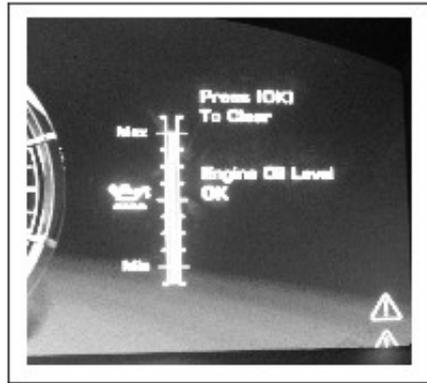
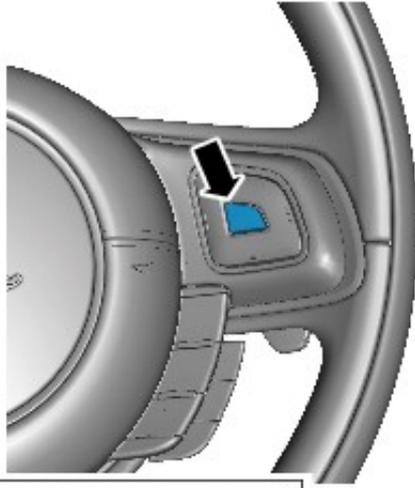


E127028

- Press the right-hand directional button to access the Oil Level Display.



E127031

- Press the right-hand OK button and follow the instructions.
- Make sure that the average oil level value has now been updated.

ENGINE - TDV6 3.0L DIESEL
**ENGINE OIL VACUUM
DRAINING AND FILLING** [G1280230]

SPECIAL TOOL(S)



**303-
1484**

Vacuum Pump, Oil
Drain



**303-
1484-01**

Adapter for 303-
1484

DRAINING

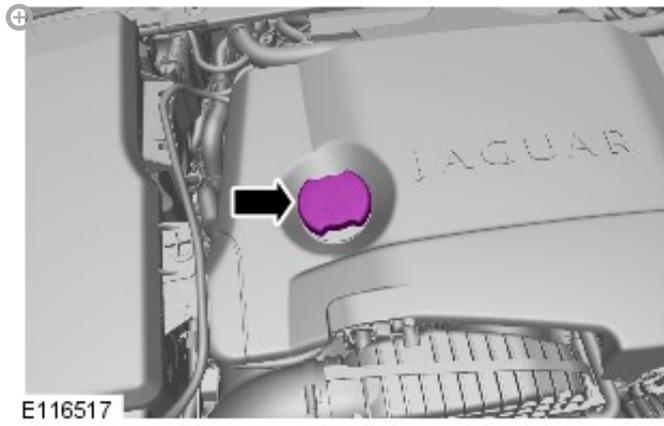
The spilling of hot engine oil is unavoidable during this procedure, care must be taken to prevent scalding.

Make sure the engine is warm.

- Clean the components general area prior to dismantling.
- **Some variation in the illustrations may occur, but the essential information is always correct.**

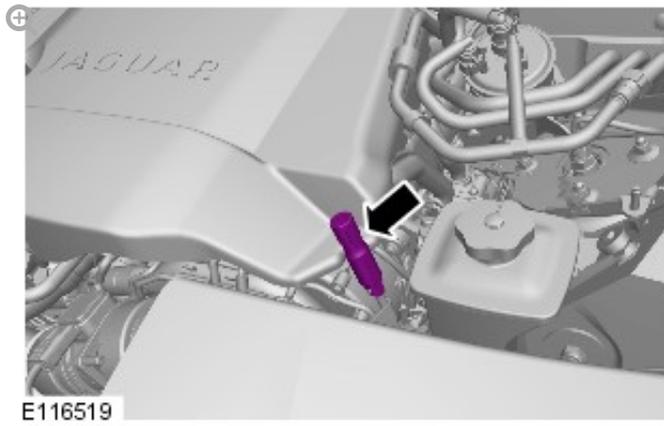
1. Refer to: Oil Filter Element (303-01 Engine - 3.0L V6 - TdV6, Removal and Installation).

2.

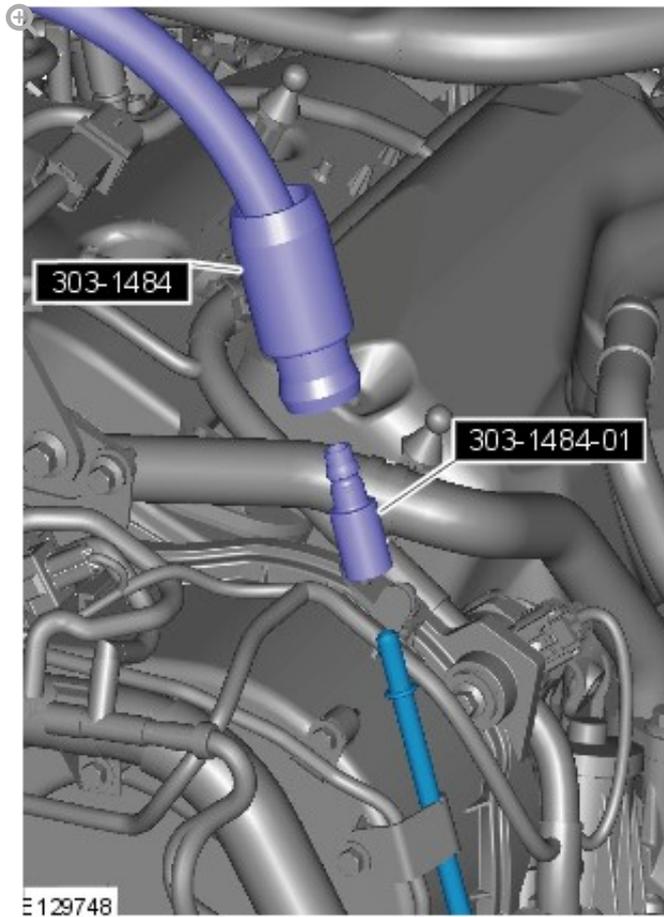


3.

Allow 10 minutes from turning the engine off before starting oil extraction.



4.



- Using the oil vacuum pump drain the oil out through the oil extraction tube.

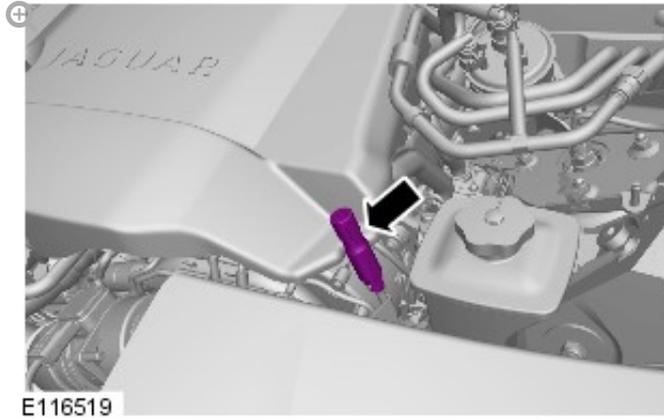
Special Tool(s): [303-1484](#), [303-1484-01](#)

5. ▪ Remove the oil vacuum pump.

FILLING

6. Refer to: Oil Filter Element (303-01 Engine - 3.0L V6 - TdV6, Removal and Installation).

7.



8. Fill the engine with oil.

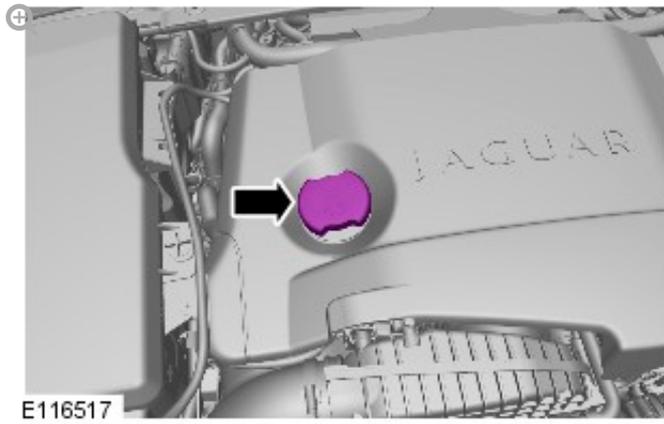
9.

Make sure that the vehicle is left for 5 minutes from filling with oil and that the engine oil level is reading at least minimum, before starting the engine. To check engine oil level follow steps 7-14.

Clean any residual engine oil from the oil filler cap area.

10.

Correct installation of the oil filler cap can be obtained by tightening the cap until an audible click is heard.



11.
 - Start the engine and allow to run for 20 minutes, stop the engine.
 - Check for leaks.

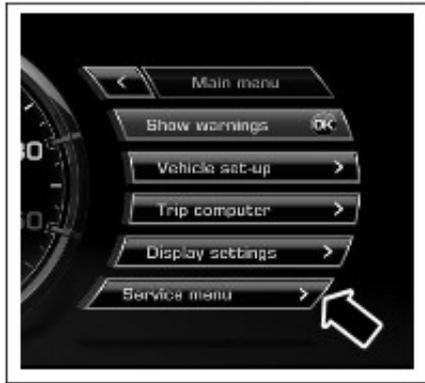
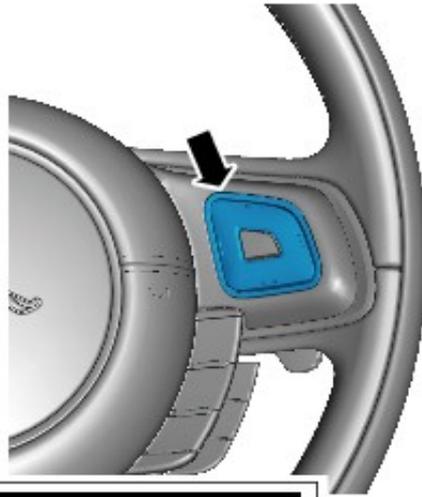
12.

- Make sure that the vehicle is parked on level ground.
- Make sure that the selector lever and the gearshift mechanism are in the park (P) position.
- Make sure that the hood is open.

Allow 10 minutes from the engine switch off for the engine oil level to stabilize.

- Turn the ignition on.

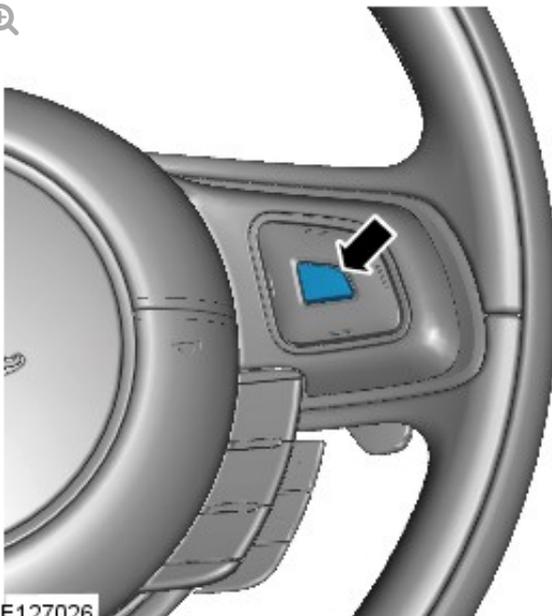
13.



E127027

- Press the right-hand directional button to access the instrument cluster menu.

