

19.2 Changing the hydraulic clutch fluid



Warning

Skin irritation Brake fluid causes skin irritation.

- Keep brake fluid out of the reach of children.
- Wear suitable protective clothing and safety glasses.
- Do not allow brake fluid to come into contact with the skin, the eyes or clothing.
- Consult a doctor immediately if brake fluid has been swallowed.
- Rinse the affected area with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water immediately and consult a doctor if brake fluid comes into contact with the eyes.
- If brake fluid spills on to your clothing, change the clothing.



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.

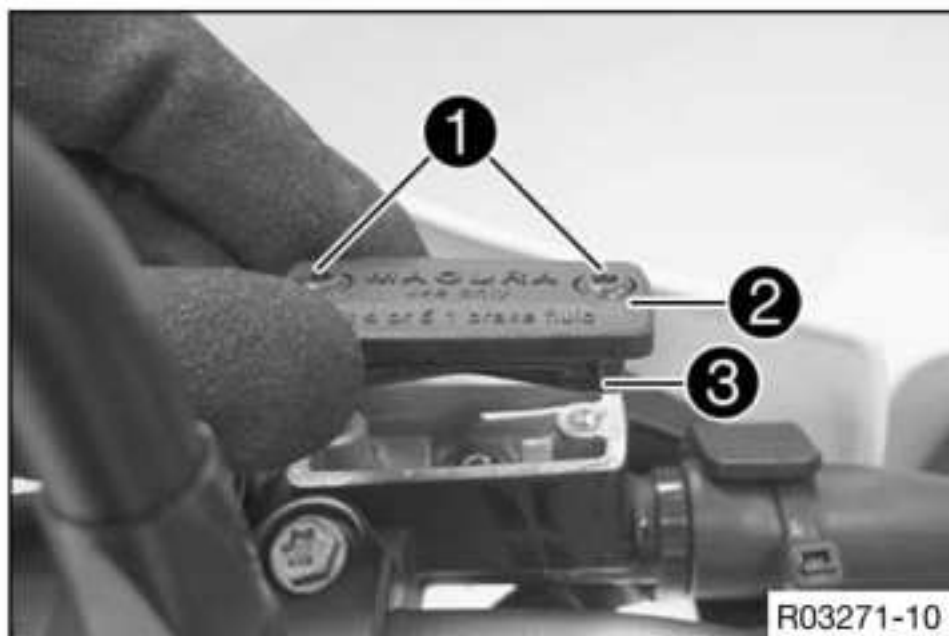


Info

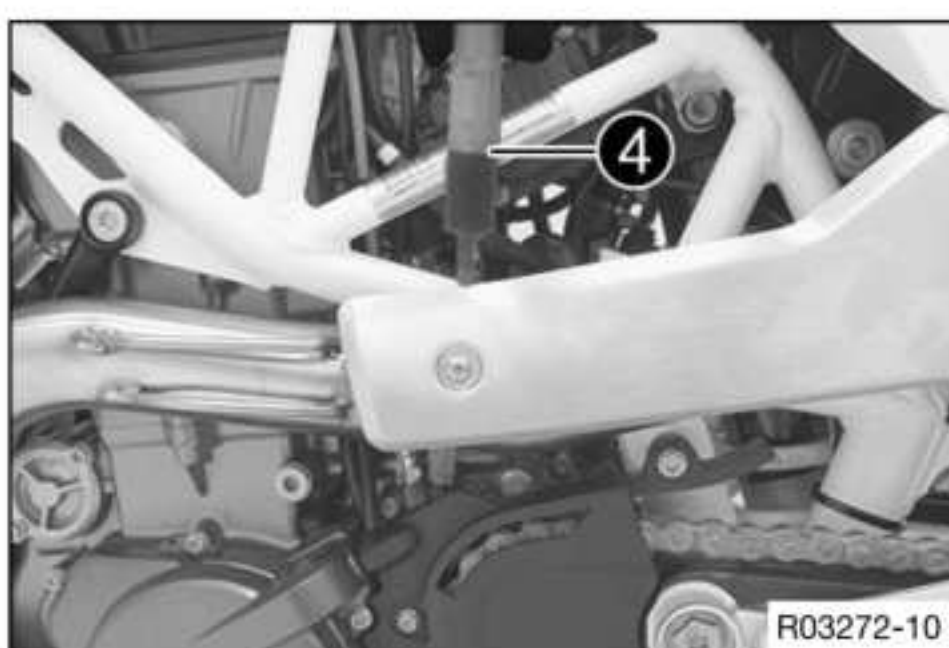
Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and clutch lines are not designed for DOT 5 brake fluid.

Avoid contact between brake fluid and painted parts. Brake fluid attacks paint.

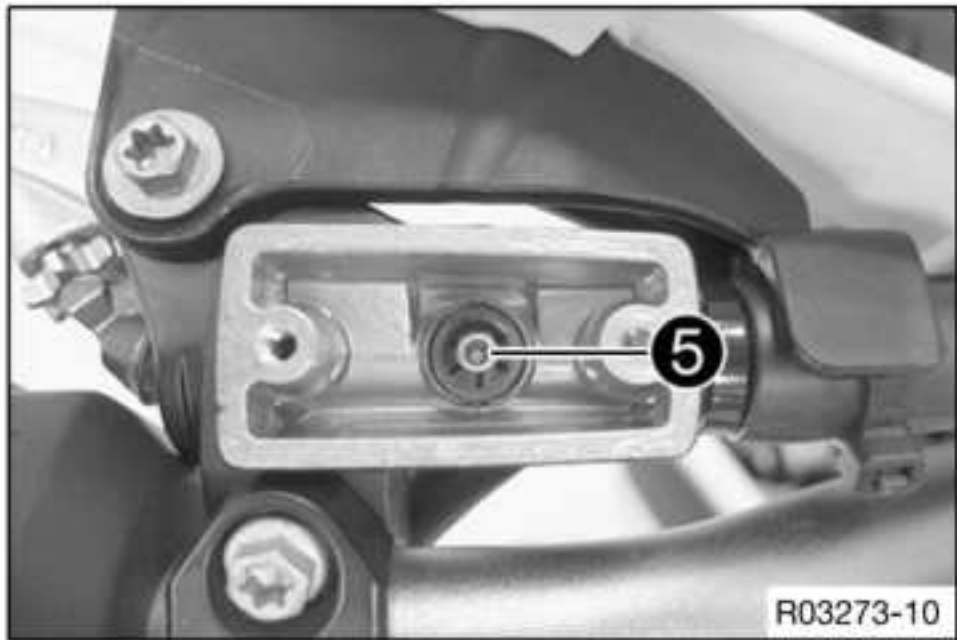
Only use clean brake fluid from a sealed container.



- Move the clutch fluid reservoir mounted on the handlebar to a horizontal position.
- Remove screws ①.
- Remove cover ② with membrane ③.



- Fill bleeding syringe ④ with the appropriate hydraulic fluid.
- | |
|--|
| Syringe (50329050000) (📖 p. 382) |
| Brake fluid DOT 4 / DOT 5.1 (📖 p. 376) |
- On the slave cylinder, remove the bleeder screw and mount bleeding syringe ④.



- Now press the fluid into the system until it emerges from hole 5 of the master cylinder without bubbles.
- Now and then, extract fluid from the master cylinder reservoir to prevent overflow.
- Remove the bleeding syringe. Mount and tighten screws bleeder screw.
- Correct the fluid level of the hydraulic clutch.

Guideline	
Fluid level below container rim	4 mm (0.16 in)

- Position the cover with the membrane. Mount and tighten the screws.

19.3 Checking the clutch

Danger

Fire hazard Fuel is highly flammable.

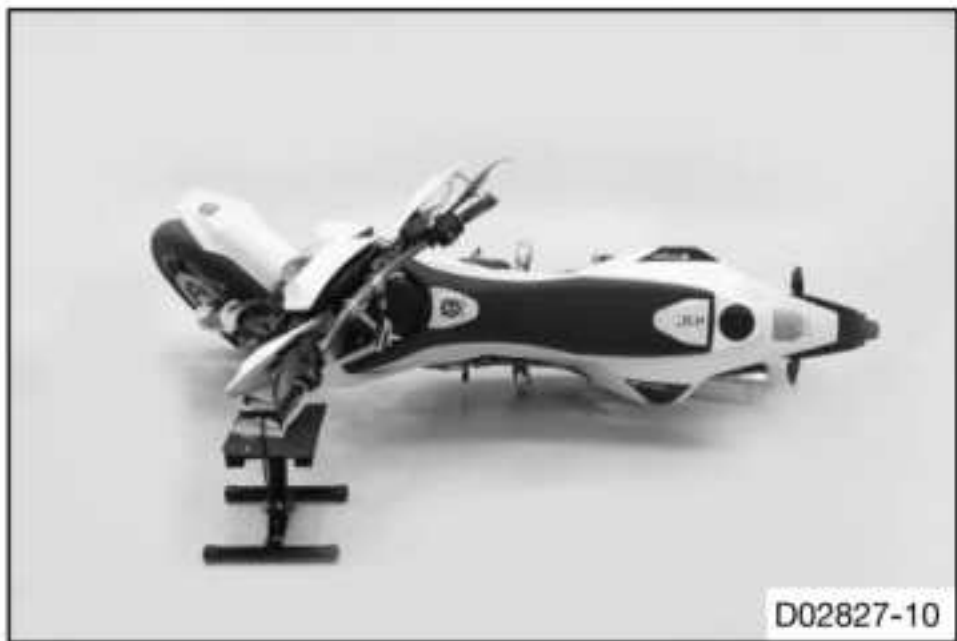
The fuel in the fuel tank expands when warm and can escape if overfilled.

