

Document Title: <b>Description</b>	Function Group: <b>200</b>	Information Type: <b>Service Information</b>	Date: <b>2014/5/27</b>
Profile:			

## Description

L90C is equipped with an engine with the designation TD63KBE.

L120C is equipped with an engine with the designation TD73KDE.

Both engines are six-cylinder, four-stroke, direct injected, turbocharged diesel engines and both are of the low-emission version.

Document Title: <b>Engine, installing</b>	Function Group: <b>210</b>	Information Type: <b>Service Information</b>	Date: <b>2014/5/27</b>
Profile:			

## Engine, installing

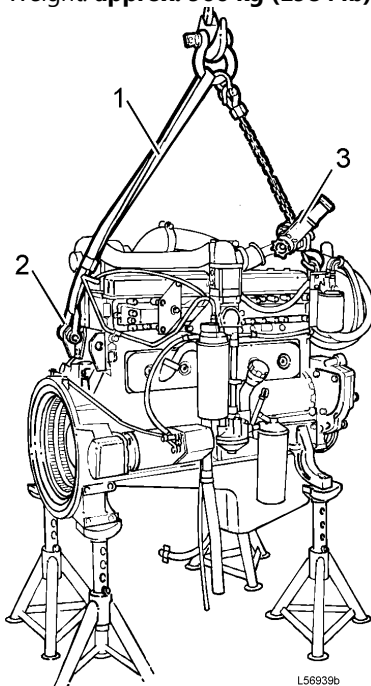
Op nbr 21072

Lifting sling, 3 m (10 ft)

Shackle 3/8"

Ratchet block, 750 kg (1653 lb)

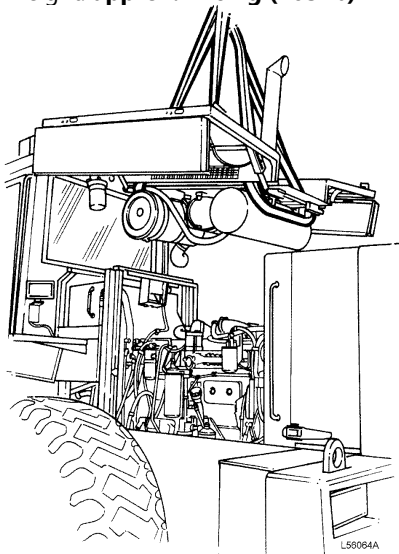
1. Connect a lifting device to the engine according to [Invalid linktarget] .  
Weight: **approx. 900 kg (1984 lb)**



**Figure 1**  
**Connecting lifting device**

1. Lifting sling, 3 m (10 ft)
  2. Shackle 3/8"
  3. Ratchet block 750 kg (1653 lb)
2. Lift the engine into the machine.  
**NOTE!**  
Make sure that the hoses for air conditioning (if installed) are not damaged.
  3. Align the engine against the transmission and install the bolts.  
Tightening torque: **85 ±8 N m (63 ±6 lbf ft)**  
Remove any supports under the transmission.
  4. Install the bolts between the engine mountings and the rubber elements.  
Tightening torque: **220 ±22 N m (162 ±16 lbf ft)**

5. Bolt the transmission oil cooler onto the bracket on the engine.
6. Install the alternator.
7. Install the rubber bellows by the radiator.
8. Install the fan and the grille.
9. Bolt on the compressor (if installed) for the air conditioning and install its drive belt and the fan belts.
10. Connect the fuel lines to the feed pump and the injection pump.
11. Connect the cable harness to the alternator.  
Clamp the cable harness with the screw clips.
12. Connect the rod for the speed control to the injection pump.
13. Connect the leads to the starter motor.
14. Connect the leads to the oil pressure sensor and to the air cleaner indicator and clamp the cable harness with the screw clips.
15. Install the upper radiator hose.
16. Install the breather filter and bolt on the pump for the secondary steering (if installed).
17. Lift the hood assembly into position, see [Invalid linktarget] .  
Weight: **approx. 120 kg (265 lb)**



**Figure 2**  
**Installing hood assembly**

18. Connect the following:
  - The exhaust pipe to the silencer.
  - The hoses, 3 pcs, to the expansion tank.
  - The hose to the hydraulic tank breather filter.
  - The inlet hose to the turbocharger.
19. Install the hood plates on both sides of the hydraulic tank and the cover on top.
20. Fill with coolant.  
Capacity: **65 litres (17.2 US gal)**  
Fill engine oil.

