

**Accessory Drive - V8 5.0L Petrol -**

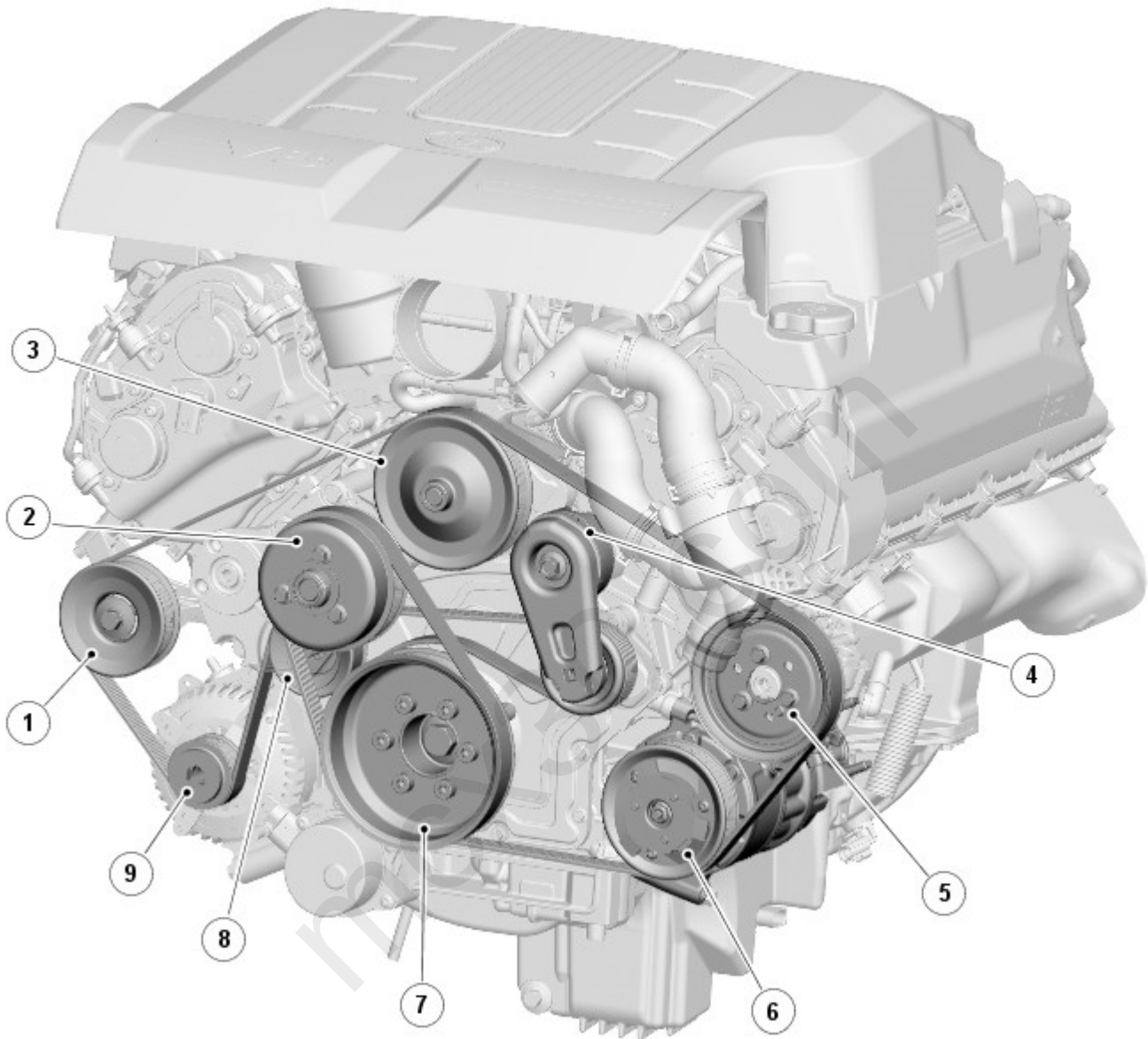
| Description                                                                                        | Nm | lb-ft | lb-in |
|----------------------------------------------------------------------------------------------------|----|-------|-------|
| Accessory drive belt tensioner retaining bolt                                                      | 48 | 35    | -     |
| Accessory drive belt idler pulley retaining bolt - all vehicles                                    | 48 | 35    | -     |
| Accessory drive belt center idler pulley retaining bolt - vehicles without supercharger            | 25 | 19    | -     |
| Accessory drive belt idler pulley retaining bolt to tensioner bracket - vehicles with supercharger | 48 | 35    | -     |
| Supercharger belt tensioner bracket retaining bolt                                                 | 25 | 19    | -     |
| Supercharger belt tensioner retaining bolt                                                         | 48 | 35    | -     |
| Supercharger belt idler pulley retaining bolt                                                      | 48 | 35    | -     |
| Cooling fan pulley retaining bolts                                                                 | 25 | 19    | -     |
| Cooling fan retaining nut                                                                          | 65 | 48    | -     |