- Do not refuel the vehicle in the vicinity of open flames or lit cigarettes.
- Switch off the engine for refueling.
- Make sure that no fuel is spilled; particularly not on hot parts of the vehicle.
- If any fuel is spilled, wipe it off immediately.
- Observe the specifications for refueling.

Warning

Danger of poisoning Fuel is poisonous and a health hazard.

- Avoid skin, eye and clothing contact with fuel.
- Immediately consult a doctor if you swallow fuel.
- Do not inhale fuel vapors.
- In case of skin contact, rinse the affected area with plenty of water.
- Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.
- Change your clothing in case of fuel spills on them.
- Keep fuels correctly in a suitable canister, and out of the reach of children.

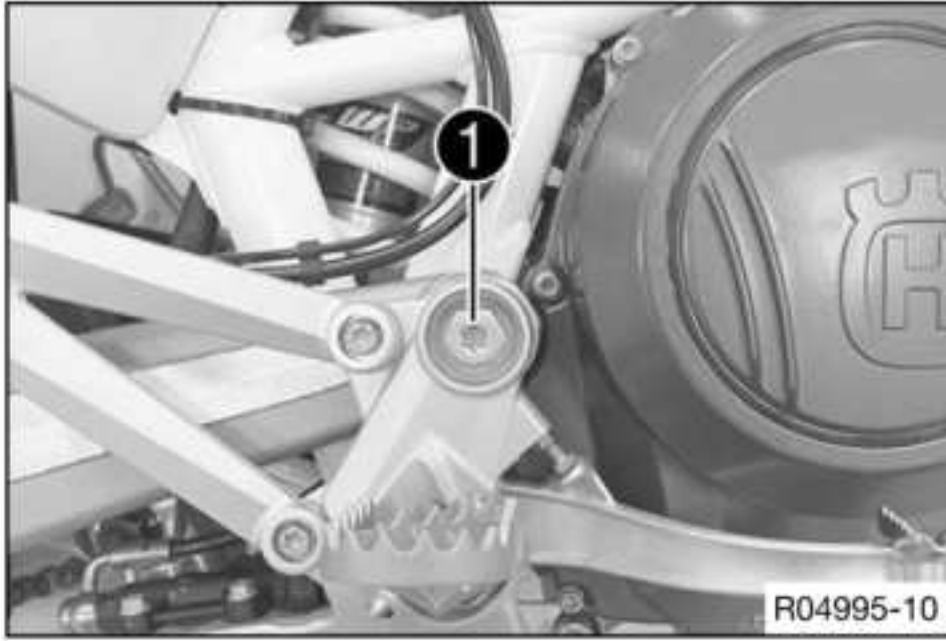


- Main work**
- Drain the fuel from the fuel tank into a suitable container.
 - Lay vehicle on the side.

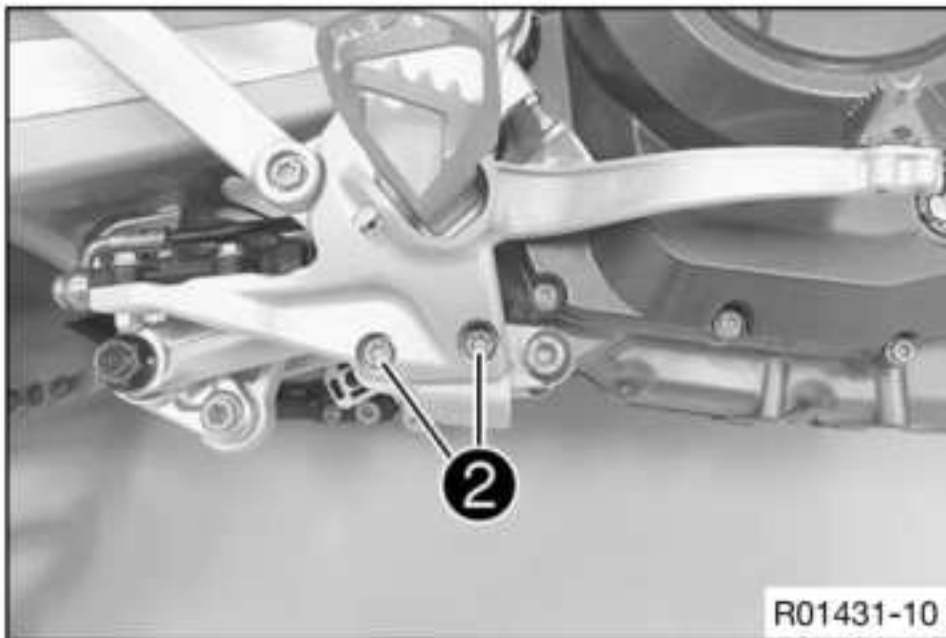
Info

Cover the components to protect them against damage.

Remaining fuel may flow out of the fuel tank.



- Remove screw ①.

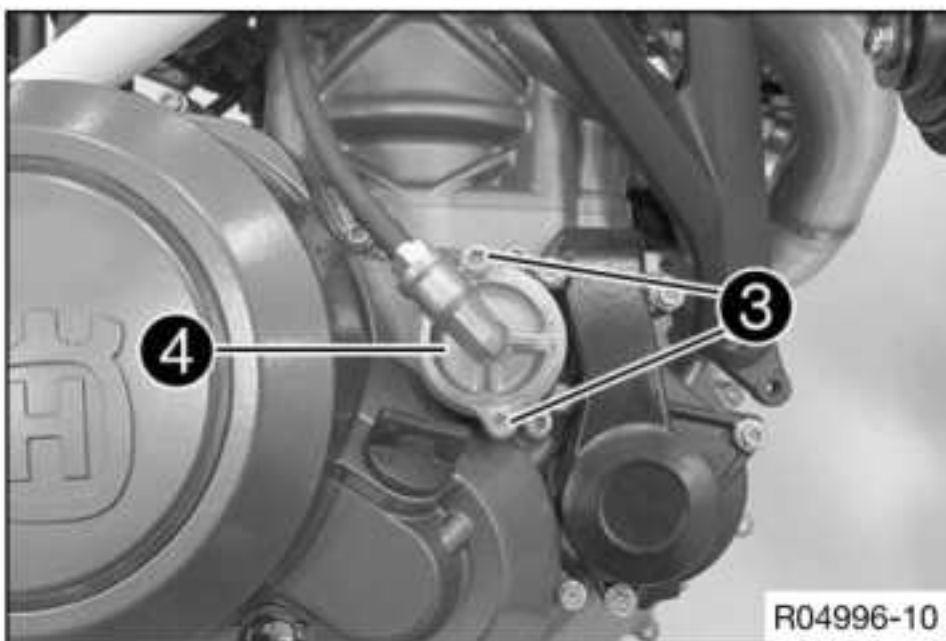


- Remove screws ②.
- Hang the footrest bracket to the side.

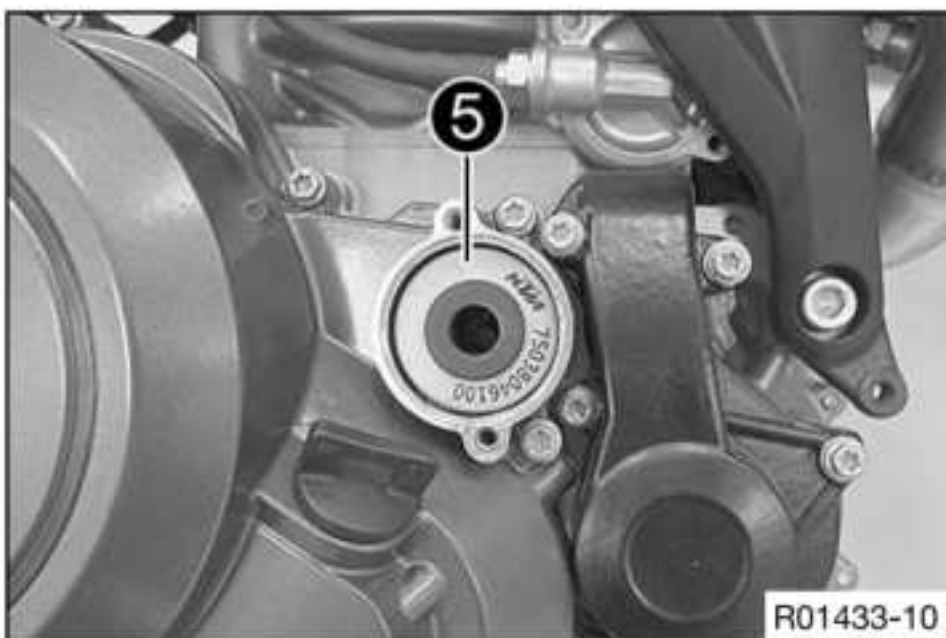


Info

Cover the components to protect them against damage.

