

# TECHNICAL BULLETIN

LTB00487v6  
09 JUN 2015



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**This reissue replaces all previous versions. Please destroy all previous versions. This bulletin supersedes TSB LTB00487v5/2013 dated 17 OCT 2013, which should either be destroyed or clearly marked to show it is no longer valid (e.g. with a line across the page). Only refer to the electronic version of this Technical Bulletin in TOPIx.**

Changes are highlighted in gray

## **SECTION: 303-04D**

### 3.0 TDV6 Excessive Exhaust Smoke

#### **AFFECTED VEHICLE RANGE:**

##### **Range Rover Sport (LS)**

**Model Year:** 2010-2013  
**VIN:** AA212145-DA814376

**Engine:** TDV6 3.0L Diesel

##### **Discovery 4 / LR4 (LA)**

**Model Year:** 2010-2013  
**VIN:** AA510178-DA676456

**Engine:** TDV6 3.0L Diesel

##### **Range Rover (LG)**

**Model Year:** 2013  
**VIN:** DA000012-DA124719

**Engine:** TDV6 3.0L Diesel

#### **MARKETS:**

All Diesel Markets

#### **CONDITION SUMMARY:**

##### **Situation:**

A customer may express a concern of excessive blue exhaust smoke.

**This version has been issued to add steps in the Service Instructions, pertaining to post-repair road test and the requirement for a regeneration of the Diesel Particulate Filter (DPF) if fitted.**

Make sure the following checks are carried out prior to following the Service Instruction detailed in this Bulletin, please also refer to pinpoint test A as detailed in the diagnostic and testing section of TOPIx (Engine - TDV6 3.0L Diesel).

1. Check air filter to make sure no blockages exist.
2. Check engine oil level to make sure an overfill condition does not exist.
3. Check for any blockages in the oil drain pipe.
4. Check that the breather pipe to the primary turbo charger is not blocked or kinked.
5. A smoke test on the charge air system is required to make sure no small boost air leaks are evident on the various joints in the system. A small boost air leak could adversely affect the pressure across the turbo centre bearing.
6. Check the scavenge pipes are not blocked or restricted.
7. Make sure that the engine oil filter element is not damaged. The drain back valve in the bottom of the engine oil filter housing should be securely clipped in place, check that the valve closes correctly.
8. Check that the oil filter centre support is fitted to the oil filter cap.



**NOTE: Some smoke may be seen from the exhaust for a short period after the repair has been carried out as residual oil is cleared from the system.**



**NOTE: The drain pipe and blanking plate/gasket kit is available in limited supply and must**

**only be ordered for vehicles which are actually in the Dealership awaiting repair. These parts must not be ordered and kept as a stock item. Any large order quantities will be automatically cancelled.**



**NOTE: On vehicles post the closing VIN range stated on this bulletin the sump has been cast over and the blanking plate not fitted. See attached pictures. This is effective from engine number 0753185.**

**Any faults found as per the checks above are to be claimed as a separate Warranty Claim.**

**Cause:** Ineffective oil drainage system. **Suggested Customer Concern Code - MF2.**

**Action:** Should a customer express this concern, follow the Service Instruction below.

**PARTS:**

LR044556	Drain pipe	Quantity: 1
LR044555	Blanking plug and gasket kit	Quantity: 1
LR013235	Gasket	Quantity: 1

**TOOLS:**



E179225

JLR approved diagnostic tool (SDD)  
DVD142.00 and Calibration File 209 loaded or later



E179226

JLR approved battery conditioner

JLR approved smoke test equipment



E177551

**WARRANTY:**

⚠ **NOTE: Repair procedures are under constant review, and therefore times are subject to change; those quoted here must be taken as guidance only. Always refer to TOPIx to obtain the latest repair time.**

⚠ **NOTE: DDW requires the use of causal part numbers. Labor only claims must show the causal part number with a quantity of zero.**

DESCRIPTION	SRO	TIME	CONDITION CODE	CAUSAL PART
Install modified drain tube and drain charge air cooler - Range Rover Sport	<b>19.42.89/44</b>	1.4 hours	42	LR013611
Install modified drain tube and drain charge air cooler - Range Rover and Discovery 4/LR4	<b>19.42.89/44</b>	1.2 hours		
Carry out road test - vehicles without DPF (Diesel Particulate Filter) Only	<b>10.41.17</b>	0.3 hours		
Diesel particulate filter - dynamic regeneration - vehicles equipped with a DPF (Diesel Particulate Filter) Only	<b>17.50.45</b>	0.5 hours		

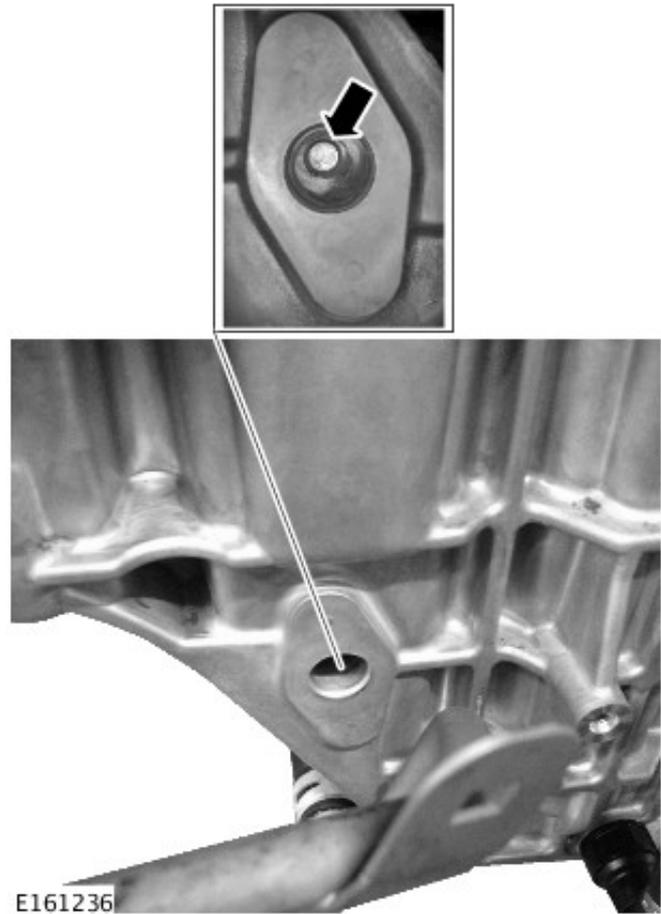
⚠ **NOTE: Normal Warranty procedures apply.**

