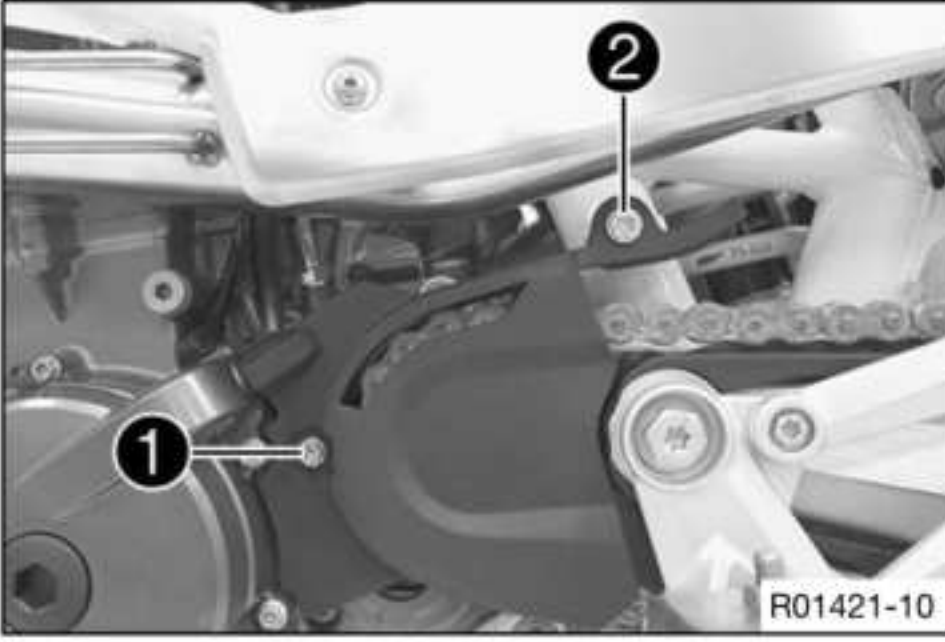
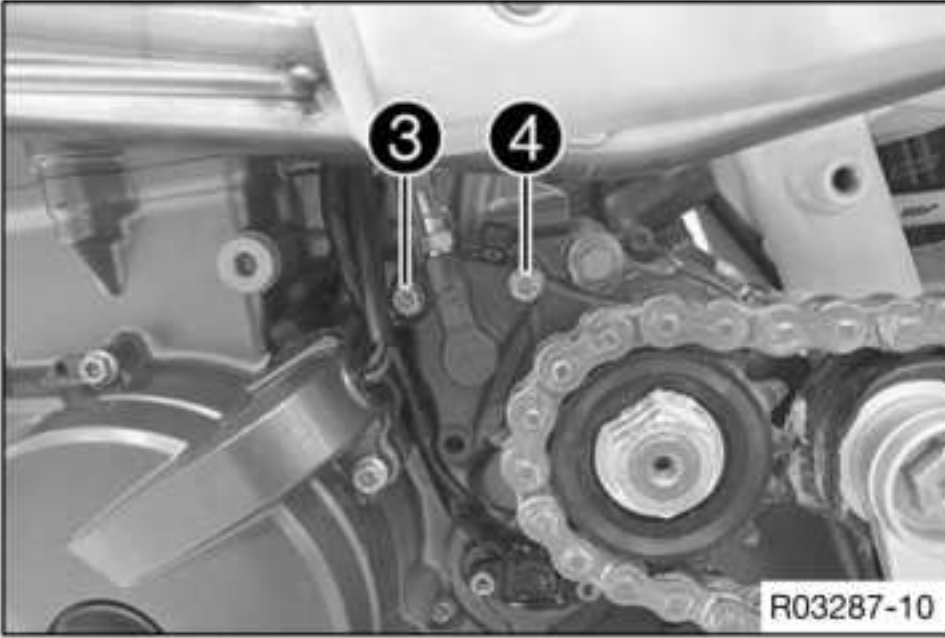


22.2 Checking/cleaning the oil nozzle for clutch lubrication

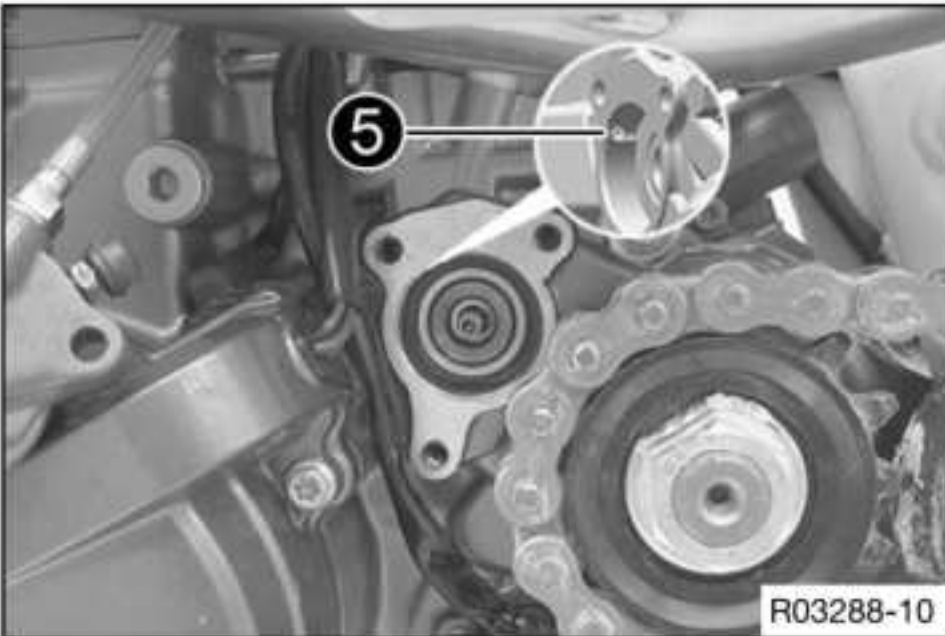


- Remove screw ①.
- Remove screw ②.
- Take off the engine sprocket cover.



- Remove screws ③ and ④.
- Take off the clutch slave cylinder with the gasket and hang it to the side.

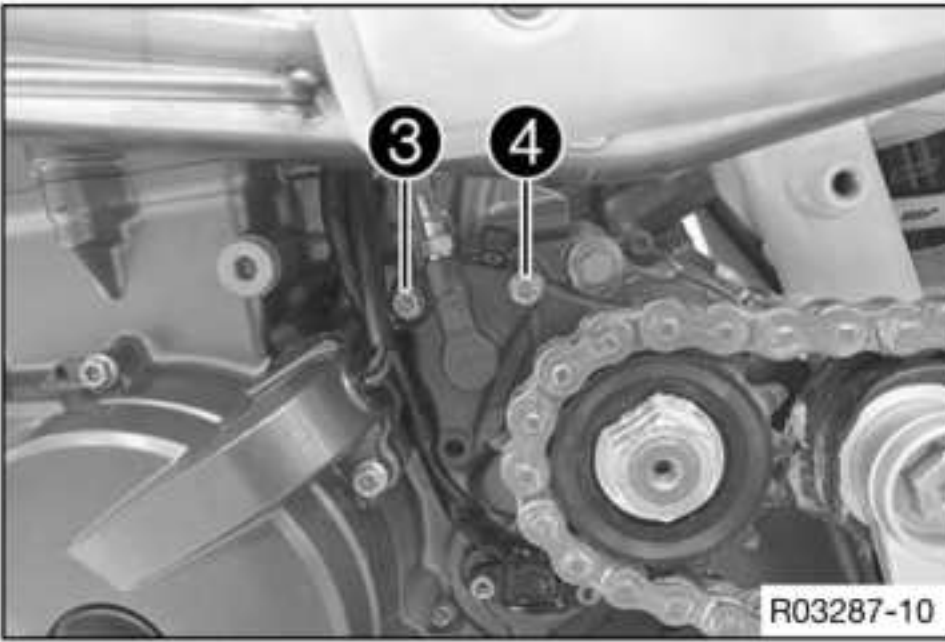
i Info
Do not kink the clutch line.
Do not activate the clutch lever while the slave cylinder of the clutch is removed.



- Remove oil nozzle ⑤.
- Check that the oil nozzle for clutch lubrication is not blocked.
 - » If the oil nozzle is blocked:
 - Clean the oil nozzle and change as necessary.
- Mount and tighten oil nozzle ⑤.

Guideline

Oil nozzle for clutch lubrication	M4x8	2 Nm (1.5 lbf ft)
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- Position the clutch slave cylinder with the gasket.
- Mount and tighten screw ③.

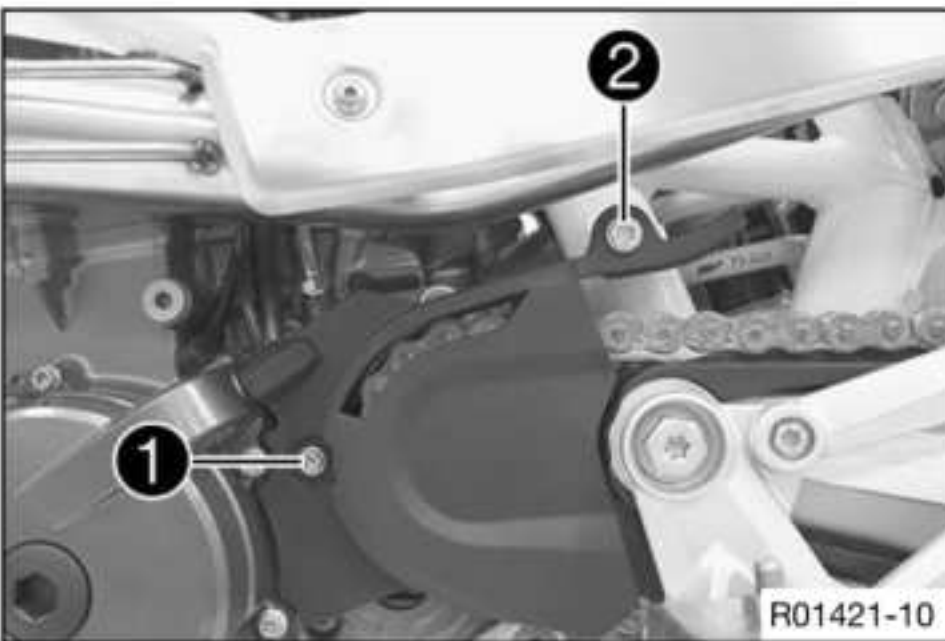
Guideline

Screw, clutch slave cylinder	M6x20	10 Nm (7.4 lbf ft) Loctite® 243™
------------------------------	-------	--

- Mount and tighten screw ④.

