

Document Title: Engine, identification	Function Group: 200	Information Type: Service Information	Date: 2014/7/14
Profile: EXC, EC480D L [GB]			

Engine, identification

Identification plate 1

A decal with the software's ID-number, the engine's serial number and assembly plant is located on the valve cover to ensure installation of correct ECU on the engine in production. On the back of the ECU, there is a decal indicating its hardware number.

Identification plate 2

Engine designation, serial number, part number and assembly plant are stamped in one field on the engine block's left front edge.

Assembly plants:

A = Skövde, Sweden

E = Curitiba, Brazil

F = Flen, Sweden

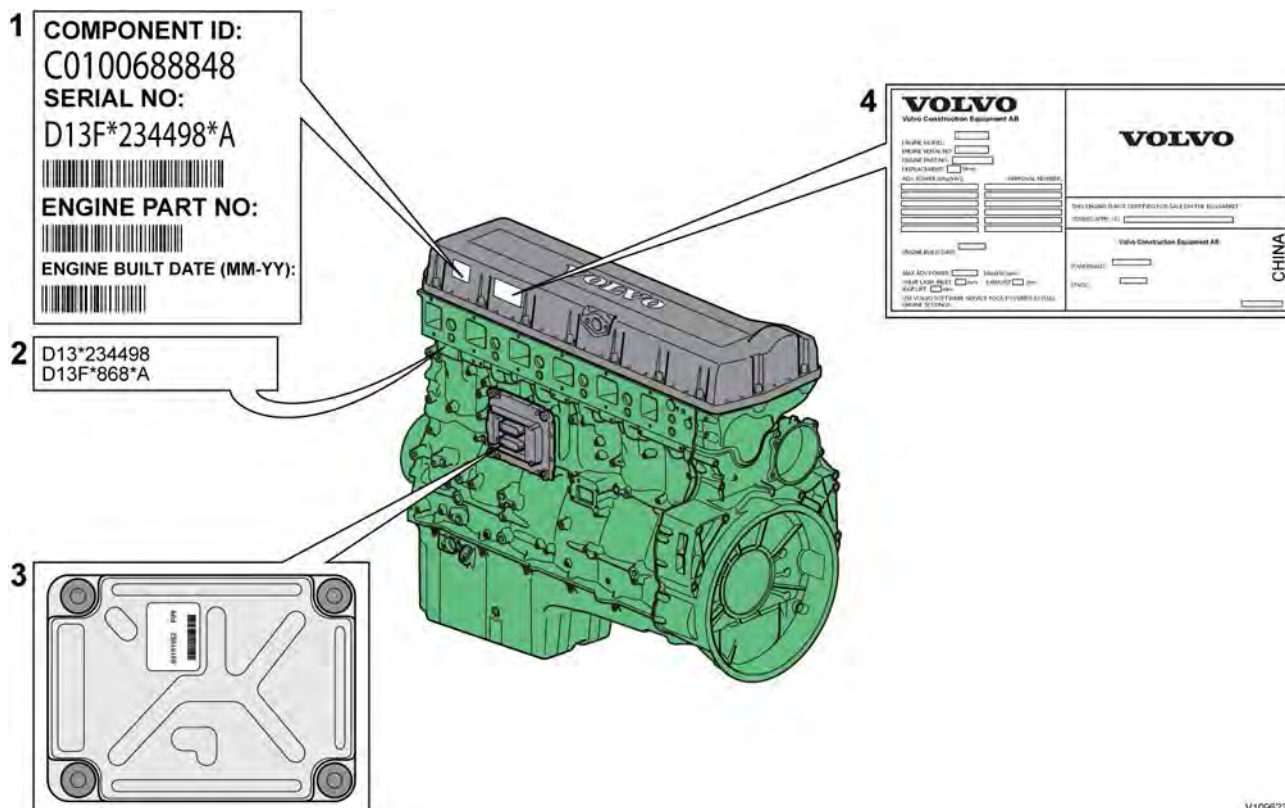
L = Lyon, France

Identification plate 3

The engine control unit (ECU) has its component number on a plate on the back.

Identification plate 4

The certification decal is located on the valve cover as well as on the left side of the machine's front frame.



