



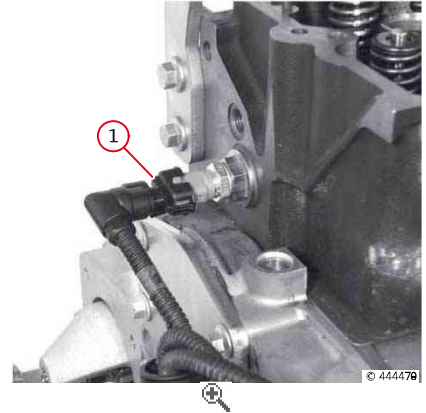
Disassembly and assembly of the gear case cover

Assembly product:

- DEUTZ DW 67 sealant
- DEUTZ DW 48 sealant

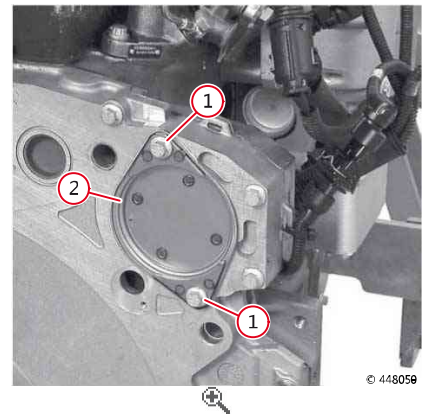
Disassembly of the gear case cover

- Disassemble the starter.
[See para.](#)
- Disassemble the speed indicator (camshaft).
[See para. Removal and refitting of the camshaft speed sensor](#)
- Unlock and disconnect wiring connectors (1).
- Release the engine wiring loom.
- Remove the flywheel.
[See para. Removal and refitting of the flywheel](#)
- Remove the oil sump pan.
[See para. Removal and refitting of the oil sump pan.](#)



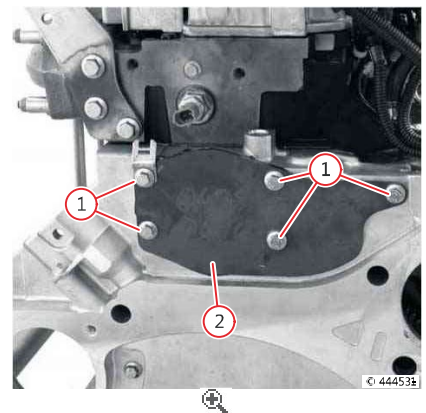
1.

- Remove screws (1).
- Remove cover (2).



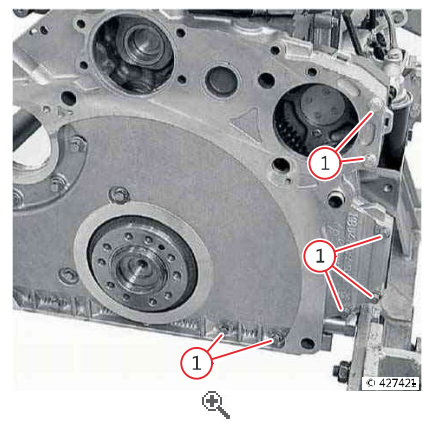
2.

- Remove screws (1).
- Remove cover (2).

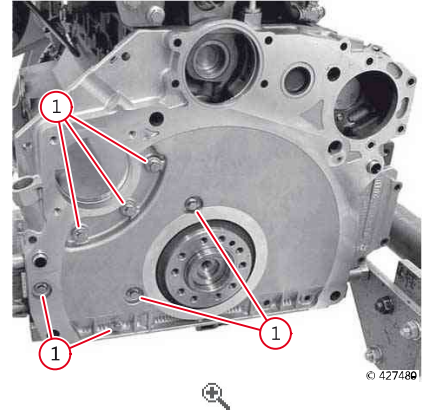


3.

- Remove screws (1).



4.
 - o Remove screws (1).
 - o Remove the gear case cover.



5.
 - o Carry out a visual inspection of the component.



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6.

