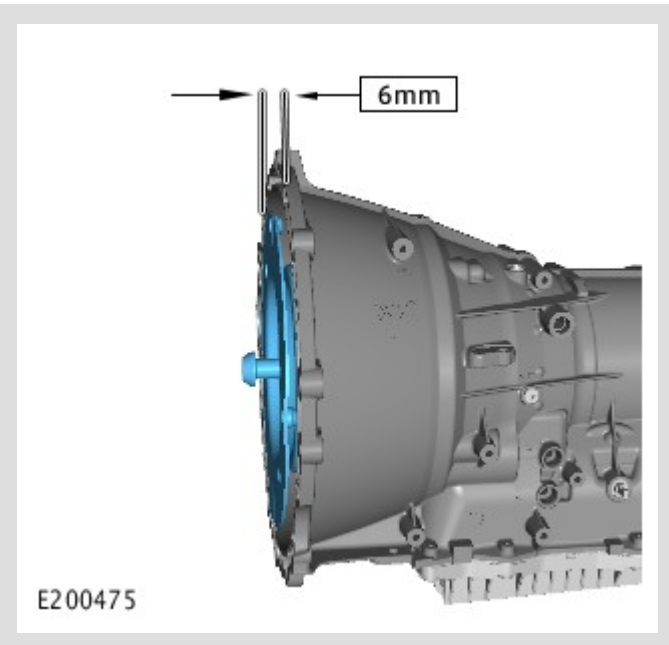
△ NOTE:

This step is only required if a new transmission is to be installed.



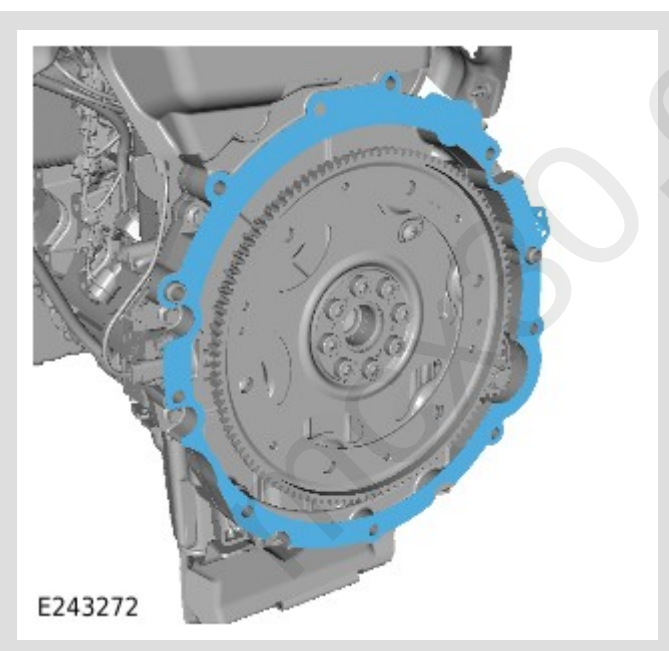
Remove the 3 bolts and the torque converter transportation brace.

2.



Make sure the torque converter is installed with the measurements as show.

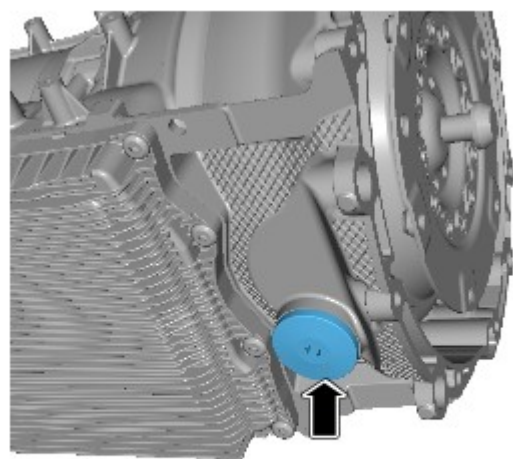
3.



Install a new transmission gasket.

Renew Part: [Transmission gasket](#) Quantity: 1.

4.



E238070

Install and tighten the transmission plug.

Torque: 24Nm

5.

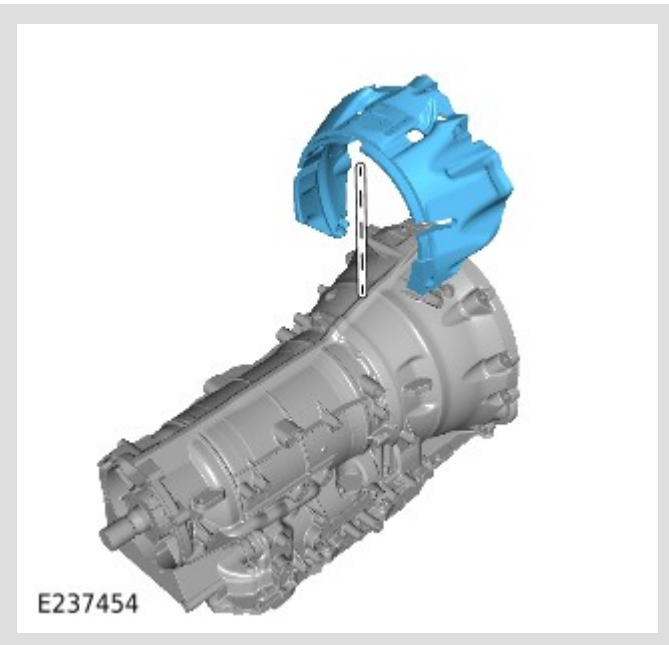


E200388

- Install the Emergency Park Release (EPR) lever.
- Install and tighten the nut.

