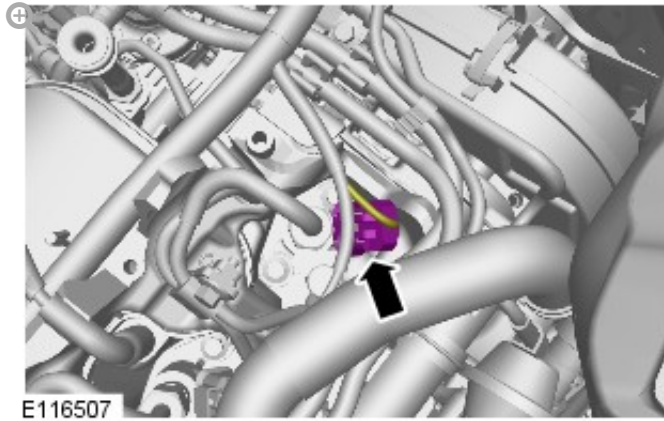


3. Refer to: [Left Fuel Rail](#) (303-04A Fuel Charging and Controls - TDV6 3.0L Diesel, Removal and Installation).
4. Refer to: [Rear End Accessory Drive](#) (303-05A Accessory Drive - TDV6 3.0L Diesel, Removal and Installation).
5. Refer to: [Timing Belt](#) (303-01A Engine - TDV6 3.0L Diesel, Removal and Installation).

6.

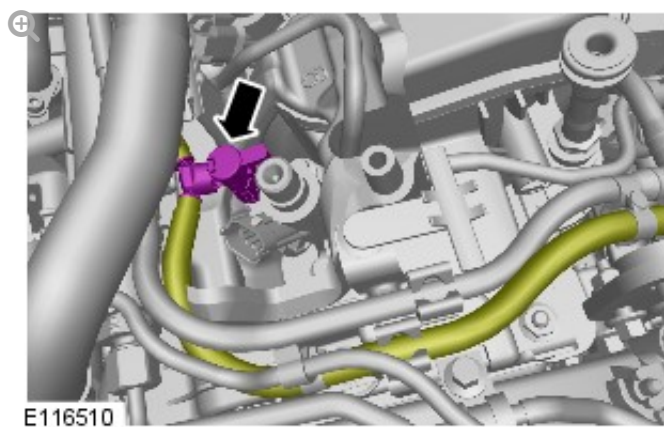


7. Refer to: [Fuel Injection Component Cleaning](#) (303-04A Fuel Charging and Controls - TDV6 3.0L Diesel, General Procedures).

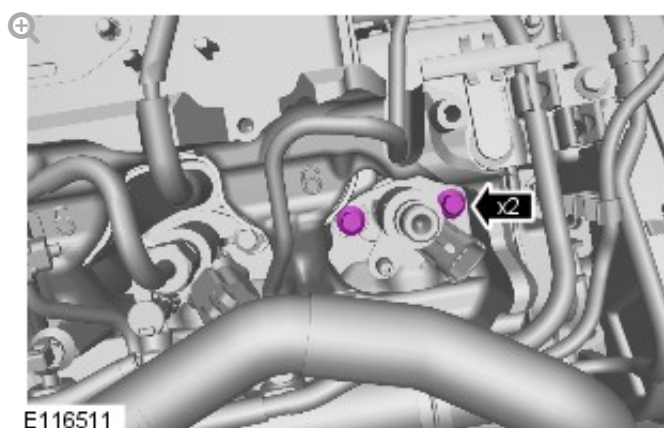
8.

Be prepared to collect escaping fuel.

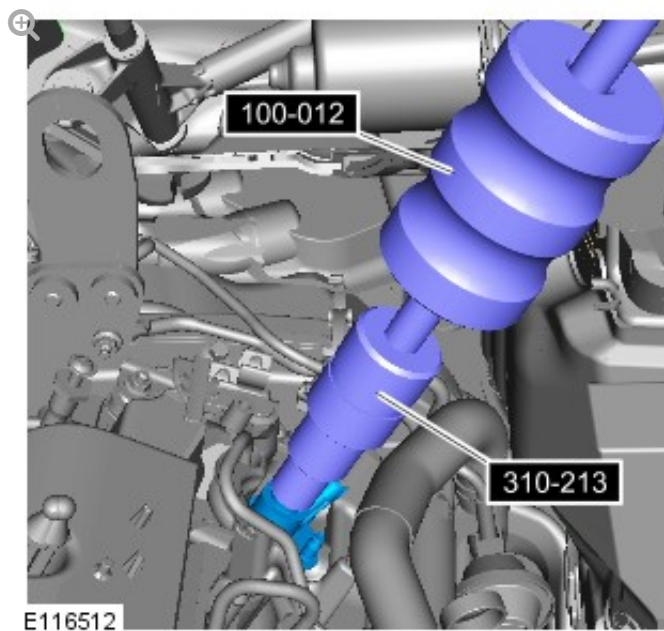
Make sure that the fuel injector return line has a maximum of 8 uses.



9.



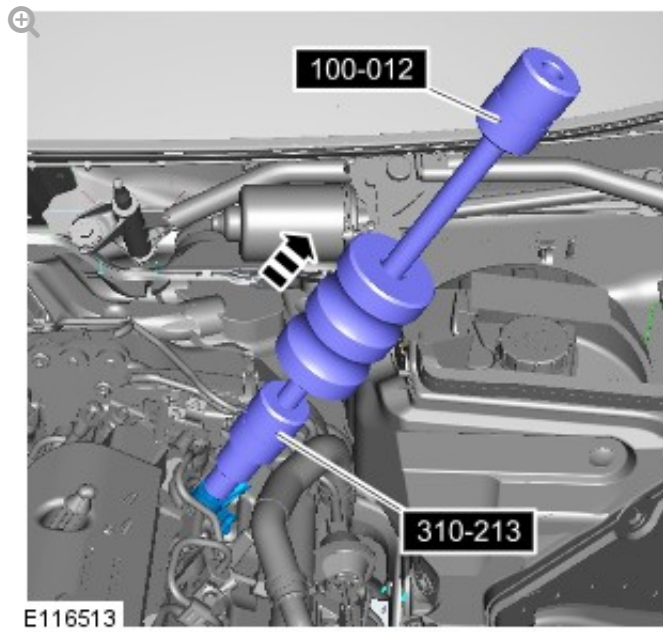
10.



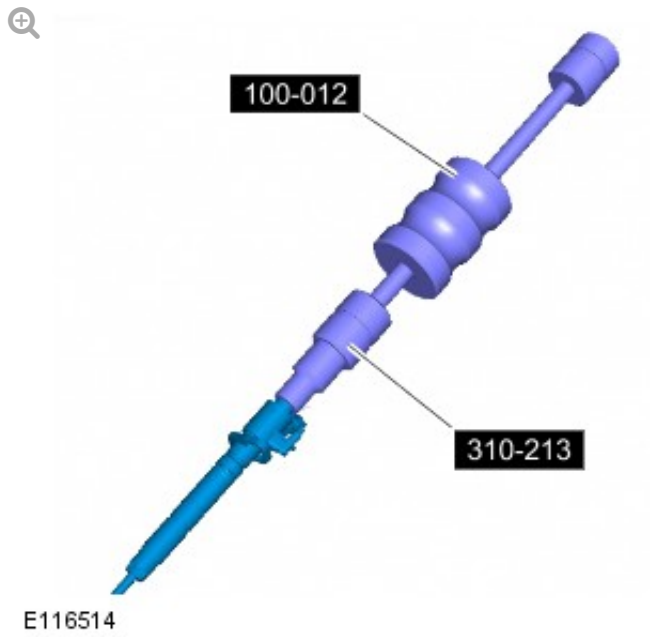
Install the special tool.

Special Tool(s): [100-012](#), [310-213](#)

11.



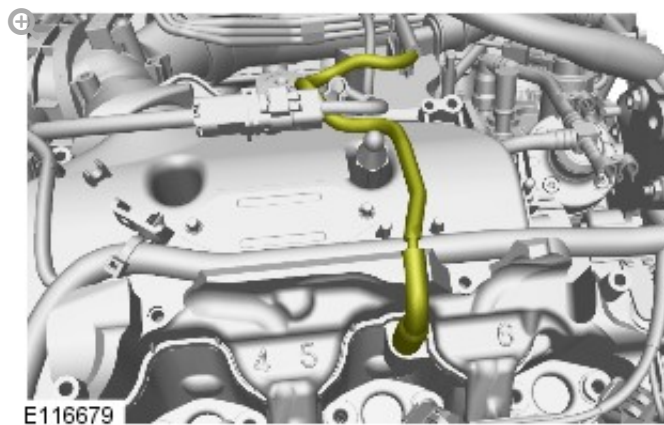
12.



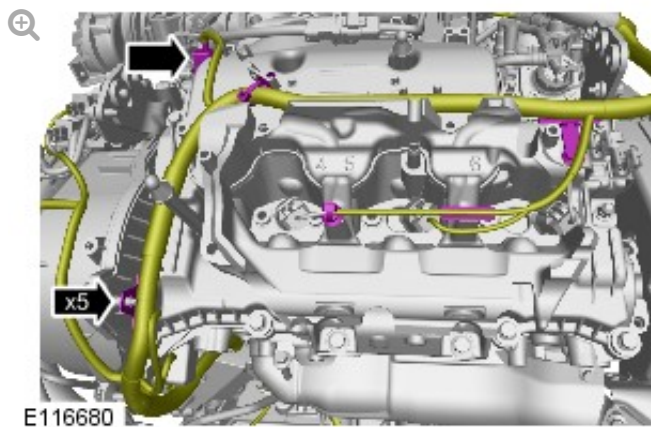
Remove the special tool.

13. Remove the 2 remaining fuel injectors.

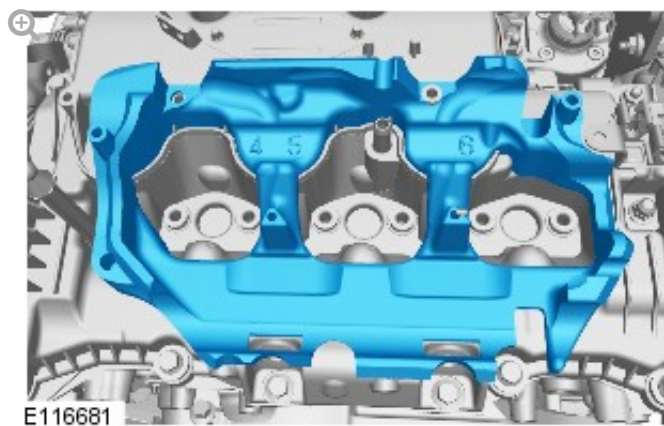
14.



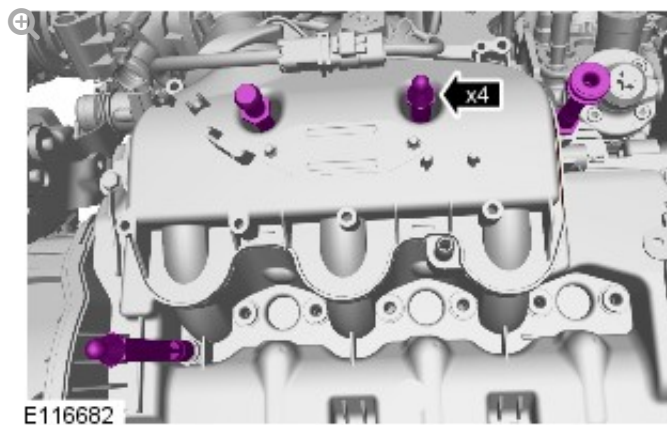
15.



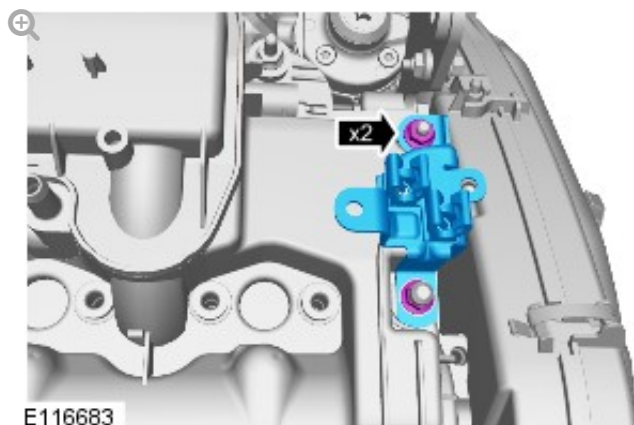
16.



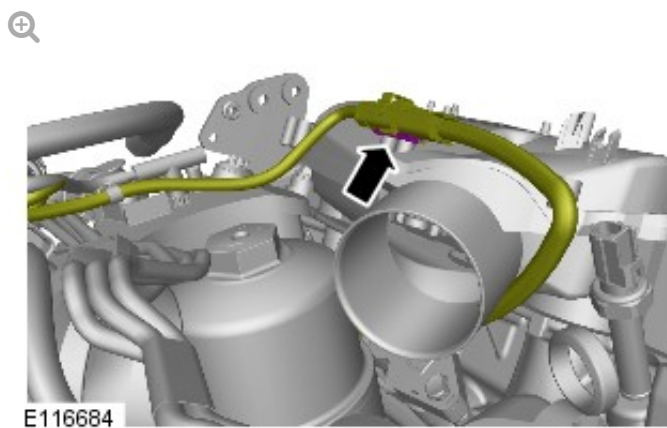
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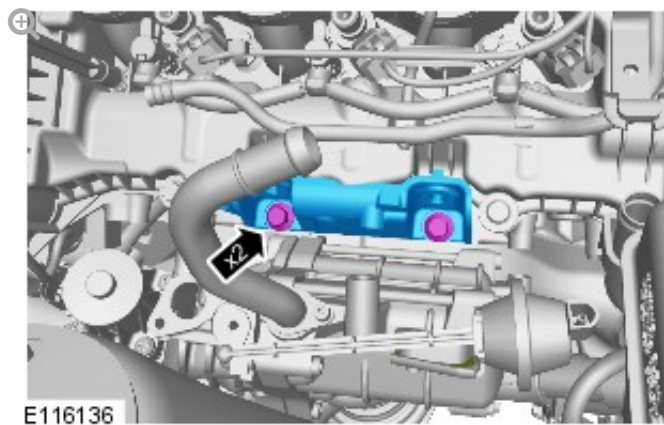
18.



19.