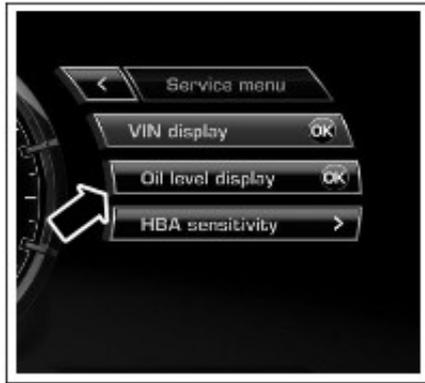
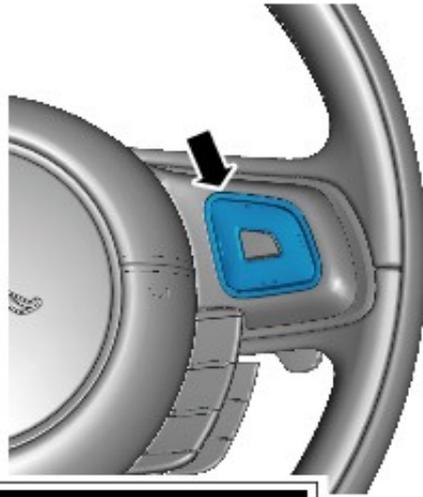
14.



E127026

- Press the right-hand OK button.

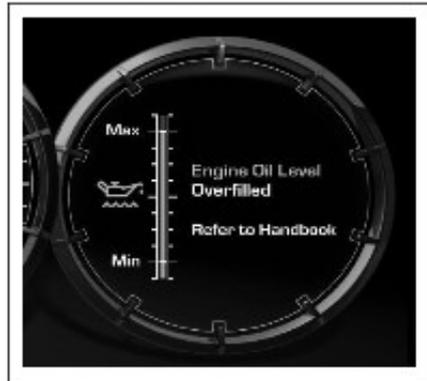
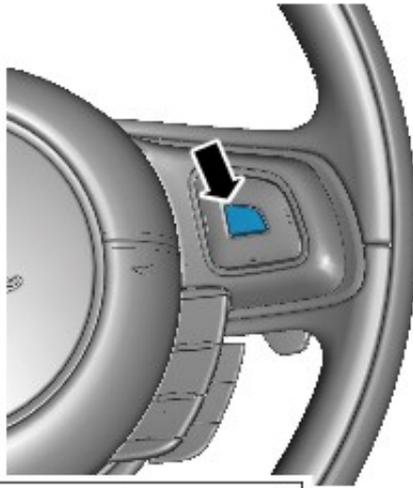
15.



E127028

- Press the right-hand directional button to access the Oil Level Display.

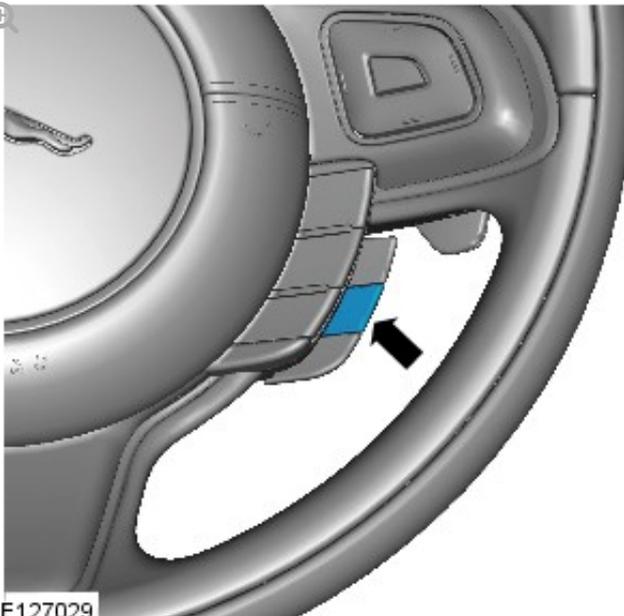
16.



E127030

- Press the right-hand OK button and follow the instructions.

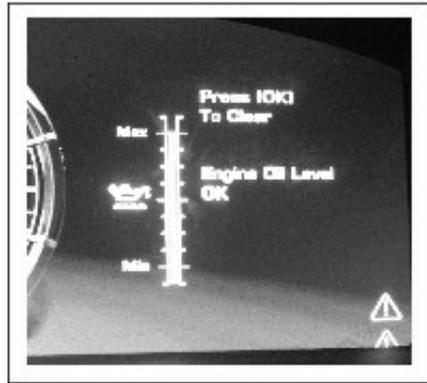
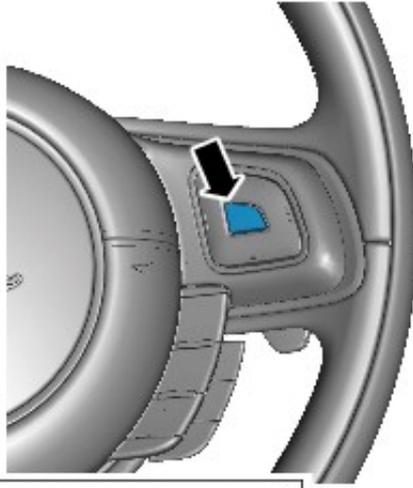
17.



E127029

- Press the cruise control cancel button twice within 2 seconds.

18.



E127031

- The message center display will revert to the normal display in the trip computer.
- Scroll through the trip menu to access the engine oil level display.
- This display is now the live reading of the engine oil level.
- Take a reading from the level display and, if necessary, top up with oil as instructed.

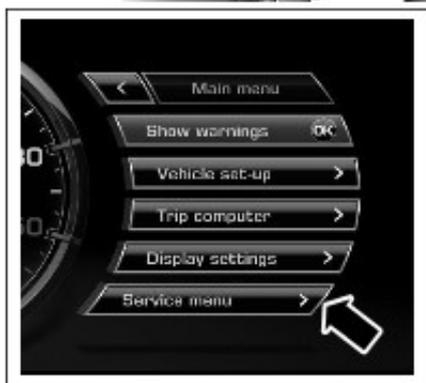
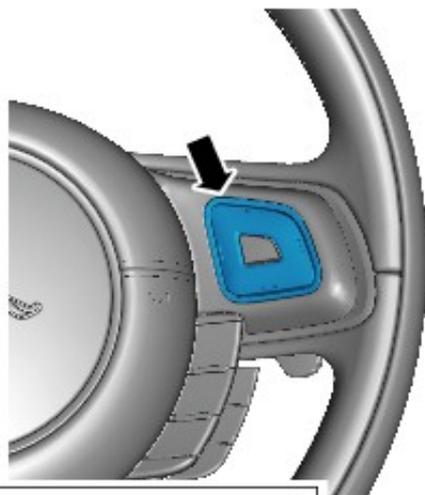
19. Turn the ignition off.

20.

Allow 10 minutes for the engine oil level to stabilize if there has been additional oil top up.

- Turn the ignition on.

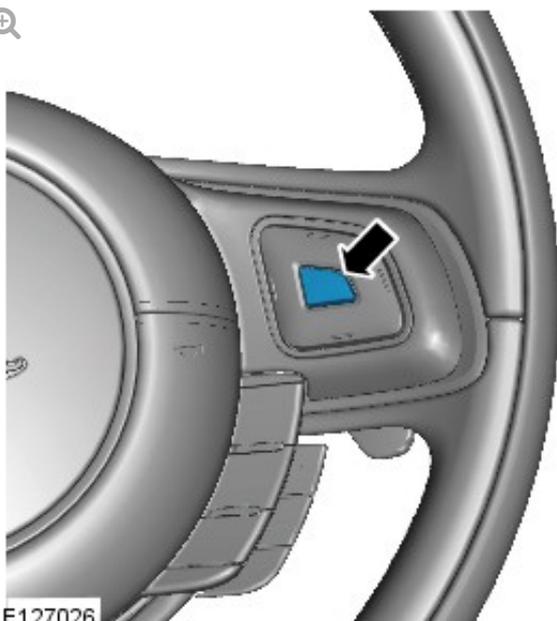
21.



E127027

- Press the right-hand directional button to access the instrument cluster menu.

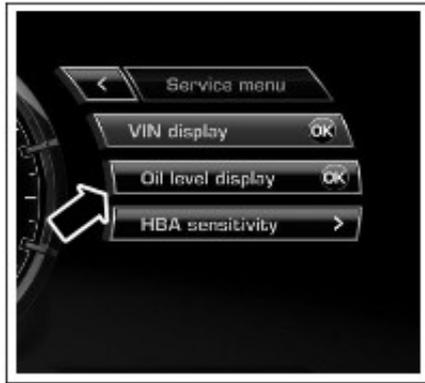
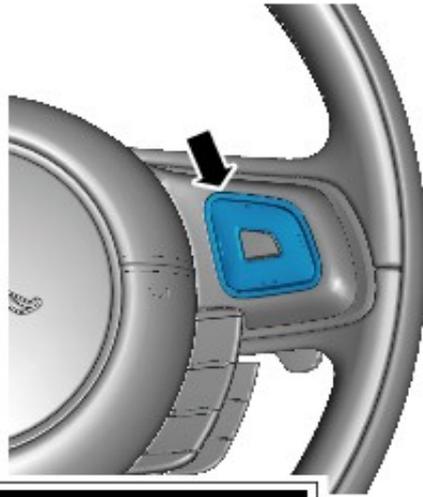
22.



E127026

- Press the right-hand OK button.

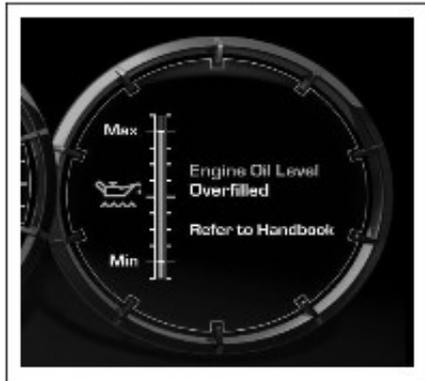
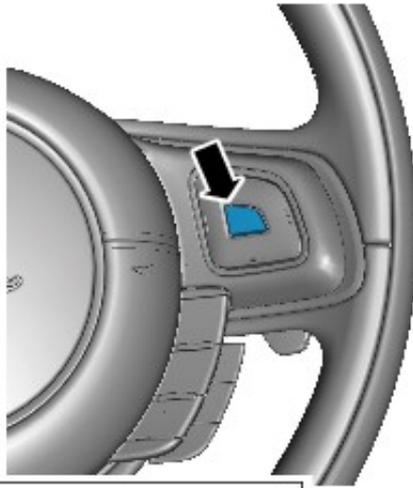
23.



E127028

- Press the right-hand directional button to access the Oil Level Display.

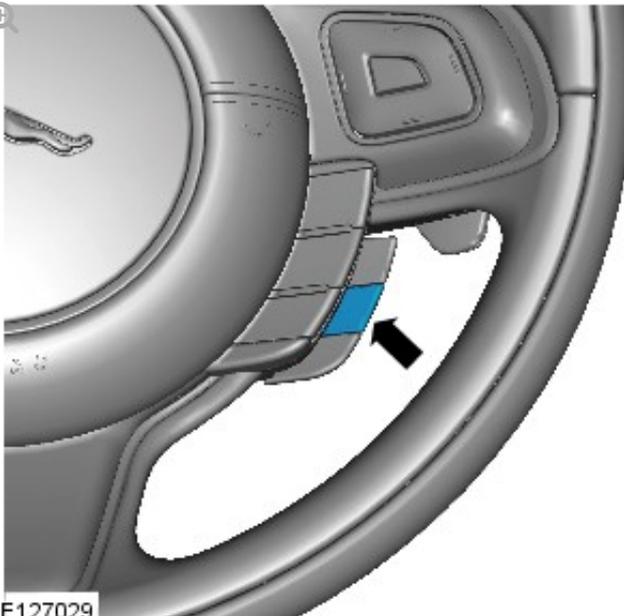
24.