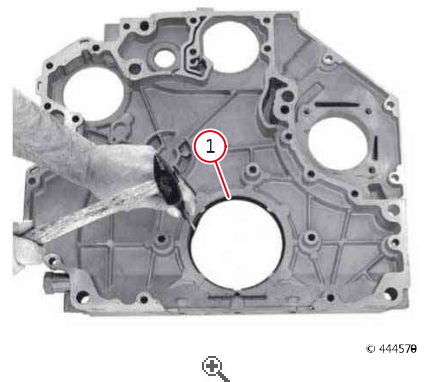
Assembly of the gear case cover

- o Remove the crankshaft O-ring (1).



WARNING

Be careful not to damage the mating surfaces when removing the front cover.



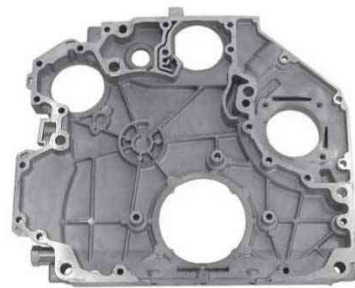
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1.
 - o Clean the mating surfaces.



NOTE

The mating surfaces must be clean, dry and free of grease or other contaminants.



© 444569

2.

- Apply mastic (arrowed).



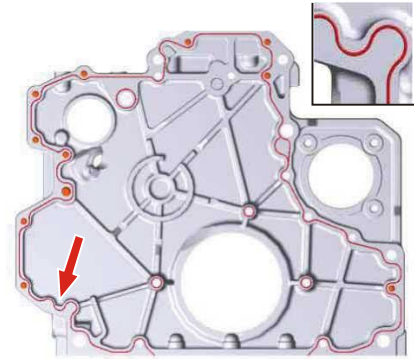
WARNING

Assembly must be completed within a maximum of 1 hour.



NOTE

Use DEUTZ DW 67 sealant. Sealing edge thickness, approx. 1.4 mm.



© 444588

3.

- z Align the gearbox cover correctly.
- Apply the gear box cover.



NOTE

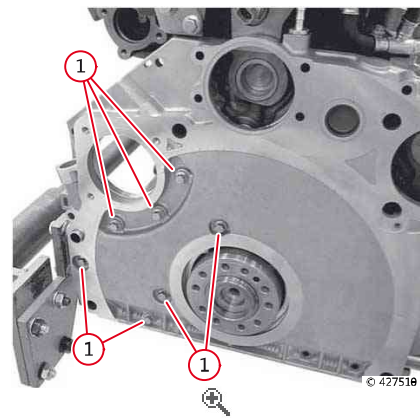
After applying it, do not move the gear box cover.

- Tighten screws (1).



NOTE

Do not tighten the screws at this stage.



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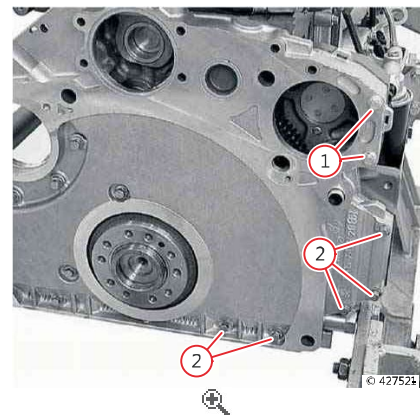
4.

- Fit the screws.
Note that the screws are of different lengths
 - M8 x 45 mm (1)
 - M8 x 35 mm (2)



NOTE

Do not tighten the screws at this stage.



© 427523

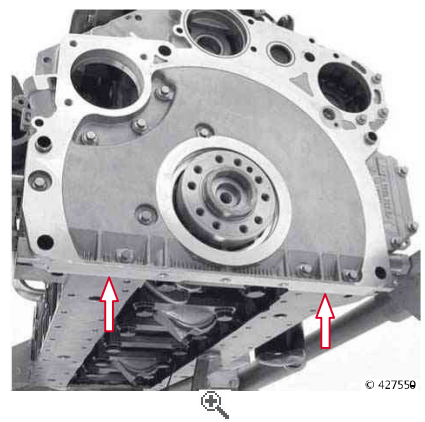
5.

