

Document Title: <b>Description D6D</b>	Function Group: <b>200</b>	Information Type: <b>Service Information</b>	Date: <b>2014/7/17</b>
Profile: <b>EXC, EW160B [GB]</b>			

## Description D6D

The D6D engine is a straight six cylinder, direct-injected four-stroke diesel engine, with electronically controlled fuel injection EMS (Engine Management System).

The engine meets the emission requirements according to EURO2.

The engine number is stamped on the name plate and on the engine block's right side.

Model and serial number must always be indicated when ordering spare parts.

Document Title: <b>Engine, removal</b>	Function Group: <b>210</b>	Information Type: <b>Service Information</b>	Date: <b>2014/7/17</b>
Profile: <b>EXC, EW160B [GB]</b>			

## Engine, removal

Op nbr 210-01

[14360000 Vacuum pump](#)

[Lifting links, min. 1500 kg](#)

[Hose with valve](#)

### WARNING

**Risk of burns - stop the diesel engine and allow it to cool down before starting any work.**

### WARNING

**Smoking or open flames near the machine are absolutely forbidden during refuelling or when the fuel system is open to contact with the air.**

### WARNING

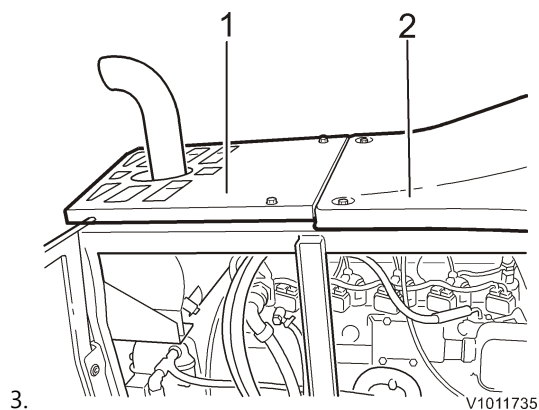
**Hot oil and hot engine coolant can cause severe burns!**

#### NOTE!

Clamps that secure hoses and wiring should be removed and replaced when installing.

Plug and mark all hoses and connections when disconnecting.

1. Place the machine in service position A [091 Service positions](#).  
Turn off the engine and depressurize the hydraulic system, see [170 Elimination of trapped hydraulic pressure](#).
2. Remove the counterweight, see [716 Counterweight, removing](#).

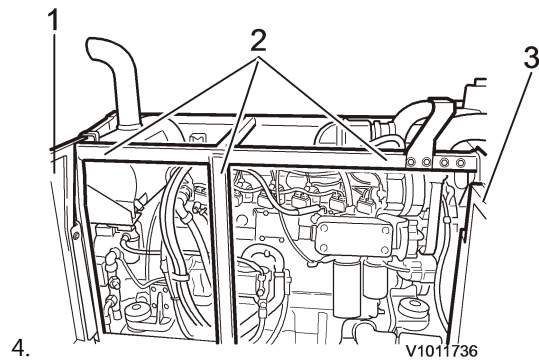


**Figure 1**  
**Superstructure**

1. Cover
2. Cover

Remove the covers under the engine.

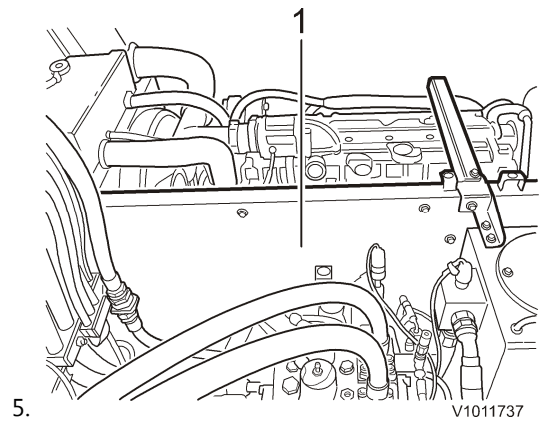
Remove the covers over the engine.