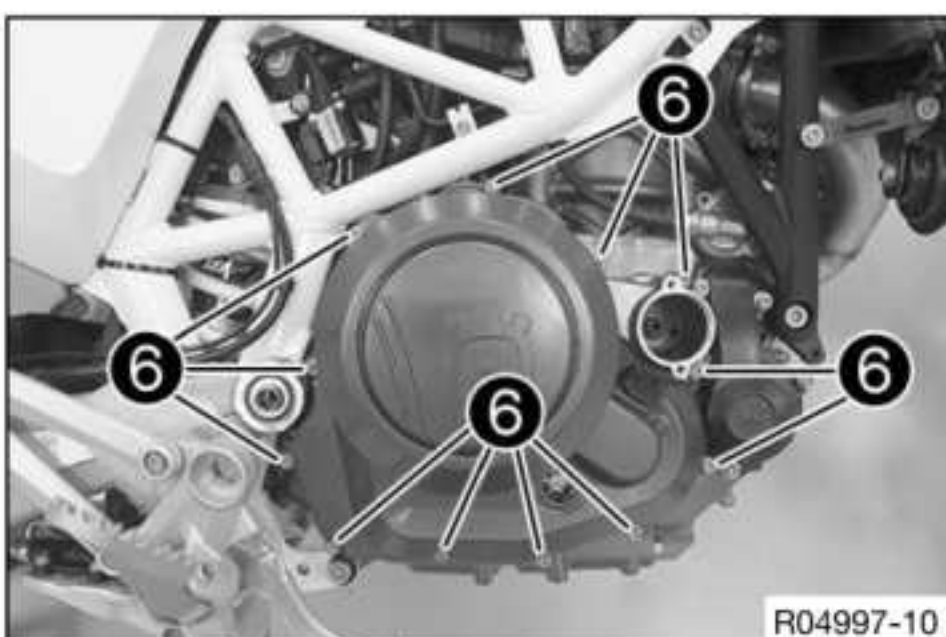


- Remove screws ③.
- Take off oil filter cover ④ with O-ring and hang to the side.

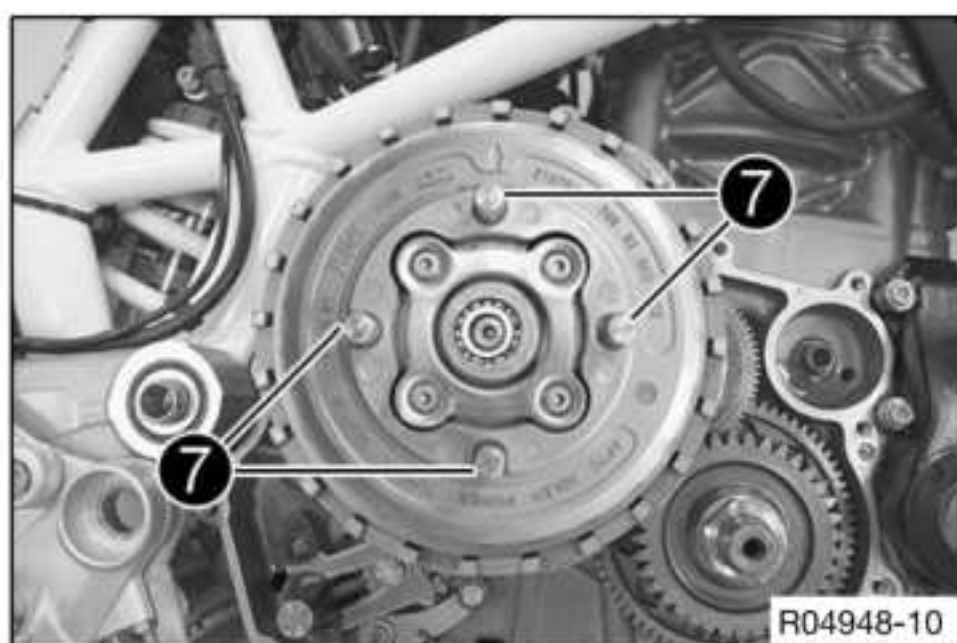


- Pull oil filter ⑤ out of the oil filter housing.

Lock ring plier (51012011000) (p. 382)



- Remove screws ⑥.
- Take off the clutch cover with the gasket.



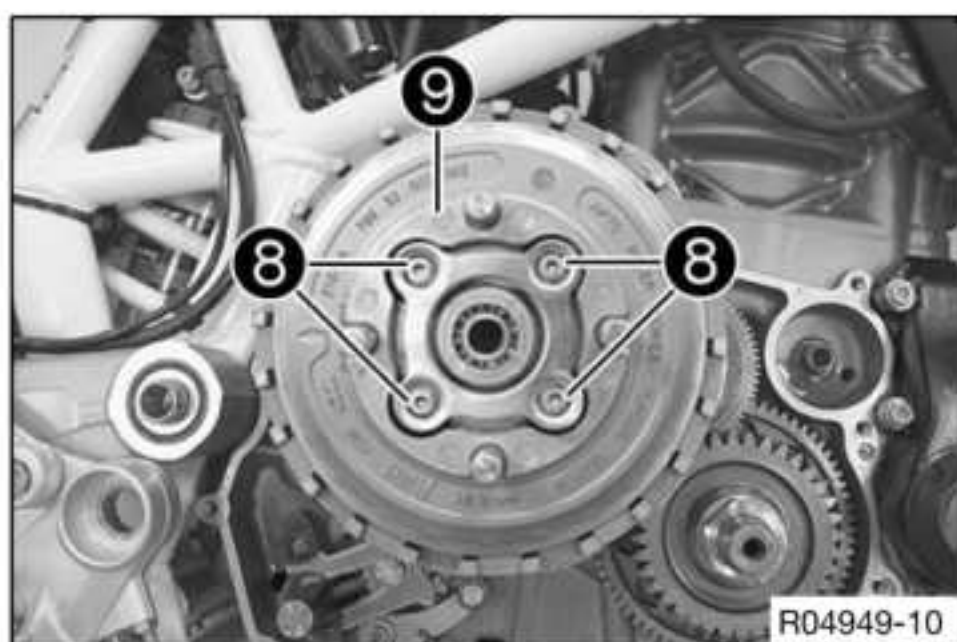
- Clamp the antihopping clutch with special tool 7.

Assembly screws (75029033000) (p. 387)

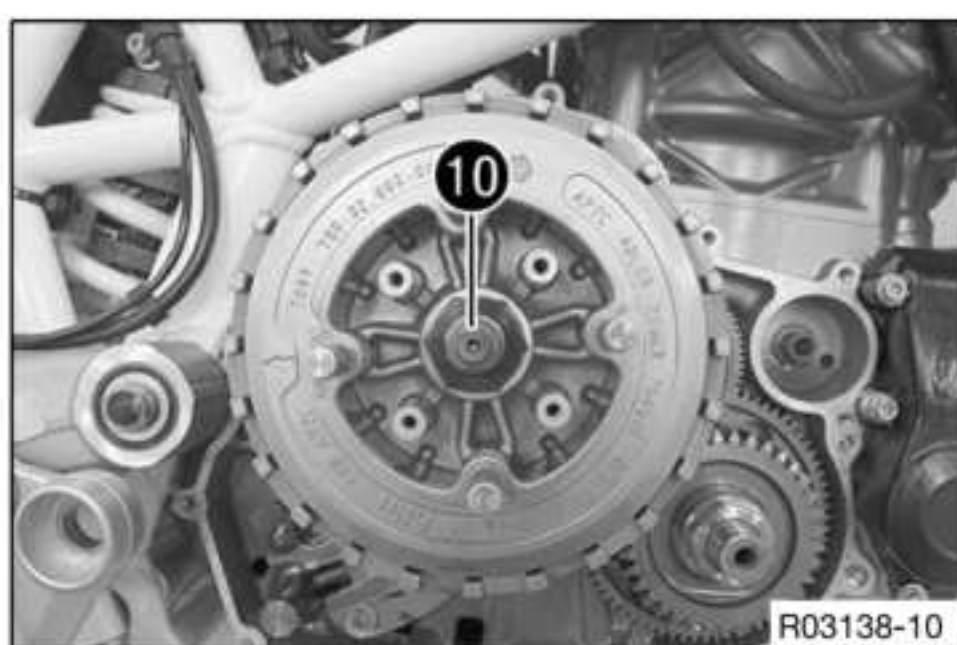


Info

Apply the special tool by hand only; do not use another tool.



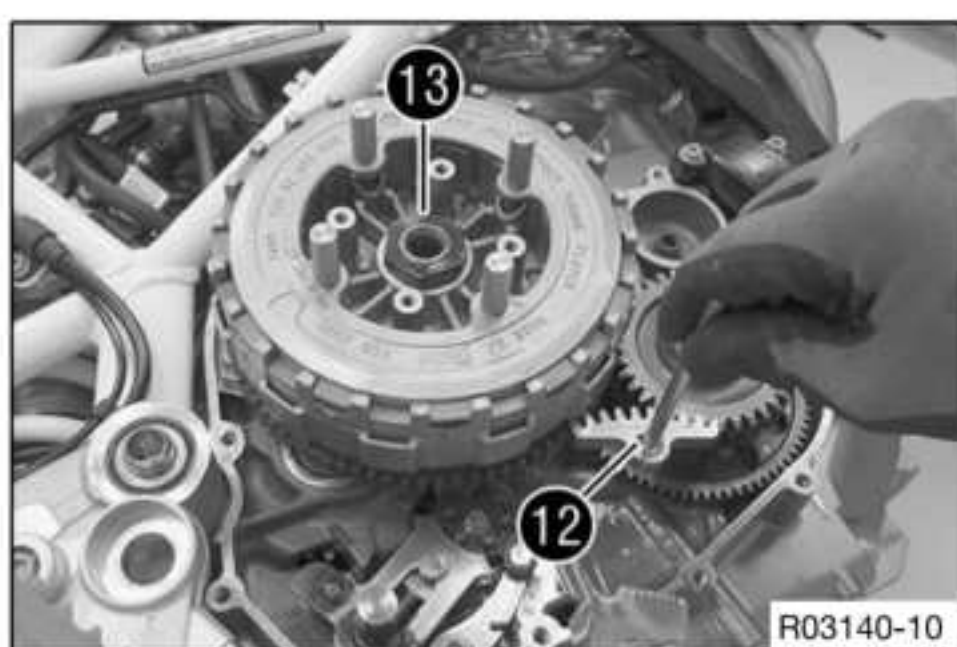
- Loosen screws 8 in a crisscross pattern and remove them with the anticentrifugal ring and clutch springs.
- Remove clutch pressure cap 9.



