

Document Title: Engine, description	Function Group: 200	Information Type: Service Information	Date: 2014/4/28
Profile: WLO, L90E [GB]			

Engine, description

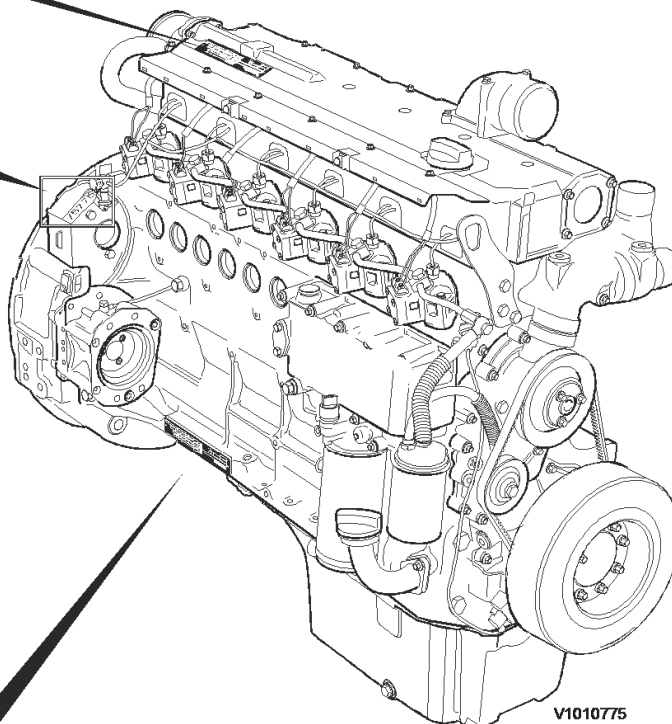
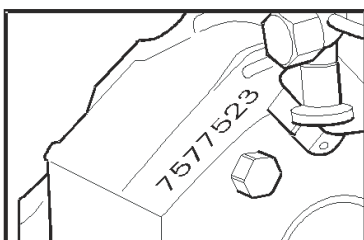
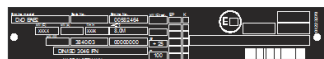
L90E is equipped with a four-stroke, straight six-cylinder turbocharged and direct-injected diesel engine with an air-cooled intercooler.

Fuel is injected with unit injectors. The unit injectors are positioned at an angle above the pistons and are controlled via the camshaft and the engine control unit's (E-ECU) software.

D6D is equipped with dry replaceable cylinder liners. The engine is of the low-emission type.

The engine's serial number is stamped on the name plate, on the cylinder block's side and on the valve cover. The engine's model designation and serial number must be indicated when ordering spare parts.

The cylinders are numbered with cylinder one closest to the flywheel. The engine's rotational direction is counter-clockwise, seen from the flywheel end. Firing order: 1-5-3-6-2-4.



Engine model DxD EAE2		Serie No. 00582464		Engine No. 00582464		kW (G)red. EP K		E		01223270	
kW (G)	kW (s)	l/min	8.0M	8.0M							
xxx.x		xxxx									
kW (W)		3840/03	00000000	+25							
DIN/ISO 3046 IFN				m		100					
MADE IN GERMANY											

Figure 1

Document Title: Engine, removing	Function Group: 210	Information Type: Service Information	Date: 2014/4/28
Profile: WLO, L90E [GB]			

Engine, removing

Op nbr 210-070

[9998547 Lifting tool](#)

Sling 4 m (13.1 ft), 4 pcs.

Sling 2 m (6.6 ft), 2 pcs.

Sling 1 m (3.3 ft)

Ratchet block

Lifting eyes, 4 pcs.

1. Remove the engine hood, see [821 Engine hood, removing](#).
2. Drain the engine oil at the drain point.
Volume: See [030 Engine, capacities](#)