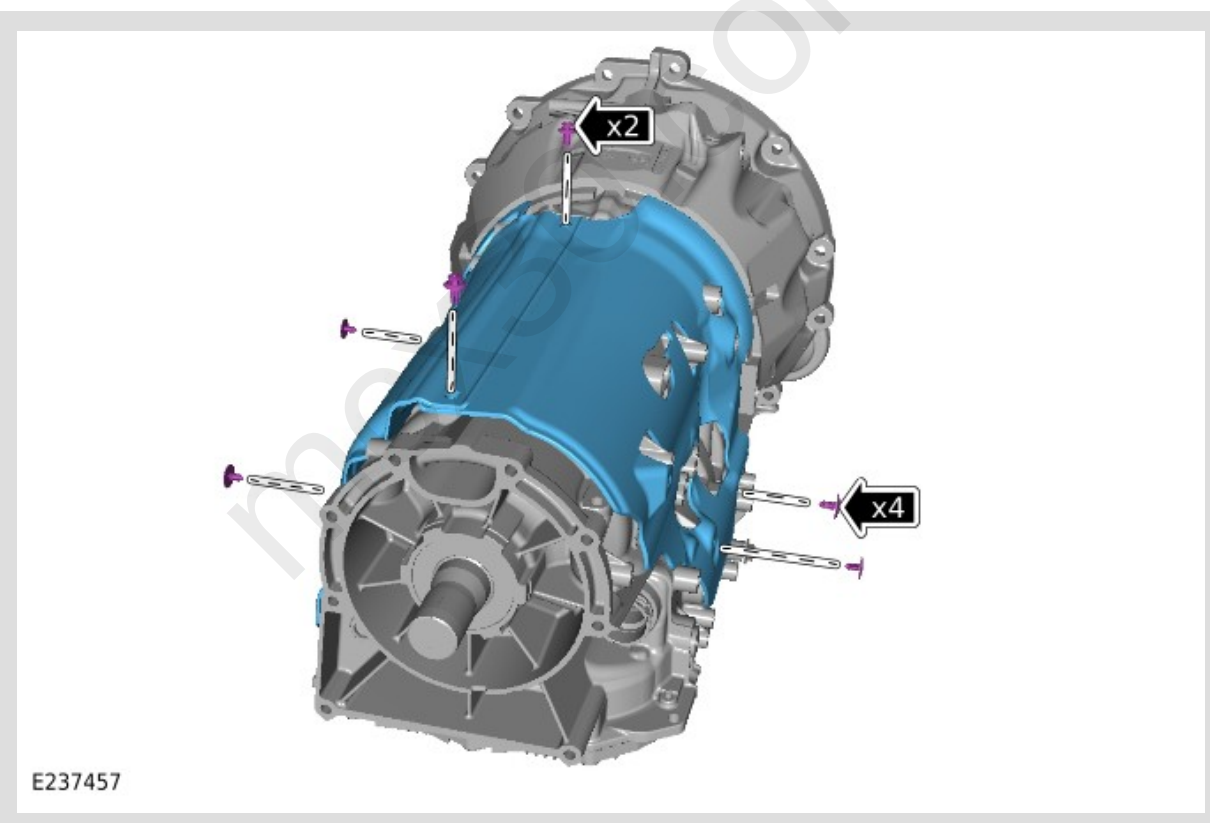
Torque: 12Nm

6.



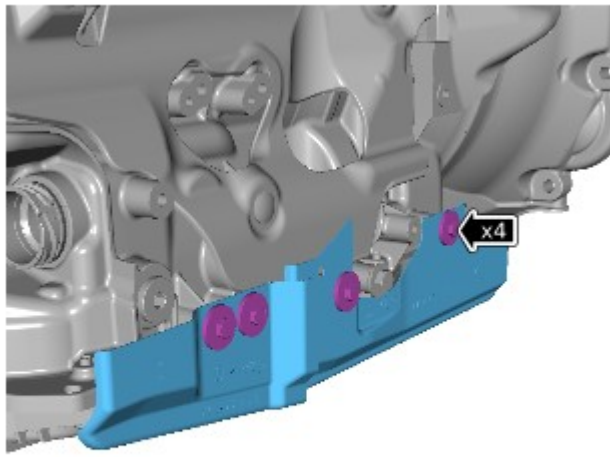
Install the Noise, Vibration and Harshness (NVH) material.

7.



- Install the 2 NVH components.
- Install the 6 clips.

8.

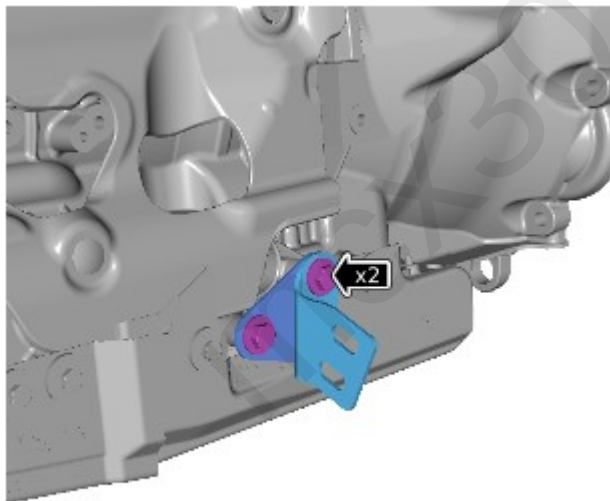


E237453

- Install the 2 heatshields.
- Install and tighten the 4 bolts.

Torque: 10Nm

9.

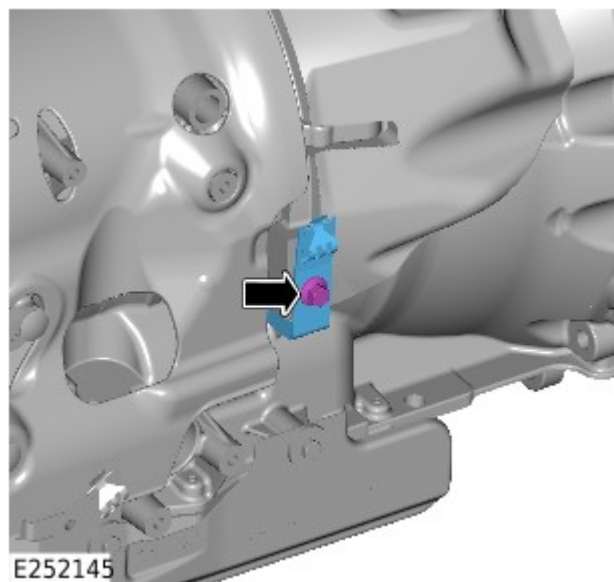


E237452

- Install the 2 exhaust brackets.
- Install and tighten the 2 bolts.

Torque: 10Nm

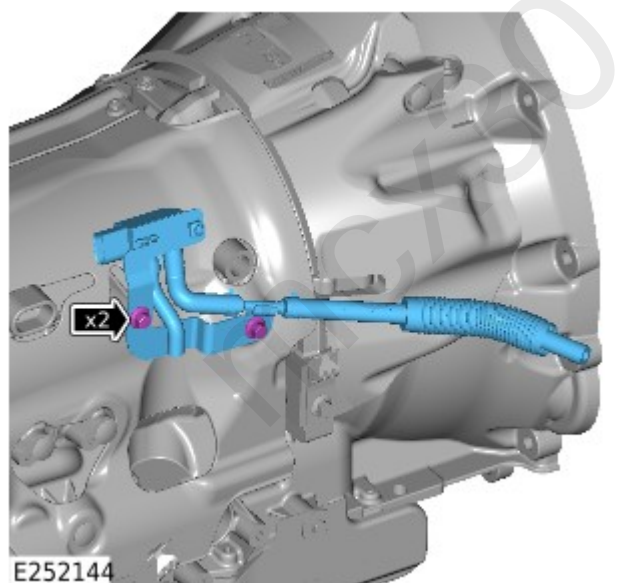
10.



- Install the Heated Oxygen Sensor Heated Oxygen Sensor (HO2S) bracket.
- Install and tighten the bolt.

Torque: 24Nm

11.