**Figure 2**  
**Framework**

1. Cover
2. Framework
3. Cover

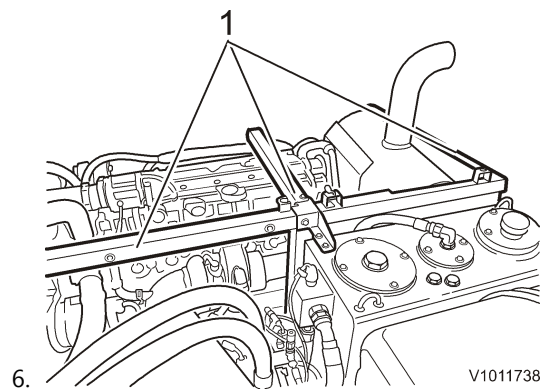
Disconnect the outer framework and lift off the frame with the covers.



**Figure 3**  
**Engine/hydraulic compartment**

1. Intermediate wall

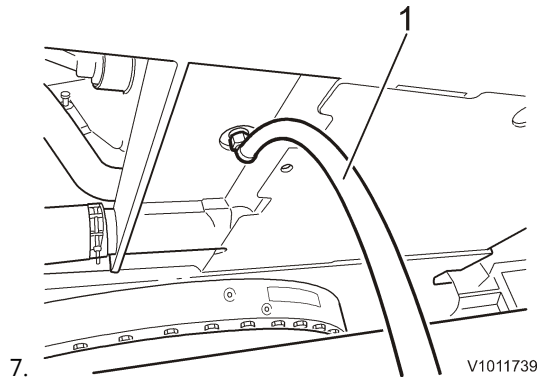
Remove the intermediate wall .



**Figure 4**  
**Engine/hydraulic compartment**

1. Framework

Remove the remaining framework.

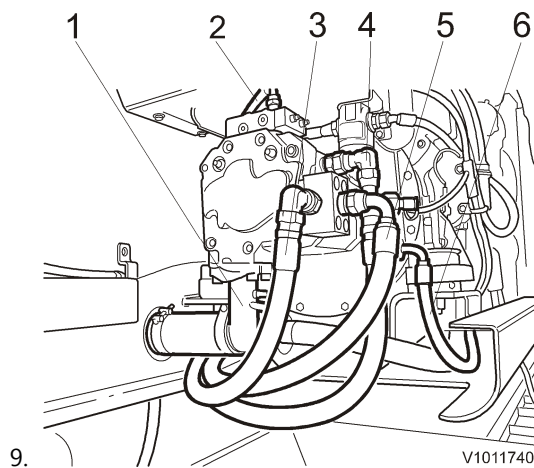


**Figure 5**  
**Draining coolant**

1. Hose with valve

Connect the hose with valve (in tool equipment) and drain the coolant from the radiator and engine into a clean container.

8. Connect the vacuum pump, see [900 Vacuum pump connection](#).



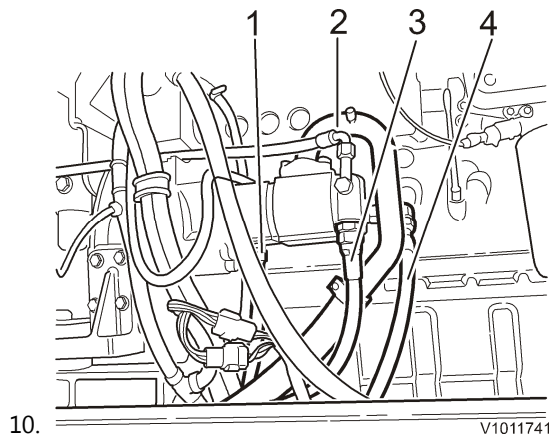
**Figure 6**  
**Working pump**

- |                  |                  |
|------------------|------------------|
| 1 Suction line   | 4 Hydraulic hose |
| 2 Hydraulic hose | 5 Hydraulic hose |
| 3 Hydraulic hose | 6 Hydraulic hose |

Disconnect the suction line and hydraulic hoses from the working pump.

**NOTE!**

Plug the suction line from the hydraulic oil tank and the other hoses with metal plugs, since the vacuum is disconnected further on in the instructions.