**SERVICE INSTRUCTION:**

**All Vehicles**

1. ⚠ **NOTE: On vehicles post the closing VIN range stated on this bulletin the sump has been cast over and the blanking plate not fitted. See attached the pictures. This is effective from engine number 0753185.**

Disconnect the battery ground cable (see TOPIx Workshop Manual, section 414-00 Specifications).



2.  **WARNING: Make sure to support the vehicle with axle stands.**

Raise and support the vehicle.

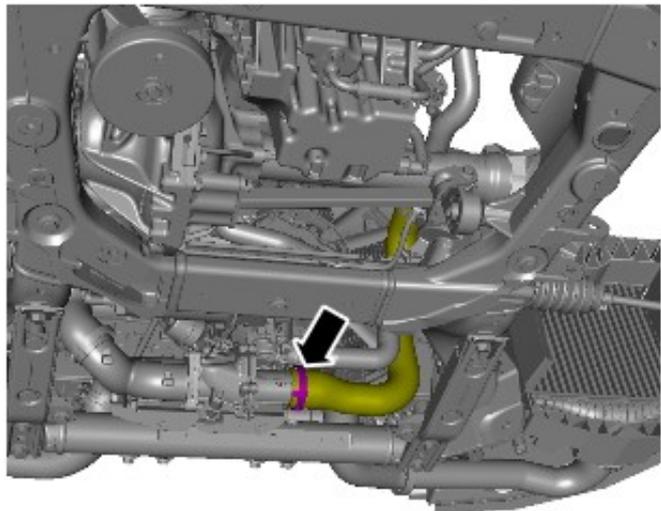
#### Range Rover Only

3. Remove the starter motor (see TOPIx Workshop Manual, section 303-06A).

4.  **NOTE: Allow the charge air cooler to drain while carrying out the following steps.**

Disconnect the hose from the turbocharger bypass valve.

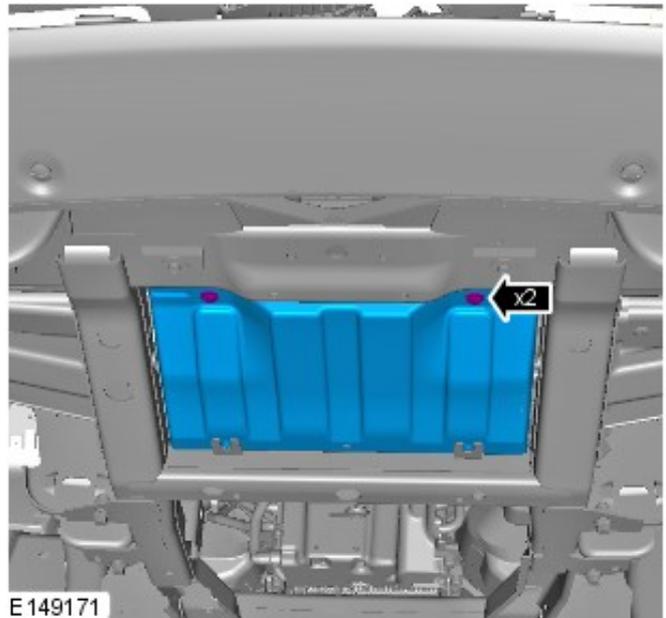
- Position a suitable container to catch any fluids.
- Release the clip.



E153388

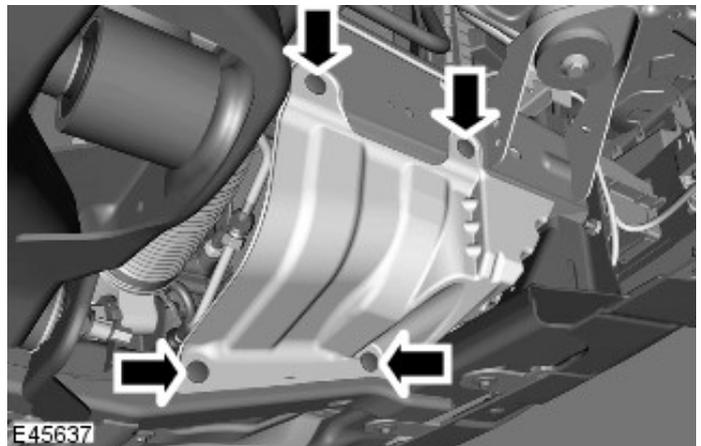
#### Range Rover Sport and Discovery 4 / LR4 Only

5. Remove the undershield.
- Remove the 2 bolts.



**6.** Remove the right radiator side shield.

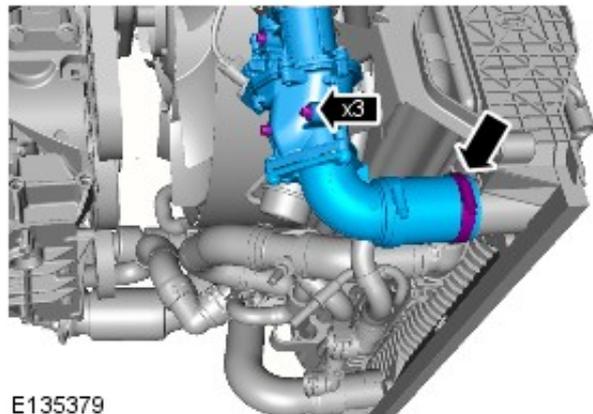
- Remove the 4 clips.



