

REPAIR MANUAL 2019



701 Supermoto

Art. no. 3403093en

Read this repair manual carefully and thoroughly before beginning work.

The vehicle will only be able to meet the demands placed on it if the specified service work is performed regularly and properly.

This repair manual was written to correspond to the latest state of this model series. We reserve the right to make changes in the interest of technical advancement without updating this repair manual at the same time. We shall not provide a description of general workshop methods. Likewise, safety rules that apply in a workshop are not specified here. It is assumed that the repair work will be performed by a fully trained mechanic.

All specifications are non-binding. Husqvarna Motorcycles GmbH specifically reserves the right to modify or delete technical specifications, prices, colors, forms, materials, services, designs, equipment, etc., without prior notice and without specifying reasons, to adapt these to local conditions, as well as to stop production of a particular model without prior notice. Husqvarna accepts no liability for delivery options, deviations from figures and descriptions, as well as misprints and other errors. The models portrayed partly contain special equipment that does not belong to the regular scope of supply.

© 2018 Husqvarna Motorcycles GmbH, Mattighofen Austria

All rights reserved

Reproduction, even in part, as well as copying of all kinds, is permitted only with the express written permission of the copyright owner.



REG.NO. 12 100 6061

ISO 9001(12 100 6061)

Husqvarna Motorcycles applies quality assurance processes that lead to the highest possible product quality as defined in the ISO 9001 international quality management standard.

Issued by: TÜV-Management Service

Husqvarna Motorcycles GmbH
Stallhofnerstraße 3
5230 Mattighofen, Austria

This document is valid for the following models:

701 SUPERMOTO EU (F2603S3)

701 SUPERMOTO US (F2675S3)



3403093en

08/2018

TABLE OF CONTENTS

1	MEANS OF REPRESENTATION.....	7	6.8	Disassembling the fork legs.....	22
1.1	Symbols used	7	6.9	Checking the fork legs	25
1.2	Formats used	7	6.10	Assembling the fork legs	26
2	SAFETY ADVICE	8	6.11	Checking steering head bearing play	31
2.1	Repair Manual.....	8	6.12	Adjusting steering head bearing play	32
2.2	Safety advice	8	6.13	Removing the lower triple clamp	33
2.3	Degrees of risk and symbols	8	6.14	Installing the lower triple clamp	34
2.4	Work rules.....	8	6.15	Changing the steering head bearing	36
3	IMPORTANT NOTES.....	9	7	HANDLEBAR, CONTROLS.....	38
3.1	Manufacturer and implied warranty	9	7.1	Handlebar position.....	38
3.2	Fuel, auxiliary substances.....	9	7.2	Adjusting the handlebar position	38
3.3	Spare parts, accessories	9	7.3	Changing the throttle grip	39
3.4	Figures	9	8	FRAME	44
4	SERIAL NUMBERS.....	10	8.1	Checking the frame.....	44
4.1	Vehicle identification number.....	10	9	SHOCK ABSORBER, LINK FORK.....	45
4.2	Type label.....	10	9.1	Adjusting the high-speed compression damping of the shock absorber.....	45
4.3	Engine number	11	9.2	Adjusting the low-speed compression damping of the shock absorber.....	46
4.4	Key number.....	11	9.3	Adjusting the rebound damping of the shock absorber	47
4.5	Fork part number	12	9.4	Measuring the rear wheel dimension unloaded	47
4.6	Shock absorber article number	12	9.5	Checking the static sag of the shock absorber	48
5	MOTORCYCLE.....	13	9.6	Checking the riding sag of the shock absorber	49
5.1	Raising the motorcycle with the rear lifting gear	13	9.7	Adjusting the spring preload of the shock absorber	49
5.2	Removing the rear of the motorcycle from the wheel stand	13	9.8	Adjusting the riding sag	50
5.3	Lifting the motorcycle with the front lifting gear	13	9.9	Checking the heim joint for play	51
5.4	Taking the motorcycle off the front lifting gear	14	9.10	Removing the shock absorber.....	52
5.5	Raising the motorcycle with the work stand	14	9.11	Installing the shock absorber.....	53
5.6	Removing the motorcycle from the work stand	15	9.12	Changing the heim joint.....	55
5.7	Starting the vehicle	15	9.13	Changing silent block	57
5.8	Starting the motorcycle to check the function	17	9.14	Checking the shock absorber linkage.....	57
6	FORK, TRIPLE CLAMP	18	9.15	Servicing the shock absorber	60
6.1	Adjusting the compression damping of the fork.....	18	9.16	Removing the spring.....	60
6.2	Adjusting the rebound damping of the fork.....	18	9.17	Disassembling the damper	61
6.3	Cleaning the dust boots of the fork legs	19	9.18	Disassembling the piston rod	62
6.4	Removing the fork protector.....	20	9.19	Checking the damper	63
6.5	Installing the fork protector.....	20	9.20	Removing the heim joint	64
6.6	Removing the fork legs.....	20	9.21	Installing the heim joint	65
6.7	Installing the fork legs.....	21	9.22	Assembling the piston rod.....	66

9.23	Assembling the damper.....	67	14.5	Checking spoke tension	112
9.24	Bleeding and filling the damper	70	14.6	Checking the rim run-out.....	113
9.25	Filling the damper with nitrogen	73	14.7	Front wheel	114
9.26	Installing the spring.....	74	14.7.1	Removing the front wheel using work stand.....	114
9.27	Checking the link fork	75	14.7.2	Removing the front wheel	115
9.28	Checking the fork bearing for play.....	75	14.7.3	Installing the front wheel using a work stand.....	116
9.29	Removing the link fork	76	14.7.4	Installing the front wheel	117
9.30	Installing the link fork	77	14.7.5	Changing the front brake disc.....	118
9.31	Changing the fork bearing	78	14.7.6	Changing the front wheel bearing	119
10	EXHAUST SYSTEM.....	82	14.8	Rear wheel	120
10.1	Removing the manifold.....	82	14.8.1	Removing the rear wheel using a work stand.....	120
10.2	Installing the manifold.....	83	14.8.2	Removing the rear wheel.....	121
10.3	Removing the main silencer.....	84	14.8.3	Removing the rear wheel using a work stand.....	122
10.4	Installing the main silencer.....	85	14.8.4	Installing the rear wheel.....	124
11	AIR FILTER	86	14.8.5	Changing the rear wheel bearing	126
11.1	Removing the air filter	86	14.8.6	Changing the bearing of the rear sprocket carrier	128
11.2	Installing the air filter	86	14.8.7	Changing the rear brake disc.....	129
11.3	Removing the air filter box.....	87	14.8.8	Checking the chain tension.....	130
11.4	Installing the air filter box.....	89	14.8.9	Adjusting the chain tension	130
11.5	Change the air filter. Clean the air filter box.	91	14.8.10	Adjusting the chain guide.....	131
12	FUEL TANK, SEAT, TRIM.....	92	14.8.11	Checking the chain, rear sprocket, engine sprocket, and chain guide.....	131
12.1	Opening fuel tank filler cap	92	14.8.12	Opening the chain	134
12.2	Closing the fuel tank filler cap.....	92	14.8.13	Riveting the chain.....	134
12.3	Removing the seat	93	14.8.14	Cleaning the chain.....	135
12.4	Mounting the seat	93	14.8.15	Checking the rear hub damping rubber pieces	136
12.5	Take off the side cover	93	14.8.16	Changing the drivetrain kit	137
12.6	Mounting the side cover	94	15	WIRING HARNESS, BATTERY	139
12.7	Removing the rear right side cover.....	94	15.1	Removing the 12-V battery	139
12.8	Installing the rear right side cover.....	95	15.2	Installing the 12-V battery.....	140
12.9	Removing the rear left side cover	95	15.3	Disconnecting the 12-V battery	141
12.10	Installing the rear left side cover	96	15.4	Connecting the 12-V battery.....	142
12.11	Removing the rear fairing.....	96	15.5	Charging the 12-V battery	142
12.12	Fitting the rear fairing	97	15.6	Checking the charging voltage	144
12.13	Checking the fuel pressure	98	15.7	Checking the open-circuit current	145
12.14	Changing the fuel screen.....	100	15.8	Changing the main fuse	146
12.15	Changing the fuel filter.....	101	15.9	Changing the fuses of individual power consumers	147
12.16	Changing the fuel pump	105	15.10	Changing the ABS fuses.....	148
13	MASK, FENDER	109	15.11	Diagnostics connector	150
13.1	Removing front fender	109	16	BRAKE SYSTEM	151
13.2	Installing front fender	109	16.1	Anti-lock braking system (ABS)	151
14	WHEELS.....	110			
14.1	Checking tire pressure.....	110			
14.2	Checking the tire condition.....	110			
14.3	Checking the wheel bearing for play	111			
14.4	Checking the brake discs	112			

TABLE OF CONTENTS

16.2	Checking the front brake linings	153	18.3.11	Removing the oil filter.....	188
16.3	Changing the front brake linings.....	153	18.3.12	Removing the thermostat.....	188
16.4	Adjusting the basic position of the hand brake lever	155	18.3.13	Positioning the engine at ignition top dead center	189
16.5	Checking the front brake fluid level.....	155	18.3.14	Removing the timing chain tensioner.....	189
16.6	Adding front brake fluid	156	18.3.15	Removing the camshafts.....	190
16.7	Changing the front brake fluid	157	18.3.16	Removing the cylinder head.....	191
16.8	Checking the rear brake linings	159	18.3.17	Removing the piston	192
16.9	Changing the rear brake linings.....	159	18.3.18	Removing the water pump impeller	193
16.10	Checking the free travel of foot brake lever	161	18.3.19	Removing the rotor.....	194
16.11	Adjusting the basic position of the foot brake lever	162	18.3.20	Removing the timing chain.....	194
16.12	Checking the rear brake fluid level ...	162	18.3.21	Removing the crankshaft speed sensor.....	195
16.13	Adding rear brake fluid	163	18.3.22	Removing the clutch cover.....	195
16.14	Changing the rear brake fluid	164	18.3.23	Removing the spacer and spring	196
17	LIGHTING SYSTEM, INSTRUMENTS	167	18.3.24	Removing the clutch basket.....	196
17.1	Combination instrument	167	18.3.25	Removing the primary gear wheel	198
17.1.1	Adjusting the kilometers or miles	167	18.3.26	Removing the starter drive	198
17.1.2	Adjusting the clock.....	167	18.3.27	Removing the shift shaft.....	199
17.1.3	Adjusting the wheel circumference.....	168	18.3.28	Removing shift drum locating	199
17.1.4	Setting the service display	168	18.3.29	Removing locking lever	199
17.2	Checking the headlight setting	169	18.3.30	Removing the oil pumps	200
17.3	Adjusting the headlight range	170	18.3.31	Removing the left engine case	201
17.4	Removing the headlight mask with the headlight	170	18.3.32	Removing the crankshaft and balancer shaft.....	202
17.5	Installing the headlight mask with the headlight	171	18.3.33	Removing the transmission shafts.....	202
17.6	Changing the parking light bulb.....	172	18.4	Working on individual parts	203
17.7	Changing the headlight bulb.....	172	18.4.1	Working on the right section of the engine case	203
17.8	Changing the turn signal bulb (US)	173	18.4.2	Working on the left section of the engine case	205
18	ENGINE	174	18.4.3	Working on the clutch cover	207
18.1	Removing the engine	174	18.4.4	Working on the water pump impeller	207
18.2	Installing the engine	178	18.4.5	Removing the crankshaft bearing inner race.....	208
18.3	Engine disassembly	184	18.4.6	Removing the drive gear wheel of the balancer shaft.....	208
18.3.1	Clamping the engine into the engine assembly stand	184	18.4.7	Changing the connecting rod, conrod bearing, and crank pin	208
18.3.2	Removing the resonator	185	18.4.8	Checking crankshaft run-out at bearing pin	211
18.3.3	Draining the engine oil.....	185	18.4.9	Installing the drive gear wheel of the balancer shaft.....	211
18.3.4	Removing the clutch push rod	186	18.4.10	Installing the crankshaft bearing inner race.....	212
18.3.5	Removing the starter motor	186	18.4.11	Measuring axial clearance of crankshaft and balancer shaft.....	212
18.3.6	Removing the spark plugs.....	186			
18.3.7	Removing the valve cover	186			
18.3.8	Removing the alternator cover	187			
18.3.9	Removing the spacer	187			
18.3.10	Removing the gear position sensor.....	187			










18.4.12	Cylinder - Nikasil® coating.....	213	18.5.9	Installing the primary gear wheel.....	247
18.4.13	Checking/measuring the cylinder.....	213	18.5.10	Installing the clutch basket.....	247
18.4.14	Checking/measuring the piston ...	214	18.5.11	Installing the spacer and spring	249
18.4.15	Checking the piston ring end gap	216	18.5.12	Installing the clutch cover	249
18.4.16	Determining the piston/cylinder mounting clearance.....	216	18.5.13	Installing the crankshaft speed sensor.....	250
18.4.17	Checking oil pumps for wear	216	18.5.14	Installing the timing chain rails	250
18.4.18	Preparing timing chain tensioner for installation	218	18.5.15	Installing the rotor.....	251
18.4.19	Checking the timing assembly	219	18.5.16	Adjusting the crankshaft speed sensor distance	251
18.4.20	Demounting cam lever and rocker arm	220	18.5.17	Setting engine to top dead center	252
18.4.21	Changing camshaft bearing and balancer shaft bearing.....	221	18.5.18	Mounting the water pump cover.....	252
18.4.22	Removing the valves	225	18.5.19	Installing the piston	253
18.4.23	Checking the valves	225	18.5.20	Installing the cylinder head.....	255
18.4.24	Checking valve springs	226	18.5.21	Installing the camshafts.....	256
18.4.25	Checking valve spring retainer	226	18.5.22	Installing the timing chain tensioner.....	258
18.4.26	Checking the cylinder head.....	226	18.5.23	Checking the valve clearance	259
18.4.27	Installing the valves	227	18.5.24	Adjusting the valve clearance.....	260
18.4.28	Installing cam lever and rocker arm	228	18.5.25	Installing the thermostat.....	263
18.4.29	Disassembling the antihopping clutch.....	229	18.5.26	Installing the oil filter.....	263
18.4.30	Checking the clutch	229	18.5.27	Installing the gear position sensor.....	264
18.4.31	Preassembling the antihopping clutch.....	231	18.5.28	Installing the spacer	264
18.4.32	Checking the shift mechanism	232	18.5.29	Installing the alternator cover	265
18.4.33	Preassembling the shift shaft	233	18.5.30	Installing the valve cover	265
18.4.34	Disassembling the main shaft	234	18.5.31	Installing the spark plugs	266
18.4.35	Disassembling the countershaft	235	18.5.32	Installing the starter motor	266
18.4.36	Checking the transmission.....	235	18.5.33	Installing the clutch push rod	266
18.4.37	Assembling the main shaft.....	237	18.5.34	Installing oil screens	266
18.4.38	Assembling the countershaft.....	238	18.5.35	Installing the resonator	267
18.4.39	Checking the starter drive	239	18.5.36	Removing the engine from the engine assembly stand	267
18.4.40	Removing the freewheel.....	240	19	CLUTCH	268
18.4.41	Checking the freewheel.....	240	19.1	Checking/correcting the fluid level of the hydraulic clutch	268
18.4.42	freewheel, installing.....	241	19.2	Changing the hydraulic clutch fluid	269
18.5	Engine assembly.....	241	19.3	Checking the clutch	270
18.5.1	Installing the transmission shafts.....	241	20	SHIFT MECHANISM.....	279
18.5.2	Installing crankshaft and balancer shaft.....	243	20.1	Changing the gear position sensor	279
18.5.3	Installing the left engine case	243	20.2	Programming the gear position sensor	281
18.5.4	Installing the oil pumps	244	21	WATER PUMP, COOLING SYSTEM	282
18.5.5	Installing locking lever	245	21.1	Draining the coolant.....	282
18.5.6	Installing shift drum locating	246			
18.5.7	Installing shift shaft.....	246			
18.5.8	Installing the starter drive	246			

TABLE OF CONTENTS

21.2	Filling/bleeding the cooling system.....	282	27.2	Checks and maintenance steps for winter operation	325
21.3	Checking the antifreeze and coolant level.....	283	28	STORAGE.....	327
21.4	Checking the coolant level.....	284	28.1	Storage	327
21.5	Changing the coolant.....	285	28.2	Preparing for use after storage	328
22	LUBRICATION SYSTEM	288	29	SERVICE SCHEDULE.....	329
22.1	Oil circuit	288	29.1	Additional information.....	329
22.2	Checking/cleaning the oil nozzle for clutch lubrication	289	29.2	Required work.....	329
22.3	Checking the engine oil level	290	29.3	Recommended work.....	330
22.4	Checking the oil pressure	290	30	WIRING DIAGRAM	332
22.5	Changing the engine oil and oil filter, cleaning the oil screens	293	30.1	Page 01 of 11 (EU)	332
22.6	Adding engine oil	296	30.2	Page 02 of 11 (EU)	334
23	IGNITION SYSTEM.....	297	30.3	Page 03 of 11 (EU)	336
23.1	Alternator - checking the stator winding.....	297	30.4	Page 04 of 11 (EU)	338
23.2	Ignition coil - checking the primary winding.....	300	30.5	Page 05 of 11 (EU)	340
23.3	Changing the spark plugs.....	301	30.6	Page 06 of 11 (EU)	342
24	CYLINDER HEAD	303	30.7	Page 07 of 11 (EU)	344
24.1	Checking the valve clearance	303	30.8	Page 08 of 11 (EU)	346
24.2	Adjusting the valve clearance	308	30.9	Page 09 of 11 (EU)	348
25	THROTTLE VALVE BODY	311	30.10	Page 10 of 11 (EU)	350
25.1	Performing the initialization run	311	30.11	Page 11 of 11 (EU)	352
25.2	Resetting the engine electronics control unit.....	311	30.12	Page 01 of 11 (US)	354
25.3	Checking the CO adjustment using the Husqvarna Motorcycles diagnostics tool.....	312	30.13	Page 02 of 11 (US)	356
26	TECHNICAL DATA	313	30.14	Page 03 of 11 (US)	358
26.1	Engine	313	30.15	Page 04 of 11 (US)	360
26.2	Engine tolerance, wear limits.....	314	30.16	Page 05 of 11 (US)	362
26.3	Engine tightening torques.....	315	30.17	Page 06 of 11 (US)	364
26.4	Capacities	318	30.18	Page 07 of 11 (US)	366
26.4.1	Engine oil.....	318	30.19	Page 08 of 11 (US)	368
26.4.2	Coolant.....	318	30.20	Page 09 of 11 (US)	370
26.4.3	Fuel.....	318	30.21	Page 10 of 11 (US)	372
26.5	Chassis	318	30.22	Page 11 of 11 (US)	374
26.6	Electrical system.....	319	31	SUBSTANCES.....	376
26.7	Tires	319	32	AUXILIARY SUBSTANCES.....	378
26.8	Fork.....	319	33	SPECIAL TOOLS	380
26.9	Shock absorber	320	34	STANDARDS	400
26.10	Chassis tightening torques	321	35	INDEX OF SPECIAL TERMS	401
27	CLEANING/PROTECTIVE TREATMENT	324	36	LIST OF ABBREVIATIONS	402
27.1	Cleaning the motorcycle.....	324	INDEX	403	

1.1 Symbols used

The meaning of specific symbols is described below.