V1096235

Figure 1

Document Title: Component locations	Function Group: 200	Information Type: Service Information	Date: 2014/7/14
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Component locations

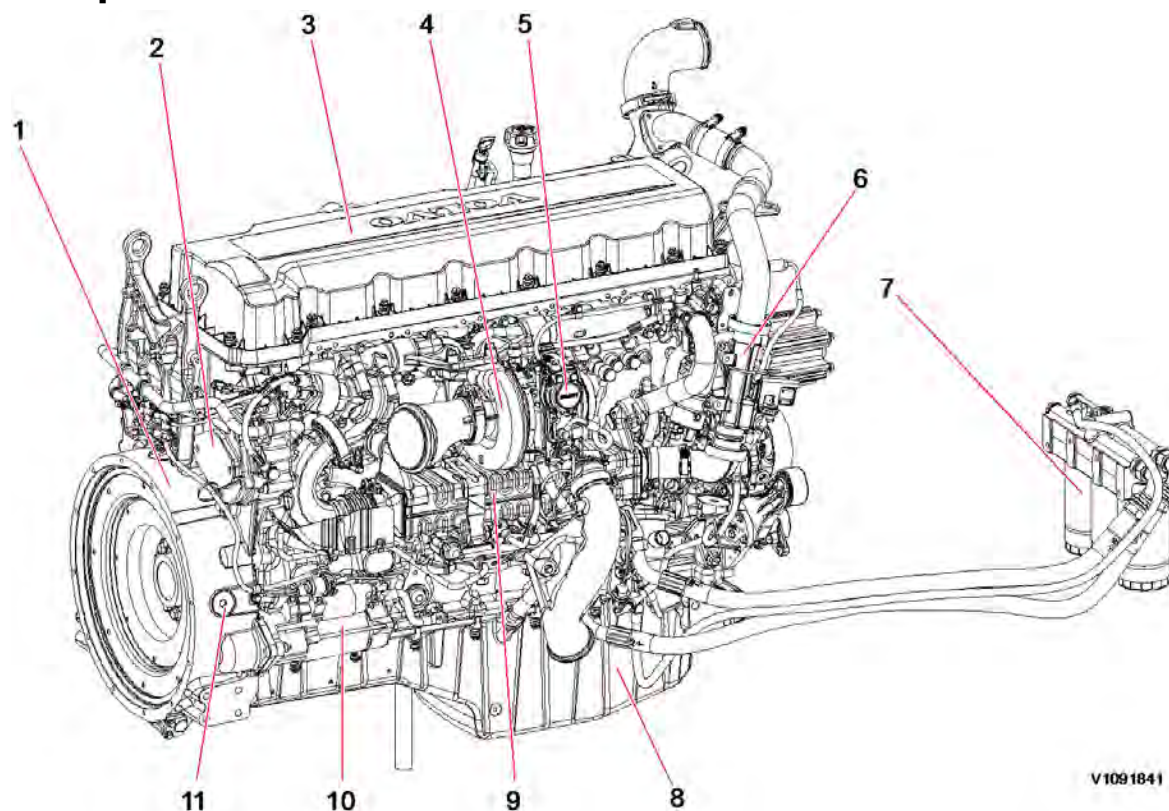


Figure 1
Engine, front side

1	Flywheel housing	7	Engine oil filter
2	P.T.O (Power Take Off) port	8	Oil pan
3	Valve cover	9	EGR cooler
4	Turbocharger	10	Starter motor
5	Turbocharger actuator	11	TDC mark checking port
6	Venturi pipe		