**7.**  **NOTE: Allow the charge air cooler to drain while carrying out the following steps.**

Release the turbocharger bypass valve.

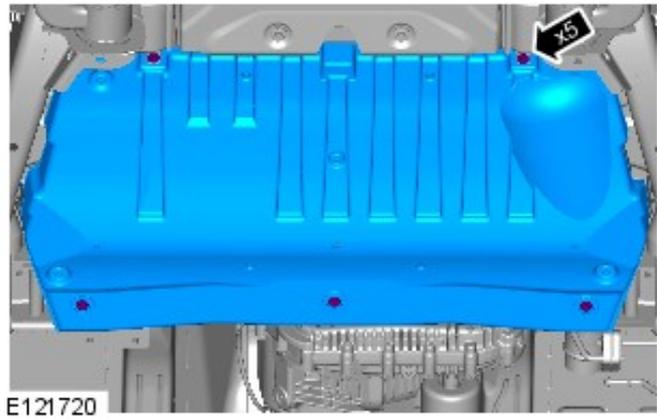
- Position a suitable container to catch any fluids.
- Release the clip.
- Remove the 3 bolts.



**8.** Remove the engine undershield (see TOPIx Workshop Manual, section 501-02).

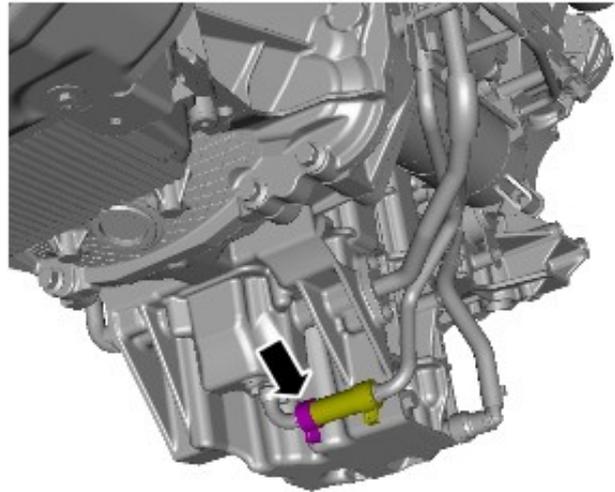
**9.** Remove the transmission undershield.

- Remove the 5 bolts.



**10.** Drain the excess oil.

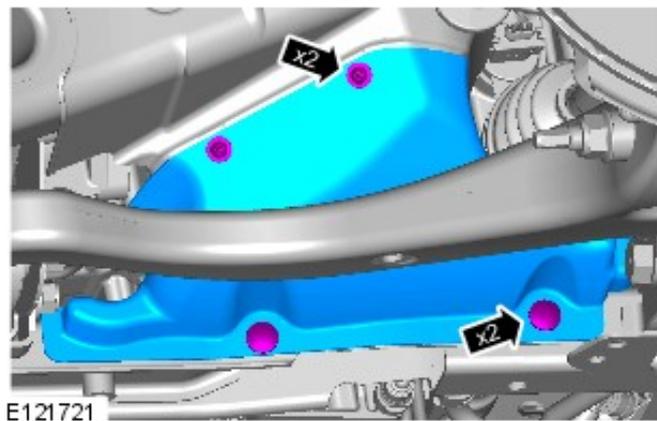
- Position a suitable container to catch any fluids.
- Release the clip.
- Disconnect the hose.
- Allow the oil to drain.
- Secure the clip and hose.



E149118

**11.** If equipped, remove the shield.

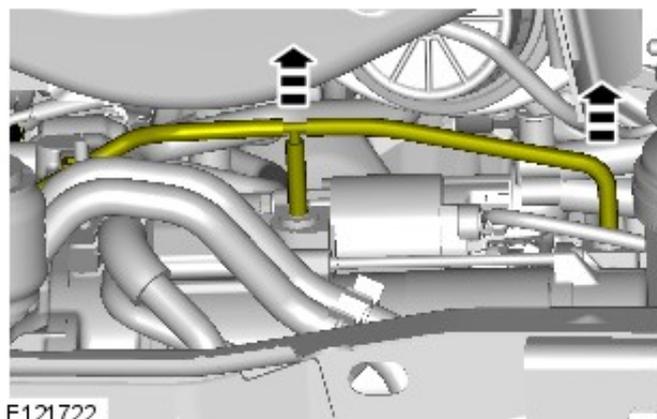
- Remove the 2 bolts.
- Remove the 2 clips.



