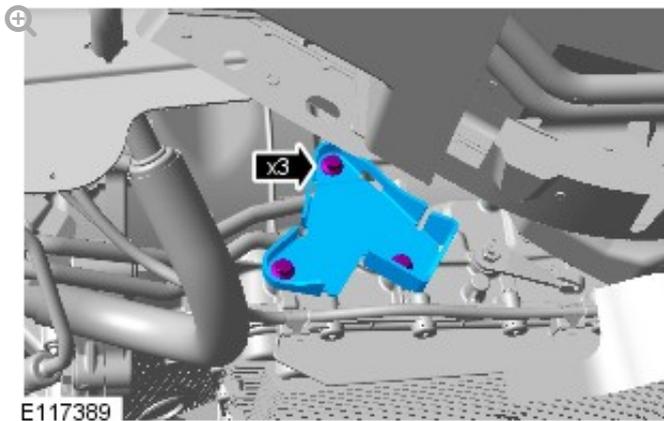


E117390

Torque: 10 Nm

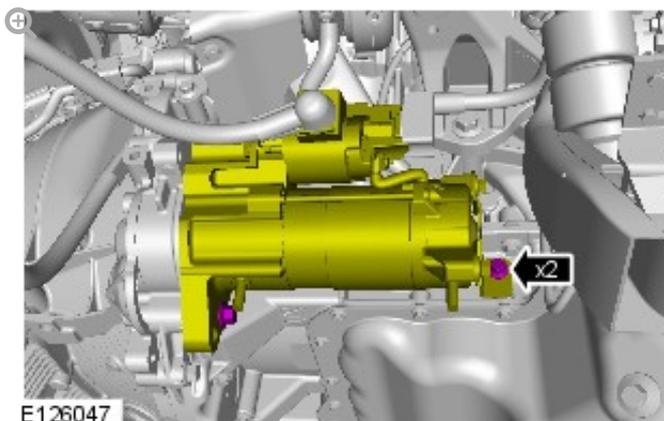
13.



E117389

Torque: 23 Nm

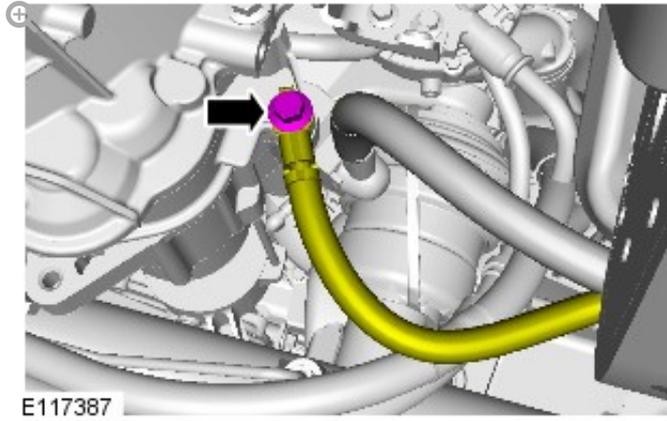
14.



E126047

Torque: 48 Nm

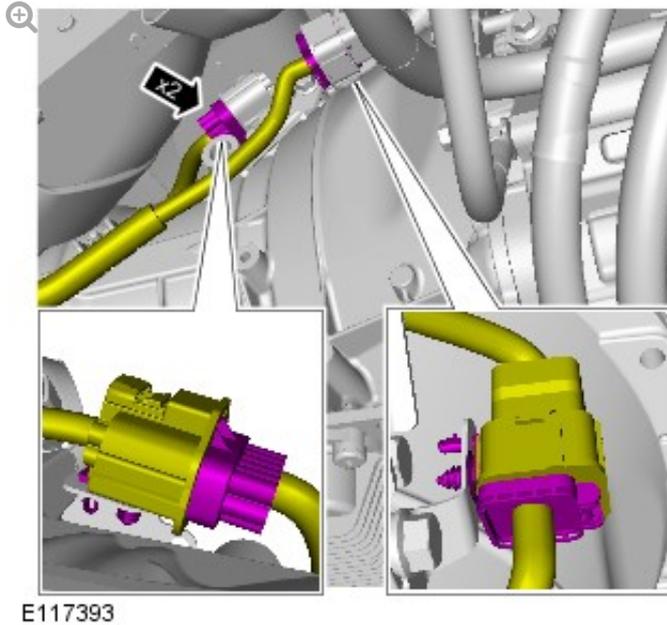
15.



Torque: 30 Nm

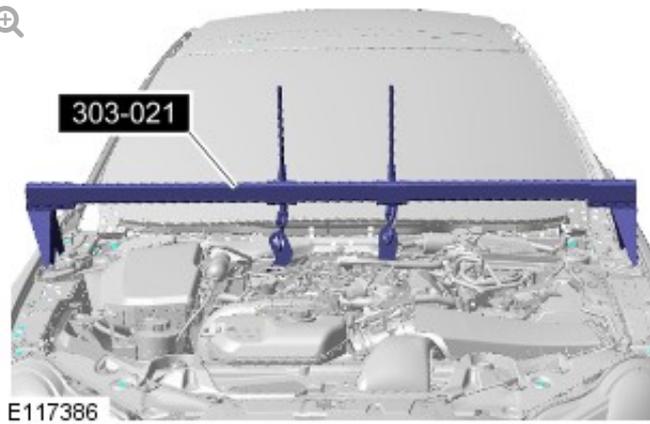
16. Refer to: [Intake Air Shutoff Throttle](#) (303-04A Fuel Charging and Controls - TDV6 3.0L Diesel, Removal and Installation).
Refer to: [Exhaust Manifold Cross-over Pipe](#) (303-01A Engine - TDV6 3.0L Diesel, Removal and Installation).

17.



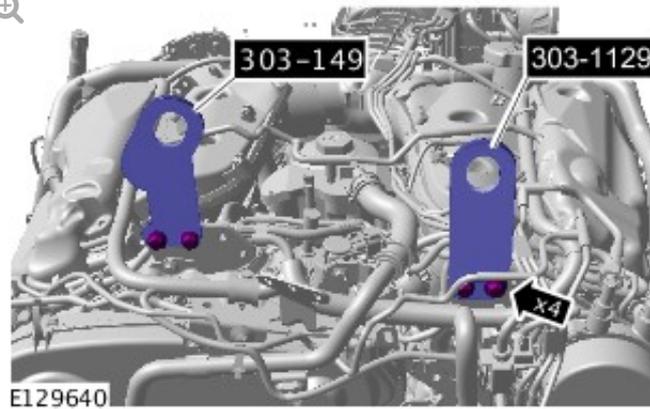
18. Lower the vehicle.

19.



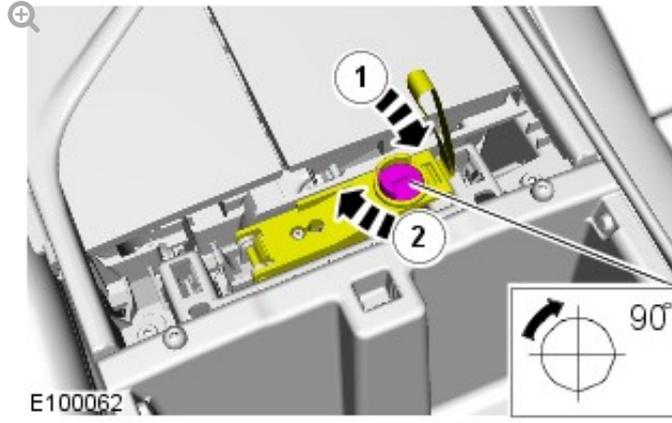
- Remove the special tool supporting the engine.
- *Special Tool(s):* [303-021](#)

20.

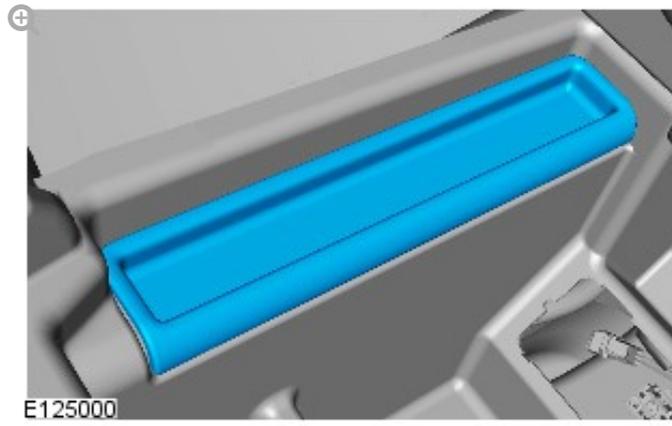


- Remove the special tools from the engine.
 - *Special Tool(s):* [303-1129](#), [303-1497](#)
21. Refer to: [Engine Cover - TDV6 3.0L Diesel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).
22. Refer to: [Battery Disconnect and Connect](#) (414-01 Battery, Mounting and Cables, General Procedures).

23.



24.



**AUTOMATIC
TRANSMISSION/TRANSAXLE**

**TRANSMISSION,
TRANSMISSION FLUID
COOLER AND TRANSMISSION
FLUID COOLER TUBES - TDV6
3.0L DIESEL** [G145283]

SPECIAL TOOL(S)



**303-
021**

Engine support
bracket



**303-
1129**

Engine Lifting
Brackets



**303-
1497**

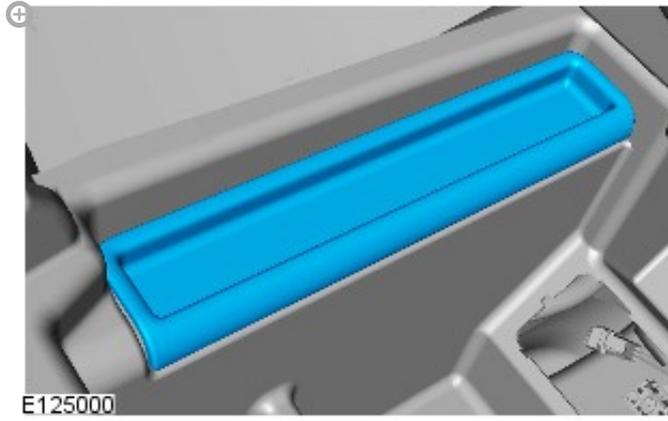
Left-Hand Rear
Engine Lifting
Bracket

REMOVAL

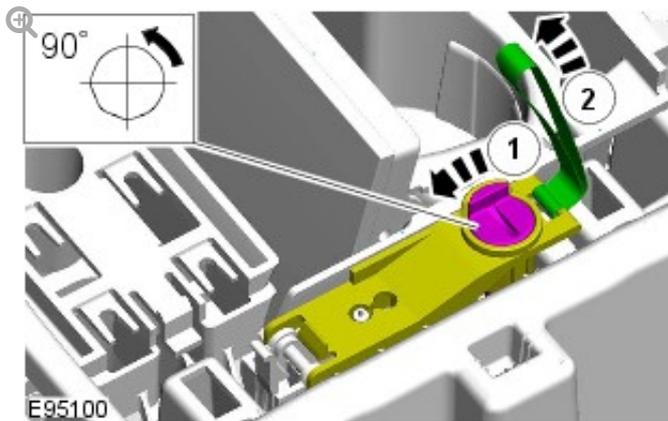
Make sure that all openings are sealed. Use new blanking caps.

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

1.