Guideline

Screw, clutch slave cylinder	M6x20	10 Nm (7.4 lbf ft)
------------------------------	-------	--------------------



- Position the engine sprocket cover.
- Mount and tighten screw ②.

Guideline

Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)
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- Mount and tighten screw ①.

Guideline

Screw, clutch slave cylinder	M6x40	10 Nm (7.4 lbf ft) Loctite® 243™
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22.3 Checking the engine oil level

Condition

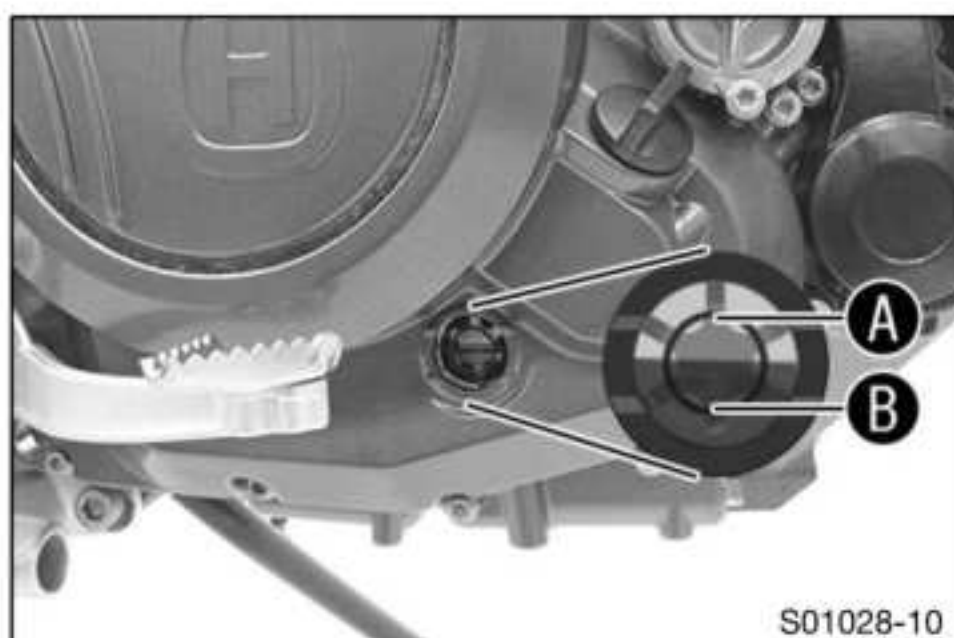
The engine is at operating temperature.

Preparatory work

- Stand the motorcycle upright on a horizontal surface.

Main work

- Check the engine oil level.



Info

After switching off the engine, wait one minute before checking the level.

The engine oil must be between marking **A** and marking **B** of the oil level viewer.

- » If the engine oil level is below the **B** mark:
 - Add engine oil. (p. 296)
- » If the engine oil level is above the **A** mark:
 - Correct the engine oil level.

22.4 Checking the oil pressure



Warning

Danger of scalding Engine and gear oil get very hot when the motorcycle is ridden.

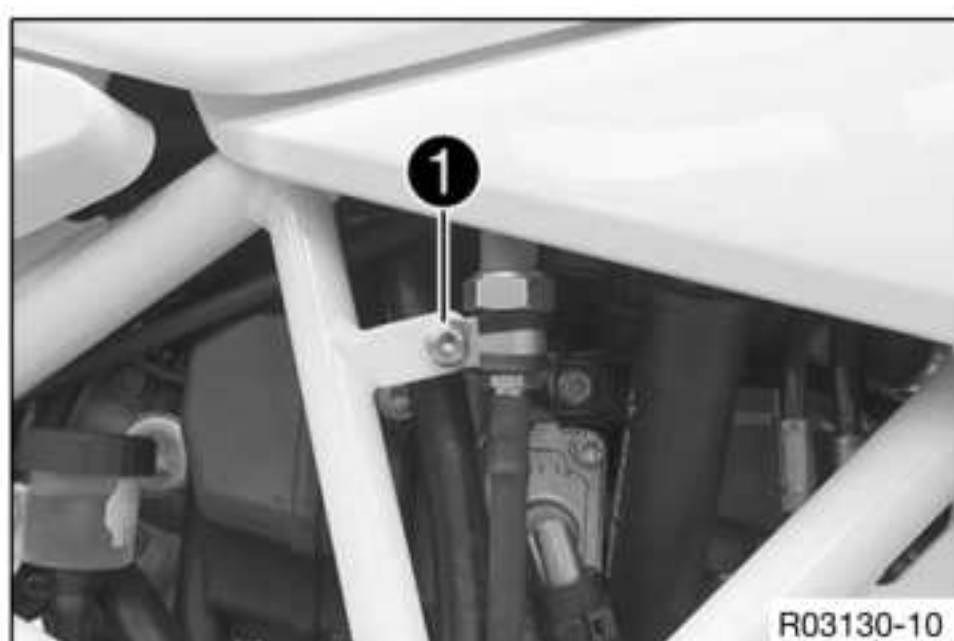
- Wear suitable protective clothing and safety gloves.
- In the event of scalding, rinse the area affected immediately with lukewarm water.



Note

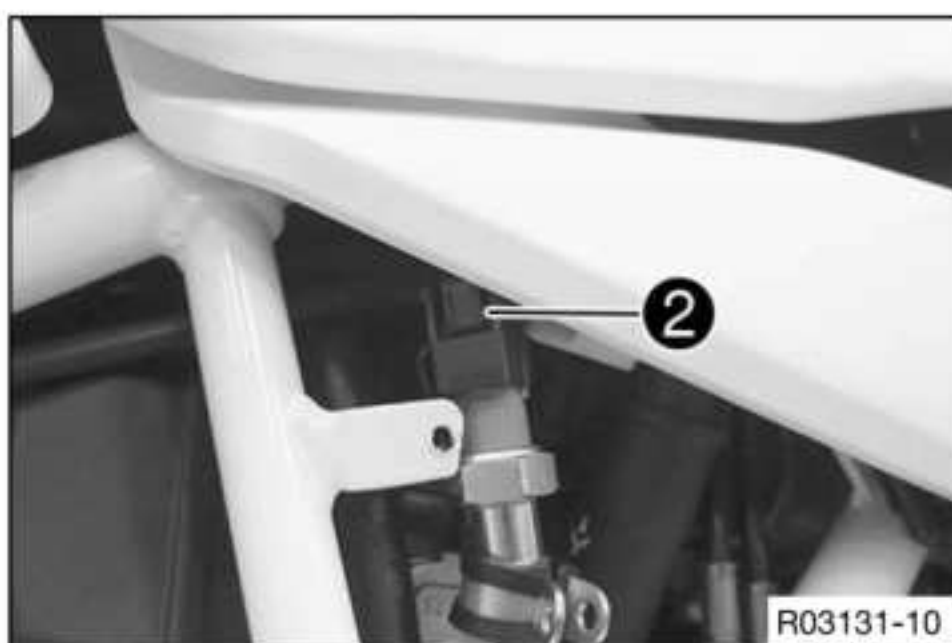
Environmental hazard Hazardous substances cause environmental damage.

- Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

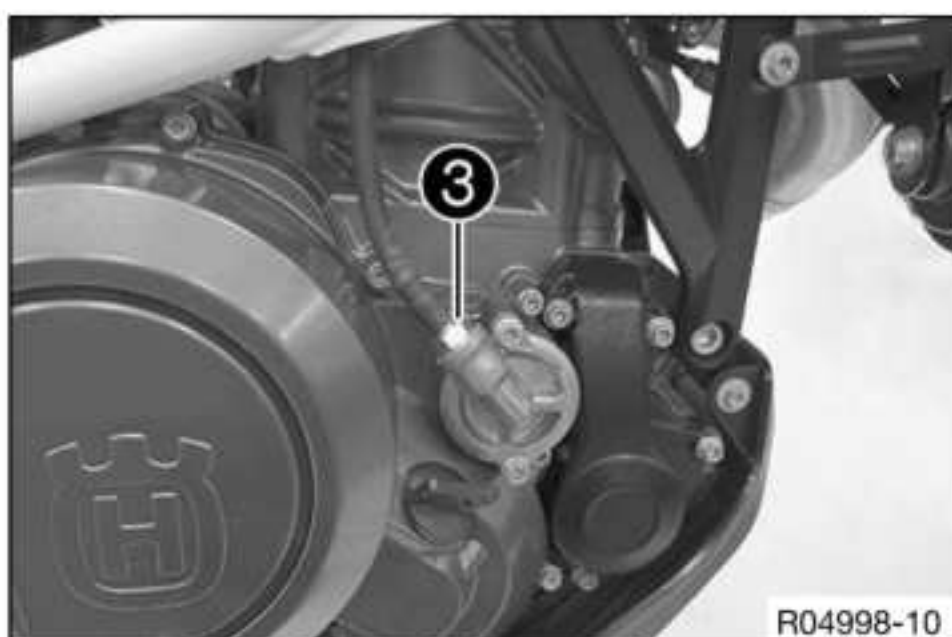


Main work

- Remove screw **1**.



- Unplug connector ②.