E121721

**12.** Release the starter motor snorkel tube.

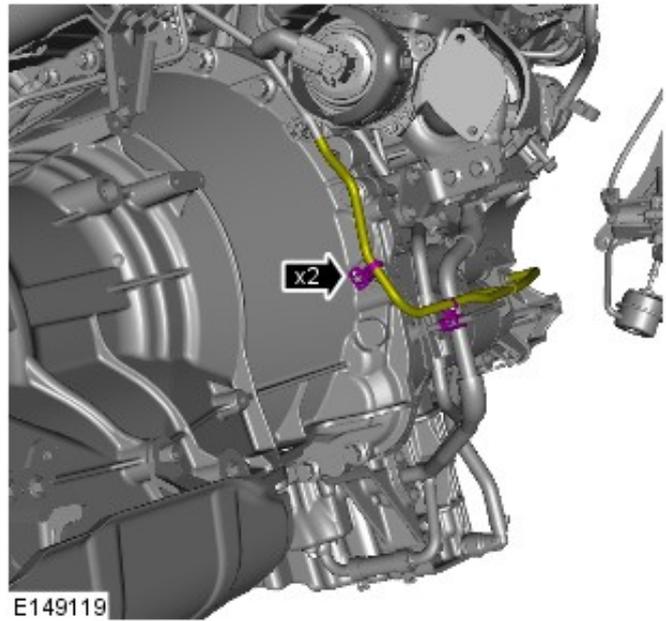
- Disconnect the 2 hoses.



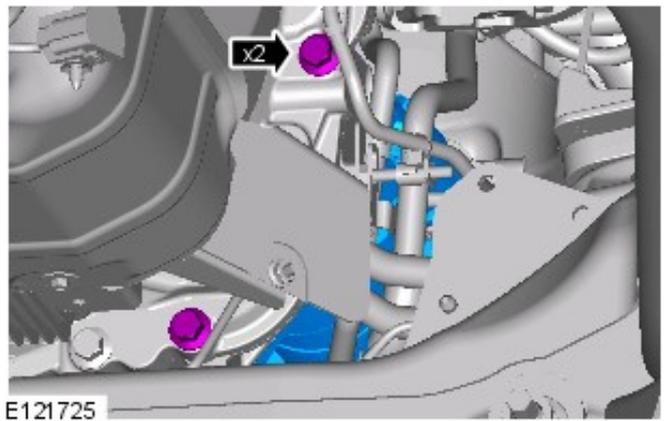
E121722

**13.** Release the starter motor snorkel tube.

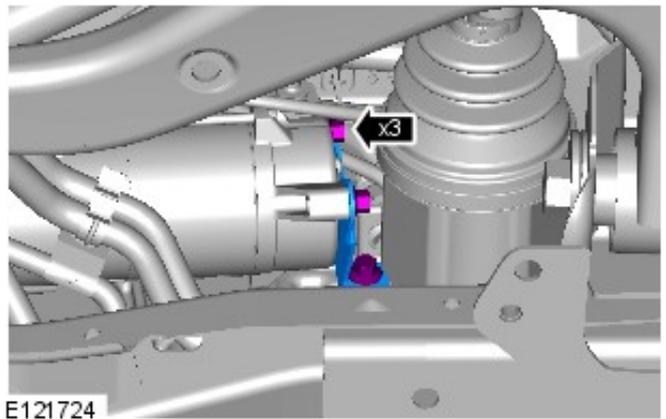
- Release the 2 clips.

**14.** Release the starter motor.

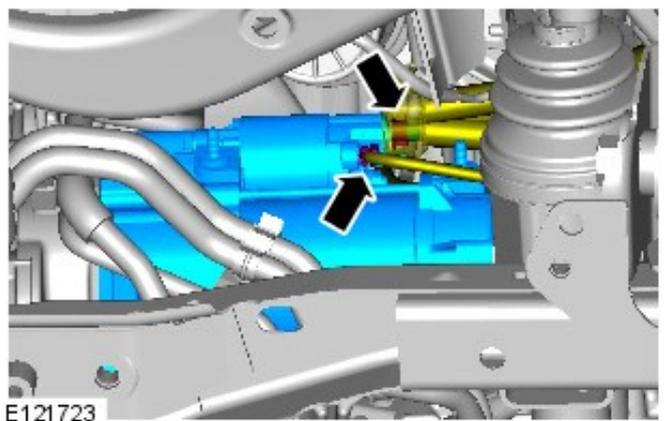
- Remove the 2 bolts.

**15.** Remove the starter motor bracket.

- Remove the 3 bolts.

**16.** Disconnect the 2 electrical connectors.

- Reposition the insulation for access.