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## Accessory Drive - V8 5.0L Petrol - Accessory Drive

Description and Operation

### COMPONENT LOCATION



E106739

| Item | Part Number | Description                                  |
|------|-------------|----------------------------------------------|
| 1    | -           | Idler pulley                                 |
| 2    | -           | Viscous cooling fan pulley                   |
| 3    | -           | Coolant pump                                 |
| 4    | -           | Belt tensioner                               |
| 5    | -           | Power steering pump                          |
| 6    | -           | A/C (air conditioning) compressor            |
| 7    | -           | Crankshaft pulley/torsional vibration damper |
| 8    | -           | Idler pulley                                 |
| 9    | -           | Generator                                    |

### INTRODUCTION

The accessory drive is a belt system powered by a pulley attached to the front of the crankshaft. The crankshaft pulley, which incorporates a torsional vibration damper, drives primary and secondary drive belts. An automatic belt tensioner in the primary belt run maintains the drive belt at the correct tension. Together with idler pulleys, the belt tensioner also guides the primary drive belt clear of obstructions and sets the correct 'wrap-around' of the accessory component drive pulleys to ensure a slip-free drive.

## Primary Drive Belt

The primary drive belt is a six-ribbed poly-V belt that drives the:

- Coolant pump
- Power steering pump
- A/C (air conditioning) compressor
- Generator.

## Secondary Drive Belt

The secondary drive belt is a six-ribbed poly-V belt that drives the pulley of the viscous cooling fan.

## Belt Tensioner

The belt tensioner consists of an idler pulley on the end of a spring loaded pivot arm. The pivot arm can be turned for removal and installation of the belt.

The belt tensioner is calibrated to automatically maintain the correct tension in the drive belt.

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## Accessory Drive - V8 5.0L Petrol - Accessory Drive

Diagnosis and Testing

### Principles of Operation

For a detailed description of the accessory drive system and operation, refer to the relevant Description and Operation section of the workshop manual. REFER to: [Accessory Drive](#) (303-05D Accessory Drive - V8 5.0L Petrol, Description and Operation).

### Inspection and Verification



**CAUTION:** Diagnosis by substitution from a donor vehicle is **NOT** acceptable. Substitution of control modules does not guarantee confirmation of a fault and may also cause additional faults in the vehicle being checked and/or the donor vehicle.

• **NOTE:** Check and rectify basic faults before beginning diagnostic routines involving pinpoint tests.

1. **1.** Verify the customer concern.
2. **2.** Visually inspect for obvious signs of mechanical damage.

#### Visual Inspection

| Mechanical                                                                                                                                                                                                                                                                                                                                                                                                      |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <ul style="list-style-type: none"> <li>● Belt drive belt condition (cracking/damage/contamination)</li> <li>● Belt tension</li> <li>● Pulley alignment</li> <li>● Coolant pump</li> <li>● Belt tensioner assembly</li> <li>● Air conditioning compressor</li> <li>● Power steering pump</li> <li>● Crankshaft pulley</li> <li>● Generator</li> <li>● Deflection pulley</li> <li>● Cooling fan pulley</li> </ul> |  |

3. **3.** If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step.



**CAUTION:** If the engine is run without the accessory drive belts connected to eliminate driven components, diagnostic trouble codes, (DTCs) may be set which must be cleared before the vehicle is returned to the owner. The engine should not be run for more than 2-3 minutes with the belts disconnected. Failure to follow this instruction may result in damage to the vehicle.

4. **4.** If the cause is not visually evident, verify the symptom and refer to the Symptom Chart, alternatively check for Diagnostic Trouble Codes (DTCs) and refer to the DTC Index.