E127030

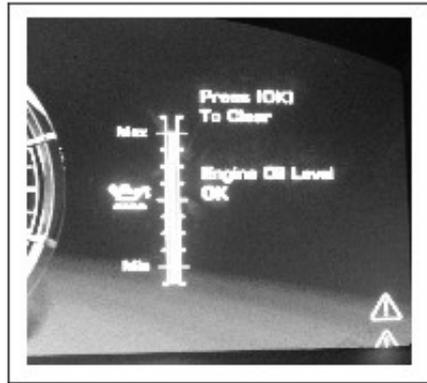
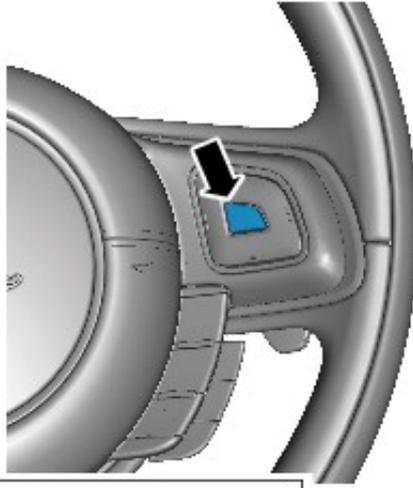
- Press the right-hand OK button and follow the instructions.

25.



E127029

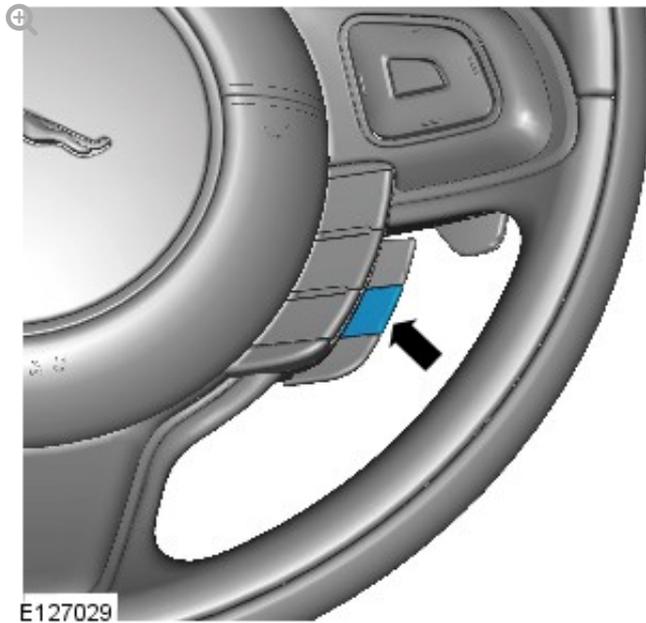
- Press the cruise control cancel button twice within 2 seconds.



E127031

- The message center display will revert to the normal display in the trip computer.
- Scroll through the trip menu to access the engine oil level display.
- This display is now the live reading of the engine oil level.
- Take a reading from the level display and, if necessary, top up with oil as instructed.

27.



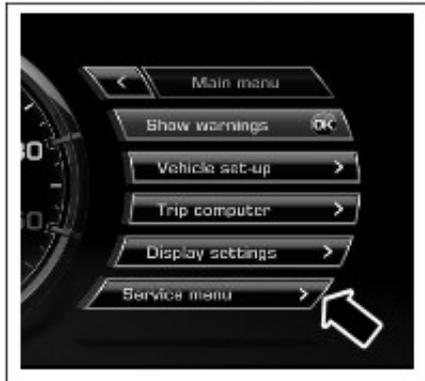
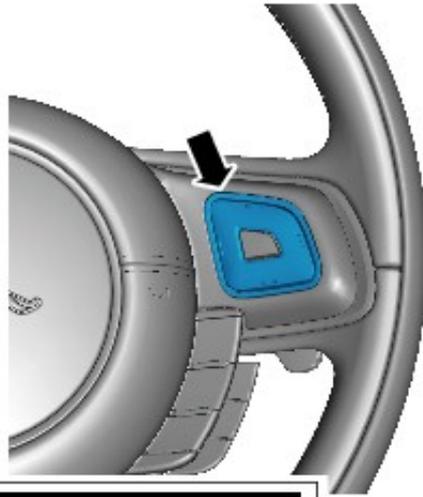
- Press and hold the cruise control cancel button for more than 2 seconds.

28. ▪ The message center display will revert to the normal display in the trip computer.

29. Turn the ignition off.

30. Turn the ignition on.

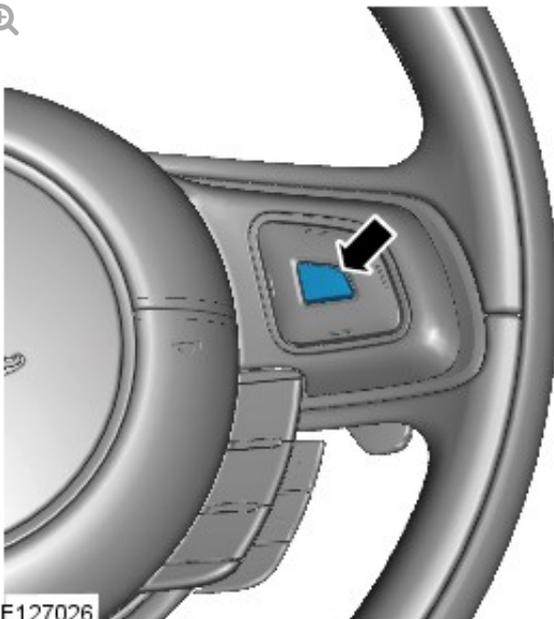
31.



E127027

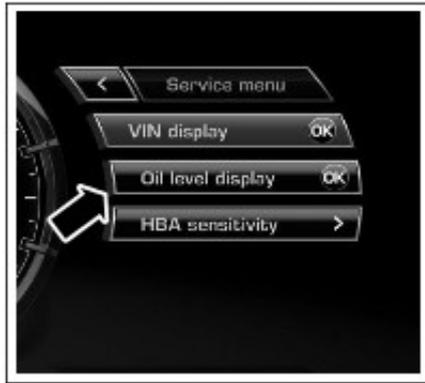
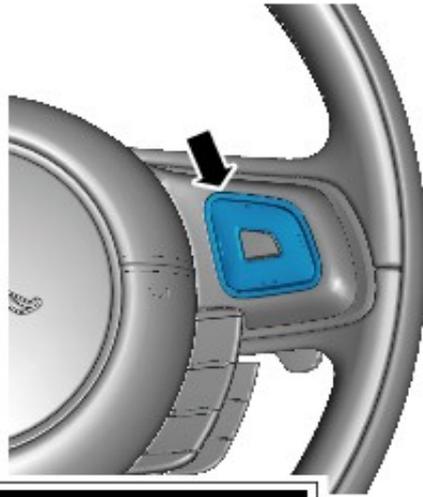
- Press the right-hand directional button to access the instrument cluster menu.

32.



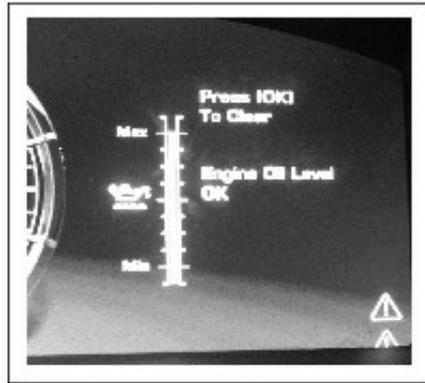
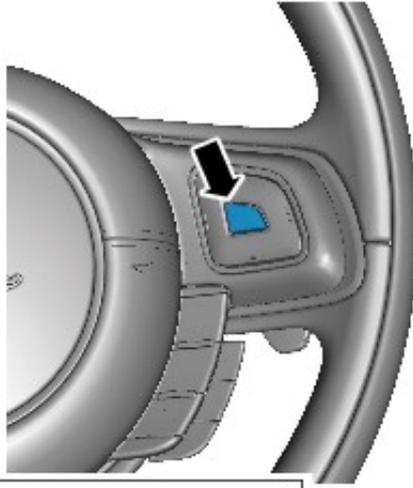
E127026

- Press the right-hand OK button.



E127028

- Press the right-hand directional button to access the Oil Level Display.



E127031

- Press the right-hand OK button and follow the instructions.
- Make sure that the average oil level value has now been updated.

ENGINE - TDV6 3.0L DIESEL

EXHAUST MANIFOLD CROSS-OVER PIPE [G1272047]



REMOVAL

Removal steps in this procedure may contain installation details.

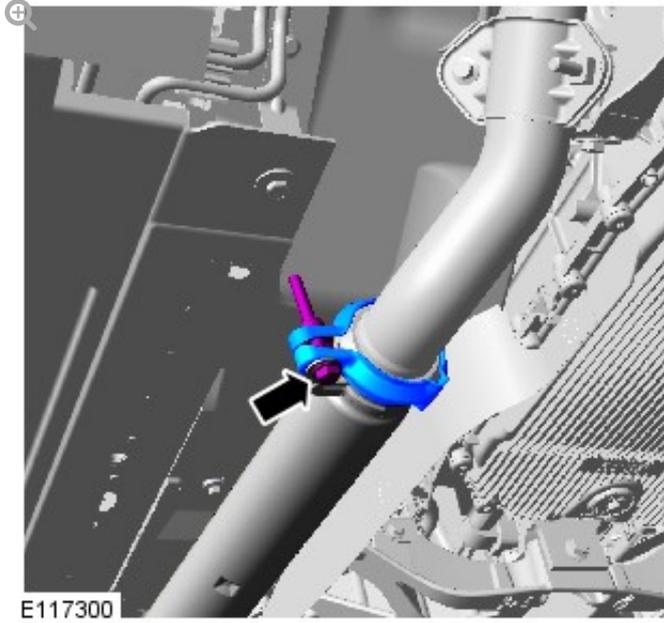
1.

Make sure to support the vehicle with axle stands.

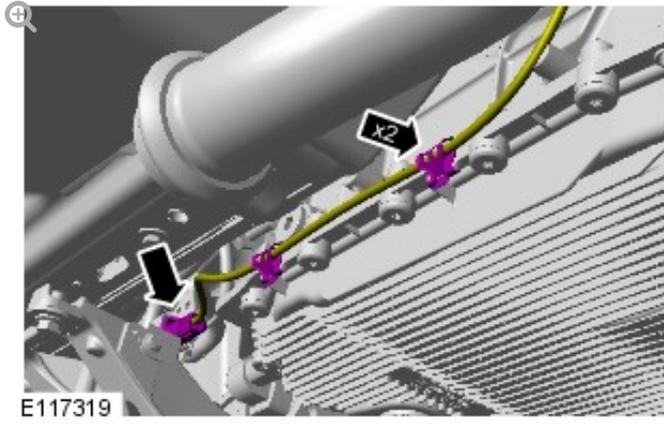
Raise and support the vehicle.

2. Refer to: [Catalytic Converter](#) (309-00A Exhaust System - TDV6 3.0L Diesel, Removal and Installation).

3.