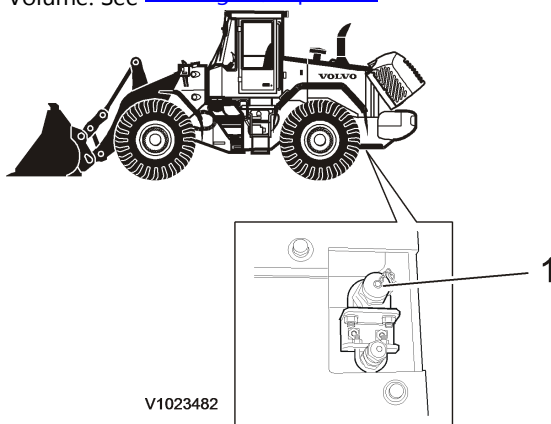


Figure 1

1. Drain point for engine oil

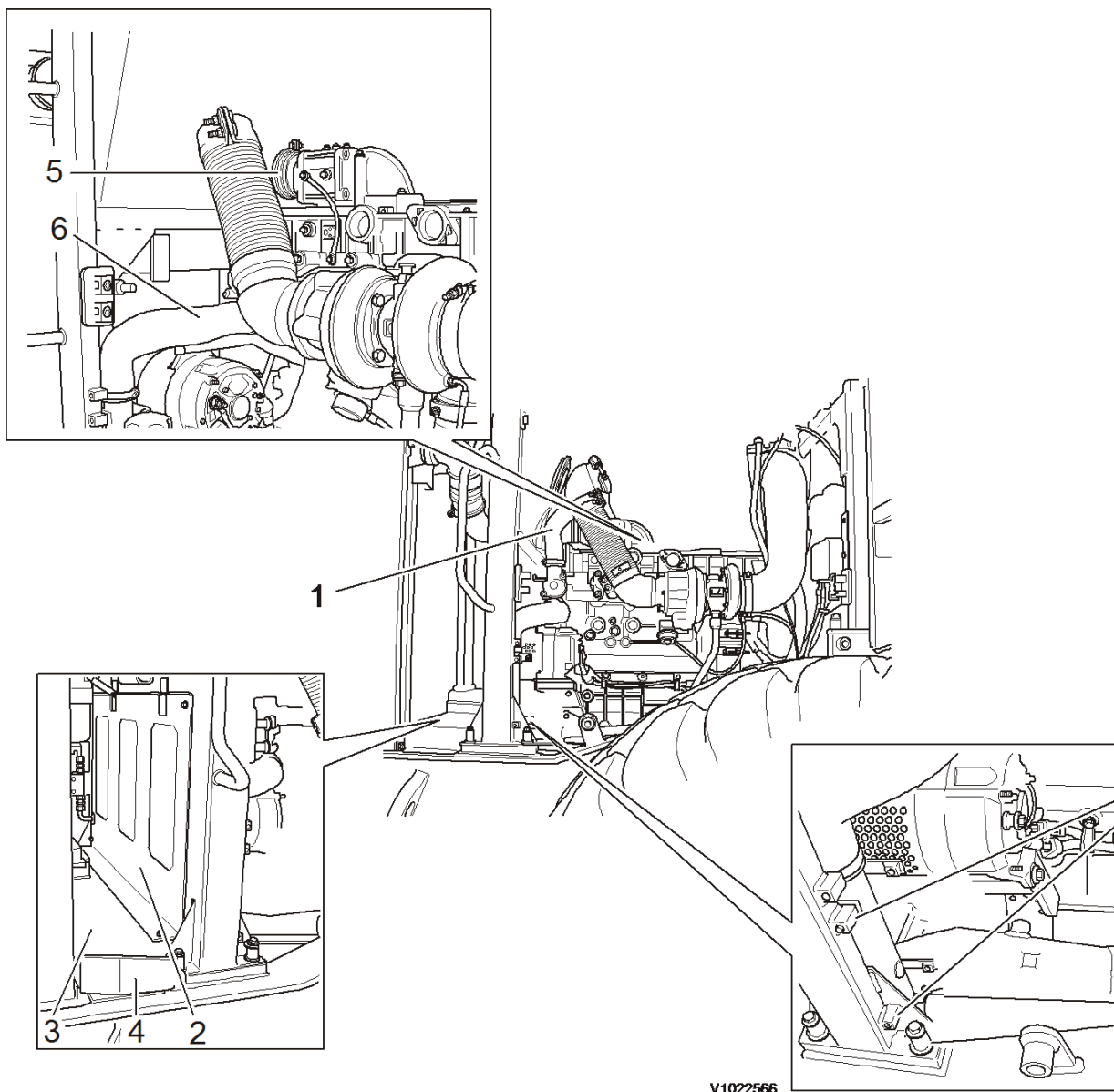
Machine's right side

3. Disconnect:
 - the upper radiator hose from the engine.
 - the clamp for the preheating coil.
 - the coolant hose by loosening the hose clamp at the engine.

Remove:

- the intermediate wall

- the protective plate and guide plates
- the bolts for the coolant collecting pipe



V1022566

Figure 2

1. Upper radiator hose
2. Partition wall
3. Protective plate
4. Guide plate
5. Clamp for preheating coil
6. Coolant hose
7. Bolts for coolant collecting pipe