Capacity: **24 litres (6.3 US gal)**

21. Remove the frame joint lock. Start the engine and check that there are no leaks.

Document Title: <b>Engine, removing</b>	Function Group: <b>210</b>	Information Type: <b>Service Information</b>	Date: <b>2014/5/27</b>
Profile:			

## Engine, removing

### Op nbr 21070

Lifting sling, 3 m (10 ft)

Shackle 3/8"

Ratchet block, 750 kg (1653 lb)

1. Secure the frame joint with the frame joint lock.
2. Turn off the battery disconnect switch.

3.  **WARNING**

**There is a danger of scalding when removing the expansion tank cap (radiator cap), as the cooling system is pressurised when hot.**

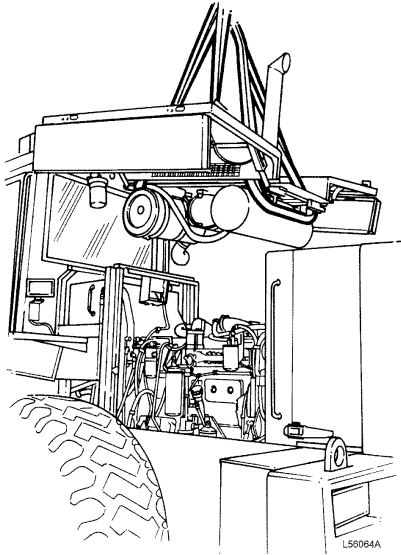
Remove the cap for the expansion tank and drain the coolant.

Capacity: **65 litres (17.2 US gal)**

Drain the engine oil.

Capacity: **24 litres (6.3 US gal)**

4. Remove the cover above the hydraulic tank and the hood plates on both sides of the tank.
5. Disconnect the following:
  - The exhaust pipe from the silencer.
  - The hoses from the expansion tank, 3 pcs.
  - The hose from the hydraulic tank breather filter.
  - The inlet hose from the turbocharger.
  - The hose from the air cleaner indicator.
6. Lift away the hood plate above the engine and the side covers as one unit together with silencer, air cleaner and expansion tank, see [Invalid linktarget] .  
Weight: **approx. 120 kg (265 lb)**

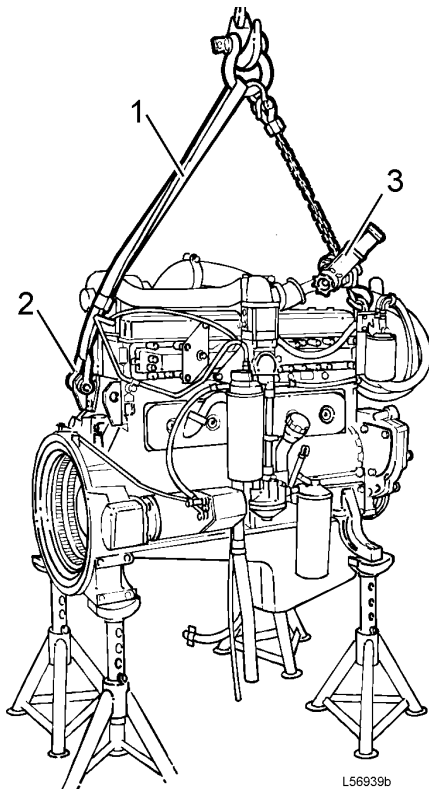


**Figure 1**  
**Removing hood plate**

7. Open the side covers on both sides of the hydraulic tank and remove the lower cover plates.
8. Disconnect the accelerator control from the injection pump.
9. Disconnect the required electrical cables and clamps from:
  - the starter motor
  - the preheating element
  - the alternator
  - the temperature sensor
  - the oil pressure sensor and the stop solenoid.
10. Detach the air conditioning receiver drier (if installed) from the frame but without disconnecting the hoses.