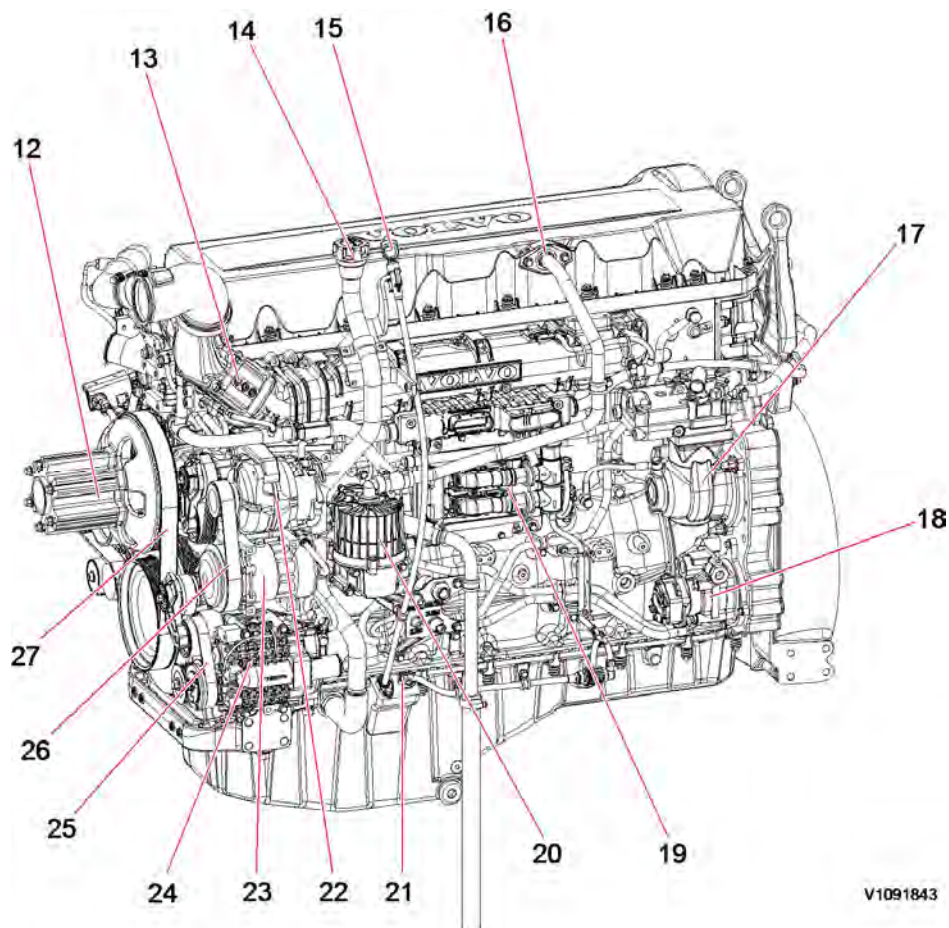


Figure 2
Engine, back side

12	Fan pulley	20	Crankcase ventilation separator
13	Pre-heating coil	21	Oil level sensor
14	Engine oil filling port	22	Alternator
15	Dipstick gauge	23	Air conditioner compressor
16	Crankcase ventilation tube	24	Air pump
17	Air compressor	25	Air pump belt
18	Fuel feed pump	26	Alternator/Compressor belt
19	E-ECU	27	Fan belt

Document Title: E-ECU, MID 128, changing non-programmed ECU	Function Group: 200	Information Type: Service Information	Date: 2014/7/14
Profile: EXC, EC480D L [GB]			

E-ECU, MID 128, changing non-programmed ECU

Op nbr 200-068

1. Park the machine in the service position A, see [091 Service positions](#).
2. Connect the VCADS Pro computer to the machine, and perform operation '28423-3 MID 128 control unit, programming'.
3. When VCADS Pro 'MID 128 ECU, programming' window appears, follow the instructions for replacing E-ECU.
4. Turn OFF battery disconnect switch.
5. Remove the engine hood rear cover screws.