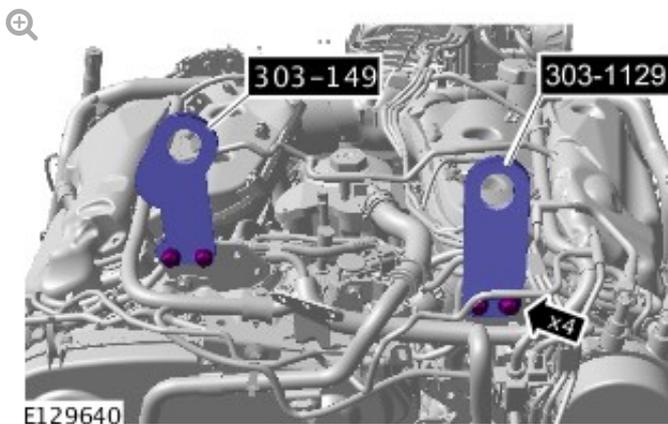
2.



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

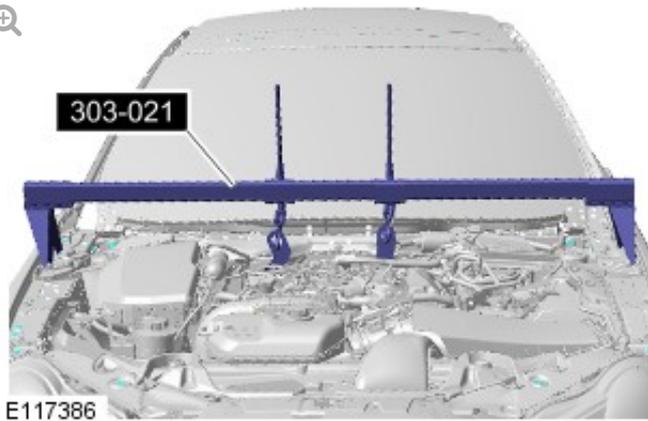
4. Refer to: [Engine Cover - TDV6 3.0L Diesel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).

5.



Special Tool(s): 303-1129, 303-1497

6.



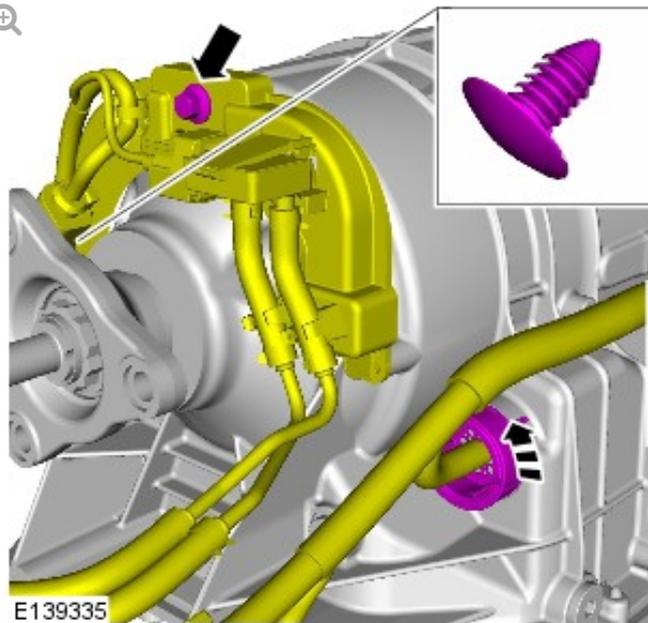
Special Tool(s): 303-021

7.

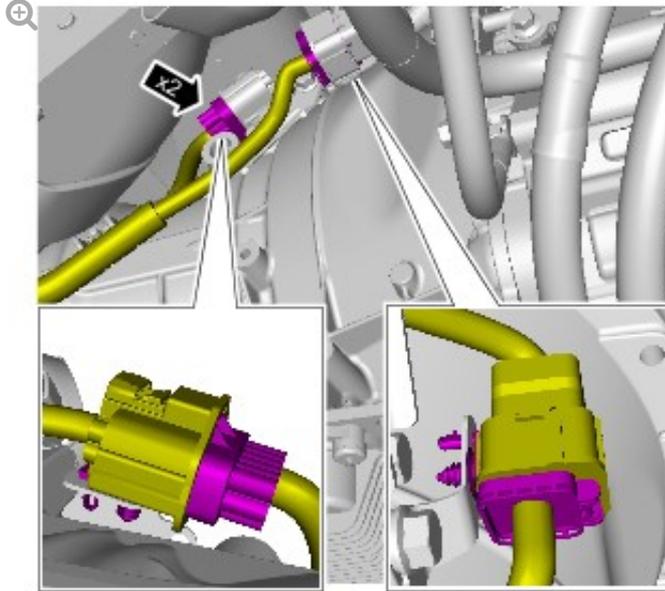
Make sure to support the vehicle with axle stands.

Raise and support the vehicle.

8.



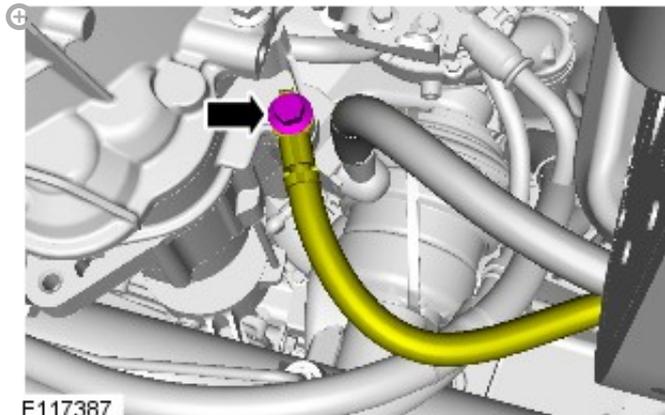
9.



E117393

10. Refer to: [Exhaust Manifold Cross-over Pipe \(303-01A Engine - TDV6 3.0L Diesel, Removal and Installation\)](#).

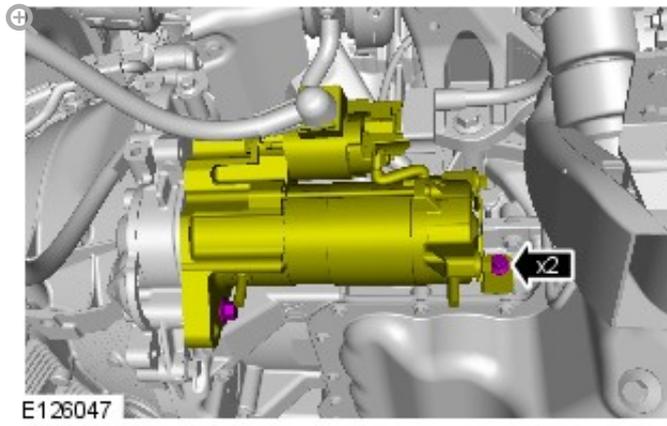
11.



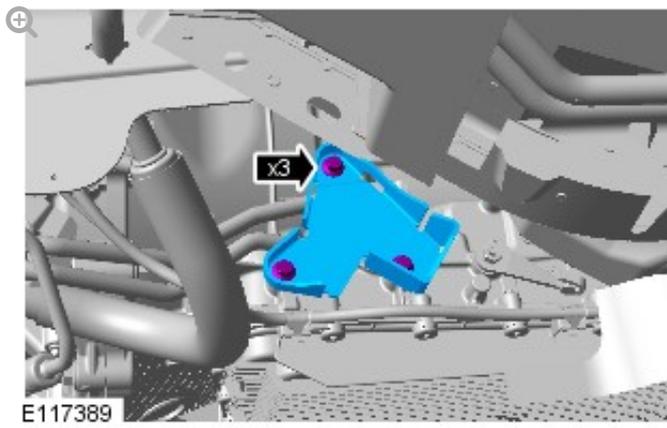
E117387

12.

Secure with cable ties.

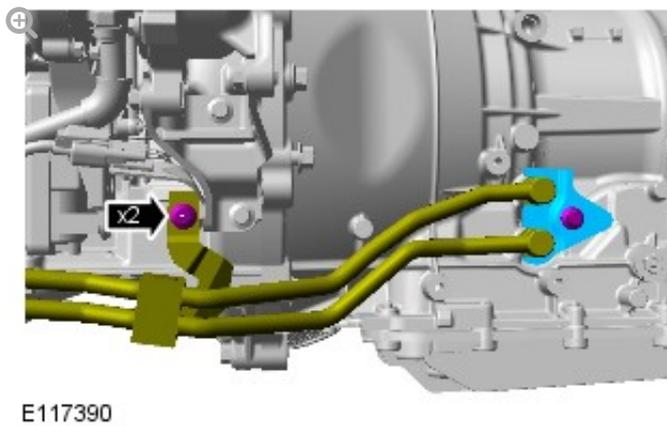


13.



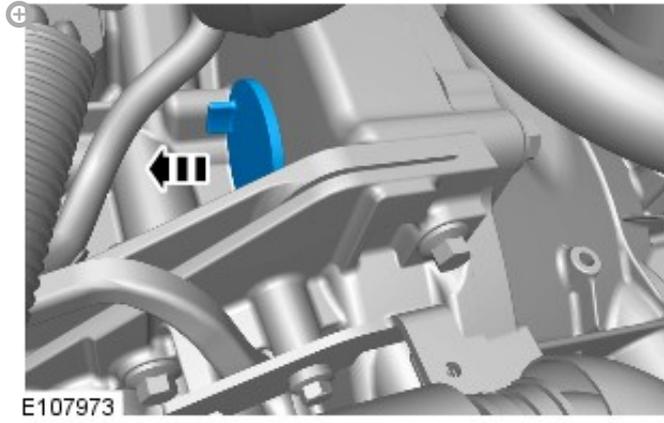
14.

Remove and discard the O-ring seals.



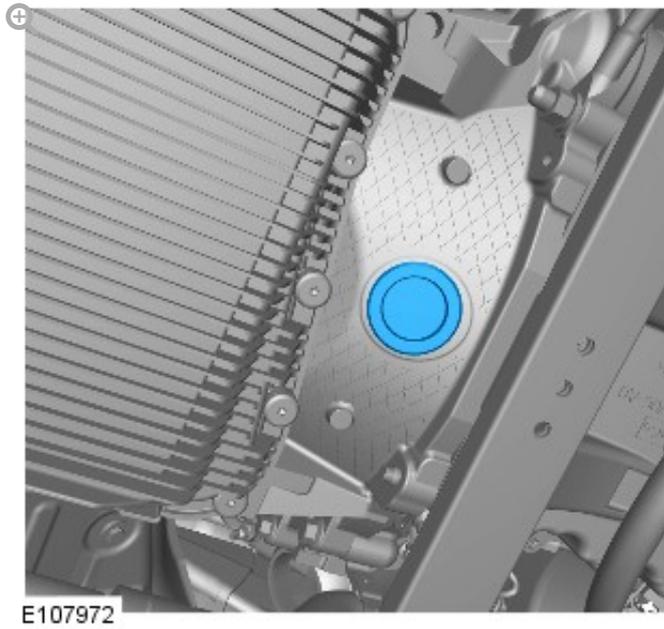
- Install blanking caps to the exposed ports.

15.



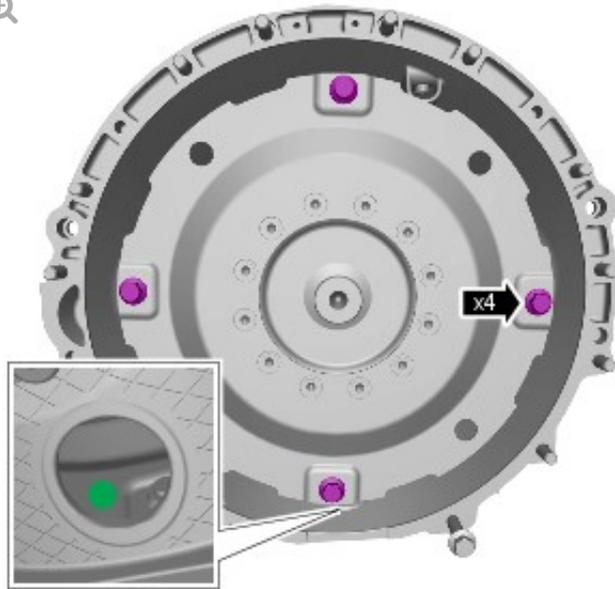
Remove the rubber access cover.

