## Replacing the starter motor ring gear on the flywheel

DANGER Risk of accident, do not touch hot components!

#### Disassembly of the starter ring gear

- Remove the flywheel.
- See para. Removal and refitting of the flywheel • Perforate the ring gear.



Counterhold the flywheel using a suitable tool.





• Remove the starter ring gear with a suitable tool.



2.

- Clean the flywheel.
- Visually inspect the flywheel.



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3.

#### Assembly of the starter ring gear

- Heat the starter ring gear to 220 °C.
- Position the starter ring gear on the flywheel.



The starter ring gear must rest evenly on the flywheel

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• Fit the flywheel. <u>See para. Removal and refitting of the flywheel</u>



1.

2.

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## ₿

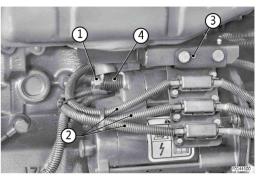
## Starter motor

## REMOVAL

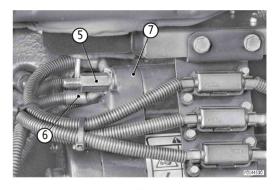
1. Disconnect the lead from the battery negative terminal (-) and apply the parking brake.

Remove nut (1), detach leads (2) from the starter motor (3) and remove protection (4).

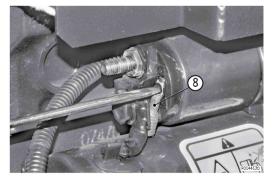
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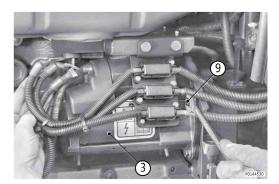
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2.

Remove extension (5), detach cable (6) and remove protection (7).

3.

Remove screw and disconnect cable (8).

4.

Remove the three screws (9) and remove the starter motor (3).

## Q

5.

## Installation

Install by following the removal steps in reverse order and carry out the following procedures:

Procedure 4

• Screw: 1 to 1.3 Nm (0.74-0.96 lb.ft.)

Procedure 3

• Extension: 16 to 20 Nm (11.76-14.74 lb.ft.)

Procedure 2

• Nut: 16 to 20 Nm (11.76-14.74 lb.ft.)

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## Removing and fitting the engine governor

• DEUTZ DW 73 sealant

#### Removing the engine governor

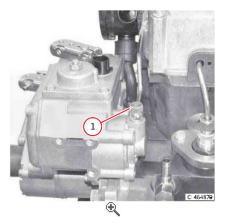
- Disconnect the wiring connectors.
- Unscrew banjo bolt (1)
- Remove the seals.

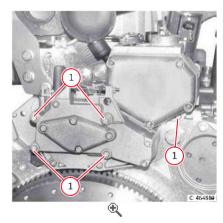


- Remove screws (1).
- Remove the engine governor.

• Clean the mating surfaces.

• Carry out a visual inspection of the component.







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3.

2.

### Fitting the engine governor

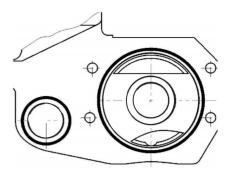
• Apply the sealant evenly on the sealing surfaces of the gear case.



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



the sealan



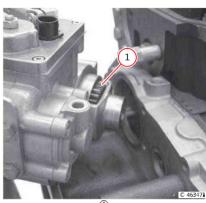
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- 1.
- Assemble the speed regulator.
- Fit the engine governor.



If necessary, turn the governor ring gear (1) slightly to facilitate meshing.

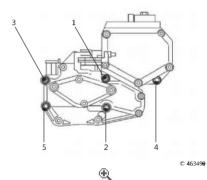


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## 2.

• Tighten the screws in the sequence indicated: 17 Nm.





#### 3.

• Tighten the hollow screw (1): 18 Nm.