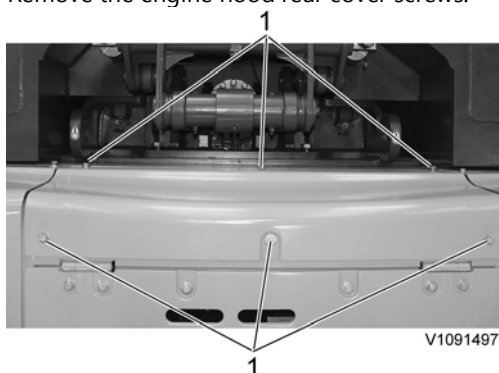


Figure 1

1. Screws
6. Remove the bracket.

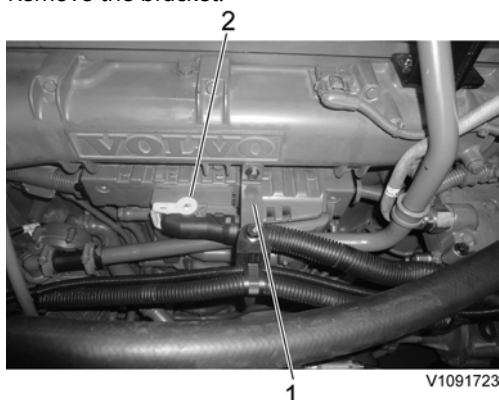


Figure 2

1. Bracket

2. CNEI connector
7. Disconnect the CNEI connector.
8. Remove the air hose.

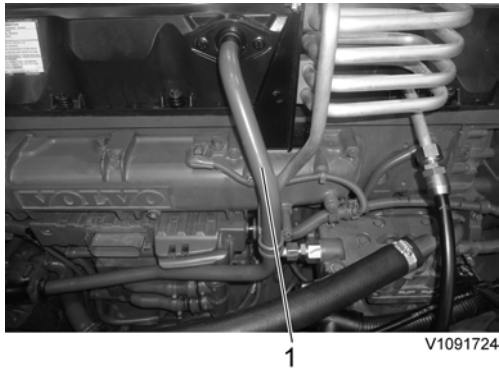


Figure 3

9. Remove screws from wire harness clamps, and disconnect the wiring harness connectors from E-ECU.

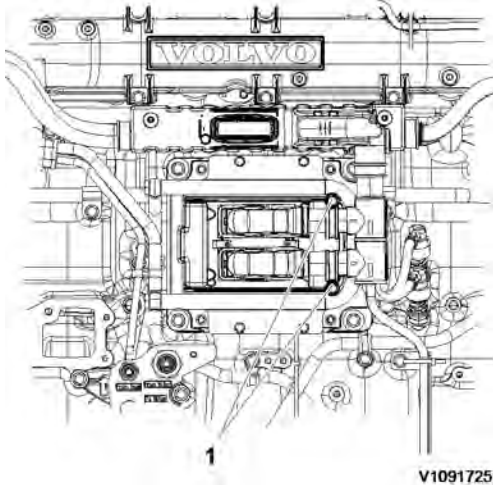


Figure 4

1. Screws
10. Remove screws fixing the fuel pipe and E-ECU.

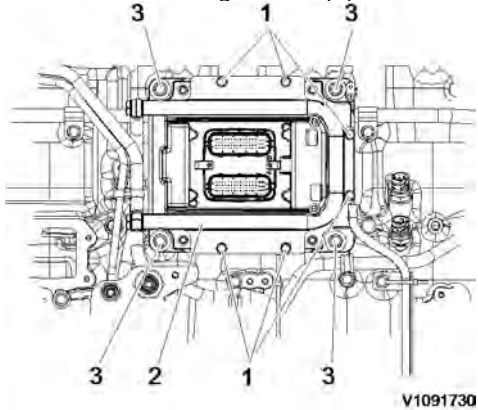


Figure 5

1. Screw

2. Pipe
3. Screw

Put the fuel pipe away.

11. Remove 4 screws fixing the E-ECU and replace the E-ECU.
12. Install fuel pipe and screws.
Connect wire harness connectors to the E-ECU, and install wire harness clamp screws.
13. Install the air hose and bracket.
14. Install the engine hood rear cover, and the screws.
15. After replacing E-ECU, press OK button of VCADS Pro operation '28423-3 MID 128 control unit, programming'.
Now VCADS Pro starts the programming of software and parameters to the new E-ECU.
16. Start the machine and check that no error messages appear.

Document Title: E-ECU, MID 128, changing pre-programmed ECU	Function Group: 200	Information Type: Service Information	Date: 2014/7/14
Profile: EXC, EC480D L [GB]			

E-ECU, MID 128, changing pre-programmed ECU

Op nbr 200-070

1. Park the machine in the service position A, see [091 Service positions](#).
2. Connect VCADS Pro computer to the machine, and perform operation '17030-2 Parameter, programming'.
3. Use the function 'save all parameters to job card'.
4. Turn OFF battery disconnect switch.
5. Remove the engine hood rear cover screws.