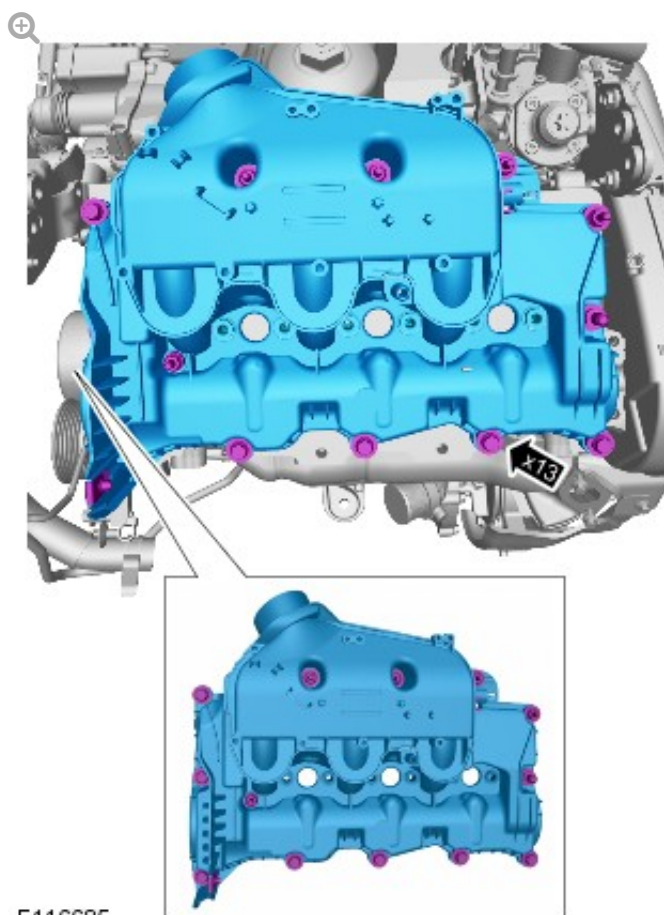


20.

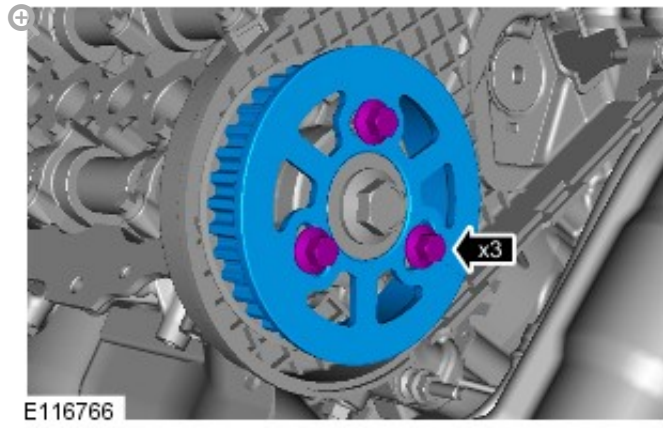


21.

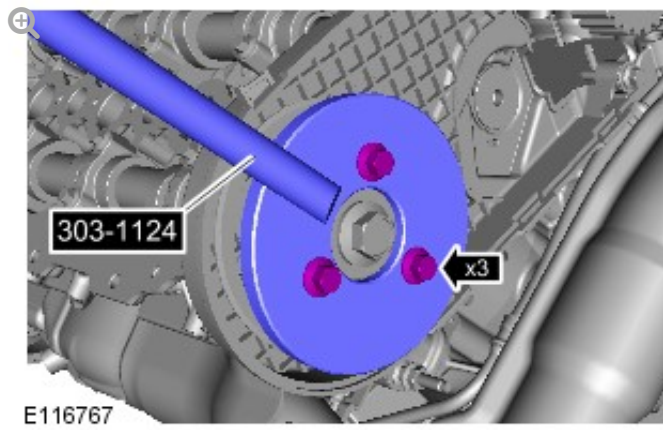
Discard the gasket.



22.



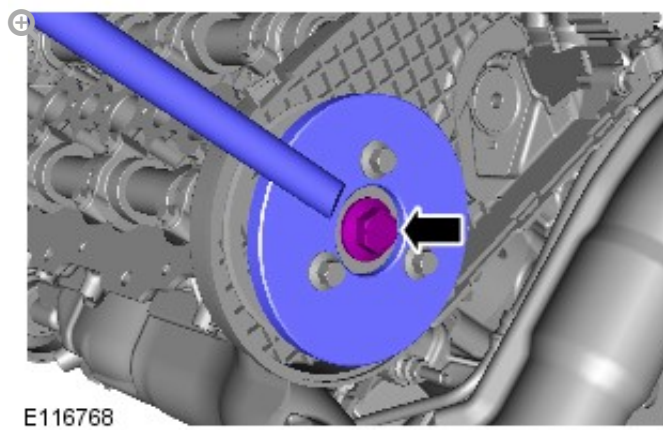
23.



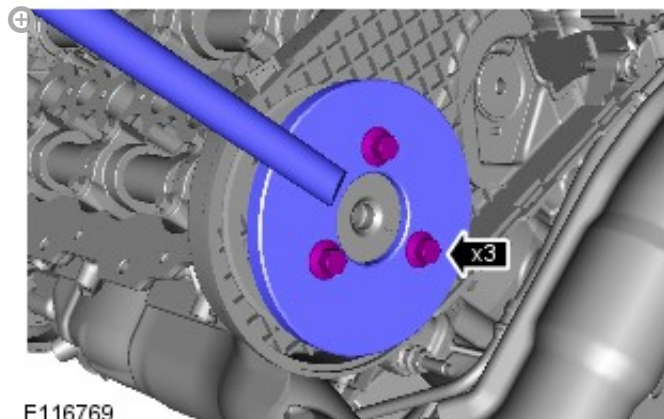
Install the special tool.

Special Tool(s): [303-1124](#)

24.



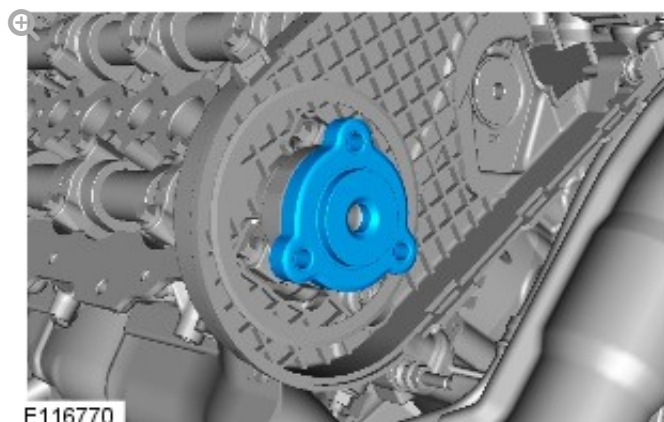
25.



E116769

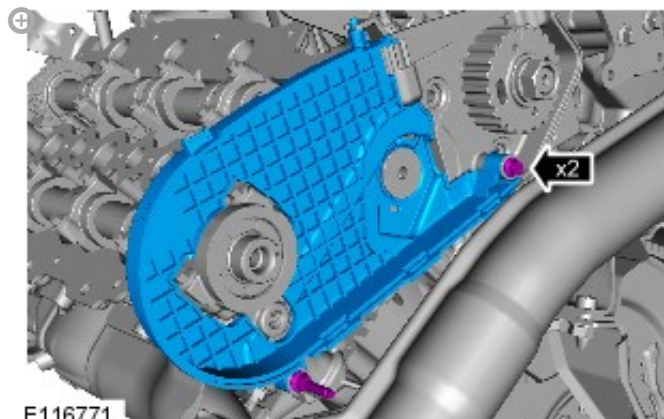
Remove the special tool.

26.



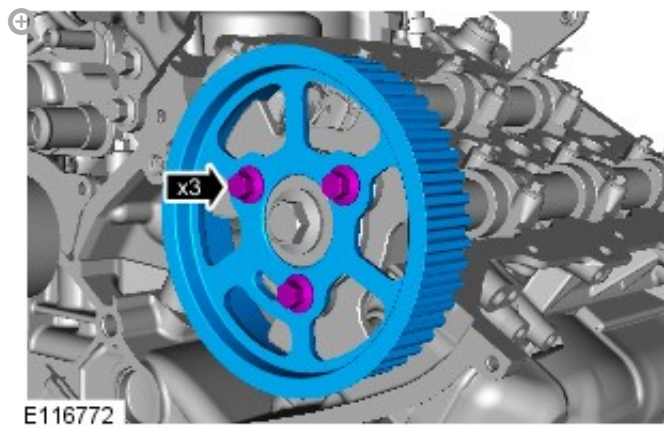
E116770

27.

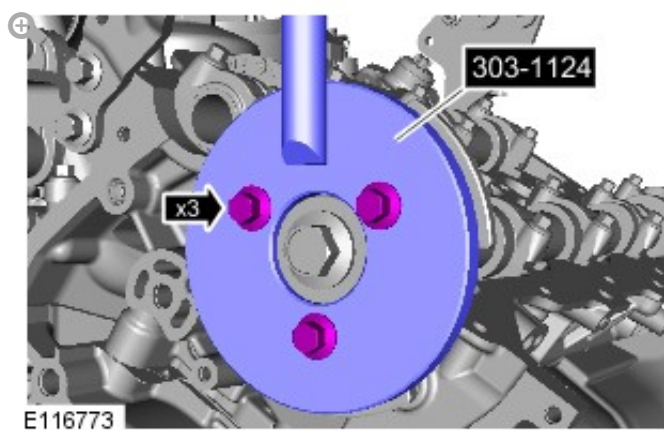


E116771

28.



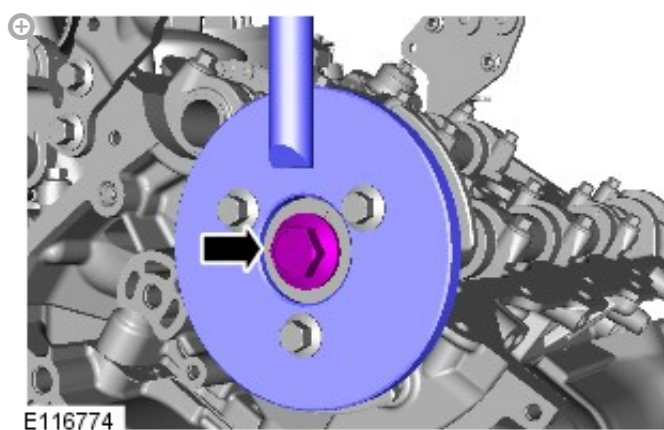
29.



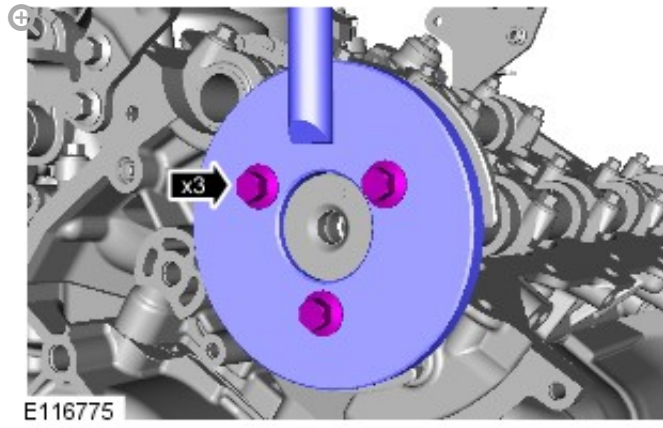
Install the special tool.

Special Tool(s): [303-1124](#)

30.

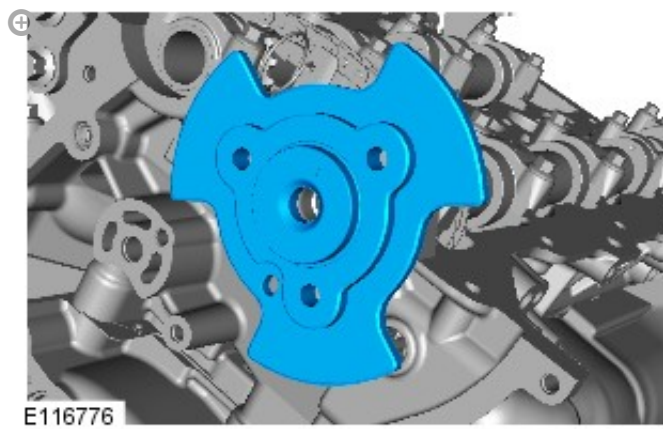


31.

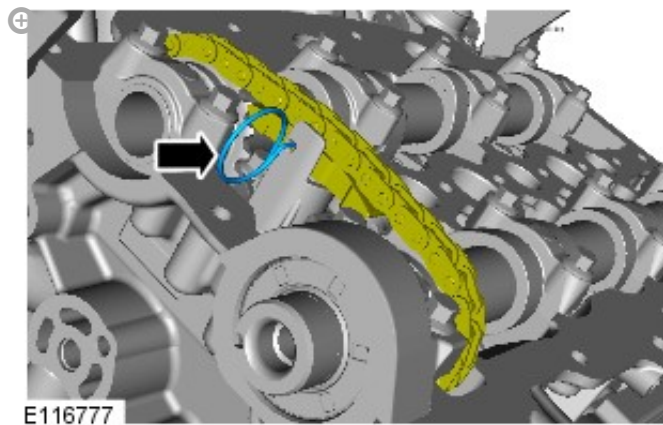


Remove the special tool.

32.



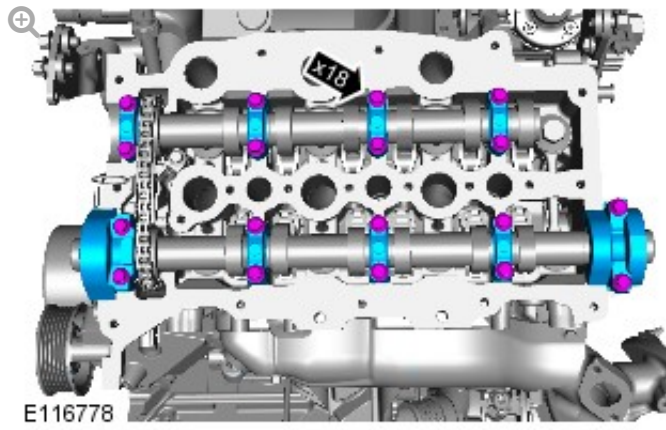
33.



Reposition the secondary timing chain tensioner.

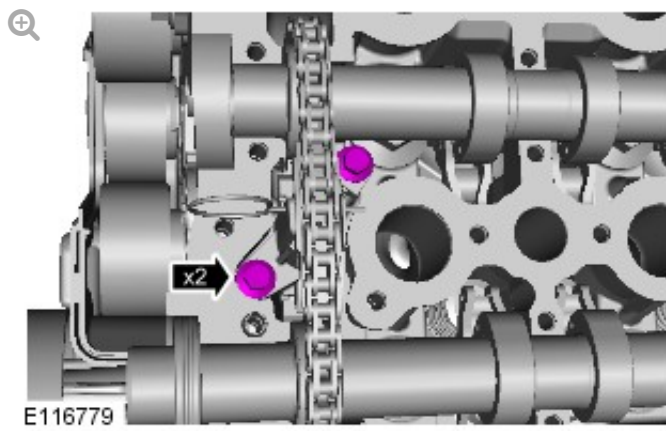
Retain the secondary timing chain tensioner plunger.

34.