	Indicates an expected reaction (e.g. of a work step or a function).
	Indicates an unexpected reaction (e.g. of a work step or a function).
	Indicates a page reference (more information is provided on the specified page).
	Indicates information with more details or tips.
	Indicates the result of a testing step.
	Indicates a voltage measurement.
	Indicates a current measurement.
	Indicates a resistance measurement.
	Indicates the end of an activity including potential rework.

1.2 Formats used

The typographical formats used in this document are explained below.

Proprietary name	Indicates a proprietary name.
Name[®]	Indicates a protected name.
Brand[™]	Indicates a brand available on the open market.
<u>Underlined terms</u>	Refer to technical details of the vehicle or indicate technical terms, which are explained in the glossary.

2.1 Repair Manual

Read this Repair Manual carefully and thoroughly before beginning work. It contains useful information and tips to help you repair and service your vehicle.

This manual assumes that the necessary special Husqvarna tools and Husqvarna workplace and workshop equipment are available.

2.2 Safety advice

A number of safety instructions need to be followed to operate the product described safely. Therefore read this instruction and all further instructions included carefully. The safety instructions are highlighted in the text and are referred to at the relevant passages.



Info

Various information and warning labels are attached in prominent locations on the product described. Do not remove any information or warning labels. If they are missing, you or others may not recognize dangers and may therefore be injured.

2.3 Degrees of risk and symbols



Danger

Identifies a danger that will immediately and invariably lead to fatal or serious permanent injury if the appropriate measures are not taken.



Warning

Identifies a danger that is likely to lead to fatal or serious injury if the appropriate measures are not taken.



Caution

Identifies a danger that may lead to minor injuries if the appropriate measures are not taken.

Note

Identifies a danger that will lead to considerable machine and material damage if the appropriate measures are not taken.



Note

Indicates a danger that will lead to environmental damage if the appropriate measures are not taken.

2.4 Work rules

Special tools are necessary for certain tasks. The tools are not a component of the vehicle, but can be ordered using the number in parentheses. Example: bearing puller (15112017000)

During assembly, use new parts to replace parts which cannot be reused (e.g. self-locking screws and nuts, seals, sealing rings, O-rings, pins, and lock washers).

In the case of certain screws, a screw adhesive (e.g. **Loctite**[®]) is required. Observe the manufacturer's instructions.

After disassembly, clean the parts that are to be reused and check them for damage and wear. Change damaged or worn parts.

After completing a repair or service work, check the operating safety of the vehicle.

3.1 Manufacturer and implied warranty

The work prescribed in the service schedule must be carried out by an authorized Husqvarna Motorcycles workshop only and confirmed both in the customer's Service & Warranty Booklet and in the **Husqvarna Motorcycles Dealer.net**; otherwise, all manufacturer warranty claims will be void. Damage or secondary damage caused by tampering with and/or conversions on the vehicle is not covered by the manufacturer warranty. Additional information on the manufacturer or manufacturer warranty and the procedures involved can be found in the Service & Warranty Booklet.

3.2 Fuel, auxiliary substances



Note

Environmental hazard Improper handling of fuel is a danger to the environment.

- Do not allow fuel to enter the groundwater, the soil, or the sewage system.

Use the operating and auxiliary substances (such as fuel and lubricants) specified in the manual.

3.3 Spare parts, accessories

Only use spare parts and accessories approved and/or recommended by Husqvarna Motorcycles. Husqvarna Motorcycles accepts no liability for other products and any resulting damage or loss.

The current **Husqvarna Motorcycles** parts for your vehicle can be found on the Husqvarna Motorcycles website.

International Husqvarna Motorcycles website: www.husqvarna-motorcycles.com

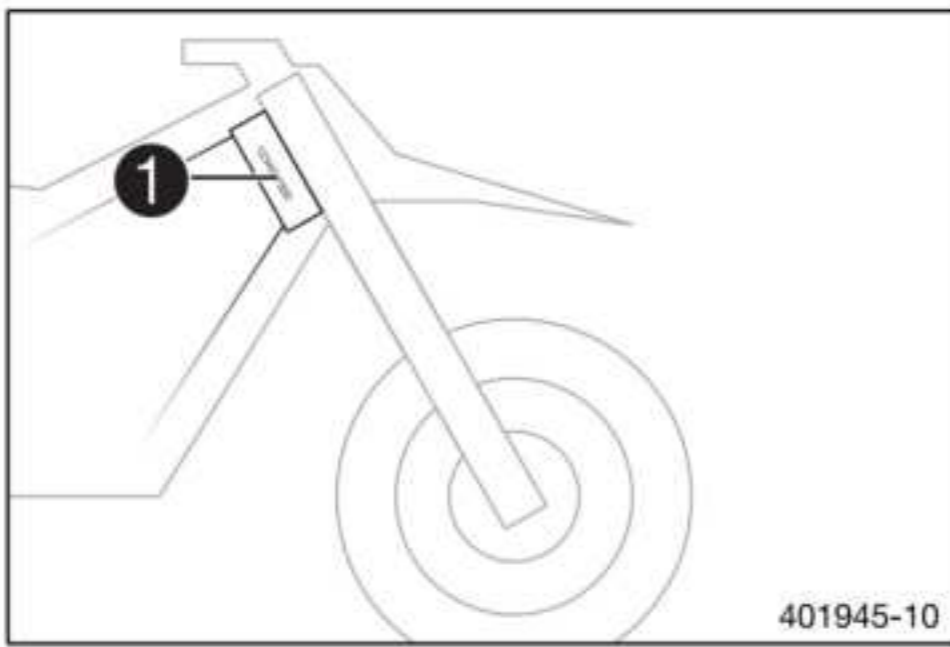
3.4 Figures

The figures contained in the manual may depict special equipment.

In the interest of clarity, some components may be shown disassembled or may not be shown at all. It is not always necessary to disassemble the component to perform the activity in question. Please follow the instructions in the text.

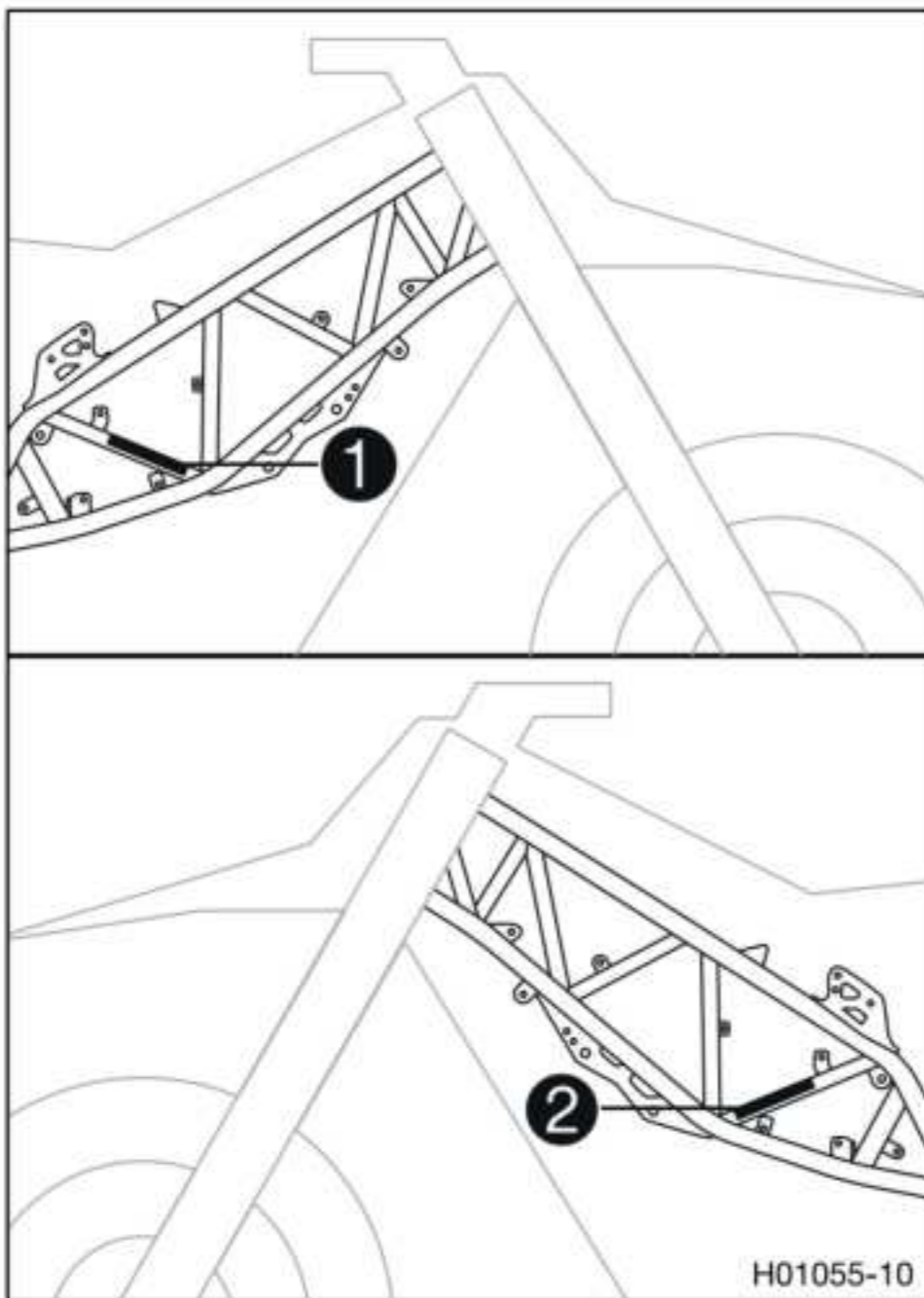
4 SERIAL NUMBERS

4.1 Vehicle identification number



The vehicle identification number **1** is stamped on the right side of the steering head.

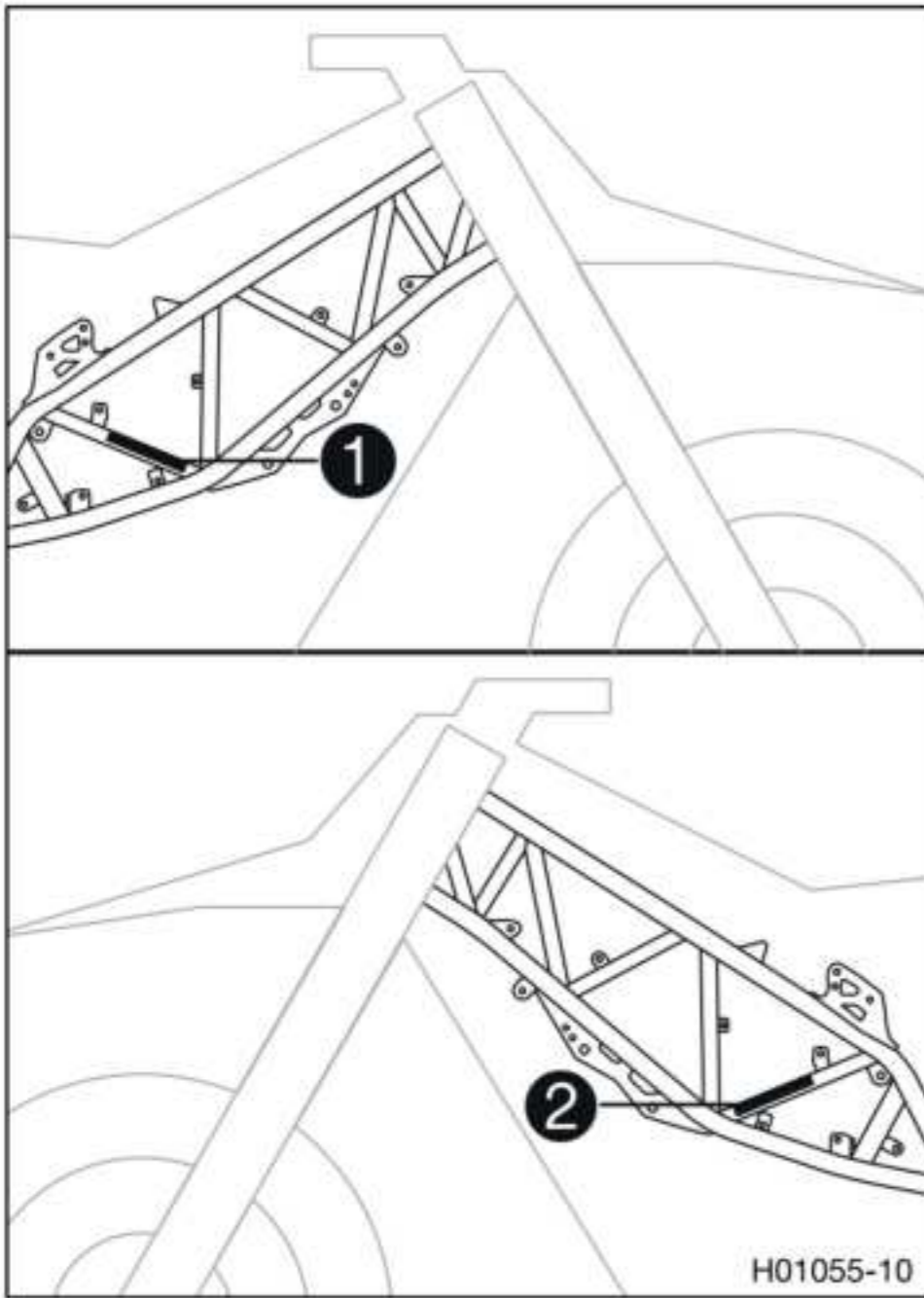
4.2 Type label



(EU)

The Europe type label **1** is located on the right side of the frame.

The Australia type label **2** is located on the left side of the frame.

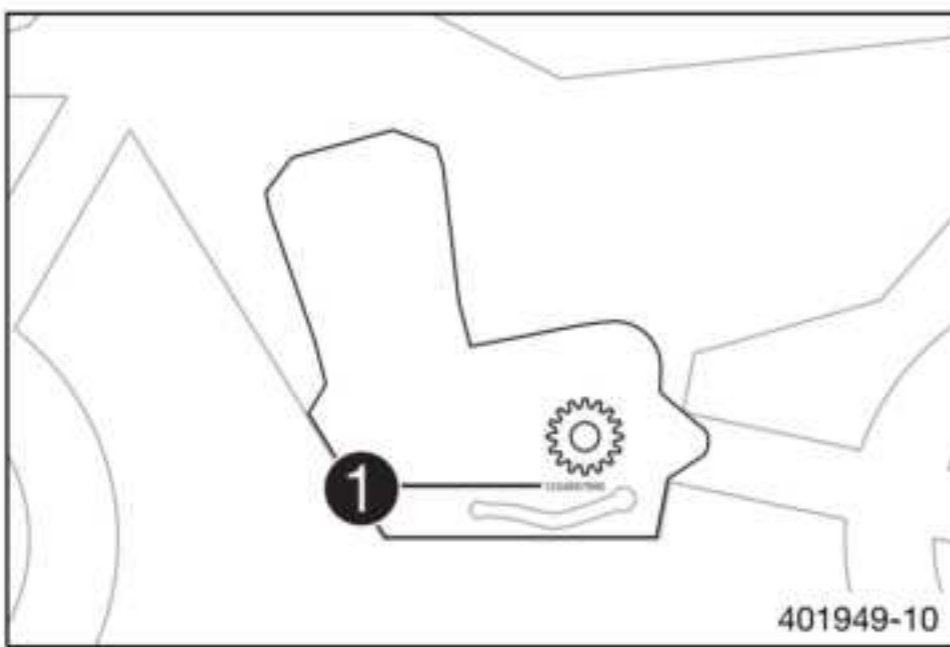


(US)

The USA type label ① is located on the right side of the frame.

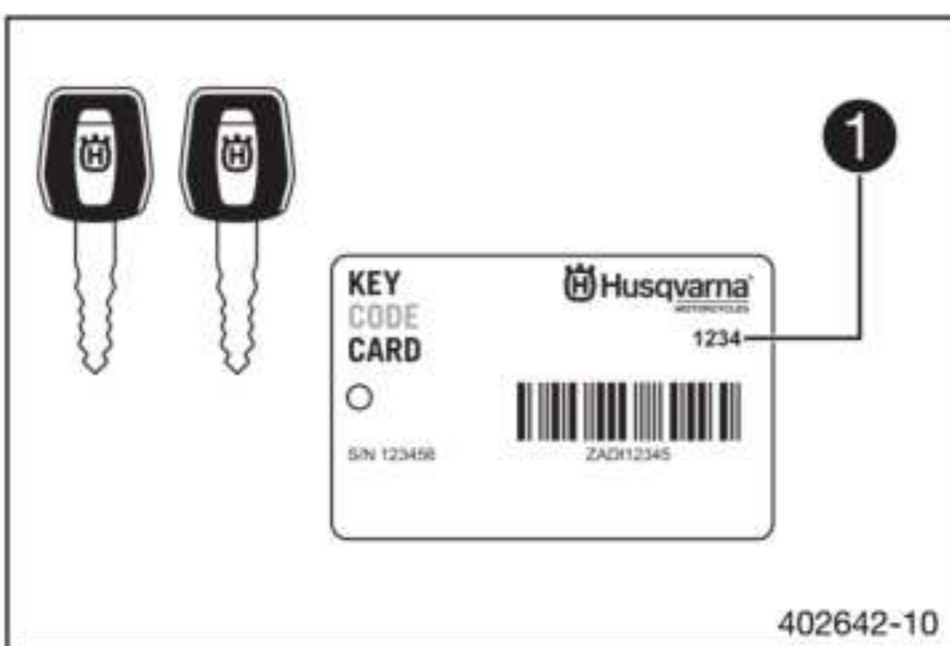
The type label Canada ② is located on the left side of the frame.