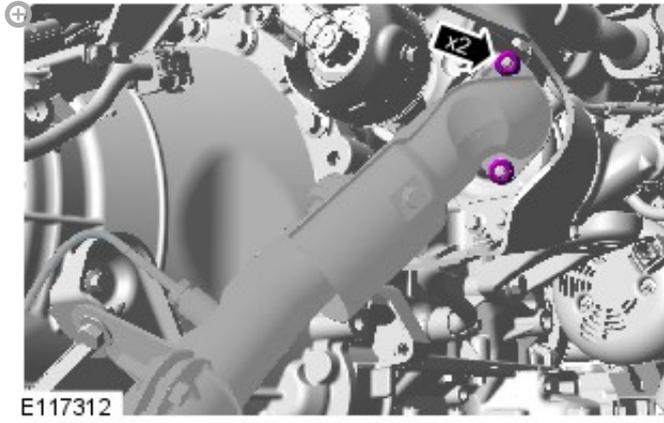


4.



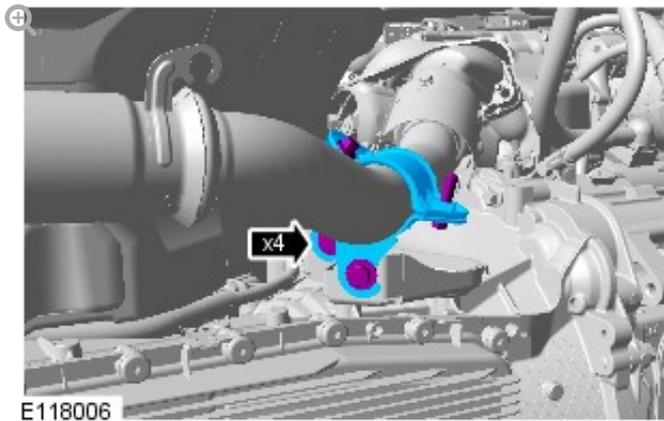
5.

Discard the nuts.



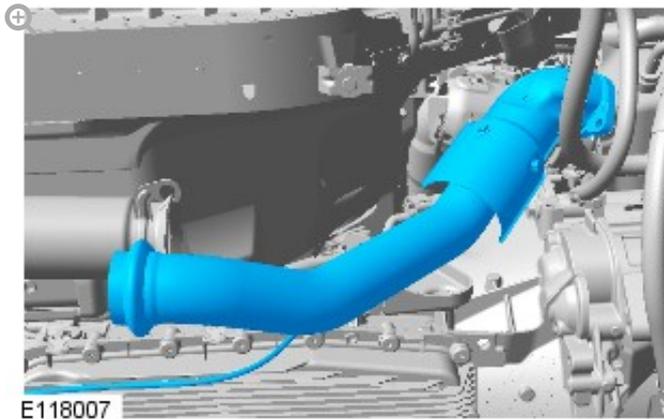
E117312

6.



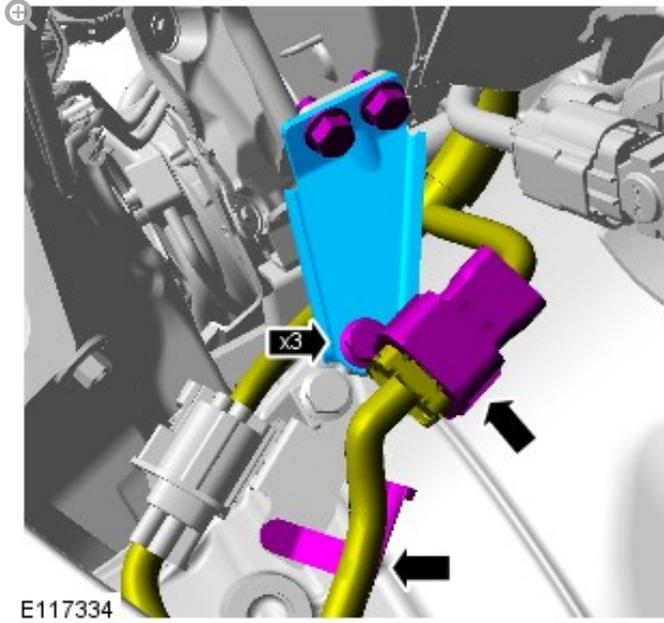
E118006

7.



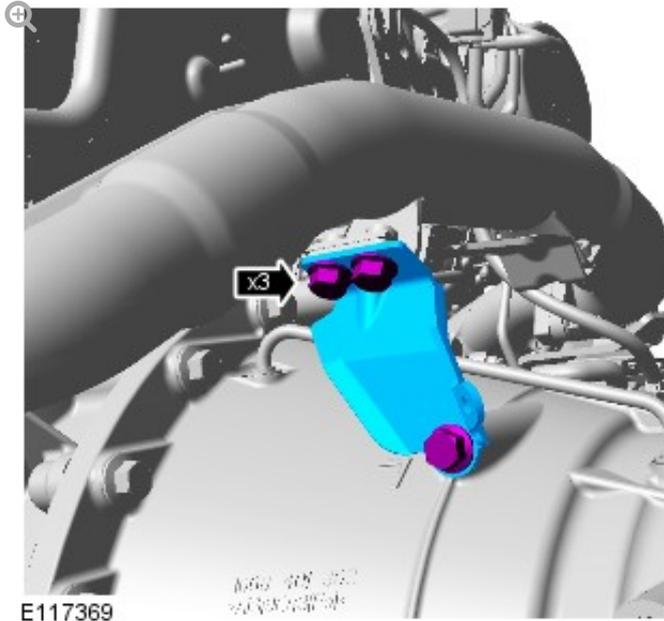
E118007

8.



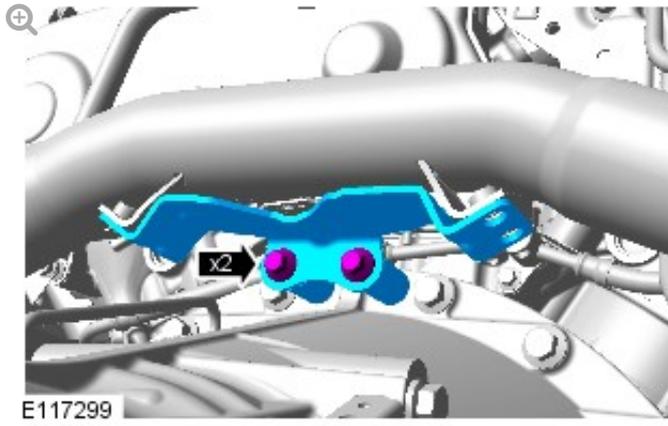
E117334

9.

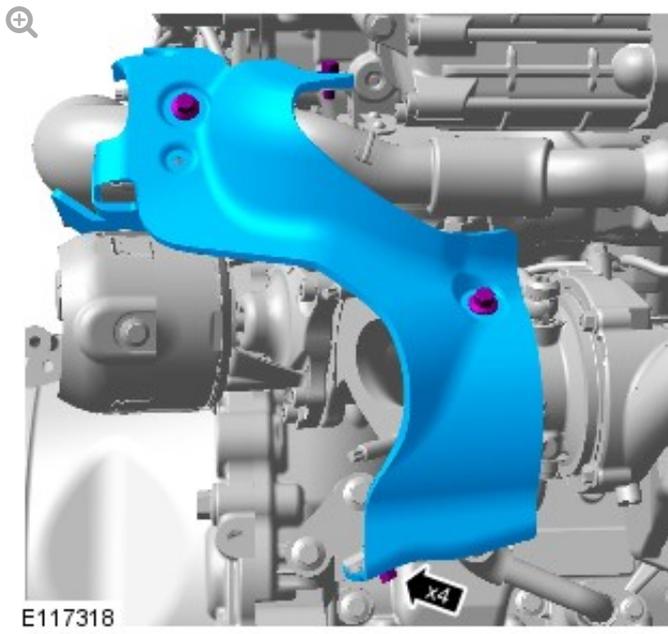


E117369

10.

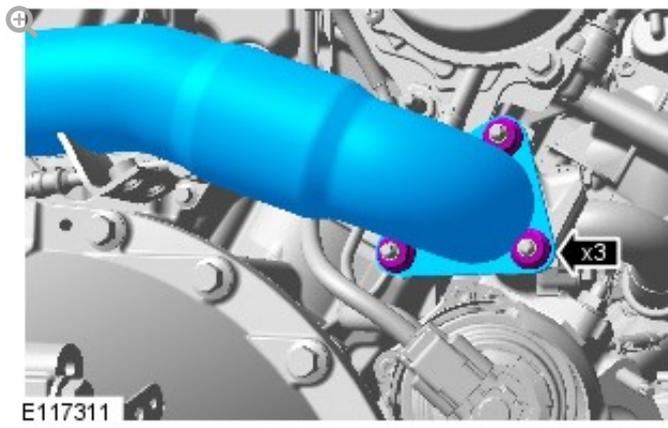


11.

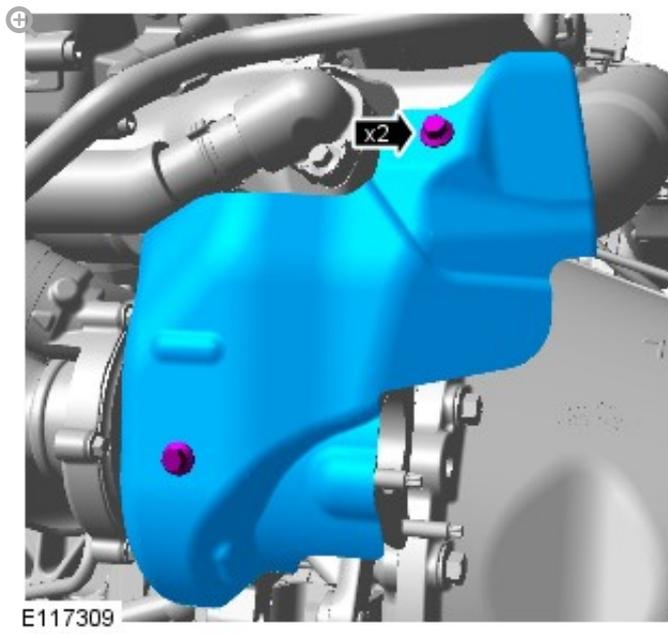


12.

Discard the nuts.

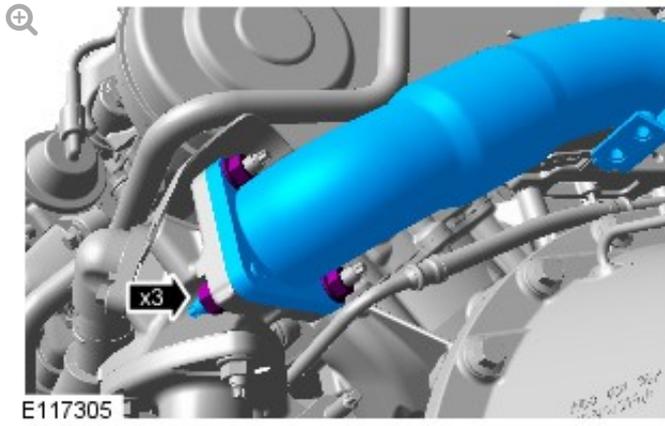


13.