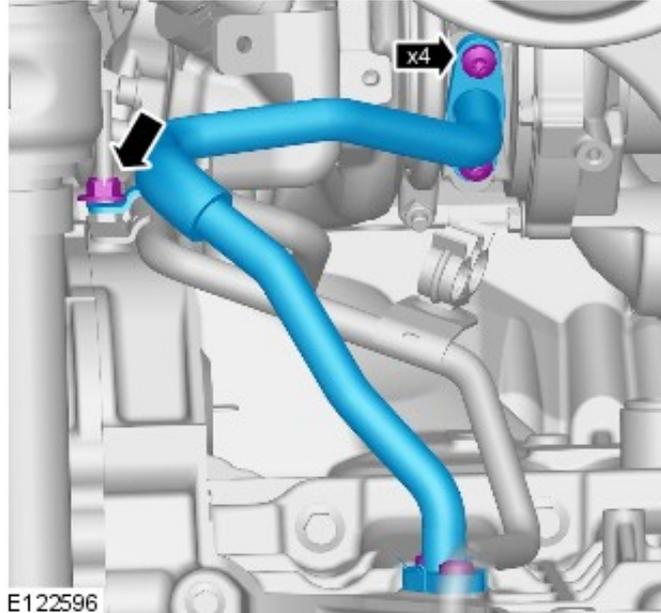


17. Reposition the starter motor for access.

### All Vehicles

18. Remove and discard the oil drain tube.

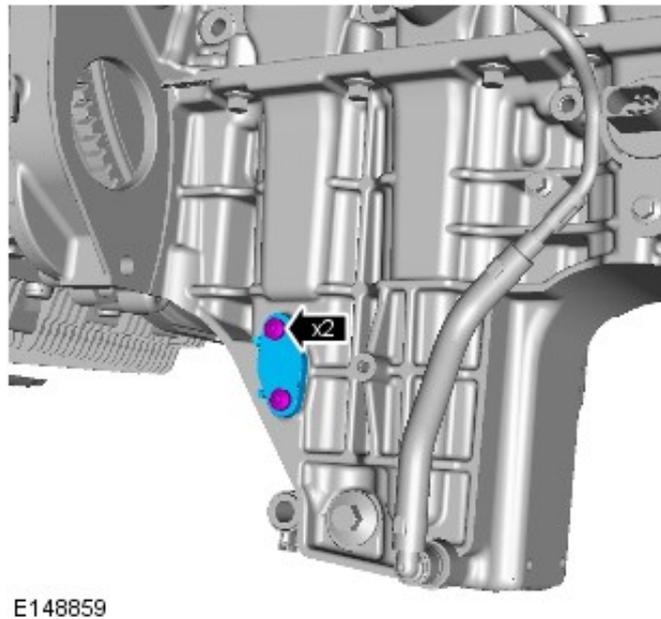
- Position a suitable container to catch any fluids.
- Remove the 4 Torx bolts.
- Remove and discard the nut.
- Remove and discard the 2 gaskets.



19.  **CAUTION: Make sure that the gasket is correctly located on the blanking plug.**

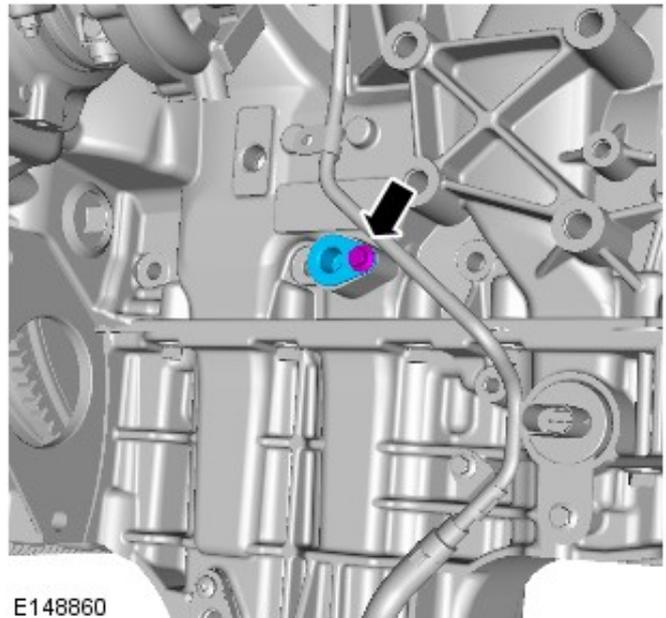
Install the blanking plug.

- Torque: 10 Nm



20. Remove and discard the blanking plug.

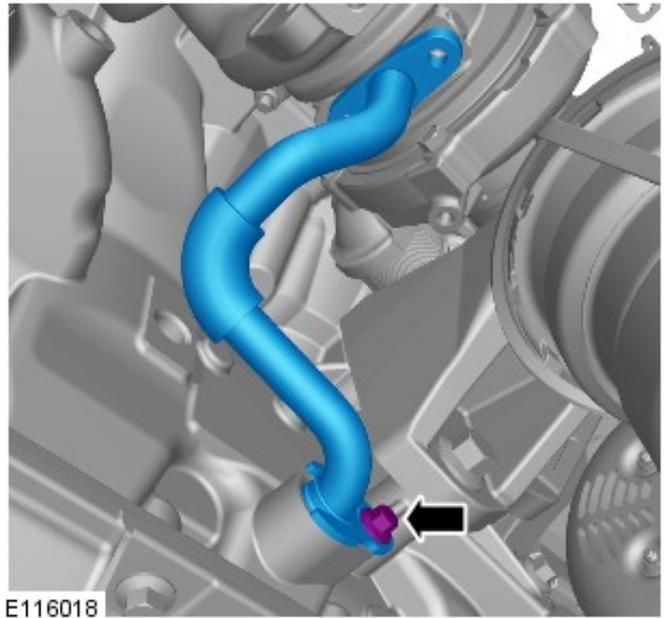
- Remove the bolt.



21.  **CAUTION: Make sure that the o-ring seal is correctly located on the oil drain tube.**

Install the new oil drain tube.

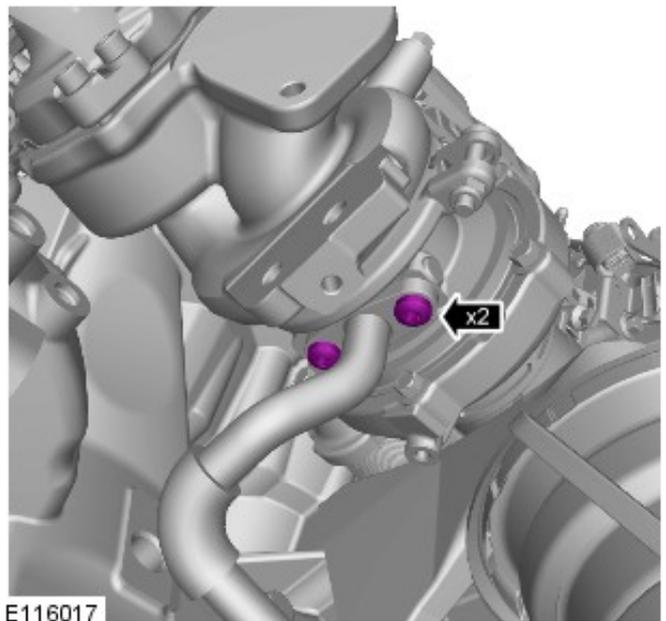
- Torque: 10 Nm



22.  **CAUTION: Make sure that the gasket is correctly located.**

Secure the oil drain tube.