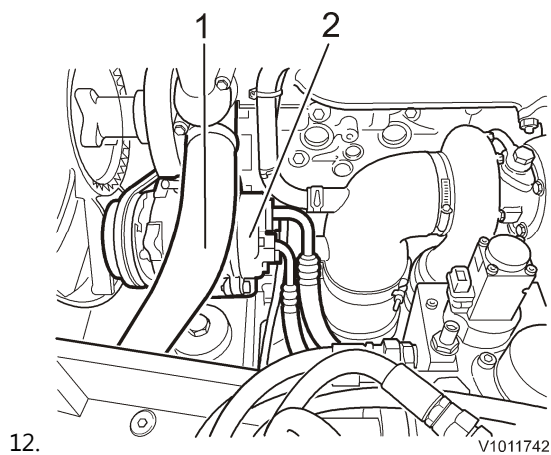


**Figure 7**  
**Servo/steering pump**

1. Hydraulic hose
2. Hydraulic hose
3. Hydraulic hose
4. Hydraulic hose

Disconnect the hydraulic hoses from the servo/steering pump.

11. Turn off the vacuum pump and turn off the battery disconnecter.



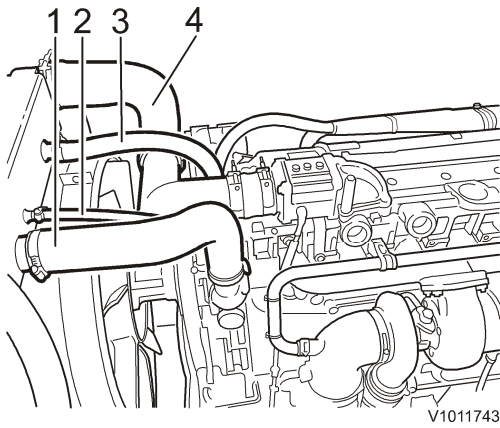
**Figure 8**  
**Engine**

1. Cooling hose
2. Compressor

Disconnect the cooling hose and disconnect the AC-compressor from the bracket.

**NOTE!**

Do not loosen the hoses for the compressor.



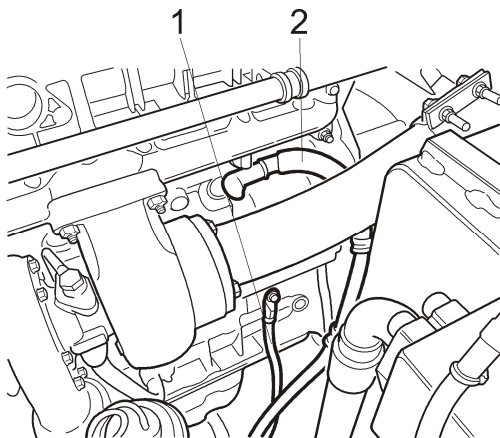
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13.

**Figure 9**  
**Radiator/engine**

1. Cooling hose
2. Cooling hose
3. Cooling hose
4. Cooling hose

Disconnect the cooling hoses from the engine.



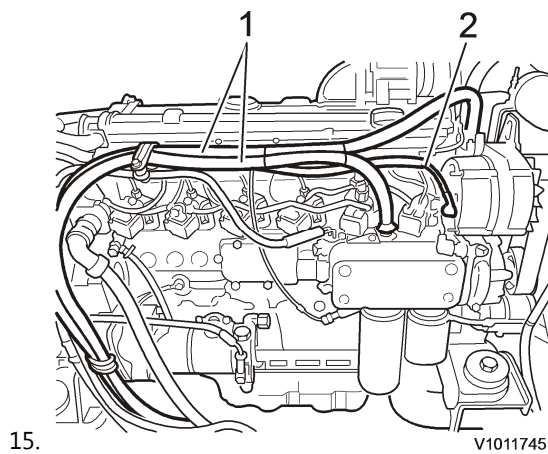
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**Figure 10**  
**Engine**