16.



17.

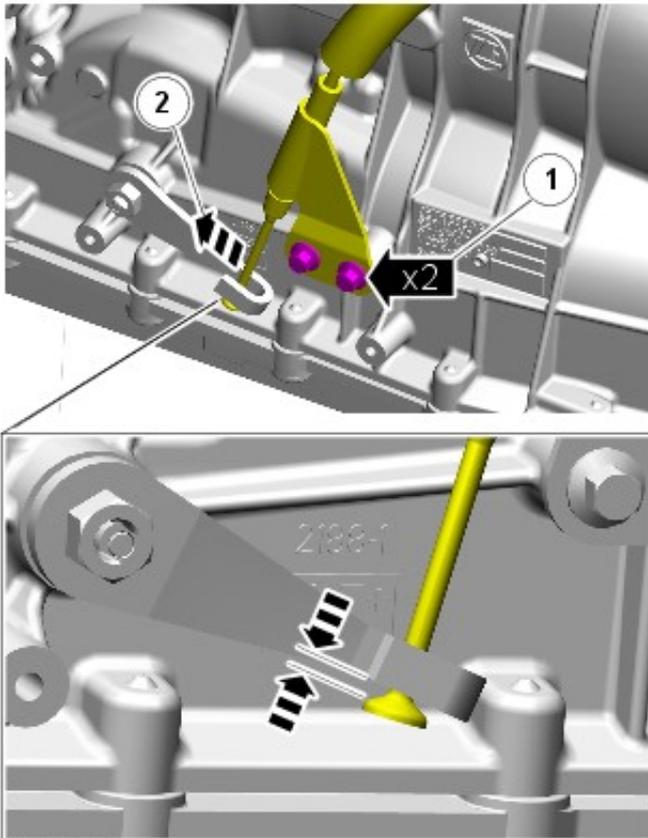
Only rotate the crankshaft clockwise.



E107974

- Make sure that the alignment mark is visible through the inspection hole on removal of the last torque converter bolt.

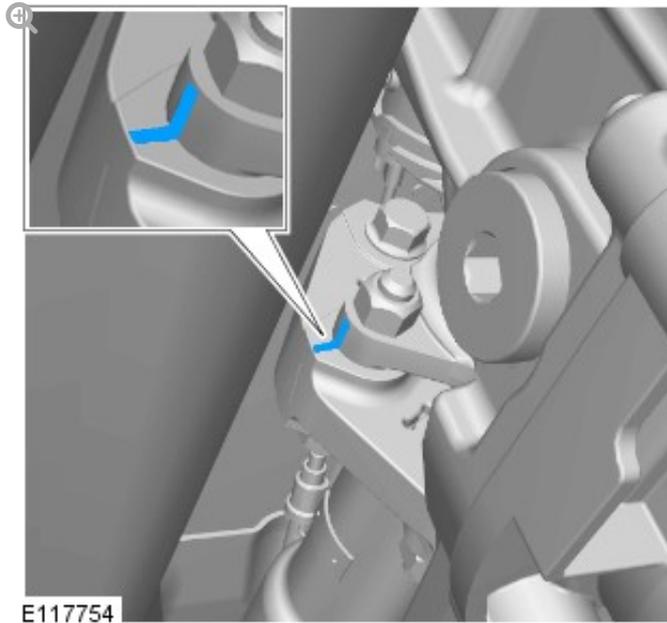
18.



E100350

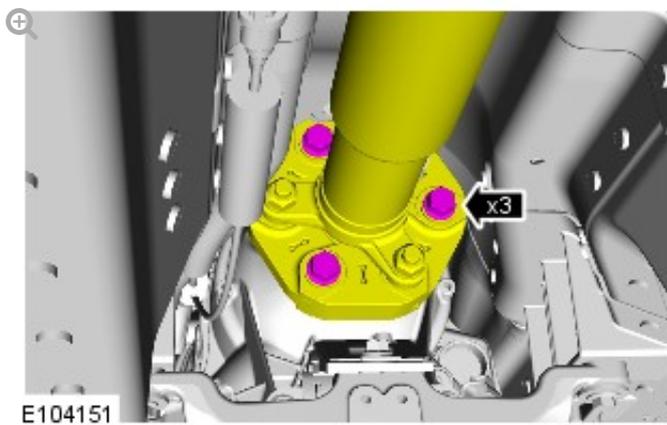
19.

Mark the position of the driveshaft on the transmission flange.



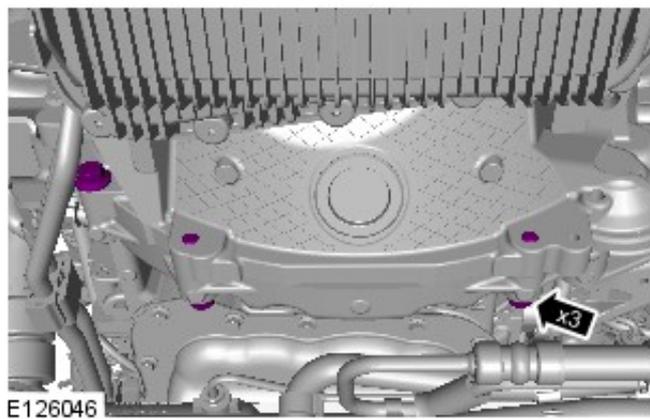
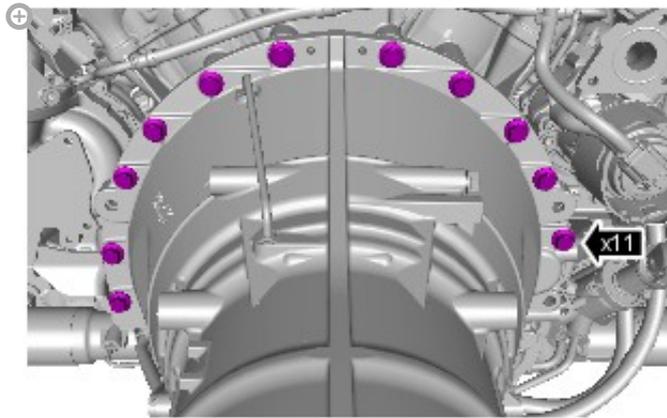
20.

Under no circumstances must the flexible coupling (or it's fixings) be loosened or removed from the driveshaft.



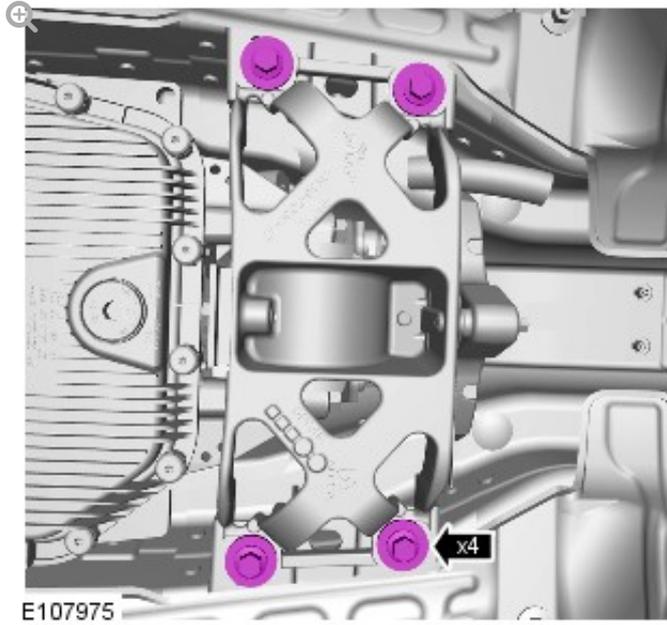
21.

Make sure that the transmission is secured with suitable retaining straps.



Align the powertrain assembly jack to the transmission.

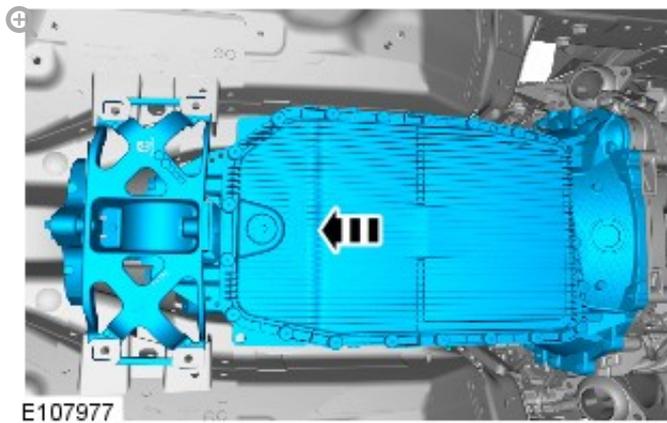
22.



23.

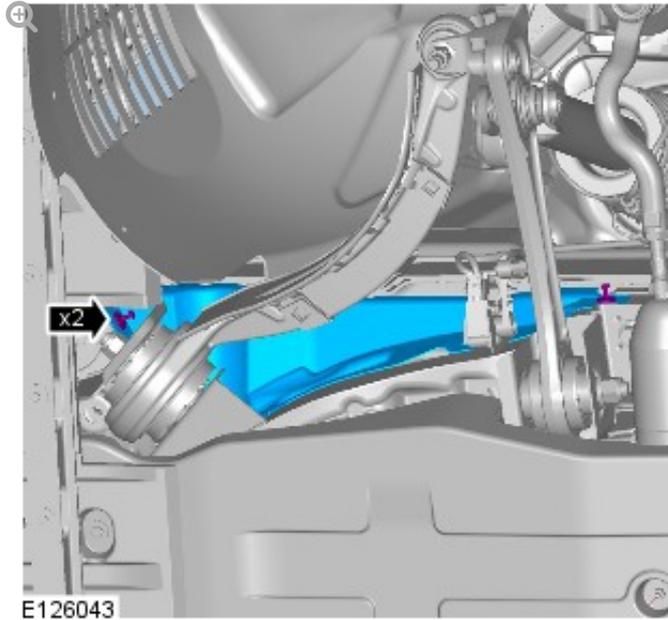
Make sure that the torque converter remains in the transmission.

This step requires the aid of another technician.

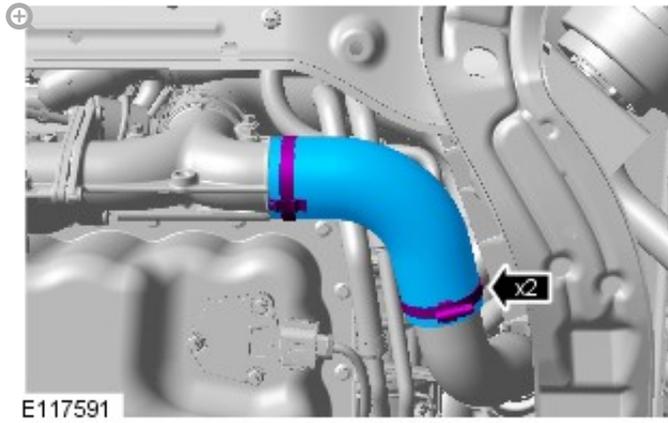


- Install the torque converter retainer.

24.

