

Document Title: Description	Function Group: 200	Information Type: Service Information	Date: 2014/4/17
Profile:			

Description

The EC25 is powered by a 3-cylinder four-stroke diesel inline engine.

Document Title: Installing the engine	Function Group: 200	Information Type: Service Information	Date: 2014/4/17
Profile:			

Installing the engine

Op nbr 2101

Lifting sling 1 m

Shackle 3/8"

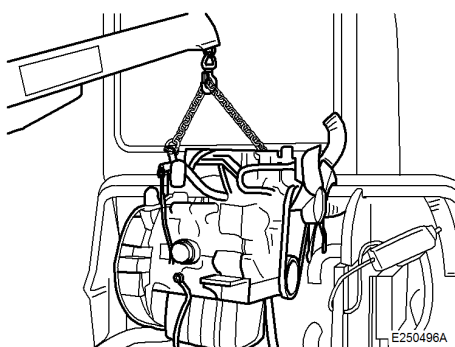


Figure 1

1. Attach the lifting tackle to the engine. Weight approx. 125 kg.
2. Lift the engine into the machine.
NOTE!
Take care not to damage the hydraulic hoses.
3. Assemble the front left hand engine mounting. Cover the screws slightly with Loctite and tighten with 55 Nm.
4. Turn in the screws between engine mountings and rubber elements and tighten with 105 Nm.
5. Remove the lifting tackle to the engine.

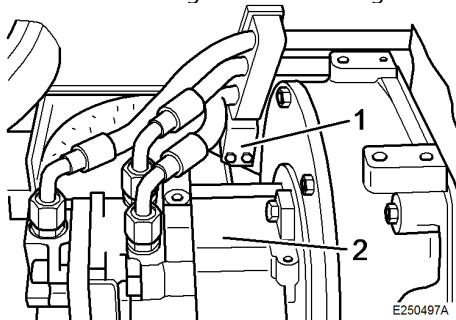


Figure 2

1. Bracket

2. Hydraulic pump

6. Install compensation tank bracket and engine hood lock.
7. Mount the hydraulic pump and tighten the screws with 105 Nm.
8. Fasten both brackets with hydraulic hoses to the rear engine mounts.
9. Assemble fan grid and heating hose bracket to the engine mounting.
10. Install heating and coolant hoses with new hose clamps.
11. Fasten the throttle control to the injection pump.

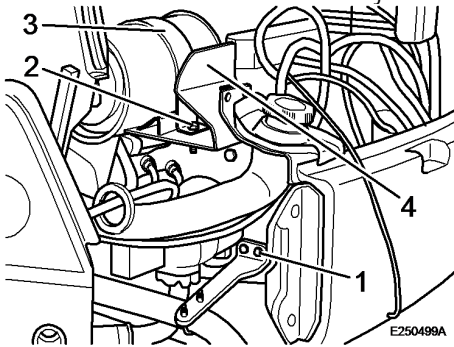


Figure 3

1. Engine block fastening screws
2. Fastening screw
3. Exhaust muffler bracket
4. Traverse

12. Install the engine wiring loom and connect the following components:

- Oil pressure switch
- Injection pump
- Glow plug
- Temperature sensor
- Generator
- Starter
- Ground cable

Fasten the cables with cable straps.

13. Assemble the exhaust muffler traverse.
14. Install the exhaust system, attach bracket (3) and tighten screw (2) with 85 Nm.
15. Fasten the exhaust bracket on the engine block and tighten screws (1) with 25 Nm.

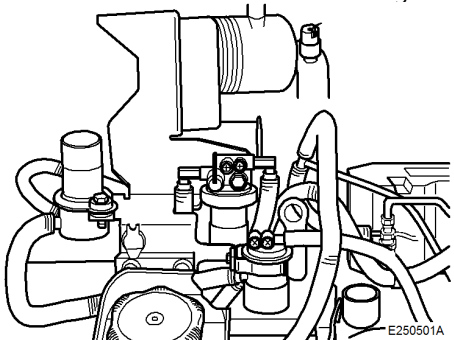


Figure 4

16. Install the air filter with bracket and tighten the screws with 24 Nm.
17. Connect the electrical cables and terminals to the following components:
 - Socket
 - Fuel pump
 - Air filter vacuum gauge

Fasten the cables with cable straps.