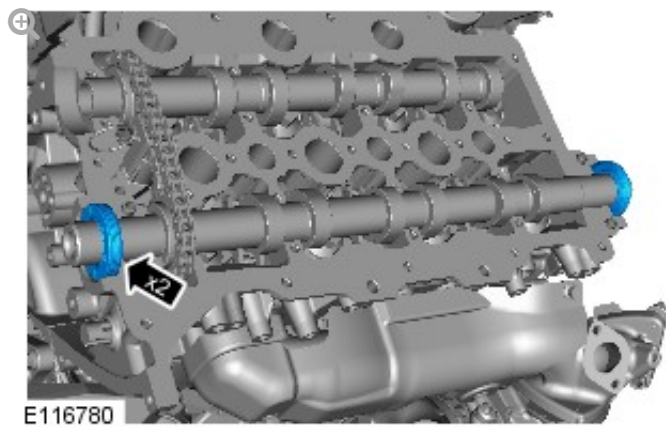
Remove the camshaft bearing caps evenly.

35.

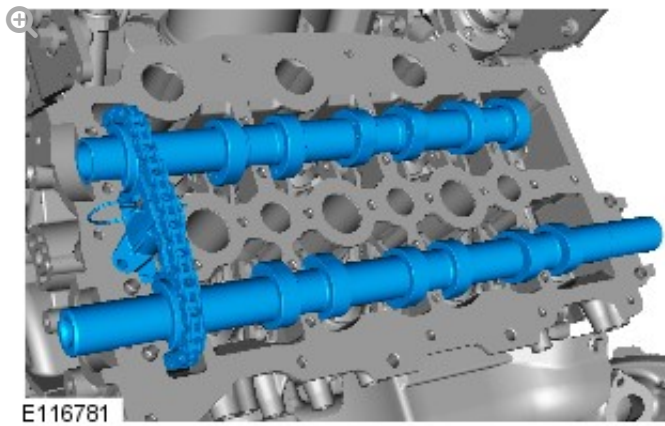


36.

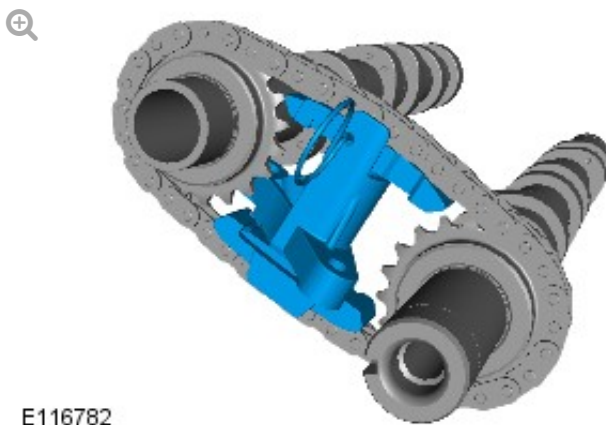
Discard the seals.



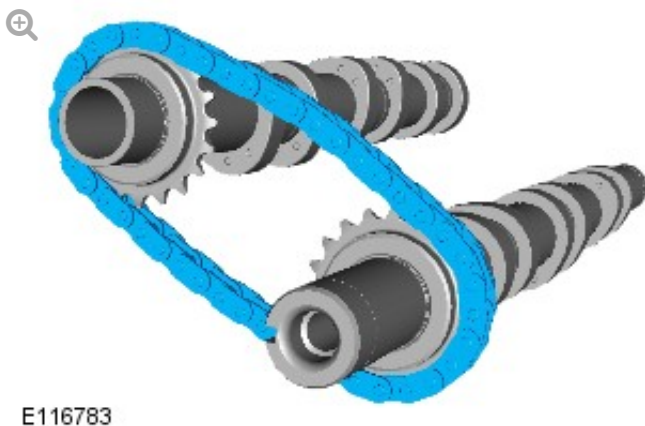
37.



38.

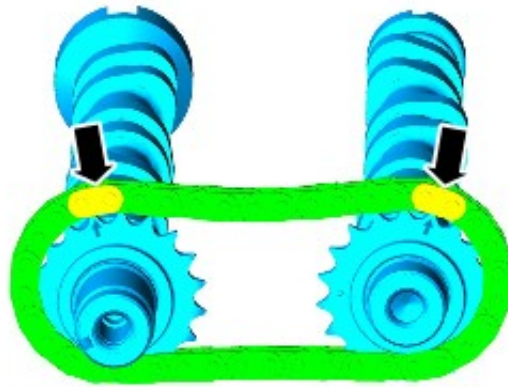


39.



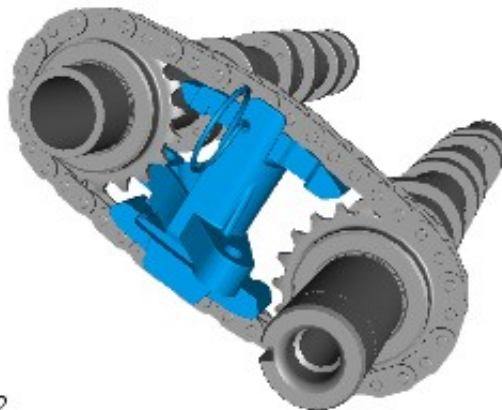
INSTALLATION

1.



E86461

2.

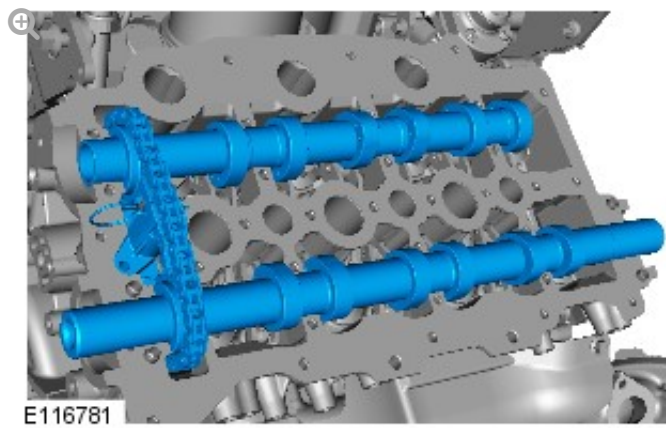


E116782

3.

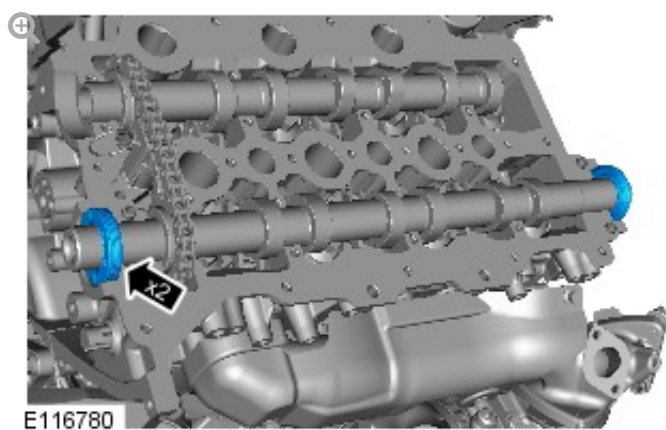
Make sure that the dots on the camshafts are aligned at the 12 o'clock position. Failure to follow this instruction may result in damage to the engine.

- Lubricate the camshafts and the camshaft bearing caps with oil meeting Jaguar specification prior to installation.
- Use hypoid oil to lubricate the camshafts.

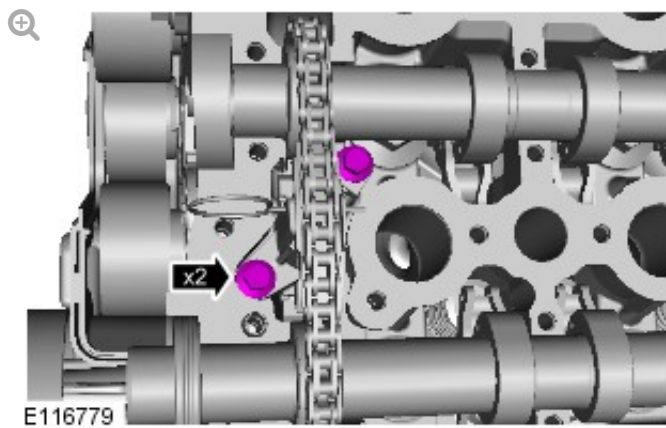


4.

Install new seals.

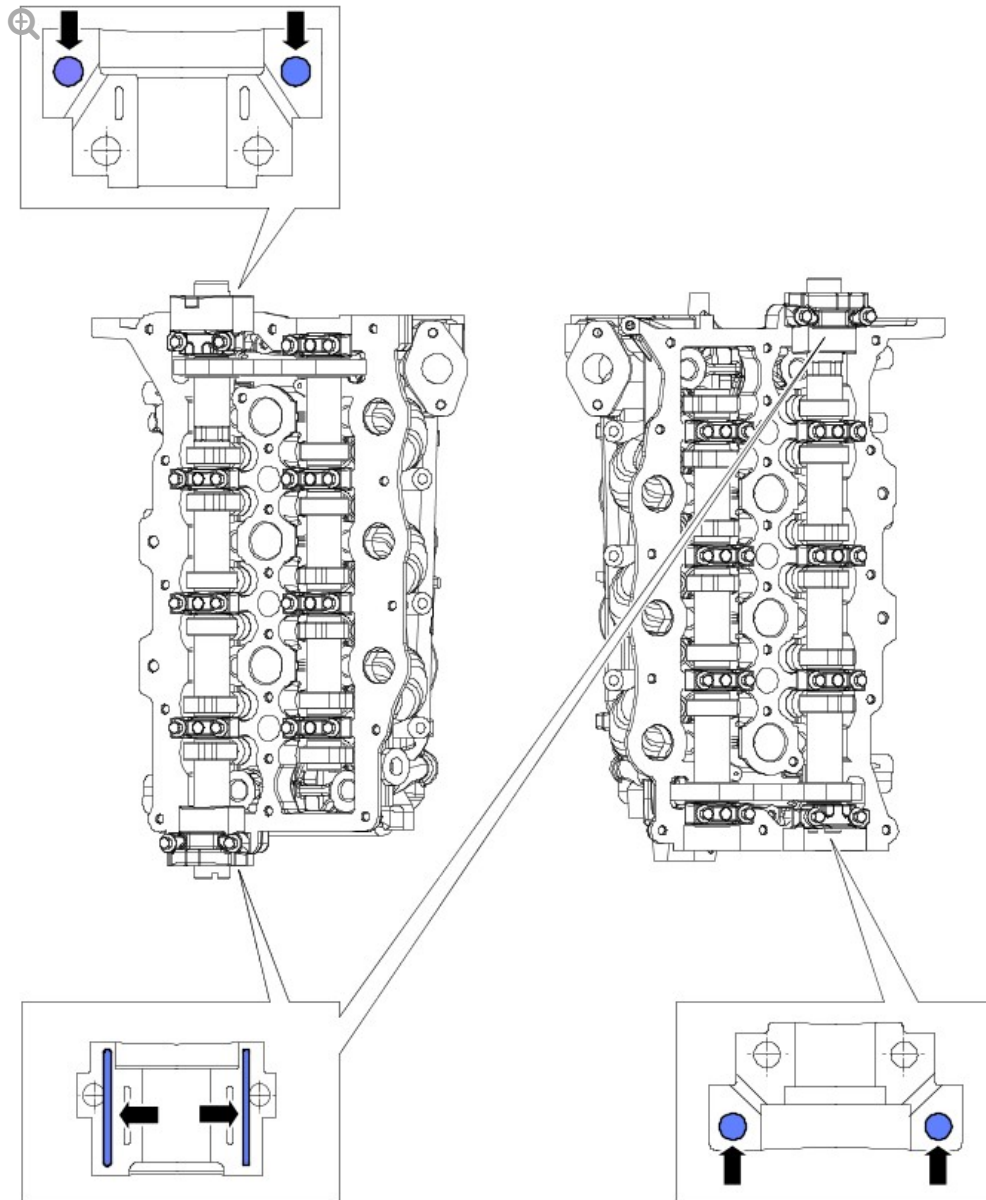


5.



Torque: **10 Nm**

6.

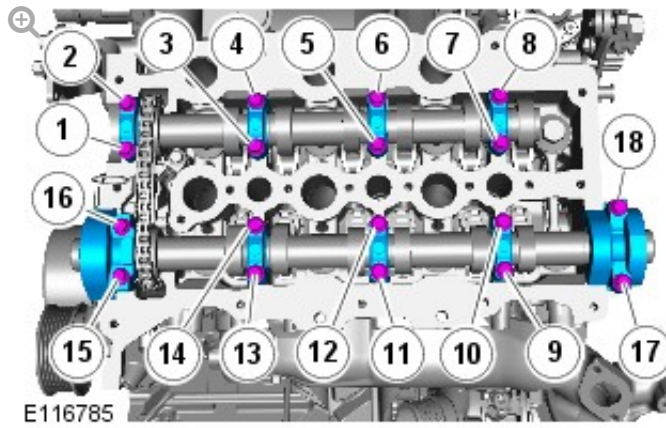


E116784

- Apply Loctite 518 sealant to the exhaust camshaft seal bearing caps.
- Apply Loctite 518 sealant, 2 mm wide, to the LH rear and RH front camshaft bearing caps.
- Apply Loctite 518 sealant, 7 mm diameter, to the LH front and RH rear camshaft bearing caps.

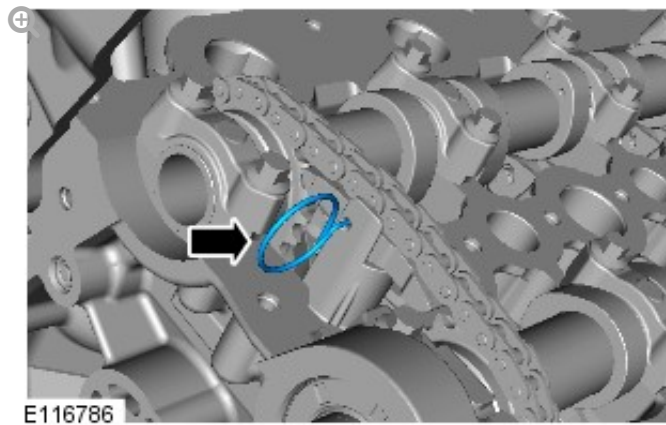
7.

Tighten the bolts in the indicated sequence.

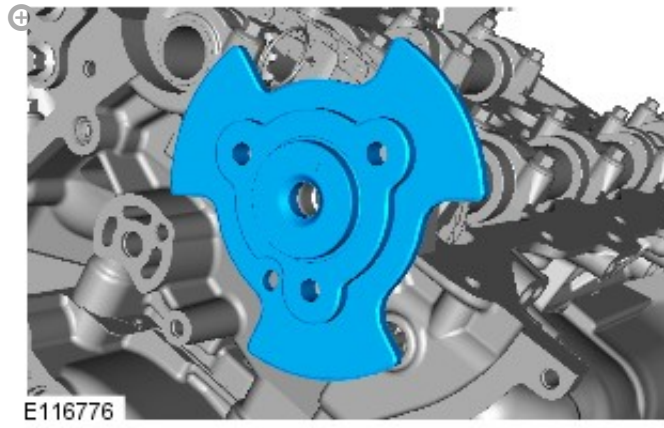


- Install the camshaft bearing caps in their original positions.
- Stage 1: Bolts 1 to 14, 1 Nm.
- Stage 2: Bolts 1 to 14, 5 Nm.
- Stage 3: Bolts 1 to 14, 10 Nm.
- Stage 4: Bolts 15 to 18, 1 Nm.
- Stage 5: Bolts 15 to 18, 5 Nm.
- Stage 6: Bolts 15 to 18, 10 Nm.

