



**High-pressure fuel  
circuit test kit**

User manual

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Rev. 01



## High-pressure fuel circuit test kit

User manual

**cojali**

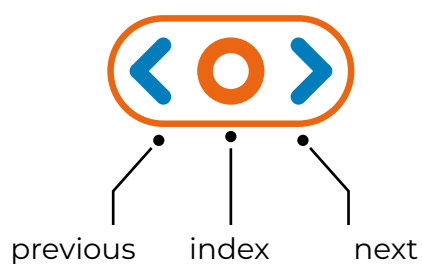
INNOVATION & TECHNOLOGY



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# 1 General information

## 1.1 PRODUCT DESCRIPTION

Kit of accessories to carry out fuel return verifications of the injectors and the rail fuel pressure relief valve.

## 1.2 EQUIPMENT COMPOSITION

**1.** Test hose A. Used for connection in the rail fuel pressure relief valve.

**2.** Blind cap. Used for return fuel pipe of the rail pressure relief valve.

**3.** Test hose B. Used for connection in the injector fuel return.

**4.** Adapter. Used for connection in the injector fuel return.

**5.** Shutter for injector. Used to cancel one of the injectors.



## 1.3 APPLICATION

Paccar **MX13** engines controlled by the **PCI engine control system** and installed in different brands of different types of vehicles. For example:

- Implements and harvest equipment: VERVAET
- Bus: IRIZAR, OTOKAR, SOLARIS, TEMSA, VAN HOOL, VDL, YUTONG
- Truck: DAF, TATRA
- OHW: SPIERINGS
- Manufacturers: PACCAR



## 2 Component installation procedure

**Warning:** Take the appropriate precautions before carrying out works in the fuel system (see section 4).

### 2.1 CONNECTION IN THE FUEL PRESSURE RELEASE PIPE

- Open the grille and tilt the cabin.
- Loosen the fixing clamps and the nut of the rail pressure release pipe.



- Thread the test hose “1” into the connection of the rail fuel release pipe. Recommended tightening torque 30Nm. The other end of the hose should be inserted into a calibrated container for measuring the volume.

**Note:** Prevent the pipe from bending.



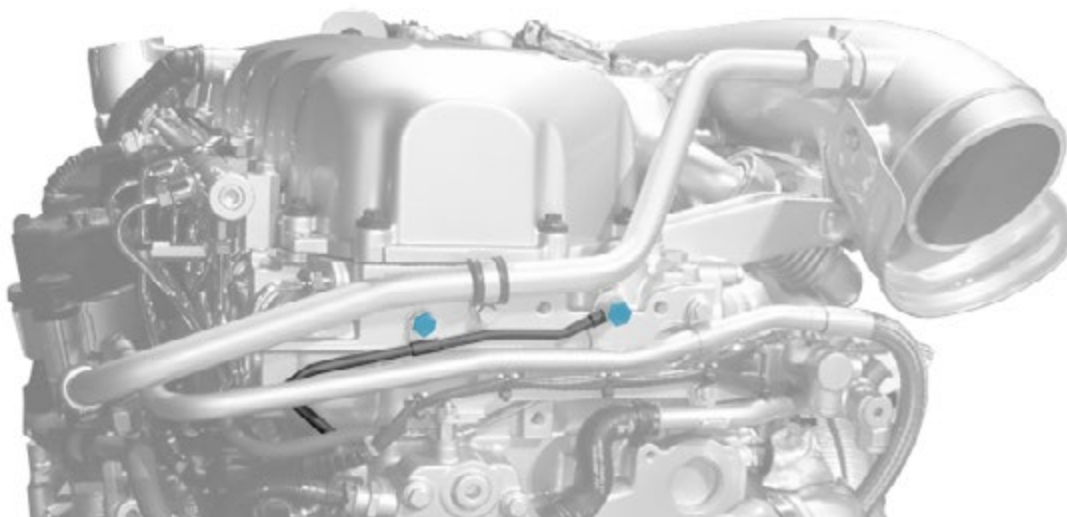
- Thread the blind cap “2” into the end of the pipe. Recommended tightening torque 30Nm.



## 2.2 CONNECTION IN THE INJECTOR FUEL RETURN

- Release the fuel return pipe from the injectors by loosening the fixing clamp and the hollow screw of the fitting.