4.3 Engine number



The engine number ① is stamped on the left side of the engine under the engine sprocket.

4.4 Key number

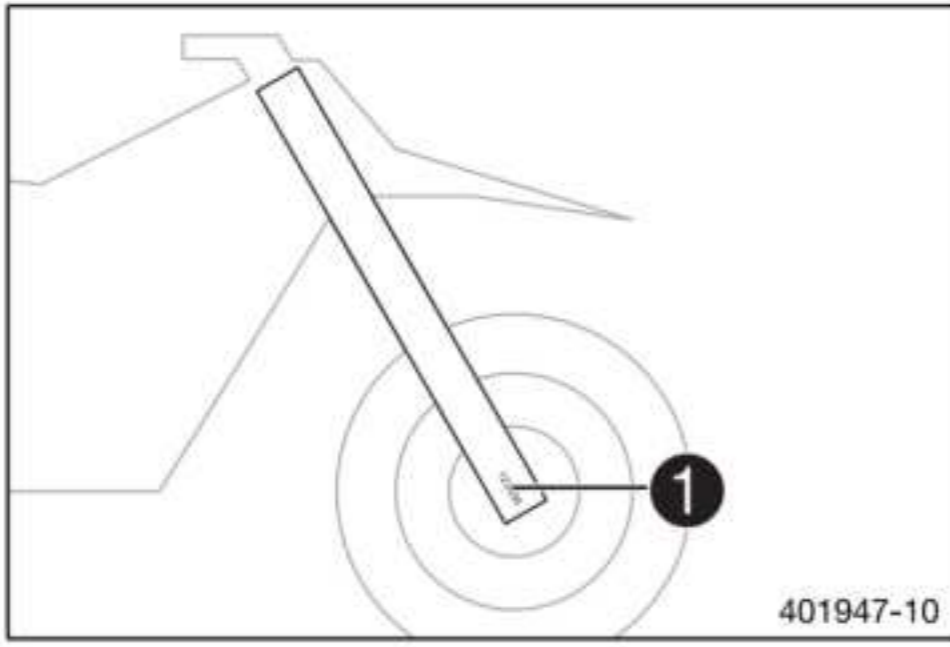


The key number ① can be found on the **KEYCODECARD**.

i Info

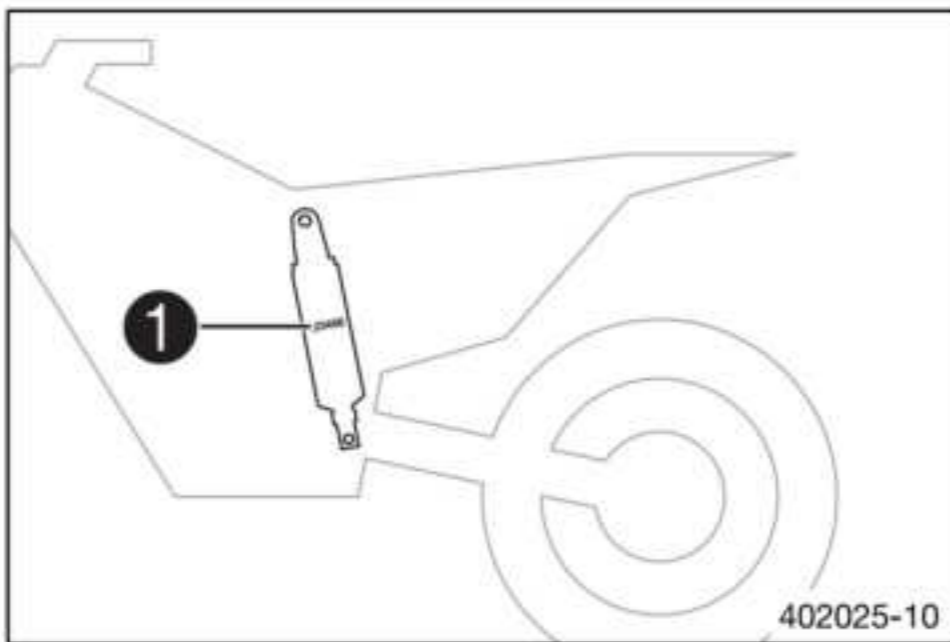
You need the key number to order a spare key. Keep the **KEYCODECARD** in a safe place.

4.5 Fork part number



The fork part number **1** is stamped on the inner side of the fork stub.

4.6 Shock absorber article number



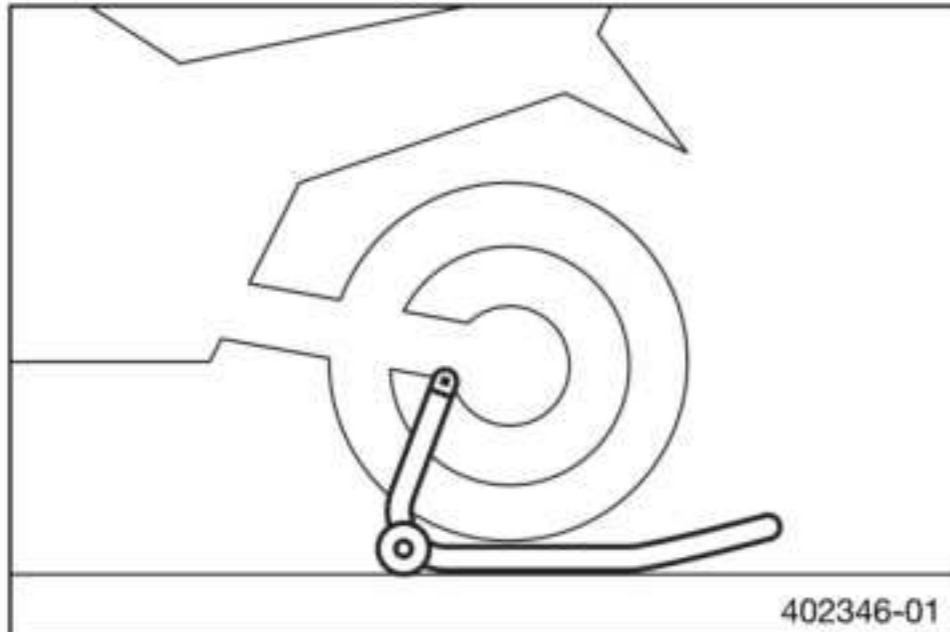
The shock absorber article number **1** is on the left side of the shock absorber.

5.1 Raising the motorcycle with the rear lifting gear

Note

Danger of damage The parked vehicle can roll away or fall over.

- Park the vehicle on a firm and level surface.



- Insert the adapter in the rear lifting gear.

Adapter (69329955030)

Rear wheel work stand (6932995500033) (📖 p. 394)

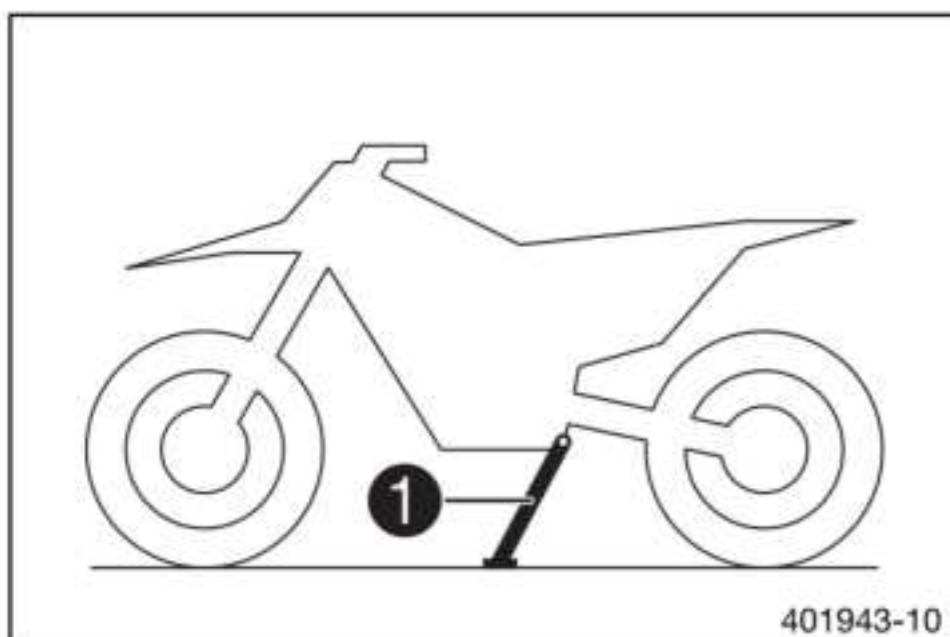
- Stand the motorcycle upright, align the lifting gear to the link fork and the adapters, and raise the motorcycle.

5.2 Removing the rear of the motorcycle from the wheel stand

Note

Danger of damage The parked vehicle can roll away or fall over.

- Park the vehicle on a firm and level surface.



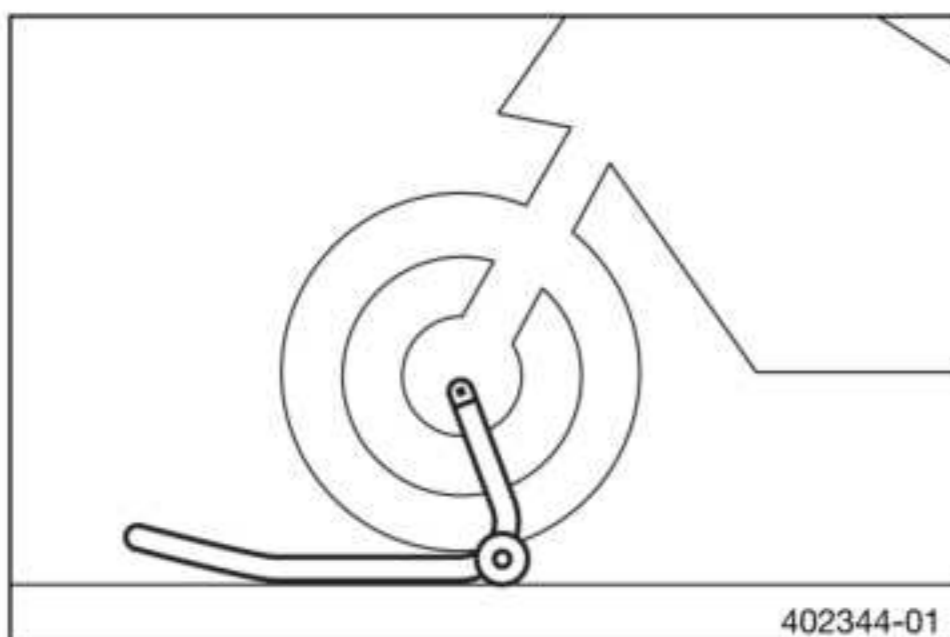
- Secure the motorcycle against falling over.
- Remove the rear wheel stand and lean the vehicle on side stand ①.

5.3 Lifting the motorcycle with the front lifting gear

Note

Danger of damage The parked vehicle can roll away or fall over.

- Park the vehicle on a firm and level surface.



Preparatory work

- Raise the motorcycle with the rear lifting gear. (📖 p. 13)

Main work

- Move the handlebar to the straight-ahead position, align suitable lifting gear at the front.

i Info

Always raise the motorcycle at the rear first.

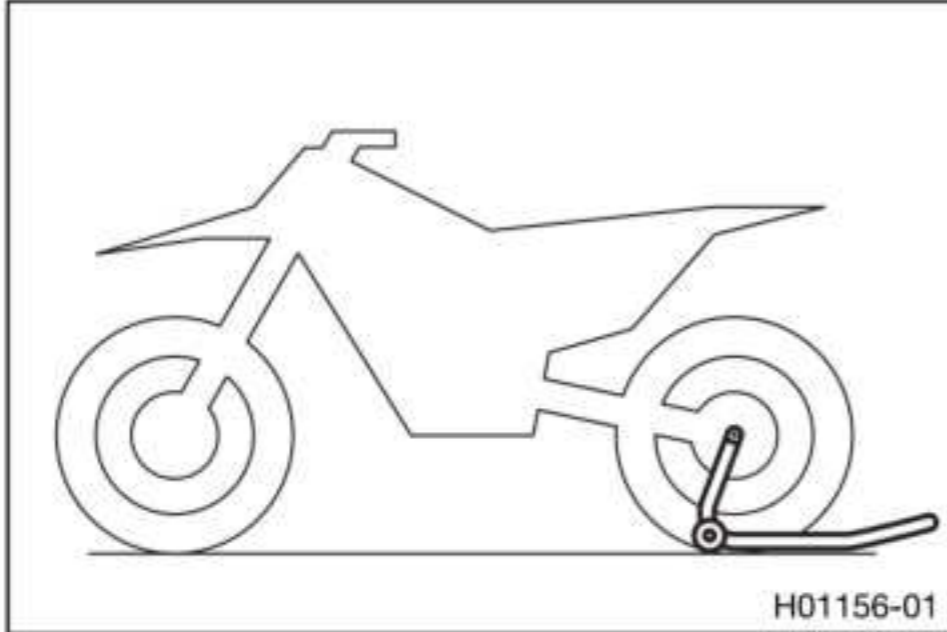
- Lift the motorcycle at the front.

5.4 Taking the motorcycle off the front lifting gear

Note

Danger of damage The parked vehicle can roll away or fall over.

- Park the vehicle on a firm and level surface.



- Secure the motorcycle against falling over.
- Remove the front lifting gear.

5.5 Raising the motorcycle with the work stand

Note

Danger of damage The parked vehicle can roll away or fall over.

- Park the vehicle on a firm and level surface.



- Mount special tool on the footrests.

Work stand attachments (75029036000) (📖 p. 388)



- Position the motorcycle upright, align the special tool, and raise the motorcycle.

Work stand (62529055200) (📖 p. 386)

5.6 Removing the motorcycle from the work stand

Note

Danger of damage The parked vehicle can roll away or fall over.

- Park the vehicle on a firm and level surface.



- Secure the motorcycle against falling over.
- Remove the work stand and lean the vehicle on the side stand.



- Remove the special tool.

5.7 Starting the vehicle



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.



Caution

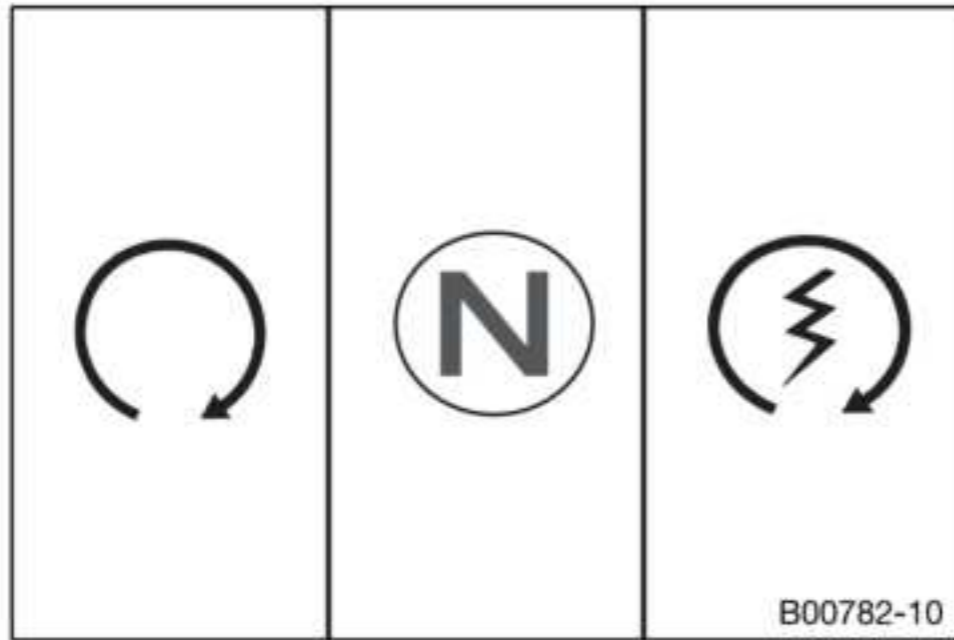
Danger of accidents Electronic components and safety devices will be damaged if the 12-V battery is discharged or missing.




- Never operate the vehicle with a discharged 12-V battery or without a 12-V battery.

Note

Engine damage High revving speed with a cold engine negatively impacts the lifespan of the engine.

- Always run the engine warm at a low speed.



- Turn the emergency OFF switch to the position .
- Switch on the ignition by turning the ignition key to the **ON**  position.
 - ✓ After you switch on the ignition, you can hear the fuel pump working for about two seconds. The function check of the combination instrument is run at the same time.
 - ✓ The ABS warning lamp lights up and goes back out after starting off.
- Shift the transmission to neutral position.
 - ✓ The green idle indicator lamp **N** lights up.
- Press the electric starter button .

Info

Do not press the electric starter button until the combination instrument function check is finished. When starting, **DO NOT** open the throttle. If you open the throttle during the starting procedure, fuel is not injected by the engine management system and the engine cannot start. Press the starter for a maximum of 5 seconds. Wait for a least 5 seconds before trying again. This motorcycle is equipped with a safety starting system. You can only start the engine if the transmission is in neutral or if the clutch lever is pulled when a gear is engaged. If the side stand is folded out and you shift into gear and release the clutch, the engine stops.

- Take the weight off the side stand and swing it back up with your foot as far as it will go.

Switching off ABS (EU)


Husqvarna Motorcycles recommends riding with ABS at all times. However, situations may arise in which ABS is not advantageous.

