

# Disassembly and assembly of the gear case cover

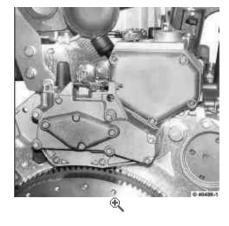
DEUTZ DW 67 sealant

# Disassembly of the gear case cover

- o Disassemble the starter. See para. Disassembly and assembly of the starter
- o Disassemble the connector box. See para. Disassembly and assembly of the connector box

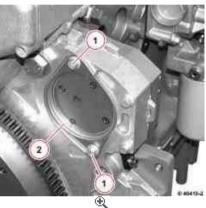
  Remove the flywheel.
- See para. Removal and refitting of the flywheel

  Disassemble the speed regulator. See para. Removing and fitting the engine governor



1.

- Remove the oil sump pan. See para. Removing and fitting the Jubricant oil sump pan (cast iron [ubricant oil sump)
- Turn the engine on the assembly stand.
- Remove screws (1).
- Remove cover (2).



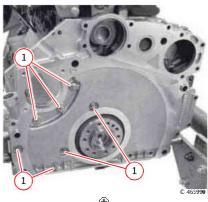
2.

o Remove screws (1).



3.

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

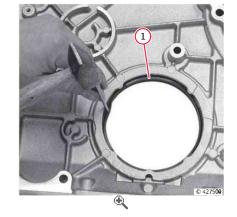


• Remove crankshaft seal (1).



#### WARNING

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



5.

# Assembly of the gear case cover

o Clean the mating surfaces.



## NOTE

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

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

1.

- Align the gear box cover.
- · 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.

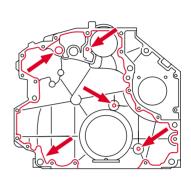
2.

Fit the screws.

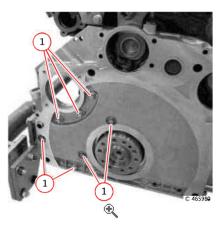


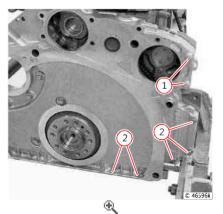
#### NOTE

Note that the screws are of different lengths M8 x 45 mm screws (1). M8 x 35 mm screws (2). Do not tighten the screws at this stage.









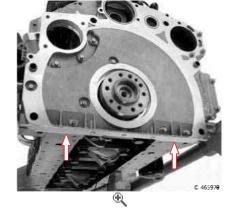
3.

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



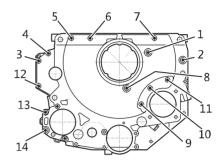
### NOTE

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



4.

• Tighten the screws in the sequence indicated: 30 Nm.



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5.

Clean the mating surfaces.



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

- Fit a new O-ring (1).
- Lightly lubricate the O-ring.



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6.

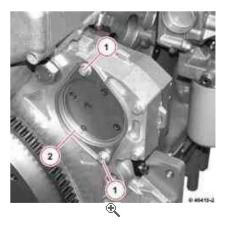
- Push the closing cover (2) to the stop.
- Tighten (1) the screws.



## NOTE

Use M8 x 45 mm screws: 21 Nm.

• Assemble a new crankshaft O-ring (flywheel side). See para. Replace the crankshaft O-ring (flywheel end)



7.

 Assemble the connector box. See para. Disassembly and assembly of the connector box

- Fit the flywheel.
- See para. Removal and refitting of the flywheel

  Assemble the speed regulator. See para. Removing and fitting the engine governor
- Assemble the starter.  $\underline{\text{See para. Disassembly and assembly of the starter}} \\ \text{Turn the engine on the assembly stand.}$
- Fit the oil sump pan.

<u>See para. Removing and fitting the lubricant oil sump pan (cast iron lubricant oil sump) See para. Disassembly and assembly of the lubricant oil sump (lubricant oil sump-plate)</u>



8.

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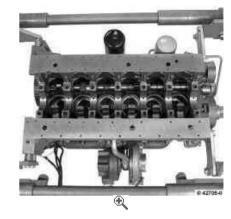
# Assembly and disassembly of the camshaft

Commercially available tools:

• Lifting device

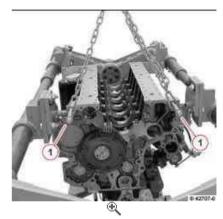
# Disassembly of the camshaft

- o Disassemble the injection pump. See para. Fitting and removing injection pump
- Disassemble the injection valves.
- See para. Fitting and removing injection valves
  Disassemble the rocker and the support.
  See para. Removal and refitting of the rocker arms and pedestals
- Disassemble the crankshaft. See para. Assembly and disassembly of the crankshaft



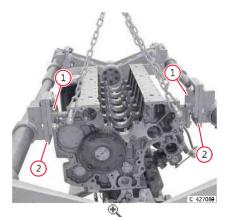
1.