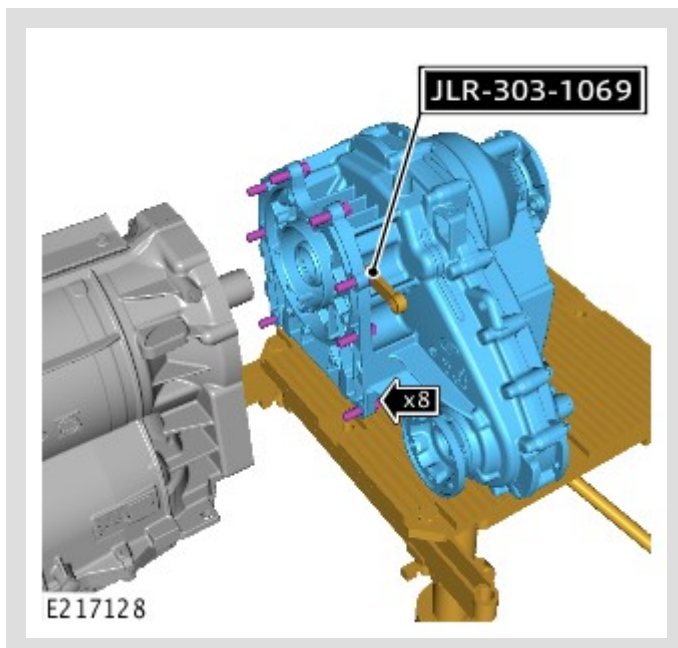
- Install the Gasoline Particulate Filter (GPF) pressure sensor.
- Install and tighten the 2 bolts.

Torque: 22.5Nm

12.

**WARNING:**

This step requires the aid of another technician.

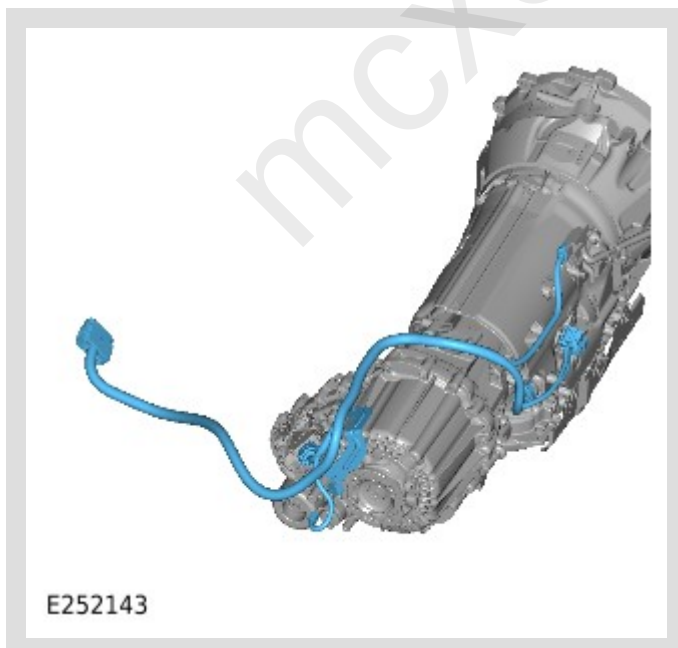


- Install the transfer case.
- Use the special tool to install and tighten the 8 bolts.

Special Tool(s): [303-1069](#)

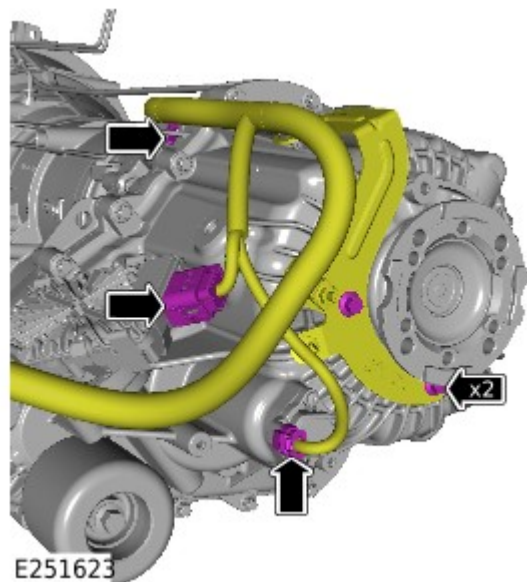
Torque: **50Nm**

13.



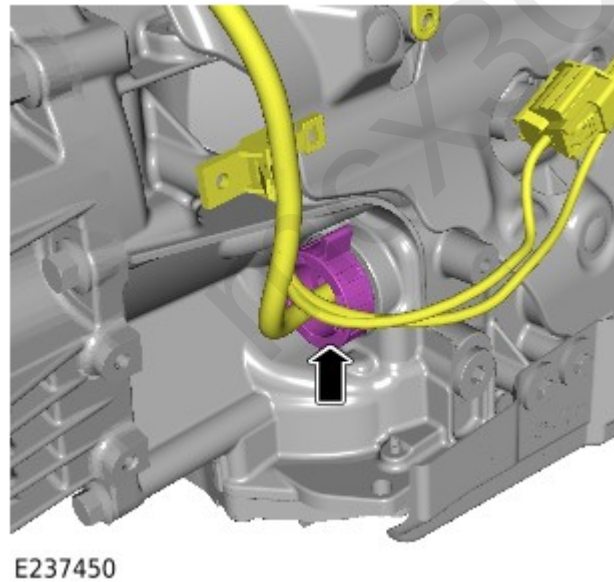
Install the transmission wiring harness.

14.

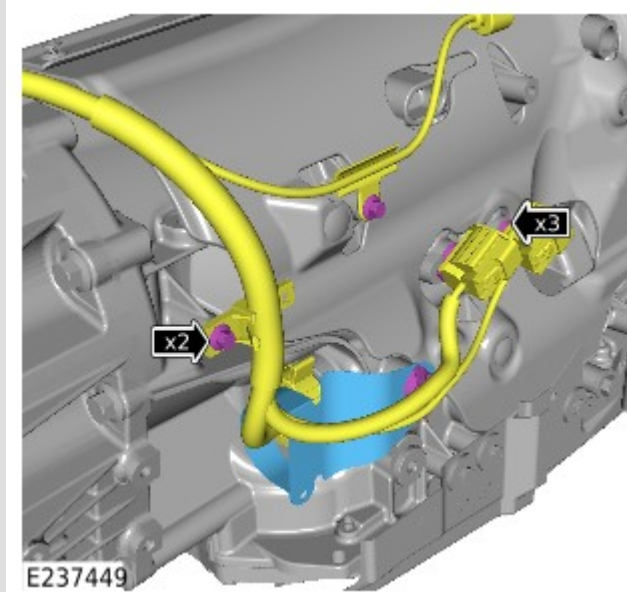


- Install and tighten the 2 bolts.
Torque: 25Nm
- Connect the 2 electrical connectors.
- Secure the wiring harness clip.

15.



Connect the transmission electrical connector.

