

PUBLISHED: 14-APR-2020
2020.0 DEFENDER (LE), 501-02

FRONT END BODY PANELS

SECONDARY BULKHEAD CENTER PANEL (G2632800)

REMOVAL AND INSTALLATION

GENERAL EQUIPMENT

EQUIPMENT NAME
Telescopic Support

REMOVAL

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.

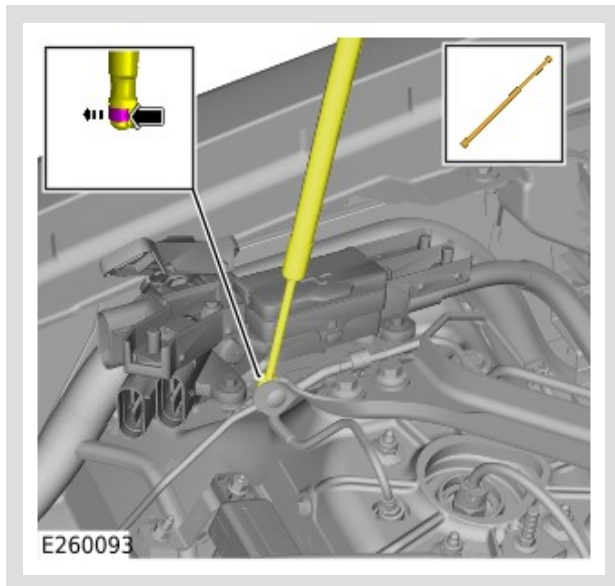
1. Remove the cowl panel.

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

2.

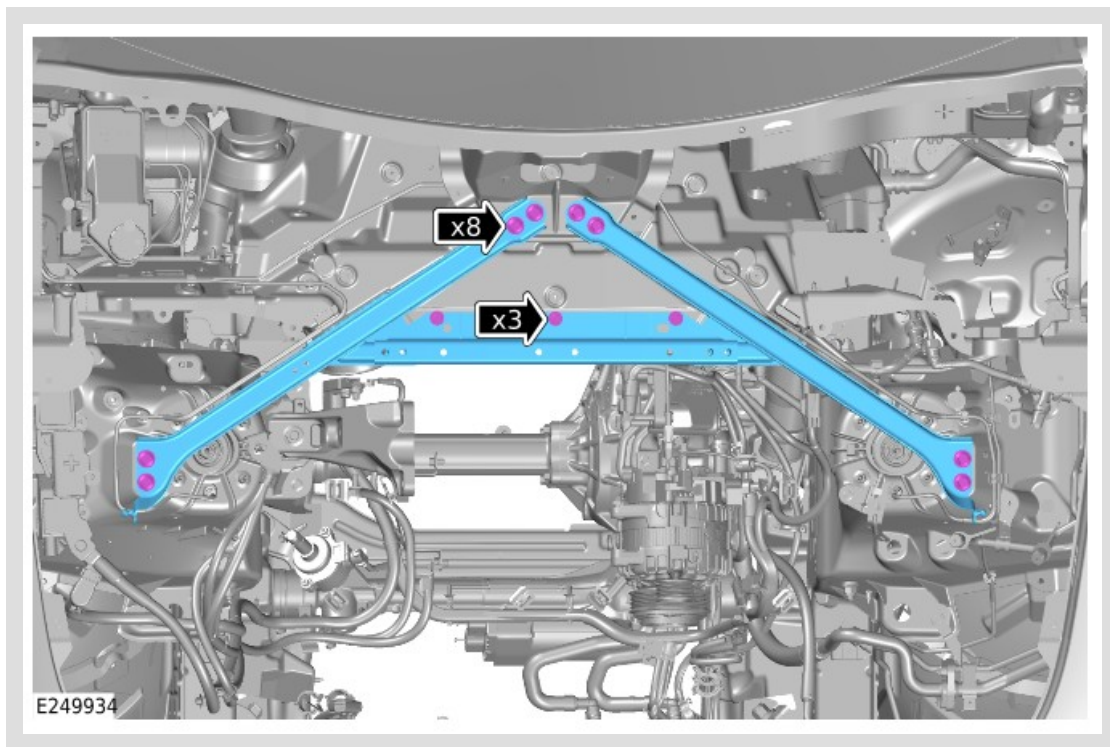
 **NOTE:**

Repeat this step for the other side.



- With the aid of another technician, release the 2 struts.
- Use the telescopic support to support the hood.
General Equipment: [Telescopic Support](#)

3.

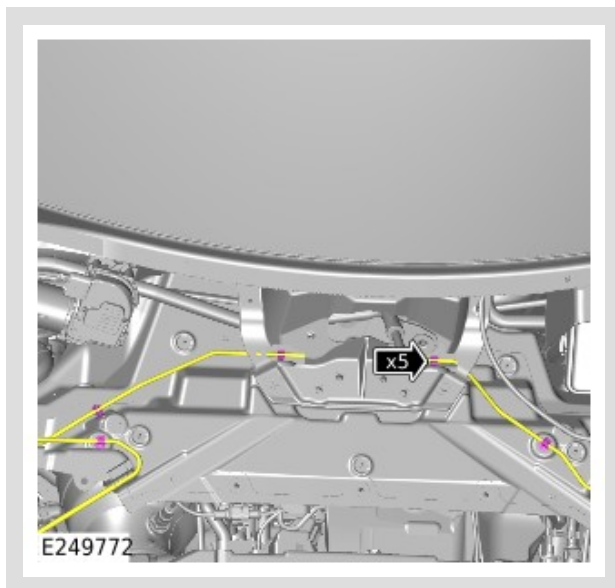


- Remove the 11 bolts.
- Remove the engine compartment brace.

4.

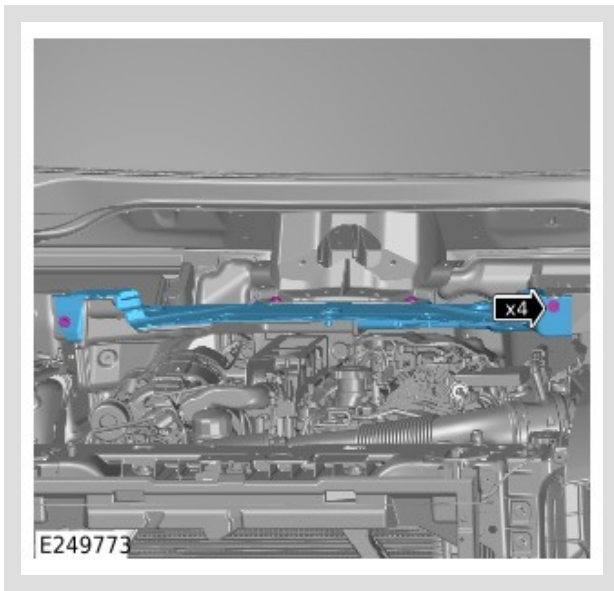
 **NOTE:**

If equipped.



- Release the 5 clips from the air suspension pipes.
- Reposition the air suspension pipes away from the secondary bulkhead center panel.

5.



