

16 14 003 Replacing fuel-level sensor

+ 16 14 554

Preparatory work

=> Removing and installing the rear-wheel stand special tool (motorcycles without centre stand) (Description in item: 46 52 510, Billed as a separate item)

Removing seat

Removing all panels

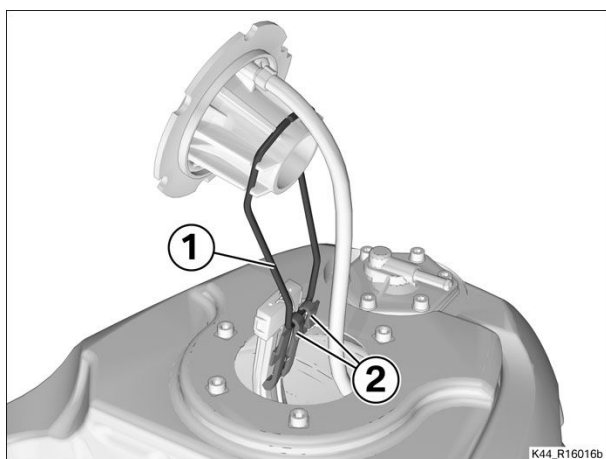
Draining fuel tank

Remove the fuel tank

Removing fuel-tank cap

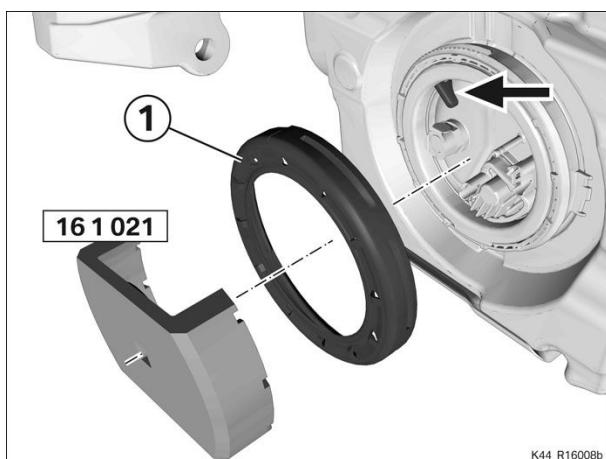
Core activity

(-) Disengaging fuel-level sensor from fuel filler pipe



- Carefully guide the fuel filler pipe out of the fuel tank.
- Disengage clip of fuel-level sensor (2) from retainer (1).

(-) Removing fuel-pump unit



- Remove union nut (1) with pin wrench (No. 16 1 021).

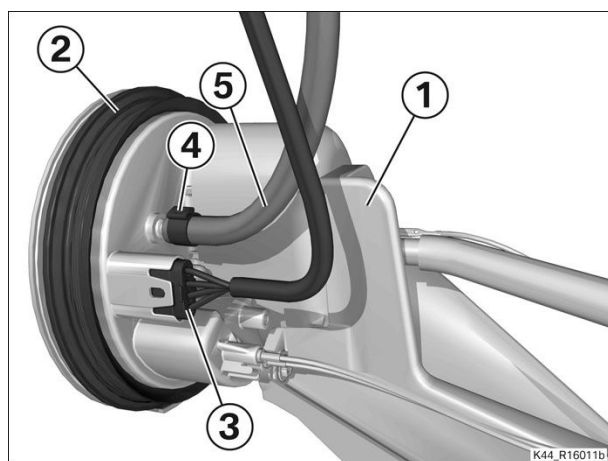


Attention

Failure to use the correct procedure when removing the pump unit (attempts to pry it out with a screwdriver or similar object, for example) will inevitably result in damage to the sealing lip of the flange. Leaks can subsequently occur when the components are reassembled.

Pull to remove the pump unit.

- Use the lug (arrow) to remove the fuel-pump unit from the fuel tank.
- Carefully remove fuel-pump unit (1) with sealing ring (2), paying particular attention to the intake strainer.
- Disconnect plug (3).
- Open hose clip (4) and disconnect breather hose (5).



(-) Replacing fuel level sensor

- Remove the old fuel-level sensor from the fuel tank.
- The new fuel-level sensor has to be calibrated when **dry**.
- Connect the new fuel-level sensor to the fuel-pump unit while it is **removed** from the fuel tank.
- Connect the fuel-pump unit **while still removed** to the motorcycle.

