

Service Information

Caterpillar Motoren GmbH & Co. KG product support information for medium-speed engines

Engine platform: M 43
Engine assembly: Cylinder head

Type of engine: M 46 DF
Validity: Until revoked

No. 0022M43 – Issue 1; 25 July 2023



Action: For immediate attention

Tightening torque check of ignition fuel injectors

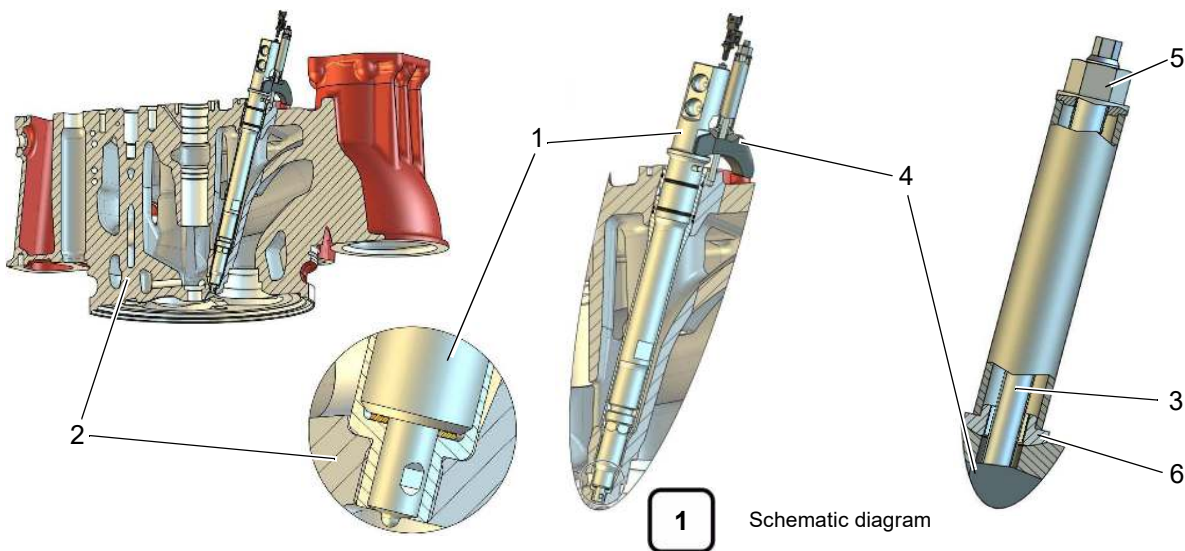
We have received information from the field that there have been isolated cases of leaks ("*blow-bys*") in the sealing area between the ignition fuel injector (1) and the cylinder head (2).



NOTE

A failed "Ignition Health Test" can be an indicator of leaks between the ignition fuel injector and the cylinder head.

The cause investigation revealed that the required tightening torque of the collar nut (5) was, in isolated cases, lower than the specified **55 Nm**.



ATTENTION

Avoid possible functional impairments.

To avoid possible functional impairments, we recommend checking the tightening torque of the collar nut (5) on all the clamping holders (4) of the ignition fuel injectors (1) and retightening them to **55 Nm**, if necessary.

Each time an ignition fuel injector is reinstalled or replaced, the tightening torque of the collar nut must be checked again after another **200 engine operating hours**.

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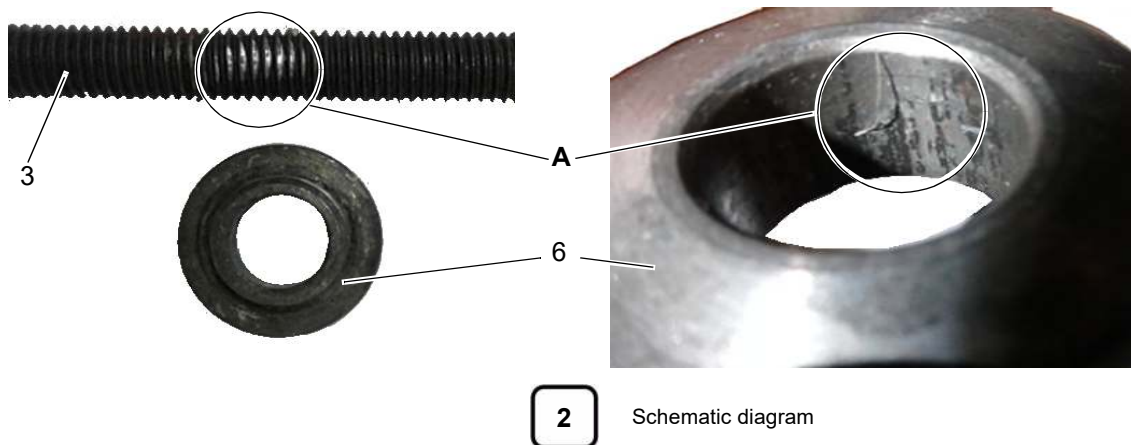
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Furthermore, when installing the clamping holder (4), it is imperative to ensure that the stud (3) and the centering piece (6) are aligned to each other when tightening the collar nut (5). If the stud is bent (*deformed*) or the centering piece leans over due to improper tightening, the stud bolt will come into contact with the centering piece in the lower area (**Fig. 2/A**). This can subsequently lead to a fracture in this area.

If contact marks are found on the stud, as shown in **Fig. 2/A**, the stud (3) must be replaced (see last page)!



⚠ CAUTION

Avoid injury to the respiratory tract from escaping combustion gases.

If the stud is broken, combustion gases can escape and enter the engine room. Inhalation of combustion gases may cause damage to the respiratory tract.

- Wear a respirator mask (PPE), if necessary.
- Stop the engine and ensure good ventilation of the engine compartment.

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1. Replacing the stud:

- 1.1 Unscrew the damaged stud (3).
- 1.2 Remove the ball (8), clean the threaded hole and reinsert the ball.
- 1.3 Apply a thin coat of engine oil to the thread of the new stud (3) at the lower end. Insert the stud and tighten it to a tightening torque of **25 Nm**.

2. Installing the clamping holder

- 2.1 Apply a thin coat of Molykote to all support and contact surfaces clamping holder (4), centering piece (6), sleeve (7), collar nut (5) and to the thread of the stud (3) in the area of the collar nut.
- 2.2 Fit the clamping holder (4), the centering piece (6) and the sleeve (7) on the stud (3) and secure them with the collar nut. Carefully align all the fastening components.
- 2.3 Tighten the collar nut (5) evenly to a tightening torque of **55 Nm**.