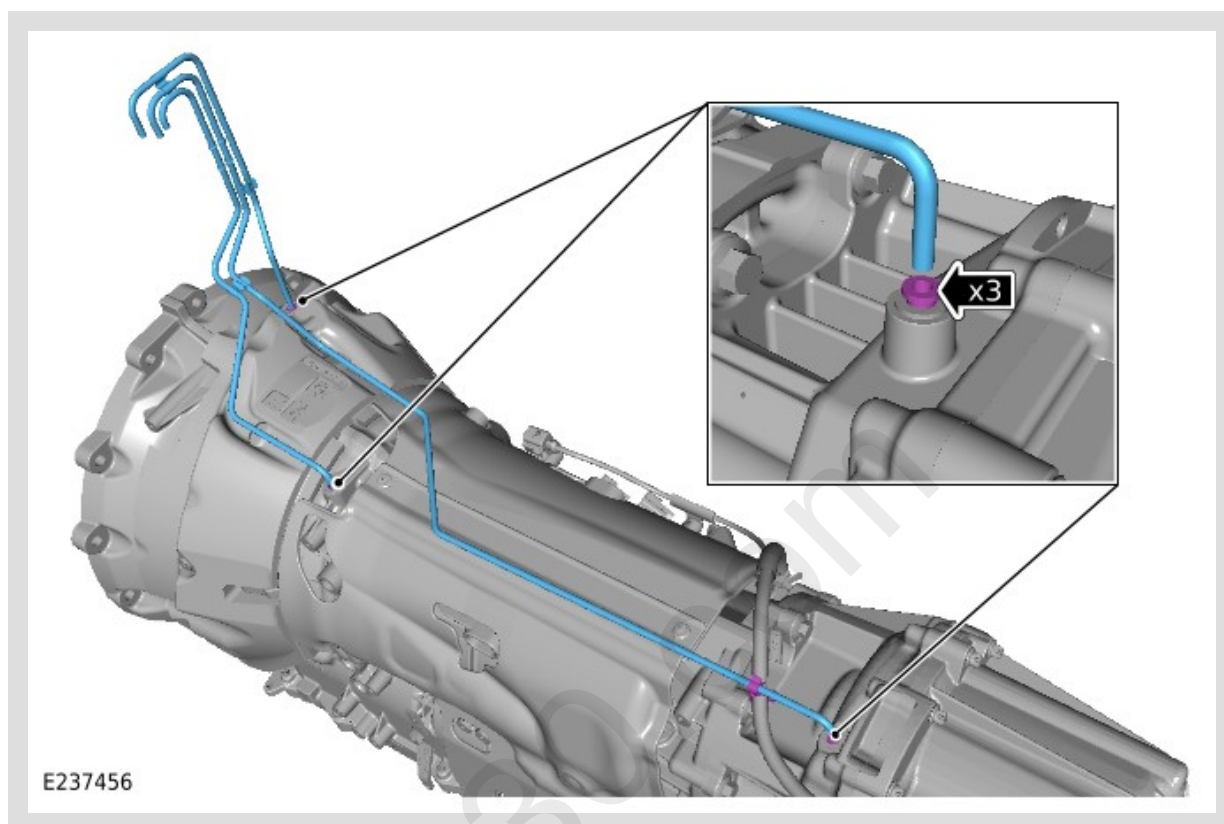


- Install the heatshield
- Install the 3 wiring harness clips.
- Install and tighten the 2 wiring harness bolts.

Torque: 10Nm

ⓘ CAUTION:

To prevent water ingress and subsequent transmission damage, make sure that the breather is fully installed into the transmission casing. The white line around the circumference of the pipe should not be visible when correctly installed.



- Install the 3 breather pipes.
- Connect the 3 breather pipes.

**WARNING:**

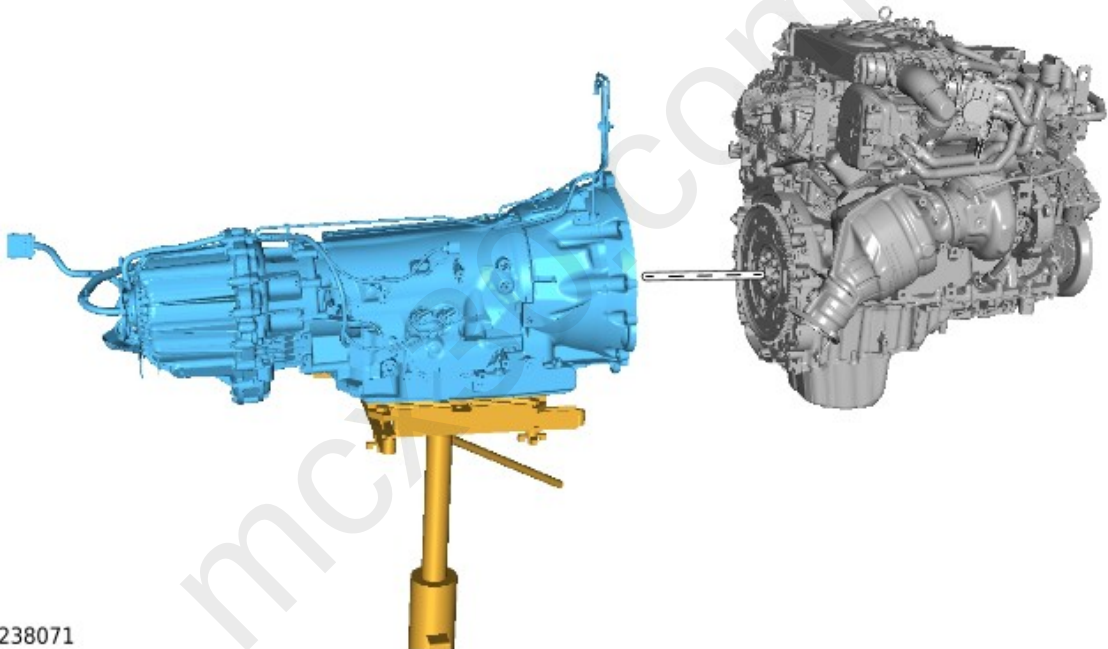
This step requires the aid of another technician.

**CAUTION:**

- Care must be taken to avoid damaging the surrounding components.
- Make sure that the torque converter remains in the transmission.

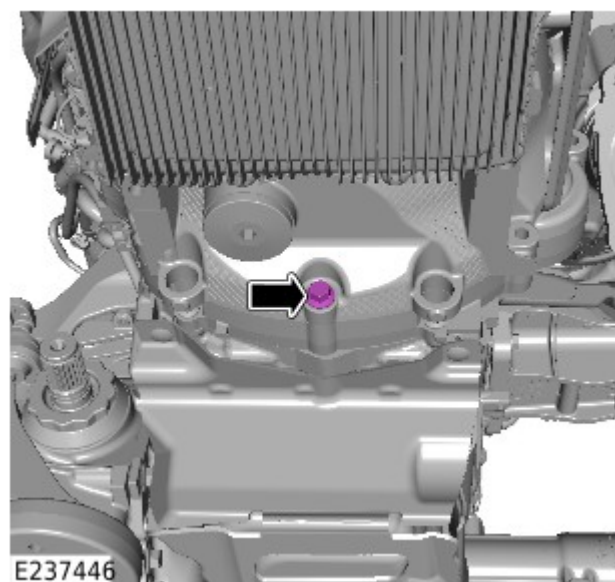
**NOTE:**

Remove and discard the tie straps securing the torque converter.



Install the transmission assembly.

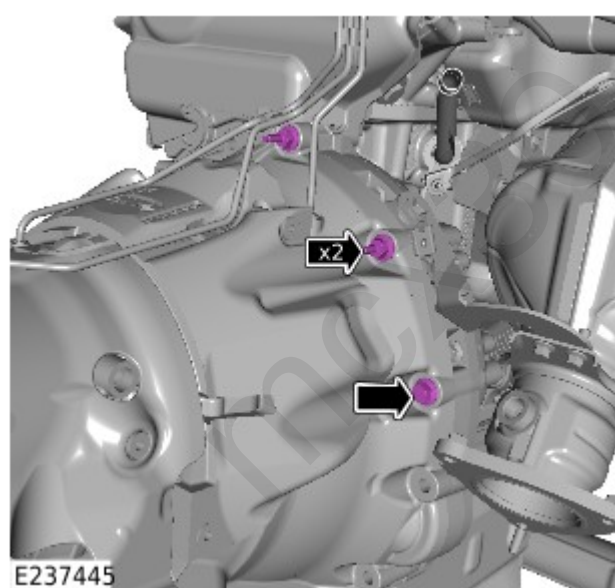
19.