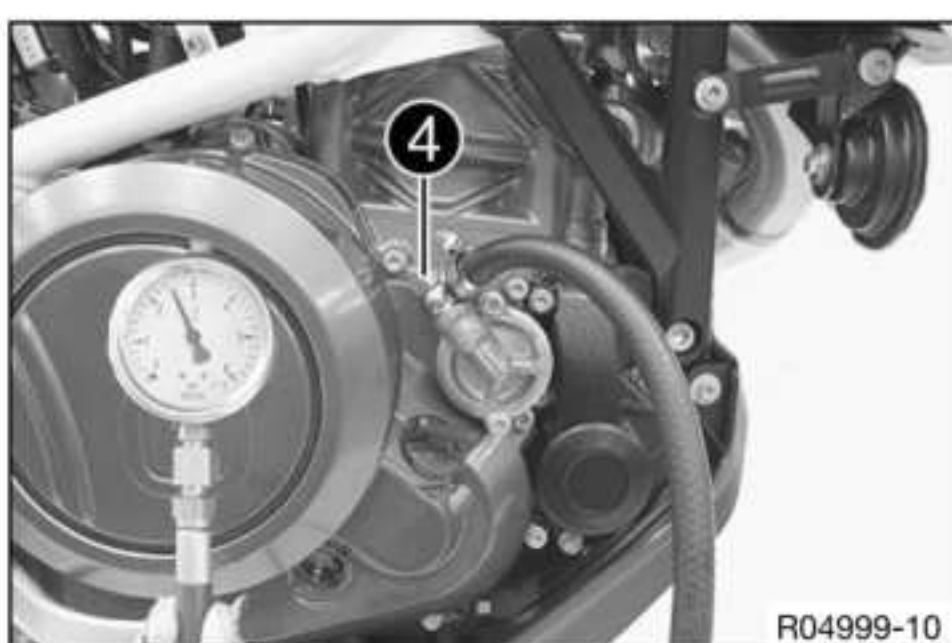


- Remove screw ③ with copper gasket.
- Slip out oil line at the top.



- Remove adapter piece from the special tool ④.

Oil pressure adapter (77329006000) (p. 392)



- Mount and tighten special tool ④ with the seal rings.

Guideline

Banjo bolt	M10x1	8 Nm (5.9 lbf ft)
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Oil pressure adapter (77329006000) (p. 392)

- Connect the pressure testing tool to the special tool without the T-plate.

Pressure testing tool (61029094000) (p. 386)

- Check the engine oil level. (p. 290)



Danger

Danger of poisoning Exhaust gases are toxic and inhaling them may result in unconsciousness and death.

- Always make sure there is sufficient ventilation when running the engine.
- Use effective exhaust extraction when starting or running the engine in an enclosed space.

- Start the engine and let it warm up.
- Check the oil pressure.

Oil pressure	
Coolant temperature: ≥ 70 °C (≥ 158 °F) Engine speed: Idle speed	≥ 0.8 bar (≥ 12 psi)
Coolant temperature: ≥ 70 °C (≥ 158 °F) Engine speed: 5,000 rpm	≥ 2.0 bar (≥ 29 psi)

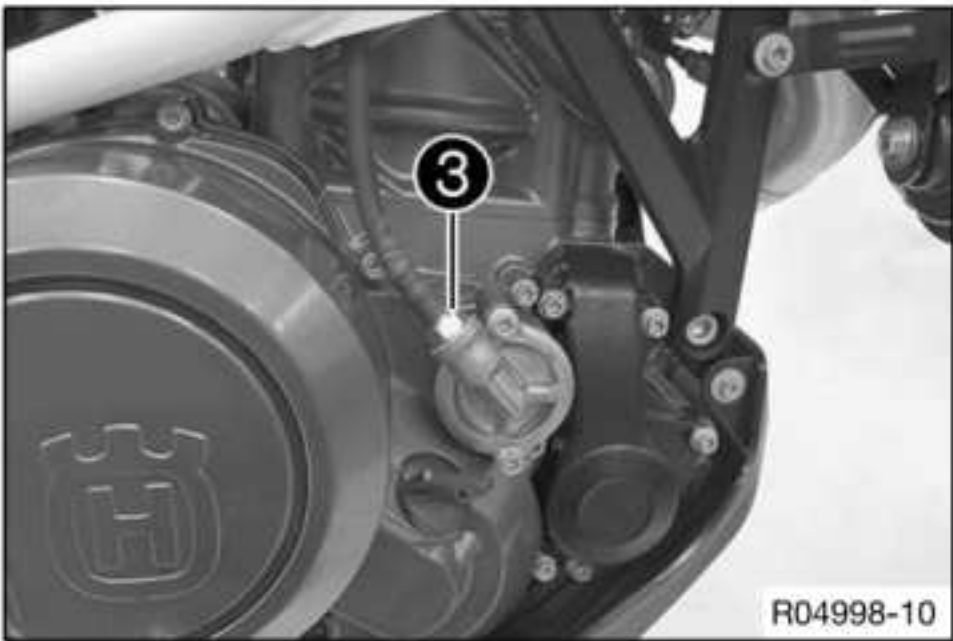
- » If the measured value is less than the specification:
 - Change the oil filter. Check the oil pumps for wear. Check that all oil holes are clear.
- Switch off the engine.



Warning

Danger of burns Some vehicle components get very hot when the machine is driven.

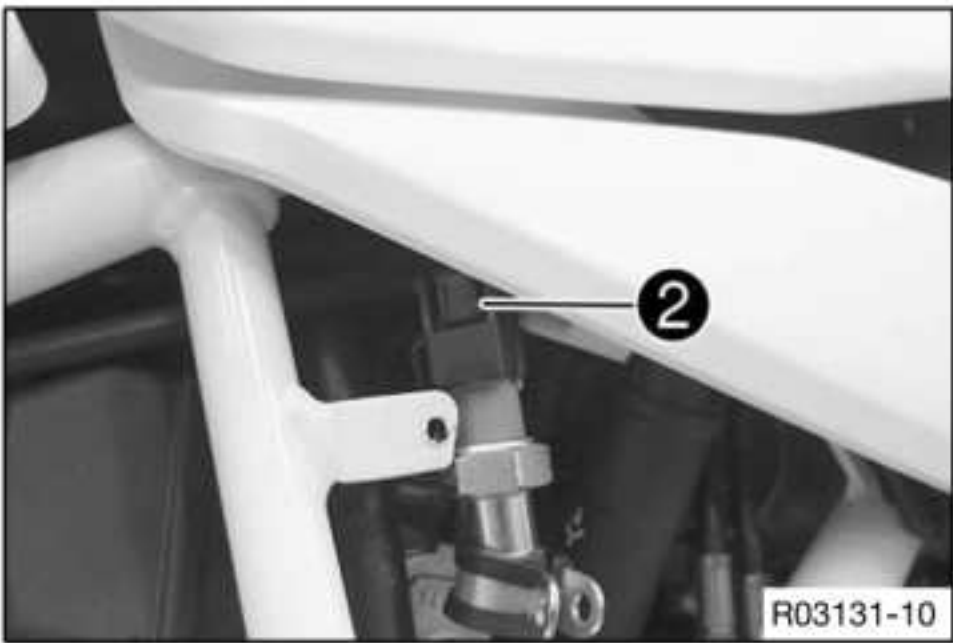
- Wear appropriate protective clothing and safety gloves. In case of burns, rinse immediately with lukewarm water.



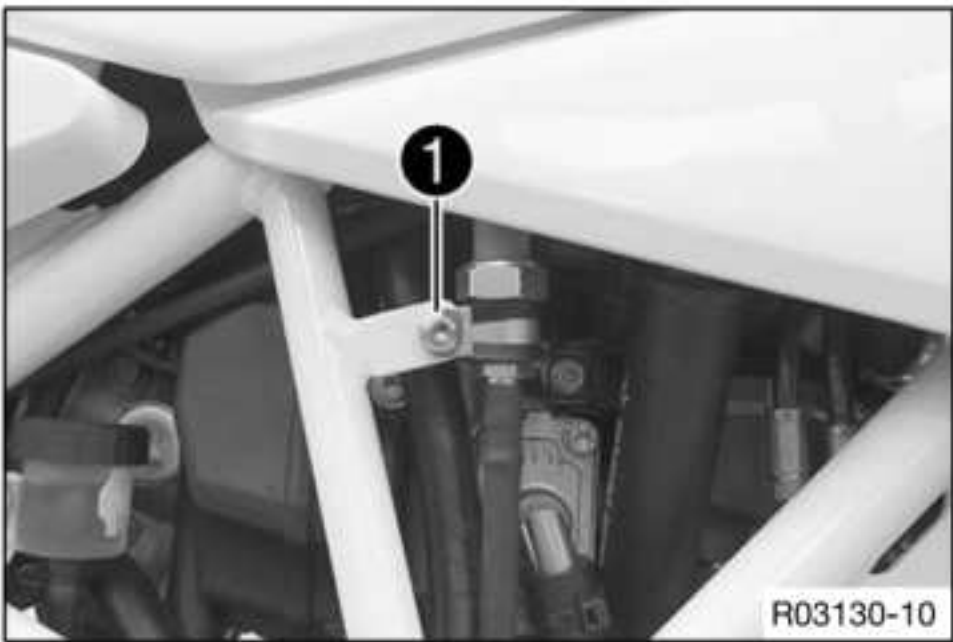
- Remove the special tools.
- Thread in oil line from the top and position.
- Tighten screw **3** with gasket.

Guideline

Screw, oil line	M10x1	10 Nm (7.4 lbf ft)
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- Plug in connector **2**.



- Position hose clamp.
- Mount and tighten screw **1**.

Guideline

Remaining screws, chassis	M5	4 Nm (3 lbf ft)
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Finishing work

- Check the engine oil level. (📖 p. 290)



22.5 Changing the engine oil and oil filter, cleaning the oil screens



Warning

Danger of scalding Engine and gear oil get very hot when the motorcycle is ridden.

- Wear suitable protective clothing and safety gloves.
- In the event of scalding, rinse the area affected immediately with lukewarm water.



