Published: Feb 1, 2007

Specifications

Torque Specifications

Item	Nm	lb-ft
Accessory drive component bracket bolts	48	35
Engine lifting bracket bolts	10	7
Accessory drive belt tensioner bolt	25	18
Accessory drive belt idler pulley bolt	48	35

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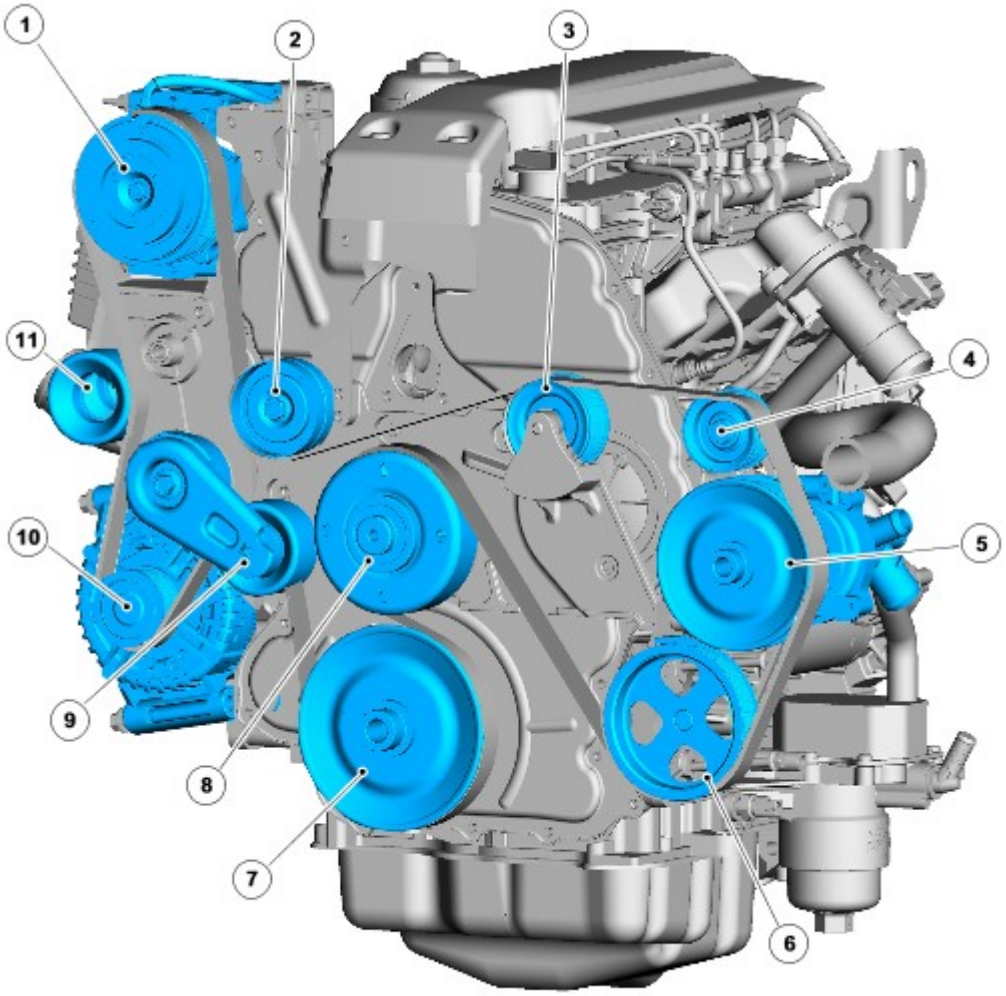
Accessory Drive

COMPONENT LOCATION



E86459

Item	Part Number	Description
1		Air conditioning compressor
2		Deflection pulley
3		Deflection pulley
4		Vacuum pump
5		Coolant pump
6		Power steering pump
7		Crankshaft pulley
8		Engine cooling fan pulley
9		Automatic tensioner
10		Generator
11		Deflection pulley

OVERVIEW

The engine crankshaft pulley drives the accessory components, which comprise the torsional vibration damper, generator, power steering pump, A/C compressor, vacuum pump and coolant pump, via the accessory drive belt.

The belt, which is maintenance free poly-V type belts, are automatically pre-loaded by the automatic tensioner and are routed over deflection pulleys in order to maintain sufficient adhesion about the drive wheels. This ensures slip-free drive of the accessory components.

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Accessory Drive

Overview

For information on the description and operation of the system:
Accessory Drive

Inspection and Verification

1 . Verify the customer concern.