Install and tighten the lower bolt.

Torque: 40Nm

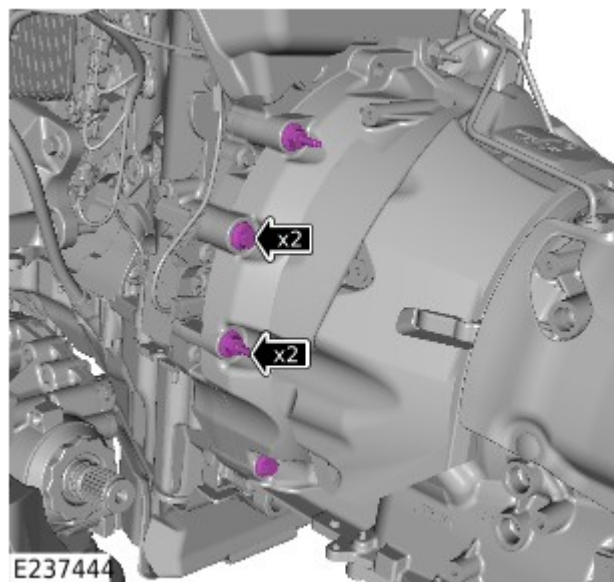
20.



Install and tighten the 3 right side transmission bolts.

Torque: 40Nm

21.



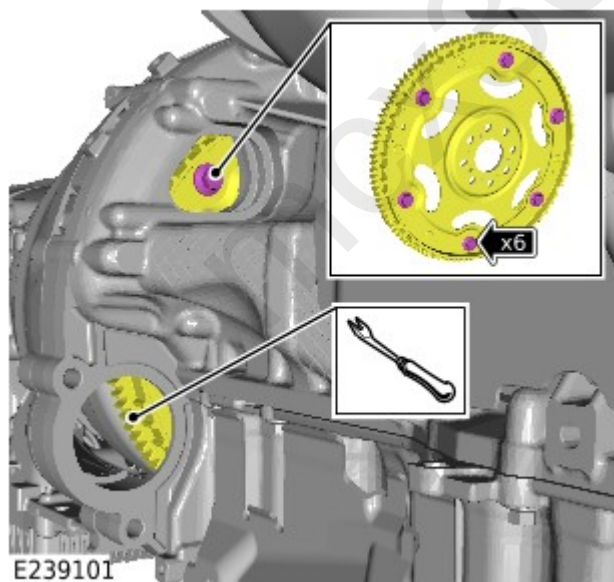
Install and tighten the 4 left side transmission to engine bolts.

Torque: 40Nm

22.

⚠ CAUTION:

Only rotate the crankshaft clockwise.

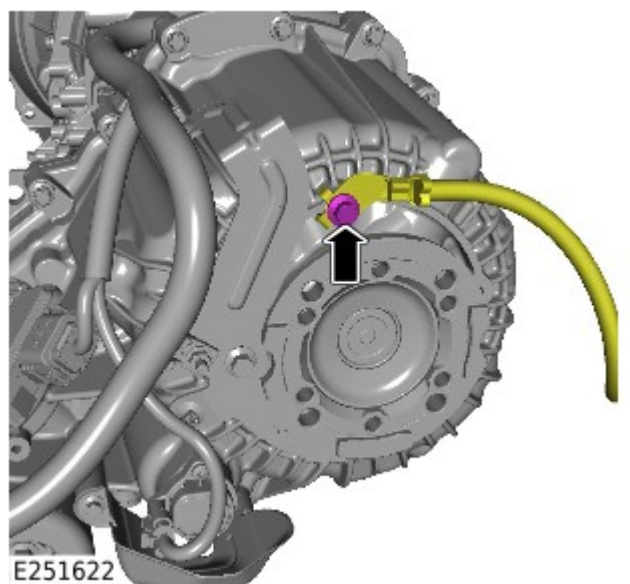


Install and tighten the 6 new bolts.

Renew Part: [Torque converter bolts](#) Quantity: 6.

Torque: 70Nm

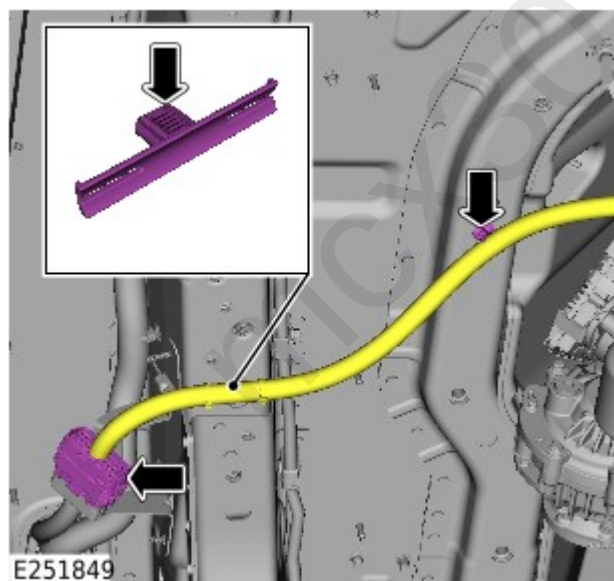
23.



- Install the ground cable.
- Install and tighten the bolt.

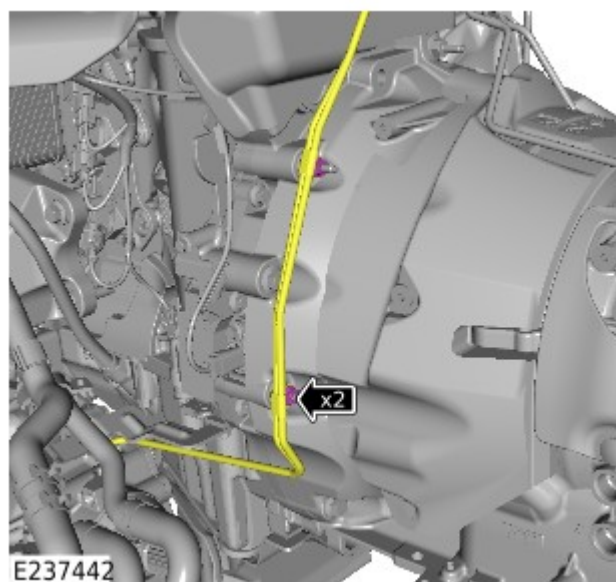
Torque: 25Nm

24.



- Connect the electrical connector.
- Install the 2 wiring harness clips.