- Remove clutch throw-out 10.



- Remove clutch push rod 11.

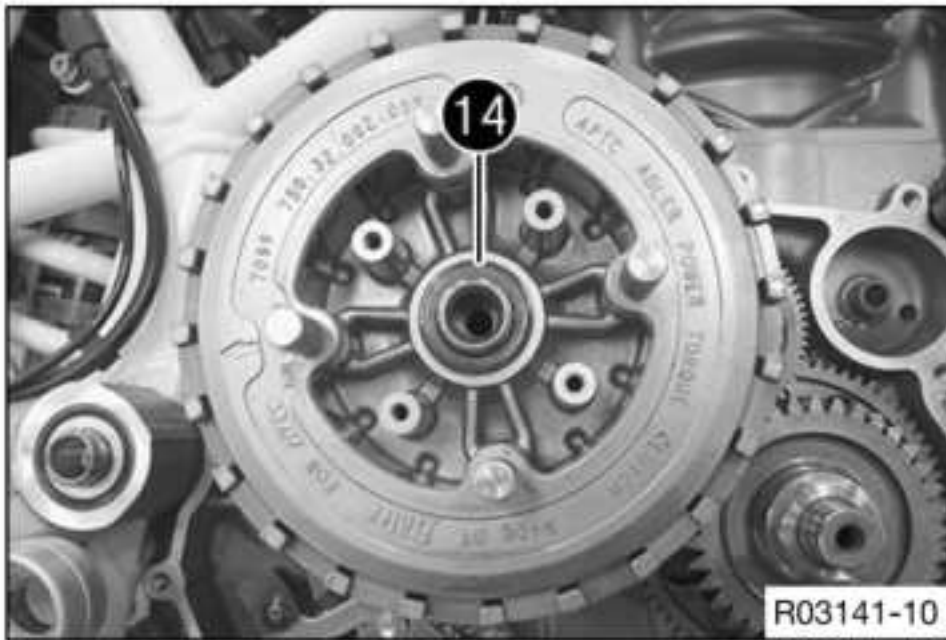


- Hold the clutch basket using special tool 12.

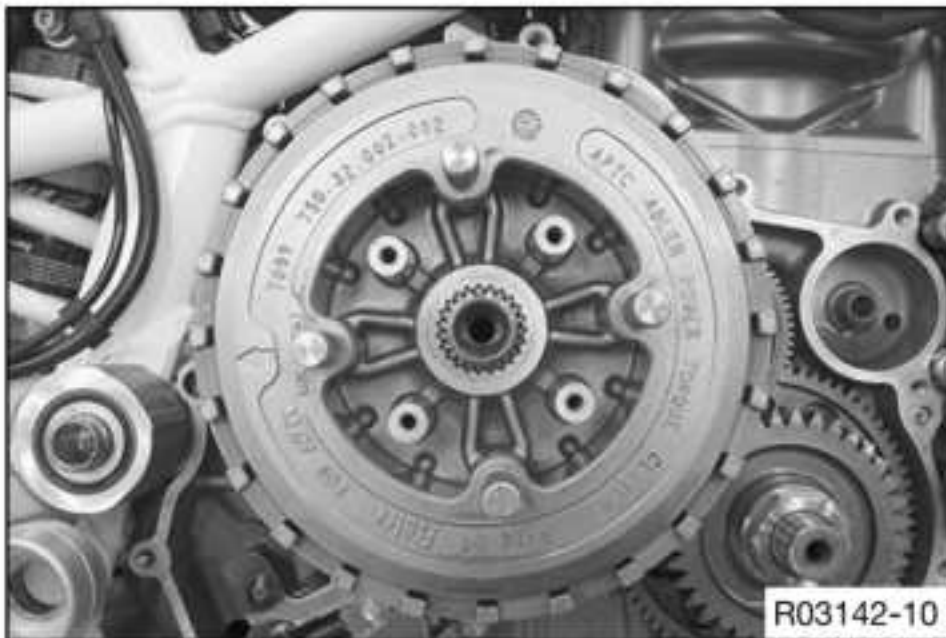
Gear segment (75029081000) (p. 390)

- Remove nut 13.
- Remove the special tool.

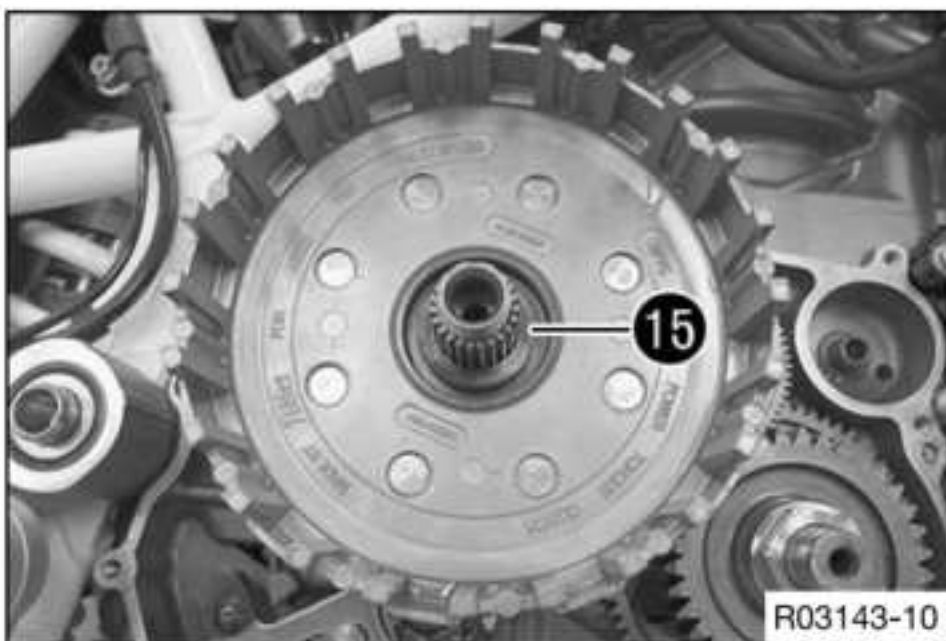
Gear segment (75029081000) (p. 390)



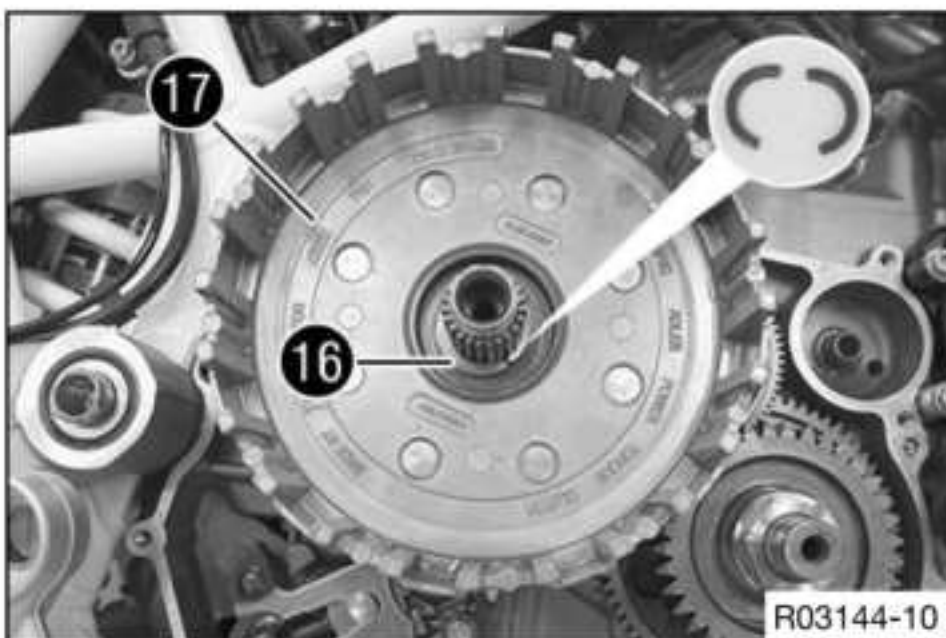
- Remove washer 14.



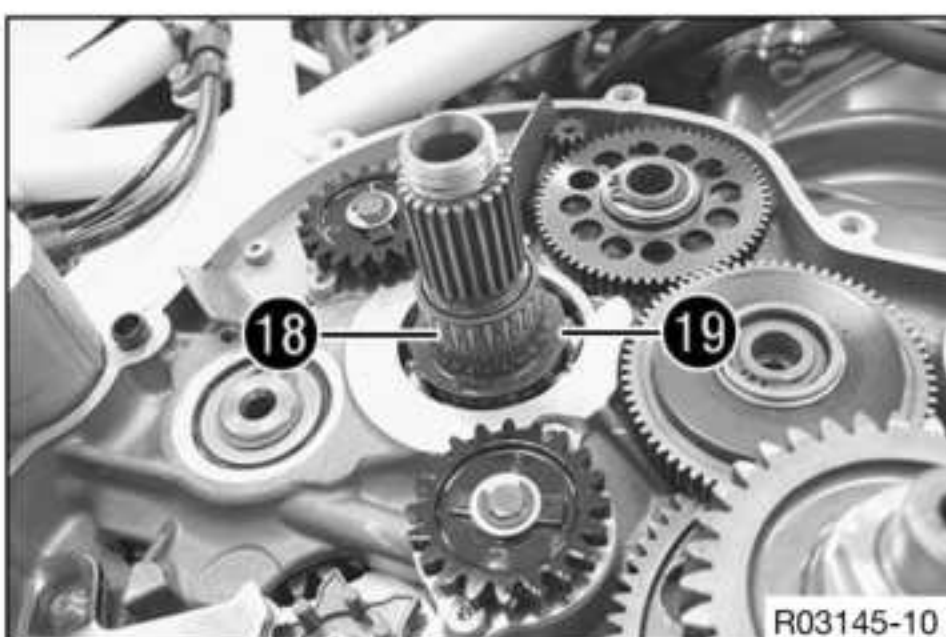
- Remove the antihopping clutch.



