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# Removal and refitting of the oil sump pan.

Special tools:

Tool for truncation: 02992301

Sealant: DEUTZ DW 73



#### WARNING

Make sure that no sealant residue enters the engine crankcase! Close all holes.



### NOTE

Collect operating materials in suitable containers and dispose of them in compliance with the applicable regulations. The draining and replenishing of engine fluids and lubricants must be carried out in accordance with the instructions given in the documentation provided by the manufacturer of the vehicle/appliance.

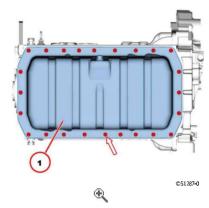
### Removal of the oil sump pan.

- o 1 Lubricant oil sump
- o 2 Nut
- o 3 Torx screw
- o 244 Sealant



1.

- Drain, collect and dispose of used oil in accordance with the applicable regulations.
- Remove all the screws (arrowed).
- Remove the lubricant oil sump (1).



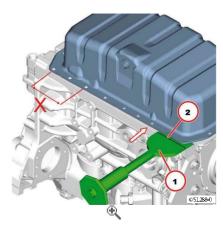
2.

o Insert lever (1) up to shoulder (2).





The lever may only be used on the engine crankcase. Do not use it to apply leverage on aluminium castings. Do not damage the mating surfaces.



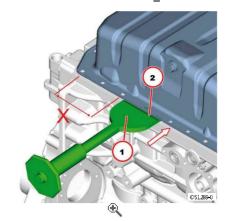
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• Insert the second lever (1) up to shoulder (2).

### WARNING

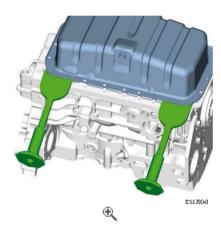


The lever may only be used on the engine crankcase. Do not use it to apply leverage on aluminium castings. Do not damage the mating surfaces.



4.

- o Prise the sump pan off the crankcase.
- Remove the sump pan.



5.

## Refitting the oil sump pan.

• Remove the old sealant using the lever.



### WARNING

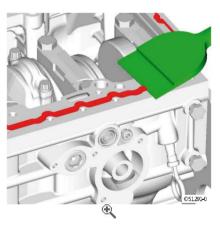
Wear eye protection.

Clean the mating surfaces with a wire brush.



#### Note

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



1.

### **WARNING**



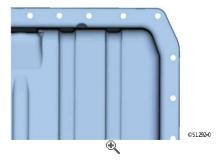
Wear eye protection.

o Clean the mating surfaces of the oil sump pan with a wire brush.



#### NOTE

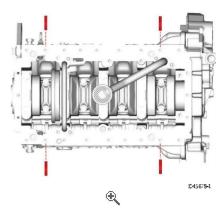
The mating surfaces must be clean, dry and free of grease or other contaminants.



2.

To align the oil sump pan with crankcase, screw four stud bolts (1) into the crankcase as shown.

- - -



3.

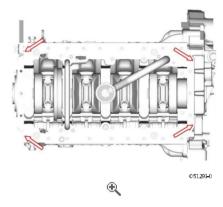
o Clean the mating surfaces.



### NOTE

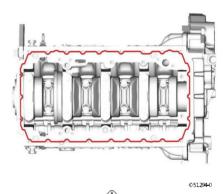
The mating surfaces must be clean, dry and free of grease or other contaminants.

Apply sealant on the separation points (arrows).



4.

Apply sealant evenly to the sealing surface.



5.

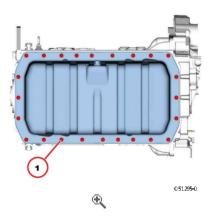
- Line the oil sump pan up using the stud bolts as guides.
- Fit the oil sump pan.



### WARNING

Once positioned on the crankcase, be careful not to disturb the oil sump pan. Allow the sealant to cure.

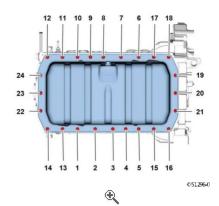
- Unscrew the stud bolts.
- o Screw in all the screws (1).



6.

- Tighten the screws in the sequence indicated: 20 Nm.
- Top up the engine oil following the instructions provided.

\_ \_ \_ \_ \_ \_



7.

### **Technical data**

# **Tightening torque**

ID no.	Designation	Screws type	Indications/observations	Value
A02 030	Lubricant oil sump in correspondence of the crankcase		Observe the indicated tightening sequence!	20 Nm



# NOTE

When tightening fasteners to the specified torque using a torque wrench, a torque dispersion of +/- 10 % is permitted.