Behind machine, under the hood

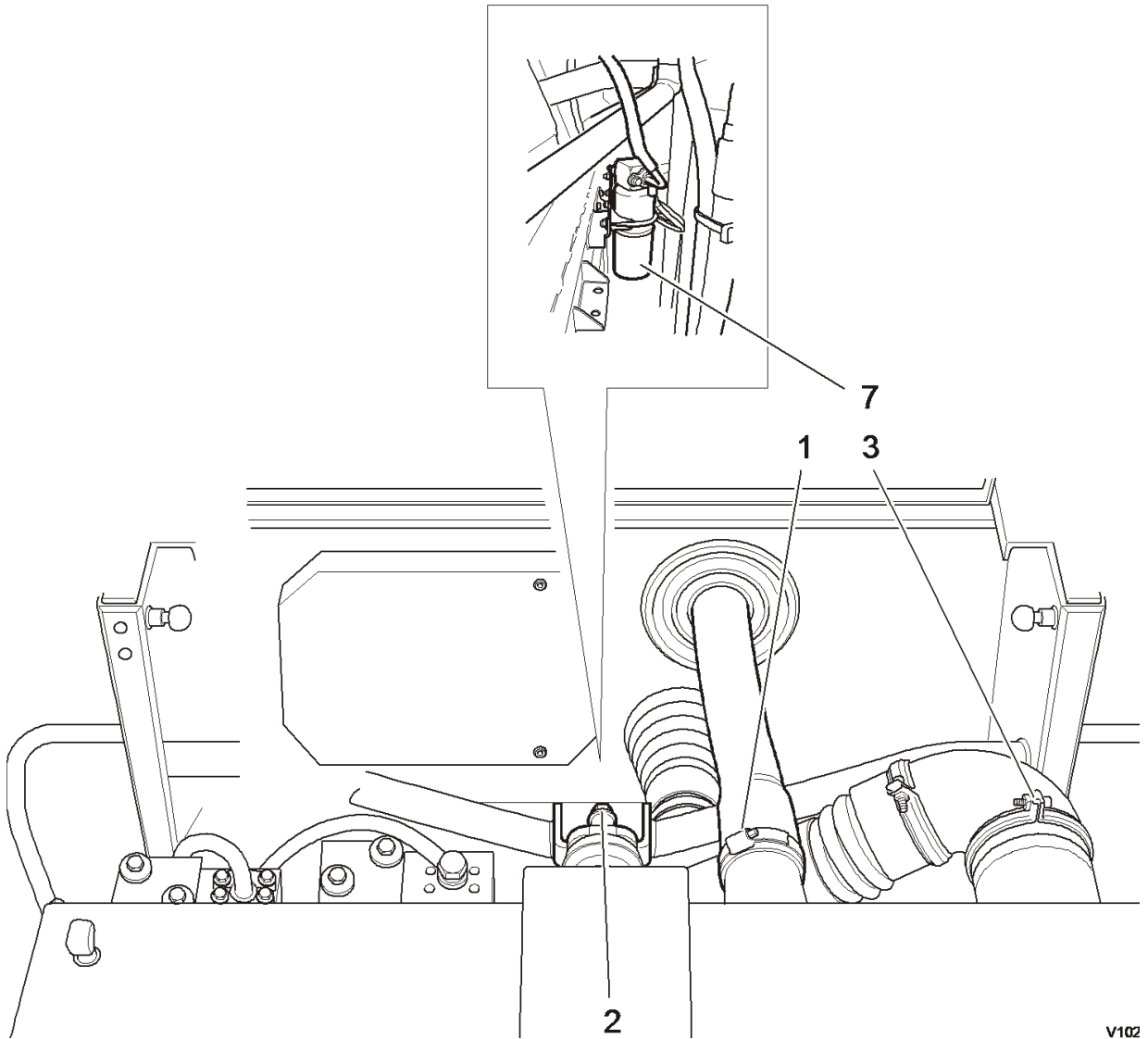
4. Disconnect:
 - Disconnect the upper radiator hose.
 - Loosen the upper radiator bracket.
 - Disconnect the clamp for the charge-air pipe.

NOTE!

Place a suitable spacer under the fan drum so that the radiator doesn't fall backward.

Remove:

- the protective plate for the engine-ECU
- the connection EAEB for the engine-ECU and the leadthrough plates. Move the connection out through the hole. Protect the connectors
- the dryer filter from the bracket and move it to the side so that the hood goes clear



V102

Figure 3

1. Upper radiator hose
2. Upper radiator bracket
3. Clamp for charge-air pipe
4. Protective plate
5. Connection EAEB
6. Leadthrough plates
7. Receiver drier

Machine's left side

5. Disconnect the hose for the fuel feed pump. Remove the AC compressor and fold it aside.

NOTE!

The hoses may not be folded.

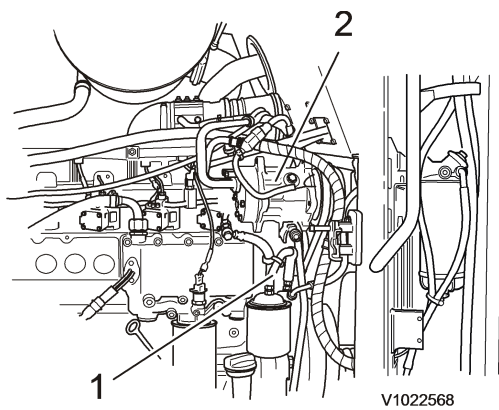


Figure 4

1. Hose to fuel feed pump
2. AC compressor

Machine's right side**Engine removal**

6. Disconnect:

- the coolant hose from the transmission oil cooler.
- the connection for the charge-air pipe.
- the hoses from the coolant collecting pipe.