- Remove the 4 bolts.
- Remove the secondary bulkhead center panel.

INSTALLATION

1.

- Install the secondary bulkhead center panel.
- Install and tighten the 4 bolts.

Torque: 5.4Nm

2.

 **NOTE:**

If equipped.

- Reposition the air suspension pipes into the correct location.
- Install the 5 clips to the air suspension pipes.

3.

- Install the engine compartment brace.
- Install the 8 M10 bolts.

Torque: 55Nm

- Install the 3 M6 bolts.

Torque: 5.4Nm

4.

 **NOTE:**

Repeat this step for the other side.

- With the aid of another technician, install the 2 struts.
- Remove the telescopic support.

5.

Install the cowl panel.

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

INTAKE AIR DISTRIBUTION AND FILTERING - INGENIUM I6 3.0L PETROL

AIR FILTER OUTLET PIPE (G2390361)

REMOVAL AND INSTALLATION

19.10.20	PIPE - AIR CLEANER OUTLET - RENEW	2000 CC, INGENIUM DIESEL	0.10	USED WITHINS	
19.10.20	PIPE - AIR CLEANER OUTLET - RENEW	2000 CC, INGENIUM PETROL, IC	0.20	USED WITHINS	

REMOVAL

CAUTION:

Before disconnecting any components, make sure the area is clean and free from foreign material. When disconnected all openings must be sealed.

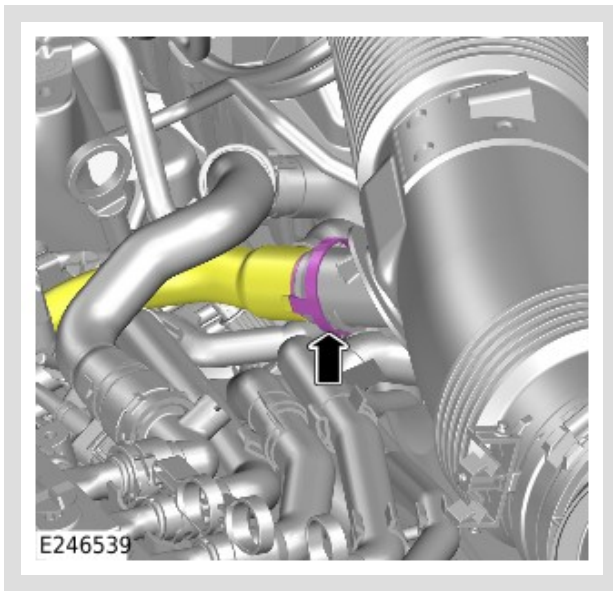
NOTE:

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- This procedure contains illustrations showing certain components removed to provide extra clarity.

1. Remove the engine cover.

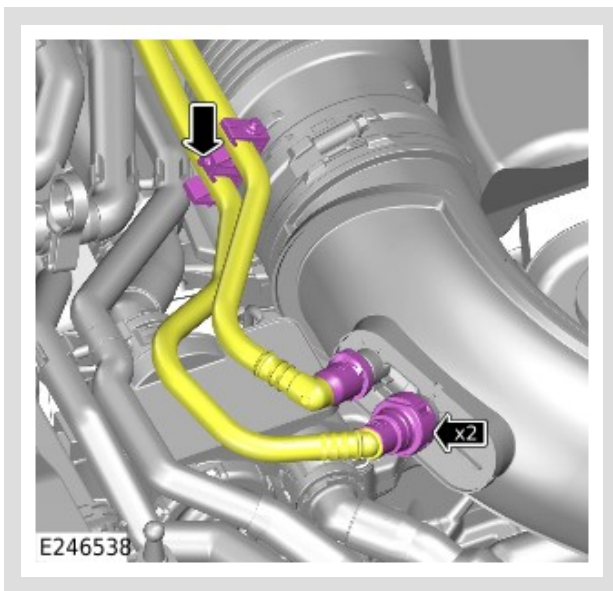
Refer to: [Engine Cover - INGENIUM I6 3.0L Petrol](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).

2.



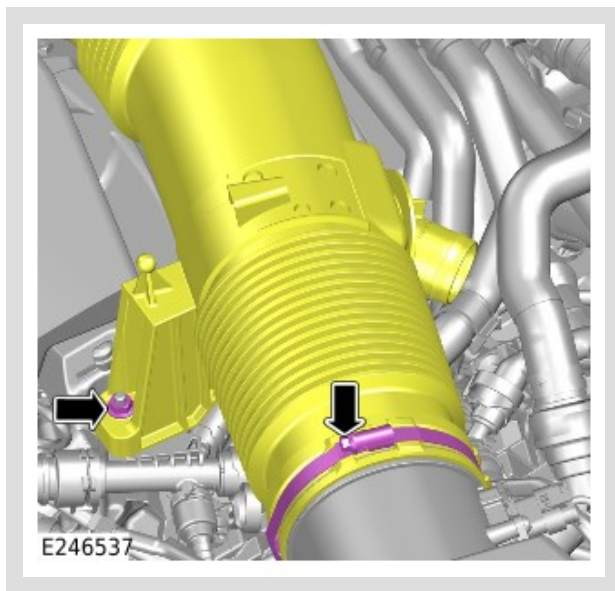
Disconnect the charge air bypass valve outlet pipe from the air filter outlet pipe.

3.



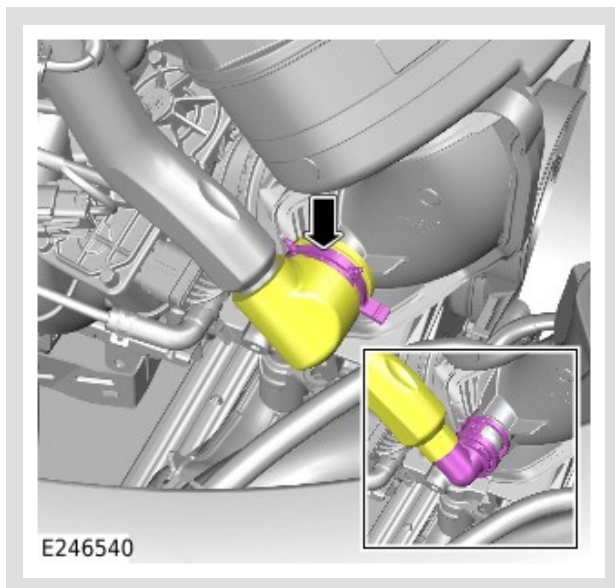
- Disconnect the fuel vapor pipe from the air filter outlet pipe.
- Disconnect the charge air cooler outlet pipe from the air filter outlet pipe.
- Release the fuel vapor pipe from the clip.
- Release the charge air cooler outlet pipe from the clip.

4.