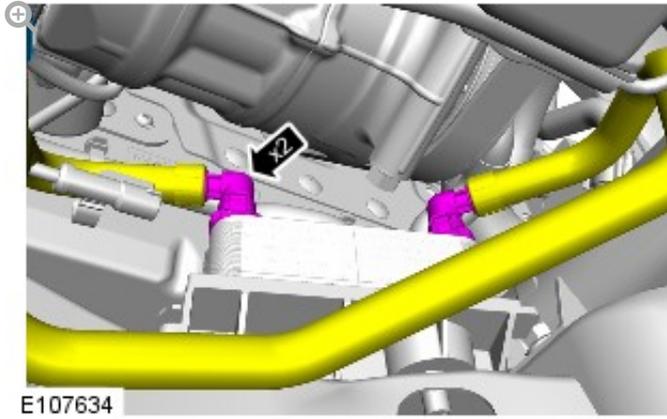


25.



26.

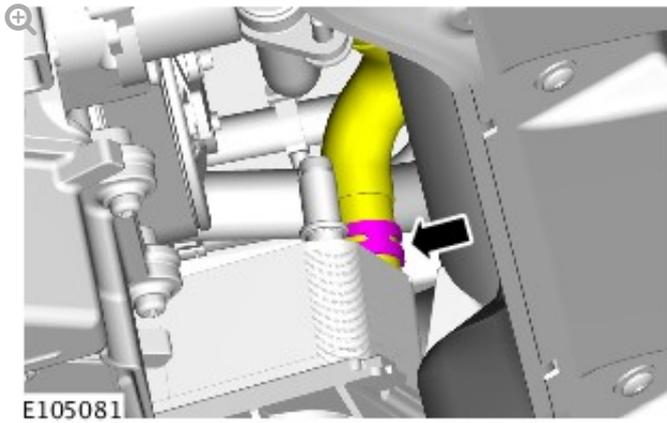
- Be prepared to collect escaping fluids.
- Make sure that all openings are sealed. Use new blanking caps.



27.

Be prepared to collect escaping coolant.

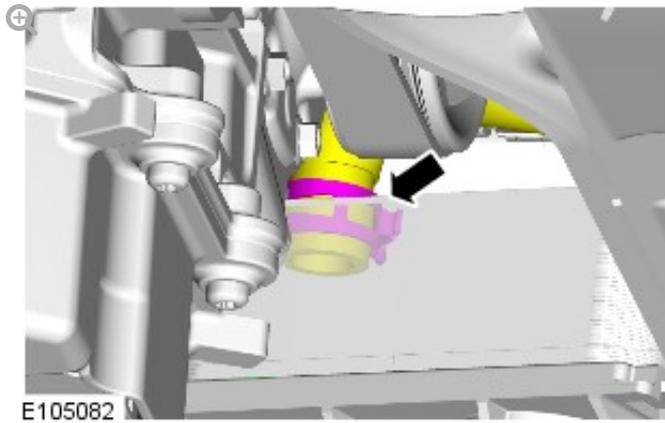
Clamp the hoses to minimize coolant loss.



28.

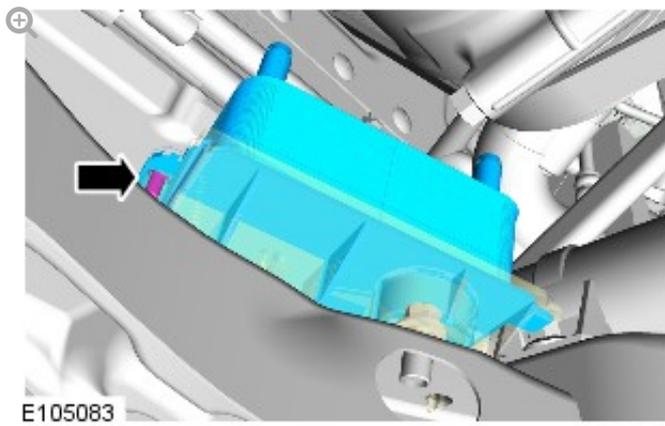
Be prepared to collect escaping coolant.

Clamp the hoses to minimize coolant loss.

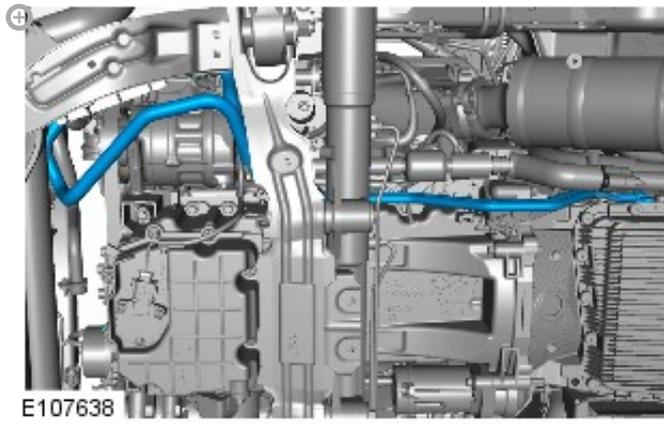


29.

Be prepared to collect escaping fluids.

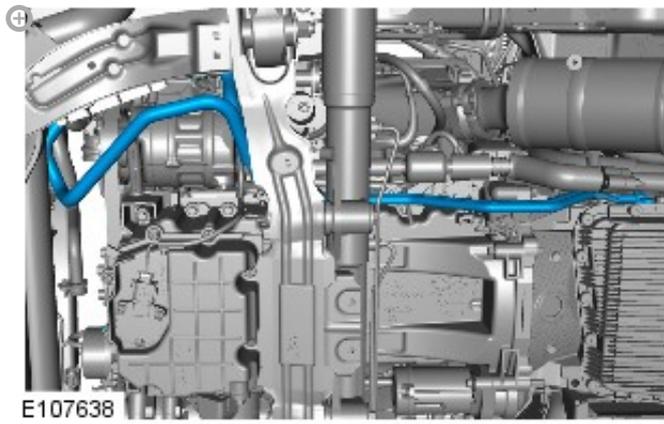


30.

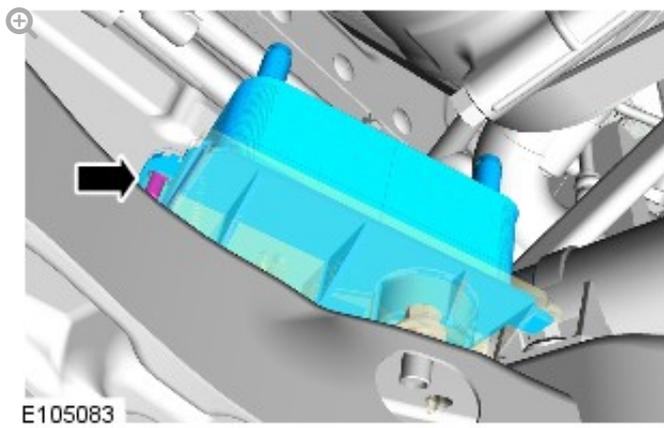


INSTALLATION

1.

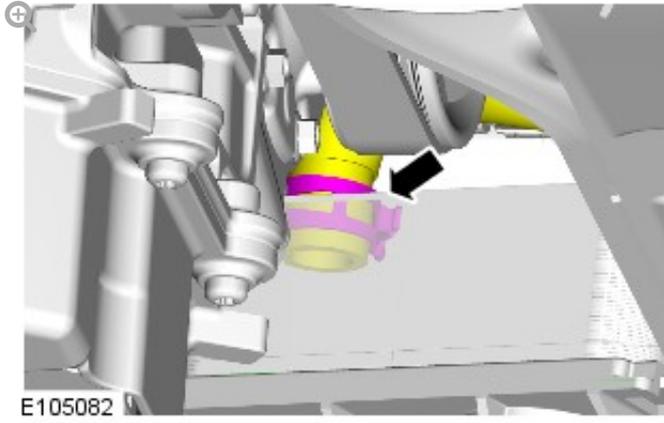


2.

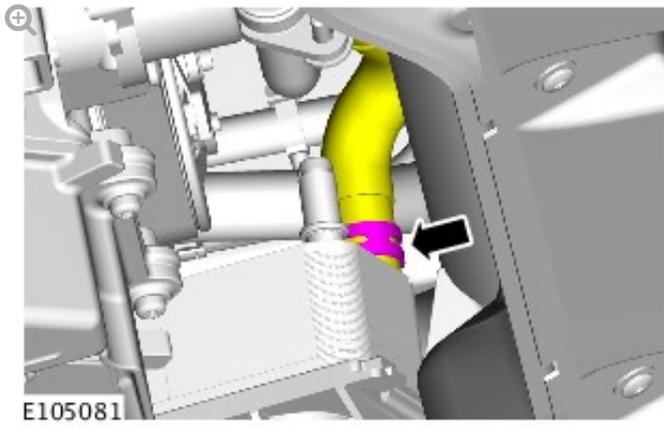


Torque: **5 Nm**

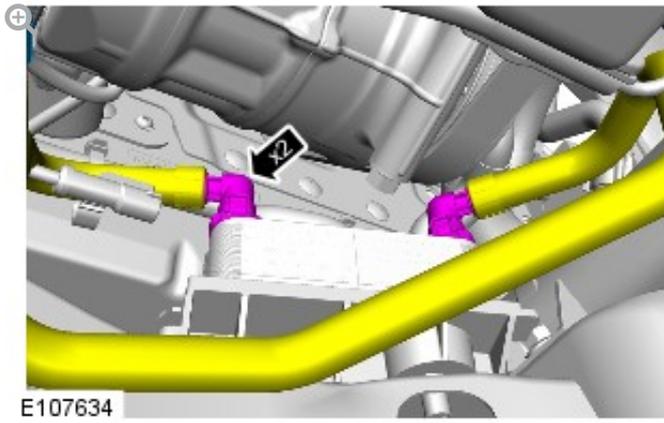
3.



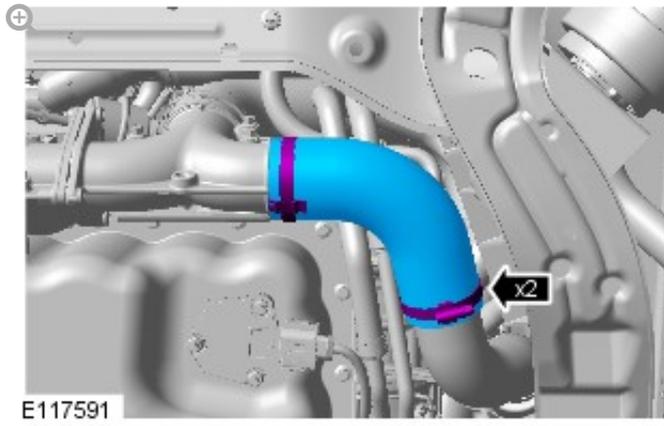
4.



5.

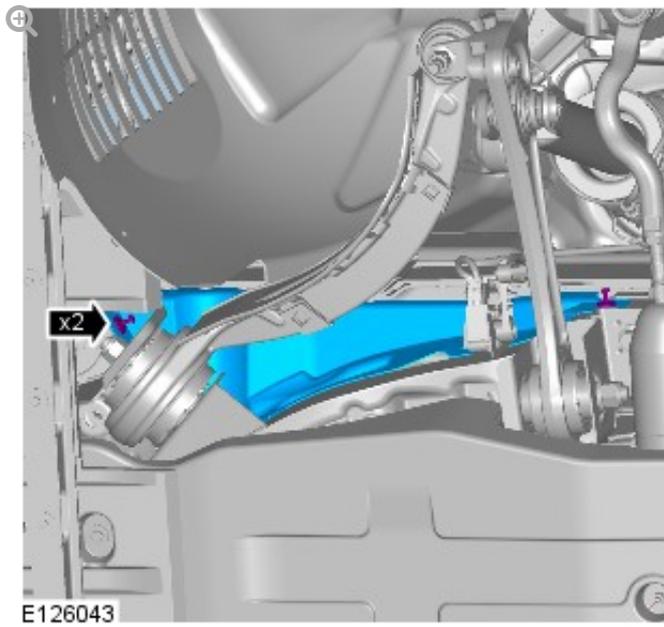


6.