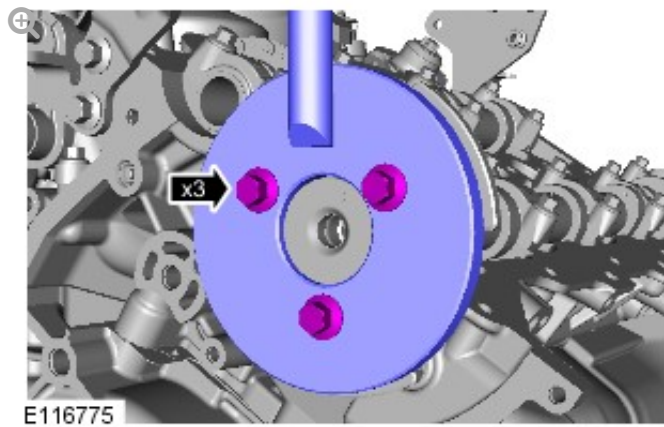
8.



9.



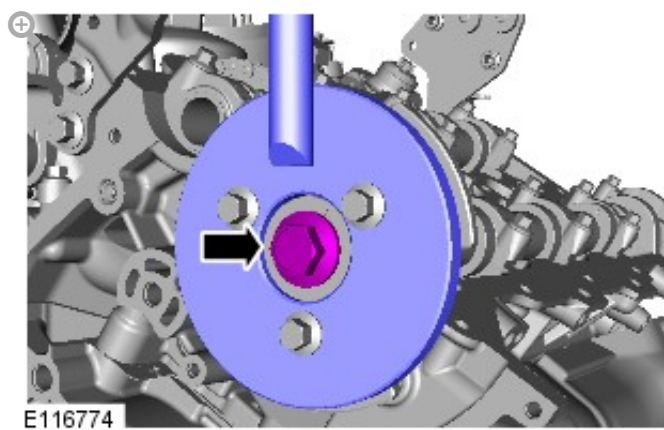
10.



Install the special tool.

Special Tool(s): [303-1124](#)

11.

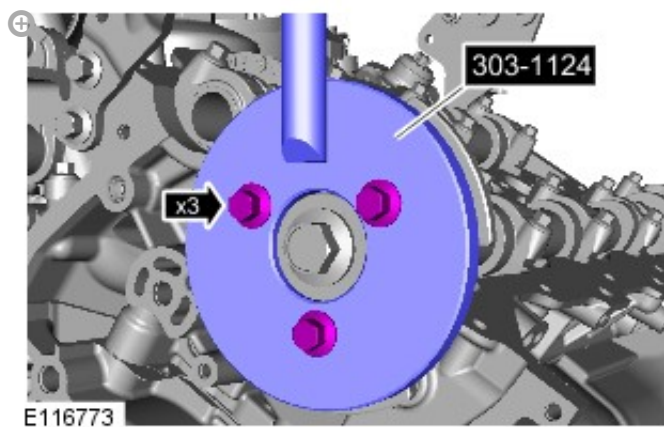


Torque:

Stage 1: **80 Nm**

Stage 2: **80°**

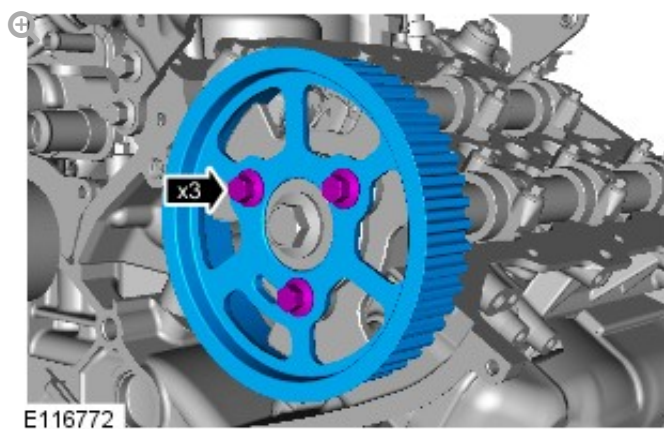
12.



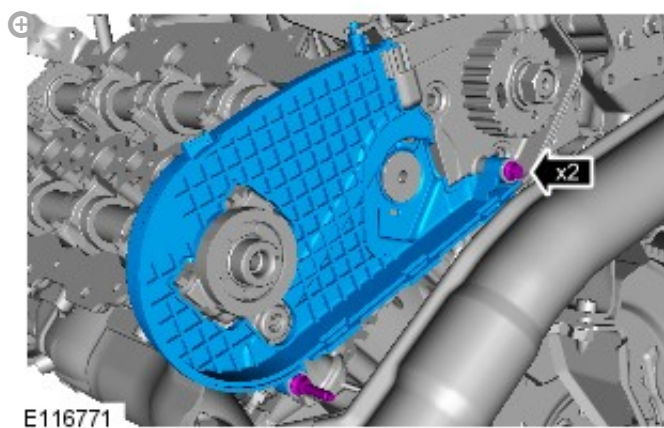
Remove the special tool.

13.

Only tighten the bolt finger-tight at this stage.

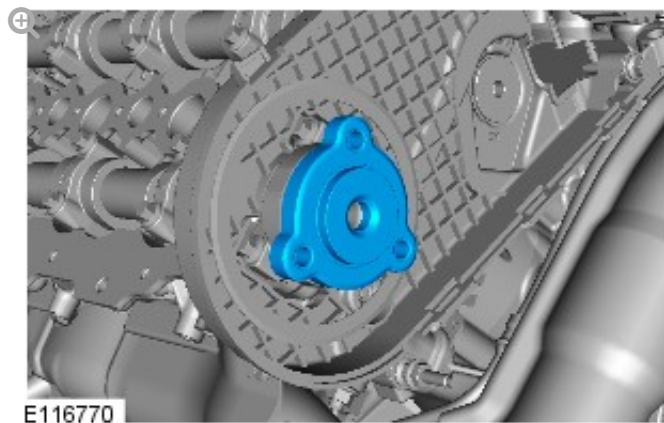


14.

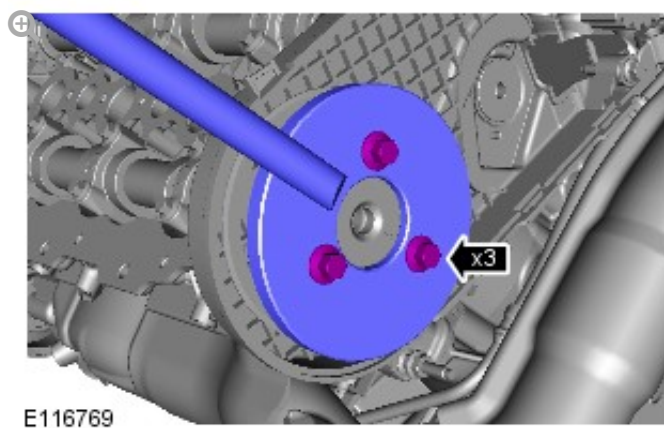


Torque: 10 Nm

15.



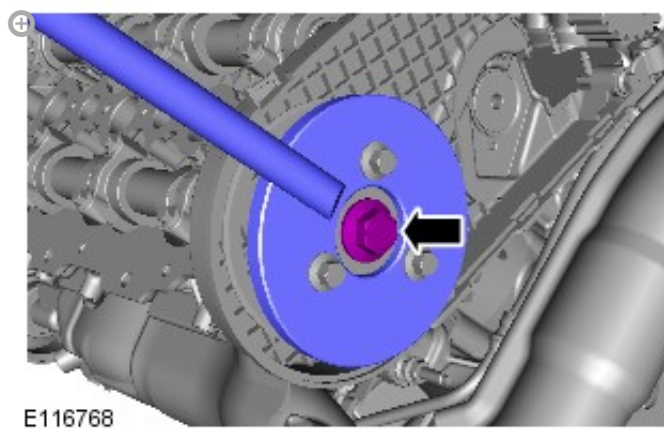
16.



Install the special tool.

Special Tool(s): [303-1124](#)

17.

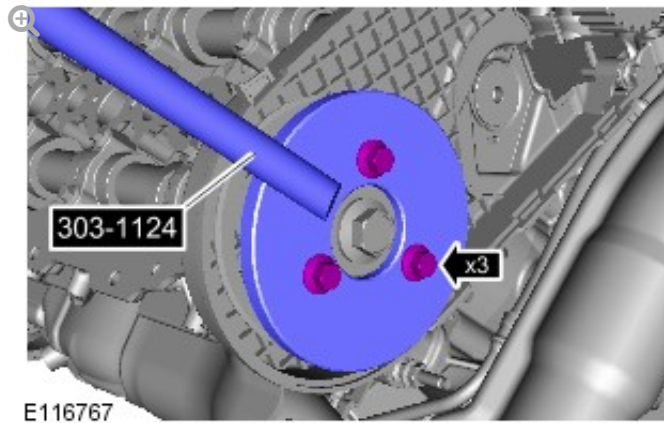


Torque:

Stage 1: **80 Nm**

Stage 2: **80°**

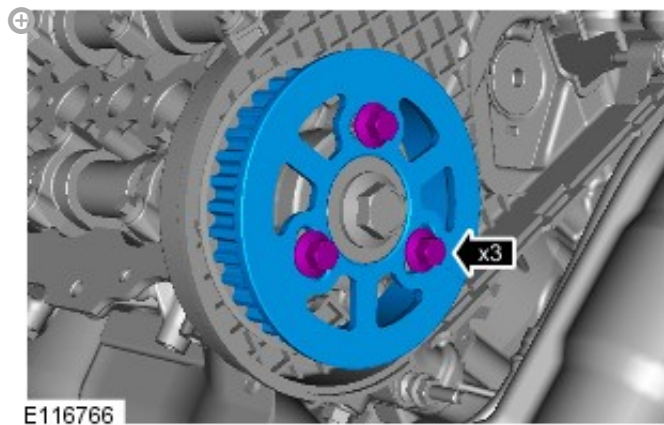
18.



Remove the special tool.

19.

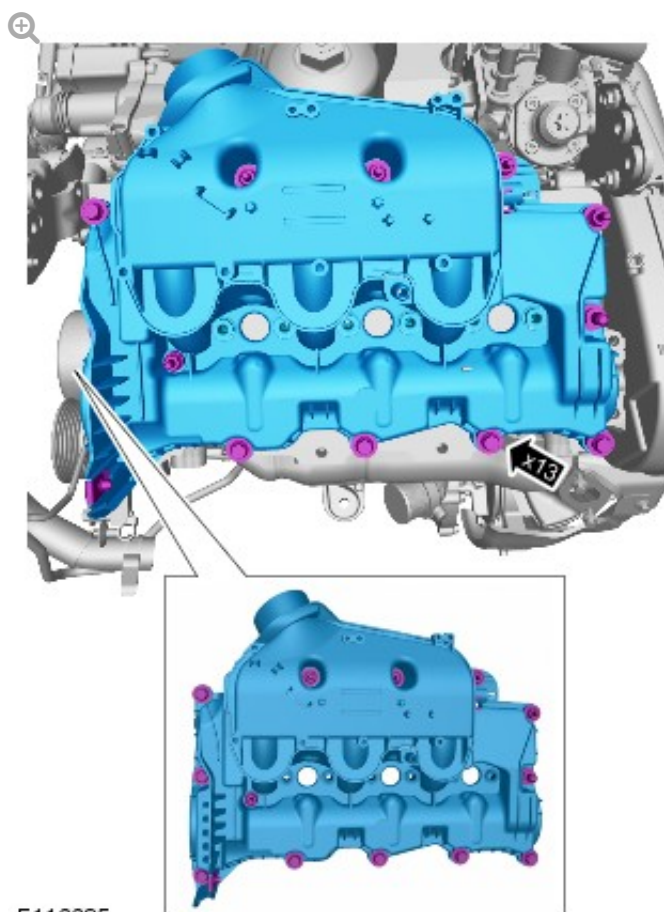
Only tighten the bolt finger-tight at this stage.



20.

- Make sure that the mating faces are clean and free of corrosion and foreign material.
- Install all the bolts finger tight before final tightening.

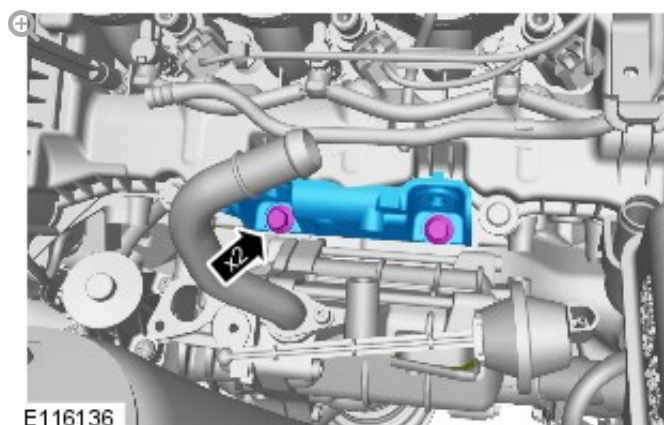
Install a new gasket.



E116685

Torque: 10 Nm

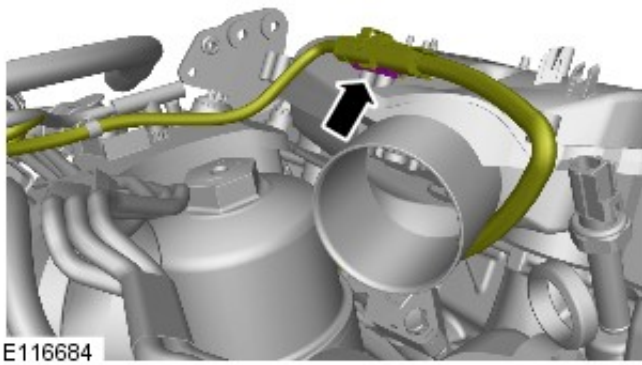
21.



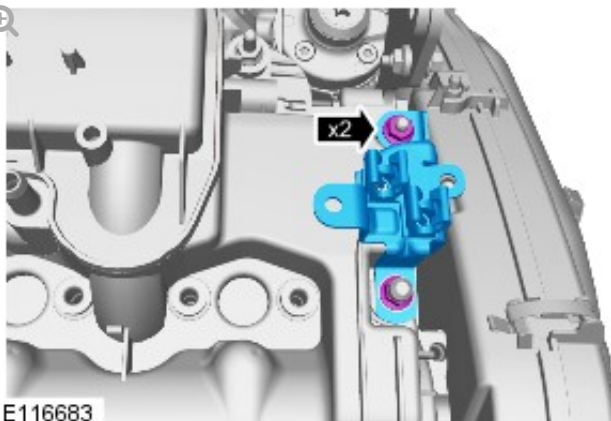
E116136

Torque: 24 Nm

22.