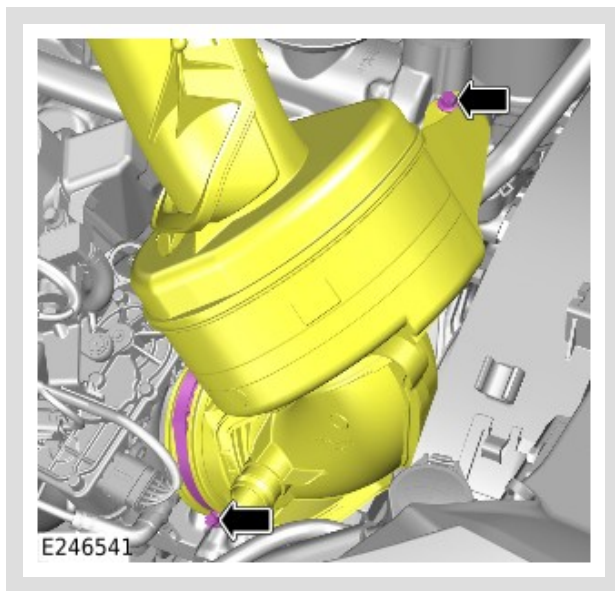
- Remove the nut.
- Release the clamp.
- Disconnect the air filter outlet pipe from the air filter housing.

5.



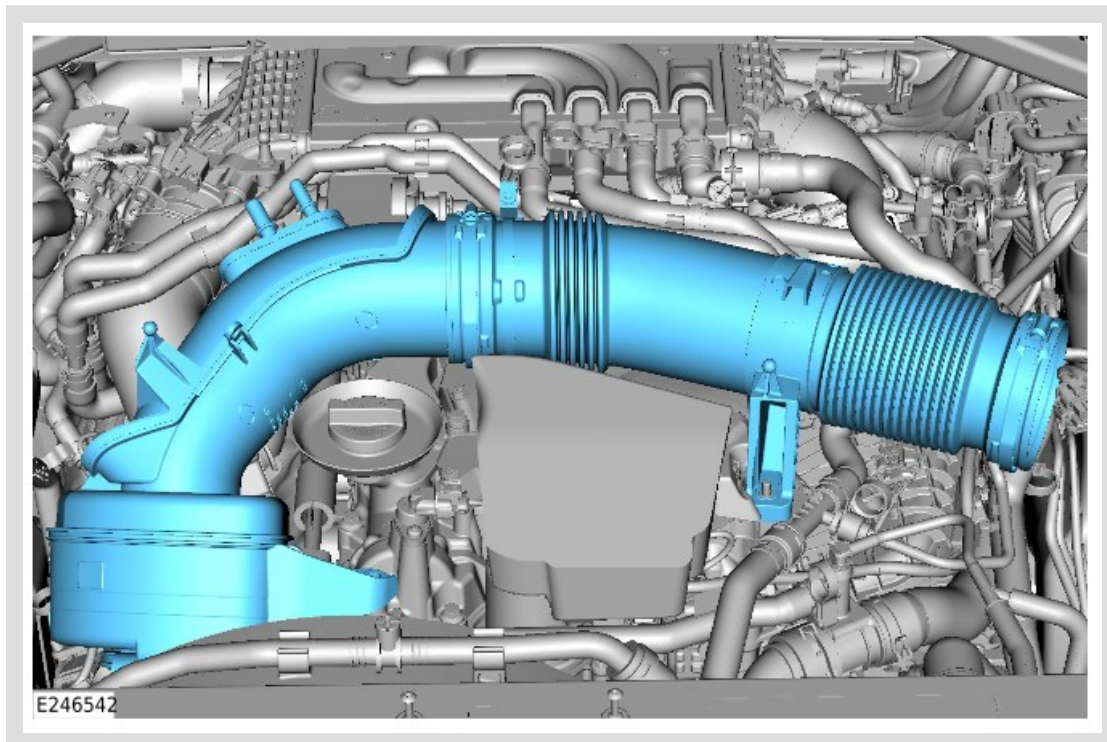
- Remove the clip.
- Reposition the heatshield.
- Disconnect the breather pipe.

6.



- Remove the bolt.
- Release the clamp.
- Disconnect the air filter outlet pipe from the turbocharger.

7.



Remove the air filter outlet pipe.

INSTALLATION

1. Install the air filter outlet pipe.

- 2.
- Connect the air filter outlet pipe to the turbocharger.
 - Tighten the clamp.
 - Install and tighten the bolt.
Torque: 7Nm

- 3.
- Connect the breather pipe to the air filter outlet pipe.
 - Reposition the heatshield.
 - Install the clip.

- 4.
- Connect the air filter outlet pipe to the air filter housing.
 - Tighten the clamp.
 - Install and tighten the nut.
Torque: 7Nm

- 5.
- Connect the fuel vapor pipe to the air filter outlet pipe.
 - Connect the charge air cooler outlet pipe to the air filter outlet pipe.
 - Install the fuel vapor pipe to the clip.
 - Install the charge air cooler outlet pipe to the clip.

6. Connect the charge air bypass valve outlet pipe to the air filter outlet pipe.

7. Install the engine cover.

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

PUBLISHED: 27-SEP-2019
2020.0 DEFENDER (LE), 303-12C

INTAKE AIR DISTRIBUTION AND FILTERING - INGENIUM I6 3.0L PETROL

CHARGE AIR COOLER SERVICE POSITION (G2410755)

GENERAL PROCEDURES

19.46.34	CHARGE AIR COOLER SERVICE POSITION	3000 CC, INGENIUM PETROL	1.40	USED WITHINS	
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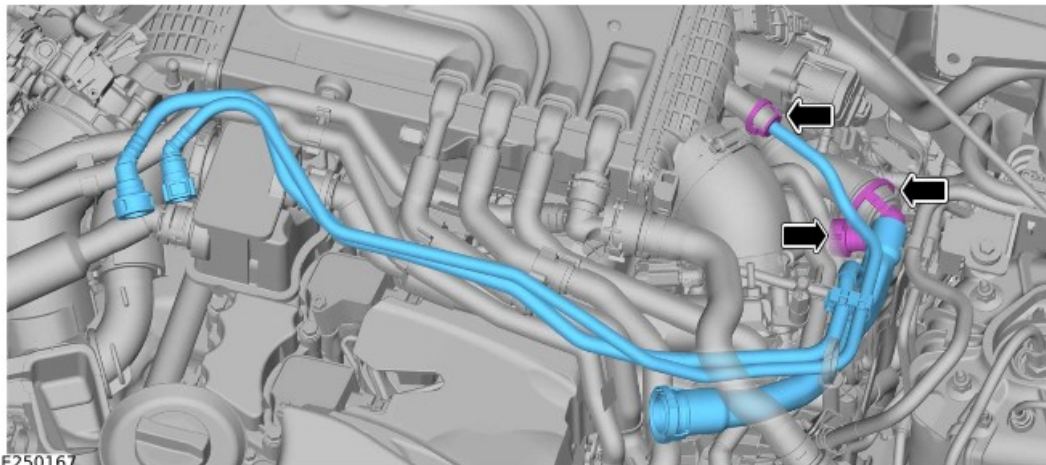
DISCONNECTION

NOTES:

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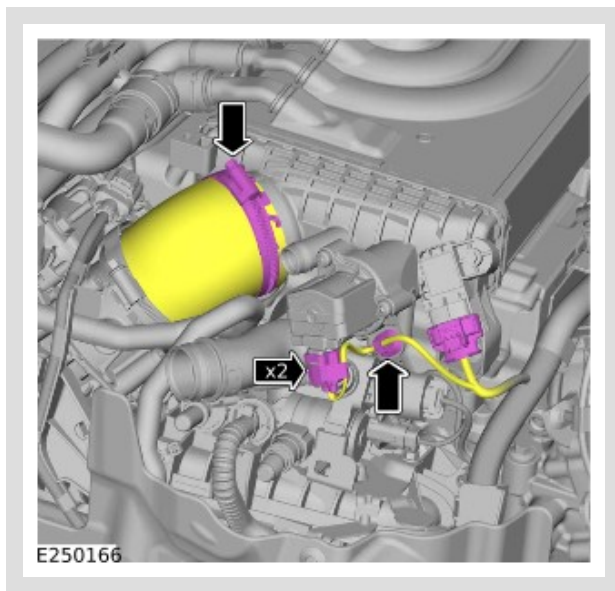
1. Raise and support the vehicle on a suitable 2 post lift.
Refer to: [Jacking and Lifting](#) (100-02 Jacking and Lifting, Description and Operation).
2. Disconnect the startup battery ground cable.
Refer to: [Startup Battery Disconnect and Connect](#) (414-00 Battery and Charging System - General Information, General Procedures).
3. Remove the secondary bulkhead center panel.
Refer to: [Secondary Bulkhead Center Panel - INGENIUM I6 3.0L Petrol](#) (501-02 Front End Body Panels, Removal and Installation).
4. Remove the air filter outlet pipe.
Refer to: [Air Filter Outlet Pipe](#) (303-12C Intake Air Distribution and Filtering - INGENIUM I6 3.0L Petrol, Removal and Installation).

5.



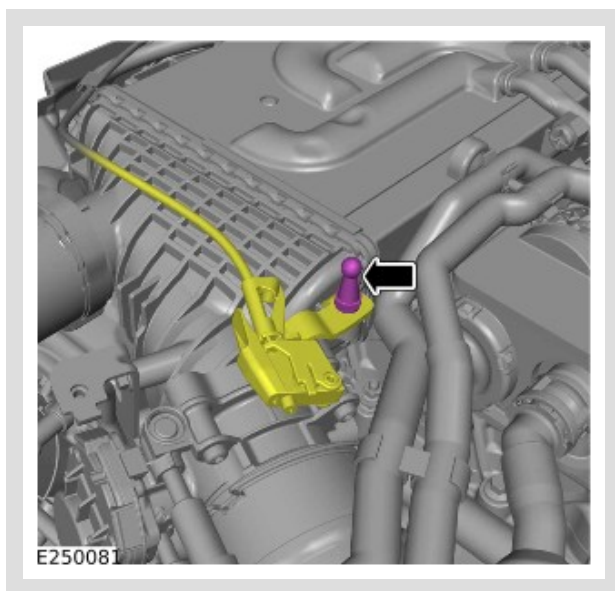
- Disconnect the 3 pipes.
- Remove the pipe assembly.

6.



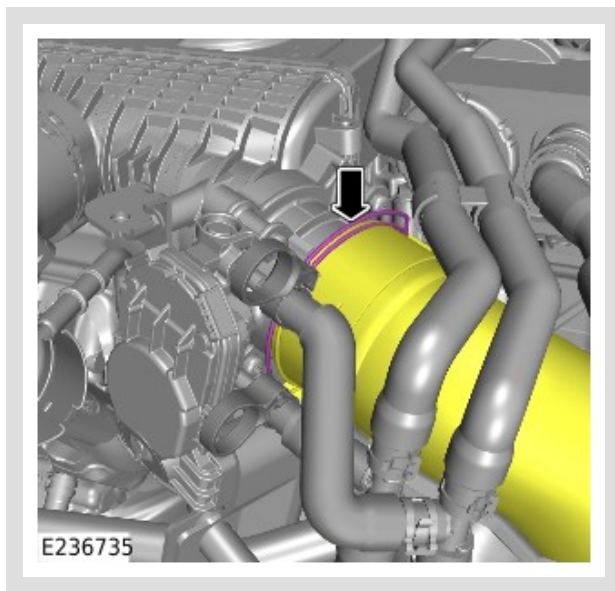
- Release the clamp.
- Disconnect the hose.
- Disconnect the 2 electrical connectors.
- Release the clip.

7.



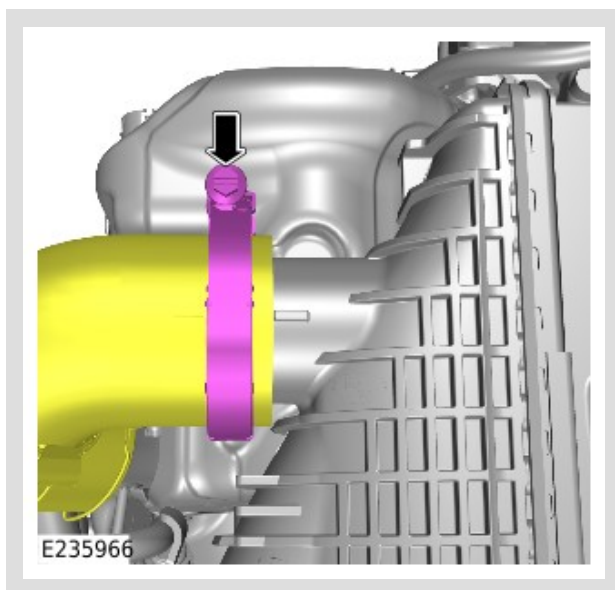
- Remove the engine cover mounting.
- Reposition the Emergency Park Release (EPR) lever away from the charge air cooler.

8.



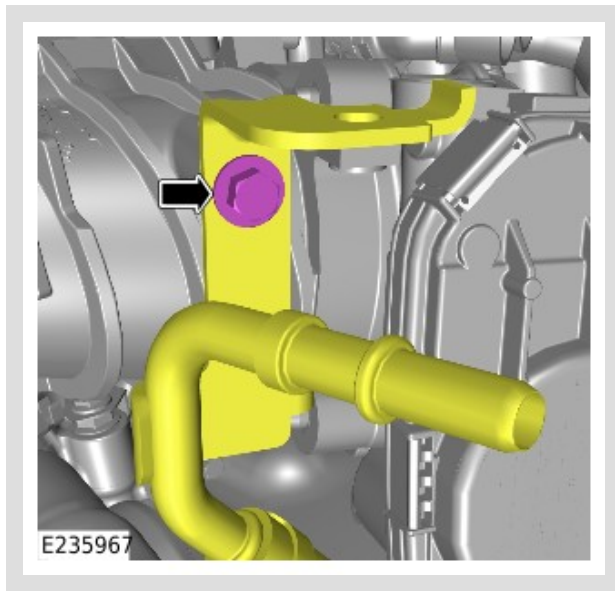
- Release the clip.
- Disconnect the hose.

9.