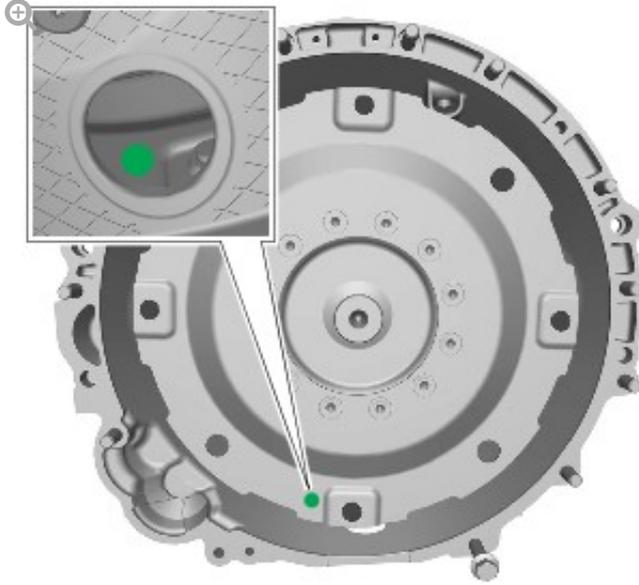


Torque: 5 Nm

7.



8.

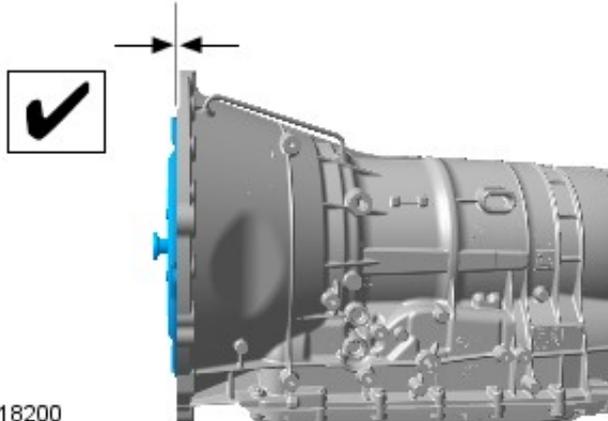
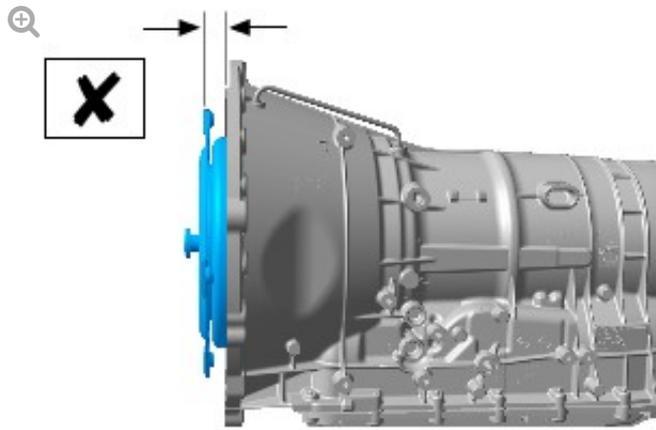


E117455

Make sure that the alignment mark is visible through the inspection hole on installation of the first torque converter bolt.

9.

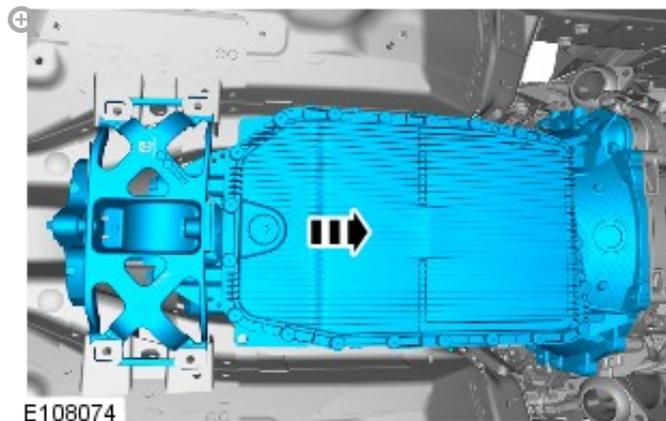
Make sure the torque converter is fully located into the oil pump drive.



E118200

10.

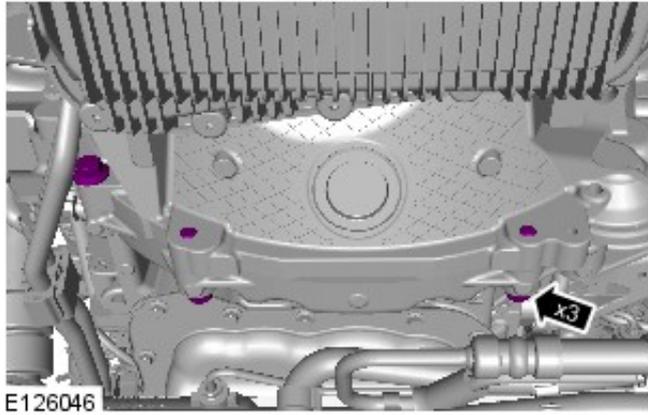
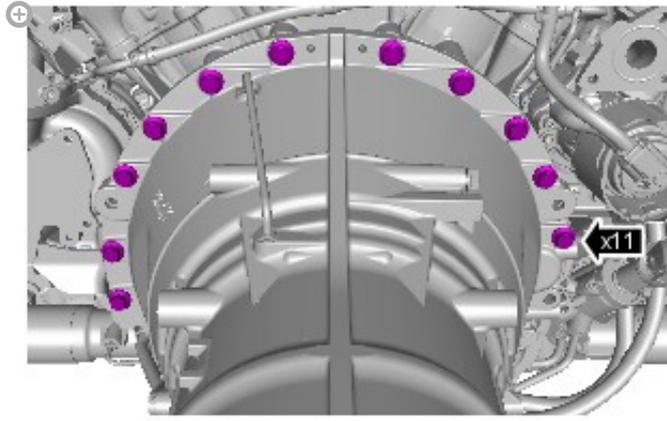
Make sure that the torque converter remains in the transmission.



E108074

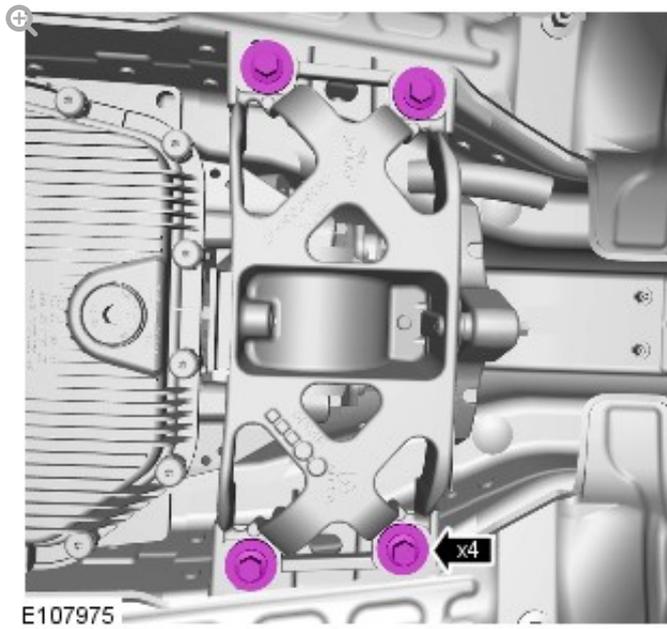
Raise the powertrain assembly jack and transmission assembly.

11.



Torque: 48 Nm

12.

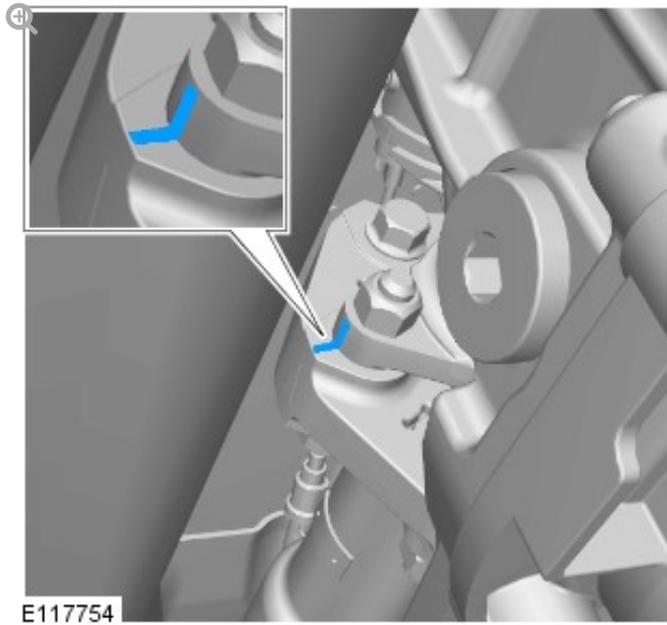


Torque: 48 Nm

13. Remove the transmission jack.

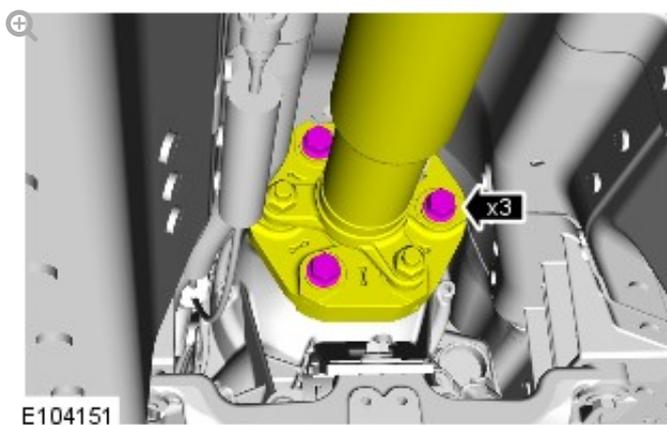
14.

Make sure that you re-align the driveshaft to the transmission flange using the alignment mark.



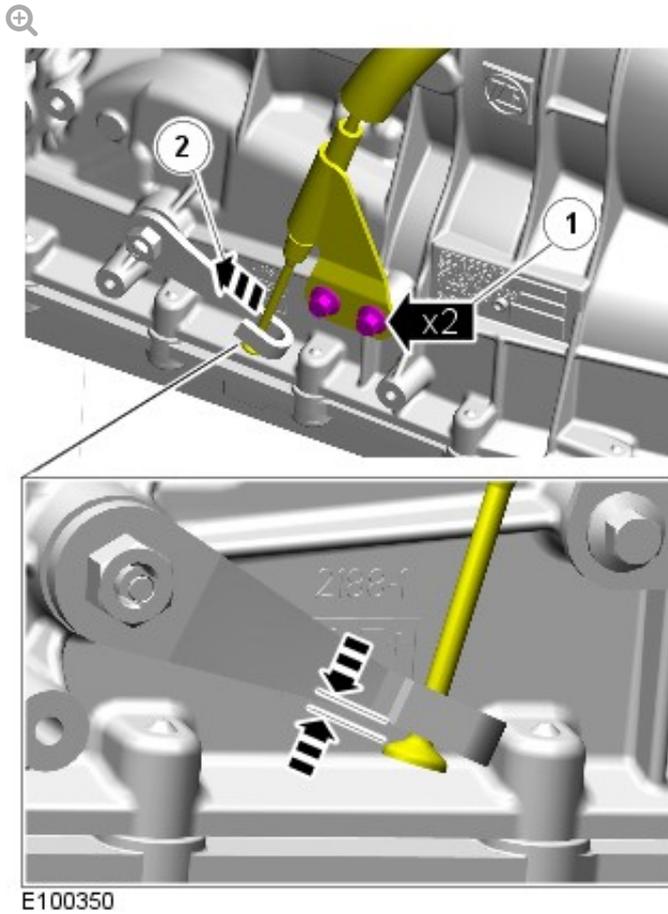
15.