1. Ground cable
2. Cabling

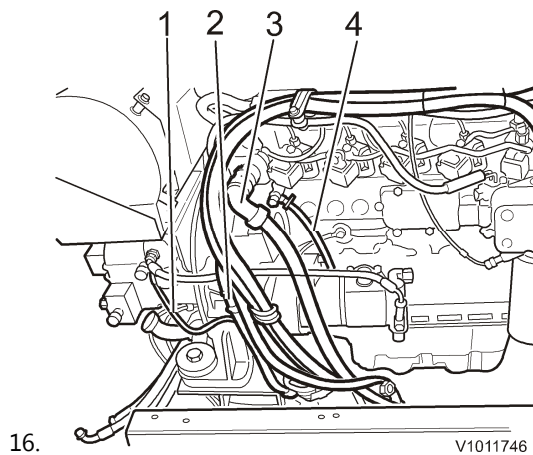
Disconnect the ground cable from the engine and the cabling from the starter motor.



**Figure 11**  
**Engine**

1. Cooling hoses
2. Cabling

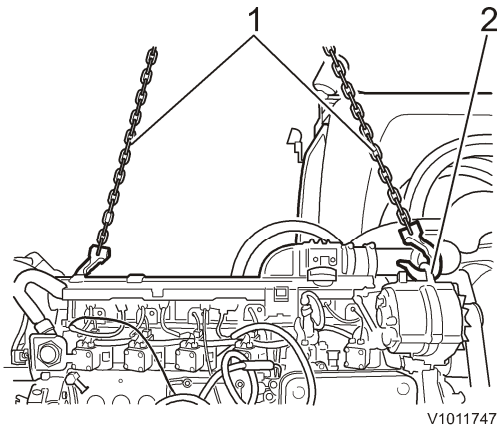
Disconnect the cooling hoses (2 pcs.) and the cabling from the alternator.



**Figure 12**  
**Engine**

1. Electric cable
2. Electric cable
3. Electric cable
4. Fuel hose

Disconnect the electric cables and the fuel hose , as well as the fuel hose for the fuel pump (by the cooling fan).  
Remove the clamps for hoses and electric cables, then place the electric cables and hoses on the engine member.



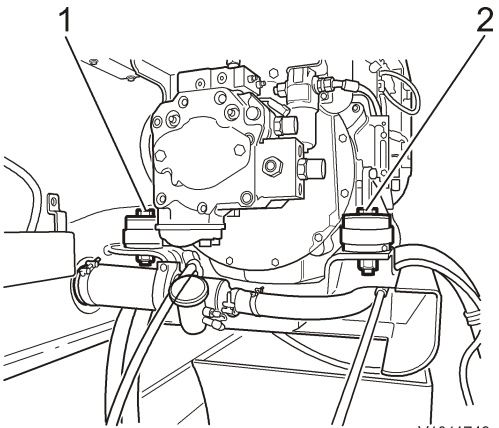
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17.

**Figure 13**  
**Lifting links on engine**

1. Lifting links
2. Lifting eyes

Connect the lifting links in the engine's lifting eyes (2 pcs.) and in a lifting device.



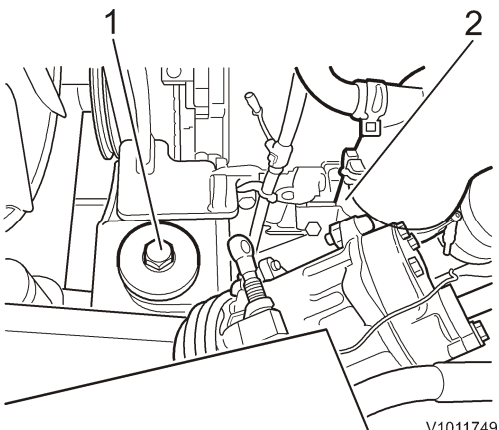
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18.

**Figure 14**  
**Engine**

1. Bolted joint
2. Bolted joint

Remove the bolted joints and for the engine mounts.



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19.