18. Reconnect the fuel pipes.
19. Set the valve lever on the fuel pre-cleaner to position OPEN.

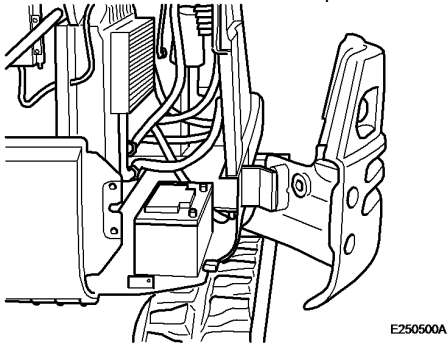
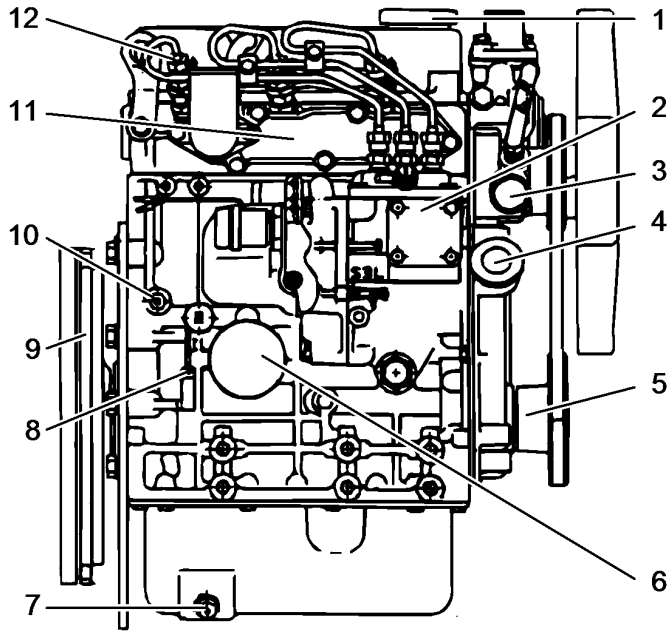


Figure 5

20. Fill in coolant. Filling capacity: approx. 6 litres.
21. Connect the ground cable to the battery.
22. Fold the lateral weight back in and fasten with screws.
23. Assemble engine hood and floor plate.
24. Start the engine and make sure that there are no leaks.

Document Title: Operator side	Function Group: 200	Information Type: Service Information	Date: 2014/4/17
Profile:			

Operator side



E250004A

Figure 1
Engine, side view

1. Oil filler neck
2. Injection pump
3. Water pump
4. Oil filler neck
5. Crankshaft pulley
6. Oil filter
7. Oil drain plug
8. Oil dipstick
9. Flywheel
10. Coolant drain plug
11. Intake manifold
12. Injection nozzle

Document Title: Performance characteristics (measuring values for one hour with fan)	Function Group: 200	Information Type: Service Information	Date: 2014/4/17
Profile:			

Performance characteristics (measuring values for one hour with fan)