2 . Visually inspect for obvious mechanical faults.

Mechanical
• Drive belt condition (cracking/damage/contamination) • Idler assembly • Generator • Engine cooling fan • Tensioner assembly • Engine coolant pump • Power steering pump • Air conditioning (A/C) compressor • Torsional vibration damper • Accessory drive belt

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 . Use the approved diagnostic system or a scan tool to retrieve any DTCs before moving onto the symptom chart or DTC index.

Make sure that all DTCs are cleared following rectification.

Make sure that all DTCs are cleared following rectification.

Symptom Chart (Accessory Drive Belt)

Symptom	Possible cause	Action
Noise	• Belt condition • Belt tension • Pulleys misaligned • Driven components (including tensioners)	Check the belt condition (see visual inspection). 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	• Belt condition • Tensioner fault	Check the belt condition (see visual inspection). Check the tensioner function. Rectify as necessary.

DTC Index

NOTE:

If a control module or component is suspect and the vehicle remains under manufacturer warranty, refer to the Warranty Policy and Procedures manual (section B1.2), or determine if any prior approval program is in operation, before the replacement of a component.

NOTE:

Generic scan tools may not read the codes listed, or may read only 5-digit codes. Match the 5 digits from the scan tool to the first 5 digits of the 7-digit code listed to identify the fault (the last 2 digits give extra information read by the manufacturer-approved diagnostic system).

NOTE:

When performing voltage or resistance tests, always use a digital multimeter (DMM) accurate to three decimal places, and with an up-to-date calibration certificate. When testing resistance always take the resistance of the DMM leads into account.

NOTE:

Check and rectify basic faults before beginning diagnostic routines involving pinpoint tests.

NOTE:

Inspect connectors for signs of water ingress, and pins for damage and/or corrosion.

NOTE:

If DTCs are recorded and, after performing the pinpoint tests, a fault is not present, an intermittent concern may be the cause. Always check for loose connections and corroded terminals.

NOTE:

For a full list of engine control module (ECM) DTCs:

Electronic Engine Controls

DTC	Description	Possible causes	Action
P062300	Generator lamp control circuit	• Check generator belt is not broken, excessively worn or slipping when engine running • Generator lamp control circuit fault • Generator fault	Check the charging voltage. Install a new accessory drive belt if necessary. Accessory Drive Belt (86.10.03) Check the charging system circuits. Check the generator lamp control circuit. Refer to the electrical guides. Install a new generator if necessary. Generator (86.10.02) Clear the DTCs and test for normal operation.

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Accessory Drive Belt (86.10.03)

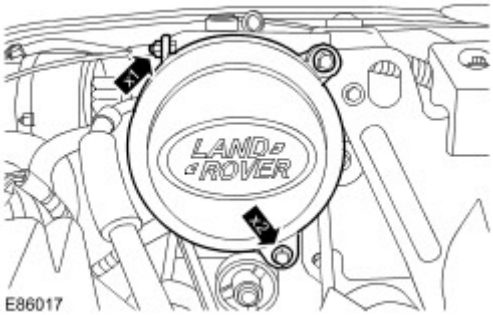
Removal

1 . Disconnect the battery ground cable.
For additional information, refer to Battery Disconnect and Connect

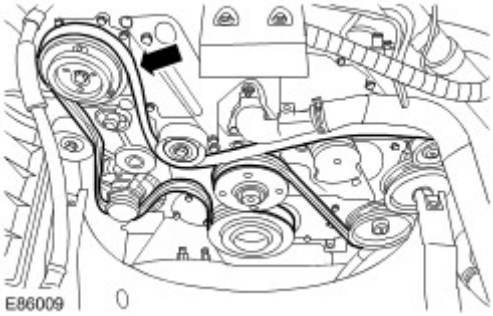
2 . Remove the accessory drive belt tensioner.
For additional information, refer to Accessory Drive Belt Tensioner (86.10.06)

3 . Remove the air conditioning (A/C) compressor pulley cover.

- Remove the nut.
- Remove the 2 bolts.



4 . Remove the accessory drive belt.



Installation

1 . To install, reverse the removal procedure.

- Clean and inspect the drive pulleys for damage.