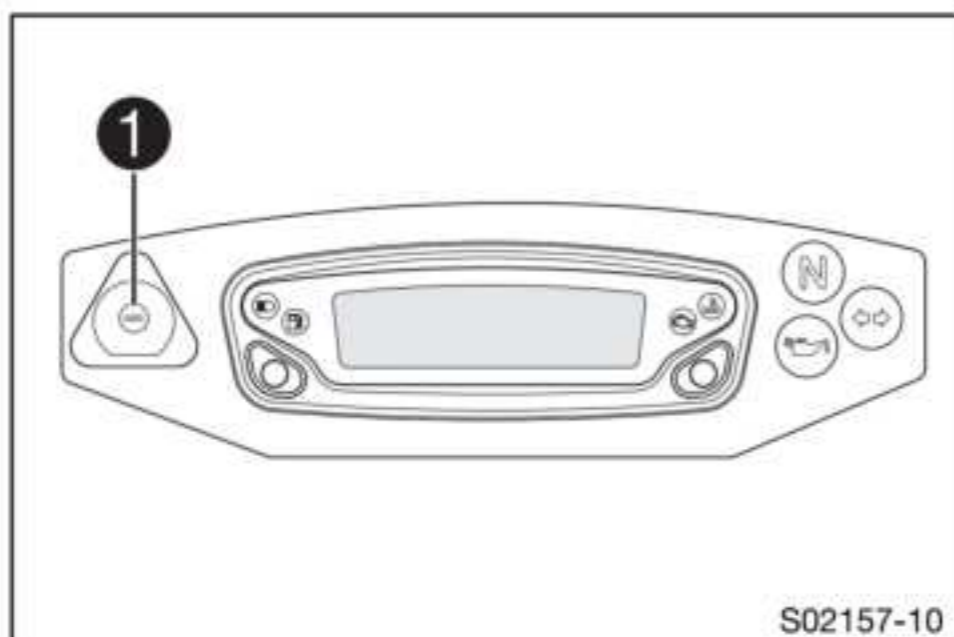
Condition

The motorcycle is stationary.
Vehicle speed before stopping: ≥ 5 km/h (≥ 3.1 mph)

Note

Voiding of the government approval for road use and the insurance coverage If the ABS is switched off completely, the vehicle's approval for road use is invalidated.

- Only operate the vehicle in closed-off areas remote from public road traffic if the ABS is switched off completely.
-
- Press and hold the button  for 3 - 5 seconds.
 - ✓ The ABS warning lamp lights up; ABS is deactivated.



Switching off ABS (US)

Husqvarna Motorcycles recommends riding with ABS at all times. However, situations may arise in which ABS is not advantageous.

Condition

The motorcycle is stationary.

Vehicle speed before stopping: ≥ 5 km/h (≥ 3.1 mph)

- Press and hold the button **1** for 3 - 5 seconds.
- ✓ The ABS warning lamp lights up; ABS is deactivated.

5.8 Starting the motorcycle to check the function



Danger

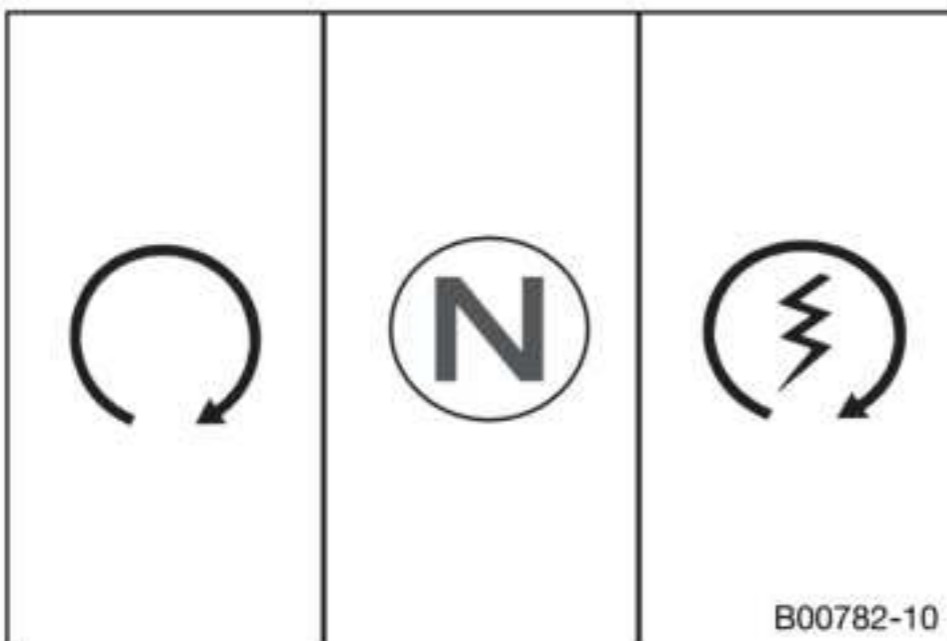
Danger of poisoning Exhaust gases are toxic and inhaling them may result in unconsciousness and death.

- 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.



Info

Press the starter for a maximum of 5 seconds. Wait for a least 5 seconds before trying again.



Condition

- Turn the emergency OFF switch to the position **0**.
- Switch on the ignition by turning the ignition key to the **ON** **0** position.
- Shift the transmission to neutral position.
- Press the electric starter button **3**.



Info

Do not open the throttle.

6.1 Adjusting the compression damping of the fork

i **Info**

The hydraulic compression damping determines the fork suspension behavior.



- Turn white adjusting screw **1** clockwise as far as it will go.

i **Info**

Adjusting screw **1** is located at the upper end of the left fork leg.

The compression damping is located in left fork leg **COMP** (white adjusting screw). The rebound damping is located in right fork leg **REB** (red adjusting screw).

- Turn counterclockwise by the number of clicks corresponding to the fork type.

Guideline

Compression damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	10 clicks

i **Info**

Turn clockwise to increase damping; turn counterclockwise to reduce damping.

6.2 Adjusting the rebound damping of the fork

i **Info**

The hydraulic rebound damping determines the fork suspension behavior.



- Turn red adjusting screw **1** clockwise as far as it will go.

i **Info**

Adjusting screw **1** is located at the upper end of the right fork leg.

The rebound damping is located in right fork leg **REB** (red adjusting screw). The compression damping is located in left fork leg **COMP** (white adjusting screw).

- Turn counterclockwise by the number of clicks corresponding to the fork type.

Guideline

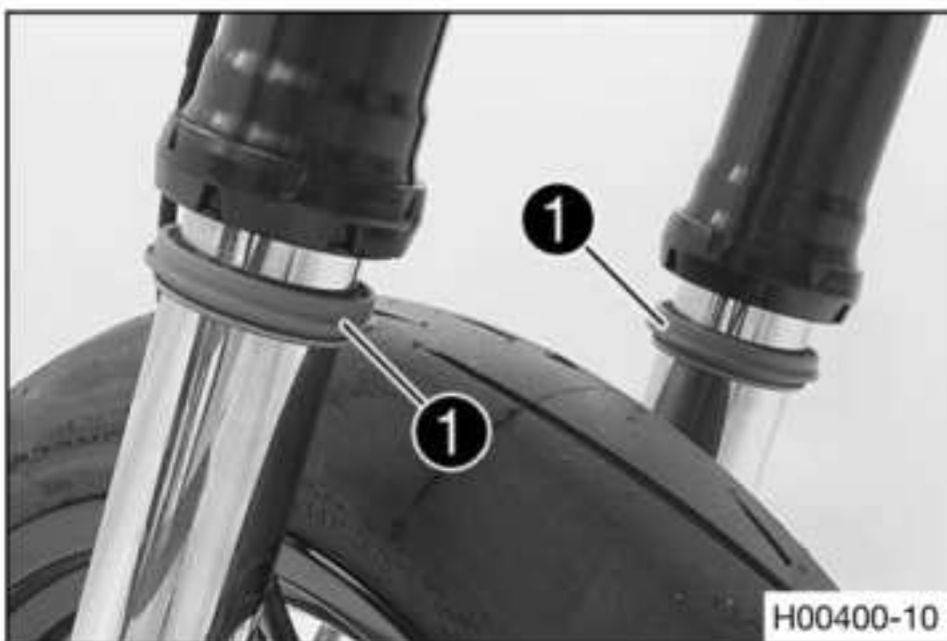
Rebound damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	10 clicks



Info

Turn clockwise to increase damping; turn counter-clockwise to reduce damping.

6.3 Cleaning the dust boots of the fork legs



Preparatory work

- Remove the fork protector. (📖 p. 20)

Main work

- Push dust boots ① of both fork legs downward.



Info

The dust boots remove dust and coarse dirt particles from the inside fork tubes. Over time, dirt can accumulate behind the dust boots. If this dirt is not removed, the oil seals behind can start to leak.



Warning

Danger of accidents Oil or grease on the brake discs reduces the braking effect.

- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.

- Clean and oil the dust boots and inner fork tubes of both fork legs.

Universal oil spray (📖 p. 379)

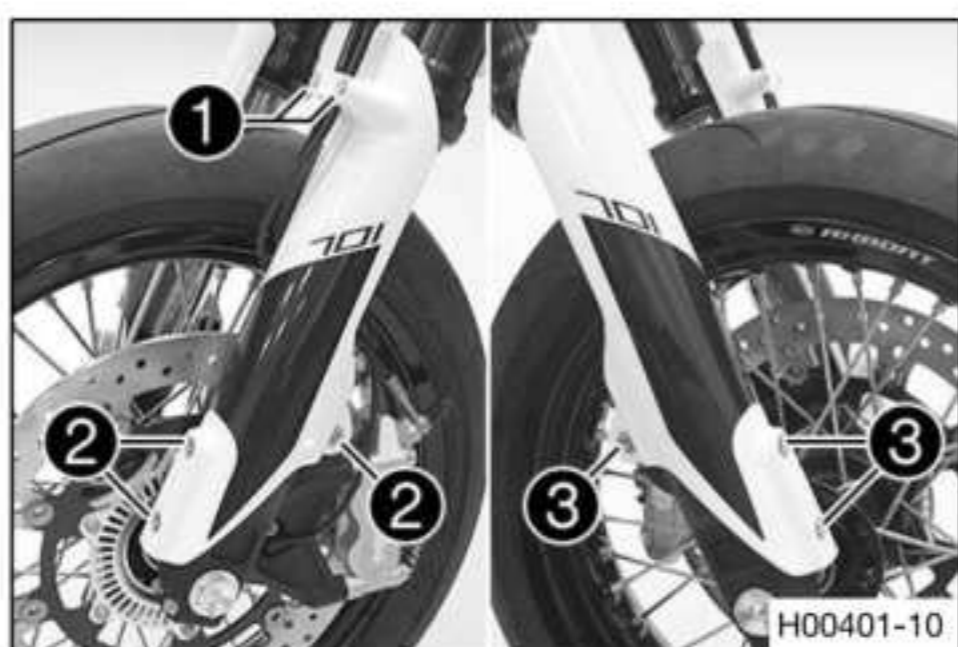
- Press the dust boots back into their installation position.
- Remove excess oil.

Finishing work

- Install the fork protector. (📖 p. 20)

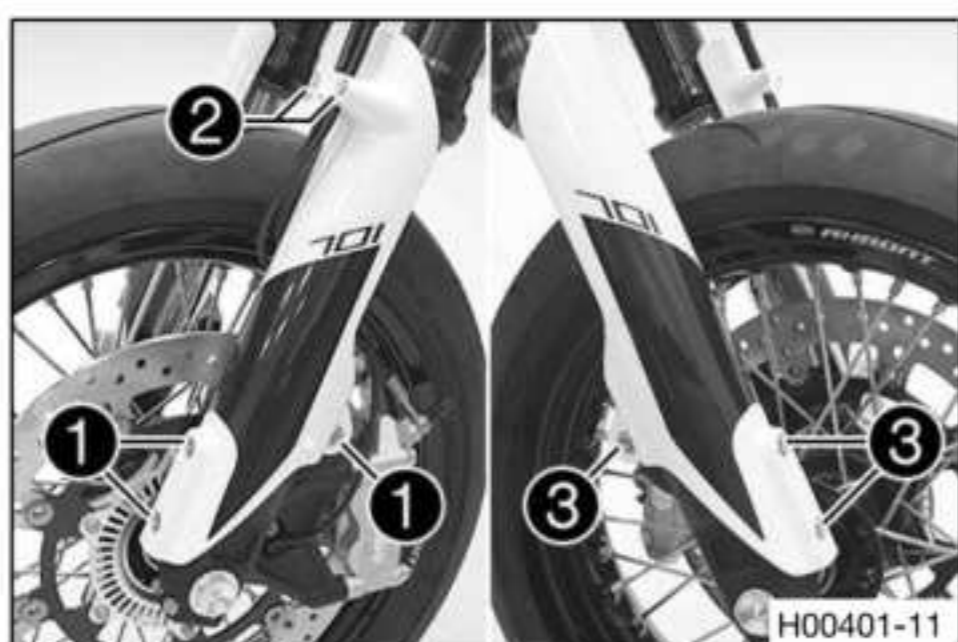
6 FORK, TRIPLE CLAMP

6.4 Removing the fork protector



- Remove screws ❶ and take off the clamp.
- Remove screws ❷ on the left fork leg. Take off the fork protector.
- Remove screws ❸ on the right fork leg. Take off the fork protector.

6.5 Installing the fork protector



- Position the fork protector on the left fork leg. Mount and tighten screws ❶.

Guideline

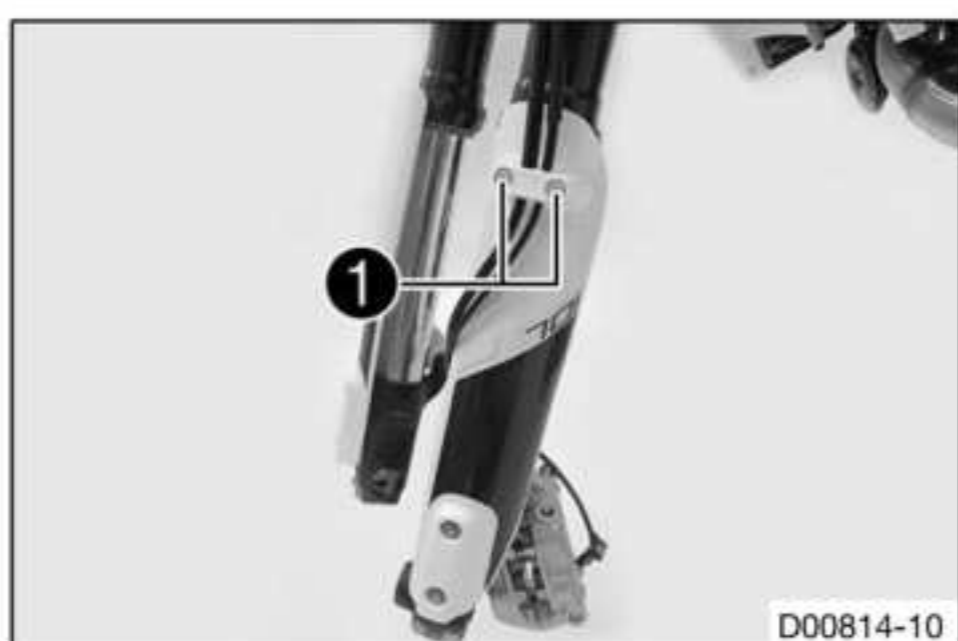
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------

- Position the brake line, wiring harness, and clamp. Mount and tighten screws ❷.
- Position the fork protector on the right fork leg. Mount and tighten screws ❸.

Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------

6.6 Removing the fork legs



Preparatory work

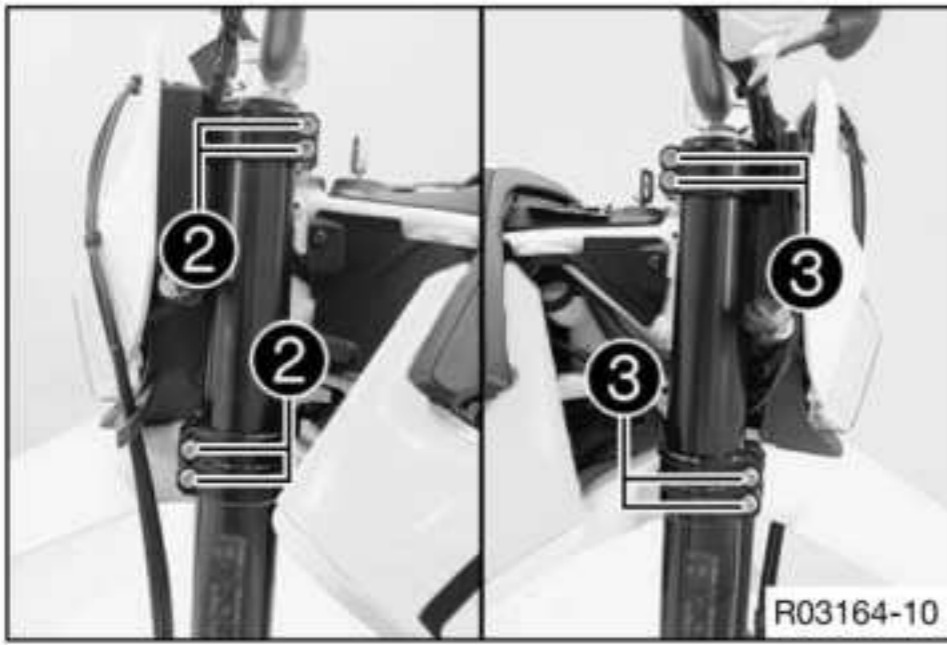
- Raise the motorcycle with the work stand. (📖 p. 14)
- Place a load on rear of the vehicle.
 - ✓ The front wheel is not in contact with the ground.
- Remove front wheel using a work stand. (📖 p. 114)

Main work

- Remove screws ❶ and take off the clamp.
- Allow the brake caliper and brake line to hang loosely to the side.

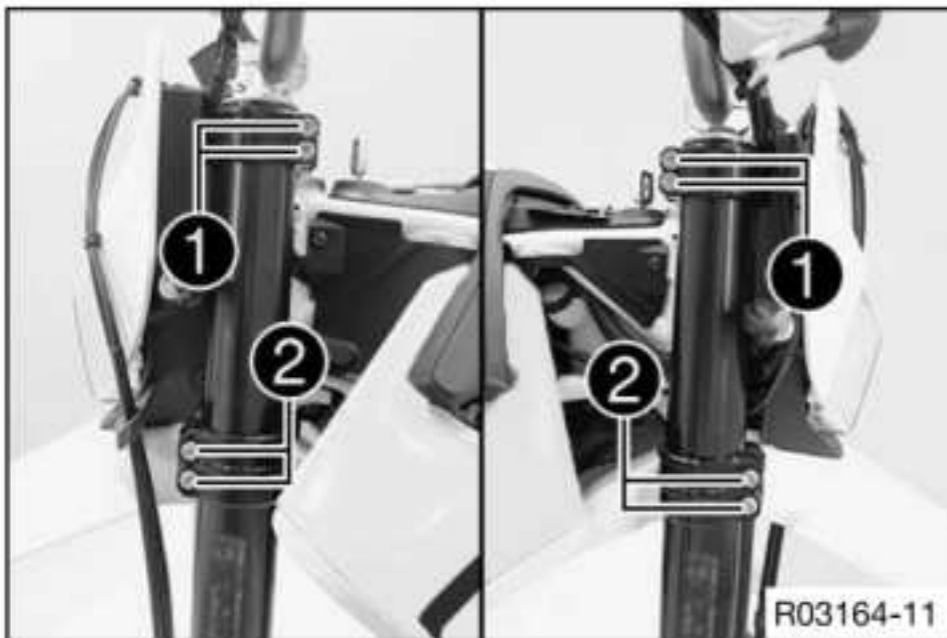
i Info

Do not actuate the hand brake lever when the front wheel is removed.