Note

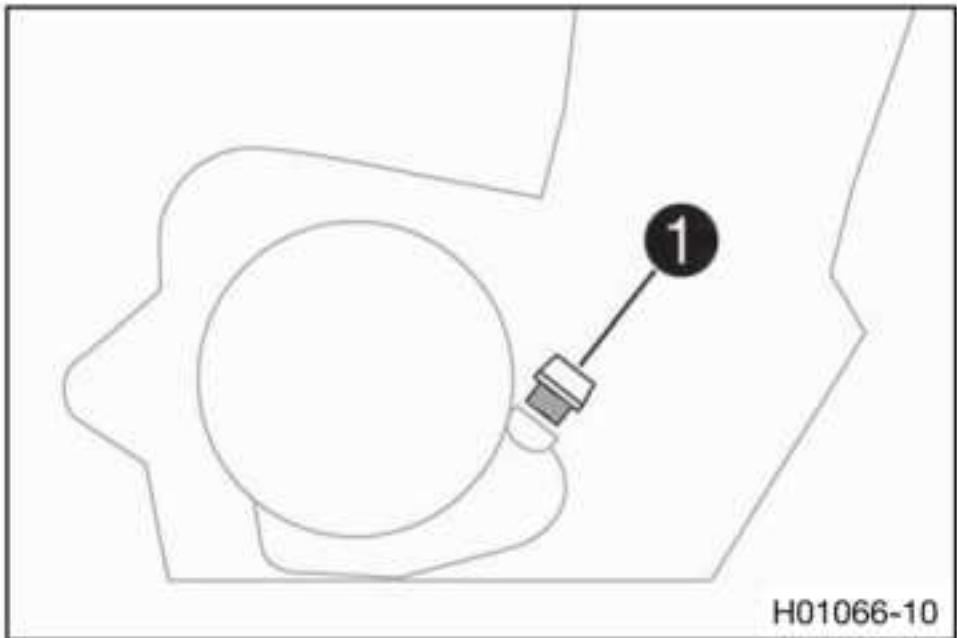
Environmental hazard Hazardous substances cause environmental damage.

- Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.



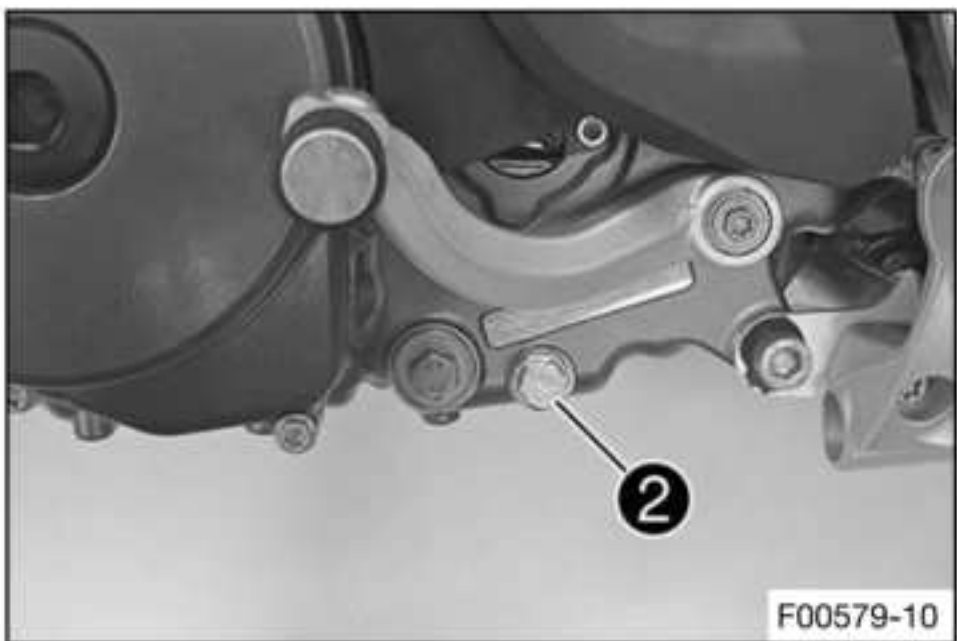
Info

Drain the engine oil while the engine is at operating temperature.

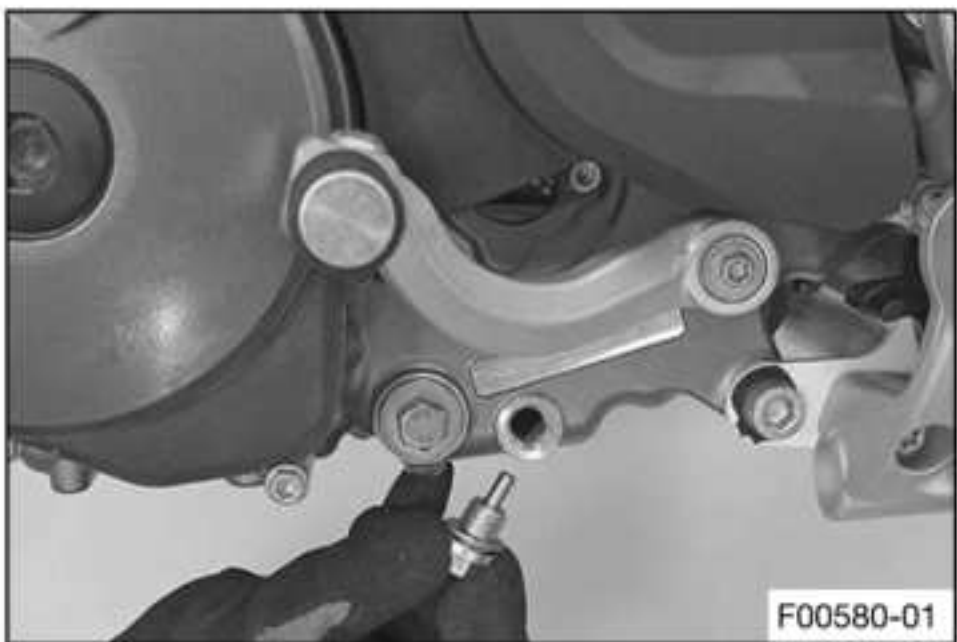


Main work

- Place an appropriate container under the engine.
- Remove filler plug **1** with the O-ring.



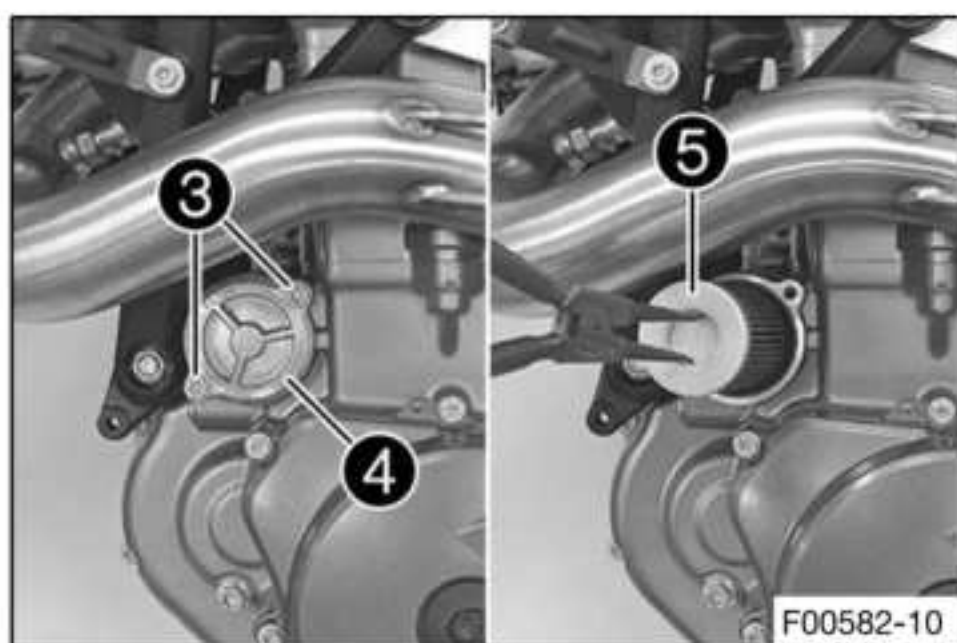
- Remove oil drain plug **2** with the magnet and seal ring.
- Completely drain the engine oil.



- Thoroughly clean the oil drain plug with magnet.
- Mount and tighten the oil drain plug with the magnet and a new seal ring.

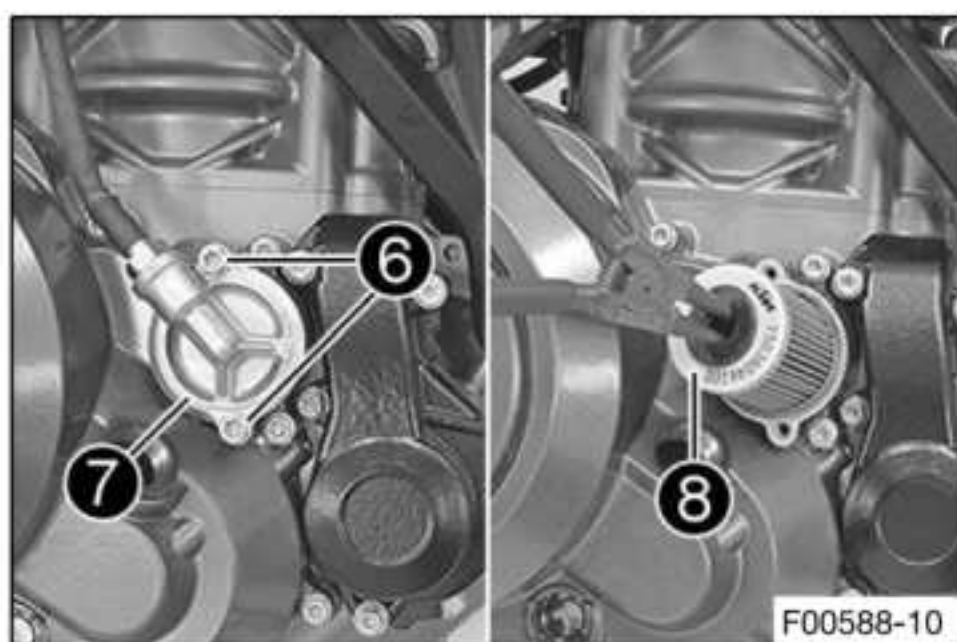
Guideline

Oil drain plug with magnet	M12x1.5	20 Nm (14.8 lbf ft)
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- Remove screws ③. Remove oil filter cover ④ with the O-ring.
- Pull oil filter ⑤ out of the oil filter housing.