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# **Closing components**



### NOTE

Collect used lubricating oil and dispose of it in accordance with the applicable regulations.

- 1 Hole blanking screw: 55 Nm2 O-ring



### NOTE

Use a new O-ring.



1.

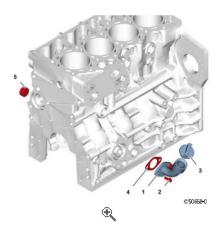
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# Topping up with oil

- 1 Oil filler pipe
  2 Hex screw: 30 Nm
  3 Closing plug
  4 Gasket
  5 Hole blanking screw: 95 Nm





1.

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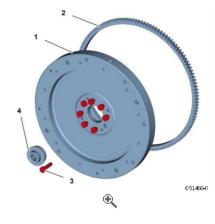
# Removal and refitting of the flywheel (fixing elements)

Special tools:

- Guide pin (shop-made tool)
- M10x120 auxiliary screws
- Rotation angle gauge 01899093

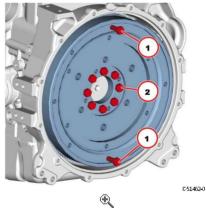
### Removal of the flywheel

- o 1 Flywheel
- o 2 Ring gear
- o 3 Screw
- 4 Bearing bush



1.

- Hold the crankshaft from the central screw.
- o Fit service screws (1).
- Remove screws (2).
- Remove the flywheel using the service screws.
- Carry out a visual inspection of the components.



2.

# **Refitting the flywheel**

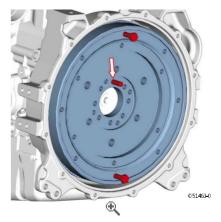
o Insert the shop-made guide pin



#### NOTE

The holes in the flywheel must coincide with the threaded hole in the V-belt pulley.

• Fit the flywheel using the service screws.



1.

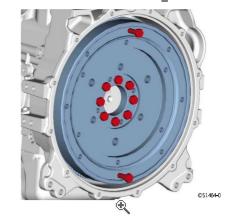


### WARNING

The screws must be renewed after being removed.

- Tighten the screws in alternate sequence.
  - Stage 1: 30 Nm.
- o Tighten the screws using the rotation angle gauge.
  - Stage 2: 60°

- Stage 3: 30°Withdraw locating dowel "A".Unscrew the service screws.



2.

## **Technical data**

### **Tightening torque**

ID no.	Designation	Screws type	Indications/observations	Value
A05 001	Flywheel to engine block		Stage 1: Use new screws	30 Nm
A05 001	Flywheel to engine block		Stage 2:	60°
A05 001	Flywheel to engine block		Stage 3:	30°



### NOTE

When tightening fasteners to the specified torque using a torque wrench, a torque dispersion of +/- 10 % is permitted.

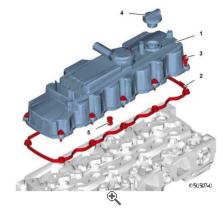
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# Removal and refitting of the cylinder head cover

# Removal of the cylinder head cover

- o 1 Cylinder head cover
- o 2 Gasket
- o 3 Screw
- o 4 Closing plug
- o 5 Connector

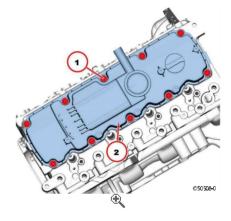


1.

Remove the crankcase breather.

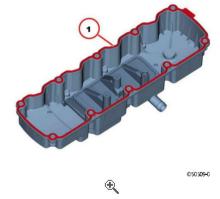


- Remove screws (1).
- Remove cylinder head cover (2).



2.

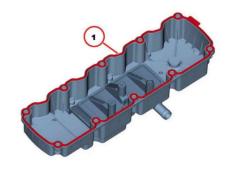
• Remove seal (1).



3.

# Refitting the cylinder head cover

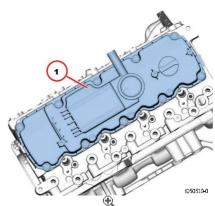
• Fit the new gasket (1).



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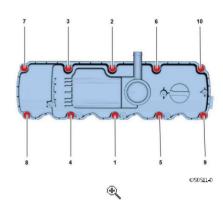
• Fit cylinder head cover (1).



2.

- Tighten the screws in the sequence indicated: 8.5 Nm
- Fit the crankcase breather.





3.

### **Technical data**

### **Tightening torque**

ID no.	Designation	Screws type	Indications/observations	Value
A08 004	Cylinder head cover to cylinder head			8.5 Nm



# NOTE

When tightening fasteners to the specified torque using a torque wrench, a torque dispersion of +/- 10 % is permitted.

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