► Connecting BMW Motorrad diagnostic system to motorcycle



Note

See the information about the **BMW Motorrad** diagnostic system for all further instructions.



- Connect the **BMW Motorrad** battery charger.

Workshop equipment

[BMW Motorrad battery charger \(version for Europe without GB\)](#)

[BMW Motorrad battery charger \(GB/AUS/NZL version\)](#)

[BMW Motorrad battery charger \(Japan version\)](#)

[BMW Motorrad battery charger \(USA/CAN version\)](#)

- Begin by switching on the **BMW Motorrad** diagnostic system and wait for it to power up.

» The "Start Diagnosis" screen appears

- From this point on, follow the instructions issued by the **BMW Motorrad** diagnostic system.



► Preparation for initialising/calibrating new parts

Requirement

- Engine is off.
- Battery is fully charged and battery charger is connected.



Note

Do not attempt to perform work of any other kind on the motorcycle while programming/coding is in progress.

- Switch off all electrical consumers.
- Begin by switching on the **BMW Motorrad** diagnostic system and wait for it to power up.
- » The "Start Diagnosis" screen appears
- From this point on, follow the instructions issued by the diagnostic system.
- Perform diagnosis. Rectify faults, if found, **before** starting initialisation/calibration.
- Start initialisation/calibration with the **CIP** program and follow the instructions issued by the diagnostic system.

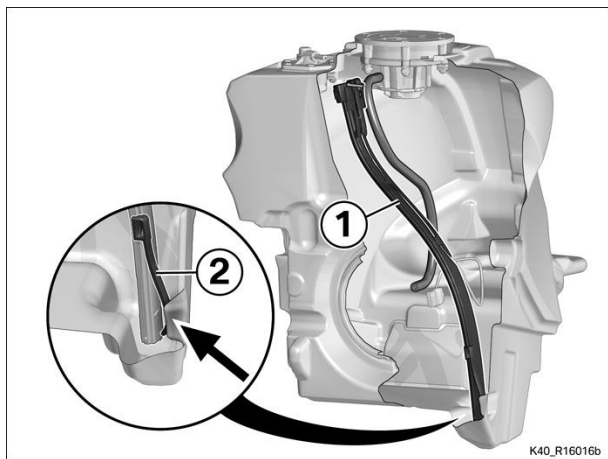


▶ **Disconnecting BMW Motorrad diagnostic system from motorcycle**

- Close all diagnostic programs and switch off the ignition.
- Disconnect the **BMW Motorrad** diagnostic system from the motorcycle and screw the cap onto the diagnosis plug.
- Disconnect the **BMW Motorrad** battery charger from the motorcycle.

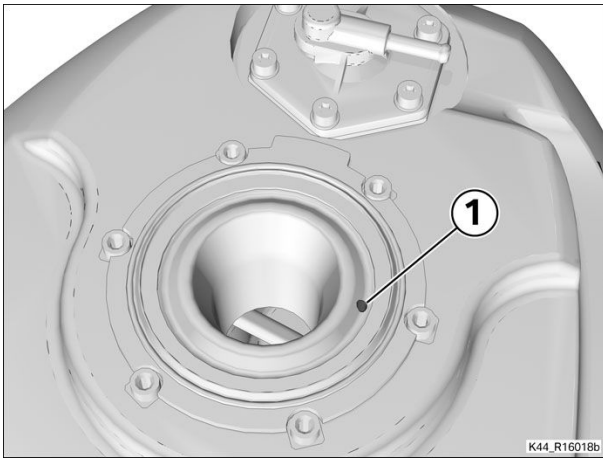
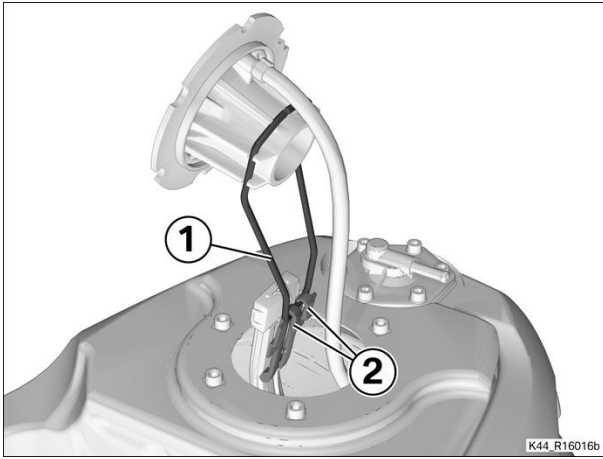


- Install new fuel-level sensor (1) in the left half of the fuel tank, making sure that clip (2) is seated against the projection (arrow).