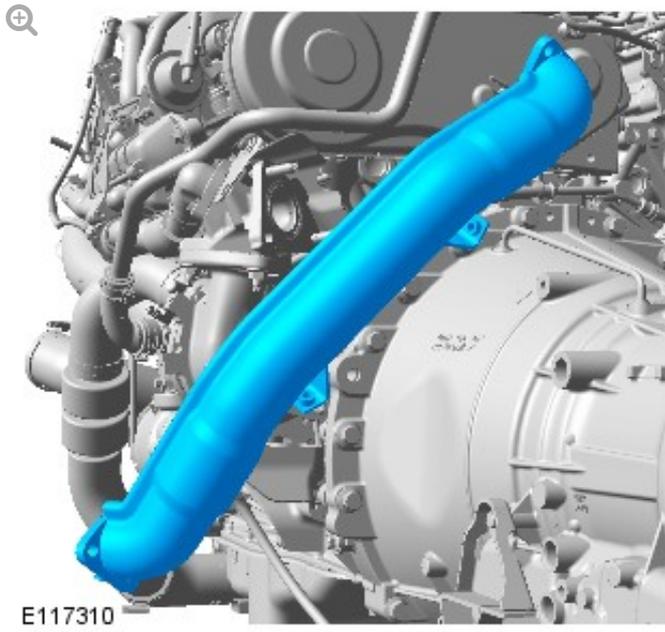


14.

Discard the nuts.

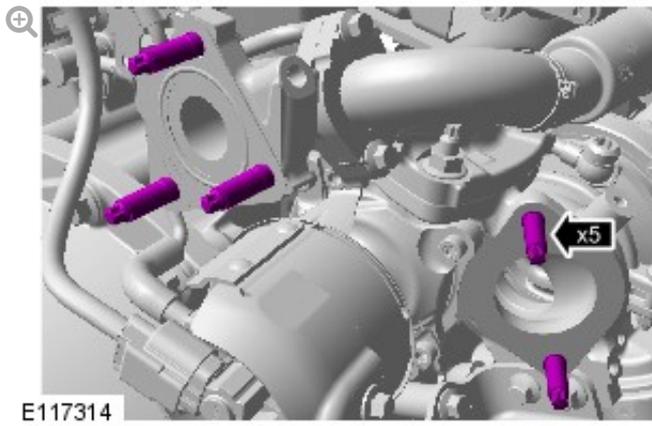


15.



16.

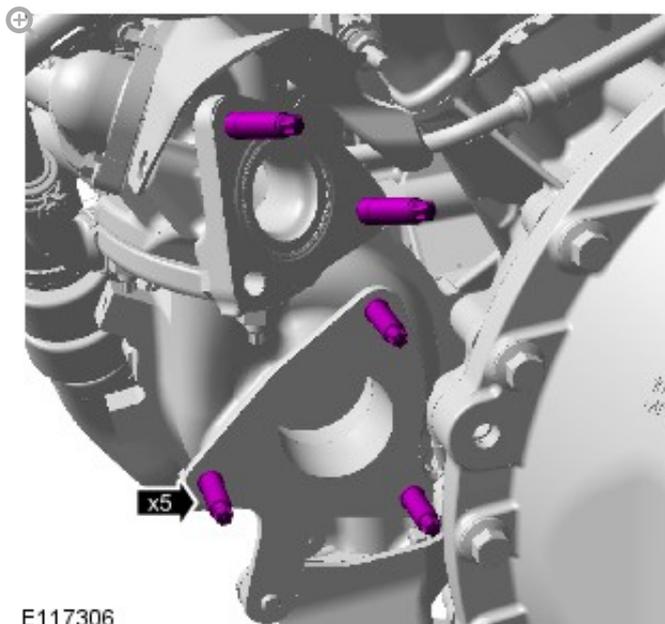
Discard the studs.



E117314

17.

Discard the studs.

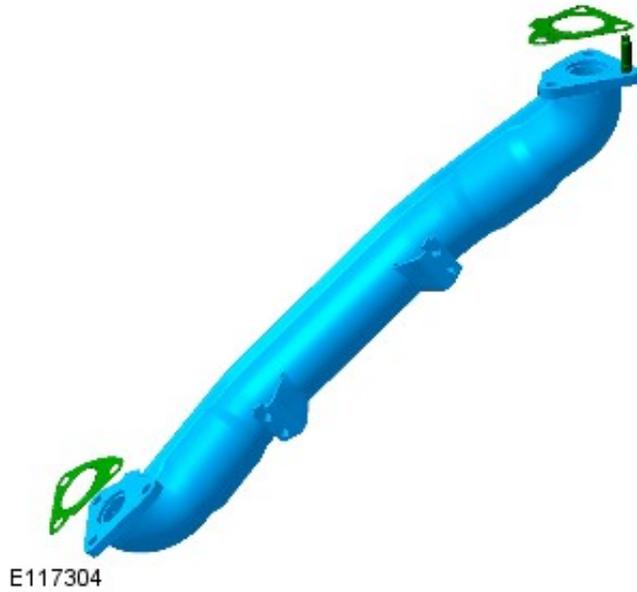


E117306

18.

Discard the studs.

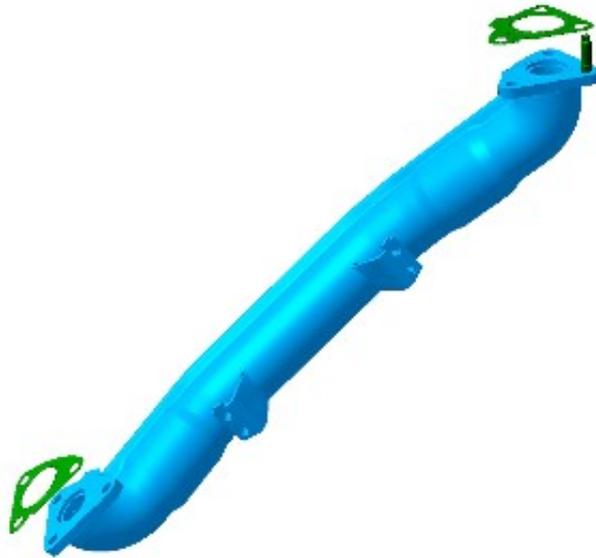
Discard the gasket.



INSTALLATION

1.

- New exhaust manifold retaining studs must be fitted if the old studs are removed.
- Install new gaskets.

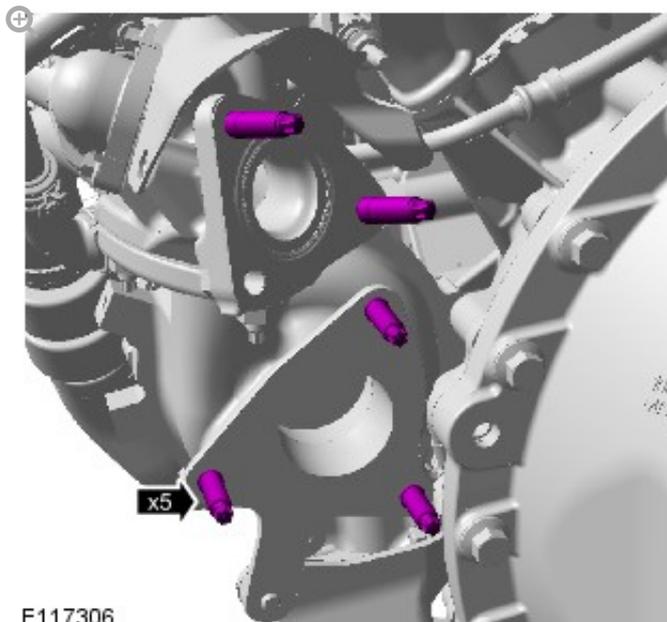


E117304

Torque: 15 Nm

2.

New exhaust manifold retaining studs must be fitted if the old studs are removed.

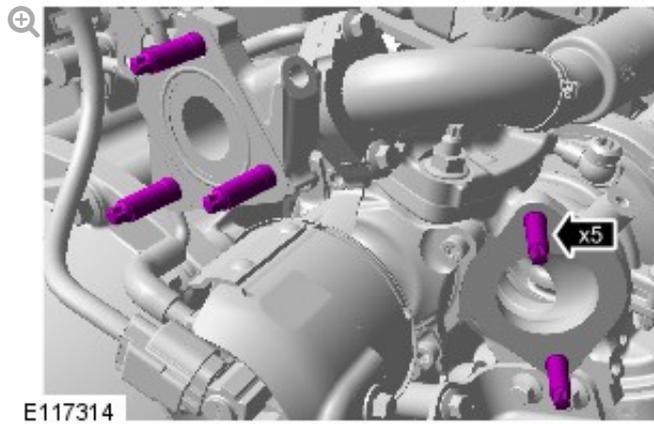


E117306

Torque: 15 Nm

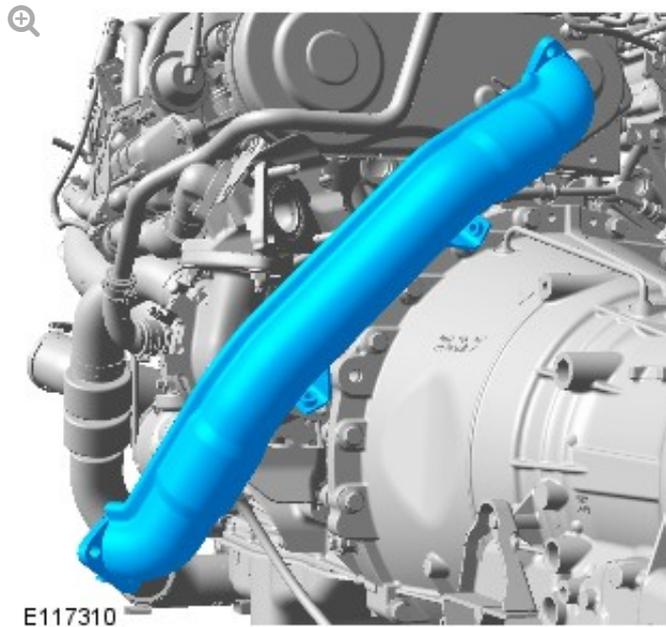
3.

New exhaust manifold retaining studs must be fitted if the old studs are removed.



Torque: 15 Nm

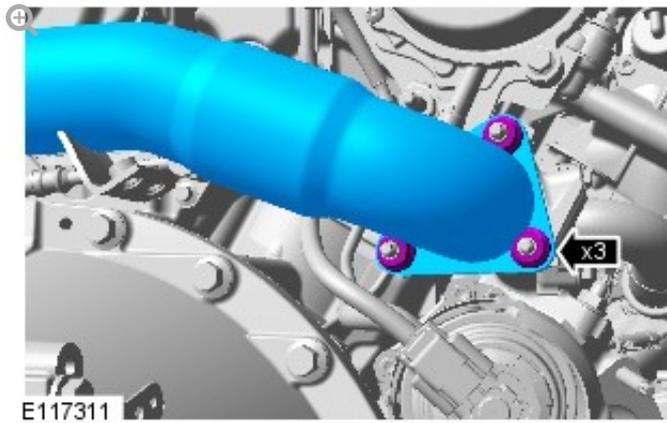
4.



5.

Make sure that new nuts are installed.

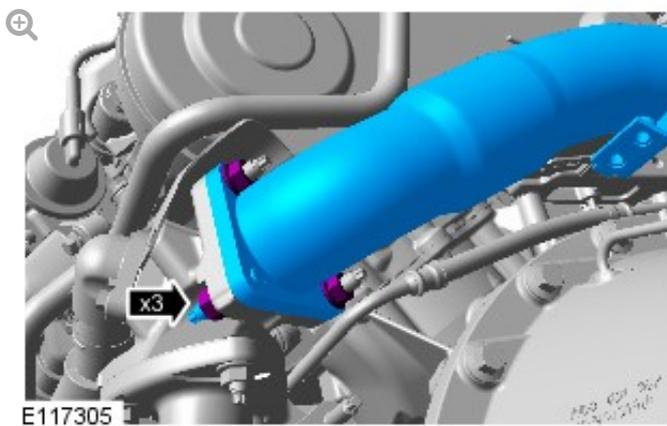
Only tighten the nuts finger-tight at this stage.