- Loosen screws ②. Remove the left fork leg.
- Loosen screws ③. Remove the right fork leg.

6.7 Installing the fork legs



Main work

- Position the fork legs.

i Info

Grooves are milled into the side of the upper end of the fork legs. The second milled groove (from the top) must be flush with the top edge of the upper triple clamp.

- Tighten screws ①.

Guideline

Screw, top triple clamp	M8	17 Nm (12.5 lbf ft)
-------------------------	----	---------------------

- Tighten screws ②.

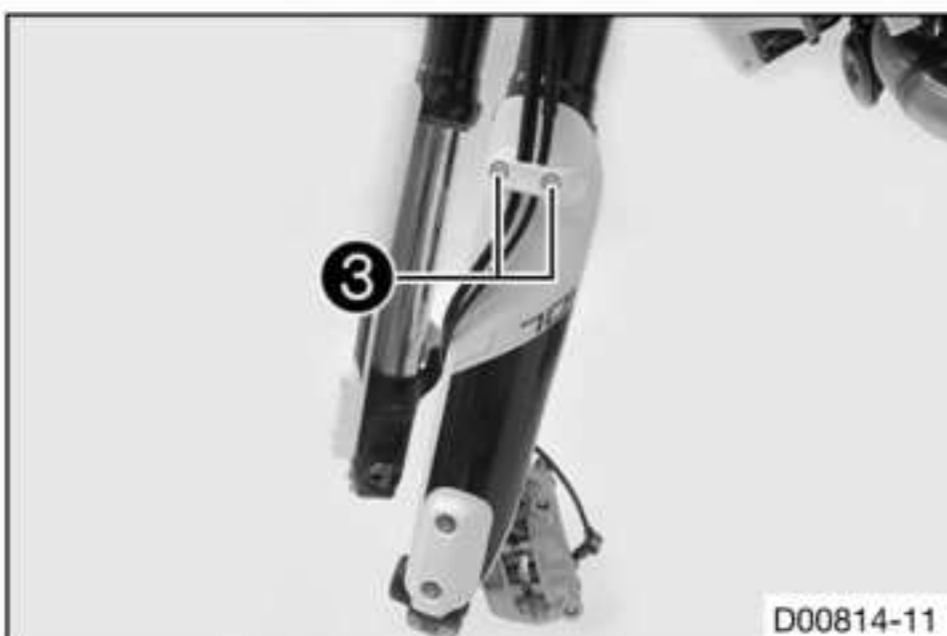
Guideline

Screw, bottom triple clamp	M8	12 Nm (8.9 lbf ft)
----------------------------	----	--------------------

- Position the brake line, wiring harness, and clamp. Mount and tighten screws ③.

Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------



Finishing work

- Install the front wheel using a work stand. (📖 p. 116)
- Remove the motorcycle from the work stand. (📖 p. 15)

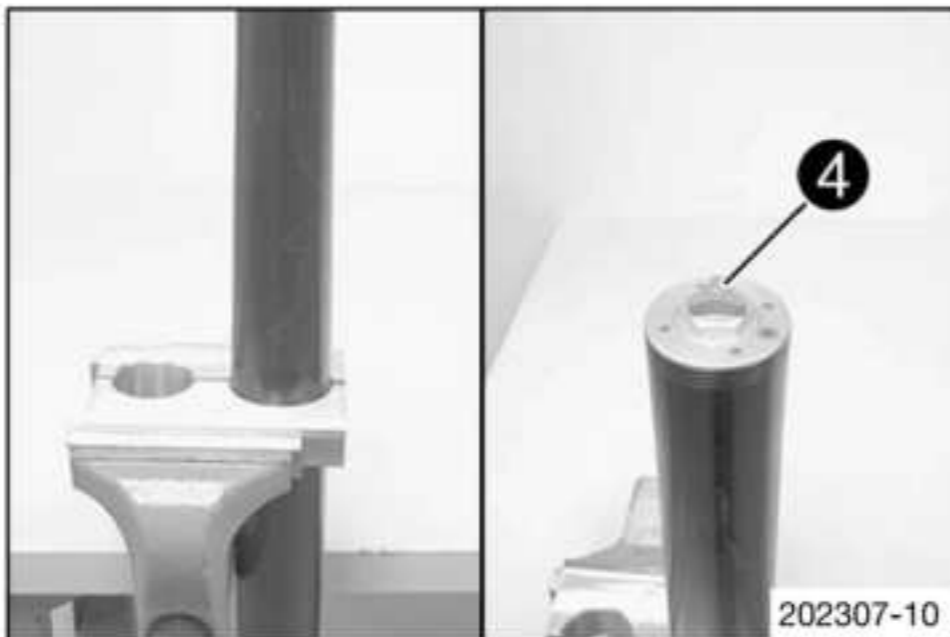
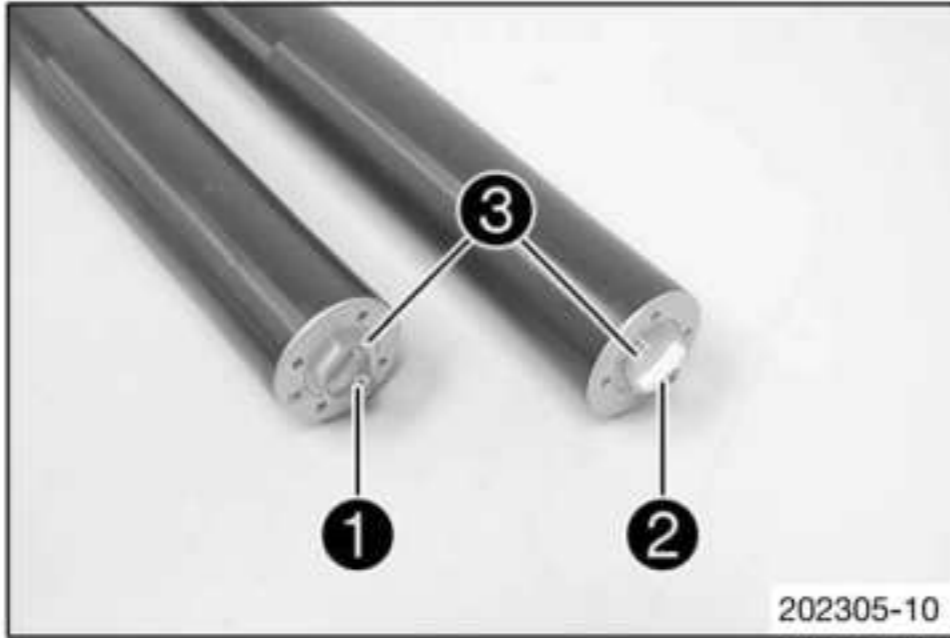
6.8 Disassembling the fork legs

i Info
The operations are the same on both fork legs.

Condition

The fork legs have been removed.

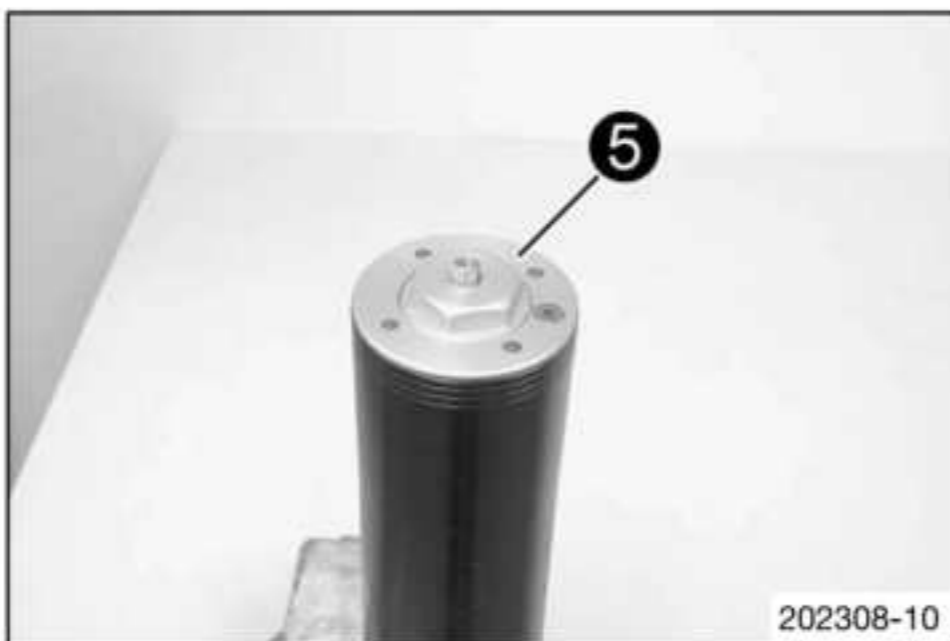
- Make a note of the present state of rebound **1** and compression damping **2**.
- Note down the current state of the spring preload **3**.
- Completely open the adjusters of the rebound damping, compression damping, and spring preload.



- Clamp the fork leg in the area of the lower triple clamp.

Clamping stand (T1403S) (📖 p. 398)

- Remove adjuster **4**.



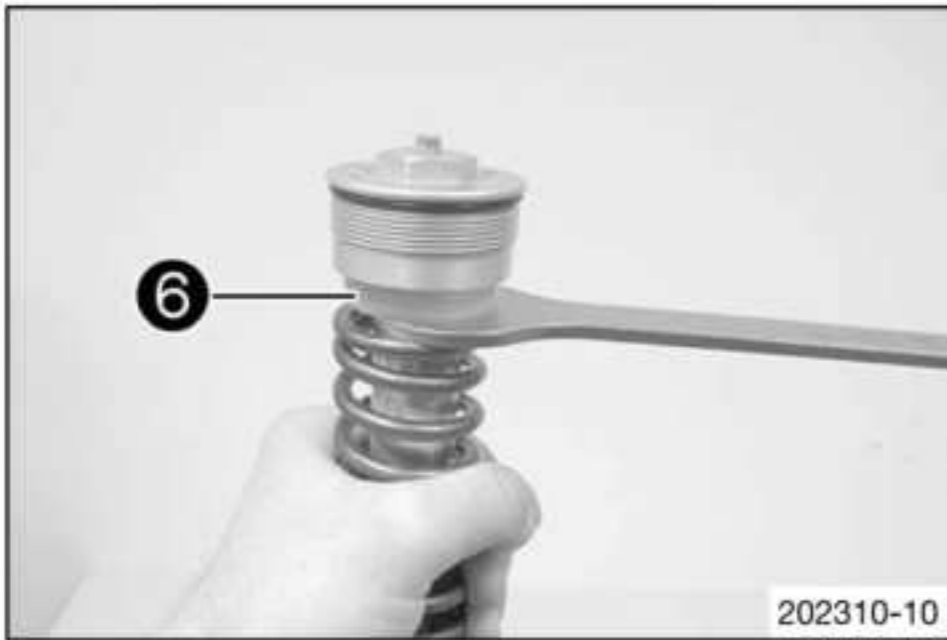
- Loosen the Preload Adjuster **5**.

Pin wrench (T103) (📖 p. 396)

i Info
The Preload Adjuster cannot be removed yet.



- Unclamp the fork leg.
- Drain the fork oil.



- Unclamp the fork leg with the axle clamp.

Guideline

Use soft jaws.

- Push the outside fork tube downwards.
- Pull the spring downward. Mount the special tool on the hexagonal part.

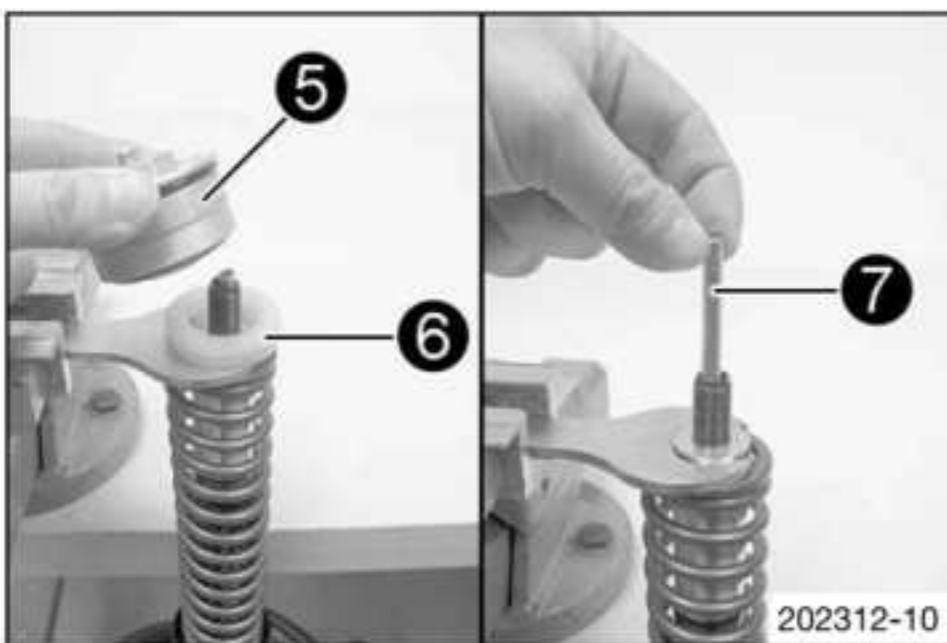
Open end wrench (T14032) (📖 p. 398)

i Info

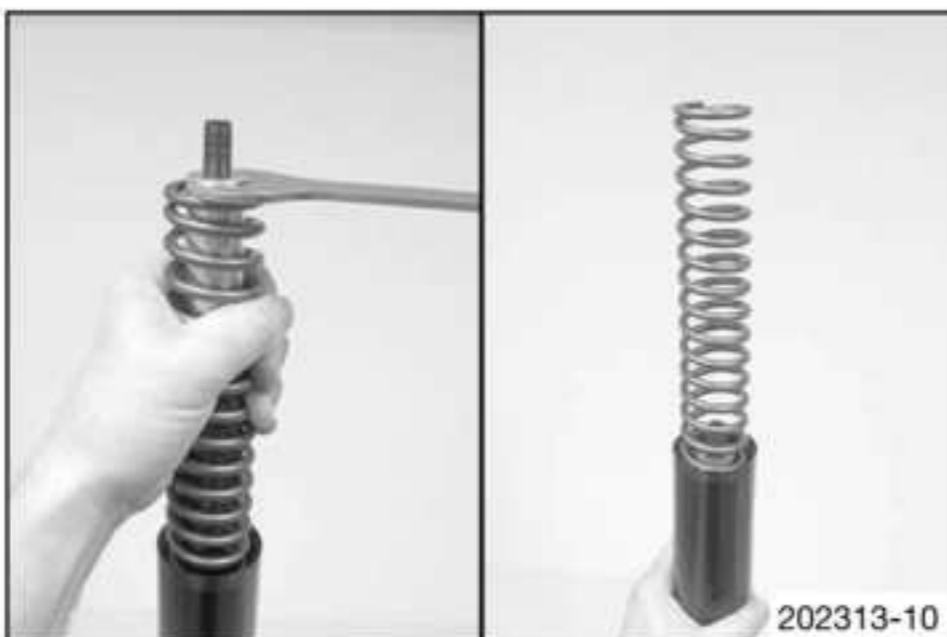
Preload spacers **6** should be above the special tool.



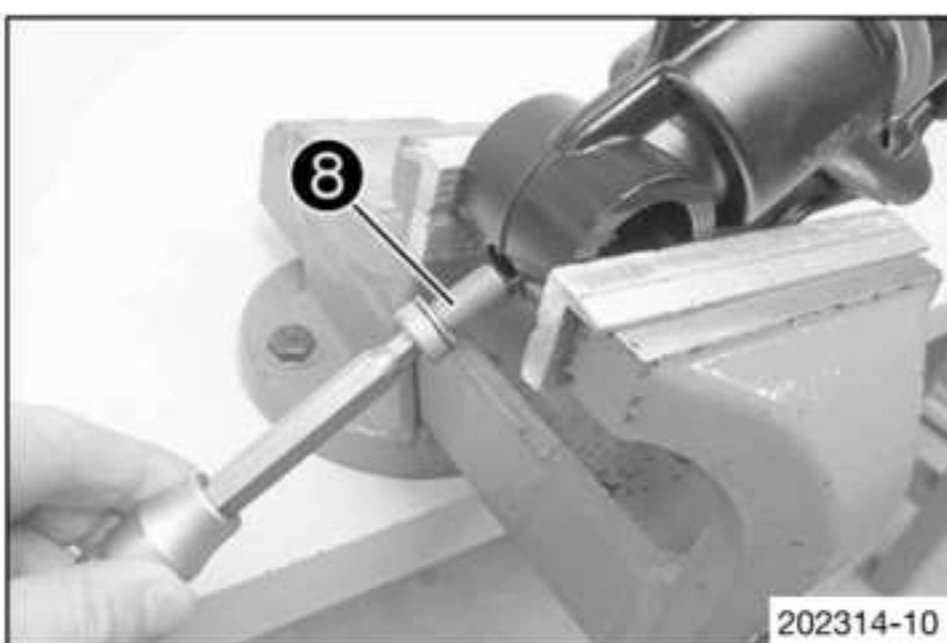
- Clamp the special tool in the vise. Loosen the Preload Adjuster **5**.



- Remove the Preload Adjuster **5** with preload spacers **6**.
- Remove adjusting tube **7**.



- Pull the spring downward. Remove the special tool.
- Remove the spring.



- Clamp the fork leg with the axle clamp.

Guideline

Use soft jaws.

- Remove screw **8** of the cartridge.