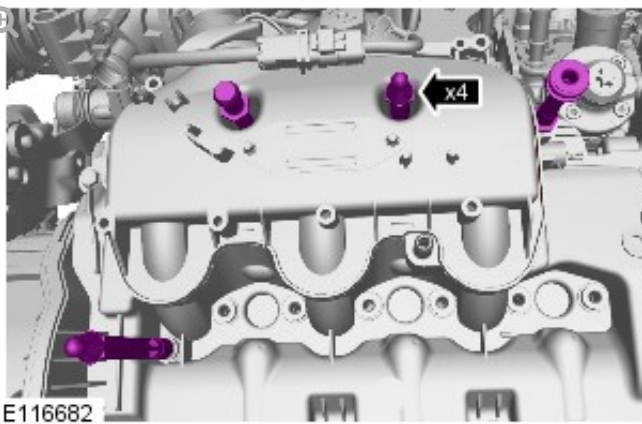


23.



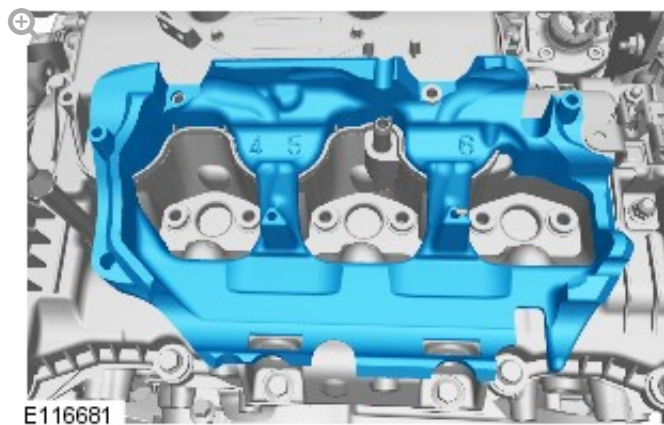
Torque: 10 Nm

24.

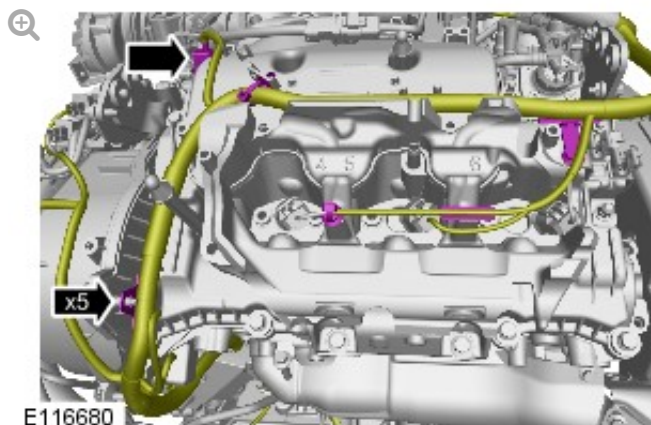


Torque: 7 Nm

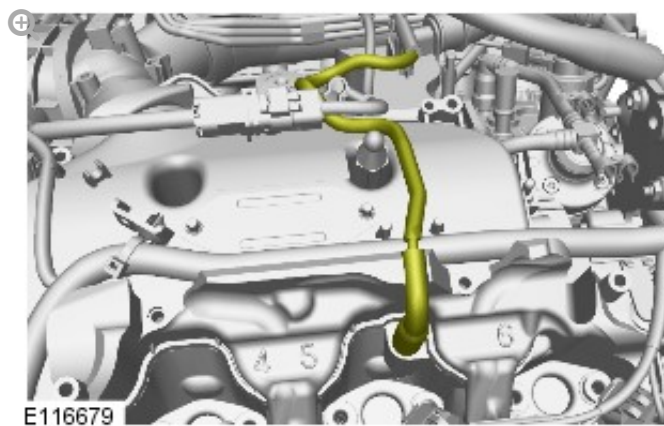
25.



26.

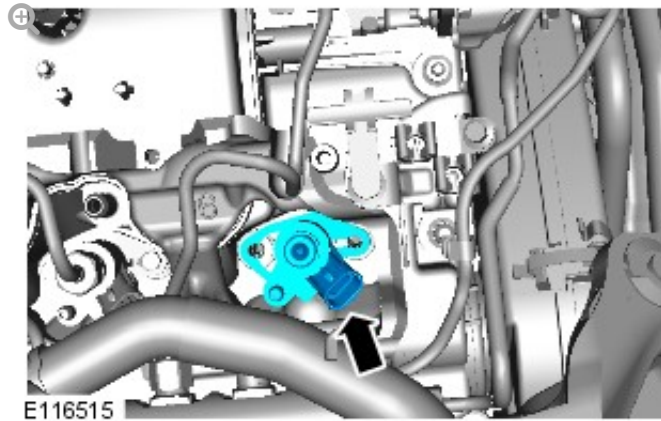


27.



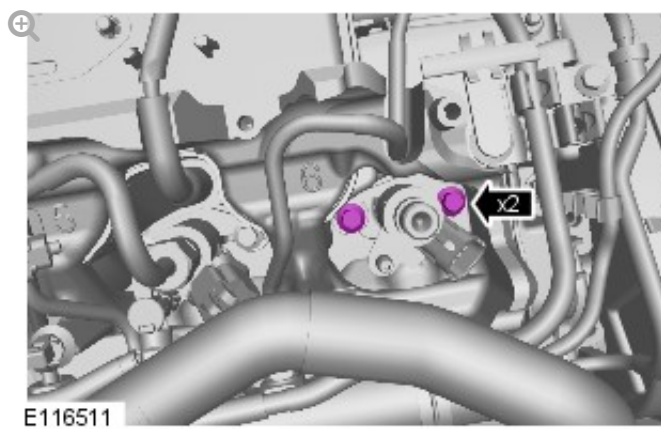
28.

- Make sure that the area around the open fuel injector ports are clean and free of foreign material and lubricant prior to installing the fuel injector.
- Make sure that a new sealing washer is installed.



29.

Tighten the retaining bolts evenly and progressively.

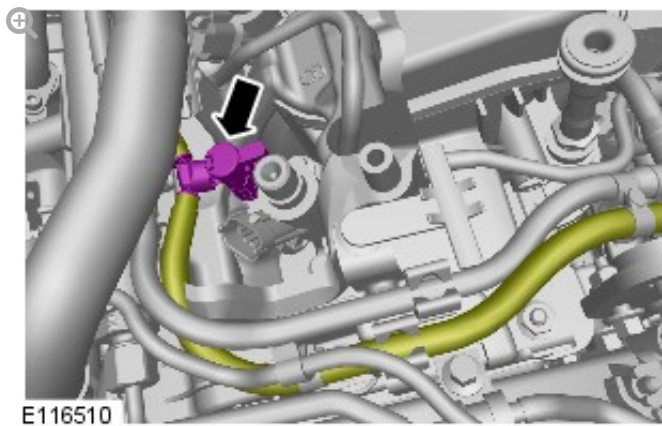


Torque: **9 Nm**

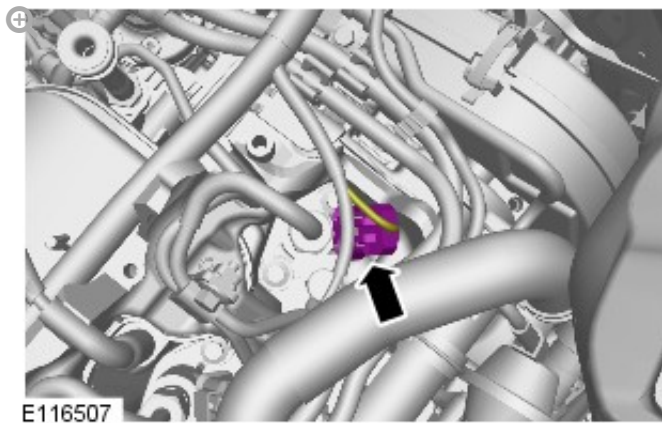
30.

Be prepared to collect escaping fuel.

Make sure that the fuel injector return line has a maximum of 8 uses.



31.



32. Install the 2 remaining fuel injectors.

33. Refer to: [Timing Belt](#) (303-01A Engine - TDV6 3.0L Diesel, Removal and Installation).

- 34. Refer to: [Rear End Accessory Drive](#) (303-05A Accessory Drive - TDV6 3.0L Diesel, Removal and Installation).
- 35. Refer to: [Intake Air Shutoff Throttle](#) (303-04A Fuel Charging and Controls - TDV6 3.0L Diesel, Removal and Installation).
- 36. Refer to: [Left Fuel Rail](#) (303-04A Fuel Charging and Controls - TDV6 3.0L Diesel, Removal and Installation).
- 37. Refer to: [Battery Disconnect and Connect](#) (414-01 Battery, Mounting and Cables, General Procedures).

ENGINE - TDV6 3.0L DIESEL

LEFT CYLINDER HEAD [G1272043]

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REMOVAL

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

2.

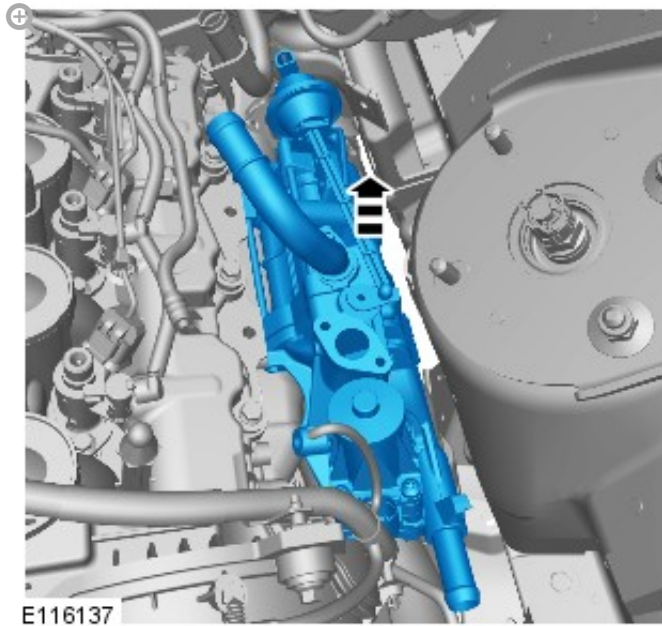
Make sure to support the vehicle with axle stands.

Raise and support the vehicle.

3. Refer to: [Left Camshaft](#) (303-01A Engine - TDV6 3.0L Diesel, Removal and Installation).
4. Refer to: [Glow Plugs](#) (303-07B Glow Plug System - TDV6 3.0L Diesel,

Removal and Installation).

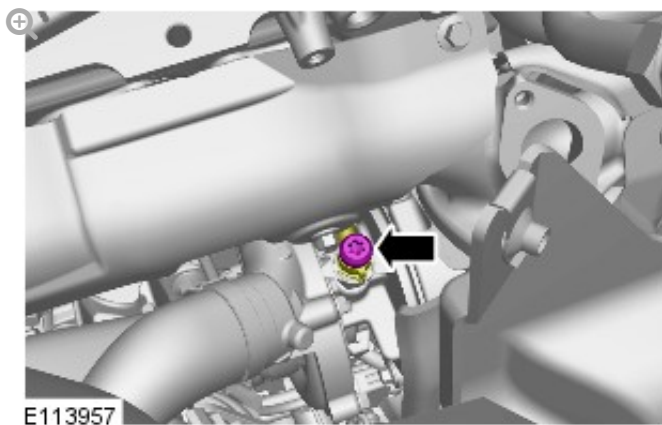
5.



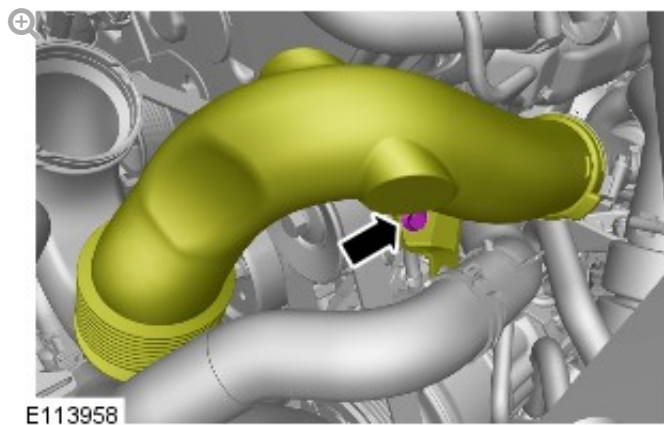
6. Refer to: [Diesel Particulate Filter](#) (309-00A Exhaust System - TDV6 3.0L Diesel, Removal and Installation).

7.

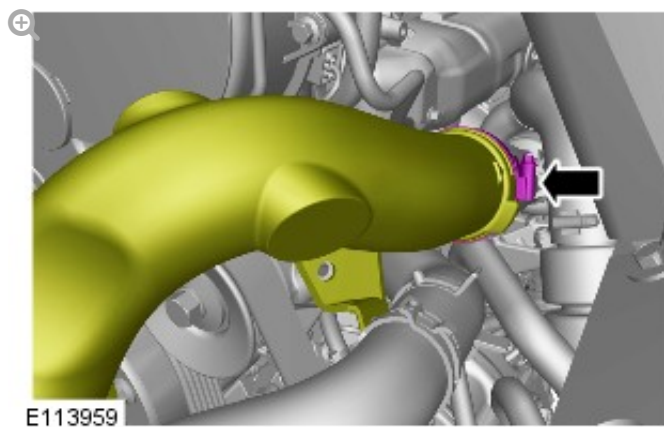
Discard the sealing washers.



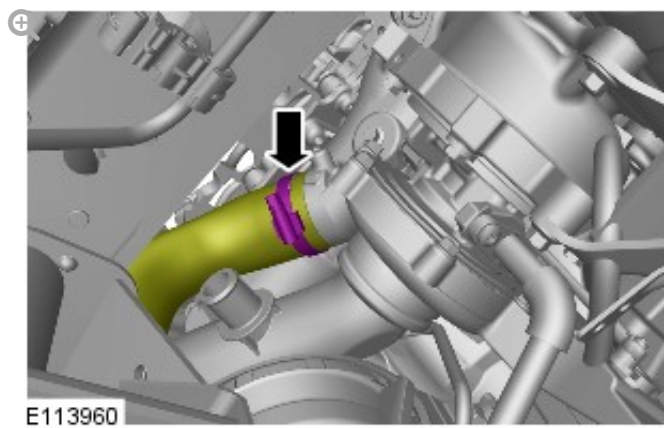
8.