- Install the new gasket.
- Torque: 10 Nm



23.  **CAUTION: Make sure that the starter**

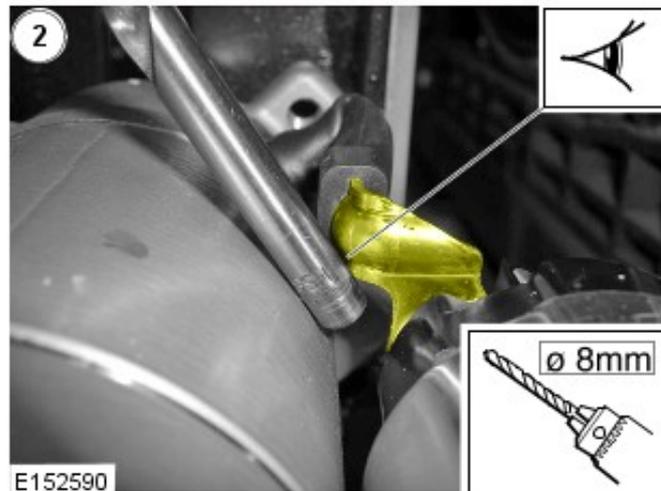
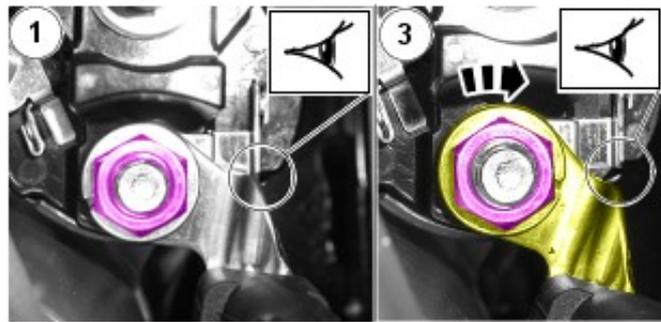
**motor cable is positioned as shown, failure to follow this instruction may result in damage to the vehicle.**



**NOTE: Use a 8mm drill bit to gauge the gap between the cable and the starter motor body.**

Adjust the position of the starter motor cable.

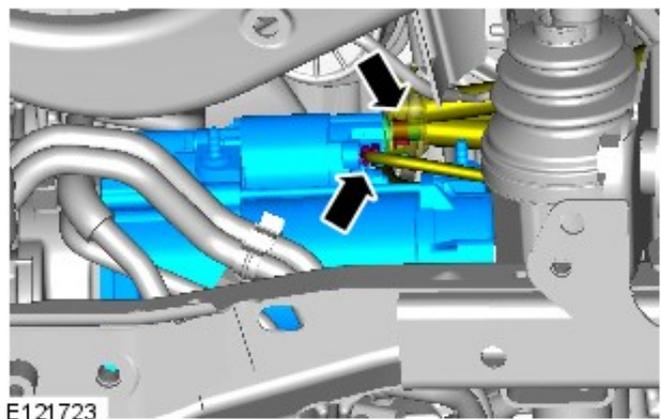
1. Slacken the nut.
2. Adjust the cable to achieve a 8mm gap between the cable and the starter motor body.
3. Whilst maintaining the gap shown, tighten the nut to 7 Nm.



#### Range Rover Sport and Discovery 4 / LR4 Only

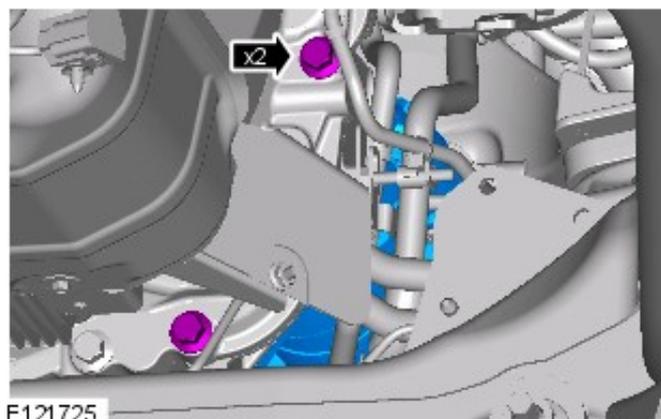
**24.** Connect the 2 electrical connectors.

- M8 Torque: 10 Nm
- M6 Torque: 7 Nm
- Reposition the insulation over the connectors.



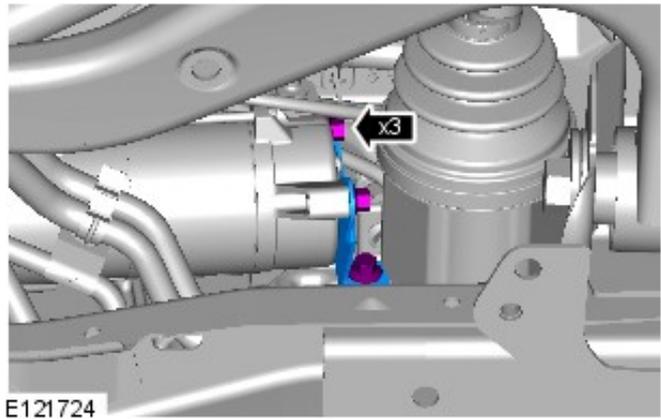
**25.** Secure the starter motor.