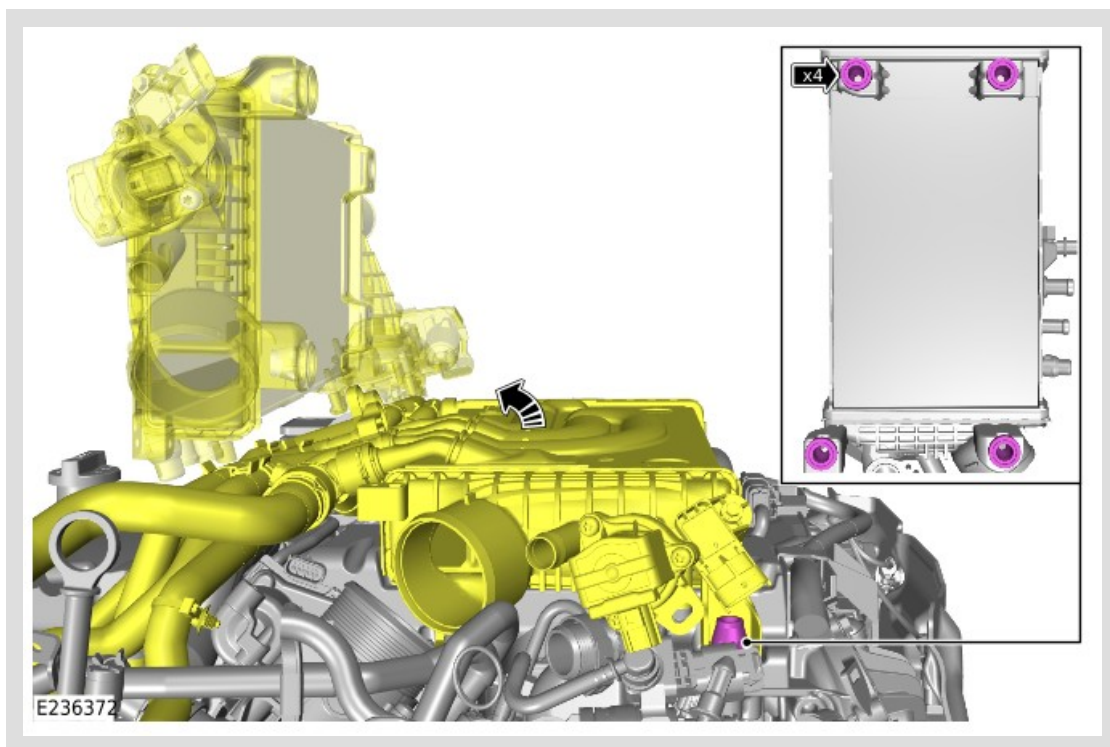
- Release the clamp.
- Disconnect the hose.

10.



- Remove the bolt.
- Reposition the bracket.

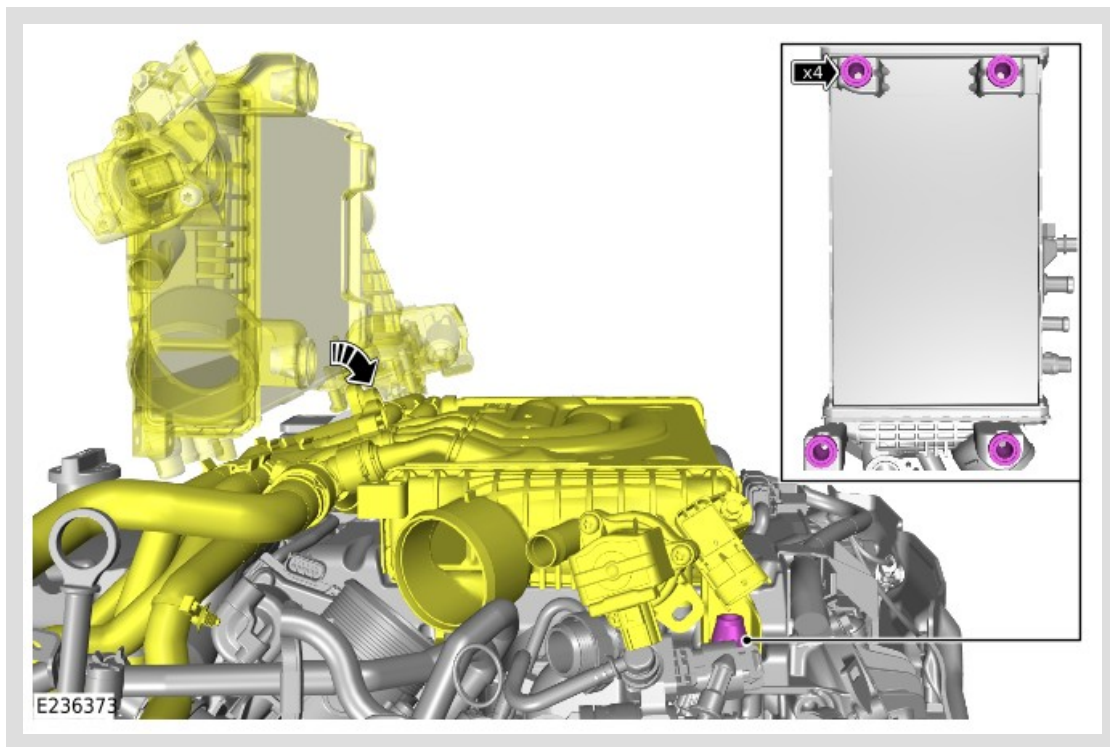
11.



- Release the charge air cooler from the 4 grommets.
- Reposition the charge air cooler.

CONNECT

1.



- Reposition the charge air cooler in the correct location.
- Install the charge air cooler to the 4 grommets.

2.

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

3.

- Connect the hose.
- Install and tighten the clamp.
Torque: 5.25Nm

4.

Connect the hose.

5.

- Reposition the Emergency Park Release (EPR) lever in the correct location.
- Install and tighten the engine cover mounting.

6.

- Connect the 2 electrical connectors.
- Install the clip.
- Connect the hose.
- Install and tighten the clamp.

Torque: 5.25Nm

7.

- Install the pipe assembly.
- Connect the 3 pipes.

8.

Install the air filter outlet pipe.

Refer to: [Air Filter Outlet Pipe](#) (303-12C Intake Air Distribution and Filtering - INGENIUM I6 3.0L Petrol, Removal and Installation).

9.

Install the secondary bulkhead center panel.

Refer to: [Secondary Bulkhead Center Panel - INGENIUM I6 3.0L Petrol](#) (501-02 Front End Body Panels, Removal and Installation).

10.

Connect the startup battery ground cable.