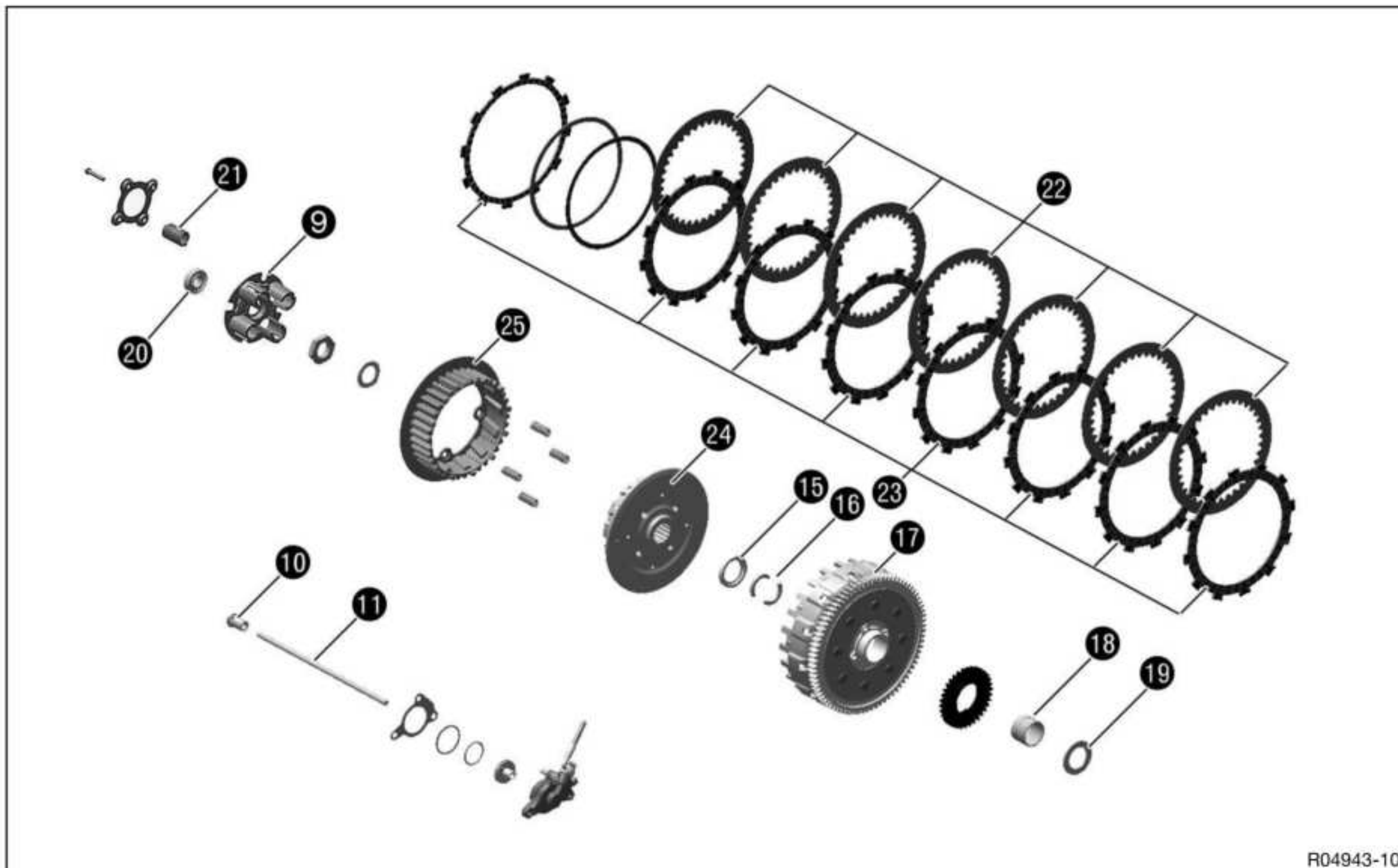
- Remove stepped washer 15.



- Remove half washers 16.
- Take off clutch basket 17.



- Remove needle bearing 18.
- Remove supporting plate 19.
- Disassemble the antihopping clutch. (p. 229)



- Check clutch throw-out **10** for damage and wear.
 - » If there is damage or wear:
 - Change the clutch push rod.
- Check axial bearing **20** for damage and wear.
 - » If there is damage or wear:
 - Change the axial bearing.
- Place the clutch push rod **11** on a flat surface and check for run-out.
 - » If there is run-out:
 - Change the clutch push rod.
- Check the length of clutch springs **21**.

Clutch spring - length	31.5 ... 33.5 mm (1.24 ... 1.319 in)
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- » If the clutch spring length is shorter than specified:
 - Change all clutch springs.
- Check the contact surface of clutch pressure cap **9** for damage and wear.
 - » If there is damage or wear:
 - Change the clutch pressure cap.
- Check the thrust surfaces of the clutch facing discs in clutch basket **17** for wear.

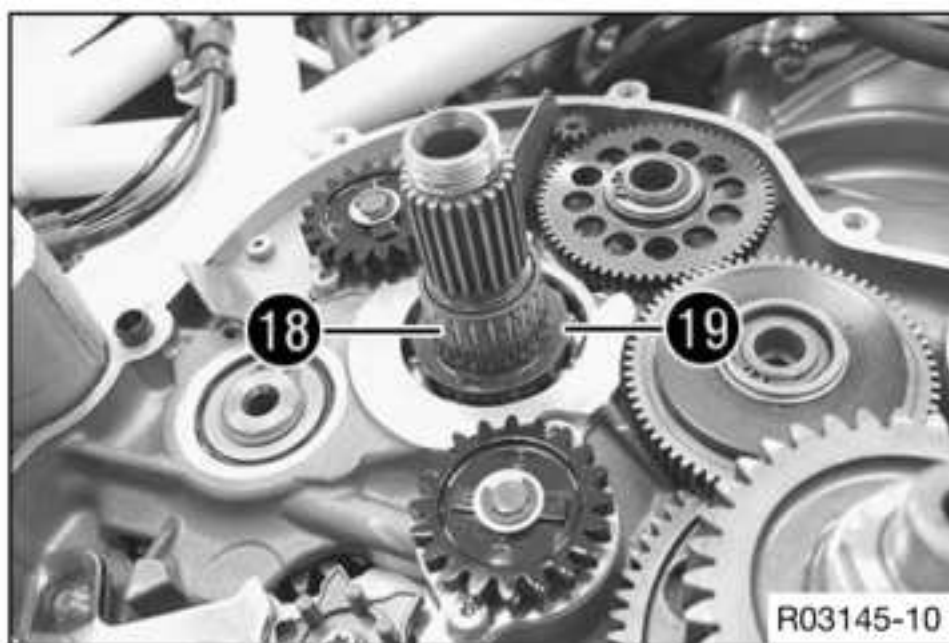
Clutch basket - contact surface of clutch facing discs	≤ 0.5 mm (≤ 0.02 in)
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- » If the thrust surface exhibits excessive wear:
 - Change the clutch facing discs and the clutch basket.
- Check needle bearing **18** and supporting plate **19** for damage and wear.
 - » If there is damage or wear:
 - Change the needle bearing and supporting plate.
- Check intermediate clutch discs **22** for damage and wear.
 - » If the intermediate clutch discs are not level and are pitted:
 - Change all intermediate clutch discs.

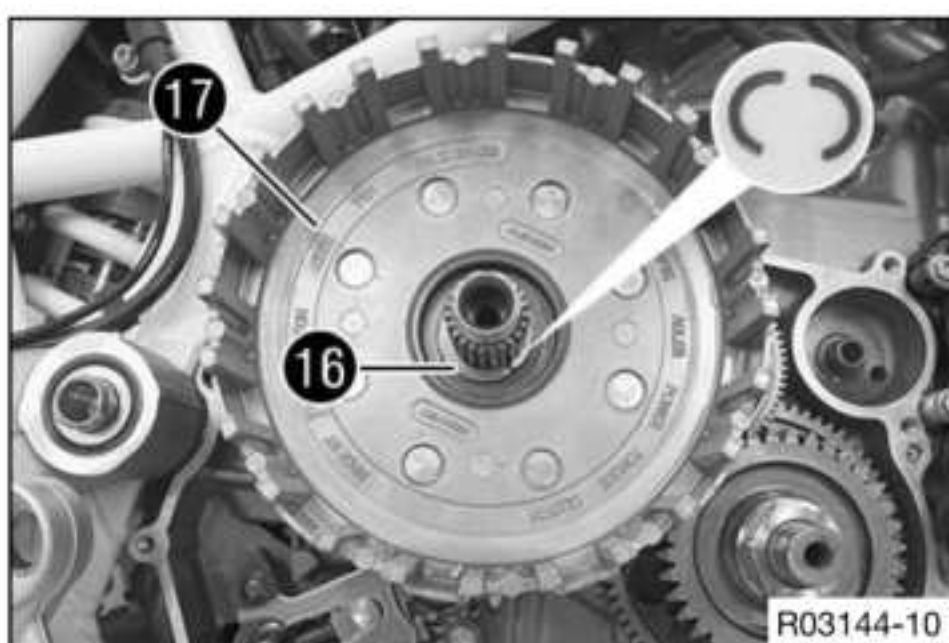
- Check clutch facing discs **23** for discoloration and scoring.
 - » If there is discoloration or scoring:
 - Change all clutch facing discs.
- Check the thickness of clutch facing discs **23**.