- o Remove screws (1).
- Hang the crankcase from a suitable workshop crane.



2.

• Disassemble the clamping support (1) from the adapter plates (2).

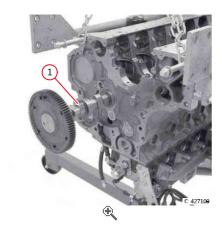


3.

Move the assembly stand to the flywheel side.



- Push back all the tappets.
- Carefully remove the camshaft (1) on the flywheel side.



5.

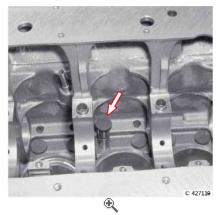
Remove all the tappets (arrow).



#### NOTE

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

o Carry out a visual inspection of the components.



6.

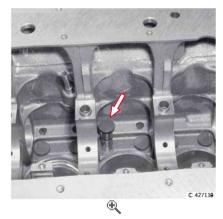
# Assembly of the camshaft

- Lightly oil all the tappets.
- Insert all the tappets.



# NOTE

Pay attention to couple the tappets.



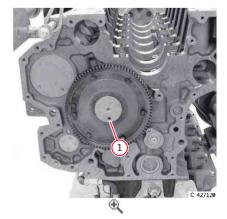
1.

- o Lightly oil the camshaft bearings.
- Lightly oil the camshaft pins.
- Delicately insert the camshaft.



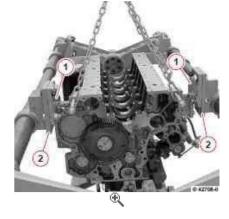
## NOTE

Align the hole (1) in the direction of the cylinder head.



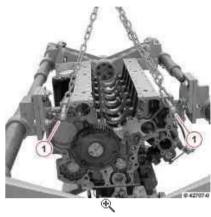
2.

- Bring closer and orient the assembly stand on the flywheel side.
- Fit the fastener mount (1) onto the adapter plate (2): 90 Nm.



3.

- Hang the crankcase from the workshop crane.
- Remove screws (1).



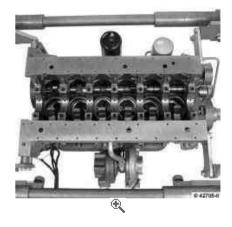
4.

- Assemble the crankshaft.
- Assemble the cranksnaft.
   See para. Assembly and disassembly of the crankshaft

   Assemble the rockers and support.
   See para. Removal and refitting of the rocker arms and pedestals

   Assemble the injection valves.
   See para. Fitting and removing injection valves

   Assemble the injection pump.
   See para. Fitting and removing injection pump



5.

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# Check the camshaft

Commercially available tools:

- Palmer
- Prisms

# Check the camshaft

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



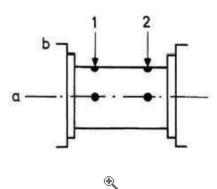
Ð

1.



## NOTE

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



2.

• Measure the main journals: 63 (-0.05, -0.07) mm



#### NOTE

Measurement points, see diagram. If the limit value has been reached, replace the camshaft.



3

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



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4.

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# Removal and refitting of the rotation device

Special tools:

• Rotation device: 100320

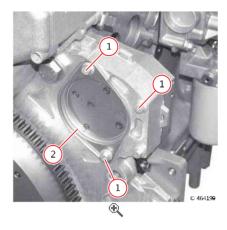


# NOTE

Depending on the number of gear teeth, the rotation tool 100330 may also be used.

## Removal

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



1.

# Fitting the rotation device

• Insert rotation device (1).



## NOTE

The toothed wheel of the rotation device must mesh with the teeth of the camshaft gear.

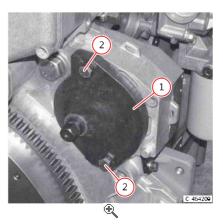
o Tighten screws (2).



1.

# Removal of the rotation device

- o Remove screws (2).
- Remove rotation device (1).



1.

- Clean the mating surfaces of the cover plate and the gearbox cover.
- Fit a new O-ring (1).
- Lightly lubricate the O-ring.

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