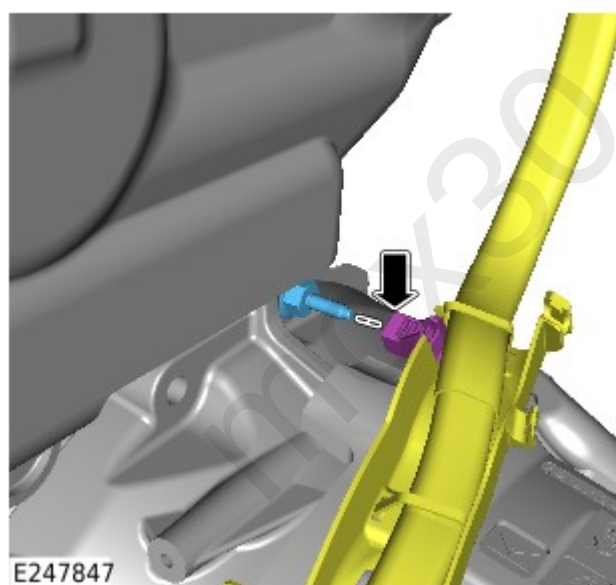
25.



Install and tighten the 2 nuts.

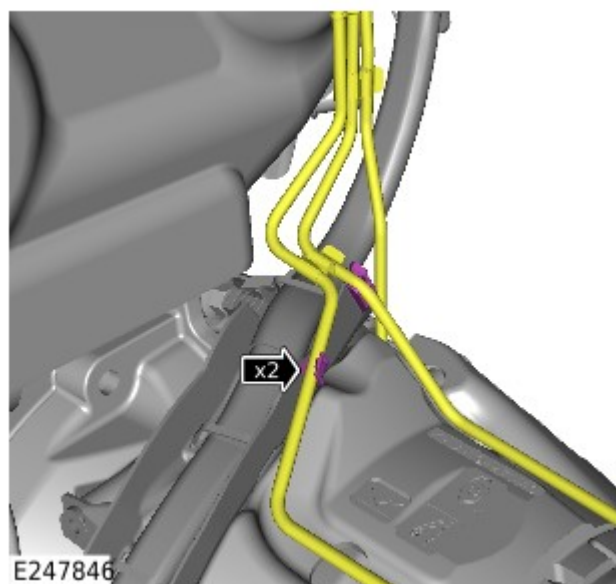
Torque: 22Nm

26.



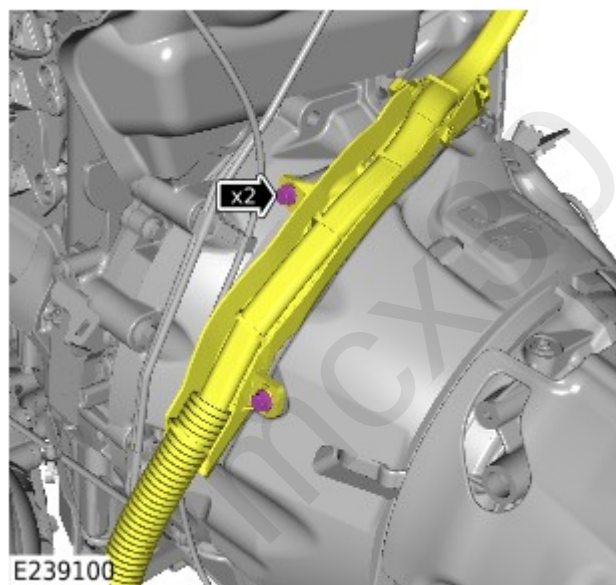
Install the cable.

27.



Install the 2 breather pipes to the 2 clips.

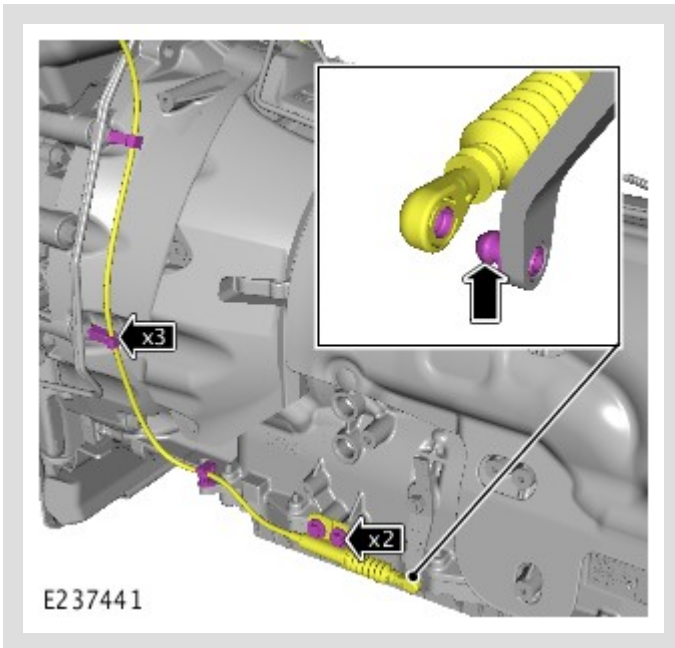
28.



- Install the Mild Hybrid Electric Vehicle (MHEV) battery cable.
- Install and tighten the 2 bolts.

Torque: 10Nm

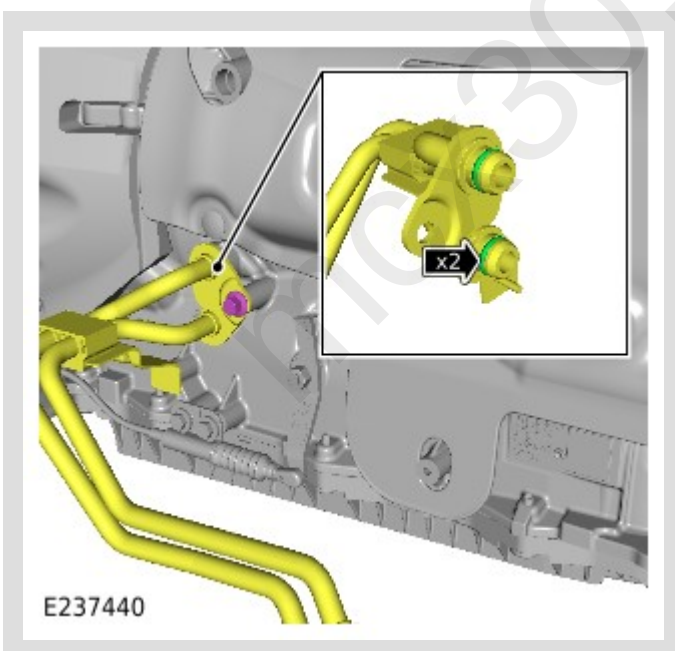
29.



- Install the EPR cable to the transmission.
- Install the EPR cable to the 3 clips.
- Install and tighten the 2 bolts.

Torque: 10Nm

30.