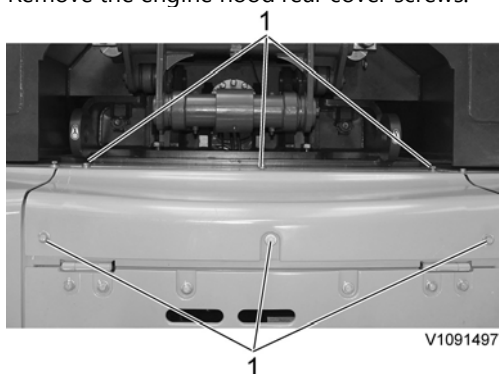


Figure 1

1. Screws

6. Remove the bracket.

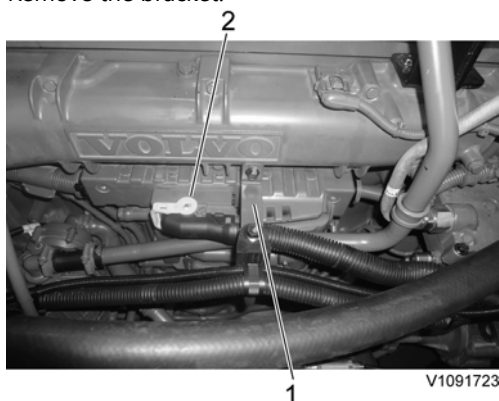


Figure 2

1. Bracket
2. CNEI connector

7. Disconnect the CNEI connector.

8. Remove the air hose.

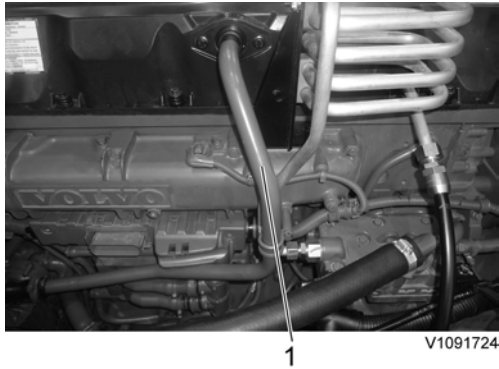


Figure 3

1. Hose

9. Remove screws from wire harness clamps, and disconnect the wire harness connectors from E-ECU.

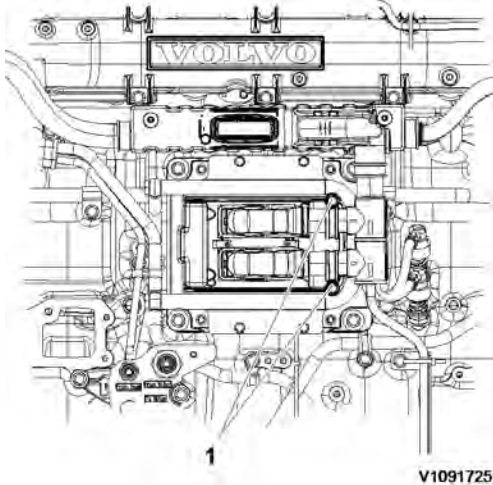


Figure 4

1. Screw

10. Remove screws fixing the fuel pipe and E-ECU. Put the fuel pipe away.

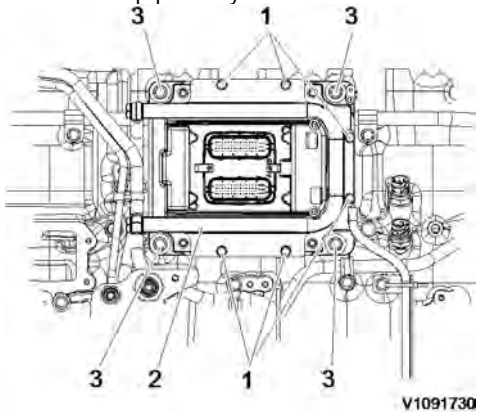


Figure 5

1. Screw
2. Pipe
3. Screw

11. Remove 4 screws fixing the E-ECU and replace the E-ECU.
12. Install the fuel pipe, and screws.
Connect wire harness connectors to the E-ECU, and install wire harness clamp screws.
13. Install the air hose and bracket.
14. Install the engine hood rear cover, and the screws.
15. Connect VCADS Pro computer to the machine, and perform operation 17030-2 Parameter, programming'. Now the customer parameters are changed according to the job card saved at step 3.
16. Start the machine and check that no error messages appear.