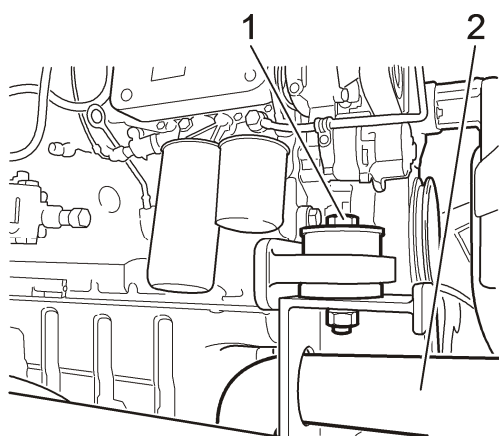
**Figure 15**



### Inner engine mount

1. Bolted joint
2. Hose clamp

Remove the bolted joint for the inner engine mount and loosen the hose clamp .



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### Figure 16 Outer engine mount

1. Bolted joint
2. Hose

Remove the bolted joint and the hose.

21. Lift the engine out of the machine and place the engine on stable supports.

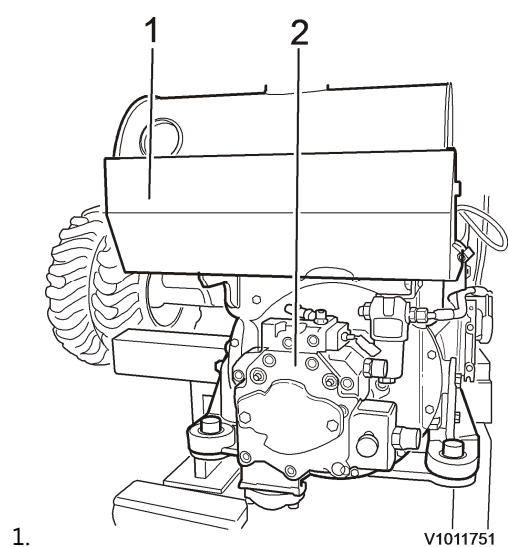
Document Title: <b>Engine, installation</b>	Function Group: <b>210</b>	Information Type: <b>Service Information</b>	Date: <b>2014/7/17</b>
Profile: <b>EXC, EW160B [GB]</b>			

## Engine, installation

Op nbr 210-02

14360000 Vacuum pump

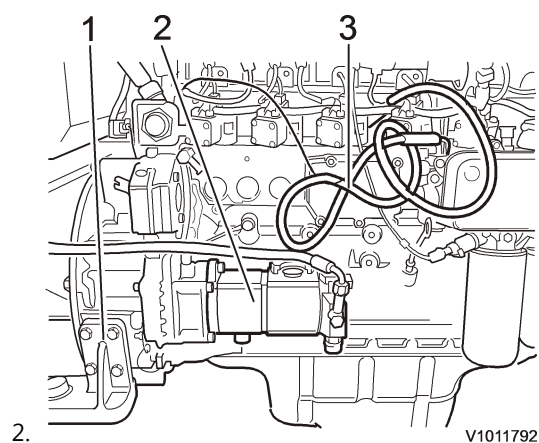
Lifting links, min. 1500 kg



**Figure 1**  
**Transferring components**

1. Muffler
2. Working pump

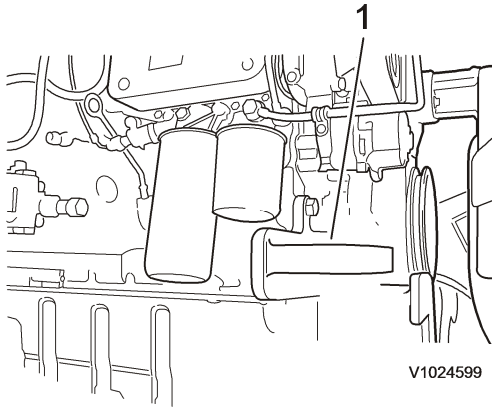
Transfer the working pump with drive flange and cap.  
Transfer the muffler with pipes for the turbo.



**Figure 2**  
**Transferring components**

1. Engine mount
2. Servo/steering pump
3. Engine heater cable

Transfer the servo/steering pump and eventual engine heater cabling.  
Transfer the rear engine mounts on both sides.  
Tightening torque for engine mounts: **110 ± 11 Nm**.