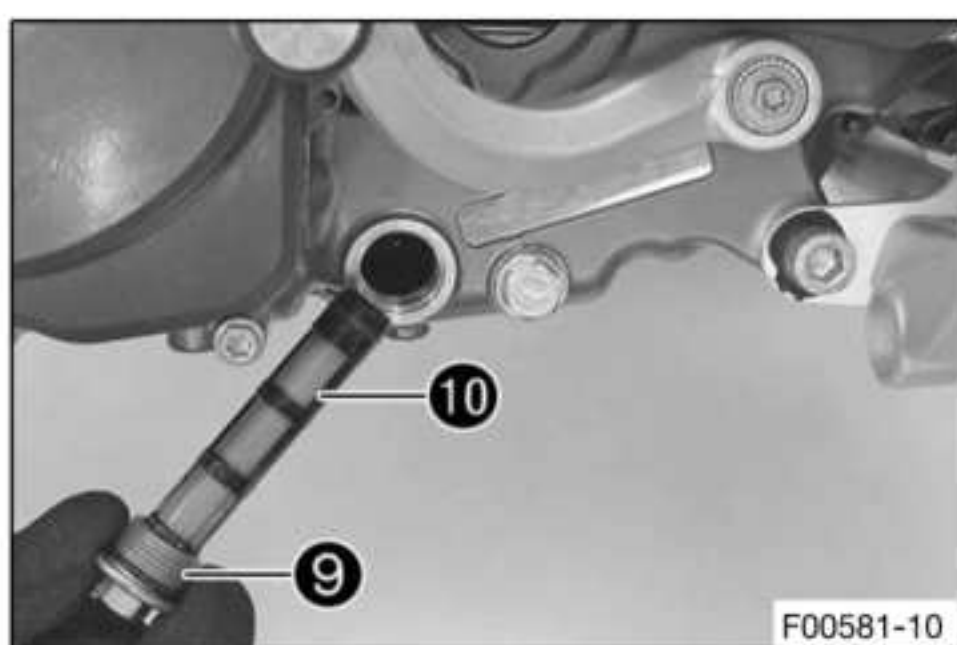
Lock ring plier (51012011000) (p. 382)



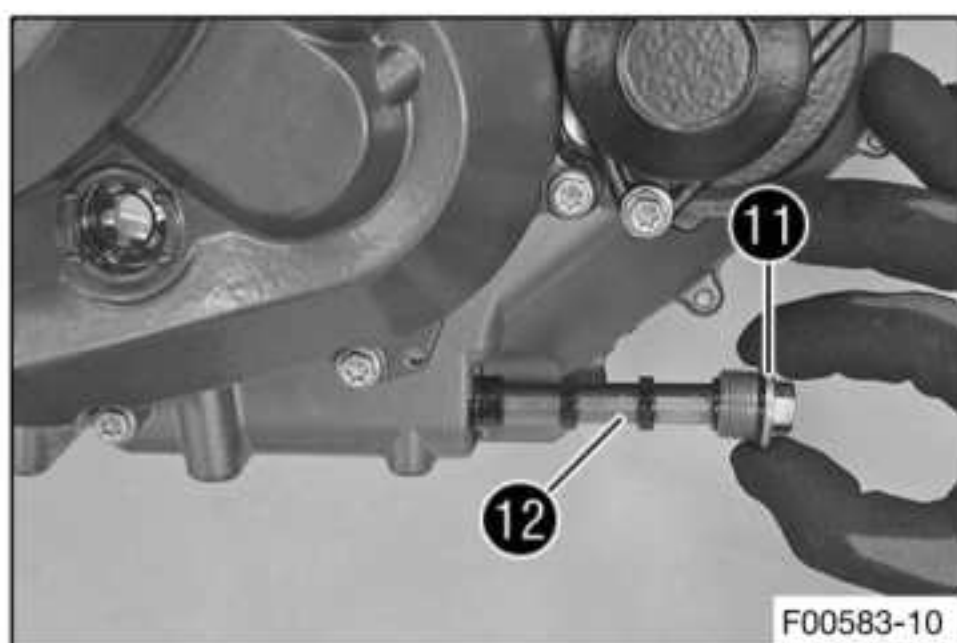
- Remove screws ⑥. Remove oil filter cover ⑦ with the O-ring.
- Pull oil filter ⑧ out of the oil filter housing.

Lock ring plier (51012011000) (p. 382)

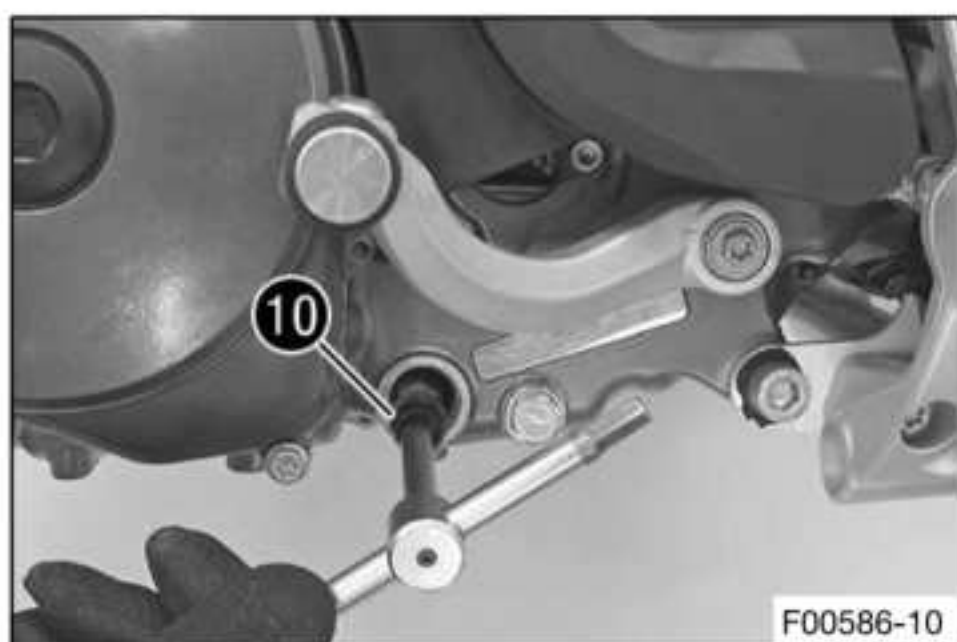
- Completely drain the engine oil.
- Thoroughly clean the parts and sealing surfaces.



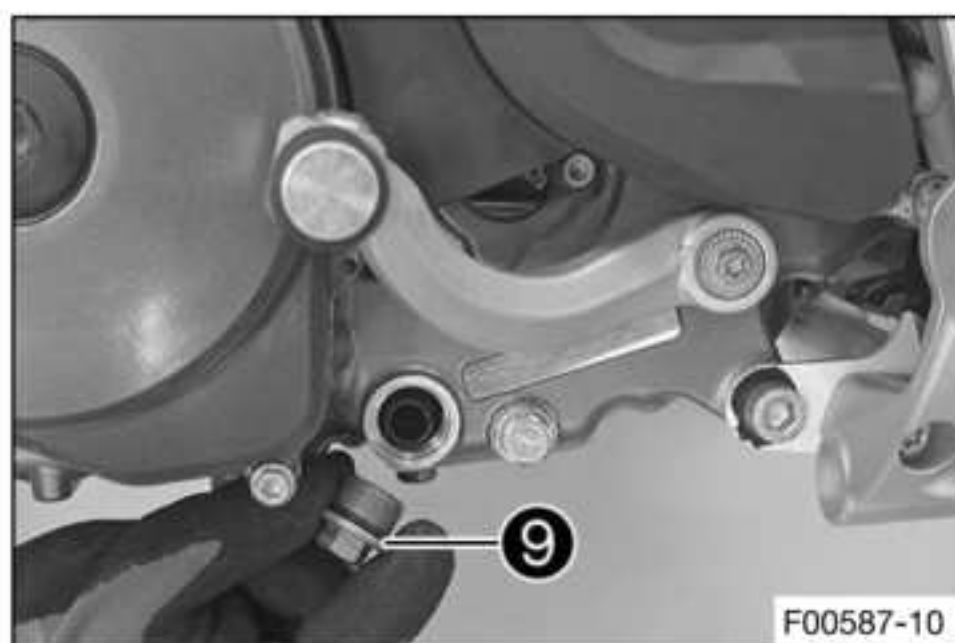
- Remove screw plug ⑨ with oil screen ⑩ and the O-rings.



- Remove screw plug ⑪ with oil screen ⑫ and the O-rings.
- Completely drain the engine oil.
- Thoroughly clean the parts and sealing surfaces.



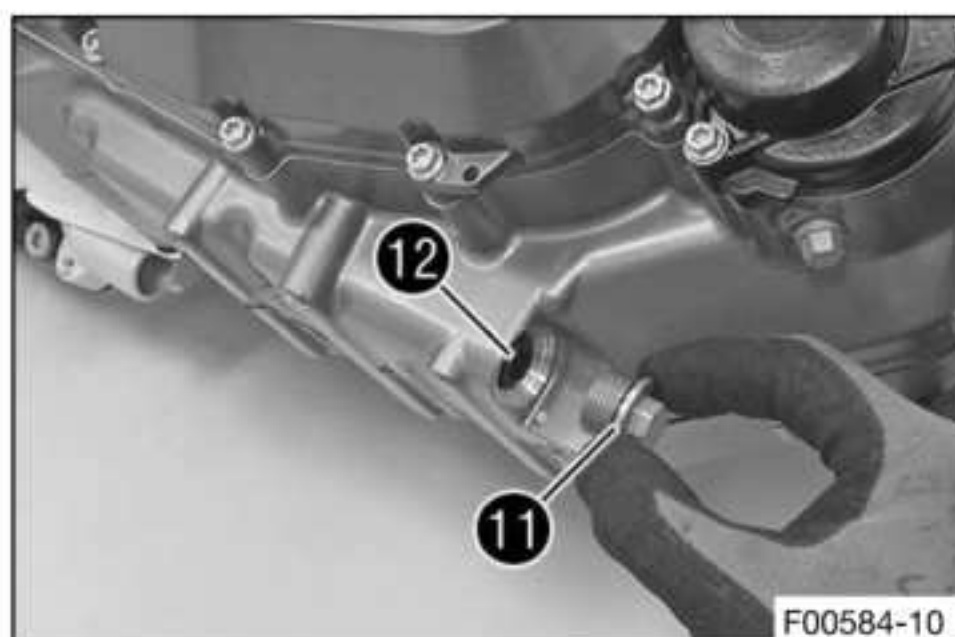
- Position oil screen ⑩ with the O-rings on a pin wrench.
- Position the pin wrench through the drill hole of the screw plug in the opposite section of the engine case.
- Push the oil screen all the way into the engine case.