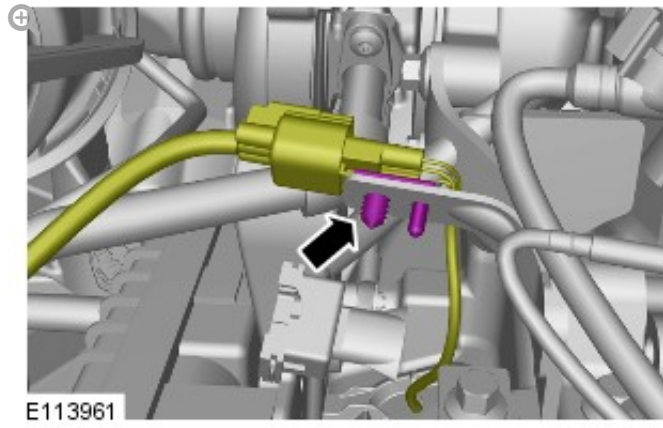
9.



10.

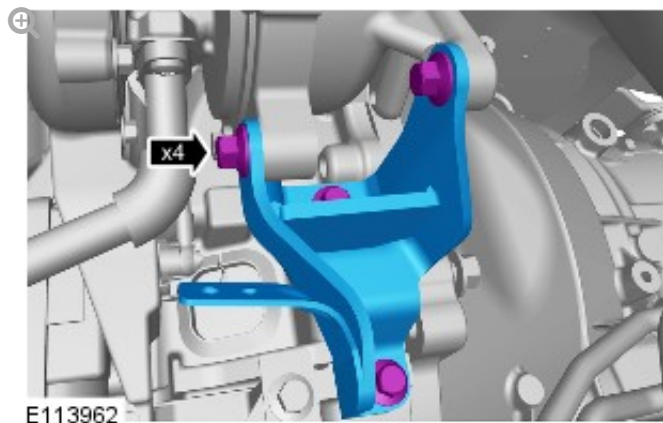


11.



E113961

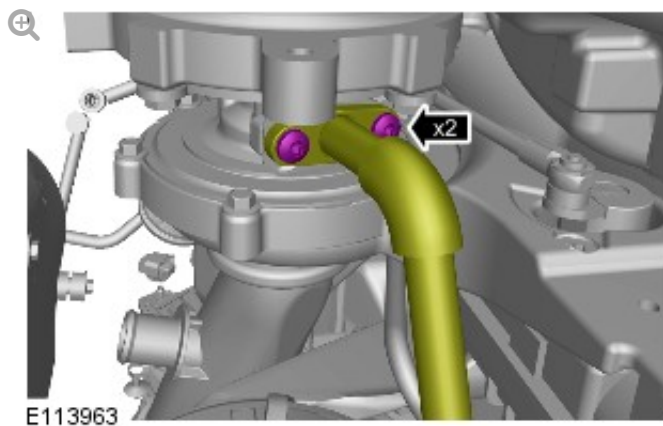
12.



E113962

13.

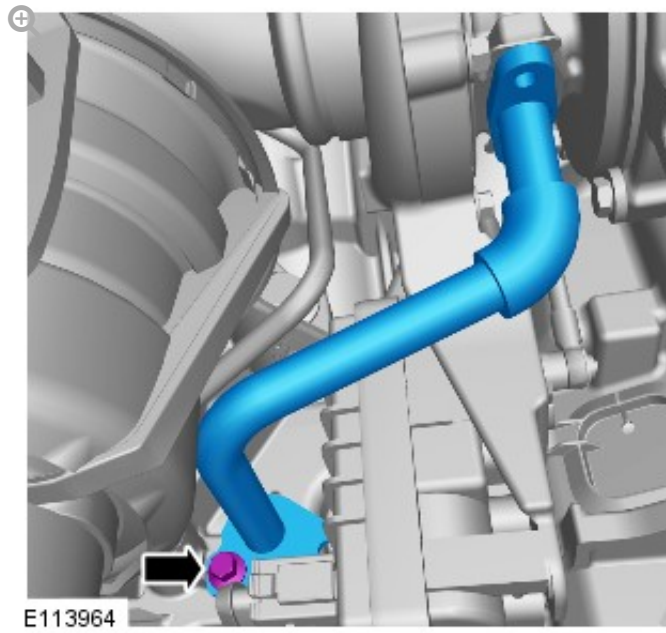
Discard the gasket.



E113963

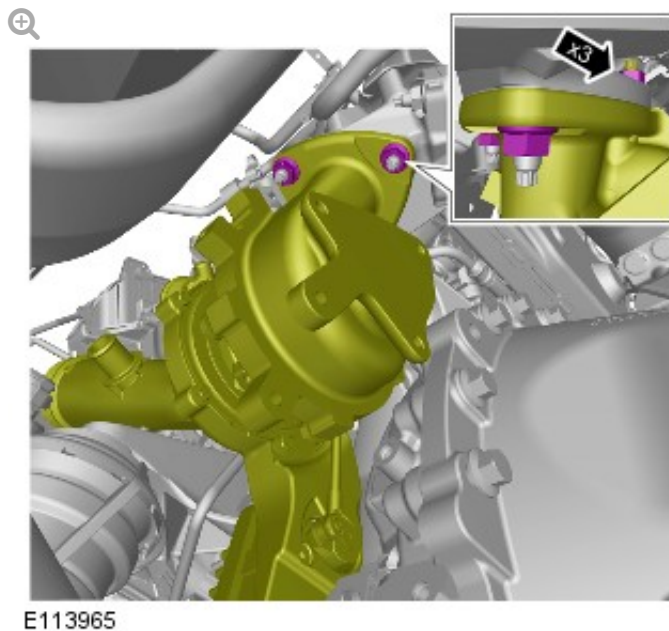
14.

Discard the seal.



15.

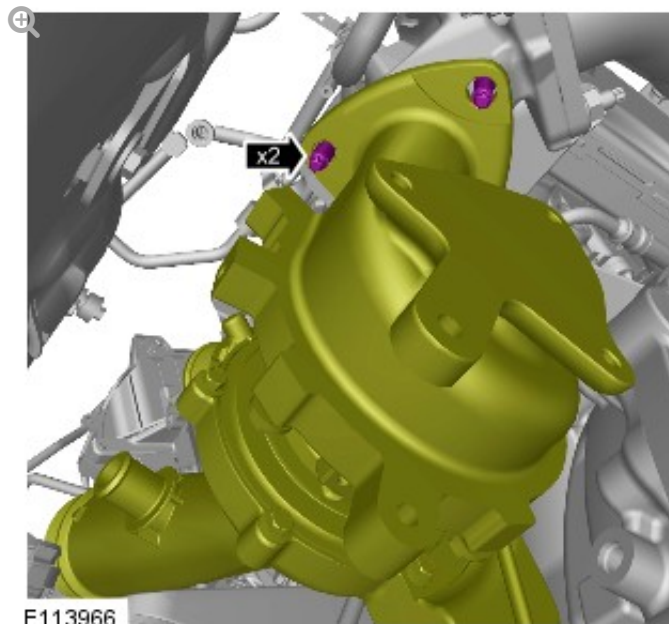
Discard the nuts.



E113965

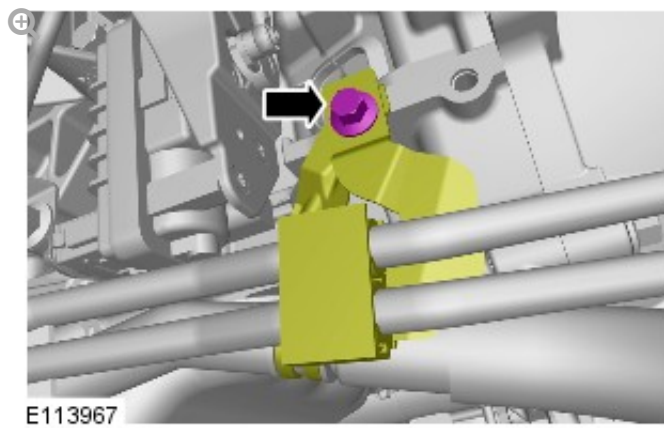
16.

Discard the studs.

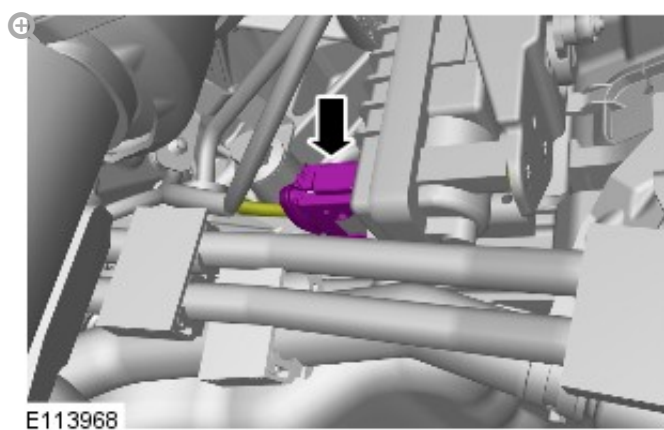


E113966

17.

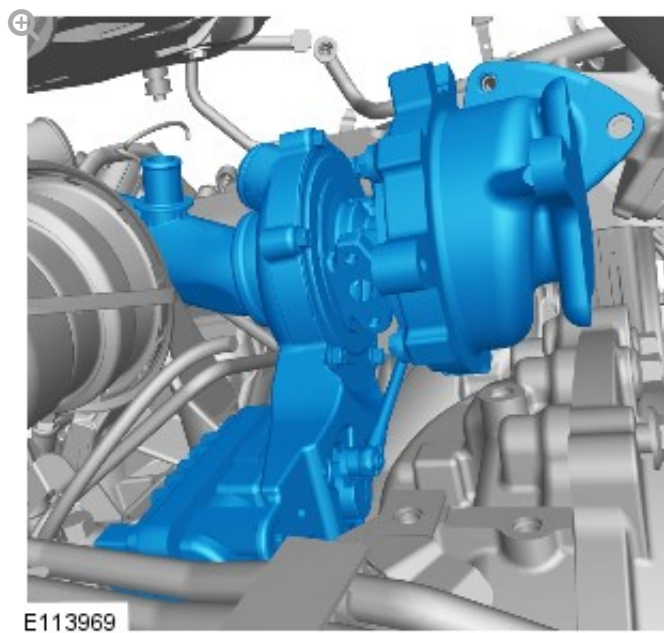


18.

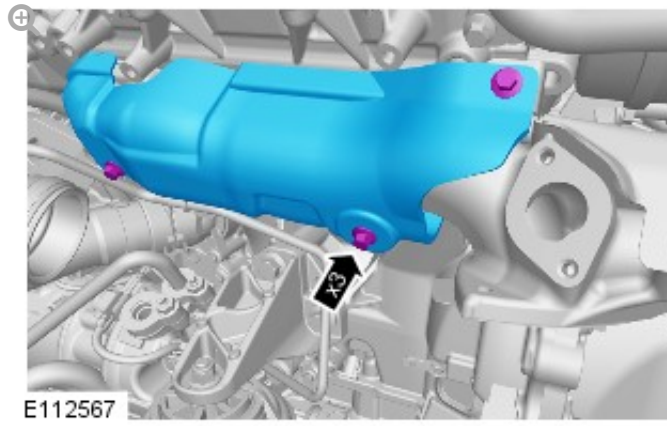


- Position the turbocharger to one side.

19.

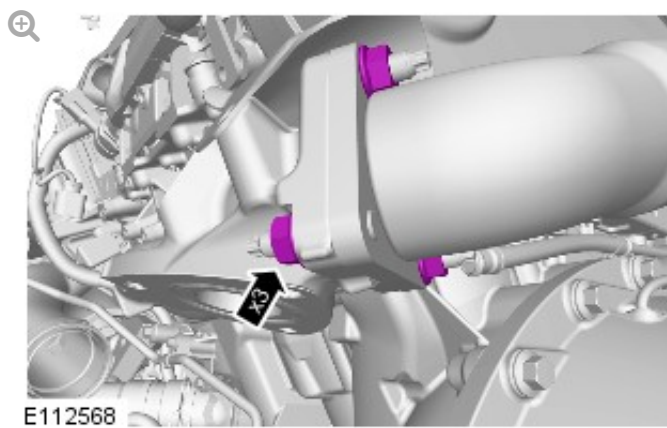


20.



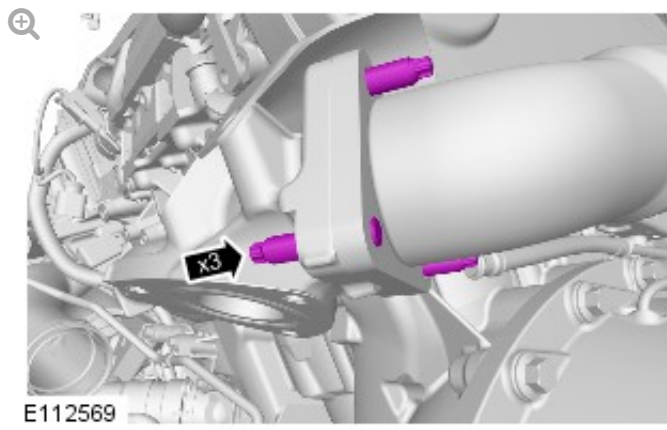
21.

Discard the nuts.



22.

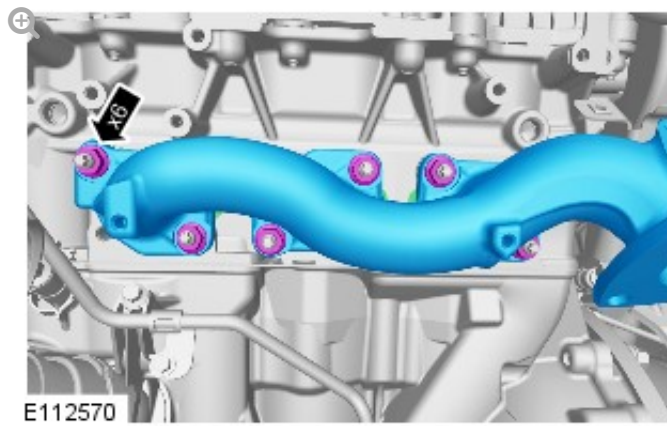
Discard the studs.



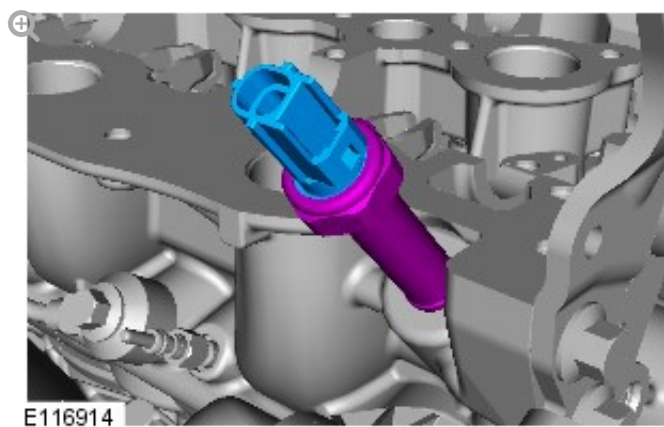
23.

Discard the nuts.