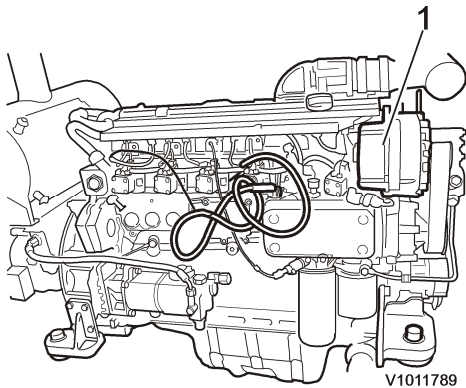


3.

**Figure 3**  
**Transfer front engine mounts**

1. Engine mount

Transfer the front engine mounts on both sides.  
Tightening torque for engine mounts: **260 ± 26 Nm**

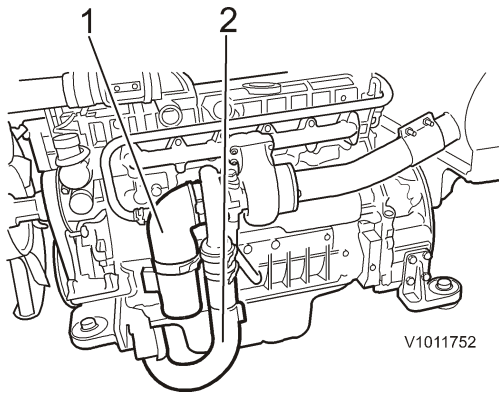


4.

**Figure 4**  
**Transferring components**

1. Alternator

Transfer the alternator.



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5.

**Figure 5**  
**Transferring components**

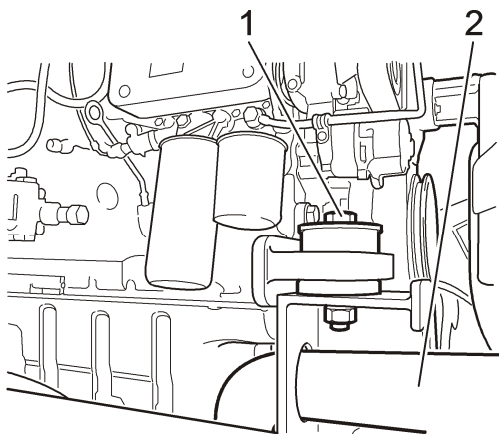
1. Hose
2. Intercooler pipe

Transfer the hose for the turbo and the intercooler pipe.

6. Connect lifting links in the engine's lifting eyes and lift the engine into the machine.

**NOTE!**

Fit the hose on the turbo hose before the engine is lowered onto the engine mounts.



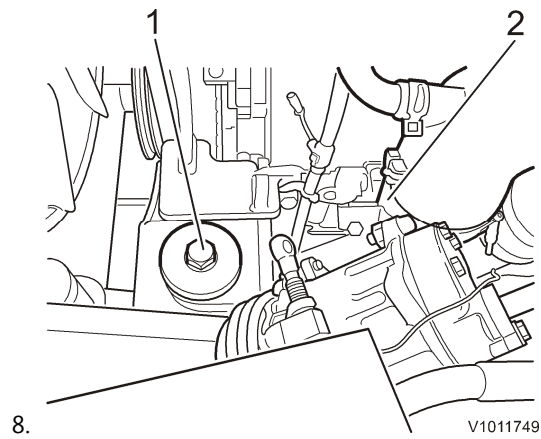
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7.