2 . Connect the battery ground cable.
For additional information, refer to Battery Connect

Published: Jan 4, 2007

Accessory Drive Belt Idler Pulley (86.10.23)

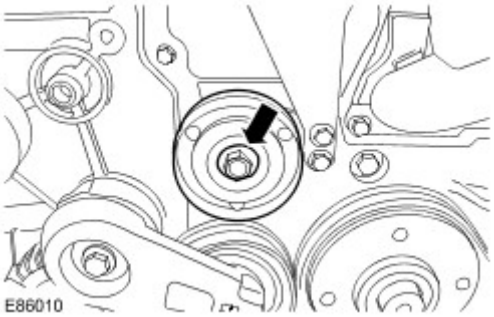
Removal

1 . Disconnect the battery ground cable.
For additional information, refer to Battery Disconnect and Connect

2 . Remove the cooling fan.
For additional information, refer to Cooling Fan (26.25.19)

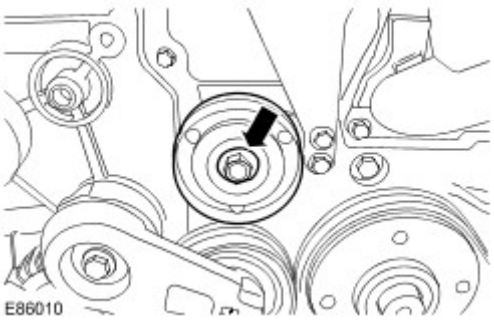
3 . Release the tension from the accessory drive belt.
- Rotate the accessory drive belt tensioner clockwise.

4 . Remove the accessory drive belt idler pulley.



Installation

1 . To install, reverse the removal procedure.
- Clean the component mating faces.
- Tighten the bolt to 48 Nm (35 lb.ft).



2 . Connect the battery ground cable.
For additional information, refer to Battery Connect

Published: Jan 4, 2007

Accessory Drive Belt Tensioner (86.10.06)

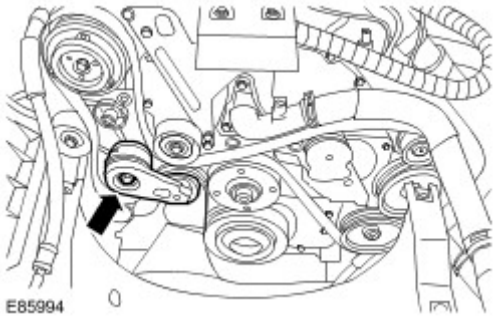
Removal

1 . Disconnect the battery ground cable.
For additional information, refer to Battery Disconnect and Connect

2 . Remove the cooling fan.
For additional information, refer to Cooling Fan (26.25.19)

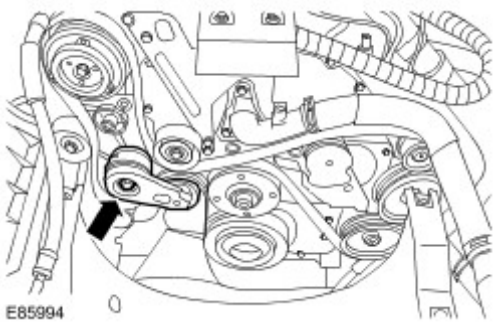
3 . Release the tension from the accessory drive belt.
- Rotate the accessory drive belt tensioner clockwise.

4 . Remove the accessory drive belt tensioner.
- Remove the bolt.



Installation

1 . To install, reverse the removal procedure.
- Clean the component mating faces.
- Tighten the bolt to 25 Nm (18 lb.ft).



2 . Connect the battery ground cable.
For additional information, refer to Battery Connect

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Accessory Drive Component Bracket

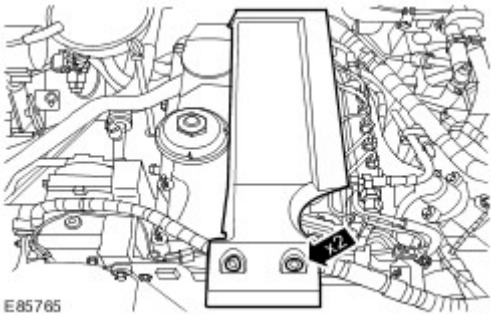
Removal

1 . Disconnect the battery ground cable.
For additional information, refer to Battery Disconnect and Connect

2 . Remove the accessory drive belt.
For additional information, refer to Accessory Drive Belt (86.10.03)

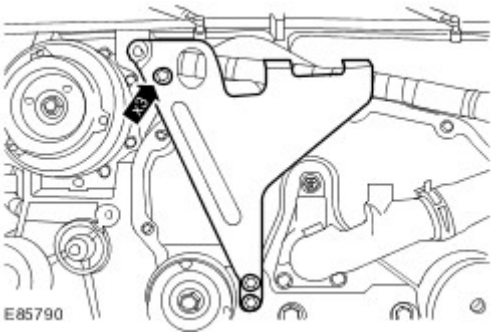
3 . Remove the engine cover

1) Remove the 2 bolts



4 . Remove the engine lifting bracket.