- Mount and tighten screw plug **9** with the O-ring.

Guideline

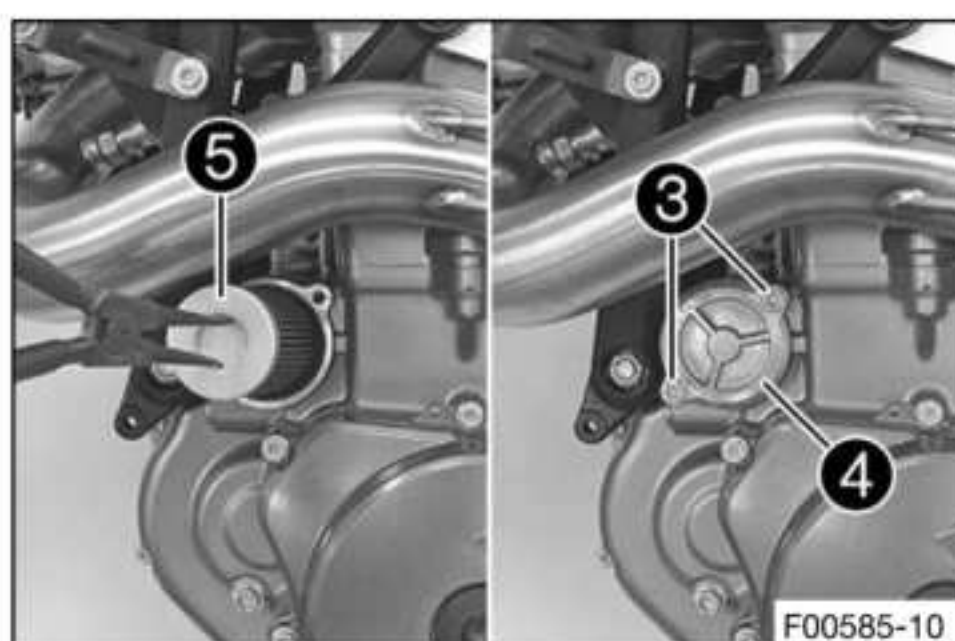
Plug, oil screen	M20x1.5	15 Nm (11.1 lbf ft)
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- Position oil screen **12** with the O-rings.
- Mount and tighten screw plug **11** with the O-ring.

Guideline

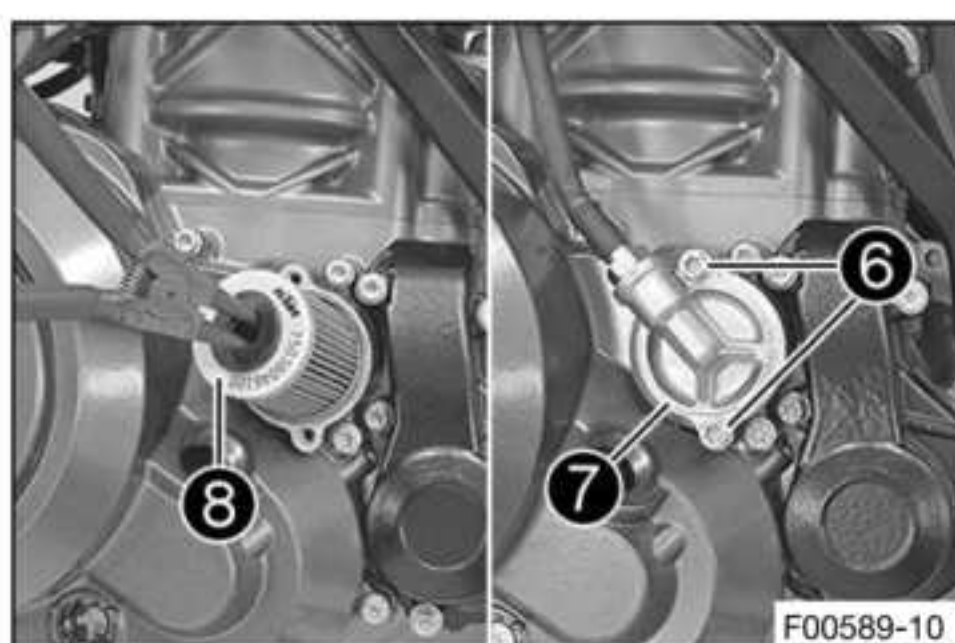
Plug, oil screen	M20x1.5	15 Nm (11.1 lbf ft)
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- Insert new oil filter **5**.
- Lubricate the O-ring of the oil filter cover. Position oil filter cover **4**.
- Mount and tighten screws **3**.

Guideline

Screw, oil filter cover	M5	6 Nm (4.4 lbf ft)
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- Insert new oil filter **8**.
- Lubricate the O-ring of the oil filter cover. Position oil filter cover **7**.
- Mount and tighten screws **6**.

Guideline

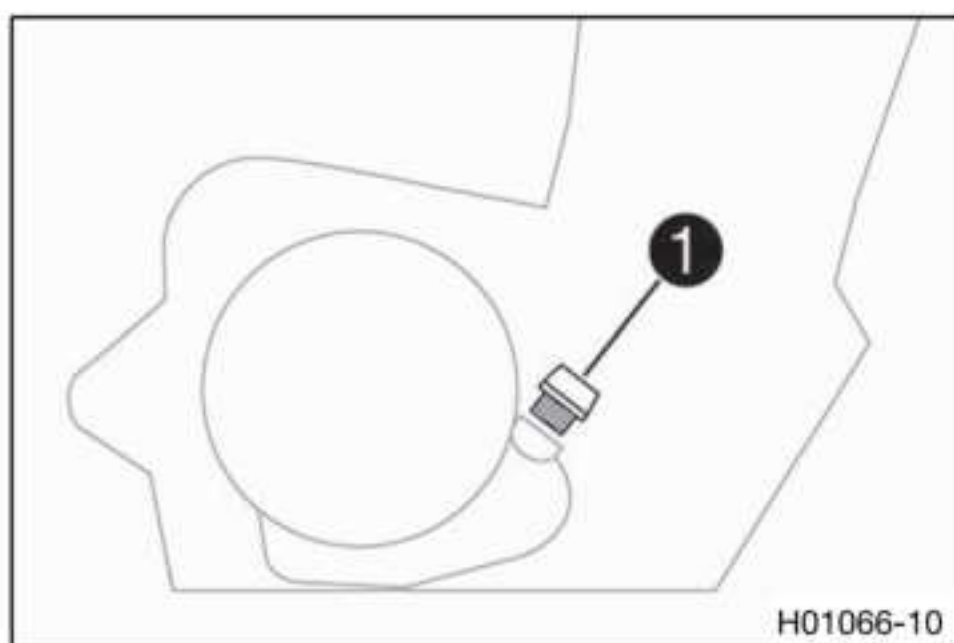
Screw, oil filter cover	M5	6 Nm (4.4 lbf ft)
-------------------------	----	-------------------

- Fill up with engine oil at the clutch cover.

Engine oil	1.70 l (1.8 qt.)	Engine oil (SAE 10W/50) (p. 376)
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Info

Too little engine oil or poor-quality engine oil will result in premature wear of the engine.



- Mount and tighten filler plug **1** with the O-ring.



Danger

Danger of poisoning Exhaust gases are toxic and inhaling them may result in unconsciousness and death.

- Always make sure there is sufficient ventilation when running the engine.
- Use effective exhaust extraction when starting or running the engine in an enclosed space.

- Start the engine and check for tightness.

Finishing work

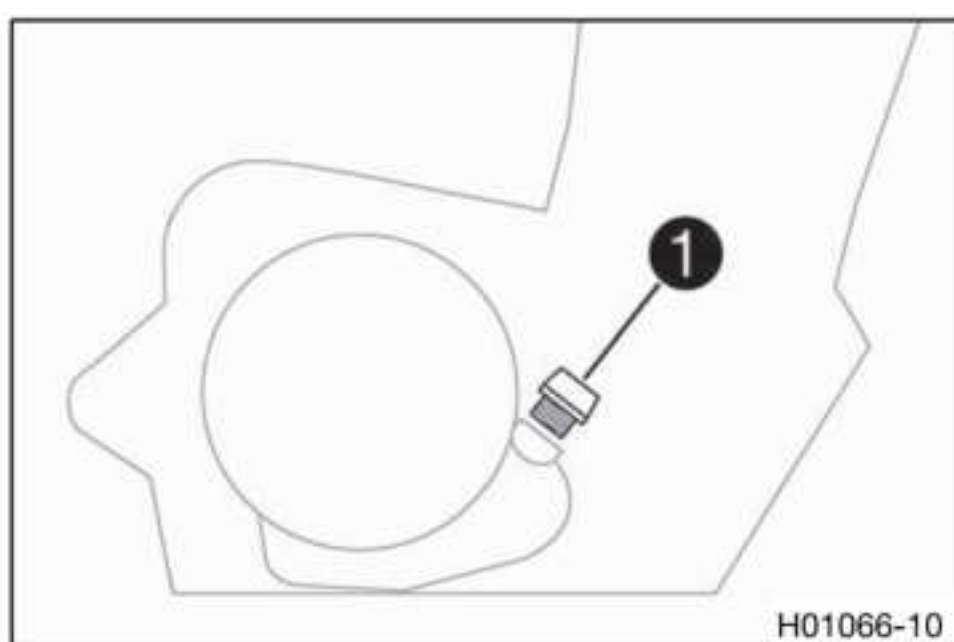
- Check the engine oil level. (📖 p. 290)

22.6 Adding engine oil



Info

Too little engine oil or poor-quality engine oil will result in premature wear of the engine.



Main work

- Remove filler plug **1** with the O-ring, and fill up with engine oil.
- Fill engine oil to the middle of the level viewer.

Engine oil (SAE 10W/50) (📖 p. 376)



Info

For optimal performance of the engine oil, do not mix different types of engine oil. We recommended changing the engine oil when necessary.