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

PUBLISHED: 25-JUN-2019
2020.0 DEFENDER (LE), 303-07C

ENGINE IGNITION - INGENIUM I6 3.0L PETROL

SPARK PLUGS (G2344517)

SPECIAL TOOL(S)




E115268

303-1450

Spark Plug Remover/Installer

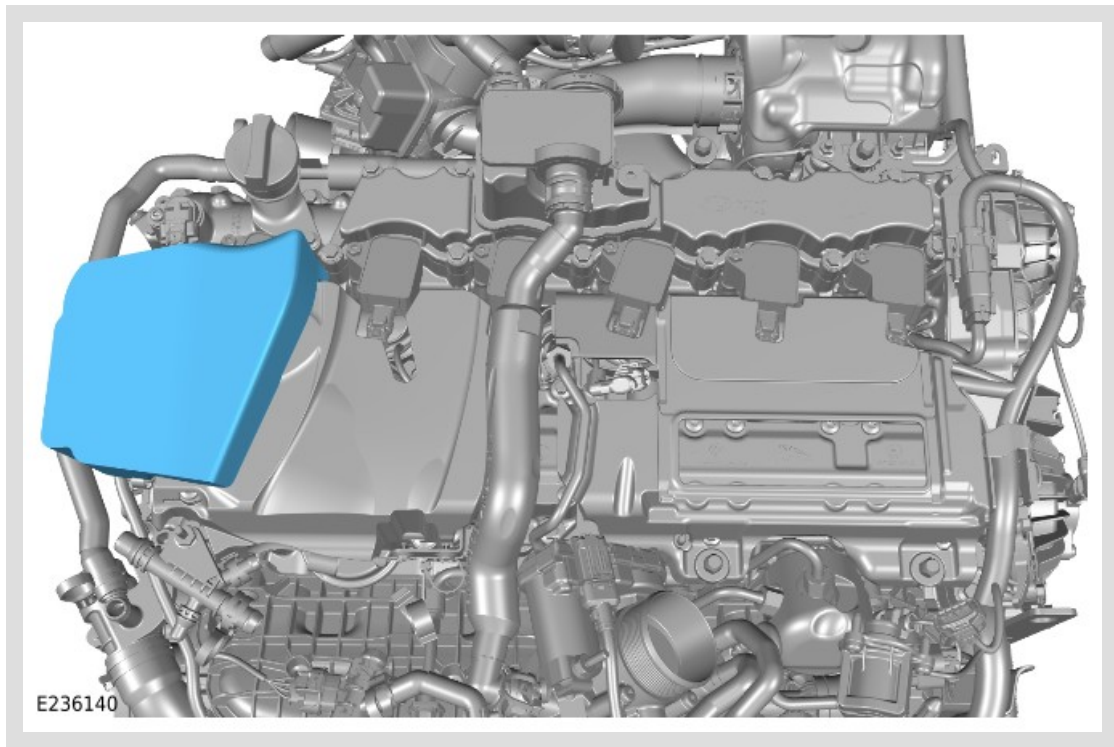
REMOVAL

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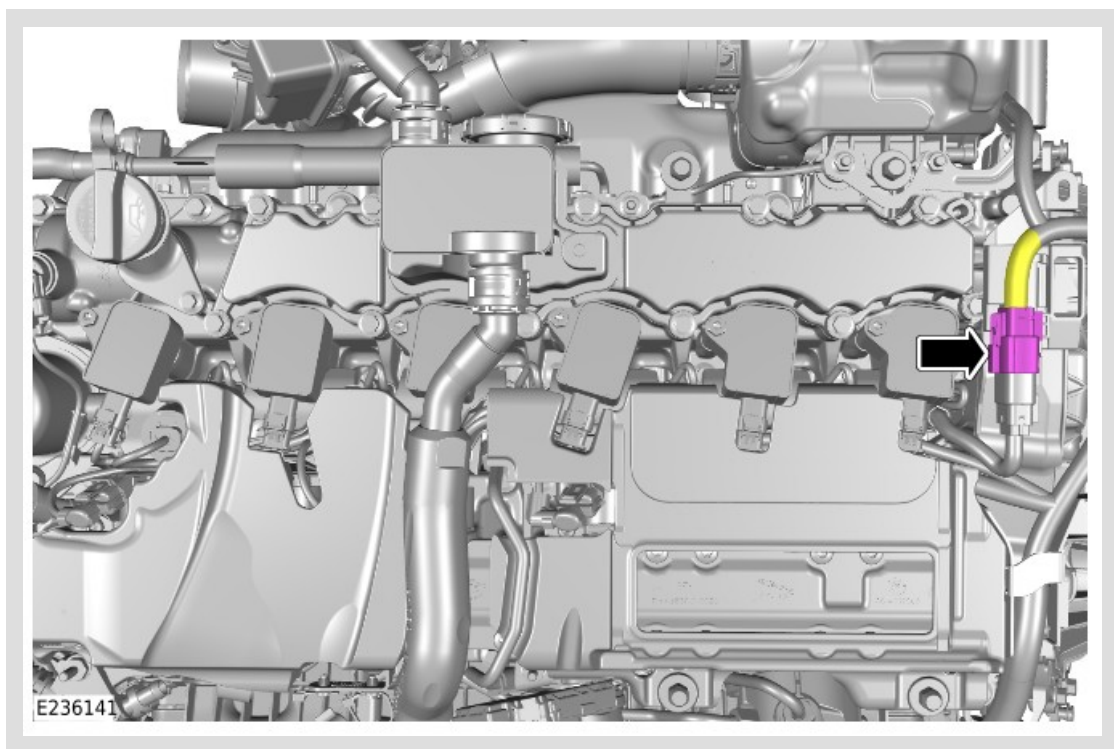
1. Disconnect the startup battery ground cable.
Refer to: [Startup Battery Disconnect and Connect](#) (414-00 Battery and Charging System - General Information, General Procedures).
2. Position the charge air cooler in the service position.
Refer to: [Charge Air Cooler Service Position](#) (303-12C Intake Air Distribution and Filtering - INGENIUM I6 3.0L Petrol, General Procedures).
3. Remove the air filter outlet pipe.
Refer to: [Air Filter Outlet Pipe](#) (303-12C Intake Air Distribution and Filtering - INGENIUM I6 3.0L Petrol, Removal and Installation).

4.