- Push up the gear box cover and align it flush with the sealing surface of the oil sump (arrows).



NOTE

The oil sump sealing surface in correspondence of the crankcase must face downwards.



© 427559

6.

- Clean the sealing surfaces



NOTE

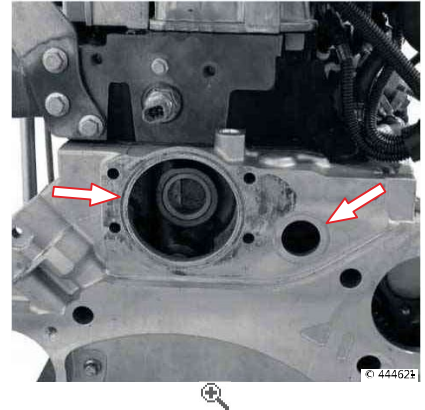
The mating surfaces must be clean, dry and free of grease or other contaminants.

- Fill the circular grooves (arrows) with sealant.



NOTE

Use DEUTZ DW 48 sealant. Sealing edge thickness, approx. 1.5 mm.



© 444621

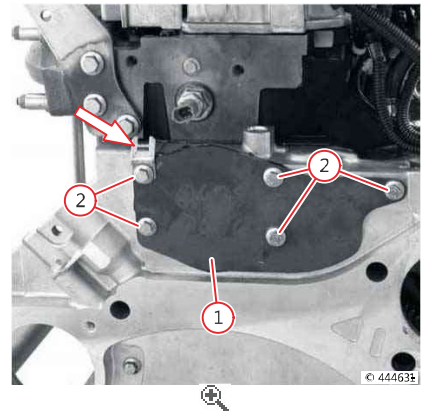
7.

- Position the plug (1).
- Tighten screws (2).



NOTE

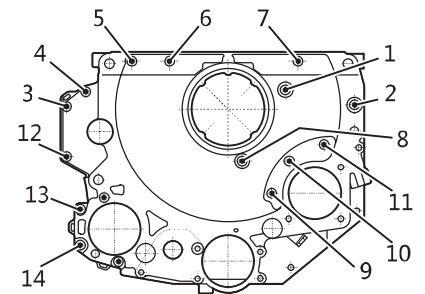
Pay attention to the assembly position of the plug (1). Use M8 x 55 mm screws. Fit the support (arrow). Do not tighten the screws at this stage.



© 444631

8.

- Tighten the screws in the sequence indicated. See para. Tightening requirements TCD 2012 L04/L06 4V DCR (Lv.3) engine



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9.

- Clean the mating surfaces.
- Fit the new O-ring.
- Lightly lubricate the O-ring.



10.

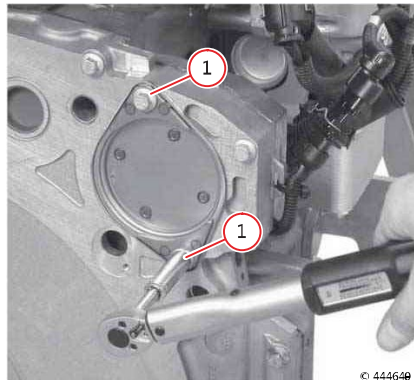
- o Push the cover firmly into place.



NOTE

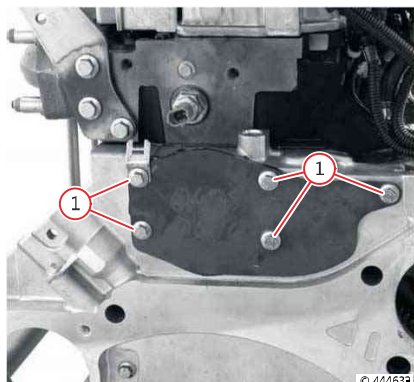
Use M8 x 55 mm screws.