- Mount and tighten filler plug **1** with the O-ring.



Danger

Danger of poisoning Exhaust gases are toxic and inhaling them may result in unconsciousness and death.

- Always make sure there is sufficient ventilation when running the engine.
- Use effective exhaust extraction when starting or running the engine in an enclosed space.

- Start the engine and check for tightness.

Finishing work

- Check the engine oil level. (📖 p. 290)

23.1 Alternator - checking the stator winding

Condition

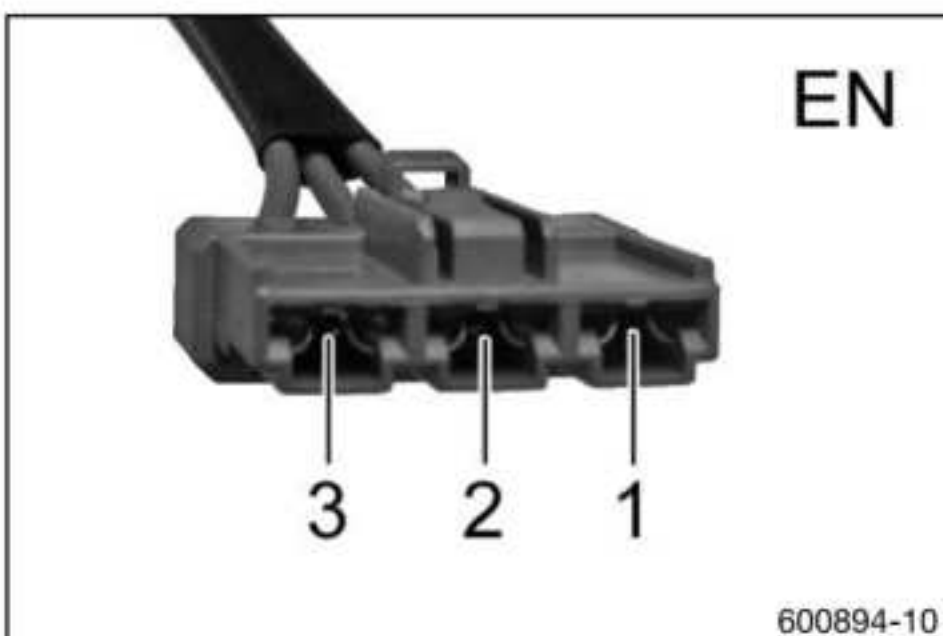
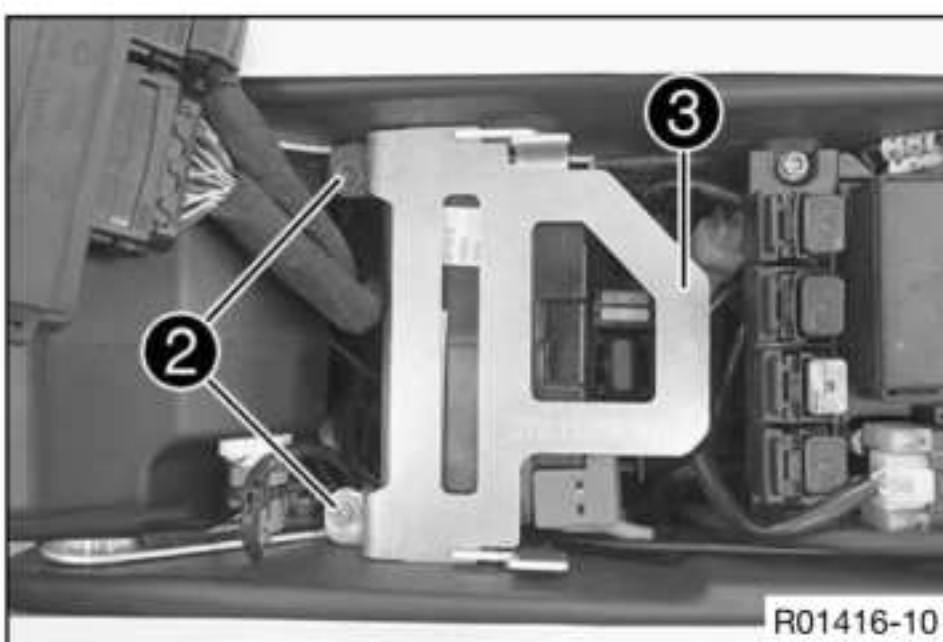
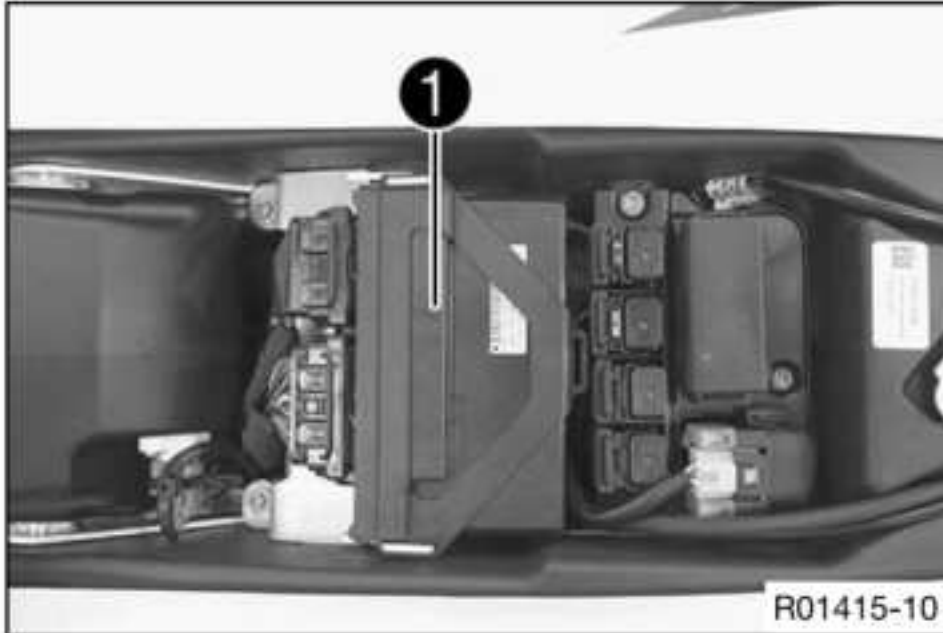
The stator is disconnected.

Preparatory work

- Remove the seat. (p. 93)

Main work

- Pull engine electronics control unit **1** off the holder and set it to one side.



- Remove screws **2**.
- Pull retaining bracket **3** of the 12-V battery forward and remove it.
- Remove positive terminal cover.

Stator winding measurement I - check the resistance.

- Ω Measure the resistance between the specified points.
Stator, connector **EN** pin **1** – Stator, connector **EN** pin **2**

Alternator	
Stator winding resistance at: 20 °C (68 °F)	0.15 ... 0.30 Ω

- » If the indicated value does not correspond to the setpoint value:
 - Change the stator.

Stator winding measurement II - check the resistance.

- Ω Measure the resistance between the specified points.
Stator, connector **EN** pin **1** – Stator, connector **EN** pin **3**

Alternator	
Stator winding resistance at: 20 °C (68 °F)	0.15 ... 0.30 Ω

- » If the indicated value does not correspond to the setpoint value:
 - Change the stator.

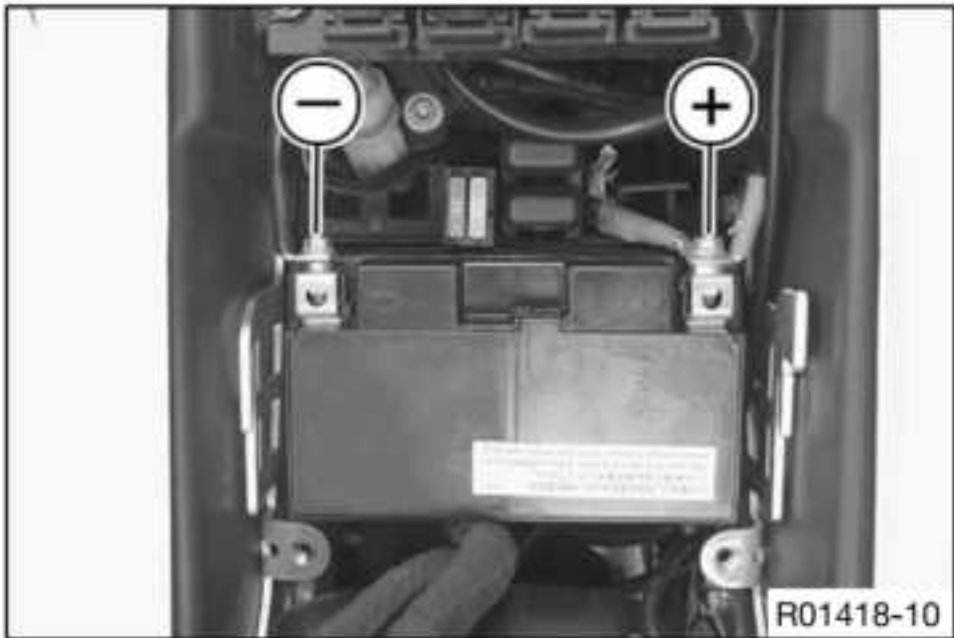
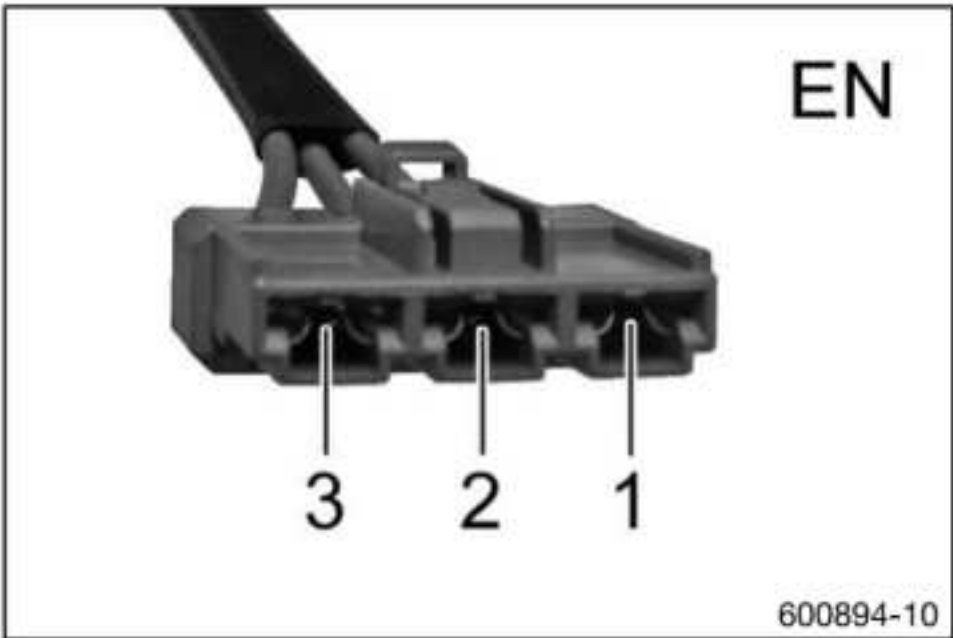
Stator winding measurement III - check resistance.