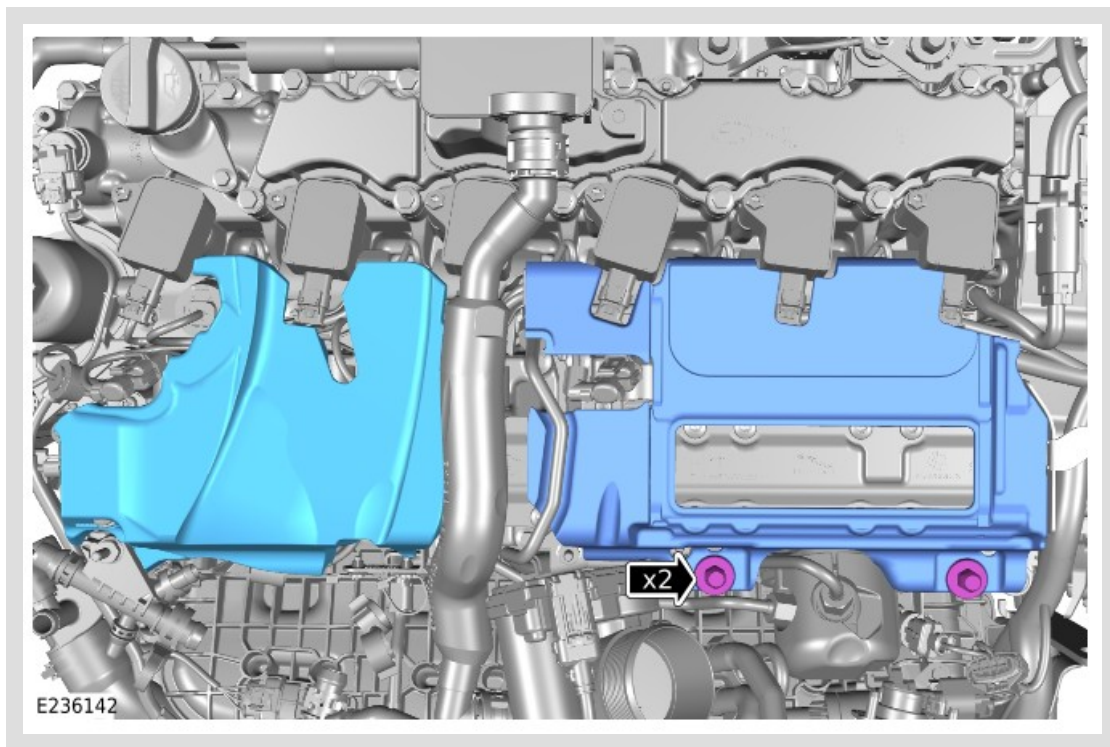
Remove the Noise, Vibration and Harshness (NVH) material.

5.



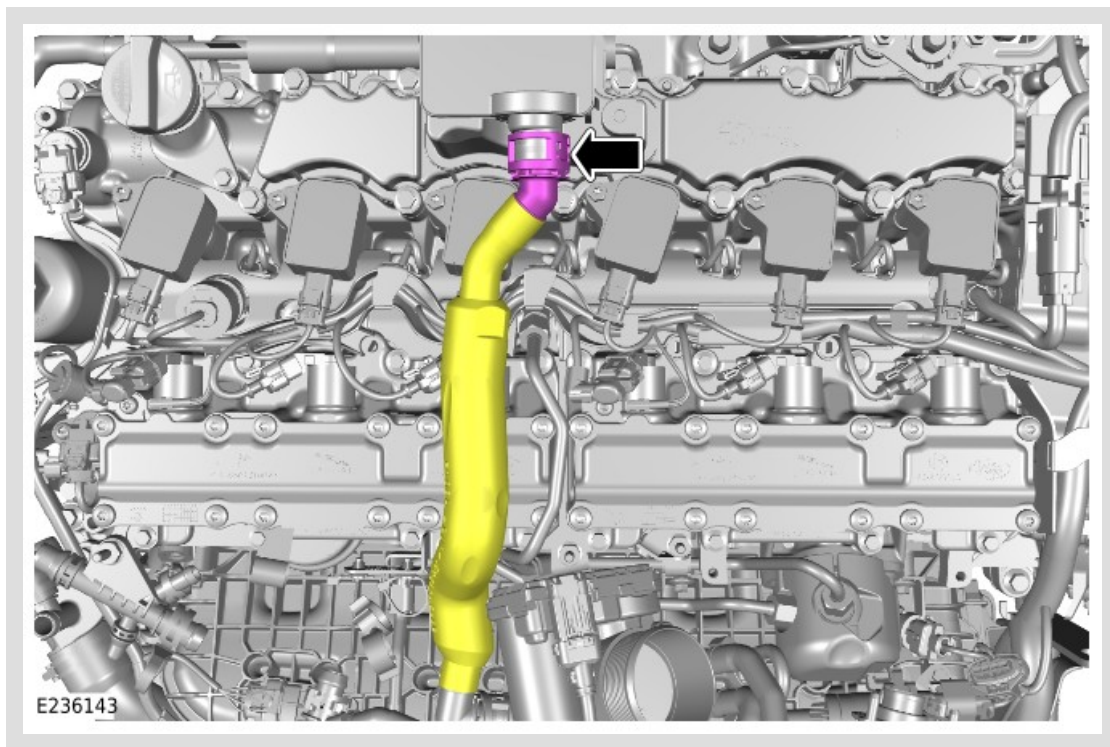
Disconnect the fuel injector wiring harness electrical connector.

6.



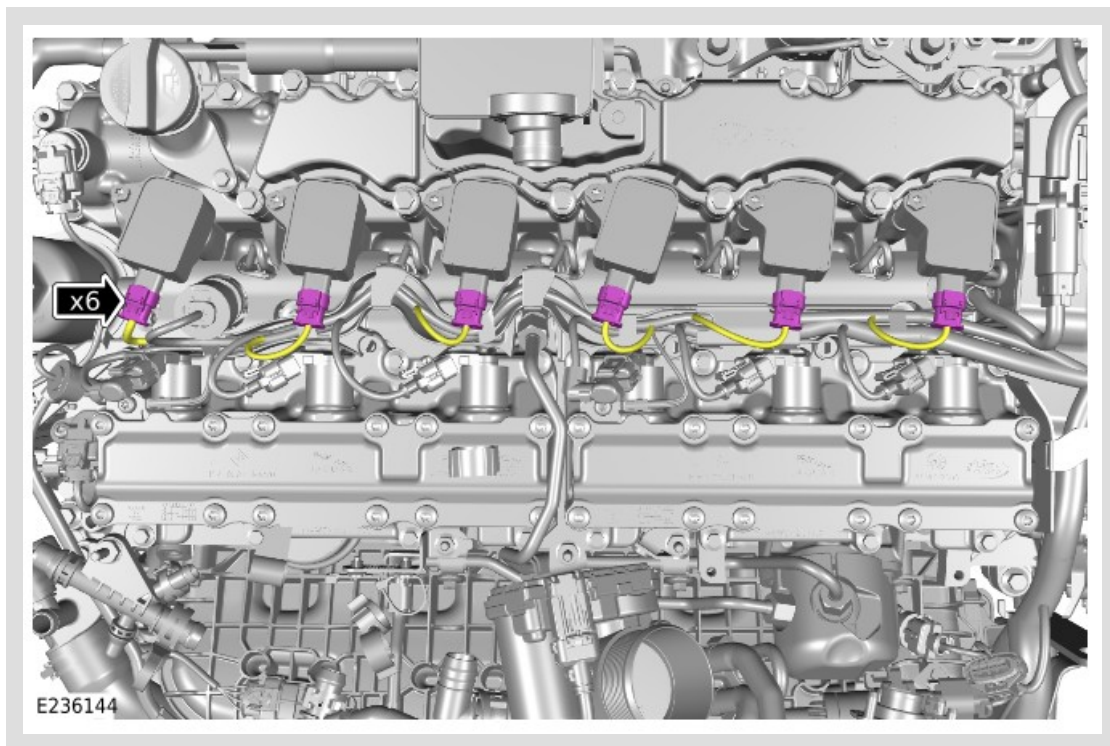
- Remove the NVH material.
- Remove the 2 bolts.
- Remove the cover.