Under no circumstances must the flexible coupling (or it's fixings) be loosened or removed from the driveshaft.



Torque: 127 Nm

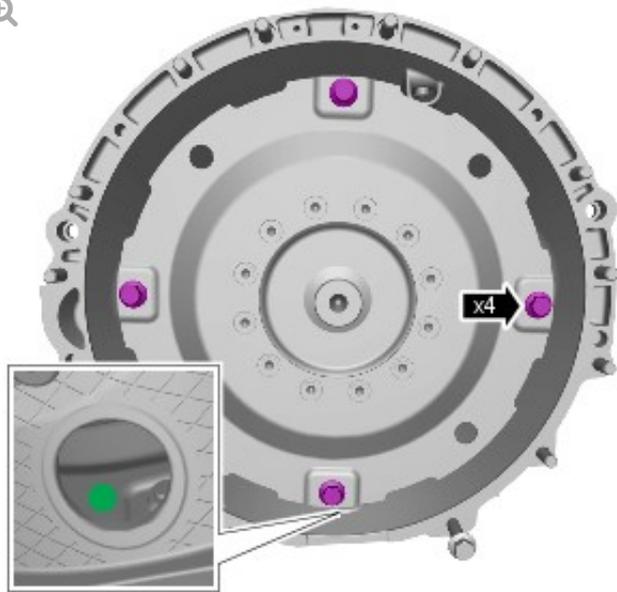
16.



Torque: 10 Nm

17.

Only rotate the crankshaft clockwise.



E107974

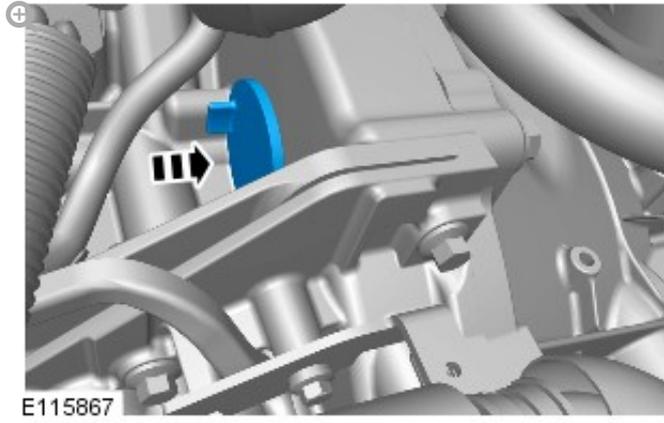
Torque: 63 Nm

18.



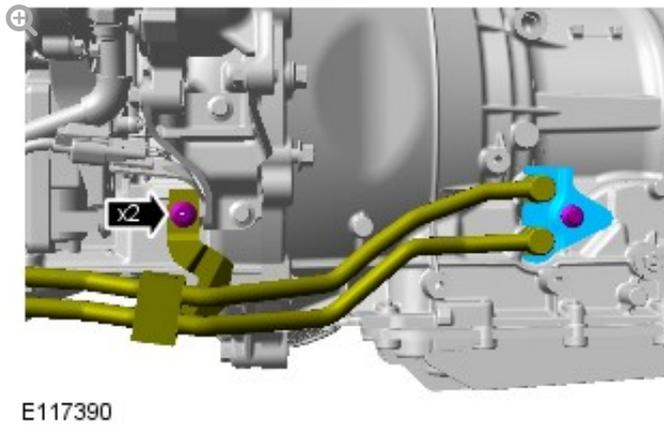
E107972

19.



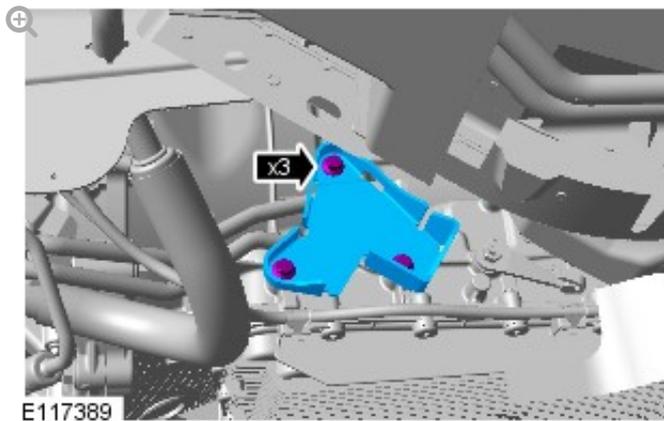
20.

Install new o-ring seals



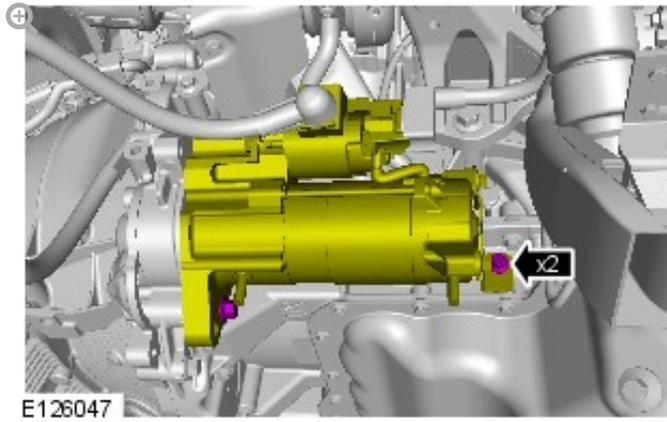
Torque: 10 Nm

21.



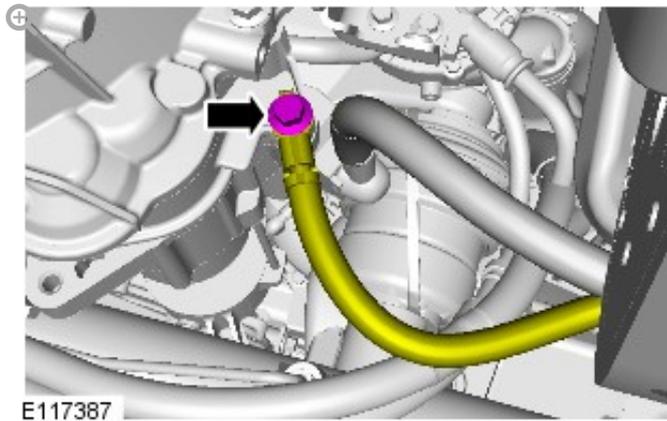
Torque: 23 Nm

22.



Torque: 48 Nm

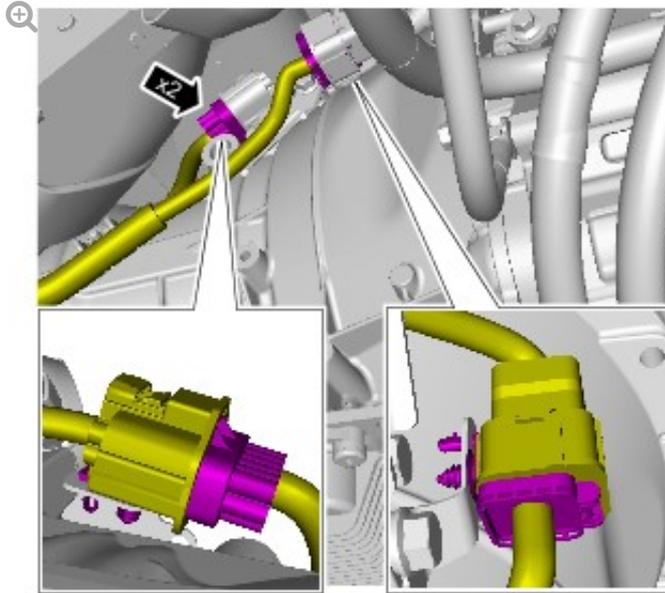
23.



Torque: 30 Nm

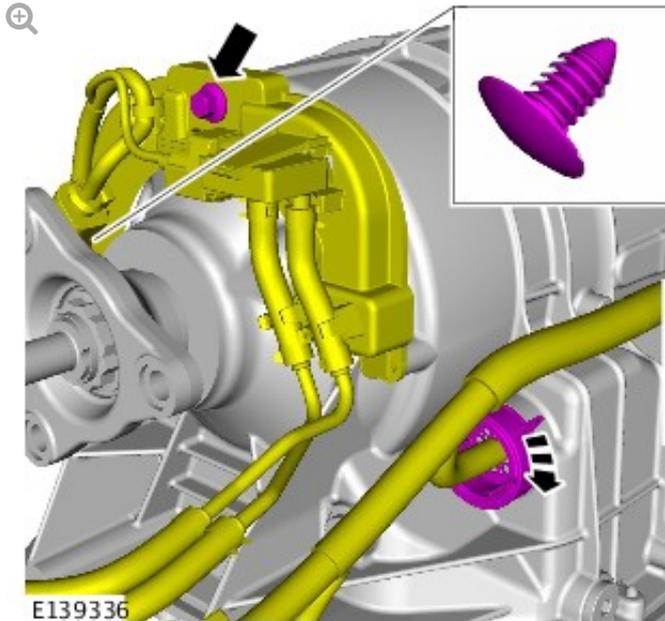
24. Refer to: [Exhaust Manifold Cross-over Pipe \(303-01A Engine - TDV6 3.0L Diesel, Removal and Installation\)](#).

25.



E117393

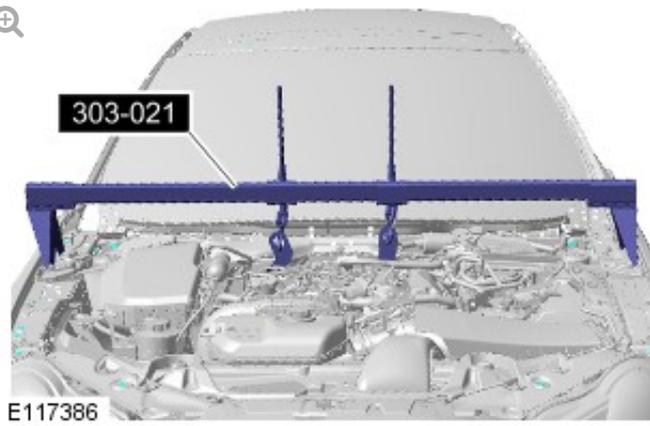
26.



E139336

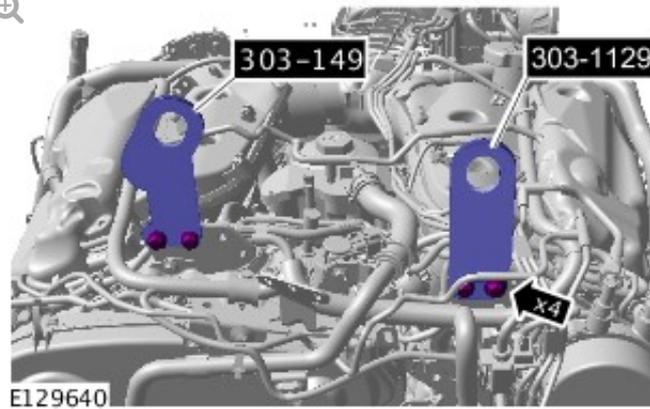
27. Lower the vehicle.