6.

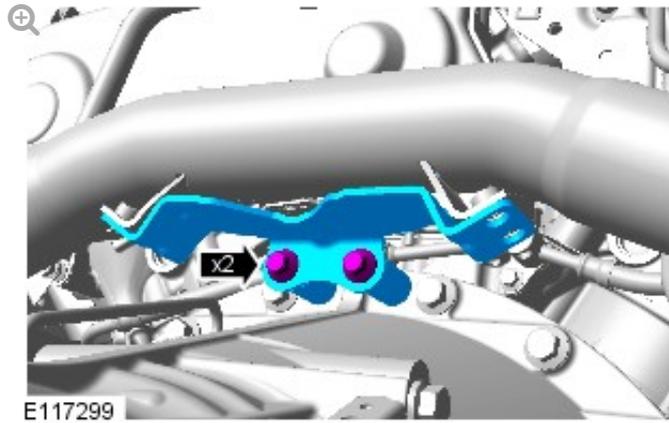
Make sure that new nuts are installed.

Only tighten the nuts finger-tight at this stage.



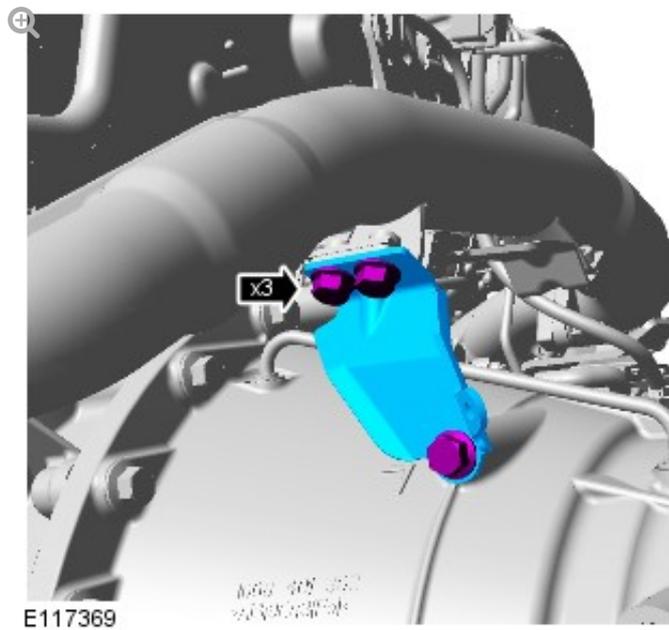
7.

Only tighten the bolts finger-tight at this stage.



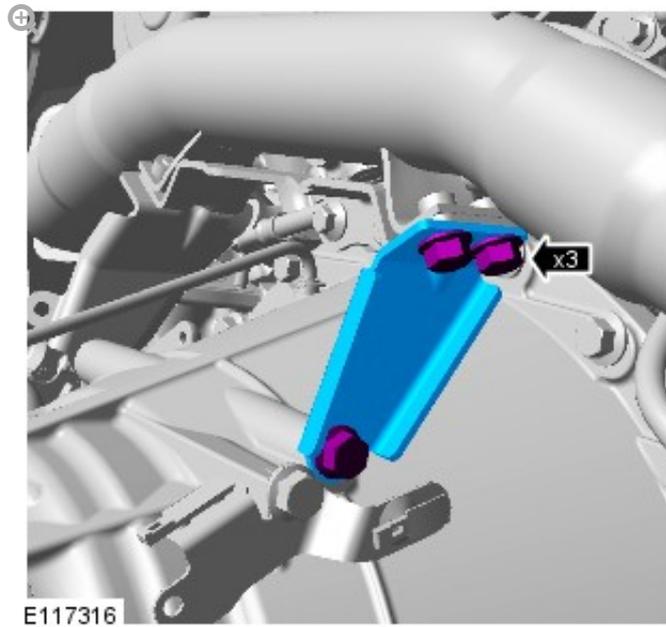
8.

Only tighten the bolts finger-tight at this stage.

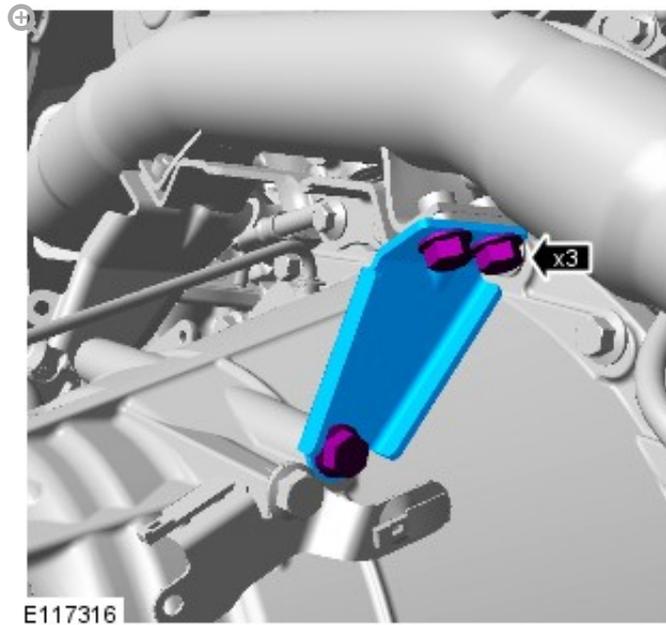


9.

Only tighten the bolts finger-tight at this stage.

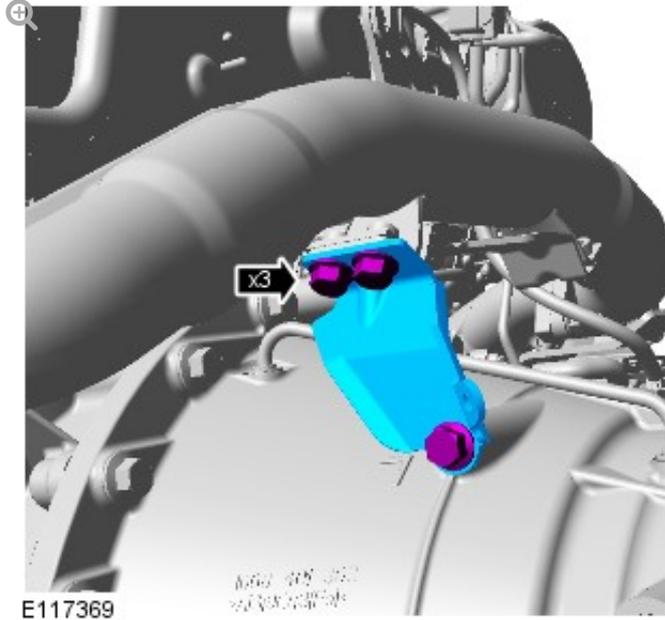


10.



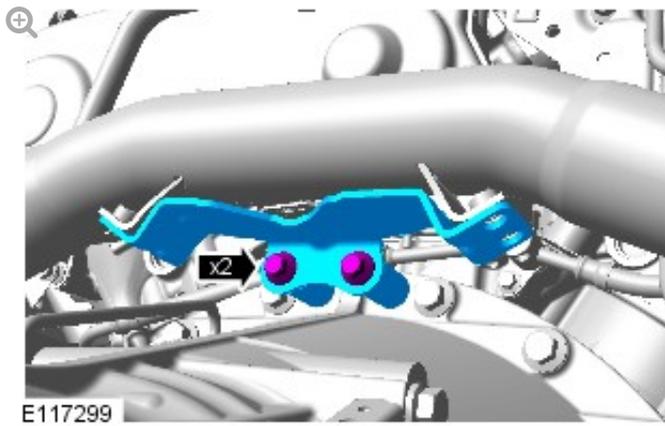
Remove the exhaust cross-over pipe RH support bracket.

11.



Remove the exhaust cross-over pipe LH support bracket.

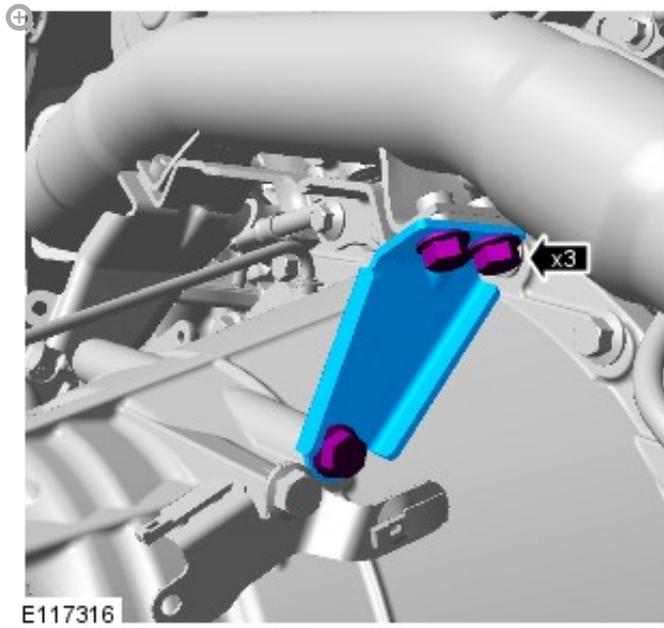
12.



Torque: **23 Nm**

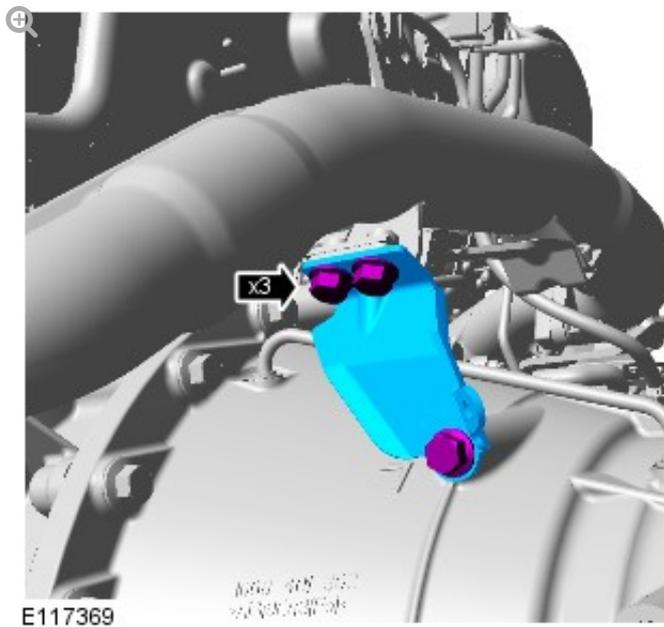
13.

Only tighten the bolts finger-tight at this stage.

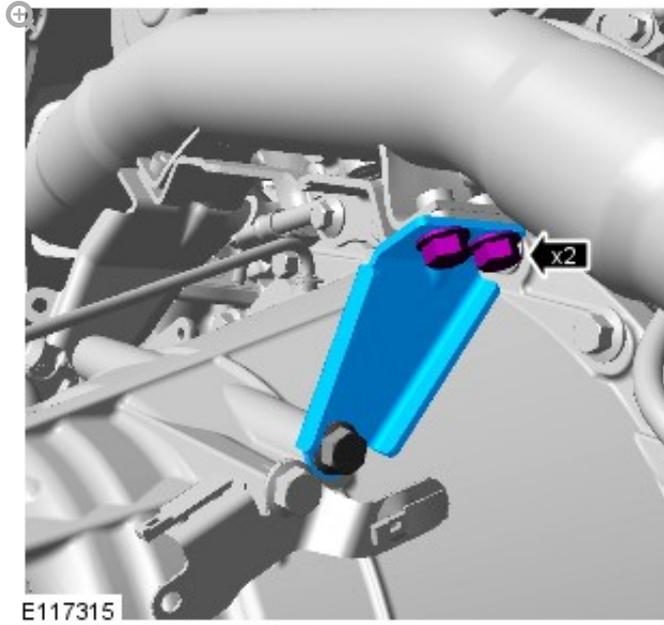


14.