Document Title: Engine characteristic curve	Function Group: 210	Information Type: Service Information	Date: 2014/7/14
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Engine characteristic curve

Engine characteristic curve

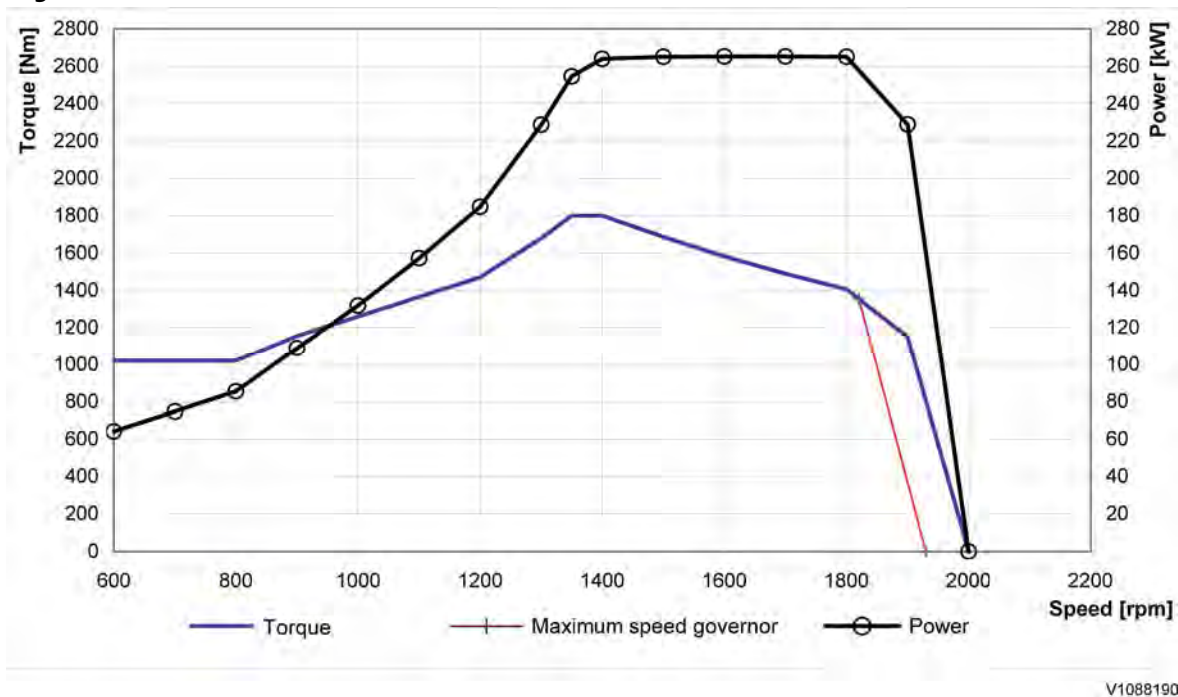


Figure 1
Engine characteristic curve, SAE J1349 Gross power

Document Title: Engine, removing	Function Group: 210	Information Type: Service Information	Date: 2014/7/14
Profile: EXC, EC480D L [GB]			

Engine, removing

Op nbr 210-070



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



Removal of residual pressure from the circuit must be done prior to any maintenance.

NOTE!

Cable ties and clamps that secure hoses and electrical wiring must be removed and then replaced when installing components.

NOTE!

Disconnected hoses, lines and connections must be plugged. Oil that drains from hoses, lines and connections should be collected in a container.

1. Place the machine in the service position B. See [091 Service positions](#)
2. Turn off the battery disconnect switch.
3. Drain the coolant in a collection container. See [261 Coolant changing](#).
4. Open the engine hood and remove the bracket from the cowl frame.