7.



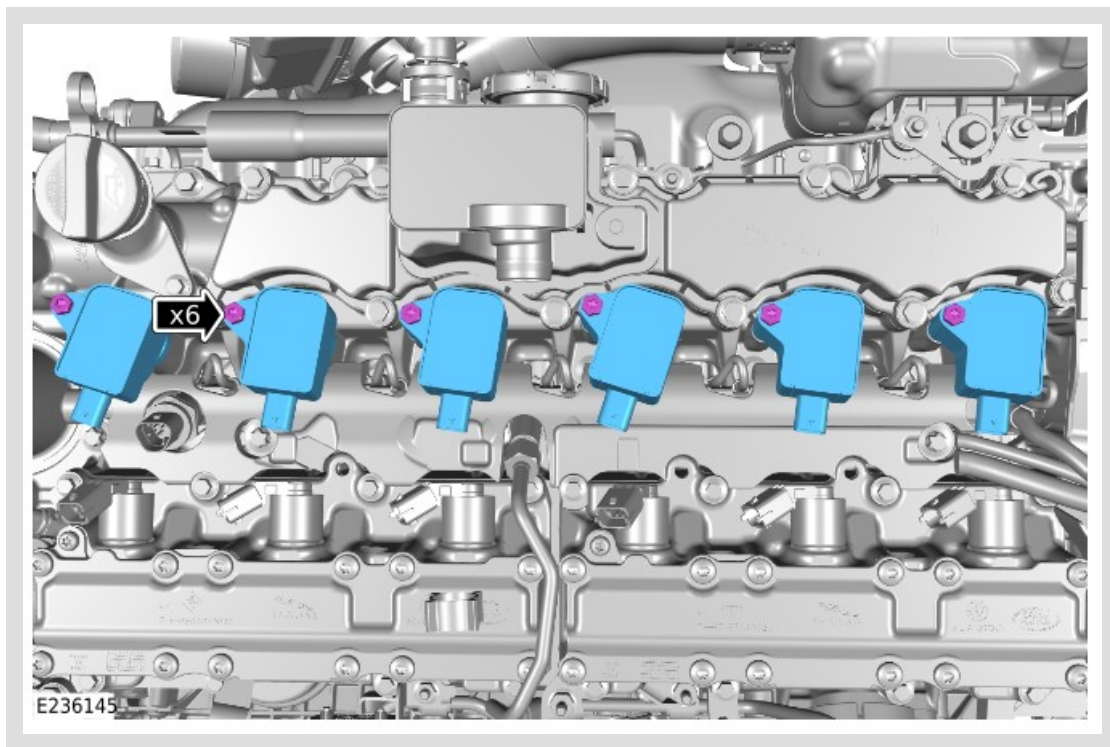
- Disconnect the breather pipe.
- Reposition the breather pipe away from the ignition coils.

8.



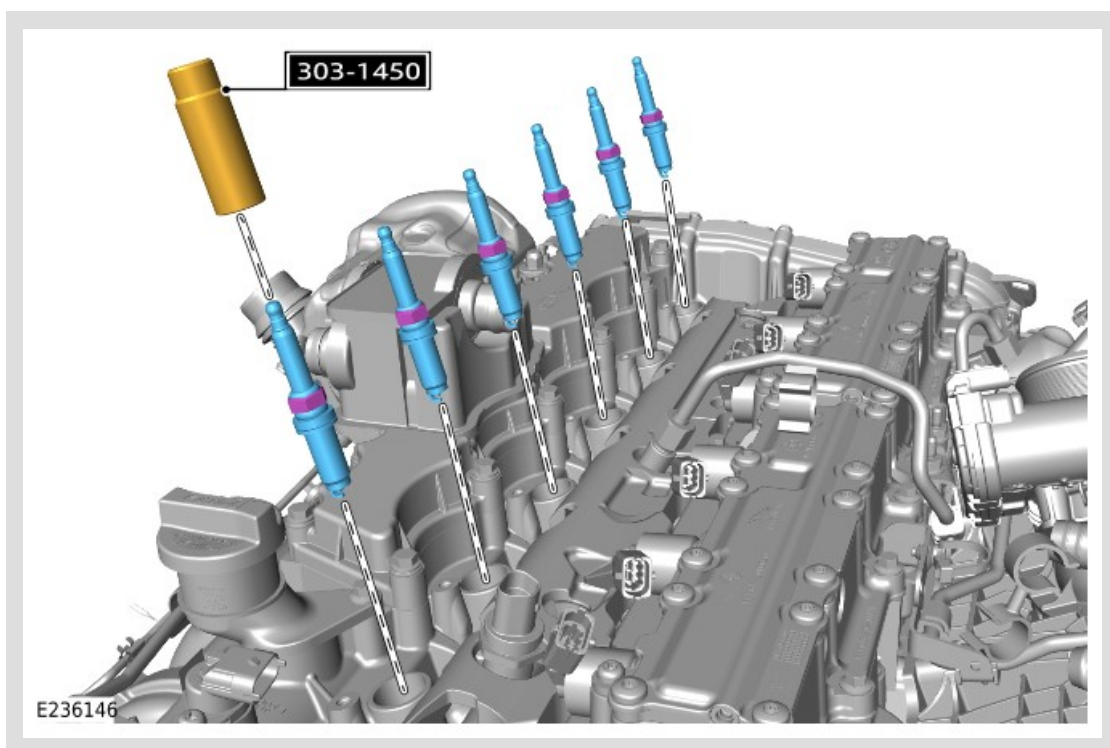
Disconnect the 6 electrical connectors.

9.



- Remove the 6 bolts.
- Remove the 6 ignition coils.

10.



Use the special tool to remove the 6 spark plugs.


Special Tool(s): [303-1450](#)

INSTALLATION

1. Check the spark plug gap.

Refer to: [Specifications](#) (303-07C Engine Ignition - INGENIUM I6 3.0L Petrol, Specifications).

- 2.

 **NOTE:**

Make sure the mating surfaces are clean and free of foreign material.

Use the special tool to install and tighten the 6 spark plugs.

Special Tool(s): [303-1450](#)

Torque: **23Nm**

- 3.

- Install the 6 ignition coils.
- Install and tighten the 6 bolts.

Torque: **8Nm**

- 4.

Connect the 6 electrical connectors to the ignition coils.

- 5.

- Reposition the breather pipe in the correct location.
- Connect the breather pipe.

- 6.

- Install the Noise, Vibration and Harshness (NVH) material.
- Install the cover.
- Install and tighten the 2 bolts.

Torque: **10Nm**

- 7.

Connect the fuel injector harness electrical connector.

- 8.

Install the NVH material.

- 9.

Install the air filter outlet pipe.

Refer to: [Air Filter Outlet Pipe](#) (303-12C Intake Air Distribution and Filtering - INGENIUM I6 3.0L Petrol, Removal and Installation).

- 10.

Reposition the charge air cooler in the correct location.

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

11. Connect the startup battery ground cable.

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

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