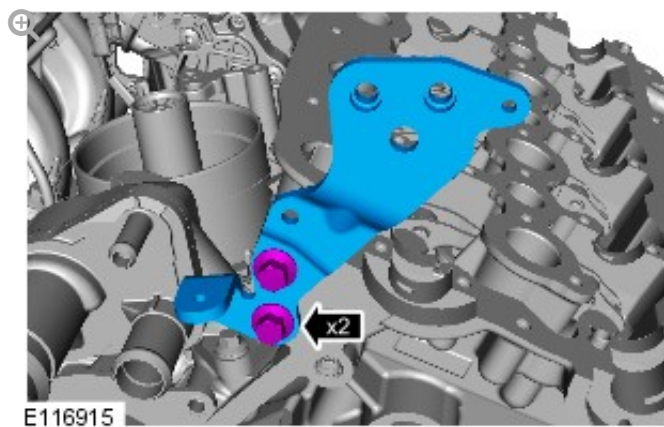
Discard the gasket.



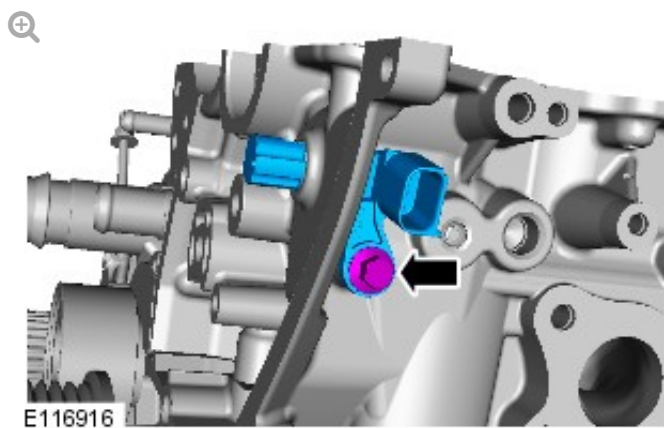
24.



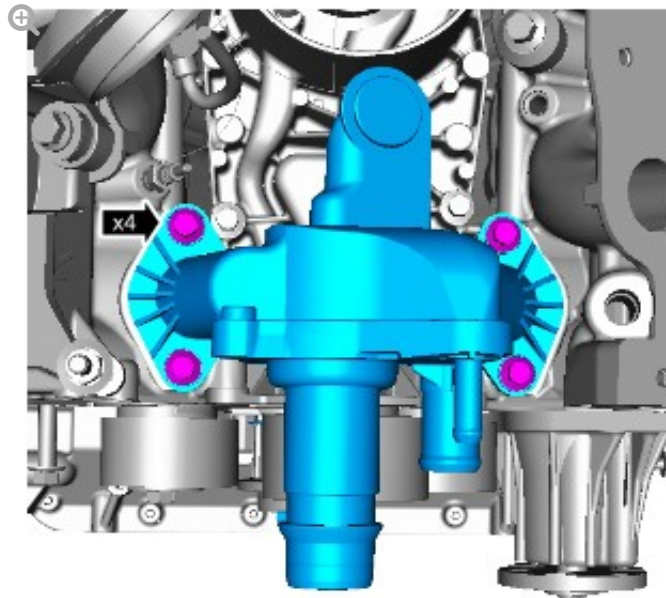
25.



26.

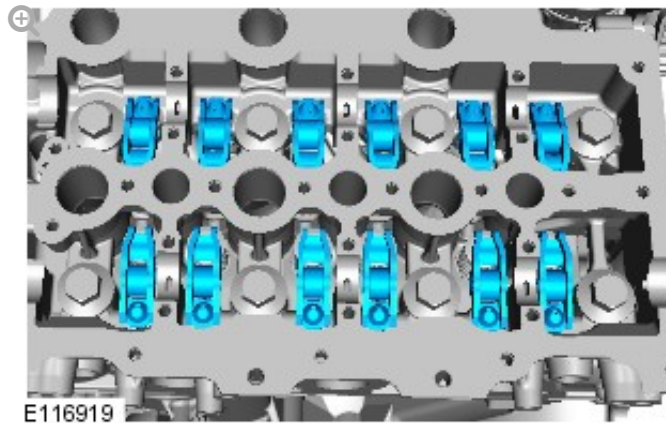


27.



E116917

28.

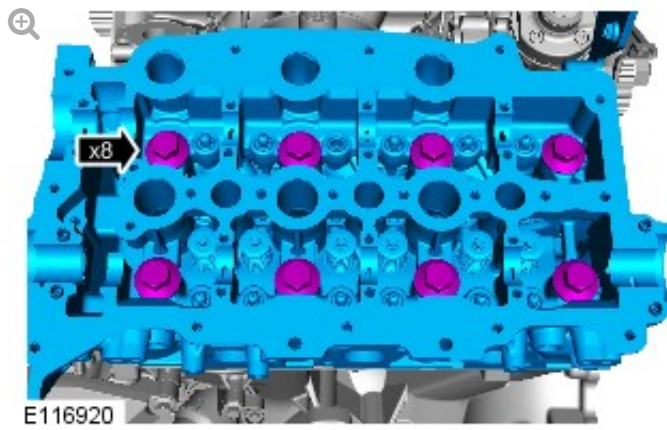


E116919

29.

Discard the bolts.

Discard the gasket.



INSTALLATION

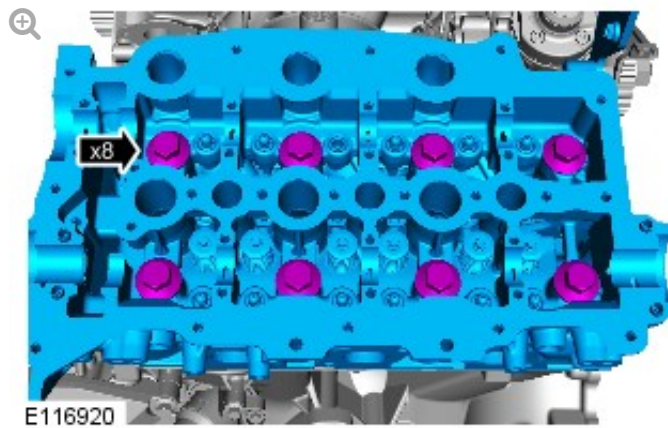
1.

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

2.

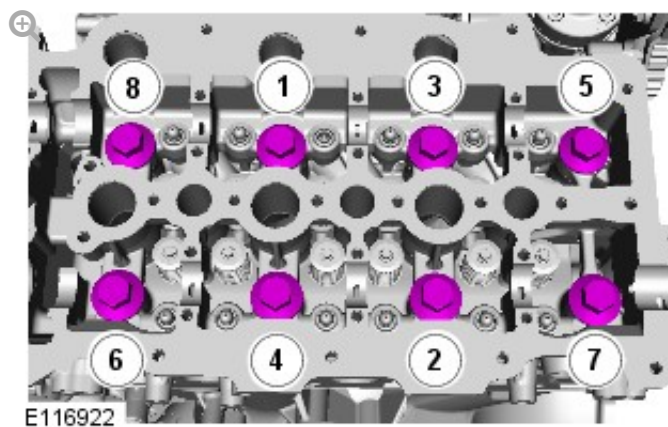
- Only tighten the bolts finger-tight at this stage.
- Make sure that new bolts are installed.
- Use care when installing the cylinder head. Damage to the cylinder block, cylinder head or cylinder head gasket may result.
- The head gasket must be installed over the cylinder block dowels.

- Install a new gasket.
- No additional lubrication to the cylinder head bolts is required.



3.

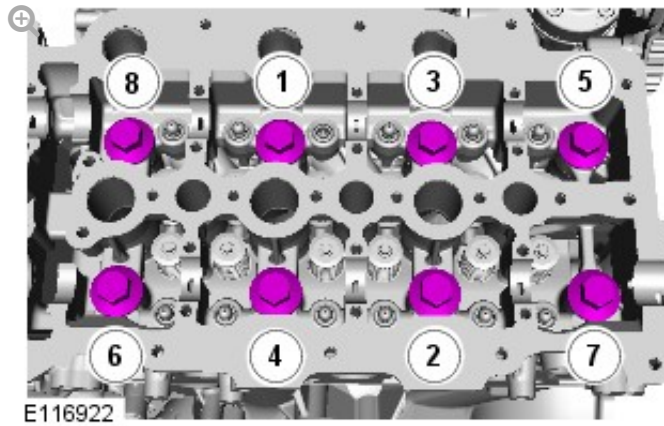
Tighten the bolts in the indicated sequence.



- *Torque:* **80 Nm**

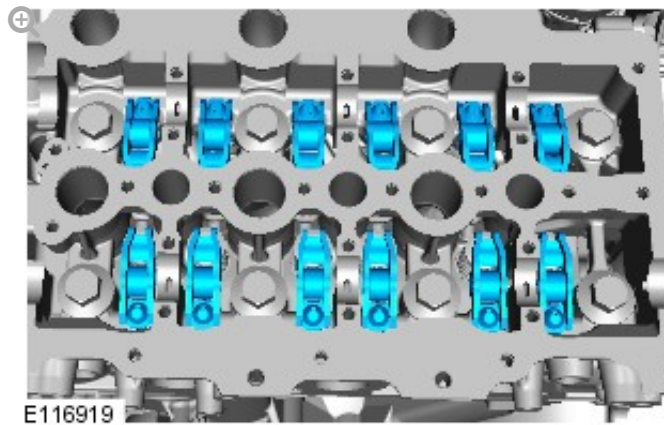
4.

Tighten the bolts in the indicated sequence.



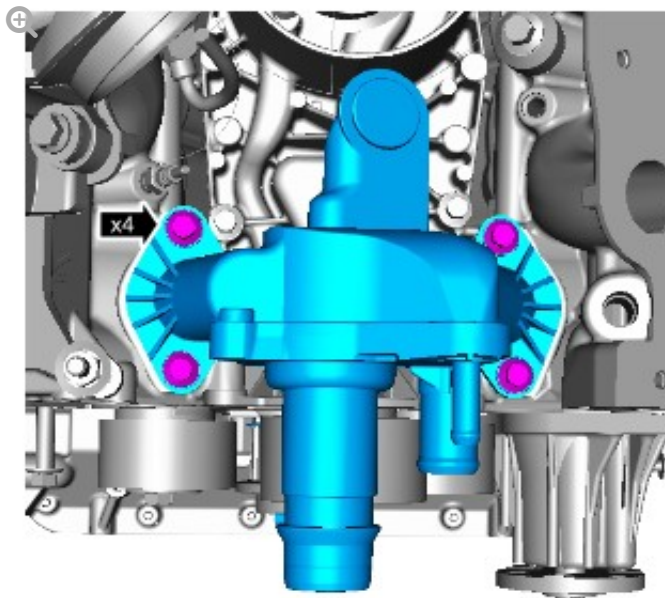
■ *Torque: 180°*

5.



6.

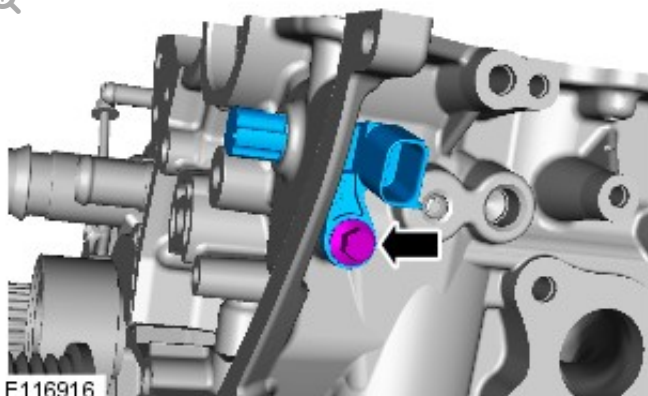
Install the new seals.



E116917

Torque: 10 Nm

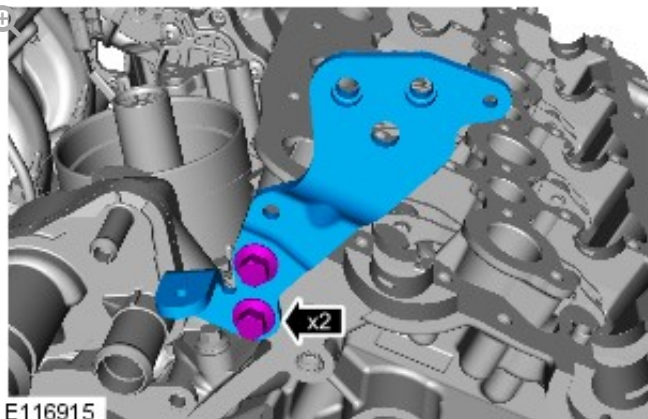
7.



E116916

Torque: 10 Nm

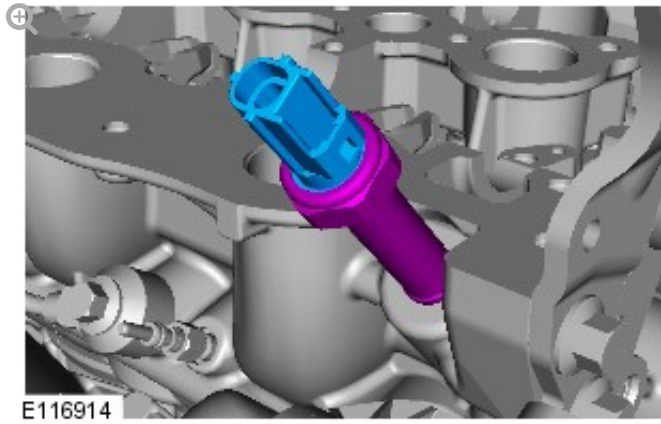
8.



E116915

Torque: 24 Nm

9.



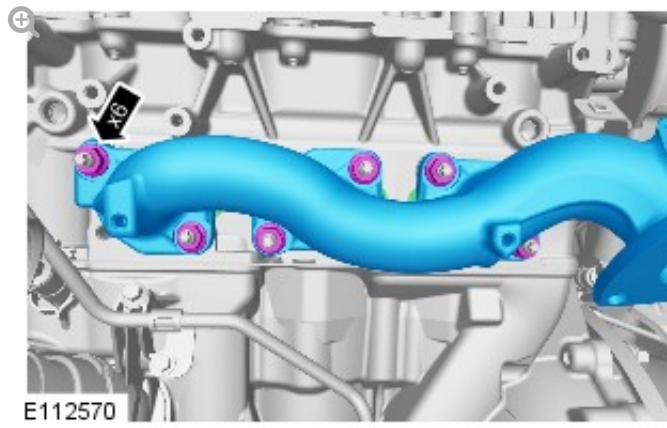
Torque: 14 Nm

10.

Make sure that new nuts are installed.

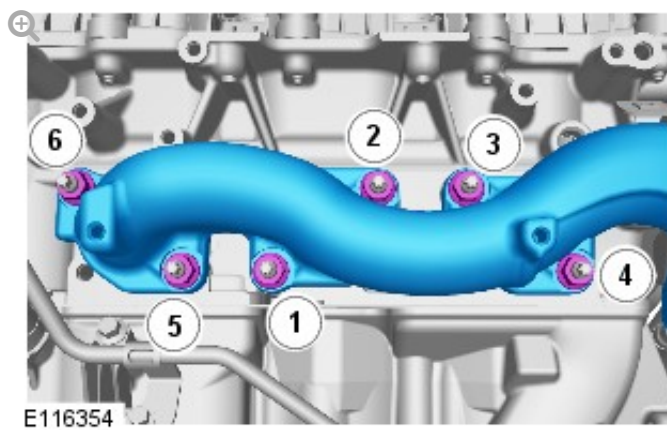
Install the nuts finger tight before final tightening.