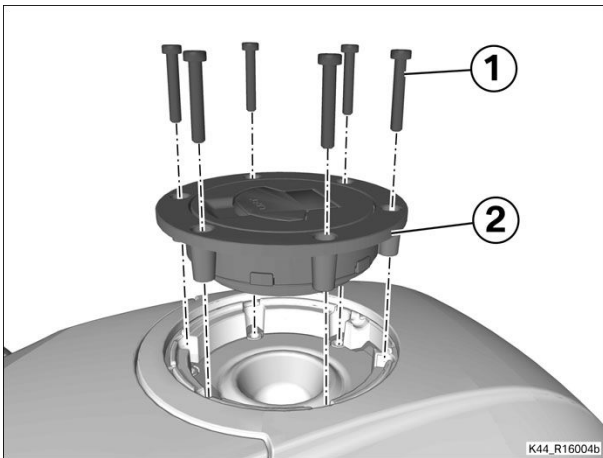
(-) Securing fuel-level sensor to fuel filler pipe

- Engage clip of fuel-level sensor (2) in retainer (1).




- Carefully insert the fuel filler pipe into the fuel tank, making sure that breather hole (1) is correctly positioned.
- Introduce the bottom end of the fuel-level sensor into the left tank pocket and route the plug and the breather hose to the opening for the pump unit.

(-) Installing fuel-tank cap




- Make sure that the sealing ring is seated correctly under the fuel filler neck.
- Hold filler cap (2) in position and install screws (1).

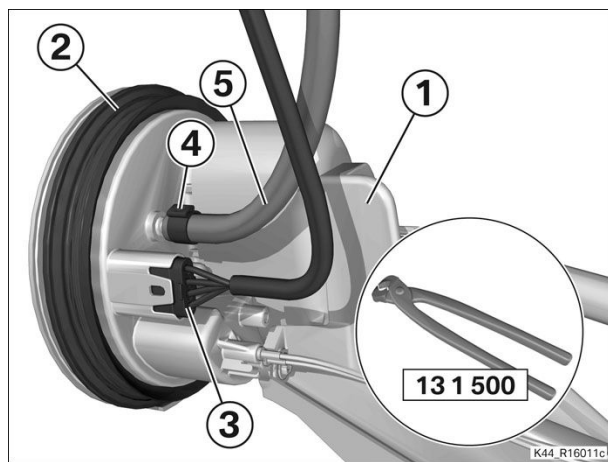
 Tightening torques		
Fuel filler cap to fuel tank		
M5 x 28	5 Nm	

(-) Installing fuel-pump unit

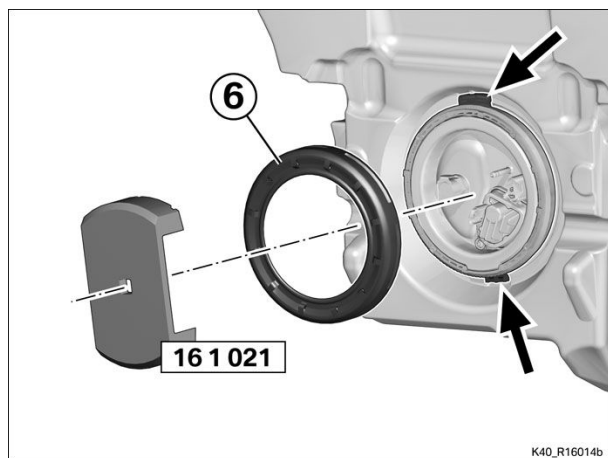
- Check sealing ring (2) for damage; replace if necessary.
- Lubricate the seal at the seating face for the union nut.

 Installation tool	
Tyre-fitting paste	81 22 0 433 046

- Position sealing ring (2) in the fuel tank.
- Connect breather hose (5) and close hose clip (4) with pliers (No. 13 1 500).



- Connect plug (3).



- Install union nut (6) with pin wrench (No. 16 1 021). Make sure that the retaining ring does not turn during this process, and that its lugs (arrows) remain in position in the corresponding recesses.

Tightening torques		
Fuel pump to fuel tank		
Union nut	35 Nm	

Finishing work

Install the fuel tank

Filling fuel tank

Installing all panels

Installing seat

Final check of work performed