Remove the 3 bolts.

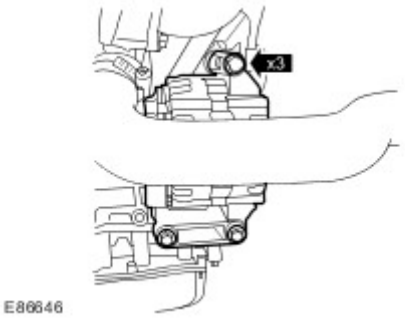


5 . **NOTE:**

The generator upper bolt can only be removed when the generator has been released from the accessory drive component bracket.

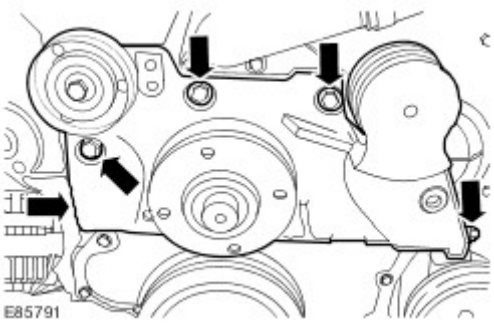
Release the generator.

Remove the 3 bolts.



6 . Remove the accessory drive component bracket.

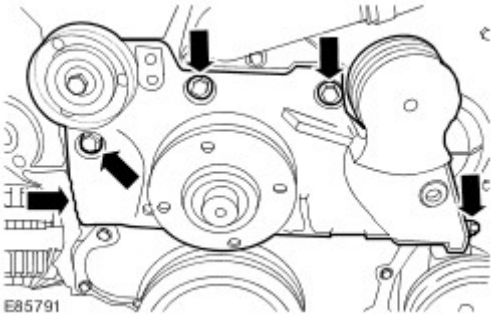
- Remove the 5 bolts.



Installation

1 . Install the accessory drive component bracket.

- Tighten the 5 bolts to 48 Nm (35 lb.ft).

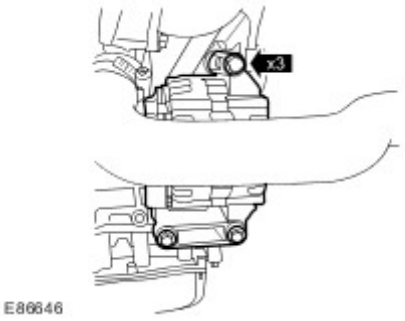


2 . **NOTE:**

The generator upper bolt must be installed before the generator is installed to the accessory drive component bracket.

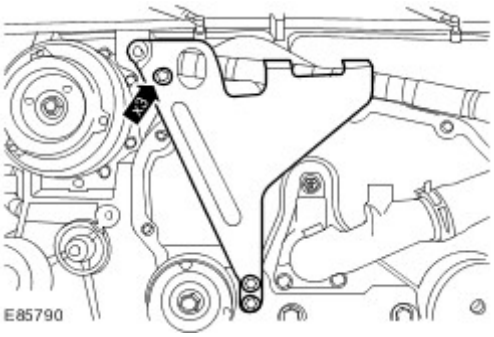
Install the generator.

- Tighten the 3 bolts to 48 Nm (35 lb.ft).

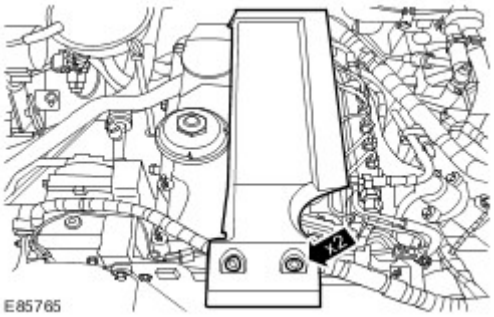


3 . Install the engine lifting bracket.

- Tighten the 3 bolts to 10 Nm (7 lb.ft).



4 . Install the engine cover.



5 . Install the accessory drive belt.
For additional information, refer to Accessory Drive Belt (86.10.03)

6 . Connect the battery ground cable.
For additional information, refer to Battery Connect