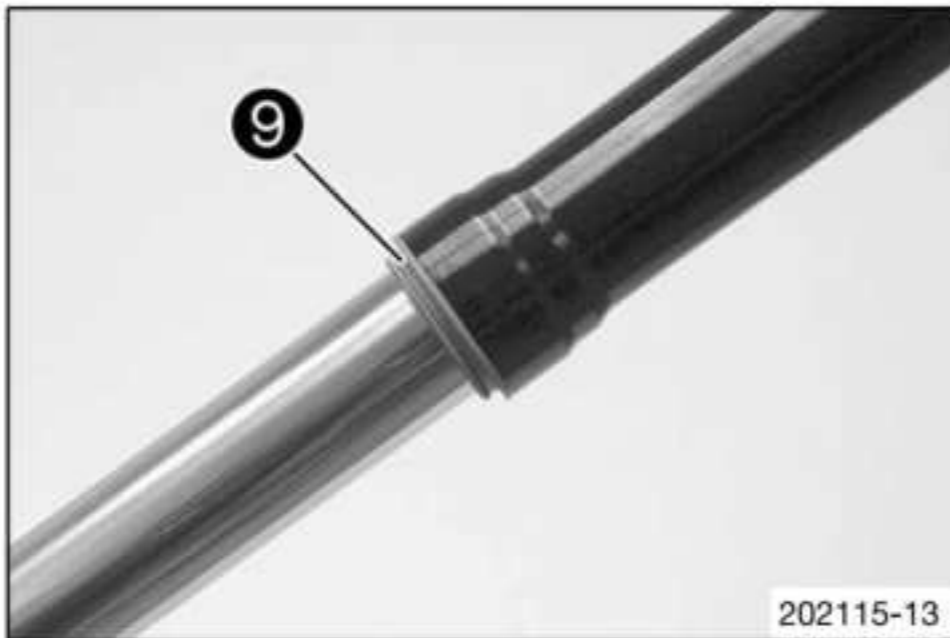
i Info

Place a collecting container underneath as some oil will usually still run out.

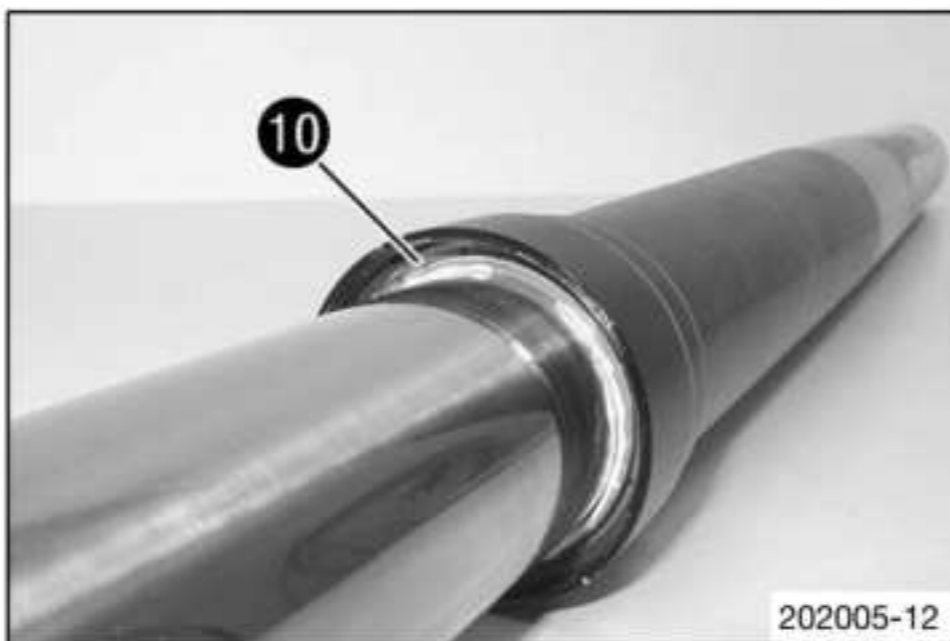
6 FORK, TRIPLE CLAMP



- Remove the cartridge.



- Remove dust boot 9.

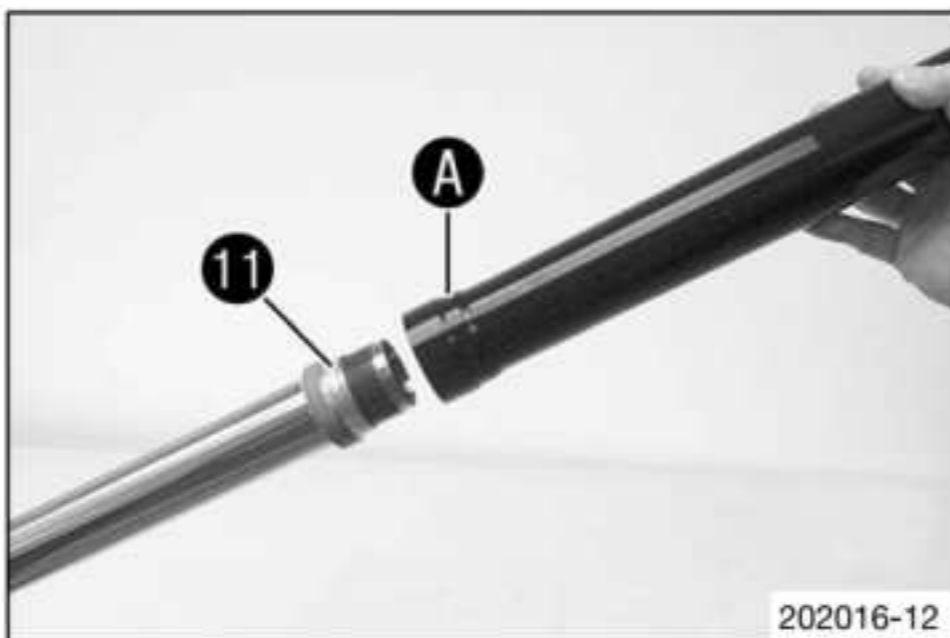


- Remove lock ring 10.



Info

The lock ring has a beveled end where a screwdriver can be applied.



- Warm up the outside fork tube in area A of the lower sliding bushing.

Guideline

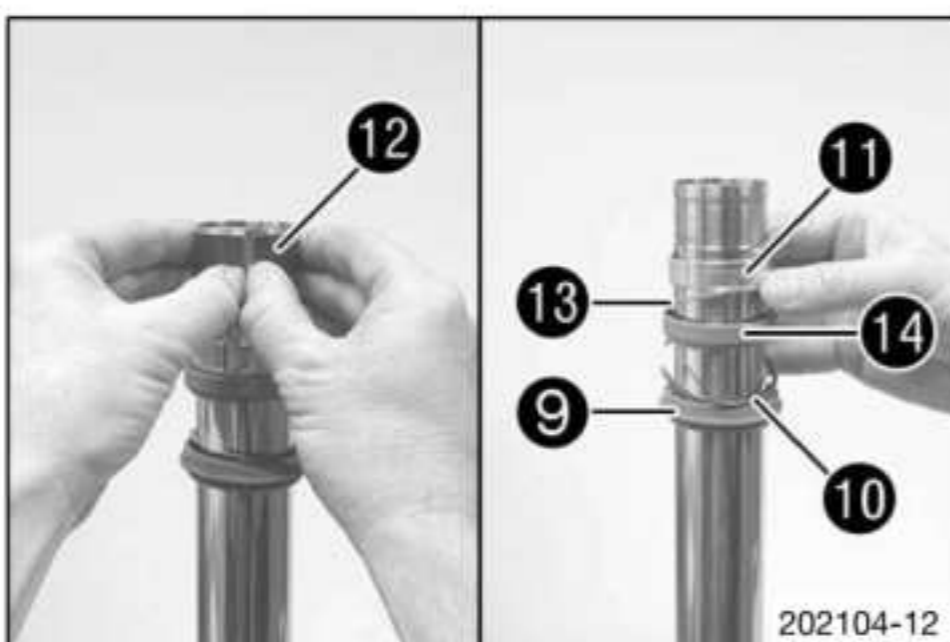
50 °C (122 °F)

- Pull the outside fork tube off the inside fork tube with a jerk.



Info

Lower sliding bushing 11 must be drawn from its bearing seat.



- Remove upper sliding bushing 12.



Info

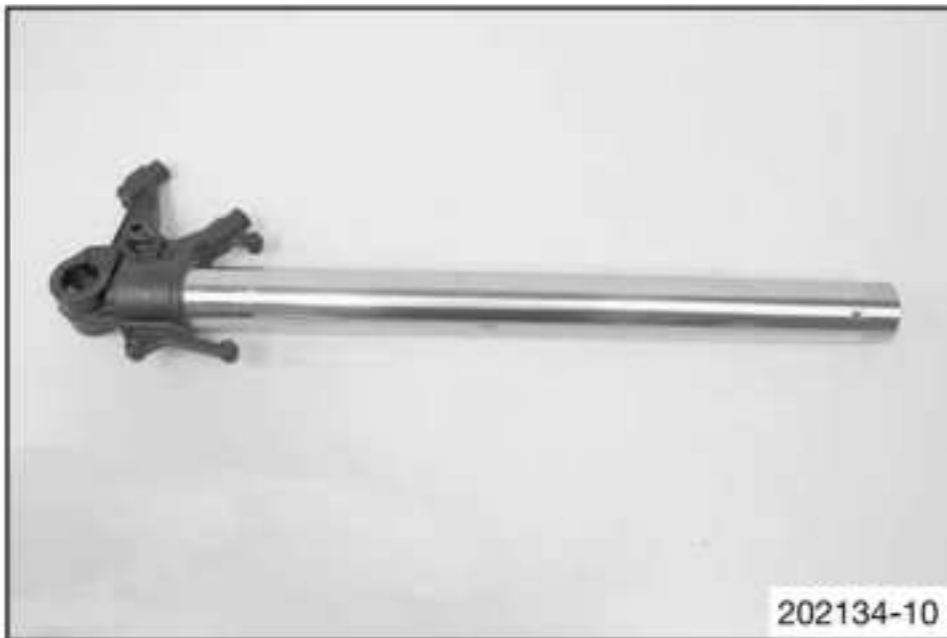
Without using a tool, pull the stack slightly apart by hand.

- Take off lower sliding bushing 11.
- Take off support ring 13.
- Take off seal ring 14.
- Take off lock ring 10.
- Take off dust boot 9.
- Unclamp the fork leg.

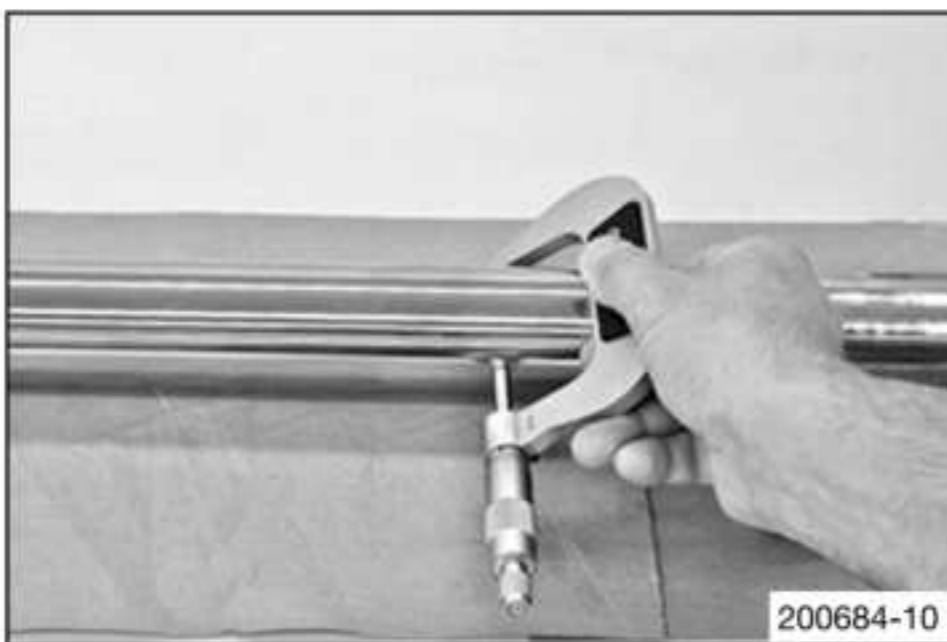
6.9 Checking the fork legs

Condition

The fork is disassembled.



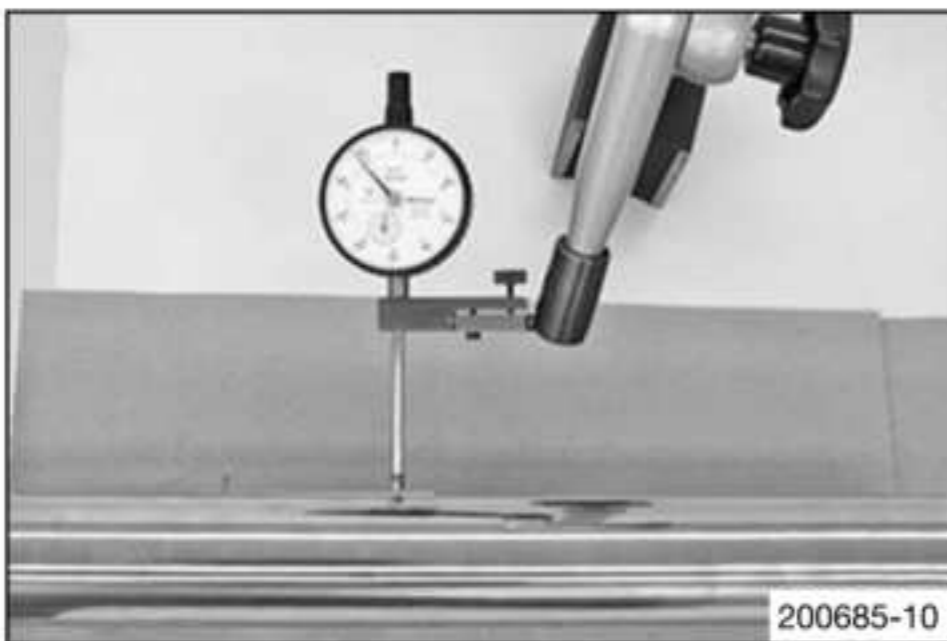
- Check the inside fork tube and the axle clamp for damage.
 - » If damage is found:
 - Change the inside fork tube.



- Measure the outside diameter of the inside fork tube at several places.

Outside diameter of the inside fork tube	47.975 ... 48.005 mm (1.88878 ... 1.88996 in)
--	--

- » If the measured value is less than the specified value:
 - Change the inside fork tube.



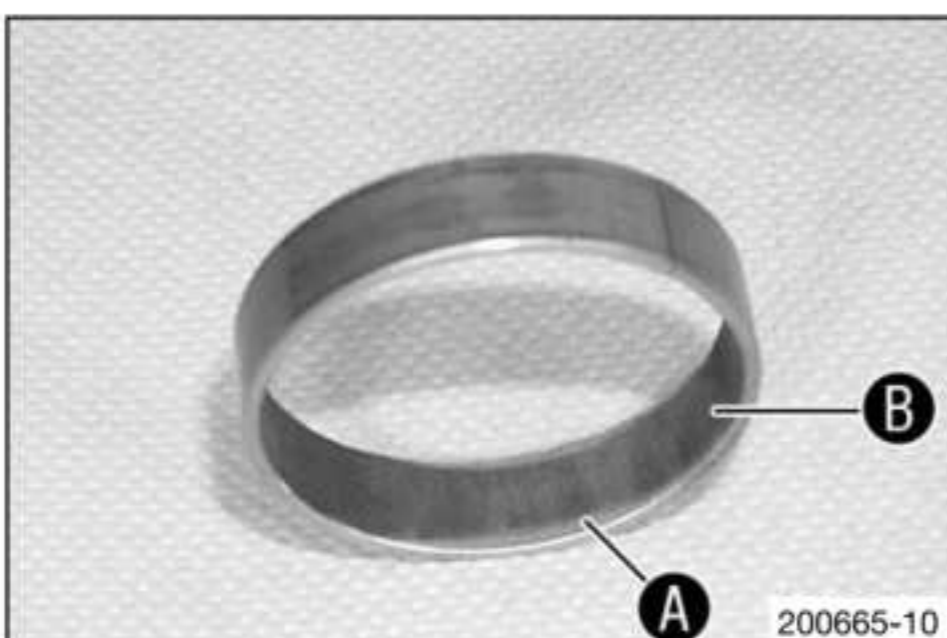
- Measure the run-out of the inside fork tube.

Run-out of the inside fork tube	≤ 0.20 mm (≤ 0.0079 in)
---------------------------------	------------------------------------

- » If the measured value is greater than the specified value:
 - Change the inside fork tube.

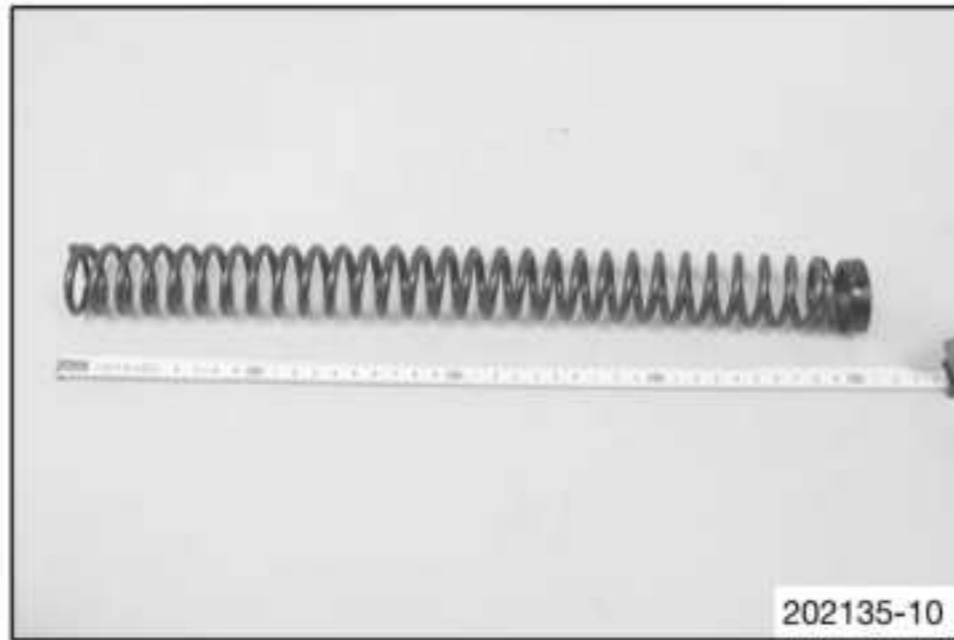


- Check the outside fork tube for damage.
 - » If damage is found:
 - Change the outside fork tube.