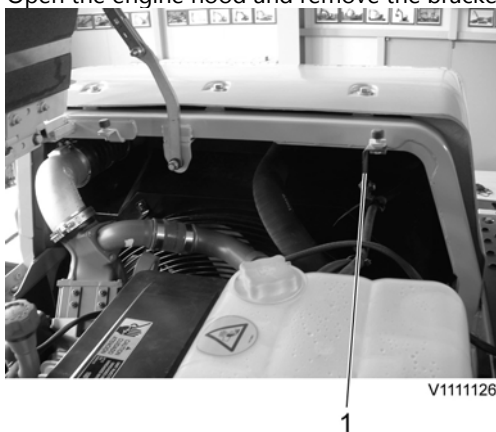


Figure 1

1. Bracket
5. Remove the DPF hood, radiator hood and the rear cover

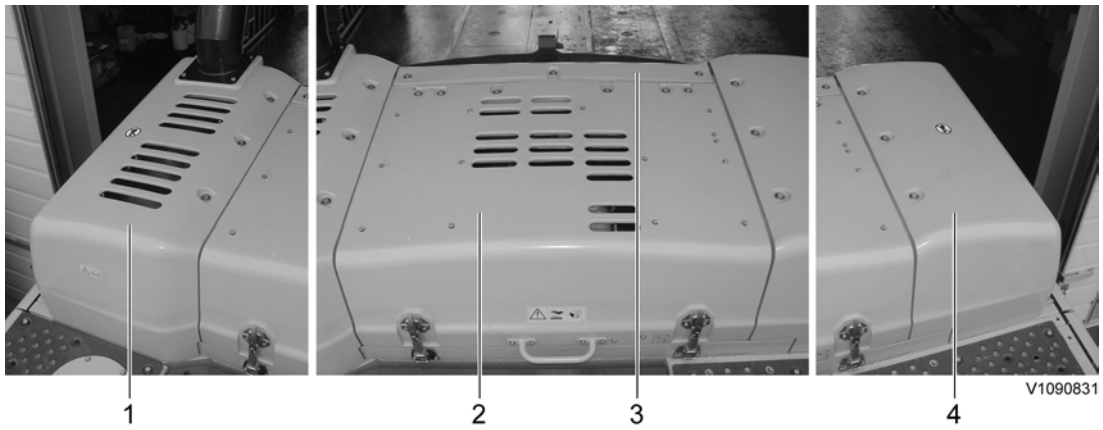


Figure 2

1. DPF hood
2. Engine hood
3. Engine room rear cover
4. Radiator hood

6. Remove the engine room cowl frame with the engine hood using a lifting device.
7. Disconnect the wire harness connector and the hoses.

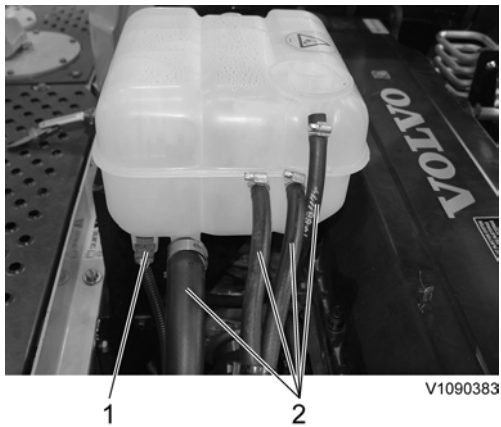


Figure 3

1. Wire harness connector
2. Hose

8. Remove the expansion tank with the bracket.
9. Remove the clamps and then remove the charge air cooler tube and the radiator hoses.