Remove:

- the connection for the alternator and clamps for the cabling
- the brackets for the charge-air pipe. Retain the spacers behind the rear bracket. Remove the pipe.
- the clamps for the coolant hoses. Retain the spacers. Cut off the cable tie.
- the bracket for connector RL.
- electric connections for the starter motor
- the clamp for the engine oil level sensor and the connector

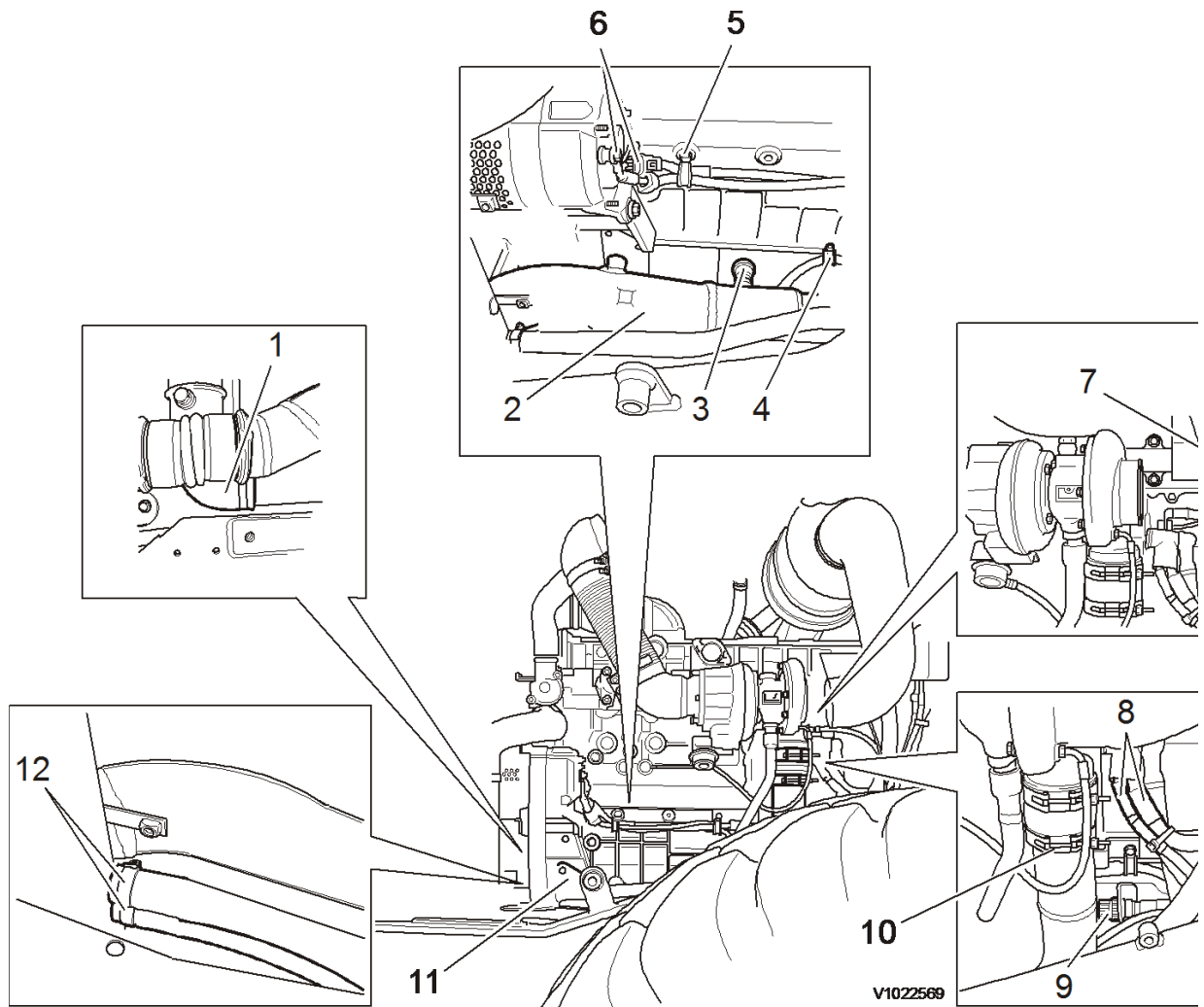


Figure 5

1. Coolant hose for transmission oil cooler
2. Charge air pipe
3. Connector
4. Clamp for engine oil level sensor
5. Connections for alternator
6. Clamp for cabling
7. Clamps for coolant hoses
8. Electric connections for starter motor
9. Bracket for connector
10. Connection for charge-air pipe
11. Bracket for charge-air pipe
12. Hoses for coolant collecting pipe