**! WARNING**

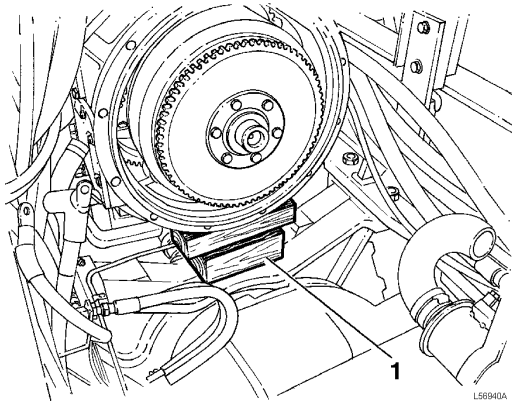
11. **Do not disconnect hoses for the air conditioning (if installed), as the gas will then leak out.**  
Detach the air conditioning compressor (if installed) complete with bracket and hoses and place it over the frame.
12. Detach the bracket for the engine oil and coolant draining hoses.  
Disconnect the fuel lines from the injection pump and the feed pump.
13. Swing out the radiator and condenser (if installed).
14. Remove the grille around the fan and remove the fan.
15. Remove the rubber bellows by the radiator.
16. Remove the alternator.
17. Remove the axle breather filter and detach secondary steering pump (if installed).
18. Connect a lifting device to the engine, see [Invalid linktarget] .  
Remove the bolts between the engine mountings and the rubber element.  
Remove the bolts between the engine and the transmission.



**Figure 2**  
**Connecting lifting device**

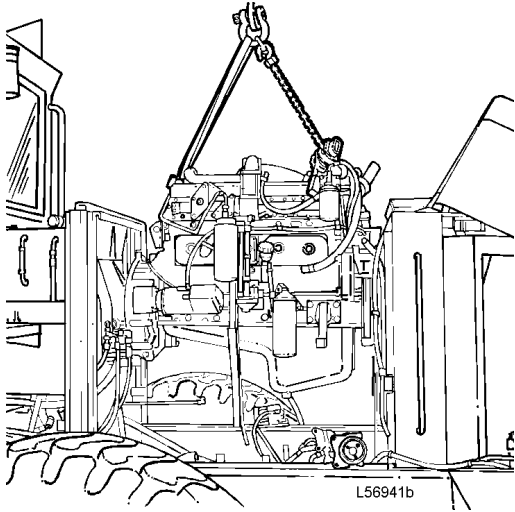
1. Lifting sling, 3 m (10 ft)
2. Shackle 3/8"
3. Ratchet block 750 kg (1653 lb)

19. Block up the transmission against the front rear axle suspension, see [Invalid linktarget] .



**Figure 3**  
**Blocking up transmission**

1. Wooden blocks
20. Lift away the engine, see [Invalid linktarget] .  
Weight: **approx. 900 kg (1984 lb)**



**Figure 4**  
**Lifting out engine**



Document Title: <b>Specifications, capacities</b>	Function Group: <b>210</b>	Information Type: <b>Service Information</b>	Date: <b>2014/5/27</b>
Profile:			

## Specifications, capacities

Engine, when changing oil incl. filter(s)	24 dm <sup>3</sup> (litres) (6.3 US gal)
---	--

Document Title: <b>Specifications, general</b>	Function Group: <b>210</b>	Information Type: <b>Service Information</b>	Date: <b>2014/5/27</b>
Profile:			

## Specifications, general

<b>Engine</b>	
Type designation	TD73KDE, part No. 8188120
Flywheel output at 35 r/s (2100 rpm)	148 kW (201 hp) SAE J 1349 Net
Output gross at 35 r/s (2100 rpm)	153 kW (208 hp) SAE J 1349 Gross
Torque max. at 18.3 r/s (1100 rpm)	920 N m (679 lbf ft) SAE J 1349 Net 925 N m (682 lbf ft) SAE J 1349 Gross
Number of cylinders	6
Cylinder bore	104.77 mm (4.125 in)
Stroke	130 mm (5.118 in)
Cylinder capacity, total	6.7 dm <sup>3</sup> (litres) (409 in <sup>3</sup> )
Compression ratio	17.5 : 1
Compression pressure at starter motor revolutions, 3.3 r/s (200 rpm)	2.4 MPa (24 bar) (348 psi)
Max. permissible pressure difference between the cylinders at starter motor revolutions	0.3 MPa (3 bar) (44 psi)
Order of injection	1-5-3-6-2-4
Idling speed, low (serial No. -11663)	11.2 ±0.5 r/s (670 ±30 rpm) (435 ±20 Hz)
Idling speed, low (serial No. 11664-)	11.2 ±0.8 r/s (670 ±50 rpm) (438 ±30 Hz)
Idling speed, high (serial No. -11663)	38.8 ±1.0 r/s (2330 ±60 rpm) (1515 ±40 Hz)
Idling speed, high (serial No. 11664-)	39.1 ±1.0 r/s (2345 ±60 rpm) (2962 ±40 Hz)
Stall speed with torque converter (serial No. -11663)	36.3 ±1.25 r/s (2180 ±75 rpm) (1417 ±50 Hz)
Stall speed with torque converter (serial No. 11664-)	35.3 ±1.3 r/s (2120 ±75 rpm) (2674 ±50 Hz)
Stall speed with torque converter + working hydraulics (serial No. -11663)	27.3 ±1.7 r/s (1640 ±100 rpm) (1066 ±65 Hz)
Stall speed with torque converter + working hydraulics (serial No. 11664-)	26.3 ±1.7 r/s (1580 ±100 rpm) (1992 ±65 Hz)