Clutch facing disc - thickness	≥ 2.5 mm (≥ 0.098 in)
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- » If the clutch facing disc does not meet specifications:
 - Change all clutch facing discs.
- Check stepped washer **15** for damage and wear.
 - » If there is damage or wear:
 - Change the stepped washer.
- Check half washers **16** for damage and wear.
 - » If there is damage or wear:
 - Change the half washers.
- Check inner clutch hub **24** for damage and wear.
 - » If there is damage or wear:
 - Change the inner clutch hub.
- Check outer clutch hub **25** for damage and wear.
 - » If there is damage or wear:
 - Change the outer clutch hub.



- Mount supporting plate **19**.
- Mount needle bearing **18**.

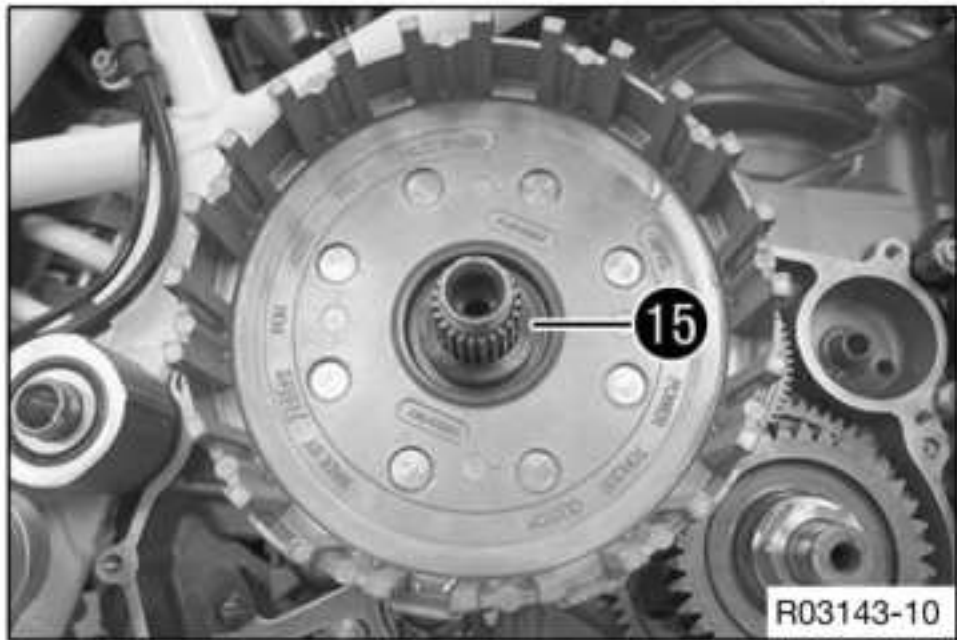


- Mount clutch basket **17**.

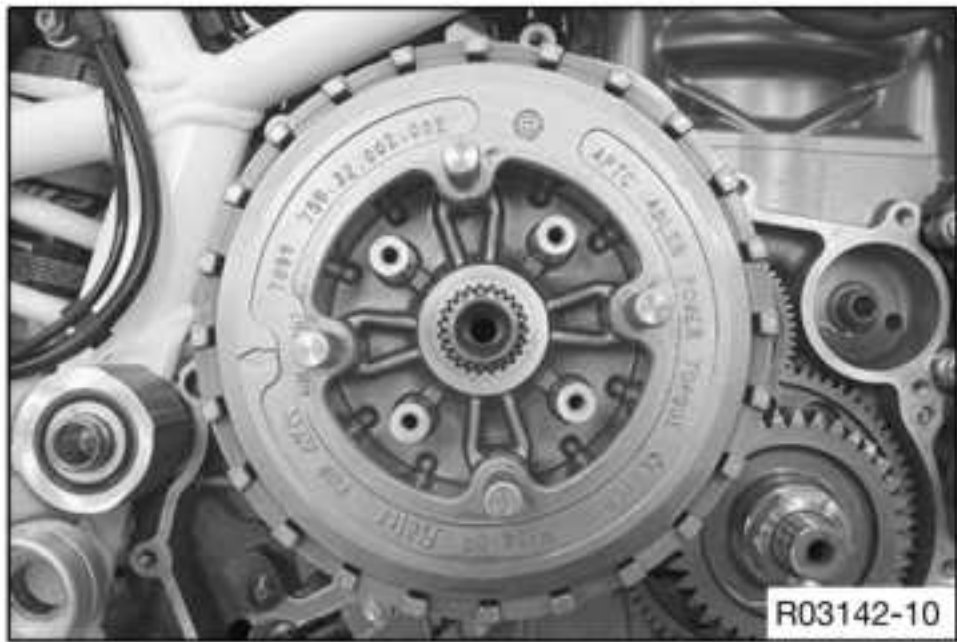
i Info
Turn the clutch basket and oil pump gear wheels backwards and forwards slightly to help them mesh more easily.

- Mount half washers **16** with the sharp edge facing outward.

i Info
Grease the half washers to ease assembly.

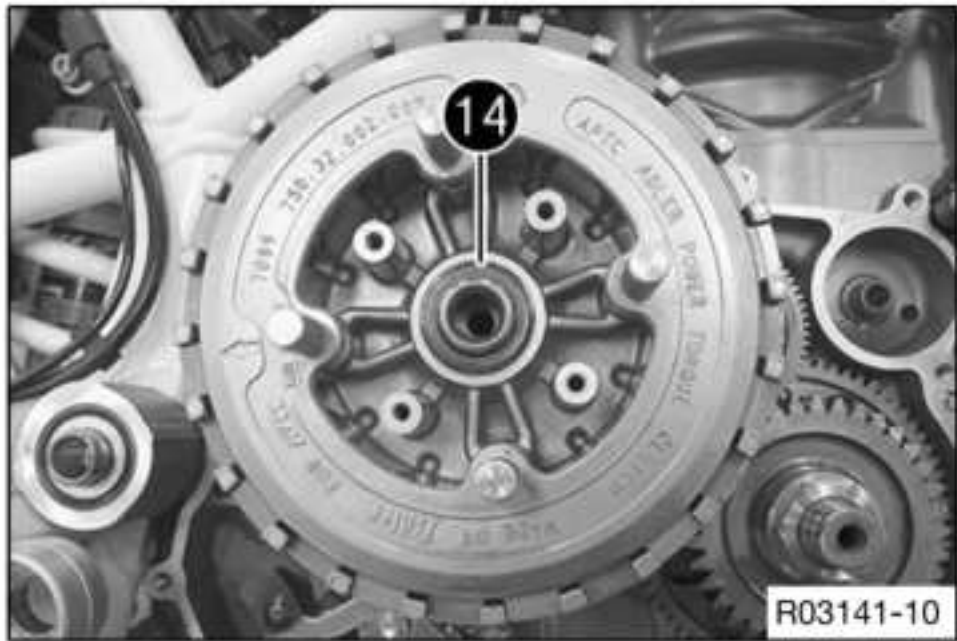


- Position stepped washer 15 with the recesses toward the half washers.

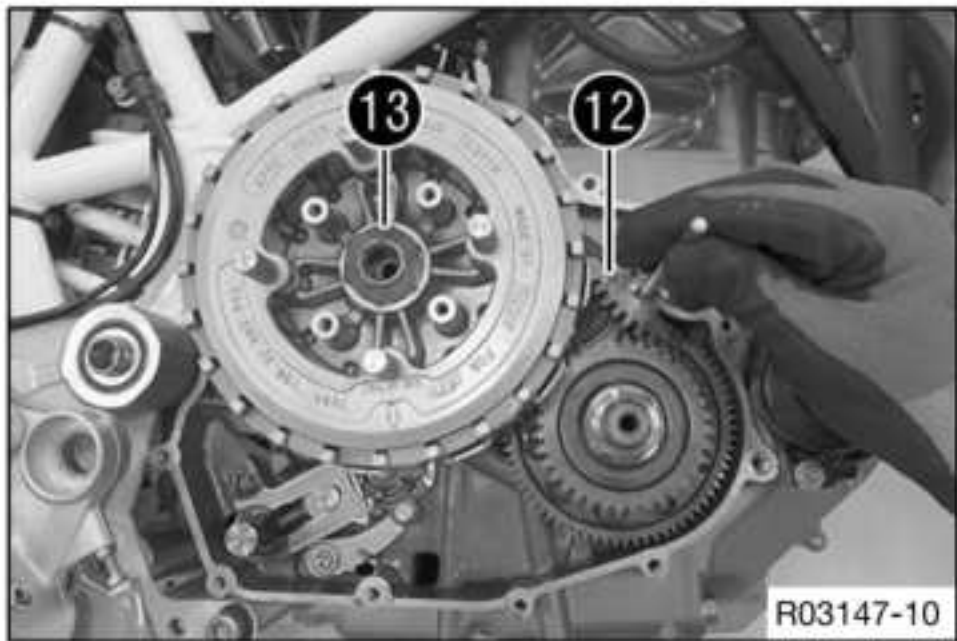


- Preassemble the anti-hopping clutch. (📖 p. 231)
- Insert the anti-hopping clutch in the clutch basket.
✓ The uppermost clutch facing disc is offset by one tooth.

i Info
If necessary, turn the main shaft a little to ease engagement.



- Mount washer 14.