Under the machine

7. Remove protective plate.

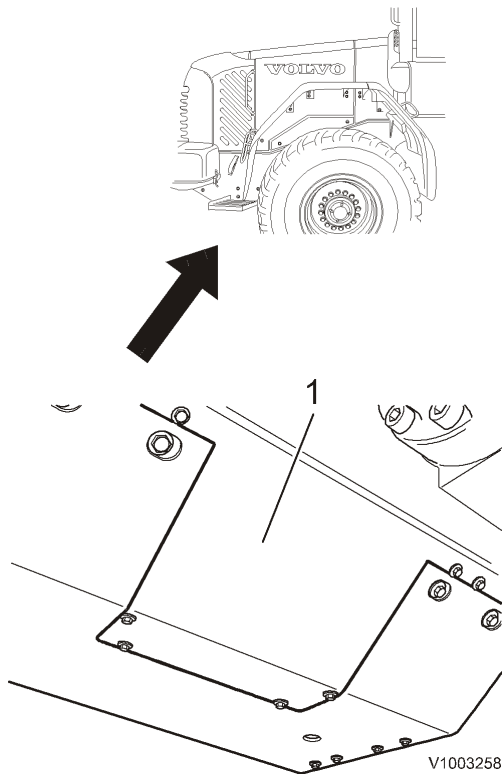


Figure 6

1. Protective plate
8. Remove the bolts for the rubber cushion.

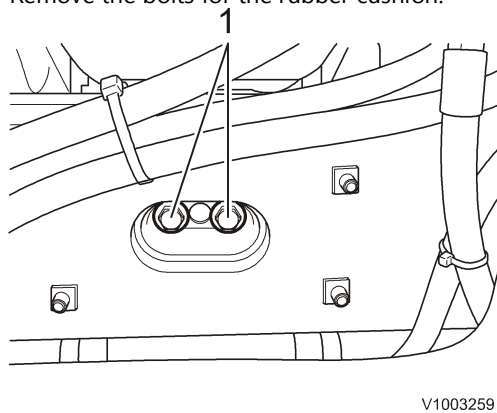


Figure 7

1. Bolts for rubber cushion

9. Machine's left side

Disconnect:

- the coolant hose.
- the fuel return hose. Retain the spacer behind the clamp. Plug the opening.

Remove:

- the connection for the engine heater connector.[1] ⓘ
- electric connections for the preheating coil
- the drain hose for engine oil
- the bolts for the framework. Connect sling in the framework and lift away.

- the 48-pin connector. Protect the connector. Cut off the cable ties to release the cable harness.

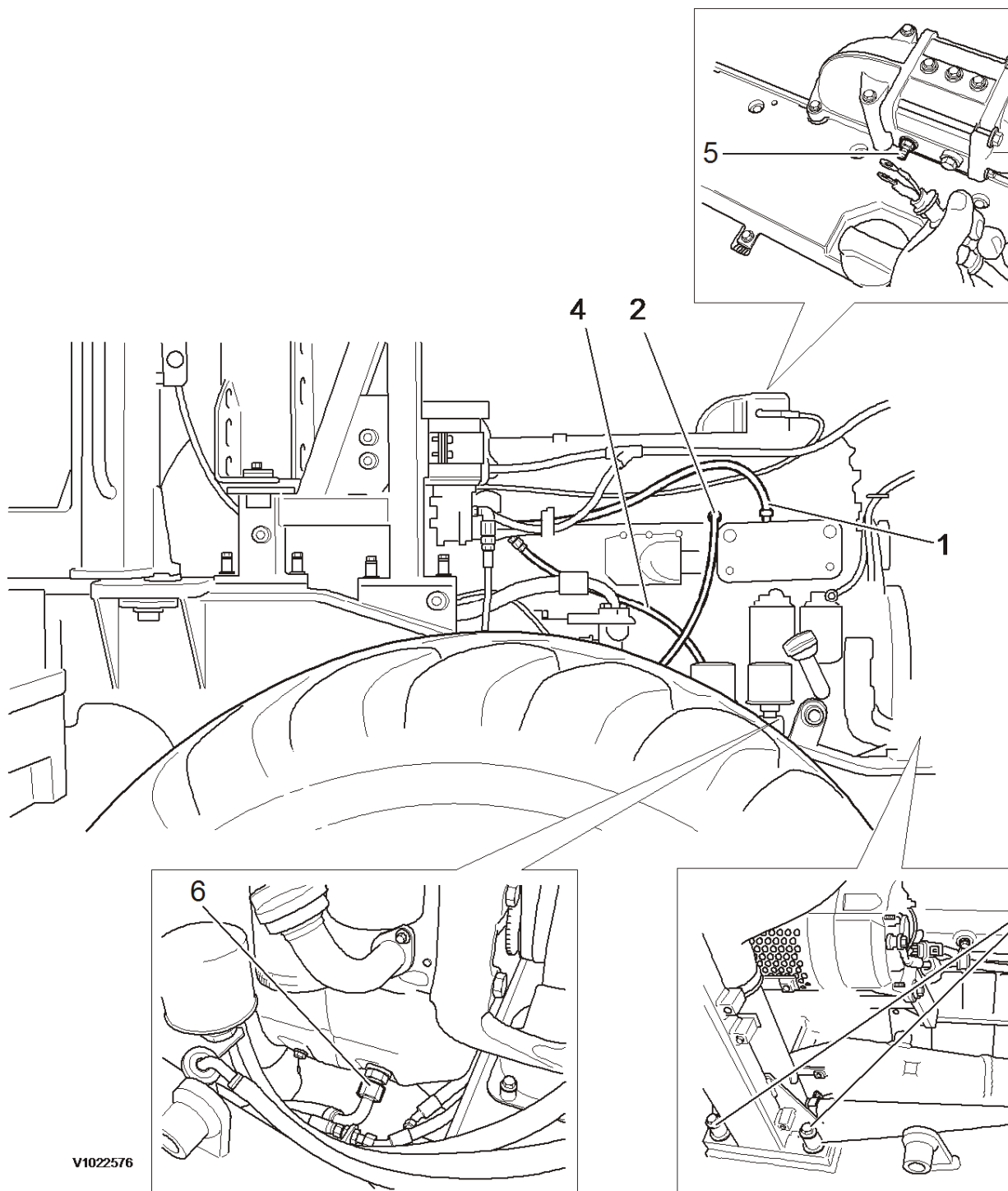


Figure 8

1. Coolant hose
2. Connection for engine heater connector
3. 48 pin connector
4. Fuel return hose
5. Electric connections for preheating coil
6. Drain hose for engine oil
7. Bolts for framework

- Mark up and loosen the electric connections for the secondary steering pump. [2] ⓘ
- Disconnect the secondary steering pump.
- Disconnect the hydraulic pump and move it to the side, complete with all hydraulic hoses and strap it down in that position.