### Symptom Chart

| Symptom                          | Possible Causes                                                                                                                                                              | Action                                                                                                                                                                      |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Noise                            | <ul style="list-style-type: none"> <li>● Belt condition</li> <li>● Belt tension</li> <li>● Pulleys misaligned</li> <li>● Driven components (including tensioners)</li> </ul> | Check the belt condition. Check the tensioner function. Check the pulley alignment. Check the driven components for excessive resistance to rotation. Rectify as necessary. |
| Drive belt does not hold tension | <ul style="list-style-type: none"> <li>● Belt condition</li> <li>● Tensioner fault</li> </ul>                                                                                | Check the belt condition. Check the tensioner function. Rectify as necessary.                                                                                               |

### DTC Index

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

## Accessory Drive - V8 5.0L Petrol - Accessory Drive Belt

Removal and Installation

### Removal

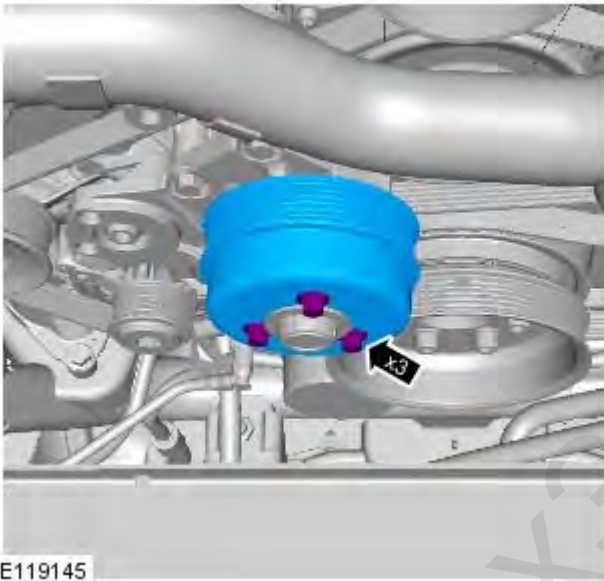
- NOTE: Some variation in the illustrations may occur, but the essential information is always correct.
- NOTE: Removal steps in this procedure may contain installation details.

1. Disconnect the battery ground cable.

Refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).

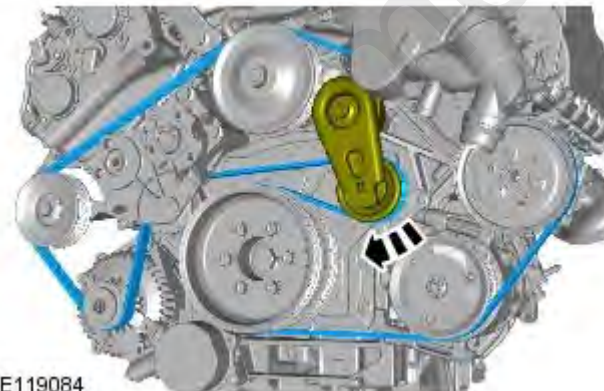
2. Refer to: [Cooling Fan Belt](#) (303-05D Accessory Drive - V8 5.0L Petrol, Removal and Installation).

- 3.

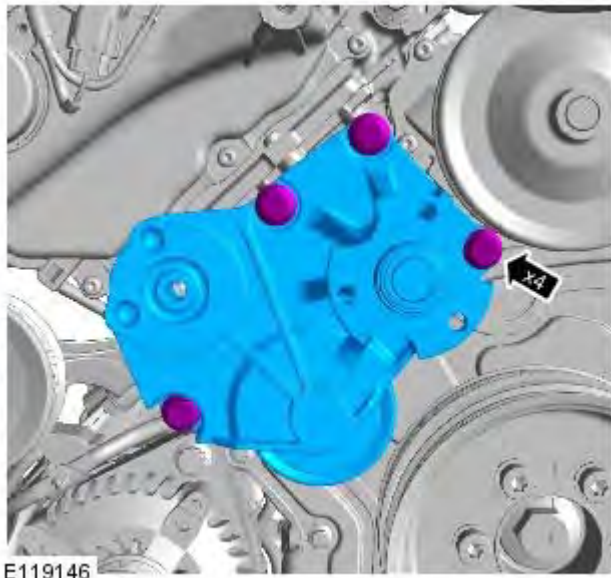


E119145

4. **4.** NOTE: Note the fitted position.