- Check the surface of the sliding bushings.
 - » When bronze-colored layer **A** becomes visible under gliding layer **B**:
 - Change the guiding bushes.

6 FORK, TRIPLE CLAMP



- Check the spring length.

Guideline

Spring length with preload spacer(s)	468 mm (18.43 in)
--------------------------------------	-------------------

- » If the measured value is greater than the specified value:
 - Reduce the thickness of the preload spacers.
- » If the measured value is less than the specified value:
 - Increase the thickness of the preload spacers.

6.10 Assembling the fork legs

i Info

The operations are the same on both fork legs.



Preparatory work

- Check the fork legs. (📖 p. 25)

Main work

- Clamp the inside fork tube using the axle clamp.
- Mount the special tool.

Protecting sleeve (T1401) (📖 p. 398)

- Grease and push on dust boot **1**.

Lubricant (T14034) (📖 p. 378)

i Info

Always replace the dust boot, lock ring, seal ring, and support ring.
Mount the dust boot with the sealing lip and spring expander facing downward.

- Push on lock ring **2**.
- Grease and push on seal ring **3**.

Lubricant (T14034) (📖 p. 378)

i Info

Sealing lip downward, open side upward.

- Push on support ring **4**.
- Remove the special tool.
- Sand the edges of the sliding bushings with 600 grit sandpaper; then clean and grease the bushings.

Fork oil (SAE 4) (48601166S1) (📖 p. 377)





- Push on lower sliding bushing 5.
- Mount upper sliding bushing 6.

i Info
Without using a tool, pull the stack slightly apart by hand.



- Warm up the outside fork tube in area A of the lower sliding bushing.

Guideline

50 °C (122 °F)

- Push the outside fork tube onto the inside fork tube.
- Hold the lower sliding bushing with the longer side of the special tool.

Mounting tool (T14040S) (p. 399)

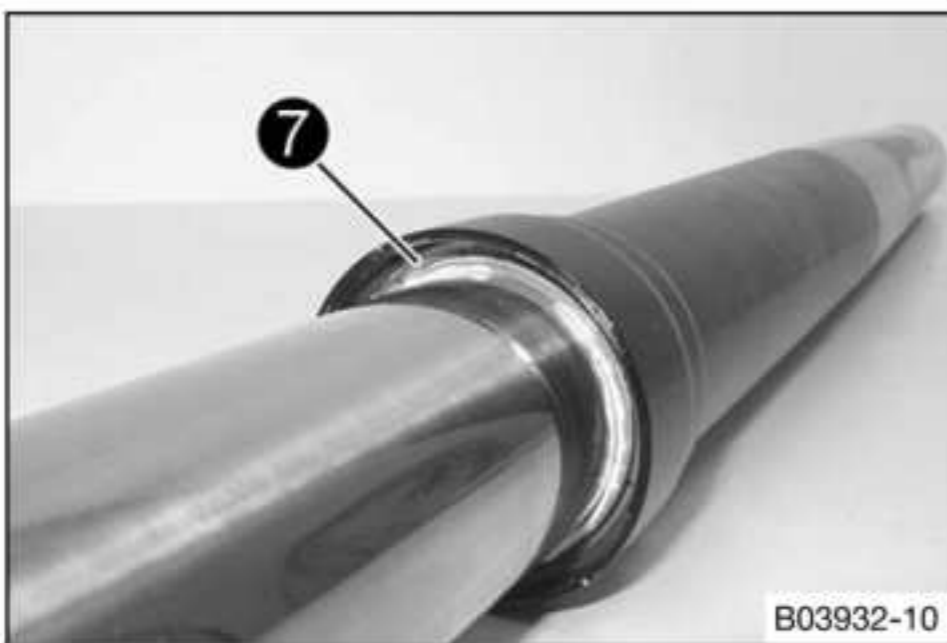
- Press the sliding bushing all the way into the outside fork tube.



- Position the support ring.
- Hold the seal ring with the shorter side of the special tool.

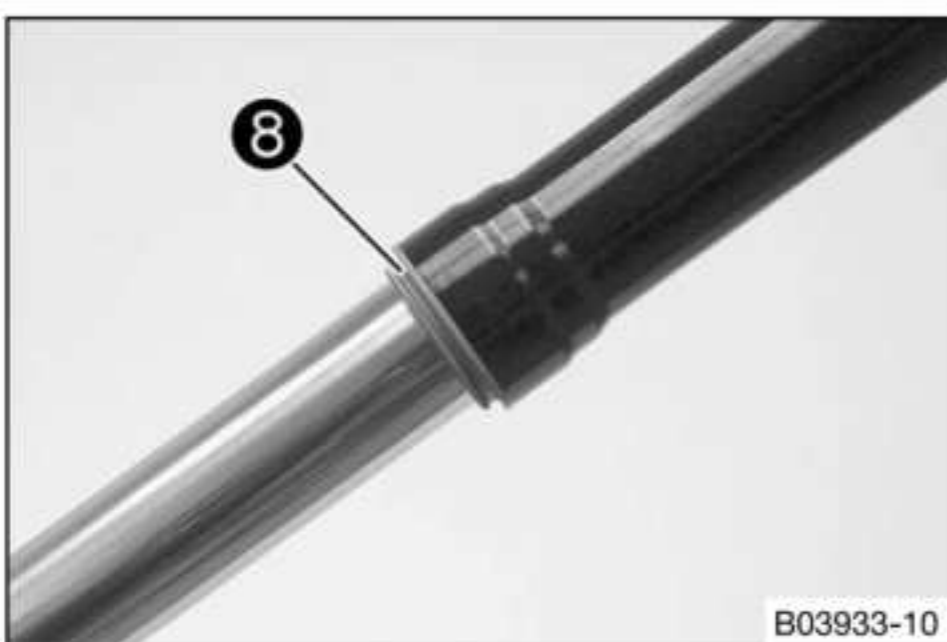
Mounting tool (T14040S) (p. 399)

- Press the seal ring and support ring all the way into the outside fork tube.



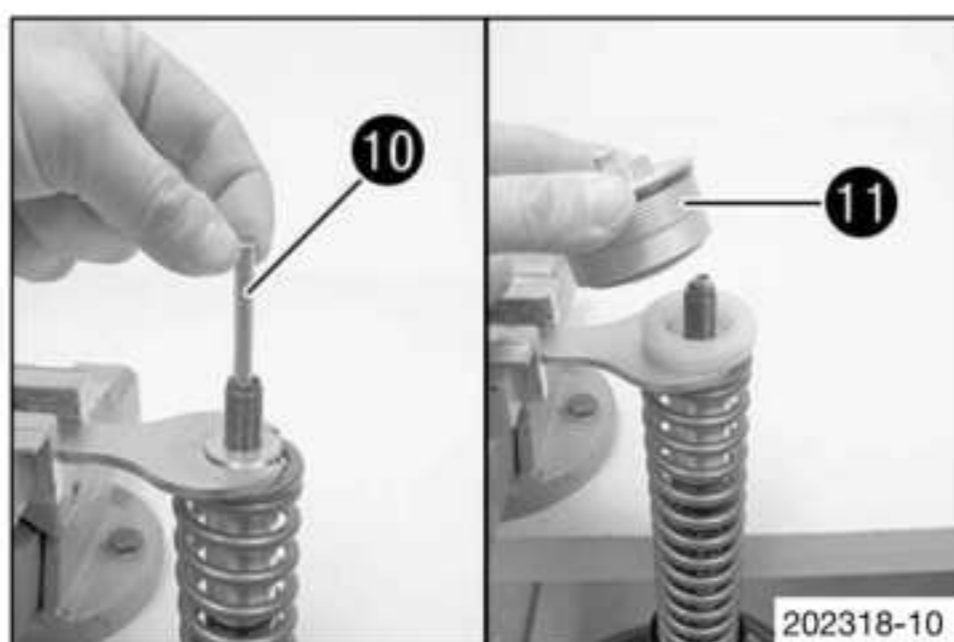
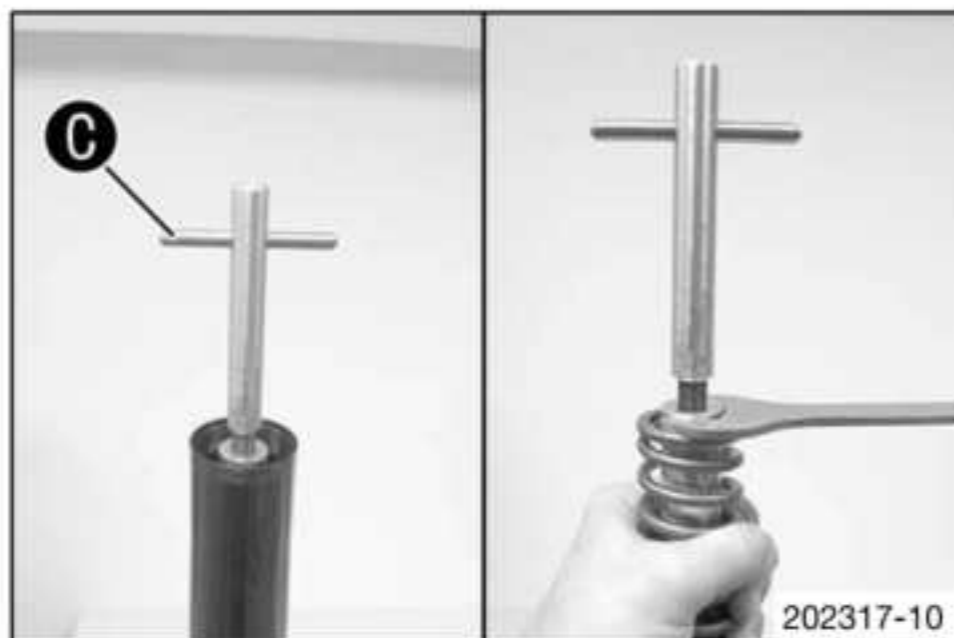
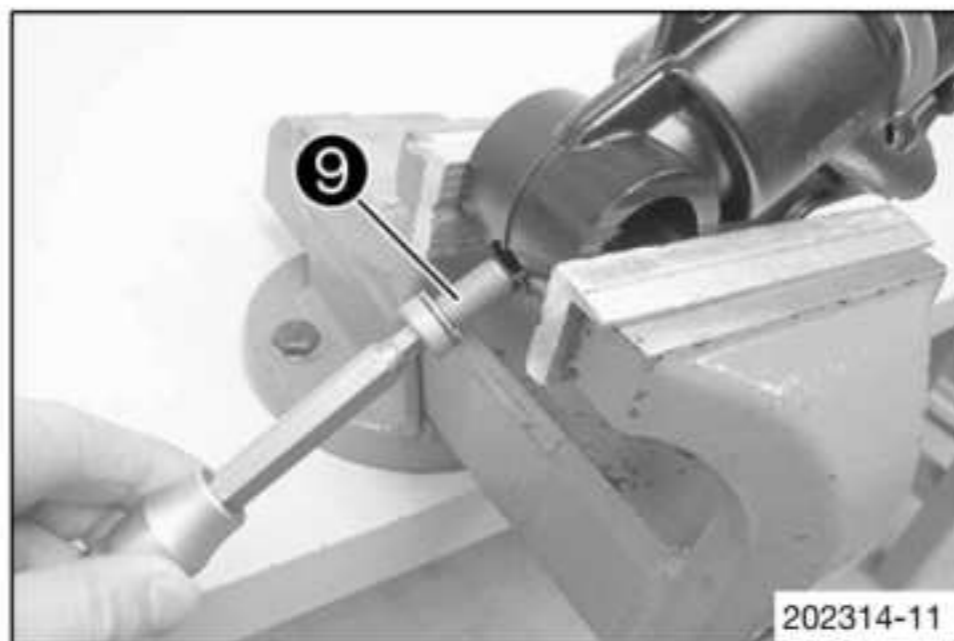
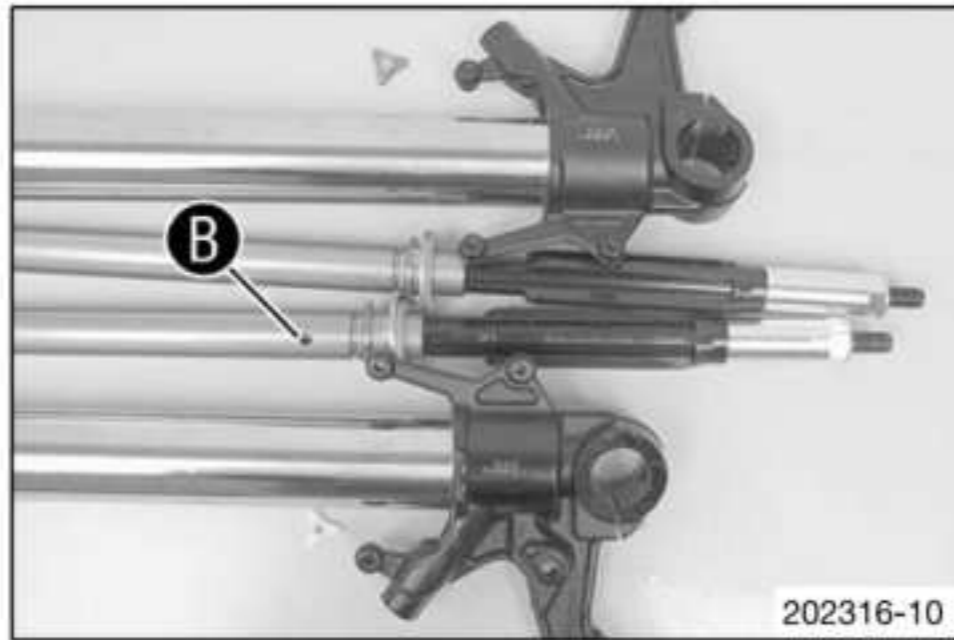
- Mount lock ring 7.

i Info
The lock ring must engage audibly.



- Mount dust boot 8.

6 FORK, TRIPLE CLAMP



- Assemble the individual components that belong together.

i Info

Compression damping side: cartridge with additional oil holes **B**, white adjuster, axle clamp marked **L**.
Rebound damping side: cartridge without additional oil holes, red adjuster, axle clamp marked **R**.

- Mount cartridge.

- Mount and tighten screw **9** of the cartridge.

Guideline

Screw, cartridge	M12x1	25 Nm (18.4 lbf ft)
------------------	-------	---------------------

- Mount special tool on the cartridge; remove pin **C** of the special tool.

Support tool (T14026S1) (p. 398)

- Pull out the piston rod. Mount the spring. Mount the pin again.
- Pull up cartridge with special tool. Pull the spring downward and slide the special tool onto the hexagonal part.

Open end wrench (T14032) (p. 398)

- Remove the special tool.

Support tool (T14026S1) (p. 398)

- Clamp the special tool in the vise.

- Mount adjusting tube **10**.

✓ The adjusting tube protrudes 5 mm (0.197 in) from the cartridge and can be pressed in against the resistance of the spring.

✗ The adjusting tube protrudes more than 7 mm (0.275 in) from the cartridge and cannot be pressed in against the spring force.

- Lubricate the thread of the piston rod.

Lubricant (T159) (p. 378)

- Lubricate the upper edge of the piston rod.

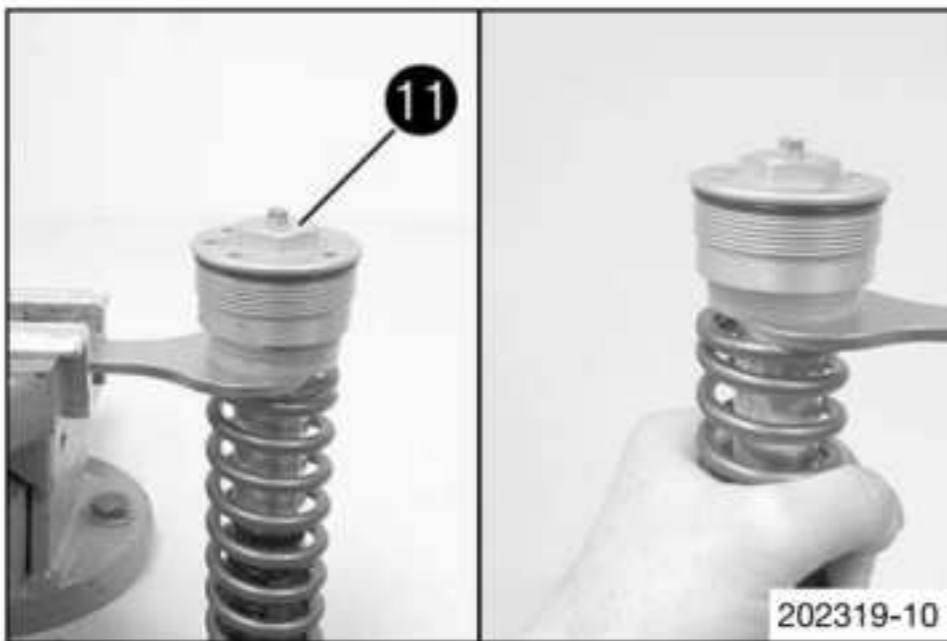
Lubricant (T158) (📖 p. 378)

- Mount the Preload Adjuster ⑪ with the preload spacers onto the piston rod.



Info

The Preload Adjuster must be screwed to the stop before the piston rod starts to turn. If the thread on the piston rod is tight, it must be held to keep it from turning. If the Preload Adjuster is not screwed on all the way to the stop, the rebound damping adjustment will not work correctly.



- Tighten the Preload Adjuster ⑪.