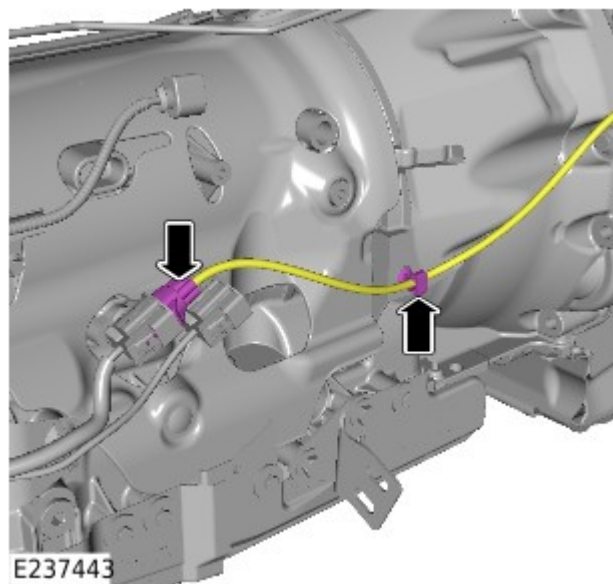
- Install the 2 new O-ring seals.
Renew Part: [Transmission fluid cooler tubes to transmission O-ring seals](#) Quantity: 2.

- Install the transmission fluid cooler pipes.

- Install and tighten the bolt.

Torque: 22.5Nm

31.



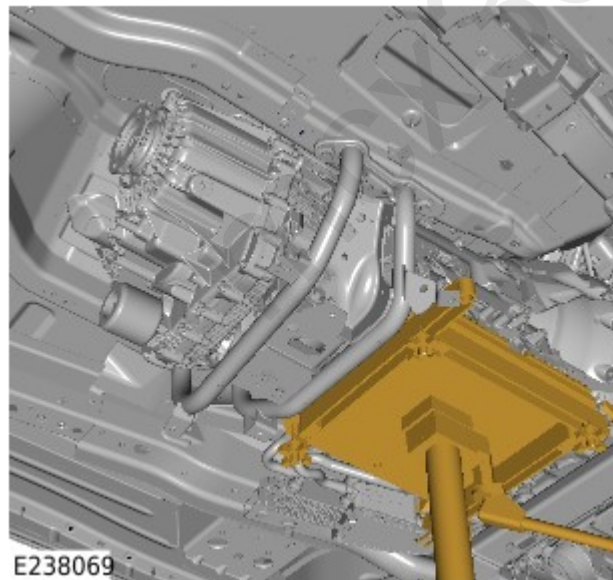
- Connect the electrical connector.
- Install the wiring harness clip.

32.

Install the front driveshaft.

Refer to: [Front Driveshaft](#) (205-01 Driveshaft, Removal and Installation).

33.



Remove the transmission jack.

General Equipment: [Transmission jack](#)

34.

Install the starter motor.

Refer to: [Starter Motor](#) (303-06C Starting System - INGENIUM I6 3.0L Petrol, Removal and Installation).

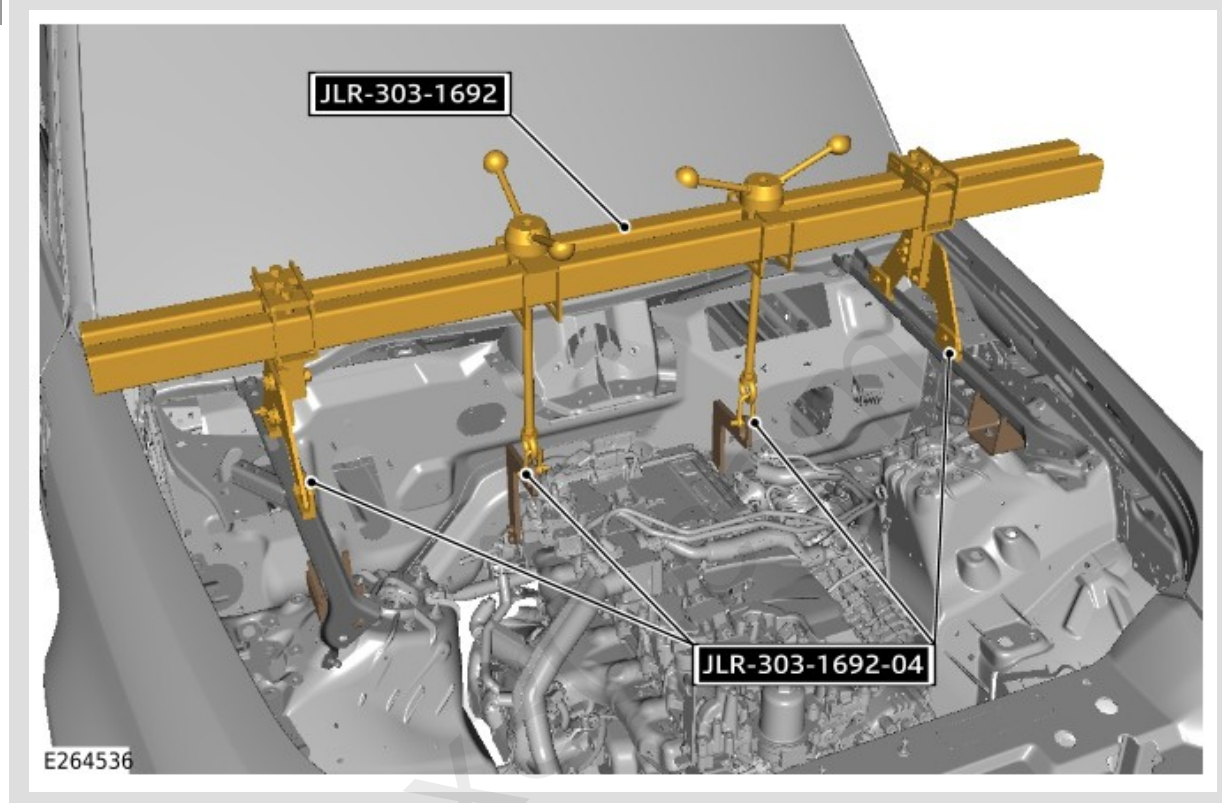
35. Install the rear driveshaft.

Refer to: [Rear Driveshaft](#) (205-01 Driveshaft, Removal and Installation).

36. Install the catalytic converter.

Refer to: [Catalytic Converter](#) (309-00C Exhaust System - INGENIUM I6 3.0L Petrol, Removal and Installation).