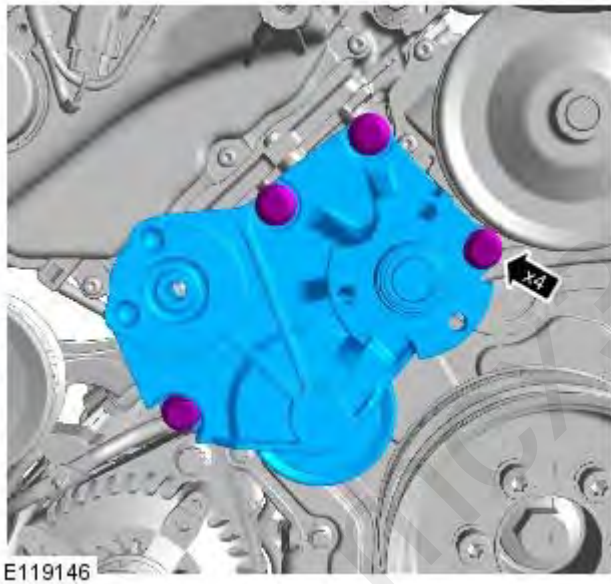


E119084

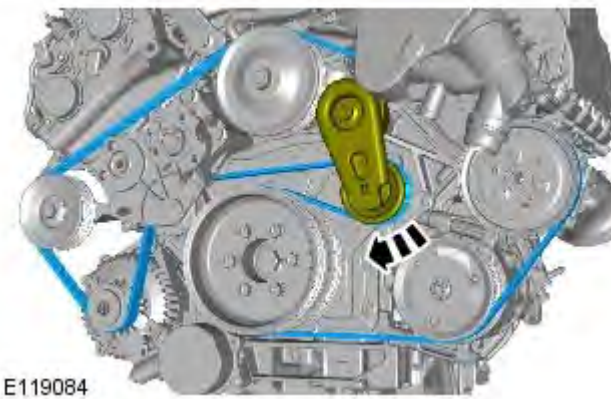


5.

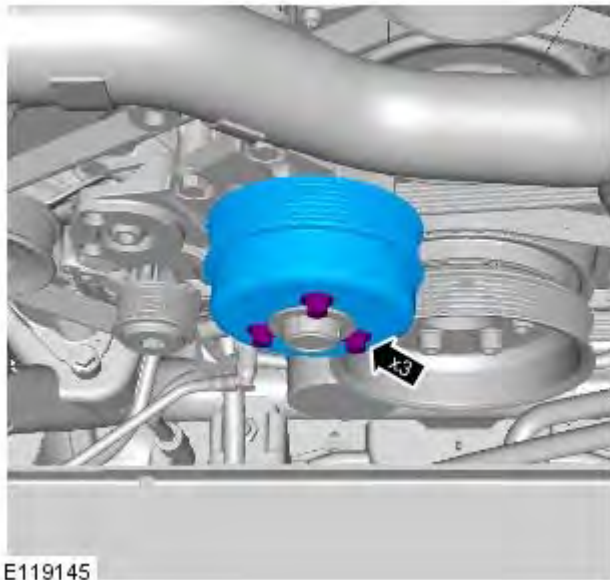
## Installation



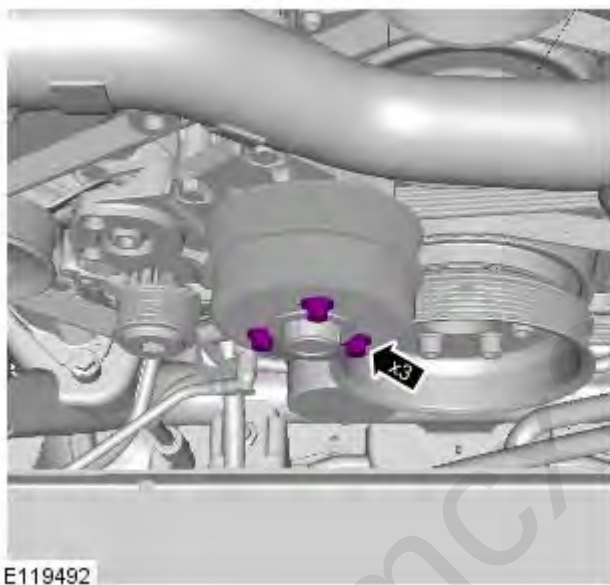
1. Torque: 25 Nm



2. **2.** NOTE: Note the fitted position.