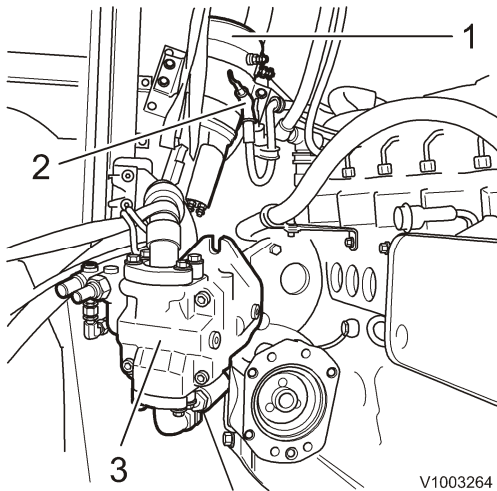


Figure 9

1. Secondary steering pump
2. Electric connections for secondary steering pump
3. Hydraulic pump

11. Remove the front part of the rear mudguard. Remove the plates that cover the hydraulic tank.

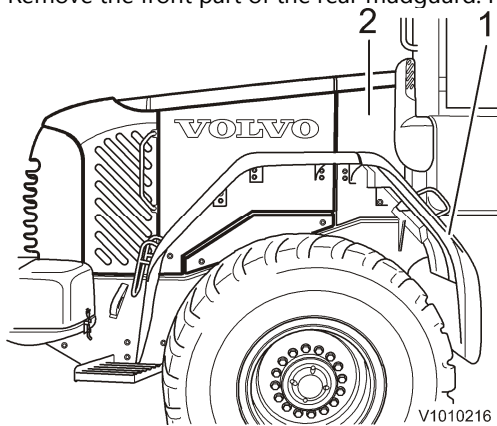


Figure 10

1. Front part of rear mudguard
2. Plates

12. Remove the bolts and the spacers. Lift up the framework approx. 3 cm (1.2 in).

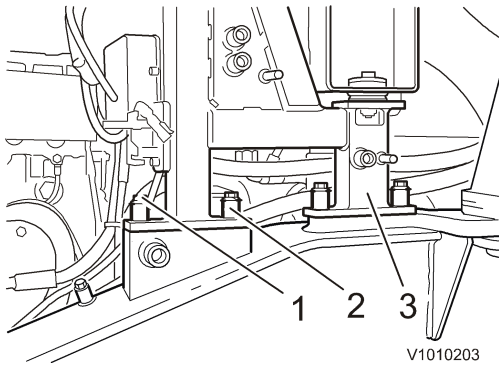


Figure 11

- 1. Bolt
- 2. Spacers
- 3. Framework

13. Place the spacers on the frame and lower the framework. Fit the bolts and tighten them slightly.

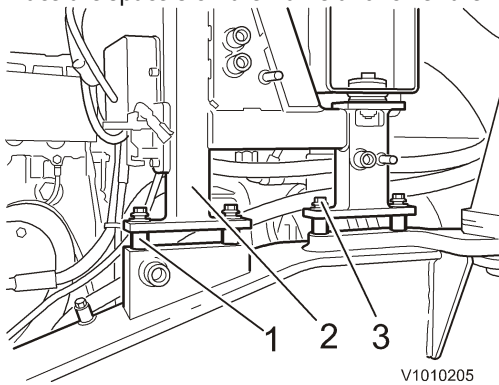


Figure 12

- 1. Spacer
- 2. Framework
- 3. Bolt

14. Connect the engine to the overhead crane with lifting device 9998547 according to the figure.

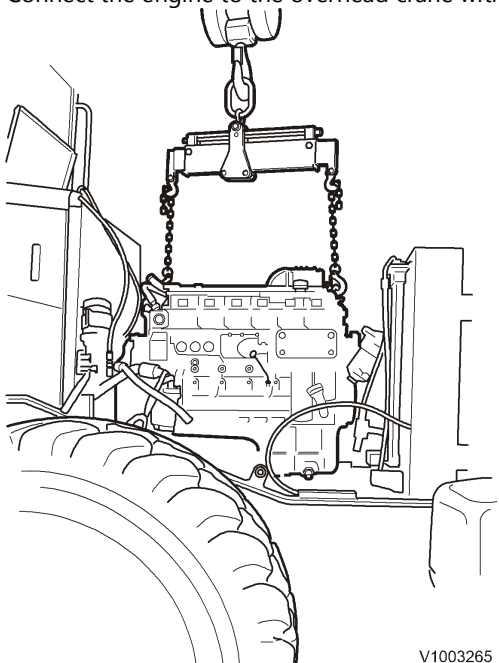


Figure 13

15.