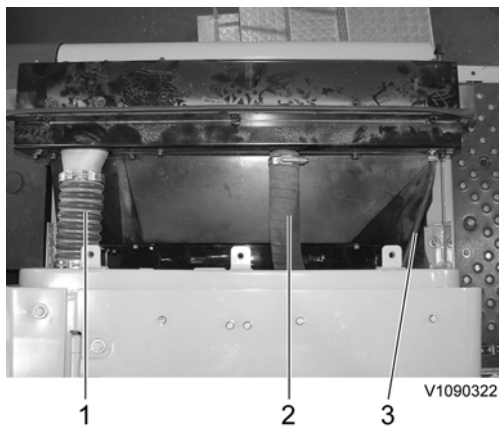


Figure 4

1. Charge air cooler upper tube
2. Radiator upper hose
3. Radiator breathing hose

10. Remove the engine room under covers.

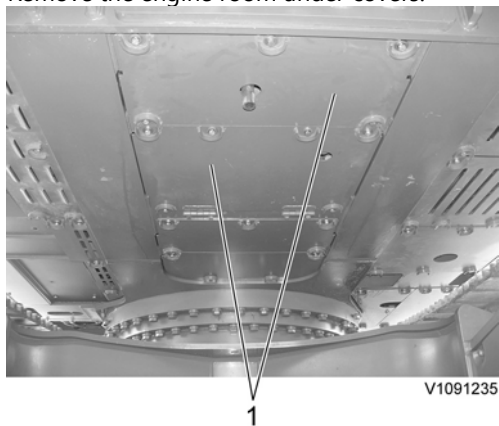


Figure 5

1. Engine room under cover

11. Release the pressure in the air compressed system by pushing up a valve on the air tank.

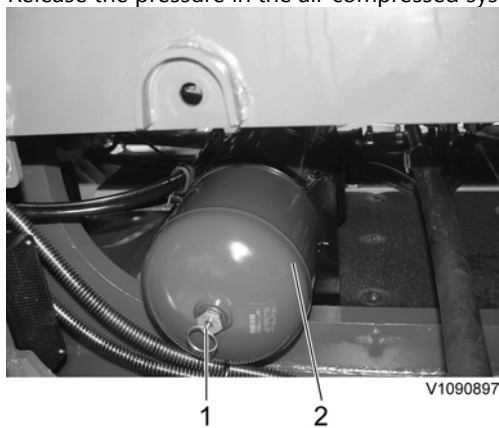


Figure 6

1. Release valve

2. Air tank

12. Disconnect the radiator under hose and remove the charge air cooler under tube.

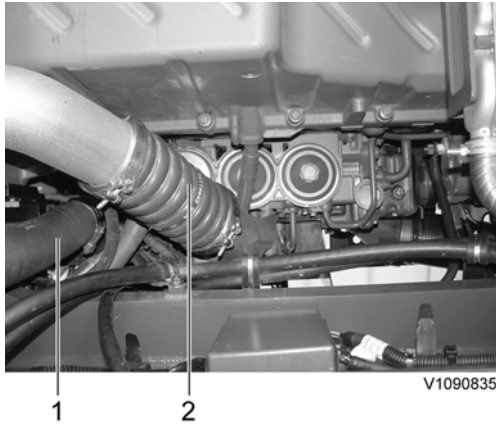


Figure 7

1. Radiator under hose
2. Charge air cooler under tube

13. Remove the screws and separate the shroud from the radiator assembly. Move the shroud to the engine side.

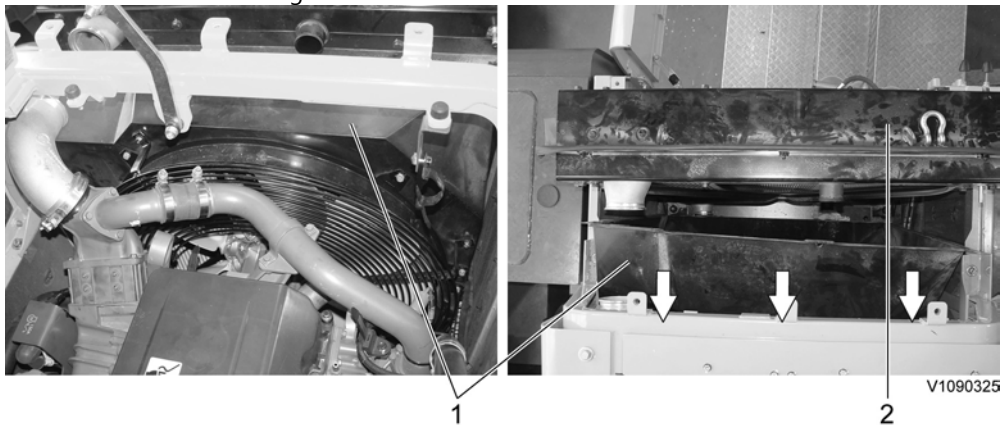
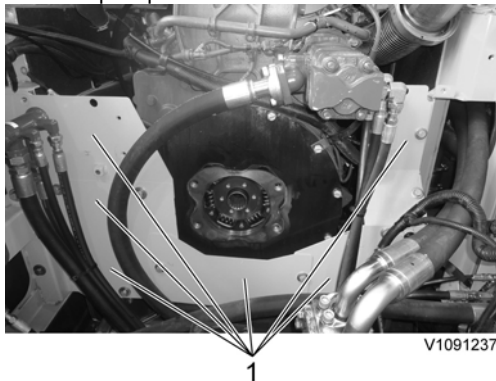


Figure 8

1. Shroud
2. Radiator assembly

14. Remove the main pump. See [913 Hydraulic pump replacing](#)

15. Remove pump room covers.





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