3. Torque: 25 Nm



4. Torque: 25 Nm

5. Refer to: [Cooling Fan Belt](#) (303-05D Accessory Drive - V8 5.0L Petrol, Removal and Installation).

6. Connect the battery ground cable.

Refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).

## Accessory Drive - V8 5.0L Petrol - Accessory Drive Belt Idler Pulley

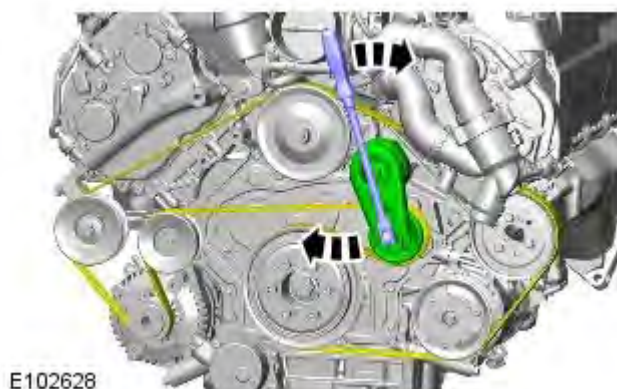
Removal and Installation

### Removal

- NOTE: Some variation in the illustrations may occur, but the essential information is always correct.
- NOTE: Removal steps in this procedure may contain installation details.

1. Refer to: [Air Cleaner Outlet Pipe T-Connector](#) (303-12D Intake Air Distribution and Filtering - V8 5.0L Petrol, Removal and Installation).

2.



3. Torque: 48 Nm



### Installation

1. To install, reverse the removal procedure.

## Accessory Drive - V8 5.0L Petrol - Accessory Drive Belt Tensioner

Removal and Installation

### Removal

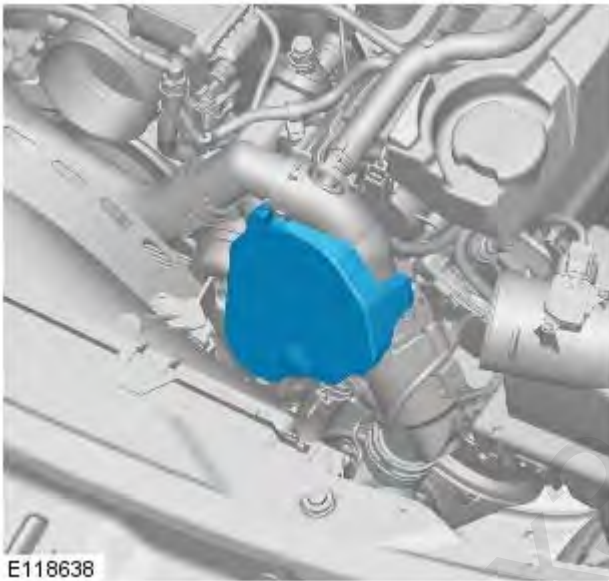
- NOTE: Some variation in the illustrations may occur, but the essential information is always correct.
- NOTE: Removal steps in this procedure may contain installation details.

1. Disconnect the battery ground cable.

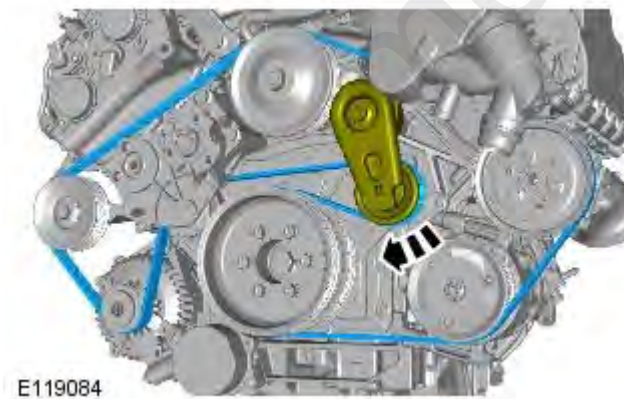
Refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).