Install a new gasket.



11.

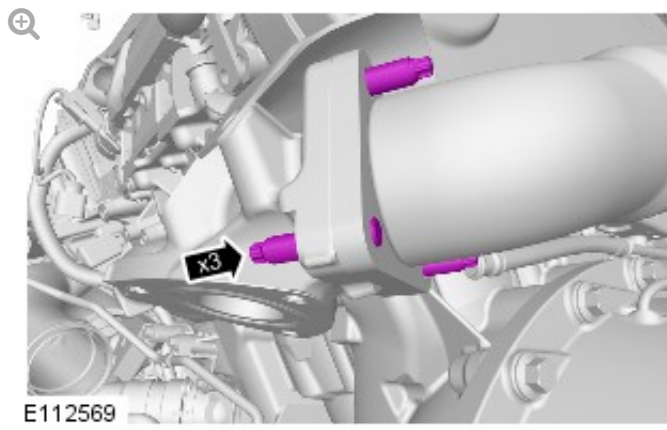
Tighten the bolts in the indicated sequence.



Torque: **24 Nm**

12.

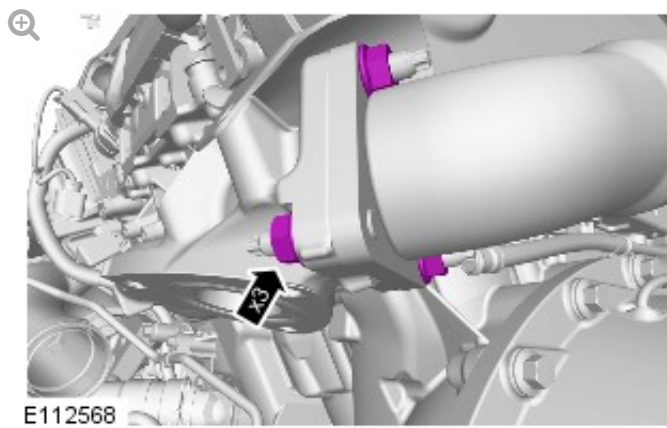
Install new studs.



Torque: **24 Nm**

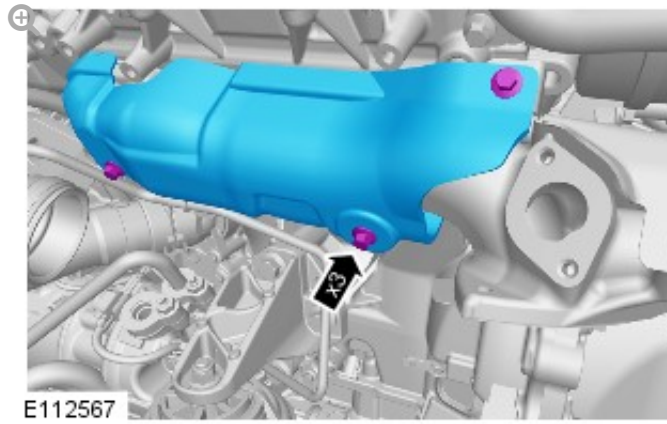
13.

Make sure that new nuts are installed.



Torque: **24 Nm**

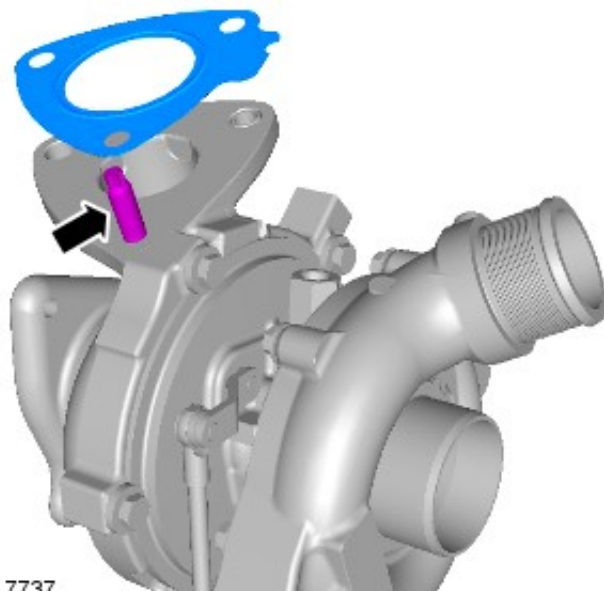
14.



Torque: **10 Nm**

15.

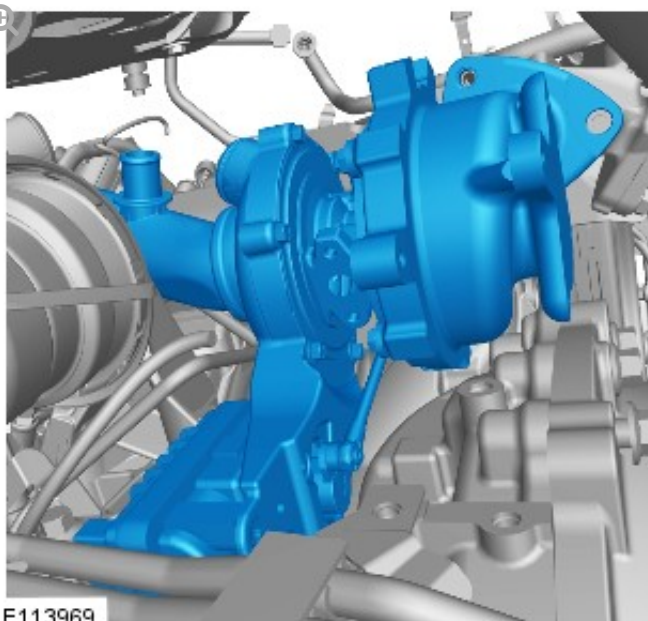
- Install new studs.
- Check the turbocharger and exhaust manifold mating faces for distortion.
- Install a new turbocharger to exhaust manifold gasket every time the turbocharger is removed.
- Make sure that the mating faces are clean and free of corrosion and foreign material.



E117737

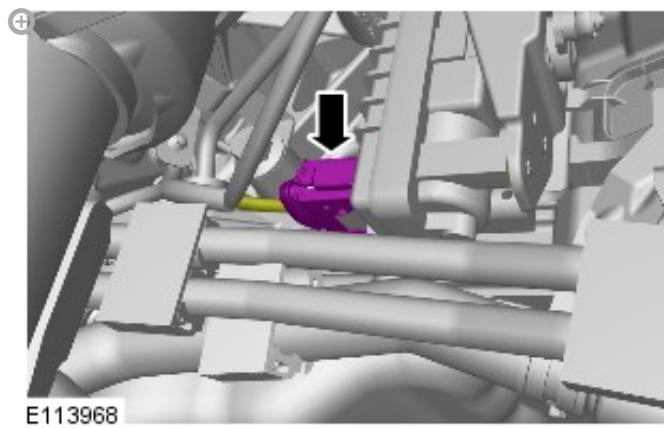
Torque: 13 Nm

16.

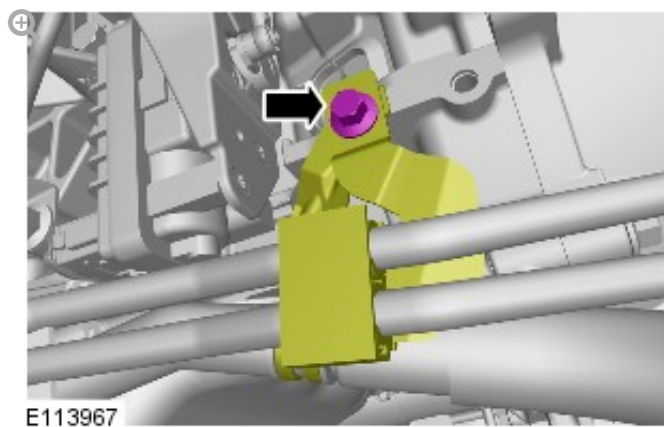


E113969

17.



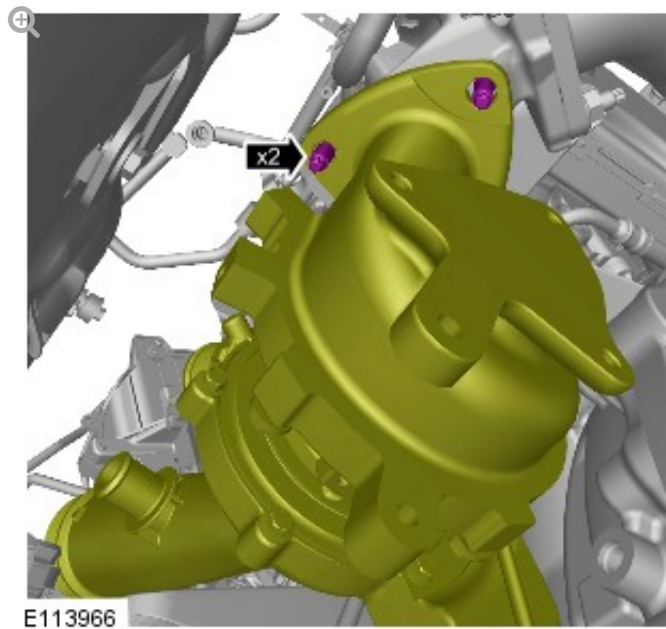
18.



Torque: 10 Nm

19.

Install new studs.

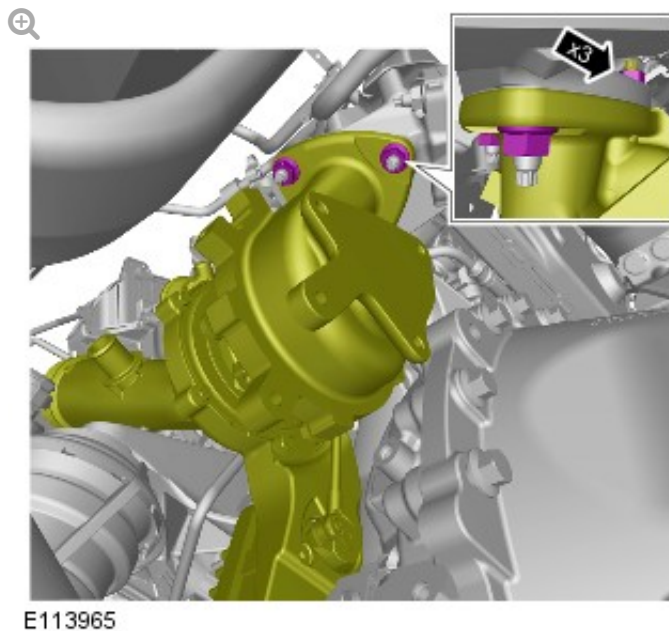


Torque: 13 Nm

20.

Make sure that new nuts are installed.

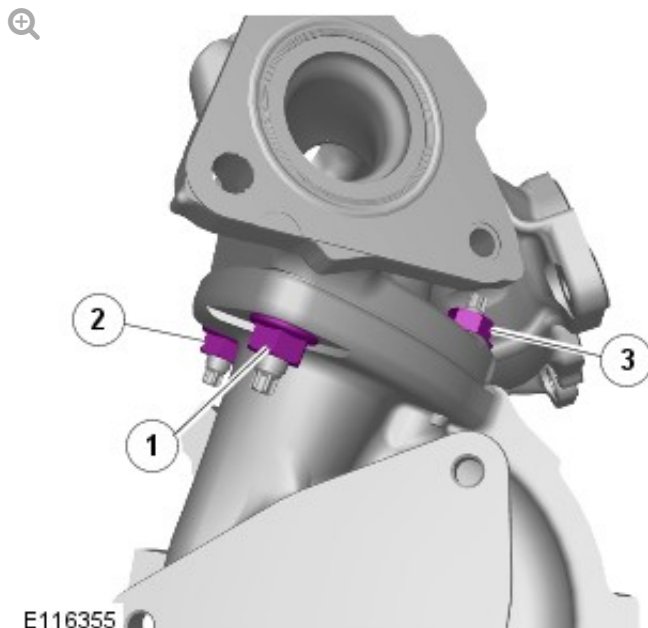
Only tighten the nut finger tight at this stage.



E113965

21.

- Tighten the bolts in the indicated sequence.
- Turbocharger shown removed for clarity.

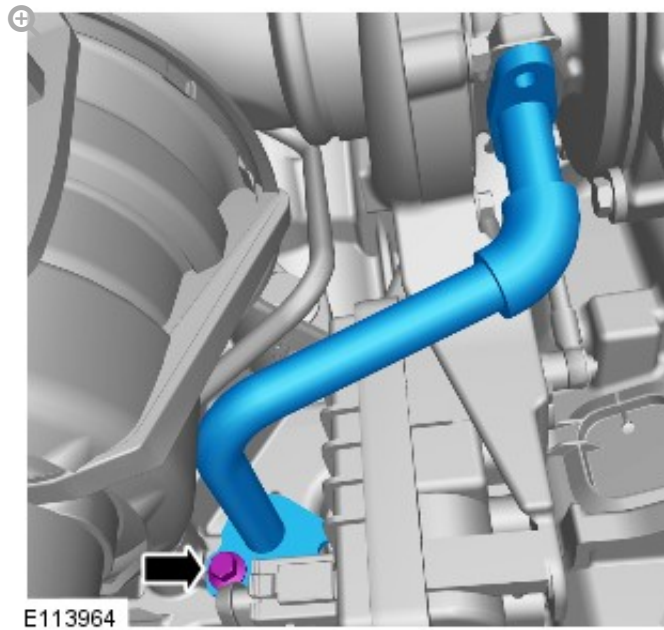


E116355

Torque: **24 Nm**

22.

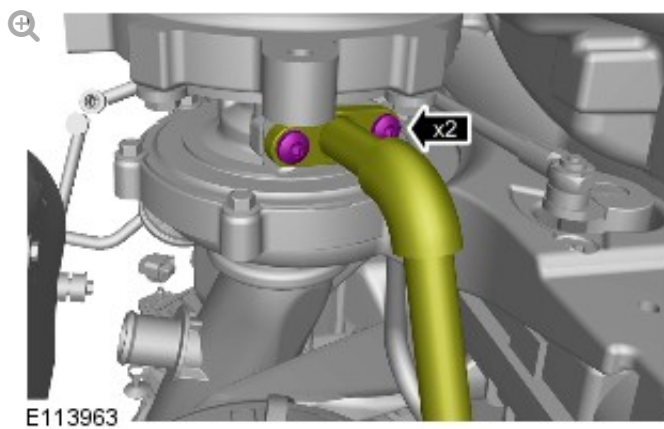
Install a new seal.



Torque: 10 Nm

23.

Install a new gasket.



Torque: 10 Nm