**Note:** Collect the sealing washers.

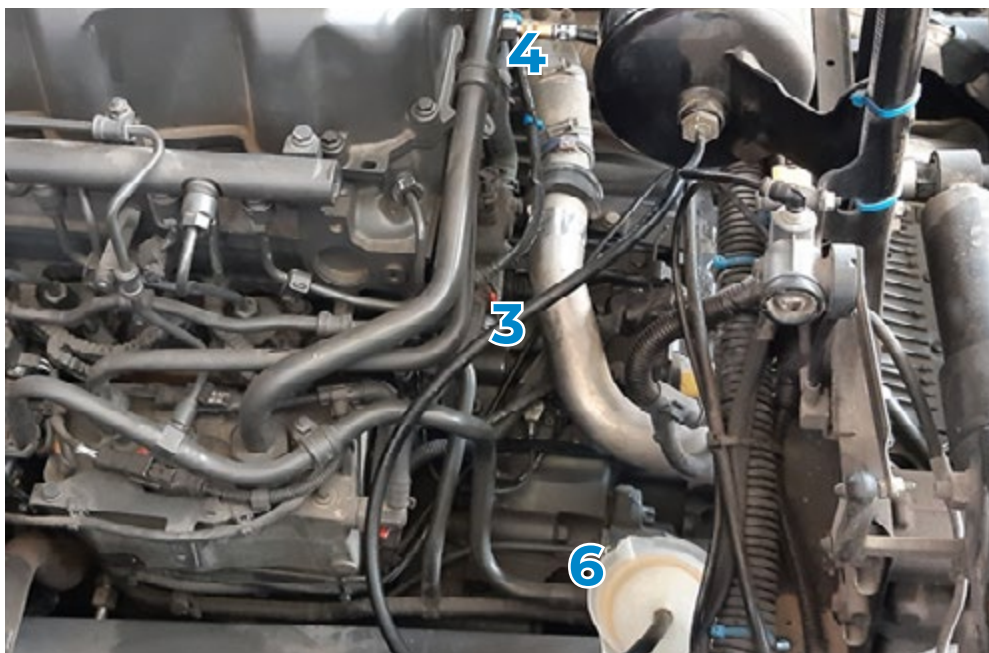


- Install the adapter “4” with the fitting instead of the hollow screw and use the sealing washers. Recommended tightening torque 16Nm.
- Connect one end of the test hose “3” to the adapter “4”. The other end of the hose should be inserted into a calibrated container for measuring the volume.

**Note:** The calibrated container must be positioned so that its height is higher than the connection point of the adapter.



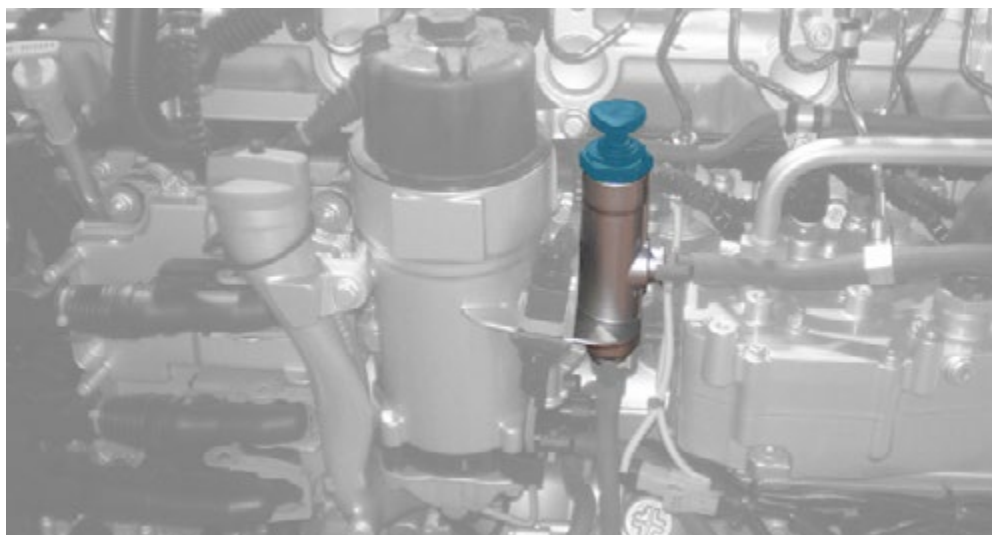
- 4 Adapter
- 3 End of the test hose B



- 4 Adapter
- 3 Test hose B
- 6 Calibrated container

## 2.3 PURGE THE FUEL SYSTEM

- Loosen the controller of the manual fuel supply pump by turning it anticlockwise.



- Activate the pump until it pressurises the circuit and motion resistance is detected.
- Tighten the controller of the manual fuel supply pump by turning it to the right.
- Start the engine and keep it at idle for a few minutes so that it expels the air from the fuel circuit.
- Collect and dispose of the fuel that may have dropped into the calibrated containers.





## 3 Procedure with diagnostics tool

- Carry out the following system check and pay attention to the additional information provided:

**PCI system>>System checks>>“HIGH PRESSURE CIRCUIT”>>“PUMP UNIT”**

- Carry out the following system check and pay attention to the additional information provided:

**PCI system>>System checks>>“HIGH PRESSURE CIRCUIT”>>“FUEL RETURN OF THE INJECTORS”**

**Note:** Use the shutter for injector “5” if you want to carry out the test with one of the disconnected cylinders. To do this, it is necessary to disassemble the corresponding injector pipe and thread the shutter for injector “5” on the side of the rail. Recommended tightening torque:

- 1st phase 15Nm
- 2nd phase 30°





## 4 Subsequent steps

- Drain the fuel from the hoses and dispose of it together with the fuel from containers.
  - Uninstall the components, clean up any spilled fuel and assemble the vehicle components taking into account the recommended tightening torques:
    - Connection in the rail fuel pressure release pipe: 30Nm
    - Fixing clamp screws: 30Nm
    - Hollow screw along with fitting and sealing washers: 16Nm
- Note:** It is advisable to replace the sealing washers.
- Injector pipes:
    - Cylinder head side: 1st phase 27Nm and 2nd phase 30°
    - Rail side: 1st phase 15Nm and 2nd phase 30°
  - Purge the fuel system as indicated in step 2.3.
  - Lower the cabin and close the grille.
  - Carry out a road test and check that there are no fuel leaks.



# 5 Warnings and cautions

Warnings and cautions for working with fuel:

- Avoid contact with eyes and skin, inhalation and ingestion.
- Avoid generation of vapours, spillages and mixture with other fuels. This can be an explosive mixture.
- Stop the test if a leak or any other potential hazard is detected.
- Ensure adequate ventilation of the working area and only with the necessary workers properly uniformed with protective clothing and accessories.
- Keep all possible ignition sources away from fuel.
- Do not handle the component gaskets. Use appropriated gloves.

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