- Ω Measure the resistance between the specified points.
Stator, connector **EN** pin **2** – Stator, connector **EN** pin **3**

Alternator

Stator winding resistance at: 20 °C (68 °F)	0.15 ... 0.30 Ω
---	-----------------

- » If the indicated value does not correspond to the setpoint value:
 - Change the stator.

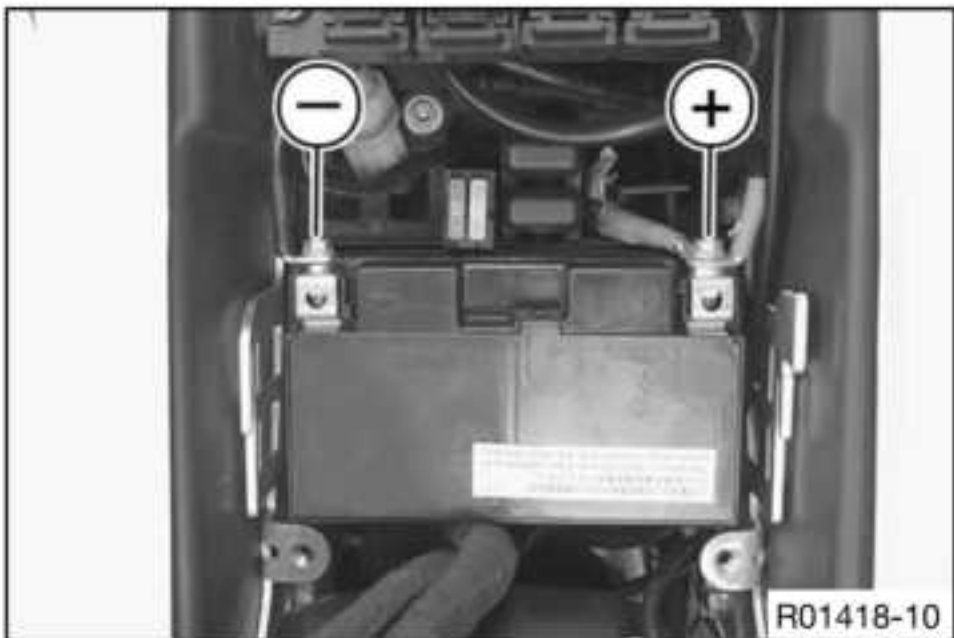
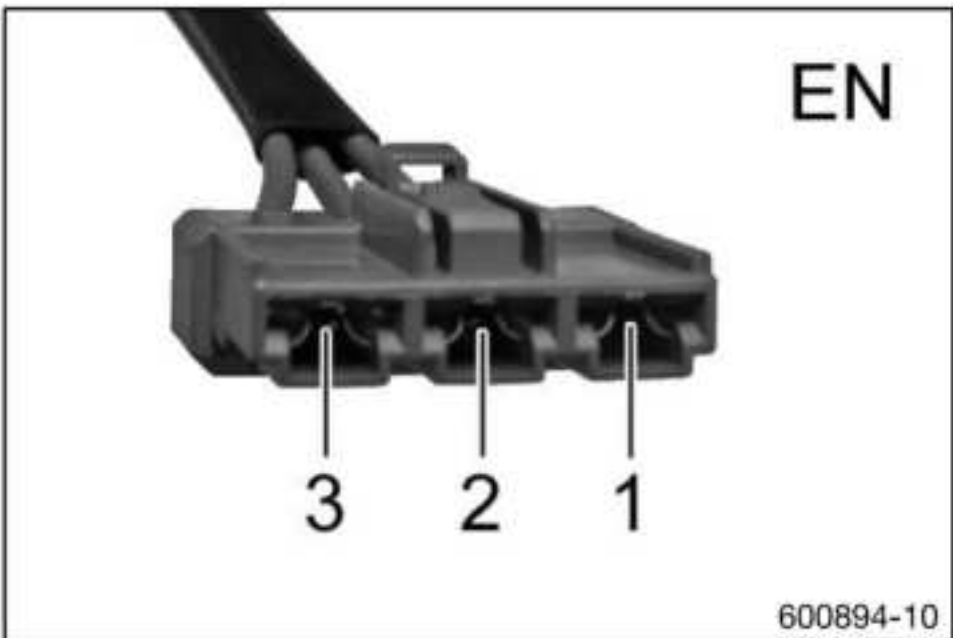


Stator winding I - check short circuit to ground (terminal 31).

- Measure the resistance between the specified points.
Stator, connector **EN** pin **1** – Measuring point **Ground (-)**

Resistance	$\infty \Omega$
------------	-----------------

- » If the indicated value does not correspond to the setpoint value:
 - Change the stator.

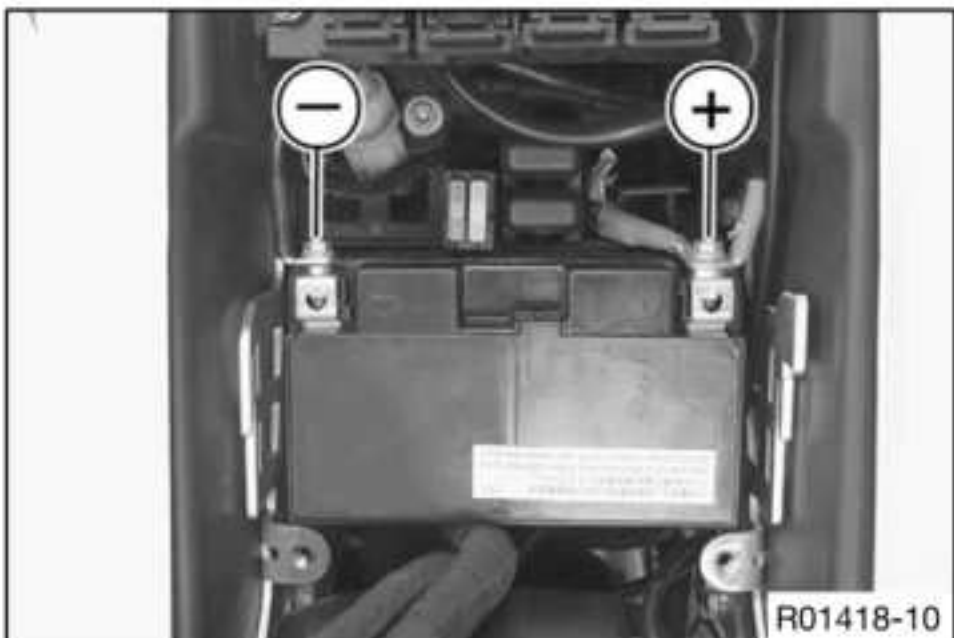
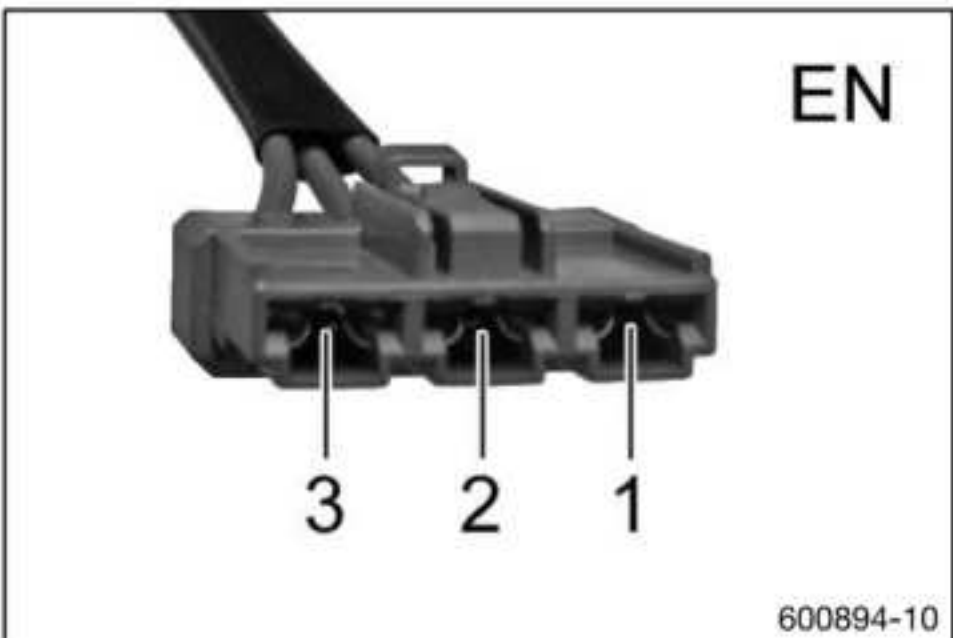


Stator winding II - check short circuit to ground (terminal 31).

- Measure the resistance between the specified points.
Stator, connector **EN** pin **2** – Measuring point **Ground (-)**

Resistance	$\infty \Omega$
------------	-----------------

- » If the indicated value does not correspond to the setpoint value:
 - Change the stator.



Stator winding III - check short circuit to ground (terminal 31).

- Measure the resistance between the specified points.
Stator, connector **EN** pin **3** – Measuring point **Ground (-)**