2. Refer to: [Air Cleaner Outlet Pipe T-Connector](#) (303-12D Intake Air Distribution and Filtering - V8 5.0L Petrol, Removal and Installation).

- 3.



4. **4.** NOTE: Note the fitted position.





5. Torque: 40 Nm

## Installation

1. To install, reverse the removal procedure.

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# Accessory Drive - V8 5.0L Petrol - Cooling Fan Belt

Removal and Installation

## Special Tool(s)

|                                                                                                  |                                              |
|--------------------------------------------------------------------------------------------------|----------------------------------------------|
|  <p>E119168</p> | <p>303-1500<br/>Installer, Stretchy Belt</p> |
|--------------------------------------------------------------------------------------------------|----------------------------------------------|

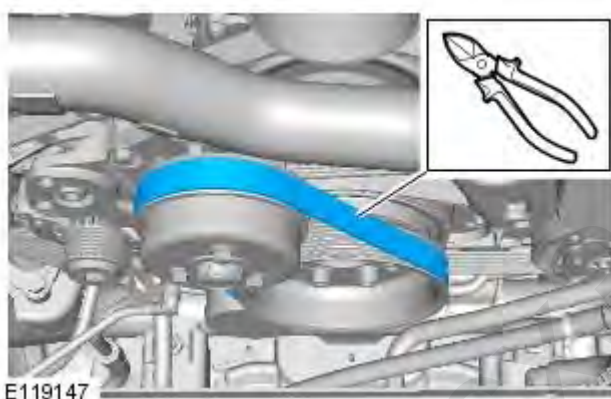
## Removal

1. Disconnect the battery ground cable.

Refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).

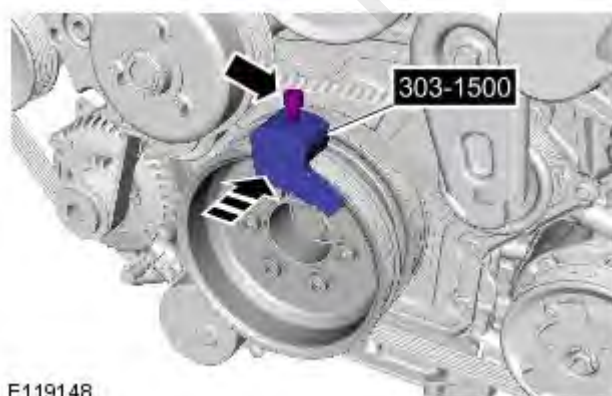
2. Refer to: [Cooling Fan](#) (303-03D Engine Cooling - V8 5.0L Petrol, Removal and Installation).

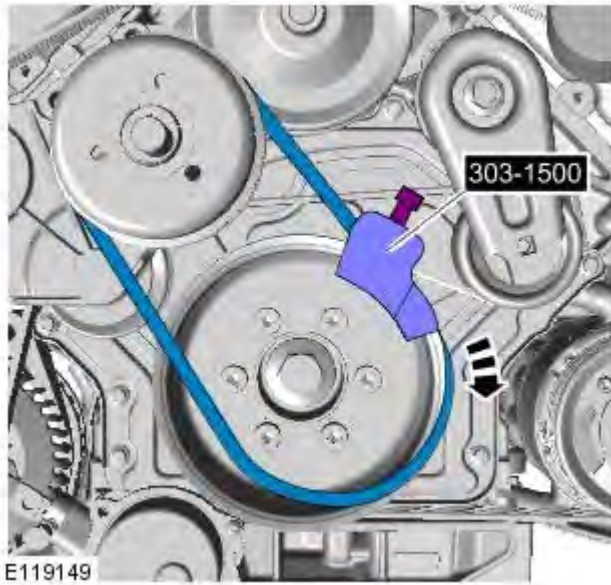
3.



## Installation

1. *Special Tool(s):* [303-1500](#)





2. Install the cooling fan belt.

3.
  - Whilst rotating the engine, make sure that pressure is applied to the left hand side of the cooling fan belt to aid installation.
  - Rotate the engine until the special tool has reached the 9 o'clock position.
4. Remove the special tool.
5. Rotate the engine clockwise twice, making sure that the belt is seated on both pulleys correctly.
6. Refer to: [Cooling Fan](#) (303-03D Engine Cooling - V8 5.0L Petrol, Removal and Installation).
7. Connect the battery ground cable.

Refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).