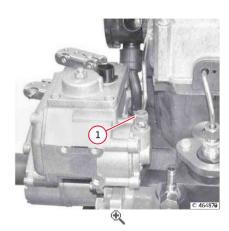


• Reconnect the wiring connector





NOTE Check that the connection is made correctly.



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## Removal and refitting of the exhaust manifold

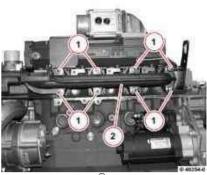
• DEUTZ S1 assembly product

### Removal of the exhaust manifold

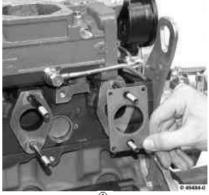
- Remove the turbocharger.
  - See para. Removal and refitting of the turbocharger
- Unscrew nuts (1).
- Remove the spacer bushes.
- Remove exhaust manifold (2).

1.

- Remove the gaskets.
- Remove the stud bolts.



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2.

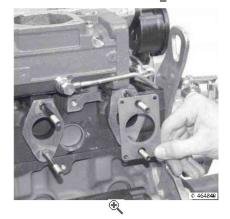
3.

## Refitting the exhaust manifold

- Clean the mating surfaces.
- Apply DEUTZ S1 assembly product to the new stud bolts.

• Carry out a visual inspection of the component.

- Fit the new stud bolts.
- Fit the new gaskets.



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- Fit exhaust pipe (2).
- Install spacer bushes (1).

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- Tighten new nuts (2).

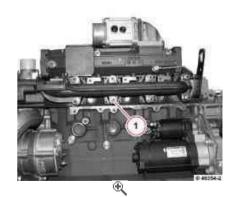
#### 3.

• Tighten all the nuts (1): 25 Nm.



Tighten in order from inside out, starting from nut (1).

• Fit the turbocharger. See para. Removal and refitting of the turbocharger



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## Removal and refitting of the fuel filter head.

Special tools:

- Special wrench: 170050
- Plugs and caps: 170160



### DANGER

After switching off the engine, wait at least 30 seconds before carrying out any work on the fuel system!

#### WARNING



During work on the fuel system always maintain conditions of the maximum cleanliness. Thoroughly clean the area around the components to be worked on. Dry any wet areas with a compressed air jet. When handling fuel observe the safety directives and specific local regulations. All lines and unions should be closed immediately after opening using new, clean plugs or caps. Remove plugs and caps only immediately prior to assembly. Collect operating materials in suitable containers and dispose of them in compliance with the applicable regulations.

#### Removal of the fuel filter head.

- Unscrew hollow screws (1)
- Remove the seals.



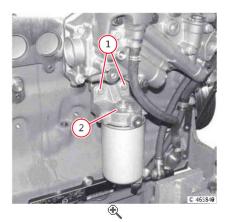
Collect any leaked fuel and dispose of it properly.



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- Remove screws (1).
- Remove fuel filter head (2).



2.

• Carry out a visual inspection of the component.



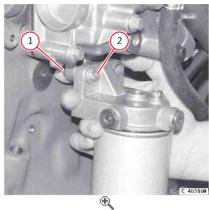
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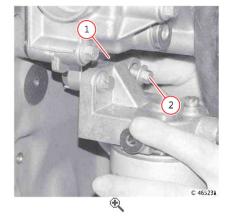
# Refitting the fuel filter head.

- Fit the fuel filter head.
- Fit the nut (1).
- Tighten screws (2).

1.

- Fit the nut (1).
- Tighten screws (2).
- Tighten the screws: 30 Nm.







3.

- Tighten the hollow screw (1) with the new O-rings: 39 Nm.
  Tighten the hollow screw (2) with the new O-rings: 39 Nm.



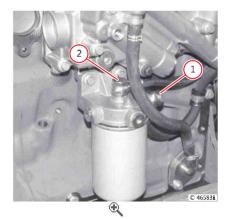
## WARNING

Route the flexible pipe without friction or tension points.



## NOTE

Bleed the fuel system as indicated in the instruction manual, using the hand pump on the fuel pre-filter.



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