- Mount nut 13.
- Hold the clutch basket using special tool 12 and tighten the nut.

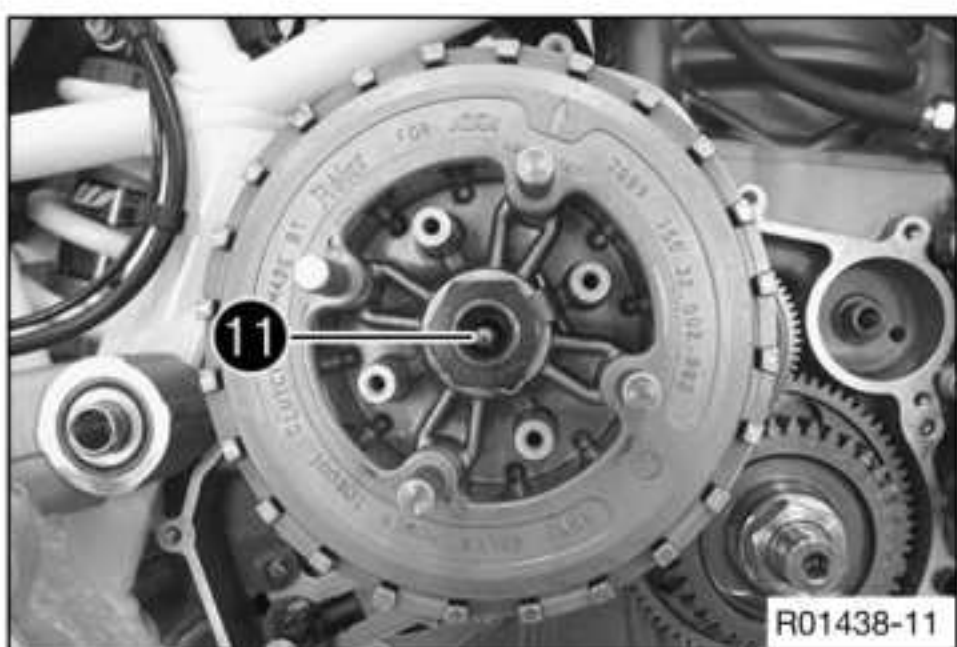
Guideline

Nut, inner clutch hub	M20x1.5	120 Nm (88.5 lbf ft) Loctite®243™
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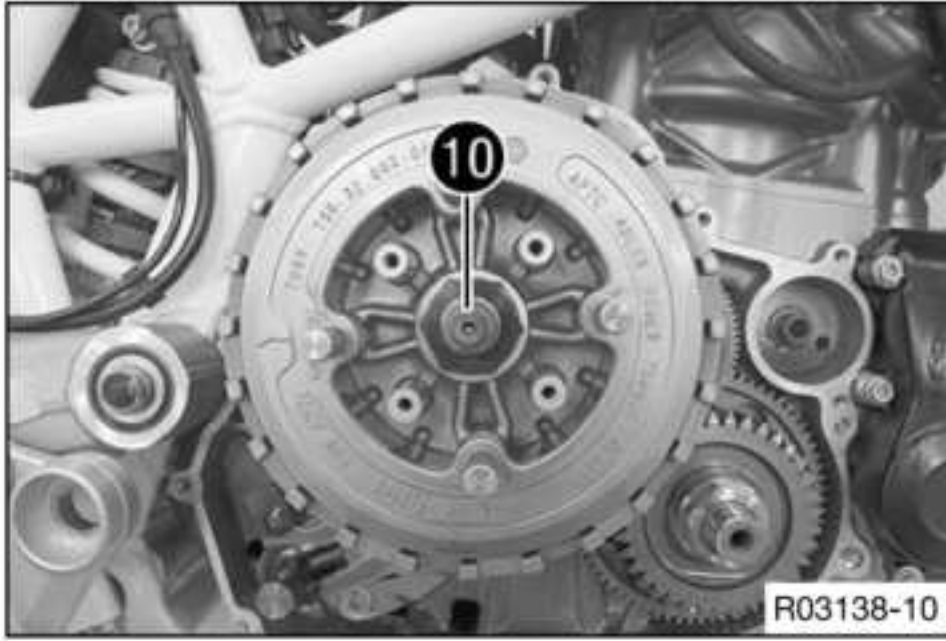
Gear segment (75029081000) (📖 p. 390)

- Remove the special tool.

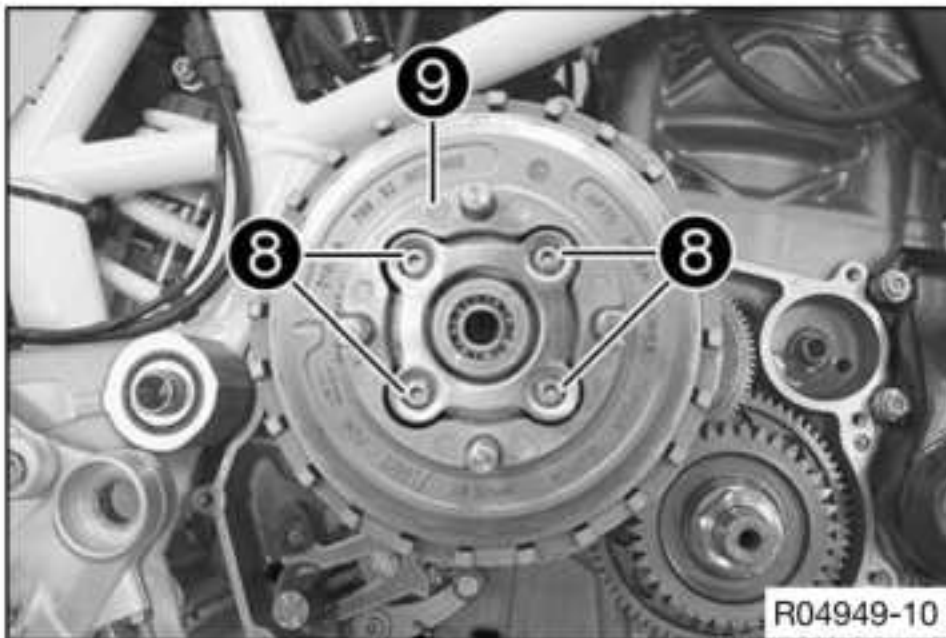
Gear segment (75029081000) (📖 p. 390)



- Mount clutch push rod 11.
✓ The rounded side of the clutch push rod faces the clutch.



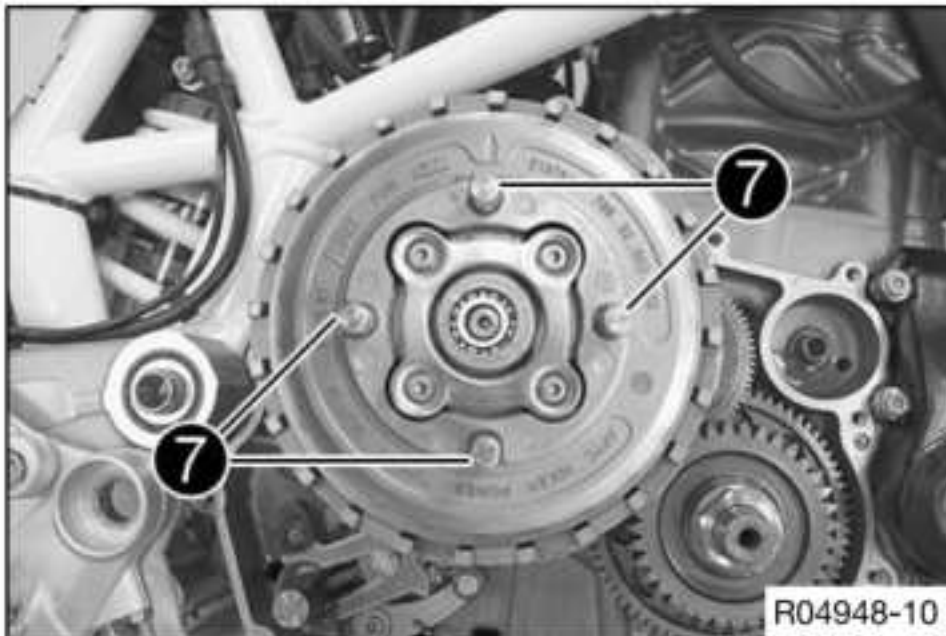
- Mount clutch throw-out 10.



- Position clutch pressure cap 9.
- Install and tighten screws 8 with the anticentrifugal ring and clutch springs.

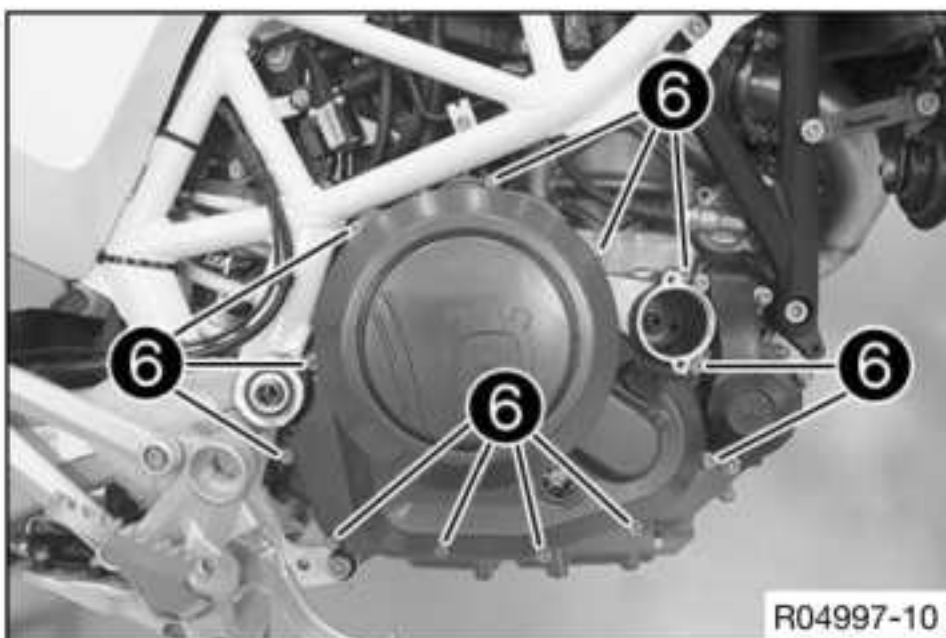
Guideline

Screw, clutch spring	M5	8 Nm (5.9 lbf ft)
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- Remove special tool 7.