- o Tighten (1) the screws.
See para. Tightening requirements TCD 2012 L04/L06 4V DCR (Lv.3) engine



11.

- o Tighten the screws (1) alternately.
See para. Tightening requirements TCD 2012 L04/L06 4V DCR (Lv.3) engine



12.

- o Fit crankshaft O-ring.
See para. Replace the crankshaft O-ring (flywheel end)
- o Fit the flywheel.
See para. Removal and refitting of the flywheel
- o Assemble the starter.
See para. Disassembly and assembly of the starter



13.

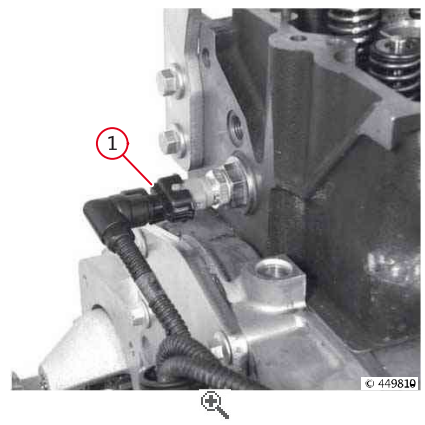
- o Reconnect wiring connector (1).



NOTE

Check that the connection is made correctly.

- o Assemble the speed indicator (camshaft).
See para. Removal and refitting of the camshaft speed sensor
- o Fit the oil sump pan.
See para. Removal and refitting of the oil sump pan.



14.

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Assembly and disassembly of the camshaft

Commercially available tools:

- Suspension device: 6068

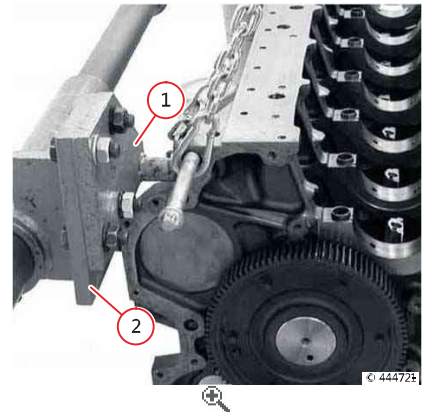
Disassembly of the camshaft

- Disassemble the high pressure pump and the roller tappet (assembly position A).
[See para. Removal and refitting of the high-pressure pump \(installation position A\)](#)
- Disassemble the high pressure pump and the roller tappet (assembly position B).
[See para. Removal and refitting of the high-pressure pump \(installation position B\)](#)
- Disassemble the crankshaft.
[See para. Assembly and disassembly of the crankshaft](#)
- Suspend the crankcase on the engine mounts



1.

- Lift the crankcase slightly with the respective mounts to tension the mounts.
- Remove the flywheel side fastener mount (1) from the adapter plates (2).



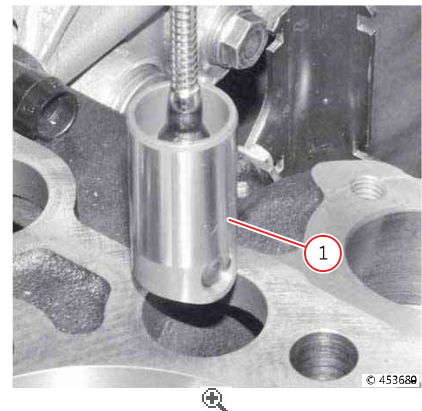
2.

- Move the assembly stand to the flywheel side.
- Install the roller tapper (1) with the magnetic rod.



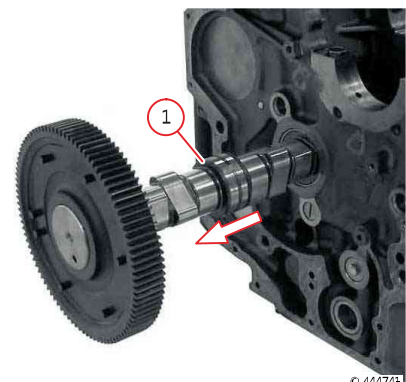
NOTE

Put the components to one side in the order in which they were removed. Note the cylinder order.