- Remove the bolts, 4 pcs., for the rubber cushion.
- Remove the bolts for the engine mount. Two on each side.
- Lift the engine sufficiently so that the rubber cushion and engine mount can be removed.

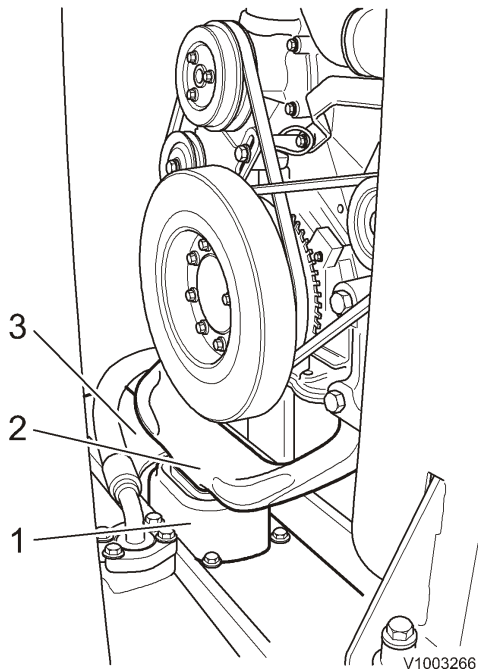
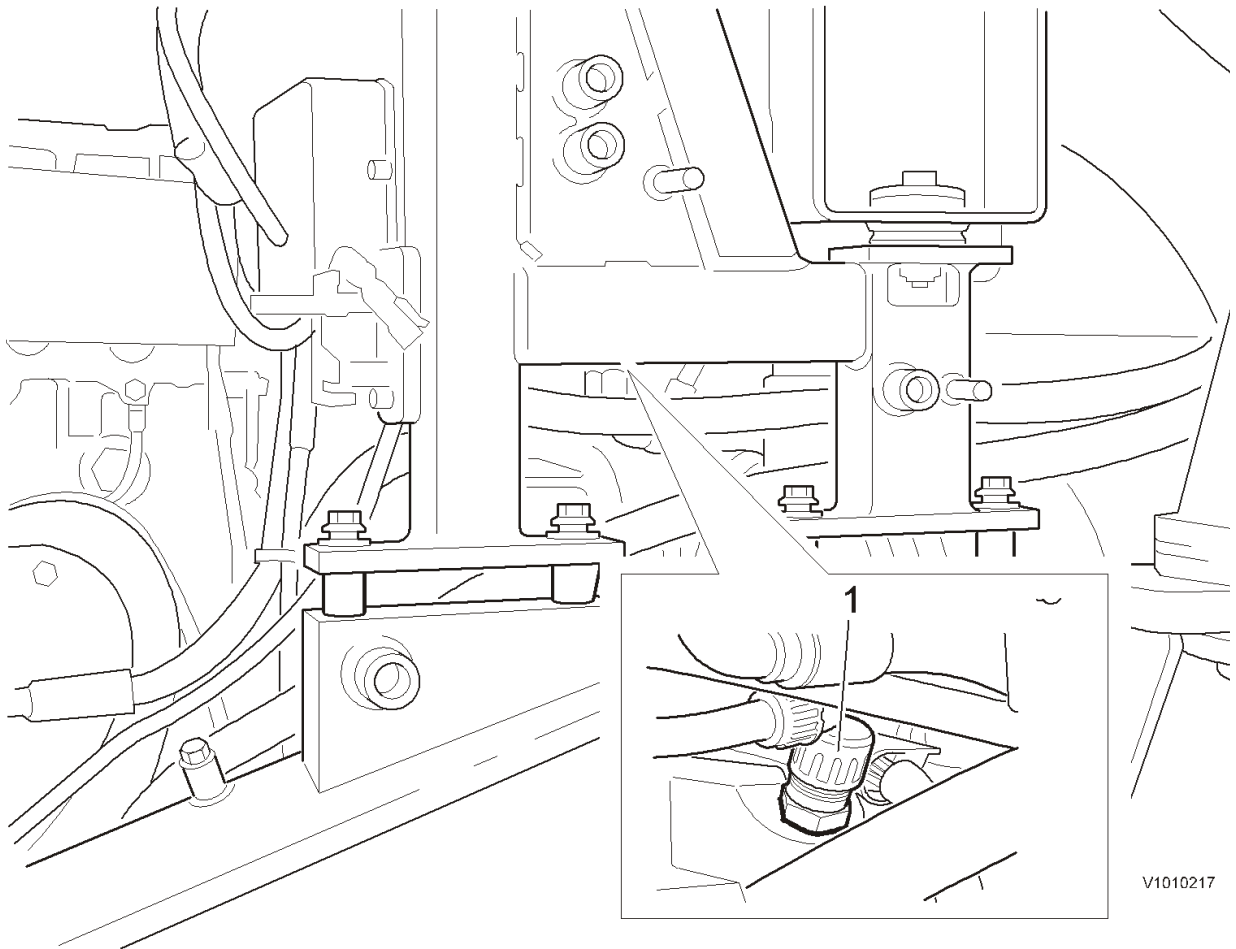


Figure 14

1. Bolt, rubber cushion
2. Engine mount

16. Lift the engine sufficiently so that it can pass freely over the engine member. Make sure that the connection is not trapped or crushed.