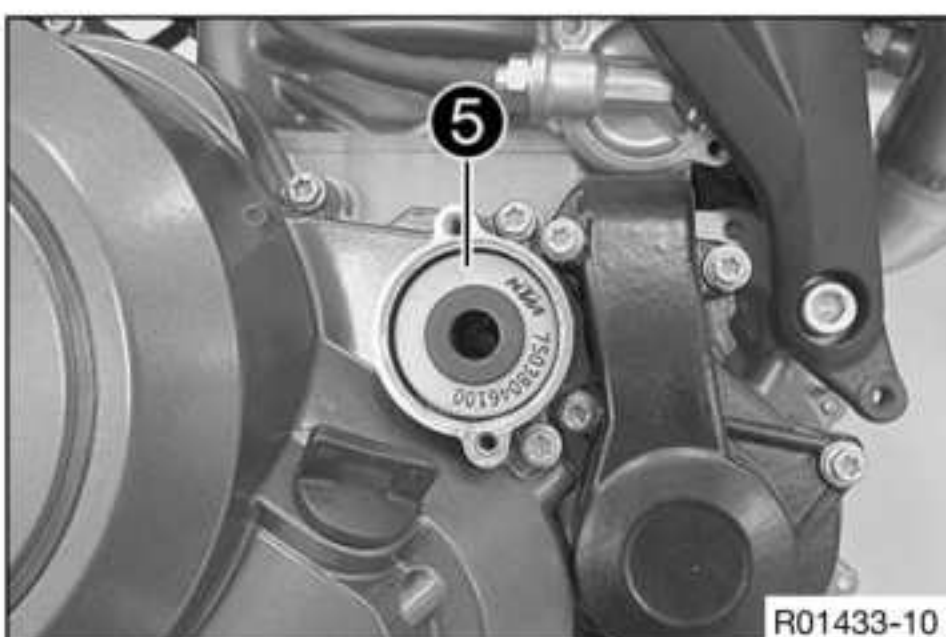
Assembly screws (75029033000) (p. 387)



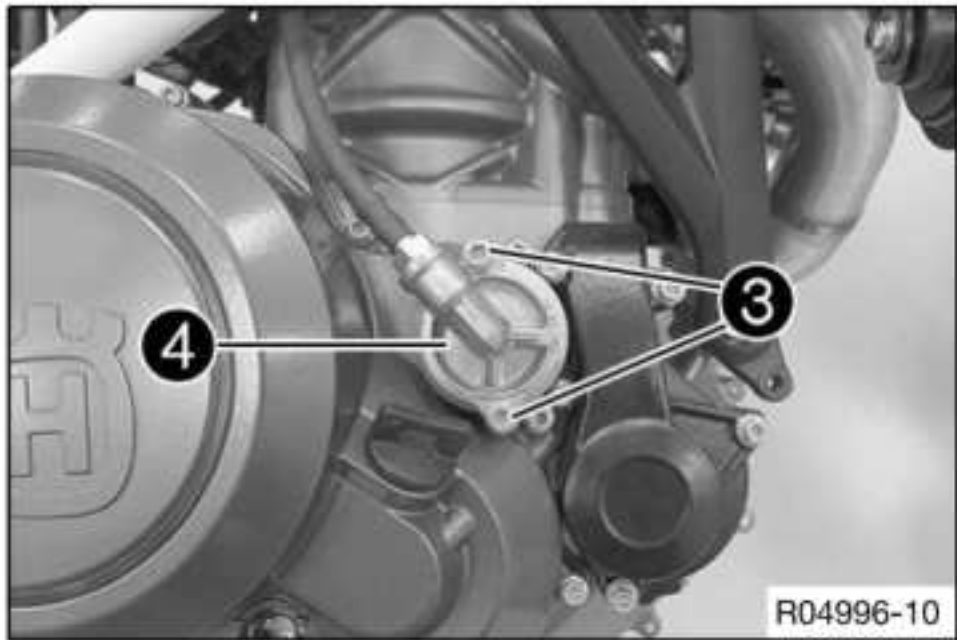
- Position clutch cover with the new gasket.
- Mount screws 6 and tighten in a crisscross pattern.

Guideline

Screw, clutch cover	M6	10 Nm (7.4 lbf ft)
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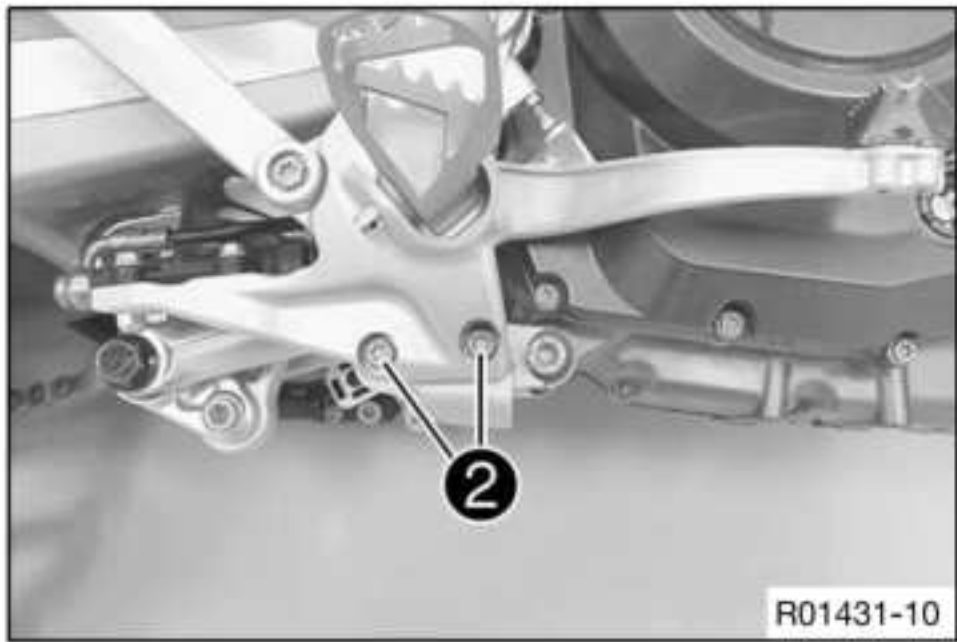
- Insert oil filter 5.



- Oil the O-ring of the oil filter cover and mount it with oil filter cover 4.
- Mount and tighten screws 3.

Guideline

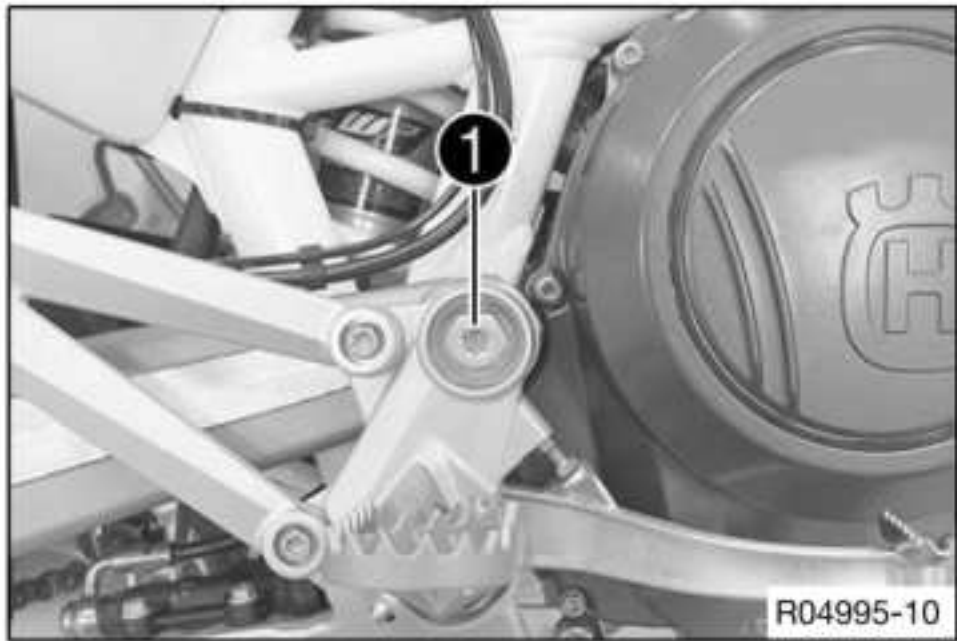
Screw, oil filter cover	M5	6 Nm (4.4 lbf ft)
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- Position the footrest bracket.
- Mount and tighten screws 2.

Guideline

Screw, front footrest bracket	M8	25 Nm (18.4 lbf ft) Loctite®243™
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- Mount and tighten screw 1.

Guideline

Screw, swingarm pivot	M12	80 Nm (59 lbf ft)
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- Place vehicle in upright position and lean on the side stand.

Finishing work

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