- Torque: 47 Nm



**26.** Install the starter motor bracket.

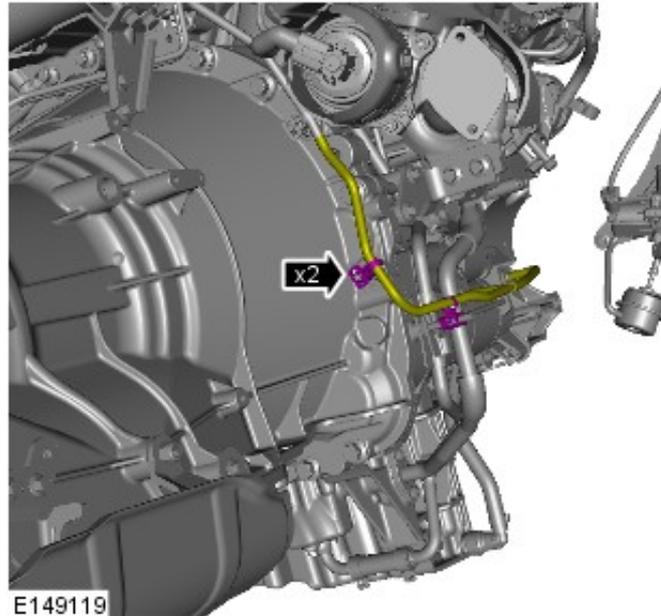
- Torque: 47 Nm



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**27. Secure the starter motor snorkel tube.**

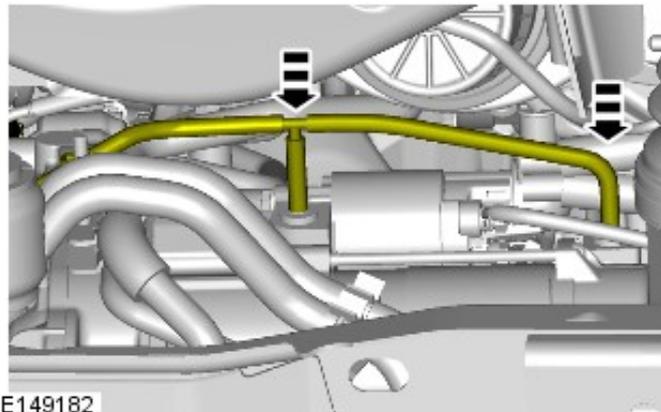
- Secure the 2 clips.



E149119

**28. Connect the starter motor snorkel tube.**

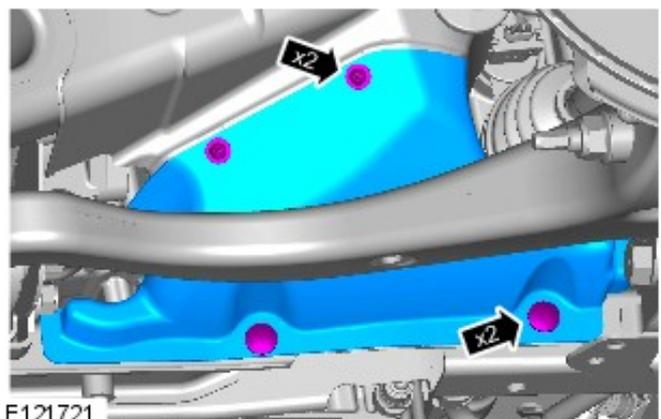
- Connect the 2 hoses.



E149182

**29. If equipped, install the shield.**

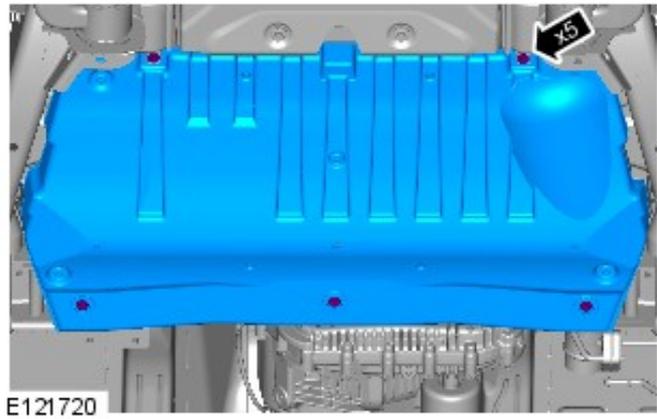
- Tighten the 2 bolts.
- Secure the 2 clips.