**Figure 6**  
**Outer engine mount**

1. Bolted joint
2. Intercooler hose

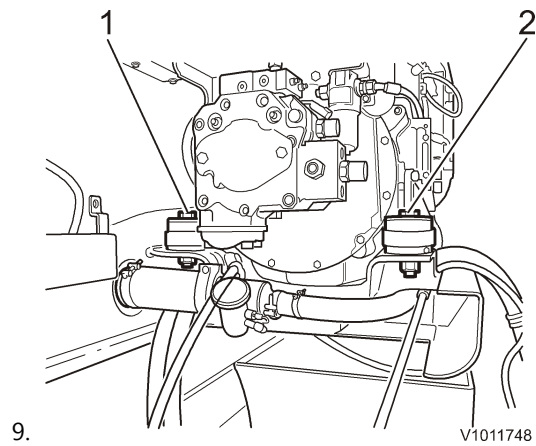
Fit the bolted joint and the intercooler hose.  
Tightening torque : **687 ±68 Nm.**



**Figure 7**  
**Inner engine mount**

1. Bolted joint
2. Hose clamp

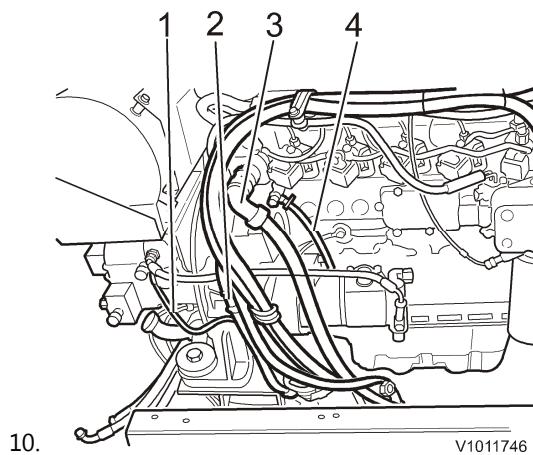
Fit the bolted joint for the inner engine mount and tighten the hose clamp.  
Tightening torque : **687 ± 68 Nm**.



**Figure 8**  
**Engine**

1. Bolted joint
2. Bolted joint

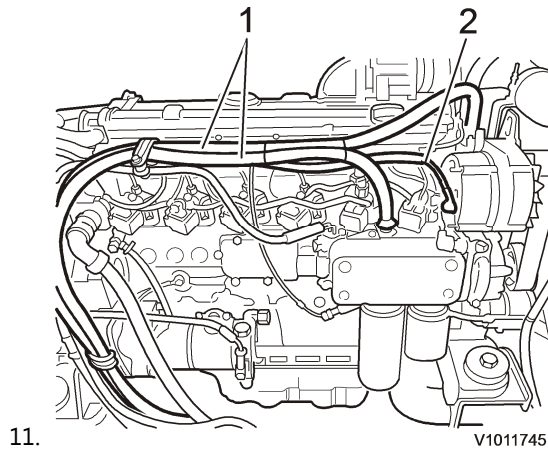
Fit the bolted joint for the engine mounts.  
Tightening torque : **687 ± 68 Nm**.



**Figure 9**  
**Engine**

1. Electric cable
2. Electric cable
3. Electric cable
4. Fuel hose

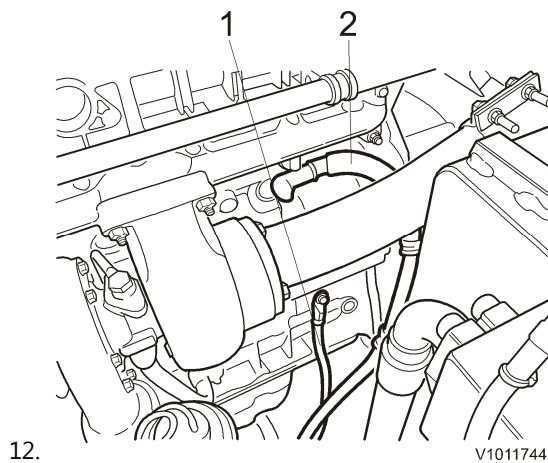
Connect the electric cables and the fuel hose, as well as the fuel hose for the fuel pump (by the cooling fan).



**Figure 10**  
**Engine**

1. Cooling hoses
2. Cabling

Connect cooling hoses (2 pcs.) and the cabling for the alternator. Clamp the cooling hoses and electric cables with clamps according to earlier clamping.



**Figure 11**  
**Engine**

1. Cabling
2. Ground cable

Connect the cabling to the starter motor and the ground cable to the engine.



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