3.

- Carefully unscrew the camshaft (1) in the direction of the arrow.
- Carry out a visual inspection of the component.



4.

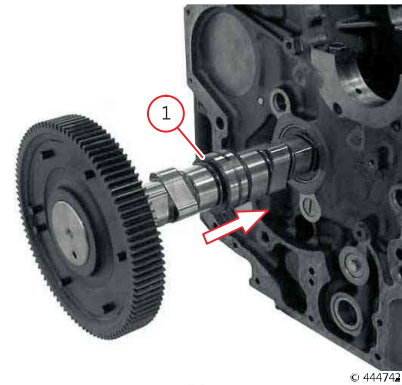
Assembly of the camshaft

- Lightly oil the camshaft bearings.
- Lightly oil the camshaft pins.



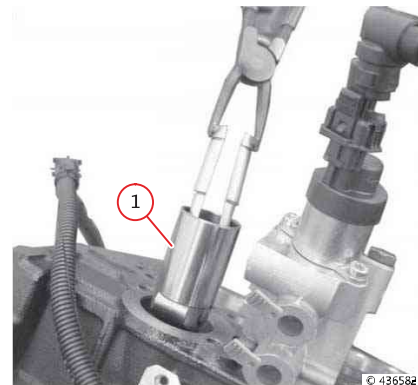
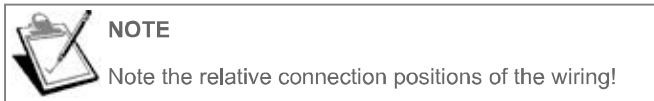
1.

- Carefully fit the camshaft (1) in the direction indicated by the arrow.
- Bring the assembly stand towards the flywheel side in the direction of the arrow, orienting correctly.



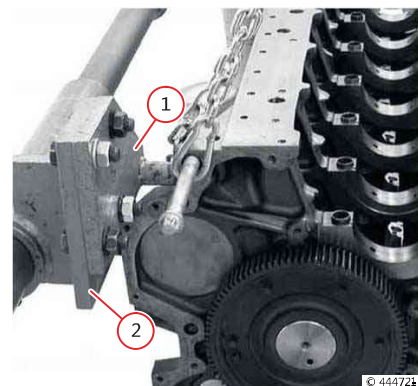
2.

- Install the roller tappet fully (1).



3.

- Fit the fastener mount (1) onto the adapter plate (2).
See para. Tightening requirements TCD 2012 L04/L06 4V DCR (Lv.3) engine
- Detach the crankcase from the engine mounts
- Assemble the crankshaft.
See para. Assembly and disassembly of the crankshaft
- Assemble the high pressure pump and the roller tappet (assembly position A).
See para. Removal and refitting of the high-pressure pump (installation position A)
- Assemble the high pressure pump and the roller tappet (assembly position B).
See para. Removal and refitting of the high-pressure pump (installation position B)



4.



Check the camshaft

Commercially available tools:

- Palmer

Check the camshaft

- o Disassemble the camshaft.
See para. Assembly and disassembly of the camshaft
- o Visually check the wear of the cams and main journal.



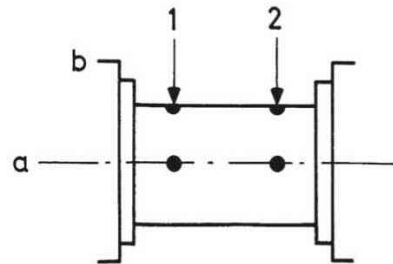
© 427139

1.



NOTE

Measurement diagram of the main journals on points 1 and 2 in surfaces a and b.



© 364242

2.

Check the diameter of the bearing pin

- o Measure the diameter of the main journals with the palmer.
See para. Test data and settings



NOTE

Measurement points, see diagram. Replace the camshaft if the wear limit is reached.



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1.

- o Visually check the wear of the camshaft ring gear.
- o Assemble the camshaft.
See para. Assembly and disassembly of the camshaft

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