Document Title: <b>Specifications, tightening torques</b>	Function Group: <b>210</b>	Information Type: <b>Service Information</b>	Date: <b>2014/5/27</b>
Profile:			

## Specifications, tightening torques

	<b>N m</b>	<b>kgf m</b>	<b>lbf ft</b>
Engine – transmission	85 ±8	8.5 ±0.8	63 ±6
Engine mounting – rubber element	220 ±22	22.0 ±2.2	162 ±16

Document Title: <b>Specifications, weights</b>	Function Group: <b>210</b>	Information Type: <b>Service Information</b>	Date: <b>2014/5/27</b>
Profile:			

## Specifications, weights

Engine, standard	750 kg (1653 lb)
------------------	------------------

Document Title: <b>Specifications, general</b>	Function Group: <b>214</b>	Information Type: <b>Service Information</b>	Date: <b>2014/5/27</b>
Profile:			

## Specifications, general

<b>Valve system</b>	
Valve clearance, (warm or cold engine):	
inlet valve	0.40 mm (0.016 in)
exhaust valve	0.55 mm (0.022 in)

Document Title: <b>Valves, adjusting</b>	Function Group: <b>214</b>	Information Type: <b>Service Information</b>	Date: <b>2014/5/27</b>
Profile:			

## Valves, adjusting

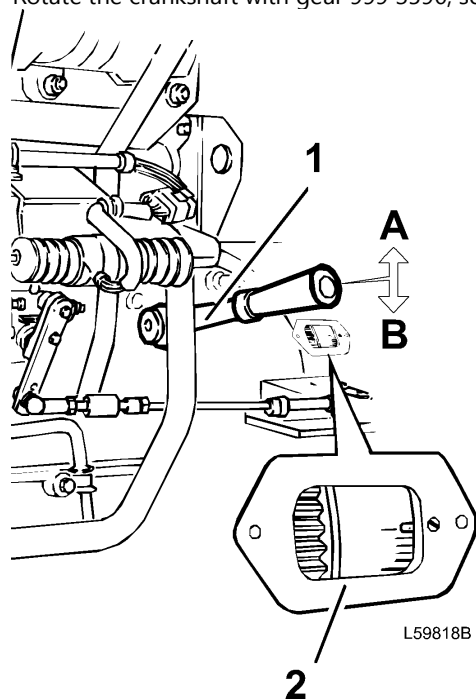
### Op nbr

999 3590 Gear

### NOTE!

Clean around valve covers before beginning the adjustment.

1. Remove valve covers.
2. Rotate the crankshaft with gear 999 3590, see [Invalid linktarget] .



**Figure 1**

- 1 999 3590 (with ratchet handle)
  - 2 Flywheel marking, L90C  
On L120C the flywheel marking can be found under the cover next to the flywheel ring gear.
  - A Direction of rotation
3. Rotate the flywheel in the direction of rotation of the engine until the piston in the number 1 cylinder is at T.D.C. (0° on the flywheel and the valves of the number 6 cylinder "are rocking").  
Adjust the valves 1, 2, 3, 6, 7 and 10, see [Invalid linktarget] and [Invalid linktarget] .

**Buy Now**



Our support email:

[ebooklibonline@outlook.com](mailto:ebooklibonline@outlook.com)