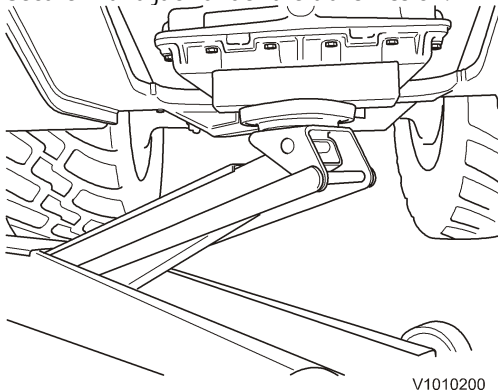


V1010217

Figure 15

1. Connection

17. Secure with a jack under the transmission.



V1010200

Figure 16

18. Attach a ratchet block in the left rear cab mount with a sling. Route the chain under the transmission to the right side of the cab. Attach the hook in the right rear cab mount with a sling. Use a suitable spacer as protection between the chain and transmission. Tighten up the transmission with the ratchet block.

Under the machine

19. Place a container under the connection for the return pipe under the transmission. Loosen the flange bolts one turn.

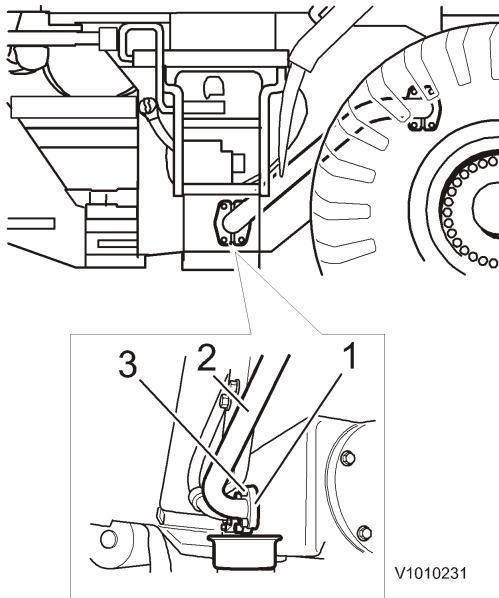


Figure 17

- 1. Connection for return pipe
- 3. Flange bolts

20. Remove the clamp bracket that holds the return pipe on the flywheel housing. Bend the return pipe approx. 10 mm (0.4 in) to the side, and pull down the return pipe approx. 30 mm (1.2 in).

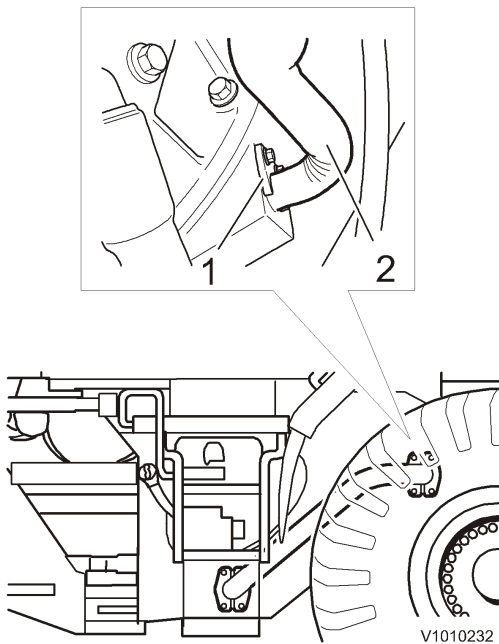


Figure 18

- 1. Clamp bracket
- 2. Return pipe

21. Tighten the flange bolts and plug the connections.

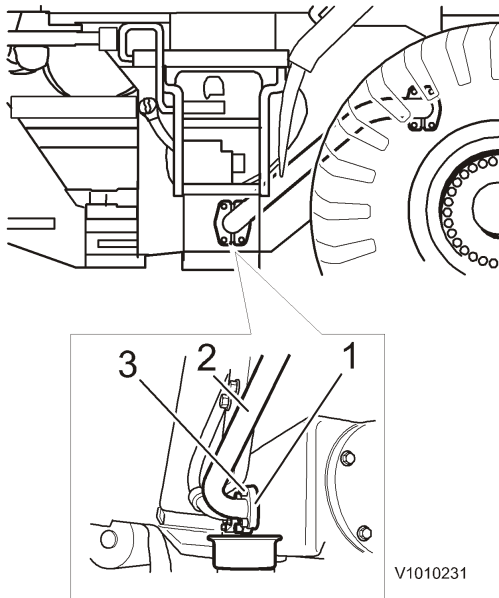


Figure 19

3. Flange bolts

22. Remove the bolts between the engine and transmission, 12 bolts.

23. Remove the engine. Weight: **575 kg (1268 lb)**.

[**1**] optional equipment

[**2**] Optional equipment



Our support email:

ebooklibonline@outlook.com