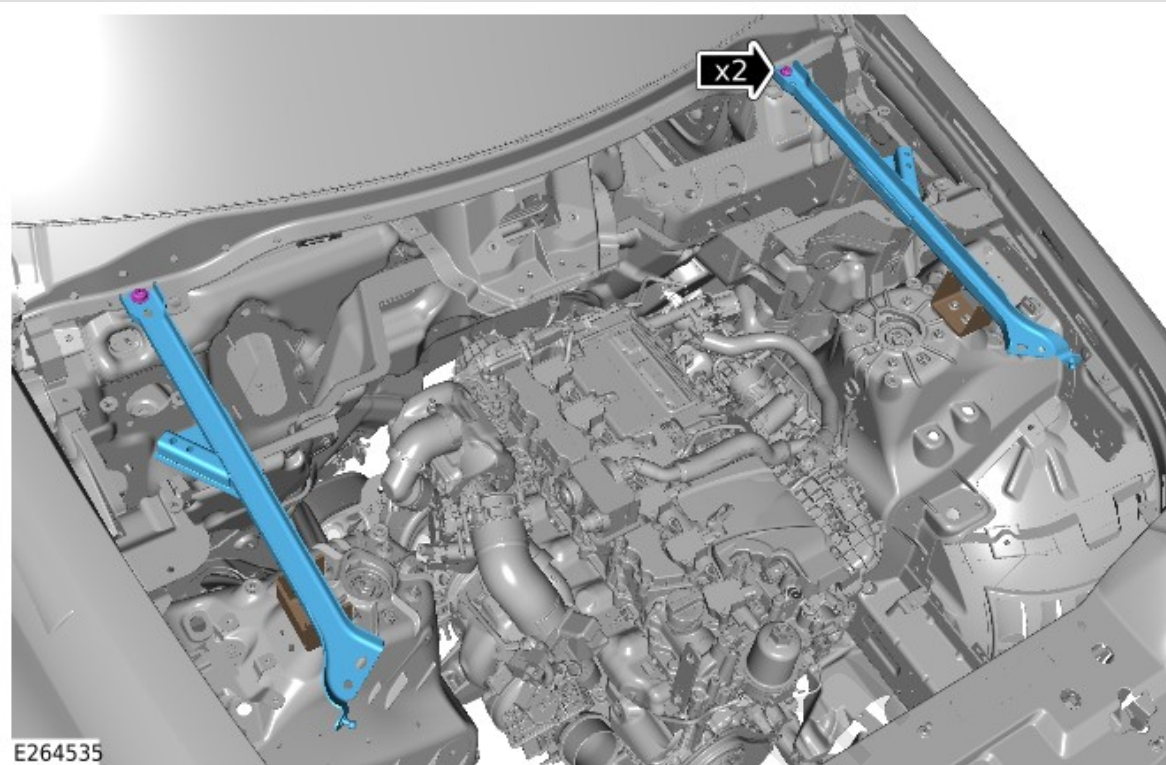
37.



- Remove the engine support beam and the engine support adapter.

Install the Special Tool(s): [JLR-303-1692](#), [JLR-303-1692-04](#)

38.



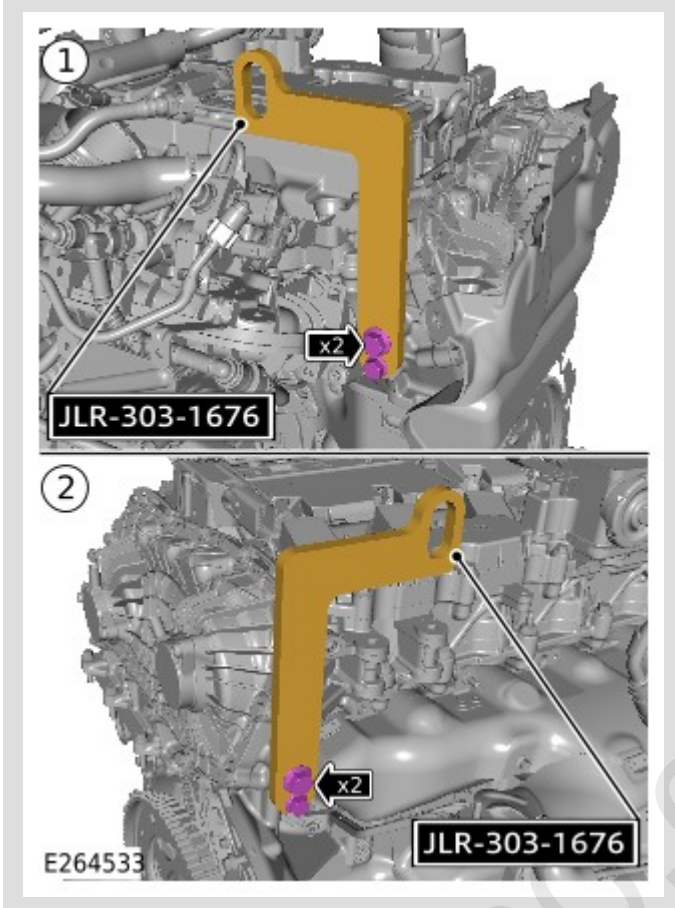
- Remove the 2 bolts.
- Remove the 2 engine compartment braces.

39.



- Remove the 4 bolts.
- Remove the special tools.

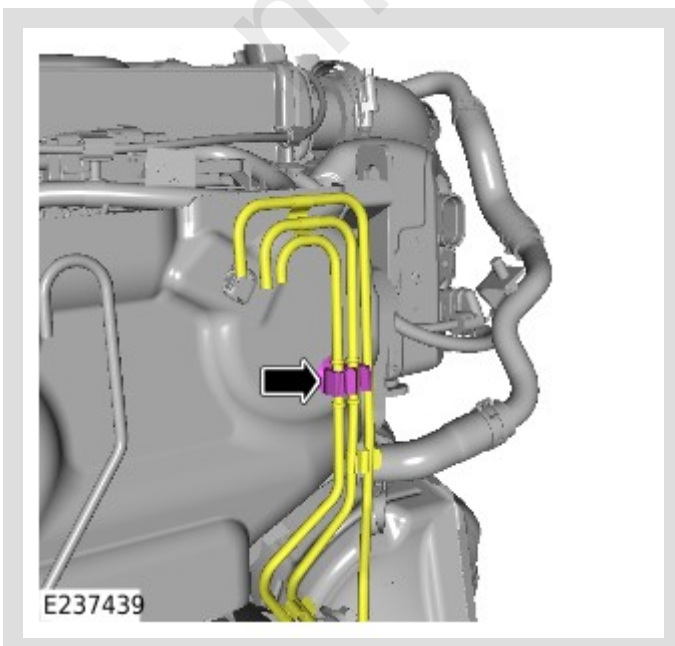
40.



- Remove the 4 bolts.
- Remove the special tools.

Install the Special Tool(s): [JLR-303-1676](#)

41.

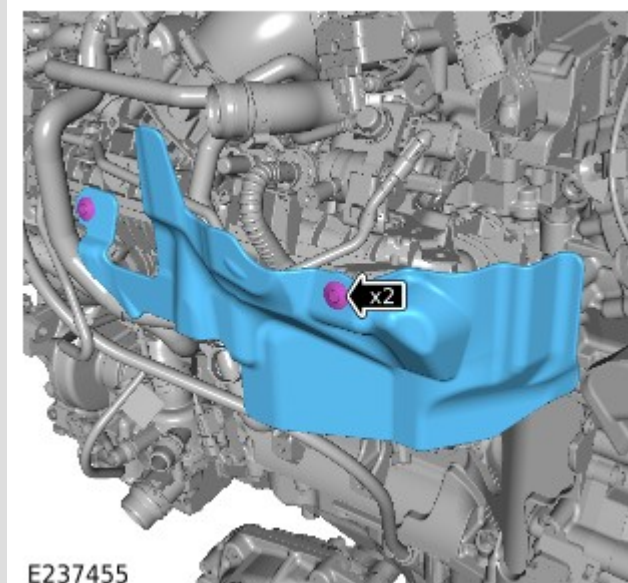


Connect the breather pipes.

42. Install the charge air cooler.

Refer to: [Charge Air Cooler Service Position](#) (303-12C Intake Air Distribution and Filtering - INGENIUM I6 3.0L Petrol, General Procedures).

43.



- Install the heatshield.
- Install the 2 clips.

44. Install the secondary bulkhead center panel.

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

45. Install the engine cover.

Refer to: [Engine Cover - INGENIUM I6 3.0L Petrol](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).

46. Connect the startup battery ground cable.

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