Only tighten the bolts finger-tight at this stage.

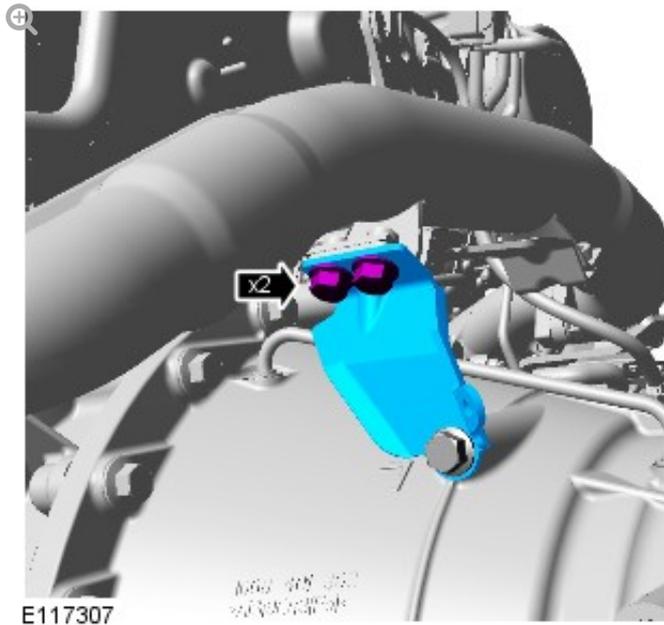


15.



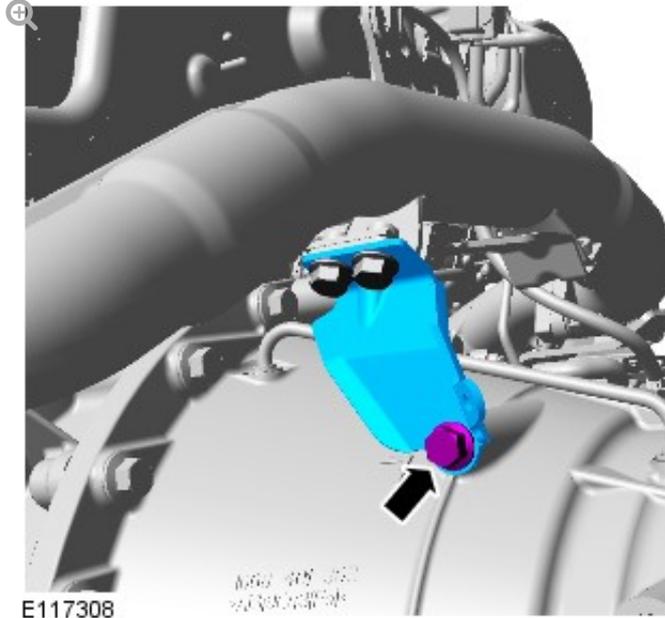
Torque: 23 Nm

16.



Torque: 23 Nm

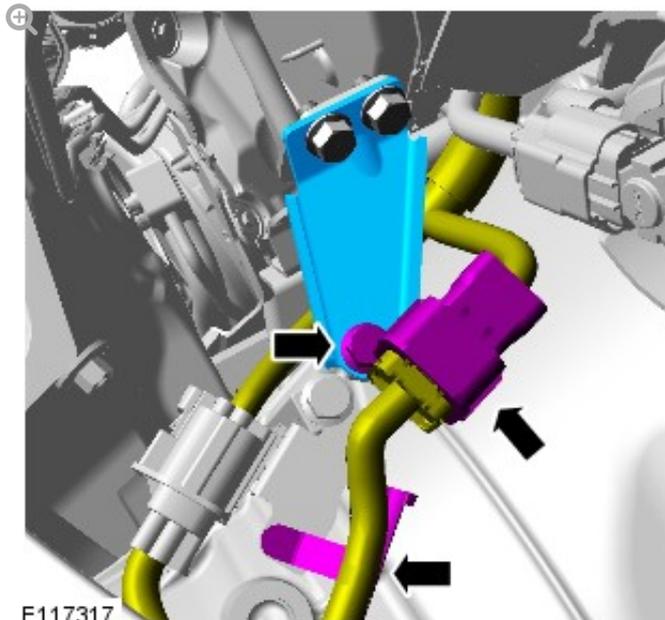
17.



E117308

Torque: 23 Nm

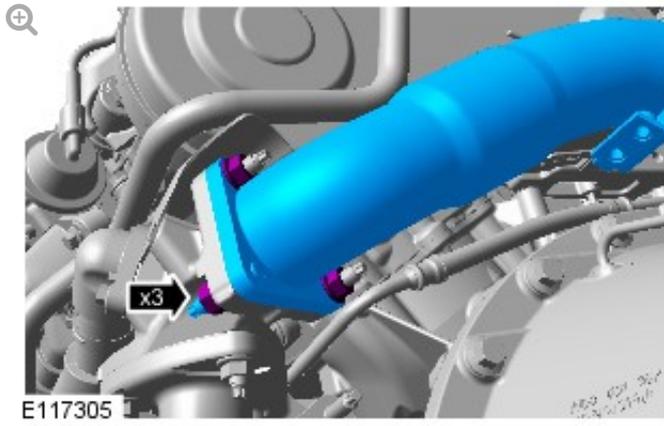
18.



E117317

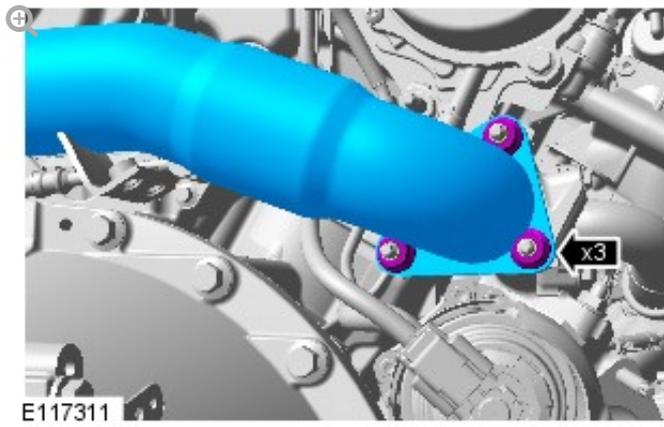
Torque: 23 Nm

19.



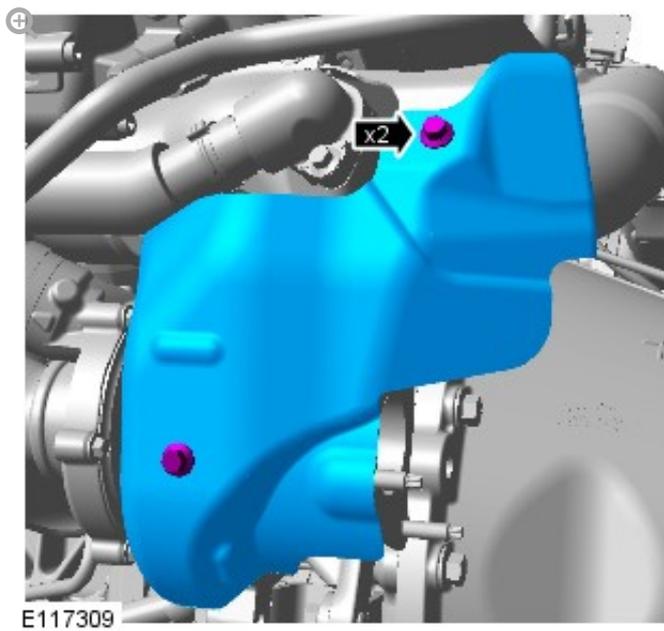
Torque: 23 Nm

20.



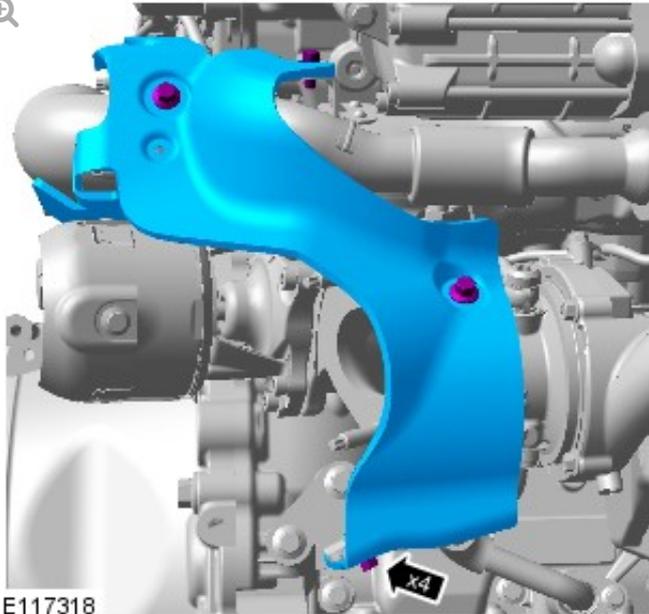
Torque: 23 Nm

21.



Torque: 11 Nm

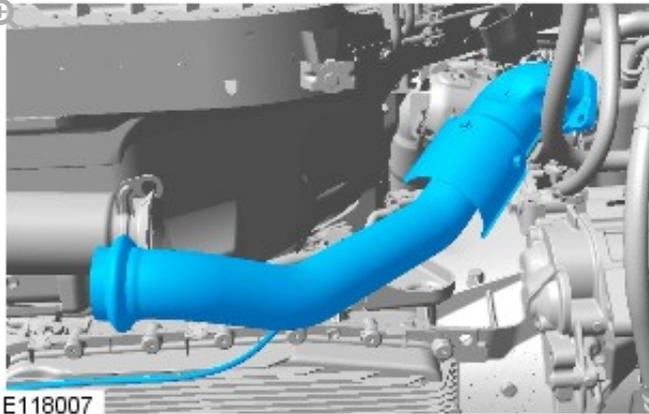
22.



E117318

Torque: 11 Nm

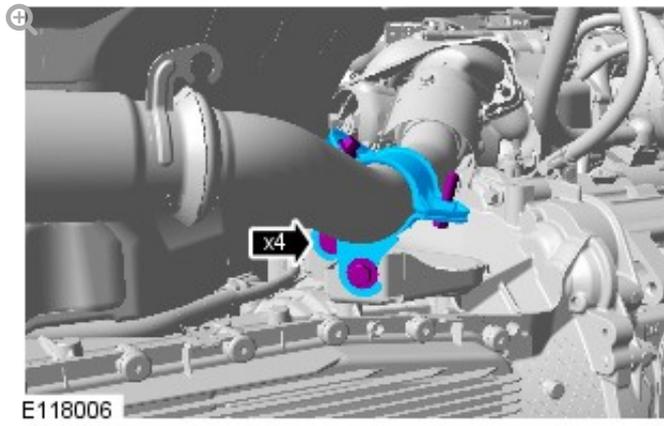
23.