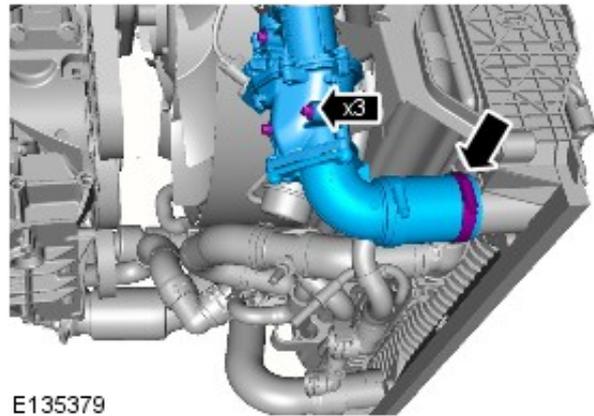
E121721

**30. Install the transmission undershield.**

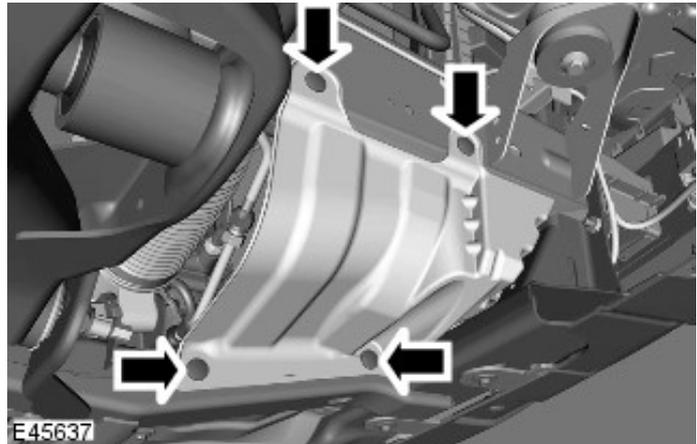
- Torque: 10 Nm

**31. Install the engine undershield (see TOPIx Workshop Manual, section 501-02).****32. Secure the turbocharger bypass valve hose.**

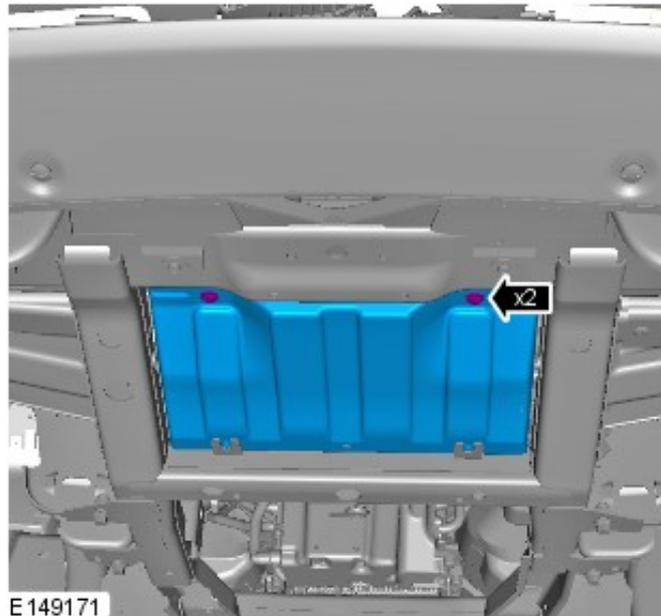
- Using a suitable cloth, wipe away any fluid from the hose.
- Clip Torque: 5 Nm
- Bolts Torque: 10 Nm

**33. Install the right radiator side shield.**

- Secure the 4 clips.

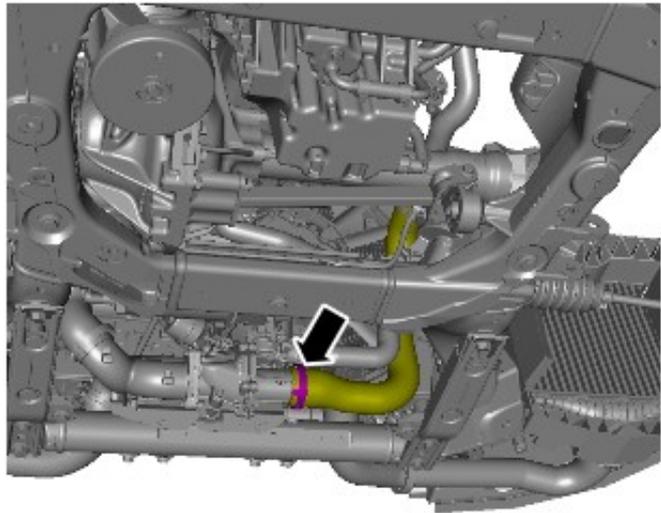
**34. Install the undershield.**

- Tighten the 2 bolts.



### Range Rover Only

- 35.** Secure the turbocharger bypass valve hose.
- Using a suitable cloth, wipe away any fluid from the hose.
  - Torque: 4 Nm



E153388

- 36.** Install the starter motor (see TOPIx Workshop Manual, section 303-06A).

### All Vehicles

- 37.** Lower the vehicle.
- 38.** Connect the battery ground cable (see TOPIx Workshop Manual, section 414-00 Specifications).
- 39.** Check the engine oil level and top up if required.

- 40.**  **NOTE: Please make sure the road test is carried out in Sport mode keeping the engine speed above 3400rpm. If required the Turbine intake shut-off valve (also known as Turbine Solenoid Valve) can be datalogged with SDD, when the Turbine intake shut-off valve is at 100% the bi turbo mode is active.**

 **NOTE: Important - Failure to carry out this drive cycle may lead to residual oil being left in the system and exhaust smoke still present after the repair has been carried out.**

 **NOTE: For vehicles equipped with a DPF (Diesel Particulate Filter) please carry out a Dynamic DPF regeneration using SDD. Go to Step 41-45.**

On completion of the repair the vehicle should be taken on a 20 minute road test to clear any residual oil which is left in the system.

**41.**  **CAUTION: This procedure requires SDD DVD142.00 and Calibration File 209 loaded or later.**

Connect SDD to the vehicle and begin a new diagnostic session, by reading the vehicle identification number (VIN) for the current vehicle and initiating the data collect sequence.

**42.** Follow the SDD prompts.

**43.** If the hyperlink is not available, the application can be found as follows:

- Select the Diagnosis Session Type.
- Select any of the following symptoms:
  - . Electrical > Instruments > Warning lamps > DPF warning lamp > Lamp illuminated
- From 'Recommendations', run: Powertrain - Diesel particulate filter dynamic regeneration

**44.** When all tasks are complete, exit the current session by selecting the Session tab and then selecting the Close Session option.

**45.** Disconnect SDD.