28.



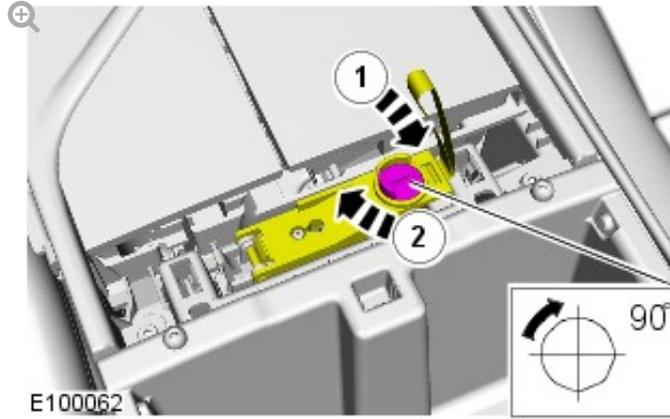
- Remove the special tool supporting the engine.
- *Special Tool(s):* [303-021](#)

29.

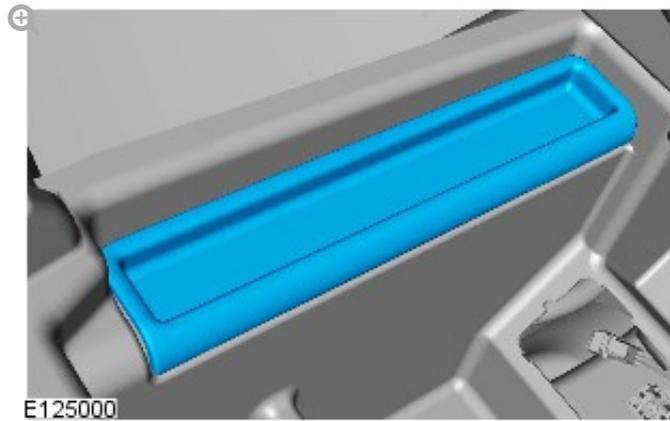


- Remove the special tools from the engine.
 - *Special Tool(s):* [303-1129](#), [303-1497](#)
30. Refer to: [Engine Cover - TDV6 3.0L Diesel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).
31. Refer to: [Battery Disconnect and Connect](#) (414-01 Battery, Mounting and Cables, General Procedures).

32.



33.



34. Check and top up the cooling system as required.

35. Set the heater controls to HOT.

36.

Observe the engine temperature warning light. If the warning light is displayed, switch off immediately and allow to cool. Failure to follow this instruction may cause damage to the vehicle.

Start the engine and allow to idle until hot air is emitted at the face registers.

37.

Observe the engine temperature warning light. If the warning light is displayed, switch off immediately and allow to cool. Failure to follow this instruction may cause damage to the vehicle.

Raise the engine speed to 2000 RPM and maintain at 2000 RPM until the engine cooling fan operates.

38.

Switch off the engine and allow the coolant temperature to go cold.

Switch the engine off and allow to cool.

39. Visually check the engine and cooling system for signs of coolant leakage.

40.

- When releasing the cooling system pressure, cover the coolant expansion tank cap with a thick cloth.
- Since injury such as scalding could be caused by escaping steam or coolant, make sure the vehicle cooling system is cool prior to carrying out this procedure.

- Make sure the coolant level remains above the "COLD FILL RANGE" lower level mark.
- Anti-freeze concentration must be maintained at 50%.

When the cooling system is warm, the coolant will be approximately 10mm above the upper level mark on the expansion tank with the cap removed.

Check and top-up the coolant if required.

- 4.1. Refer to: [Transmission Fluid Level Check](#) (307-01 Automatic Transmission/Transaxle, General Procedures).

PUBLISHED: 02-AUG-2017
2015.0 XJ RANGE (X351), 307-01

AUTOMATIC TRANSMISSION/TRANSAXLE - VEHICLES WITH: 8HP70 8-SPEED AUTOMATIC
TRANSMISSION RWD

TRANSMISSION FLUID PAN, GASKET AND FILTER - GTDI 2.0L
PETROL/TDV6 3.0L DIESEL /V6 S/C 3.0L PETROL /V8 N/A 5.0L
PETROL/V8 S/C 5.0L PETROL (G1450194)

| | | | | |
|----------|--------------------------------|------------------|-----|--------------|
| 44.24.05 | FLUID PAN GASKET - RENEW | 3000 CC, TDV6 | 1.6 | USED WITHINS |
|----------|--------------------------------|------------------|-----|--------------|

PART(S)

| STEP | REPLACE PART / RENEW PART | PART NAME |
|---------------------|---------------------------|-------------------------------------------------|
| Installation Step 1 | Renew Part | Transmission fluid pan, gasket and filter bolts |

REMOVAL

 NOTE:

Removal steps in this procedure may contain installation details.

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

2.  WARNING:

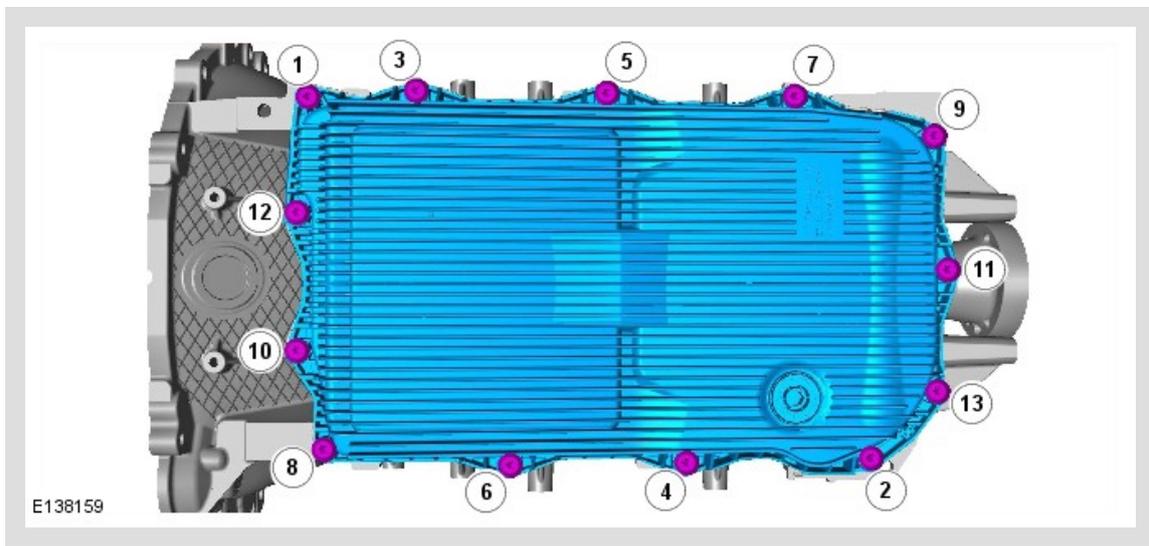
Make sure to support the vehicle with axle stands.

Raise and support the vehicle.

3. Refer to: [Transmission Fluid Drain and Refill](#) (307-01C Automatic Transmission/Transaxle - Vehicles With: 8HP70 8-Speed Automatic Transmission AWD, General Procedures).

4.  CAUTIONS:

- Take extra care when removing the component to prevent damage to the transmission mating faces.
- Make sure that the area around the component is clean and free of foreign material.
- Be prepared to collect escaping fluids.
- Discard the components.



Torque: 10 Nm

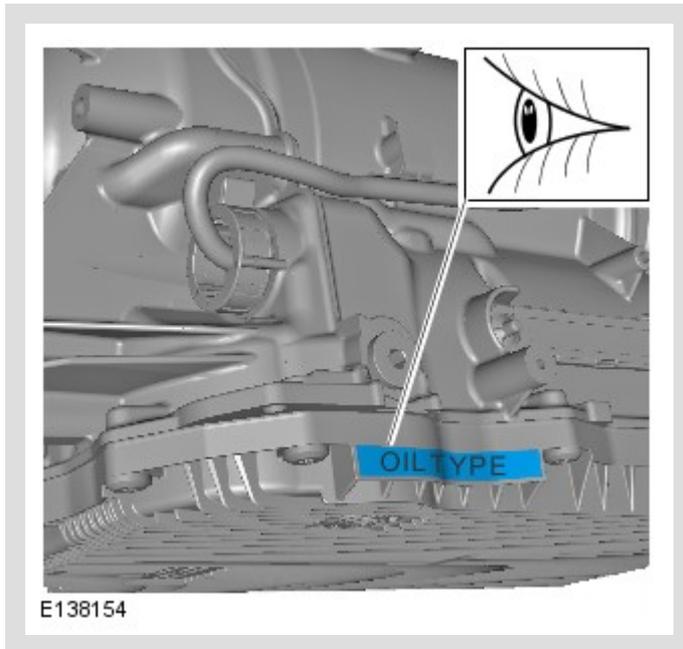
INSTALLATION

1.



CAUTIONS:

- Make sure the correct specification and quantity of oil is used.
- Make sure that new components are installed.
- Make sure that the mating faces are clean and free of corrosion and foreign material.



To install, reverse the removal procedure.

Renew Part: *Transmission fluid pan, gasket and filter bolts* : .

PUBLISHED: 24-JAN-2017
2015.0 XJ RANGE (X351), 307-01

**AUTOMATIC TRANSMISSION/TRANSAXLE - VEHICLES WITH: 8HP70
8-SPEED AUTOMATIC TRANSMISSION RWD**

For a detailed description of the automatic transmission/transaxle and operation, refer to the relevant Description and Operation section in the workshop manual. REFER to: (307-01A Automatic Transmission/Transaxle - Vehicles With: 6HP28 6-Speed Automatic Transmission)

[Transmission Description](#) (Description and Operation),

[Transmission Description](#) (Description and Operation),

[Transmission Description](#) (Description and Operation).

⚠ CAUTION:

The vehicle should not be driven if the fluid level is low as internal failure can result.

⚠ NOTE:

The transmission fluid temperature must not be allowed to exceed 50°C (122°F) whilst checking level. Should the temperature rise above this figure, abort the check and allow the transmission fluid to cool to below 30°C (86°F).

This vehicle is not equipped with a fluid level indicator. An incorrect level may affect the transmission operation and could result in transmission damage. To correctly check and add fluid to the transmission.

HIGH FLUID LEVEL

A fluid level that is too high may cause the fluid to become aerated due to the churning action of the rotating internal parts. This will cause erratic control pressure, foaming, loss of fluid from the vent tube and possible transmission damage. If an overfill condition is identified, with the engine at idle ensure the fluid temperature is within the specified range and allow the excess fluid to drain until a small thread of fluid runs from the filler/level plug hole.

LOW FLUID LEVEL

A low fluid level could result in poor transmission engagement, slipping, or damage. This could also indicate a leak in one of the transmission seals or gaskets.

ADDING FLUID**⚠ CAUTION:**

The use of any other type of transmission fluid other than that specified can result in transmission damage.

If fluid needs to be added, add fluid in 0.50 litre increments through the fill hole Opening. Do not overfill the fluid. For fluid type, refer to the General Specification chart in this section.

FLUID CONDITION CHECK

1. Check the fluid level.
1. Observe the colour and the odour of the fluid. The colour under normal circumstances should be Honey.
1. Allow the fluid to drip onto a facial tissue and examine the stain.
1. If evidence of solid material is found, the transmission fluid pan should be removed for further inspection.

NOTE: In the event of a transmission unit replacement for internal failure, the oil cooler and pipes must also be replaced.