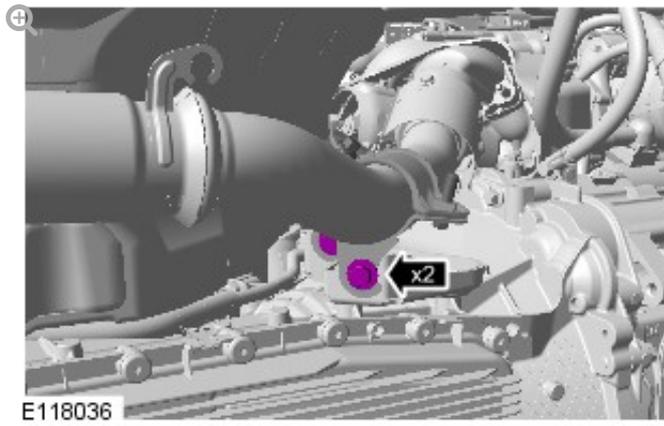
E118007

24.

Only tighten the nuts finger-tight at this stage.

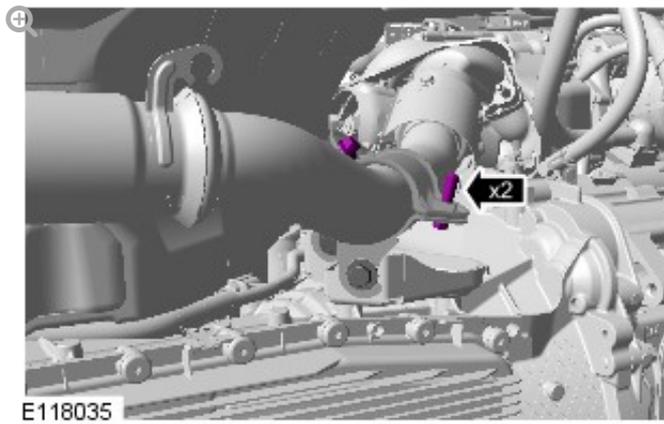


25.



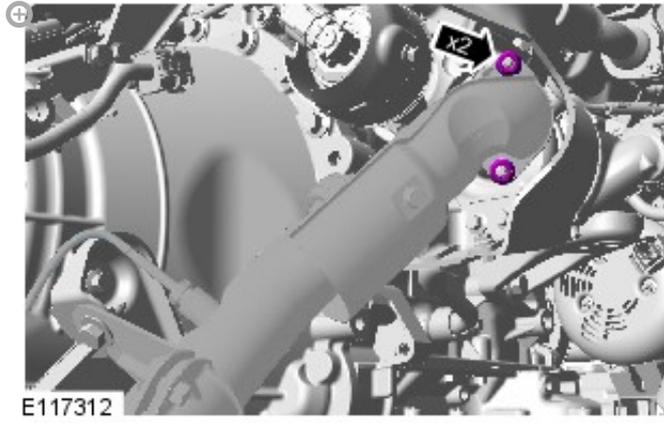
Torque: 25 Nm

26.



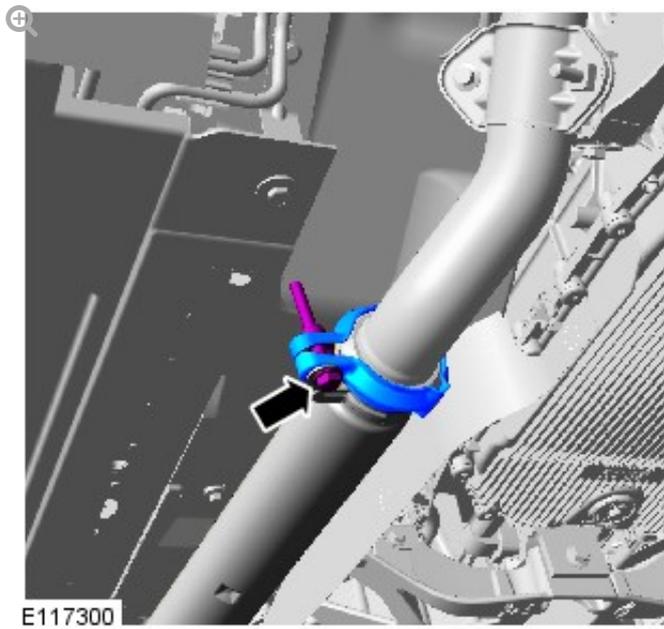
Torque: 12 Nm

27.



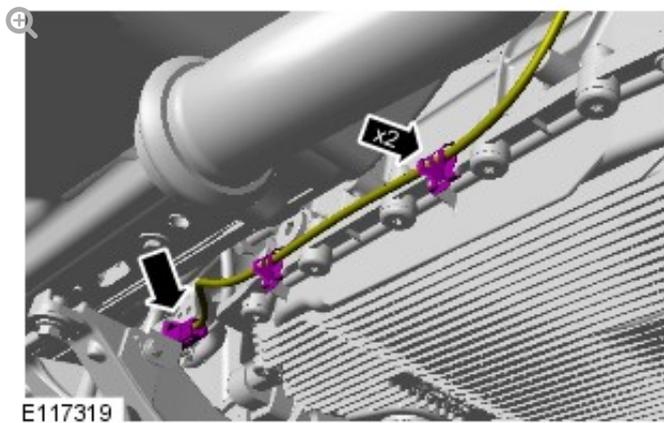
Torque: 22 Nm

28.



Torque: 11 Nm

29.



30. Refer to: [Catalytic Converter](#) (309-00A Exhaust System - TDV6 3.0L Diesel, Removal and Installation).

ENGINE - TDV6 3.0L DIESEL

FLEXPLATE [G1272056]



SPECIAL TOOL(S)



**303-
1123**

Locking Tool,
Flywheel

REMOVAL

1. Refer to: [Battery Disconnect and Connect](#) (414-01 Battery, Mounting and Cables, General Procedures).

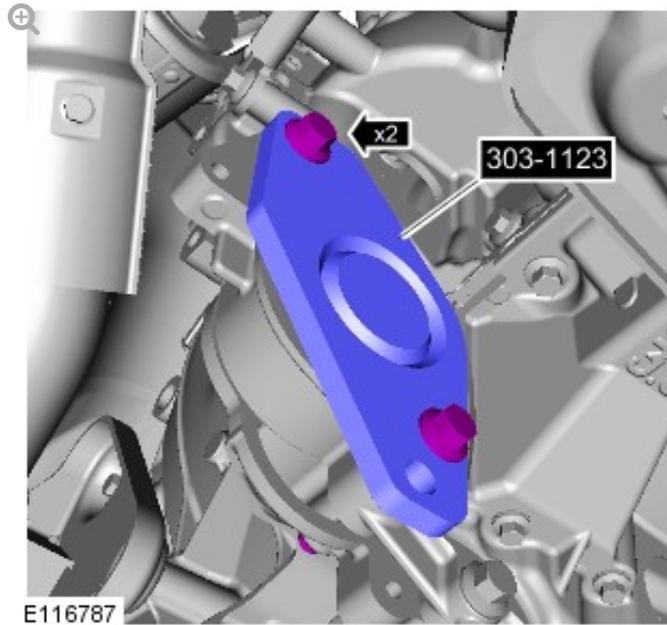
2.

Make sure to support the vehicle with axle stands.

Raise and support the vehicle.

3. Refer to: [Transmission - TDV6 3.0L Diesel](#) (307-01 Automatic Transmission/Transaxle, Installation).

4.



- Install the special tool.
- *Special Tool(s):* [303-1123](#)

5.

Discard the bolts.

Prevent the flexplate from rotating.



INSTALLATION

1.

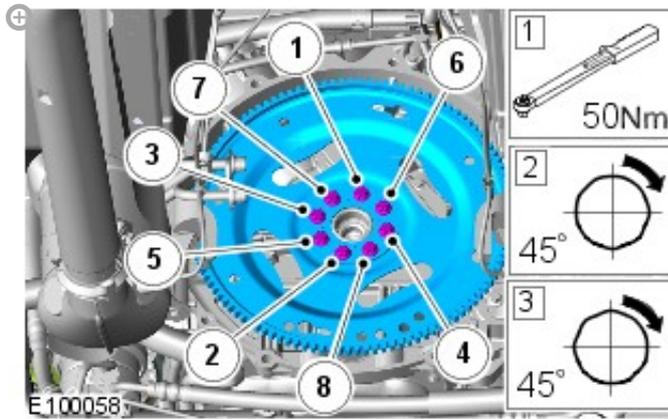
Make sure that new bolts are installed.

- Make sure that all the component mating faces are clean.
- Loosely install all retaining bolts.

- Prevent the flexplate from rotating.

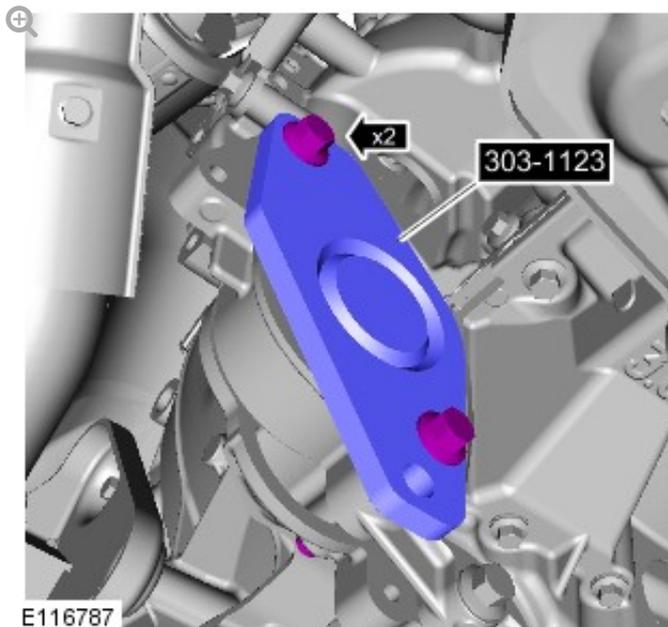
2.

Tighten the bolts evenly in the stages shown.



- Stage 1: Tighten to 50 Nm.
- Stage 2: Tighten to 45 degrees.
- Stage 3: Tighten to 45 degrees.

3.



- Remove the special tool.
 - *Special Tool(s):* [303-1123](#)
4. Refer to: [Transmission - TDV6 3.0L Diesel \(307-01 Automatic Transmission/Transaxle, Installation\)](#).
5. Refer to: [Battery Disconnect and Connect \(414-01 Battery, Mounting and Cables, General Procedures\)](#).

ENGINE - TDV6 3.0L DIESEL

LEFT CAMSHAFT [C1272036]

+

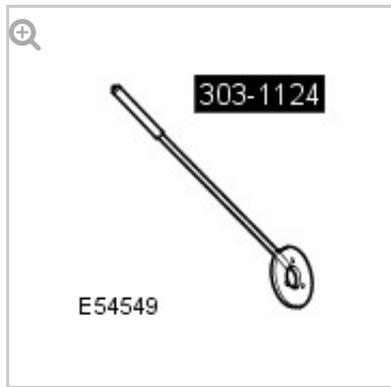
+

SPECIAL TOOL(S)



100-012

Slide Hammer



303-1124

Holding Tool,
Camshaft Front
Pulley



310-213

Fuel Injector
Removal Adapter

REMOVAL

Some variation in the illustrations may occur, but the essential information is always correct.

1. Refer to: [Battery Disconnect and Connect](#) (414-01 Battery, Mounting and Cables, General Procedures).
2. Refer to: [Intake Air Shutoff Throttle](#) (303-04A Fuel Charging and Controls - TDV6 3.0L Diesel, Removal and Installation).