Engine performance diagram

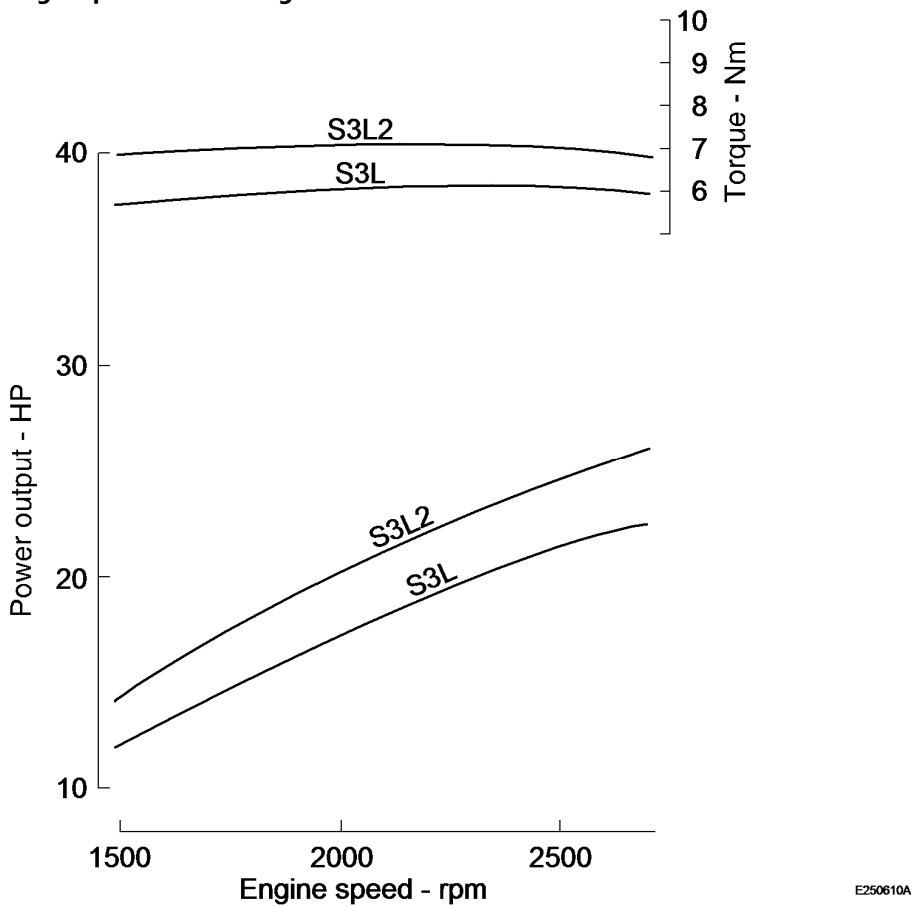


Figure 1

Engine power

Engine (hp/kW)		S3L With fan	S3L2 With fan
Power	rpm		
	1500	12.0 / 8.8	14.5 / 10.7
	1800	15.0 / 11.0	18.0 / 13.2
	2000	17.0 / 12.5	20.0 / 14.7
1 hour (without overload)	2200	19.0 / 14.0	22.0 / 16.2
	2500	21.5 / 15.8	24.5 / 18.0
Continuous	1500	11.4 / 8.4	13.8 / 10.1

1800	14.3 / 10.5	17.1 / 12.6
2000	16.2 / 12	19.0 / 14.0
2200	18.1 / 13.3	20.9 / 15.4
2500	20.4 / 15	23.3 / 17.1

Document Title: Removing the engine	Function Group: 200	Information Type: Service Information	Date: 2014/4/17
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Removing the engine

Op nbr 2101

Lifting sling 1 m

Shackle 3/8"

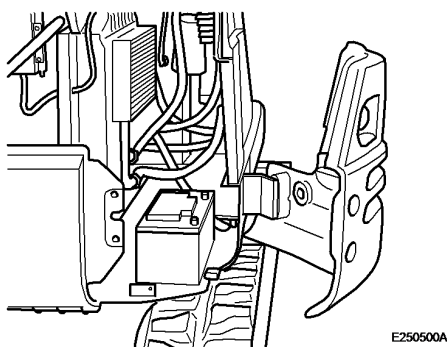


Figure 1

1. Disassemble engine hood and floor plate.
2. Unscrew the bolts from the lateral weights and pull the weights out.
3. Disconnect the ground cable from the battery.

WARNING

When opening the lid of the compensation tank (radiator cap) there is a risk of scalding because of the overpressure in the cooling system.

4. Unscrew the drain plug, open the radiator cap and drain of all coolant.
Filling quantity approx. 6 litres.

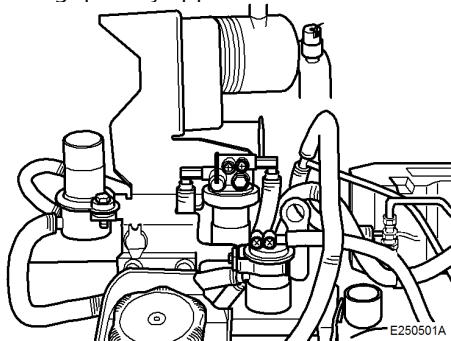


Figure 2

5. Set the valve lever on the fuel pre-cleaner to position CLOSED.

6. Disassemble the fuel pipes.
7. Disconnect all necessary electrical cables and terminals from the following components:
 - Socket
 - Fuel pump
 - Air filter vacuum gauge
8. Unscrew the top and bottom fastening screws from the bracket and remove the complete air filter.

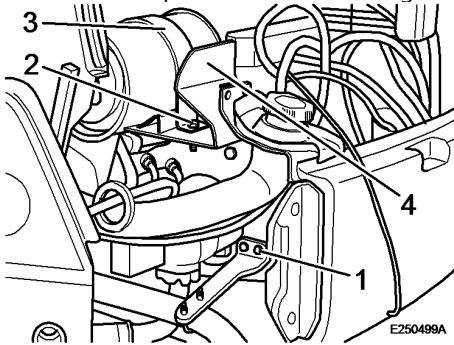


Figure 3

1. Engine block fastening screws
 2. Fastening screw
 3. Exhaust muffler bracket
 4. Traverse
9. Remove the exhaust silencer from the exhaust tube.
 10. Unscrew the fastening screws from bracket and engine block and remove the exhaust system.
 11. Disassemble the exhaust muffler traverse.
 12. Disconnect all necessary electrical cables and terminals from the following components:

- Oil pressure switch
- Injection pump
- Glow plug
- Temperature sensor
- Generator
- Starter
- Ground cable

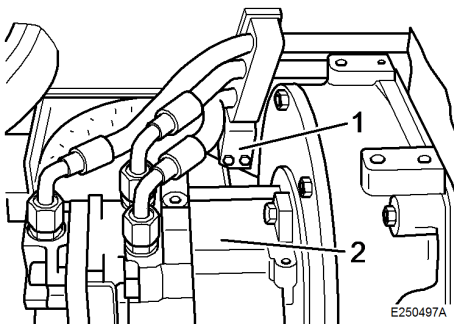


Figure 4

1. Bracket
2. Hydraulic pump

13. Lay the engine wiring loom to the side.
14. Disconnect the throttle control from the injection pump.
15. Remove the heating hose bracket from the engine mounting.
16. Disassemble heating and coolant hoses.
17. Remove the fan grid.
18. Disassemble both brackets for hydraulic hoses from the rear engine mounts.
19. Remove the hydraulic pump from the engine.
20. Unscrew the screws between engine mounts and rubber elements.
21. Remove front left hand engine mounting, compensation tank bracket and engine hood lock.

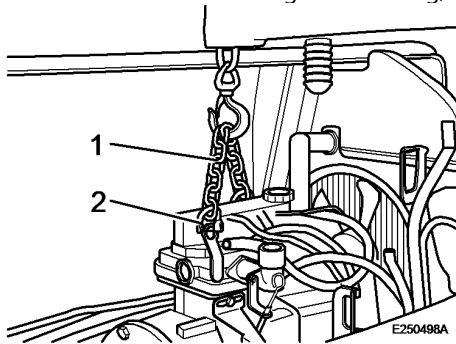


Figure 5
Attach the lifting tackle

1. Lifting sling 1 m
2. Shackle 3/8"

22. Attach the lifting tackle to the engine.
23. Lift the engine out.
Weight: approx. 125 kg

Document Title: Specification, engine	Function Group: 200	Information Type: Service Information	Date: 2014/4/17
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Specification, engine

Engine		
Type designation	S3L -61A	S3L2-61A
Firing sequence (injection sequence)	1 - 3 - 2	
Compression ratio	22:1	
Type of combustion chamber	Swirl chamber	
Number of cylinders	3	
Bore x stroke, mm	78 x 78.5	78 x 92
Displacement, litres	1.125	1.318
Compression pressure	32 bar	
Max. permissible pressure deviation between cylinders	3 bar	
Idle speed	900 + 100 rpm	
Full speed	2400 + 20 rpm	
Installed net power (ISO 9249)	17.1 kW at 2200 rpm	
Maximum torque	77 kW at 1600 rpm	
Cooling	Centrifugal water pump with temperature control	
Air filter	Dry	

Document Title: Specification, capacities	filling	Function Group: 200	Information Type: Service Information	Date: 2014/4/17
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Specification, filling capacities

Engine, oil change incl. filter	5.7 l
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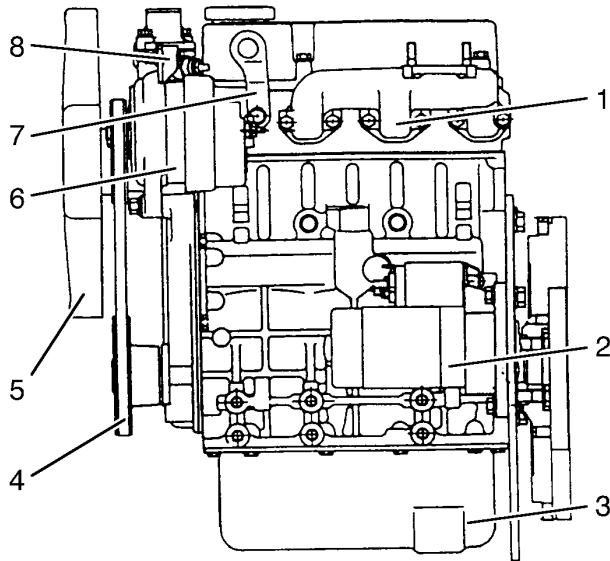
Document Title: Specification, weight	Function Group: 200	Information Type: Service Information	Date: 2014/4/17
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Specification, weight

Engine, standard	125 kg
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Document Title: Starter side	Function Group: 200	Information Type: Service Information	Date: 2014/4/17
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Starter side



E250003A

Figure 1
Engine, side view

1. Exhaust manifold
2. Starter
3. Oil sump
4. V-belt
5. Fan
6. Generator
7. Lifting eye
8. Thermostat

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