INSPECTION AND VERIFICATION

1. Verify the customer concern.
1. Visually inspect for obvious signs of damage and system integrity.

Visual Inspection

| MECHANICAL | ELECTRICAL | HYDRAULIC |
|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> ▪ Damaged/stuck shift mechanism ▪ Damaged automatic transmission casing | <ul style="list-style-type: none"> ▪ Blown fuse(s) ▪ Damaged, loose or corroded connectors ▪ Wiring harness | <ul style="list-style-type: none"> ▪ Fluid level too high/low ▪ Poor condition of fluid ▪ Fluid leak |

1. If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step.
1. If the cause is not visually evident, check for Diagnostic Trouble Codes (DTCs) and refer to the DTC Index.

8-SPEED TRANSMISSION ISSUES - OIL LEAK DETECTION

Symptom Chart

| SYMPTOM | POSSIBLE SOURCES | ACTION |
|---------|------------------|--------|
| | | |

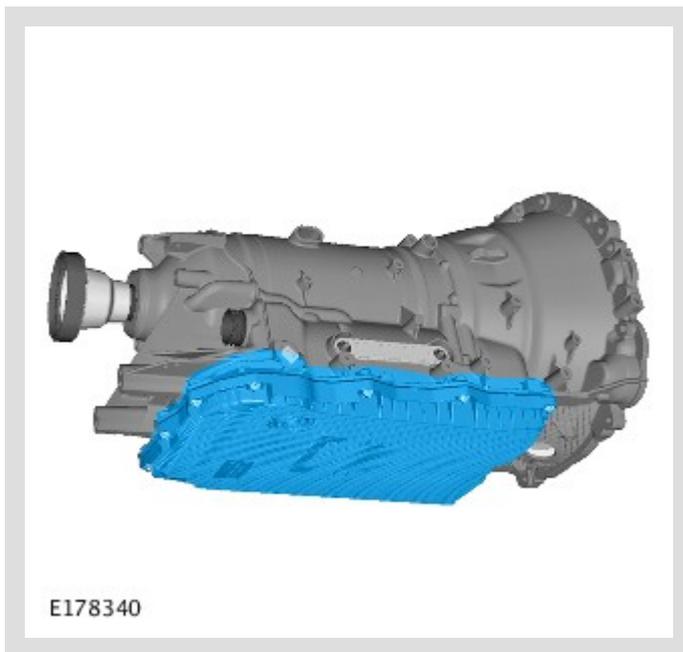
SERVICE INSTRUCTION

NOTES:

- Slight surface oil dampness without drops are acceptable and should not be repaired as a leak.
- Be aware that oil leaks from above the transmission will cause oil to collect on the transmission oil pan i.e. engine leaks, oil cooler pipe leaks, even diesel fuel leak.
- Fixing the incorrect leak does not satisfy the customer.

1. Remove the transmission undershield to gain access to the transmission area (REFER to: Workshop Manual Section 501-02).

1. Using a suitable degreaser, thoroughly degrease the transmission oil pan and transmission oil pan seal all the way around the transmission, as well as approximately 25-50mm (1-2 inches) above the seal.



1. Using a suitable detector spray, thoroughly coat the transmission oil pan, going all the way around the transmission. Coat the oil pan seal and 25-50mm (1-2 inches) above the seal.



1. Install the transmission undershield (REFER to: Workshop Manual Section 501-02)
1. Complete a suitable road test and make sure that the engine gets to normal operating temperature

 **NOTE:**

Note the exact source of the transmission oil leak.

1. Remove the transmission undershield (REFER to: Workshop Manual Section 501-02)
 1. Make sure the oil leak is definitely coming from the transmission oil pan body or the transmission oil pan seal
 2. If you find that the transmission oil pan or the transmission oil pan seal are not leaking, DO NOT change these components
 3. Continue diagnosis until the exact source of the leak is found.

1. Check the tightening torque figures for the transmission oil pan before suspecting loose screws.
REFER to: Specifications (307-01A Automatic Transmission/Transaxle - Vehicles With: 8HP70 8-Speed Automatic Transmission AWD/8HP45 8-Speed Automatic Transmission AWD/8HP45 8-Speed Automatic Transmission RWD, Specifications)

1. To install, reverse the removal procedure.

DTC INDEX

For a list of Diagnostic Trouble Codes (DTCs) that could be logged on this vehicle, please refer to Section 100-00.

REFER to: [Diagnostic Trouble Code Index - DTC: Transmission Control Module \(TCM\)](#) (100-00 General Information, Description and Operation) /

[Diagnostic Trouble Code Index - DTC: Transmission Control Switch \(TCS\)](#) (100-00 General Information, Description and Operation).

PUBLISHED: 02-AUG-2017
2015.0 XJ RANGE (X351), 307-01

AUTOMATIC TRANSMISSION/TRANSAXLE - VEHICLES WITH: 8HP70 8-SPEED AUTOMATIC
TRANSMISSION RWD

EXTENSION HOUSING SEAL - TDV6 3.0L DIESEL (G1571596)

| | | | | |
|----------|-----------------------------------------------------|------------------|-----|--------------|
| 44.20.18 | REAR EXTENSION HOUSING OIL SEAL - RENEW | 3000 CC, TDV6 | 2.2 | USED WITHINS |
|----------|-----------------------------------------------------|------------------|-----|--------------|

SPECIAL TOOL(S)





204-264

204-264

Pinion Seal
Replacer



E54574

205-053

Retainer, Differential Pinion
Flange

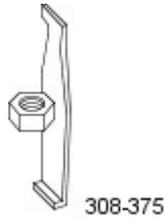


E64849

303-D121

303-D121

Puller, General
Purpose



308-375

Remover, Input and Output Seal

PART(S)

| STEP | REPLACE PART / RENEW PART | PART NAME | |
|--------|---------------------------|---------------------------------------|--|
| Step 1 | Renew Part | Transmission output shaft flange seal | |
| Step 2 | Renew Part | Output shaft flange nut | |

REMOVAL

All vehicles

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

2.  **WARNING:**

Make sure to support the vehicle with axle stands.

Raise and support the vehicle.

Vehicles with diesel engine

1. Refer to: [Driveshaft - TDV6 3.0L Diesel , RWD](#) (205-01 Driveshaft, Removal and Installation).

2. Refer to: [Transmission Support Insulator - TDV6 3.0L Diesel](#) (307-01B Automatic Transmission/Transaxle - Vehicles With: 8HP70 8-Speed Automatic Transmission RWD, Removal and Installation).

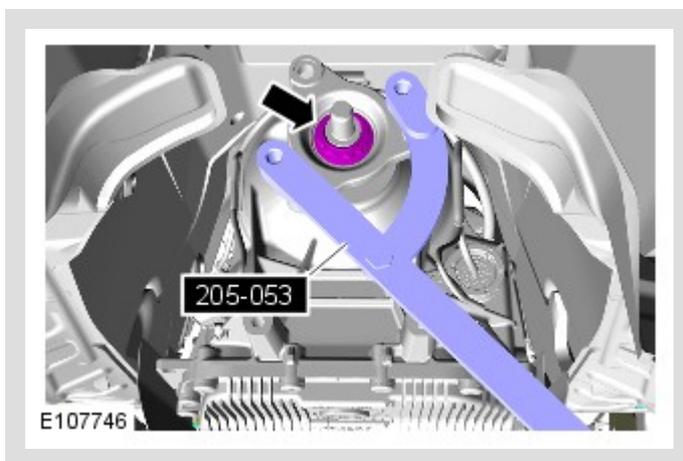
Vehicles with petrol engine

1. Refer to: [Driveshaft - GTDi 2.0L Petrol/V6 S/C 3.0L Petrol /V8 N/A 5.0L Petrol/V8 S/C 5.0L Petrol, RWD](#) (205-01 Driveshaft, Removal and Installation).
2. Refer to: [Transmission Support Insulator - GTDi 2.0L Petrol/V6 N/A 3.0L Petrol/V6 S/C 3.0L Petrol /V8 N/A 5.0L Petrol/V8 S/C 5.0L Petrol](#) (307-01B Automatic Transmission/Transaxle - Vehicles With: 8HP70 8-Speed Automatic Transmission RWD, Removal and Installation).

All vehicles

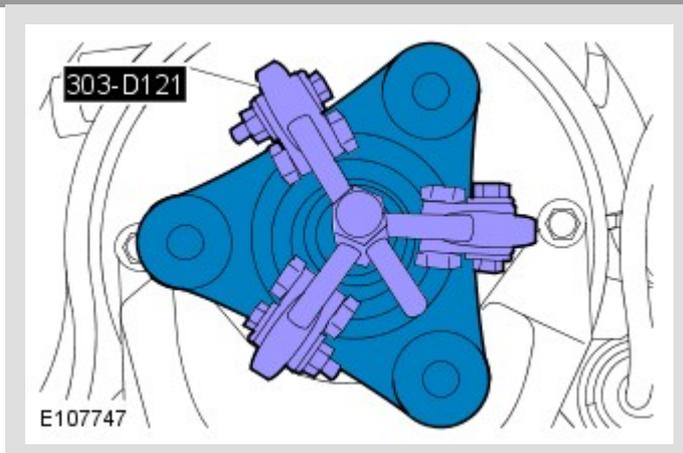
1. **⚠ CAUTION:**

Discard the nut.



Special Tool(s): [205-053](#)

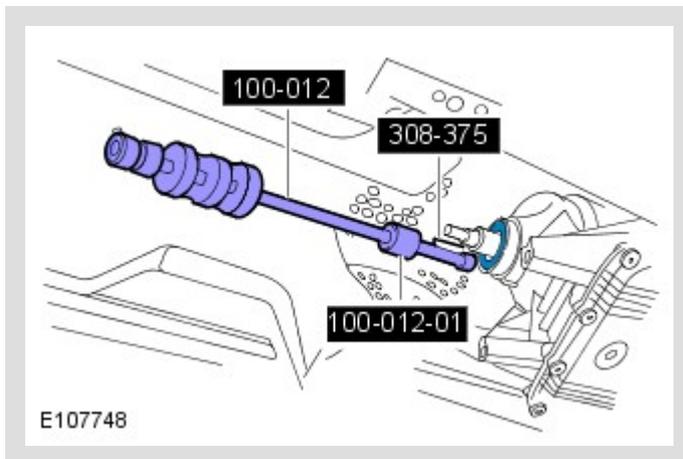
- 2.



3.

! CAUTION:

Discard the seal.



Special Tool(s): 100-012 , 100-012-01 , 308-375

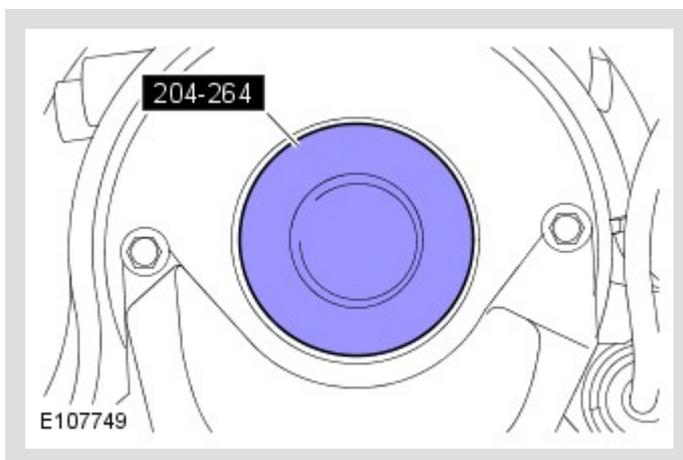
INSTALLATION

All vehicles

1.

! CAUTIONS:

- Make sure that the mating faces are clean and free of foreign material.
- Install a new seal.



Special Tool(s): 204-264

Renew Part: *Transmission output shaft flange seal* : .

2.