Guideline

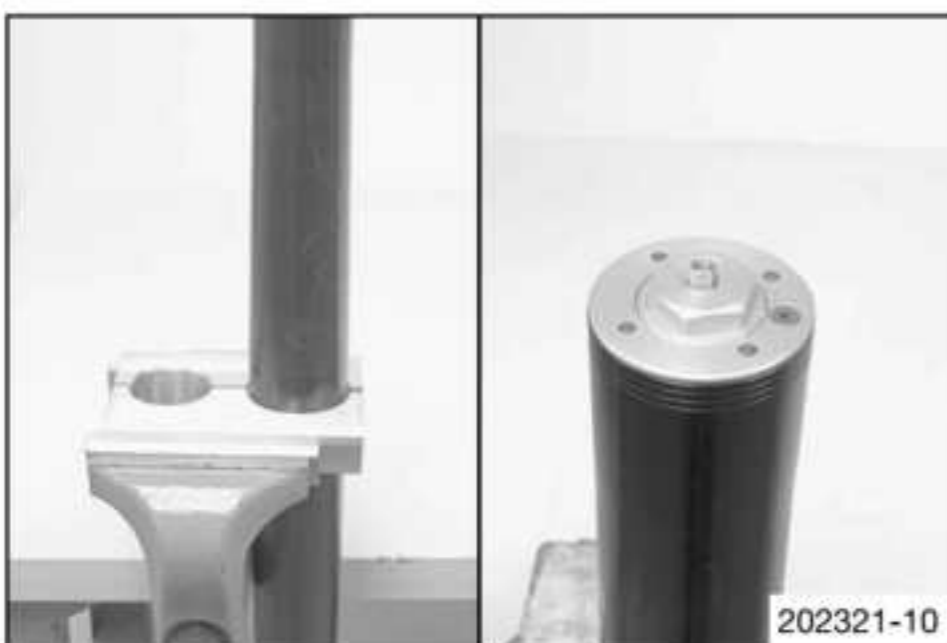
Nut, piston rod on screw cover	M12x1	25 Nm (18.4 lbf ft)
--------------------------------	-------	---------------------

- Release the special tool. Pull the spring downward. Remove the special tool.



- Clamp the fork vertically.
- Fill with fork oil.

Fork oil per fork leg	640 ml (21.64 fl. oz.)	Fork oil (SAE 4) (48601166S1) (📖 p. 377)
-----------------------	---------------------------	--



- Push the outside fork tube upwards.
- Clamp the fork in the area of the lower triple clamp.

Clamping stand (T1403S) (📖 p. 398)

- Lubricate O-ring of the Preload Adjuster.

Lubricant (T14034) (📖 p. 378)

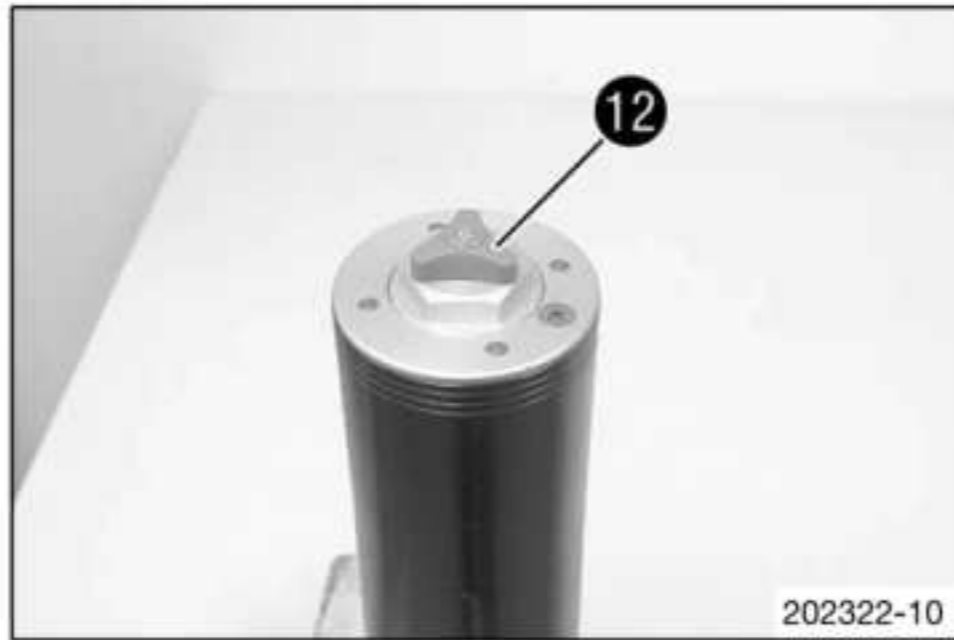
- Mount and tighten the Preload Adjuster.

Guideline

Screw cap on the outside fork tube	M47x1.5	40 Nm (29.5 lbf ft)
------------------------------------	---------	---------------------

Pin wrench (T103) (📖 p. 396)

6 FORK, TRIPLE CLAMP



- Mount adjuster **12**; mount and tighten the screw.

Guideline

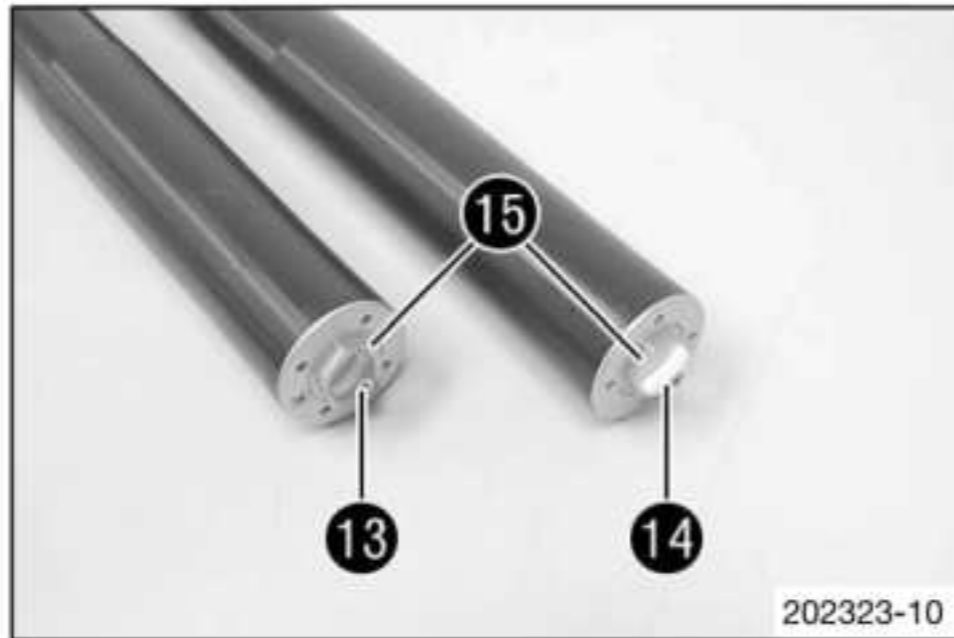
Adapter	M4x0.5	1.5 Nm (1.11 lbf ft)
---------	--------	----------------------



Info

Compression damping side: white adjuster, axle clamp marked **L**.

Rebound damping side: red adjuster, axle clamp marked **R**.



Alternative 1

- Turn the adjusting screw of rebound **13** and the adjusting screw of compression damping **14** clockwise as far as possible.
- Turn counterclockwise by the number of clicks corresponding to the fork type.

Guideline

Rebound damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	10 clicks
Compression damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	10 clicks

- Turn spring preload **15** clockwise all the way.
- Turn counterclockwise by the number of rotations corresponding to the fork type.

Guideline

Spring preload - Preload Adjuster	
Comfort	2 turns
Standard	5 turns
Sport	5 turns
Full payload	8 turns

Alternative 2



Warning

Danger of accident Modifications to the suspension setting may seriously alter the handling characteristic.

Extreme modifications to the suspension setting may cause a serious deterioration in the handling characteristic and overload components.

- Only make adjustments within the recommended range.
- Ride slowly to start with after making adjustments to get the feel of the new handling characteristic.

- Turn the adjusting screws to the position they were in before removing.

6.11 Checking steering head bearing play



Warning

Danger of accidents Incorrect steering head bearing play impairs the handling characteristic and damages components.

- Correct incorrect steering head bearing play immediately.



Info

If the vehicle is operated for a lengthy period with play in the steering head bearing, the bearings and the bearing seats in the frame can become damaged over time.

Preparatory work

- Raise the motorcycle with the work stand. (📖 p. 14)
- Place a load on rear of vehicle.
- ✓ The front wheel is not in contact with the ground.

Main work

- Move the handlebar to the straight-ahead position. Move the fork legs to and fro in the direction of travel.

Play should not be detectable on the steering head bearing.

» If there is detectable play:

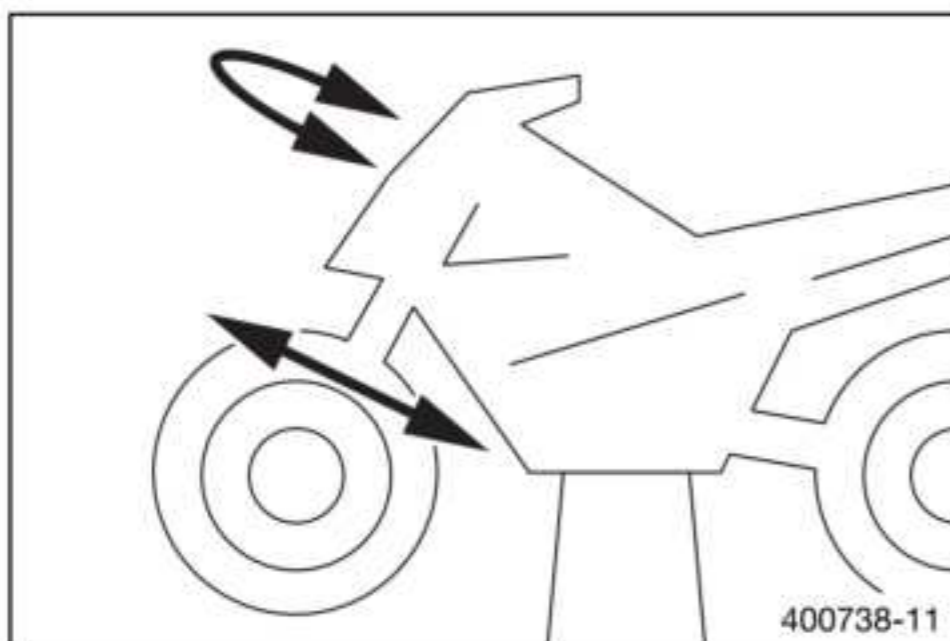
- Adjust steering head bearing play. (📖 p. 32)

- Move the handlebar to and fro over the entire steering range.

It must be possible to move the handlebar easily over the entire steering range. There should be no detectable detent positions.

» If detent positions are detected:

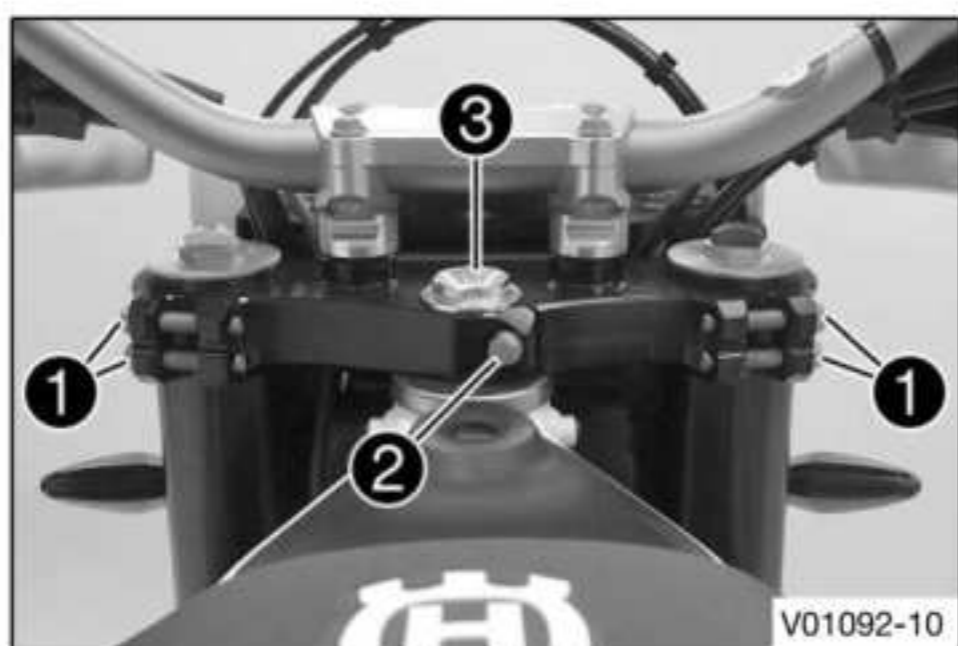
- Adjust steering head bearing play. (📖 p. 32)
- Check the steering head bearing and change if necessary.



Finishing work

- Remove the load from the rear of the vehicle.
- Remove the motorcycle from the work stand. (📖 p. 15)

6.12 Adjusting steering head bearing play



Preparatory work

- Raise the motorcycle with the work stand. (📖 p. 14)
- Place a load on rear of the vehicle.
- ✓ The front wheel is not in contact with the ground.

Main work (EU)

- Loosen screws ❶. Remove screw ❷.
- Loosen and retighten screw ❸.

Guideline

Screw, top steering head	M20x1.5	12 Nm (8.9 lbf ft)
--------------------------	---------	--------------------

- Using a plastic hammer, tap lightly on the upper triple clamp to avoid stresses.
- Tighten screws ❶.

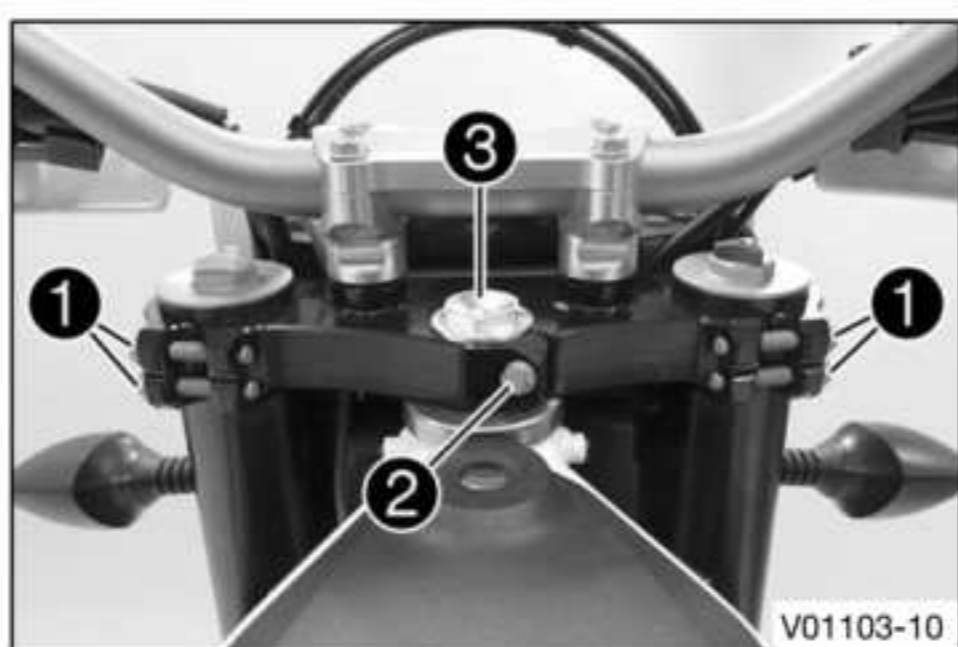
Guideline

Screw, top triple clamp	M8	17 Nm (12.5 lbf ft)
-------------------------	----	---------------------

- Mount and tighten screw ❷.

Guideline

Screw, steering stem	M8	20 Nm (14.8 lbf ft) Loctite®243™
----------------------	----	--



(US)

- Loosen screws ❶. Remove screw ❷.
- Loosen and retighten screw ❸.

Guideline

Screw, top steering head	M20x1.5	12 Nm (8.9 lbf ft)
--------------------------	---------	--------------------

- Using a plastic hammer, tap lightly on the upper triple clamp to avoid stresses.
- Tighten screws ❶.

Guideline

Screw, top triple clamp	M8	17 Nm (12.5 lbf ft)
-------------------------	----	---------------------

- Mount and tighten screw ❷.

Guideline

Screw, steering stem	M8	20 Nm (14.8 lbf ft) Loctite®243™
----------------------	----	--

Finishing work

- Check steering head bearing play. (📖 p. 31)
- Remove the load from the rear of the vehicle.

- Remove the motorcycle from the work stand. (📖 p. 15)

6.13 Removing the lower triple clamp

Preparatory work

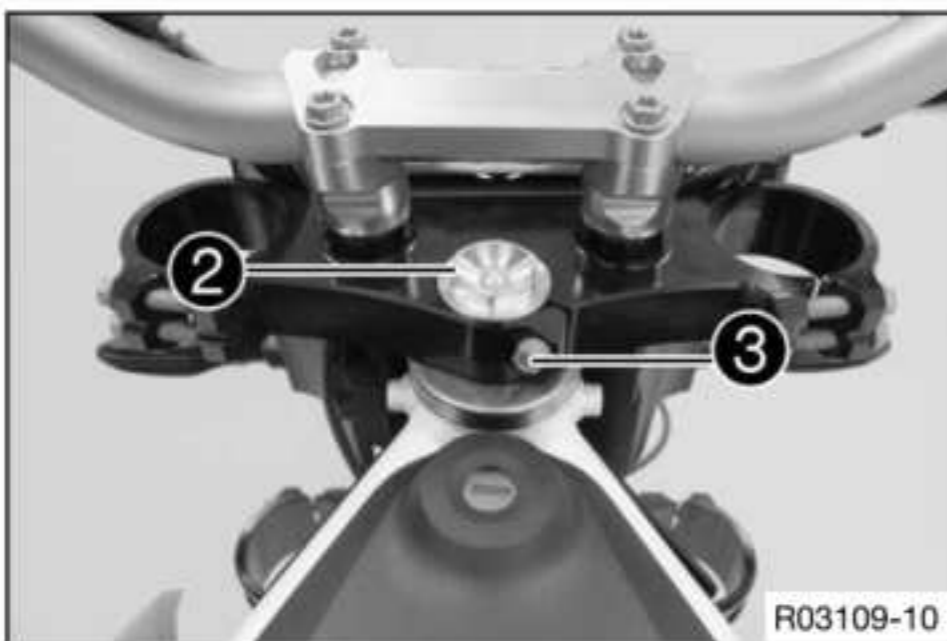
- Remove the headlight mask with the headlight. (📖 p. 170)
- Remove front fender. (📖 p. 109)
- Raise the motorcycle with the work stand. (📖 p. 14)
- Place a load on rear of the vehicle.
 - ✓ The front wheel is not in contact with the ground.
- Remove front wheel using a work stand. (📖 p. 114)
- Remove the fork legs. (📖 p. 20)

Main work

- Remove screws ①.



- Remove screw ②.
- Remove screw ③.
- Pull off the upper triple clamp with the handlebar and hang to the front.

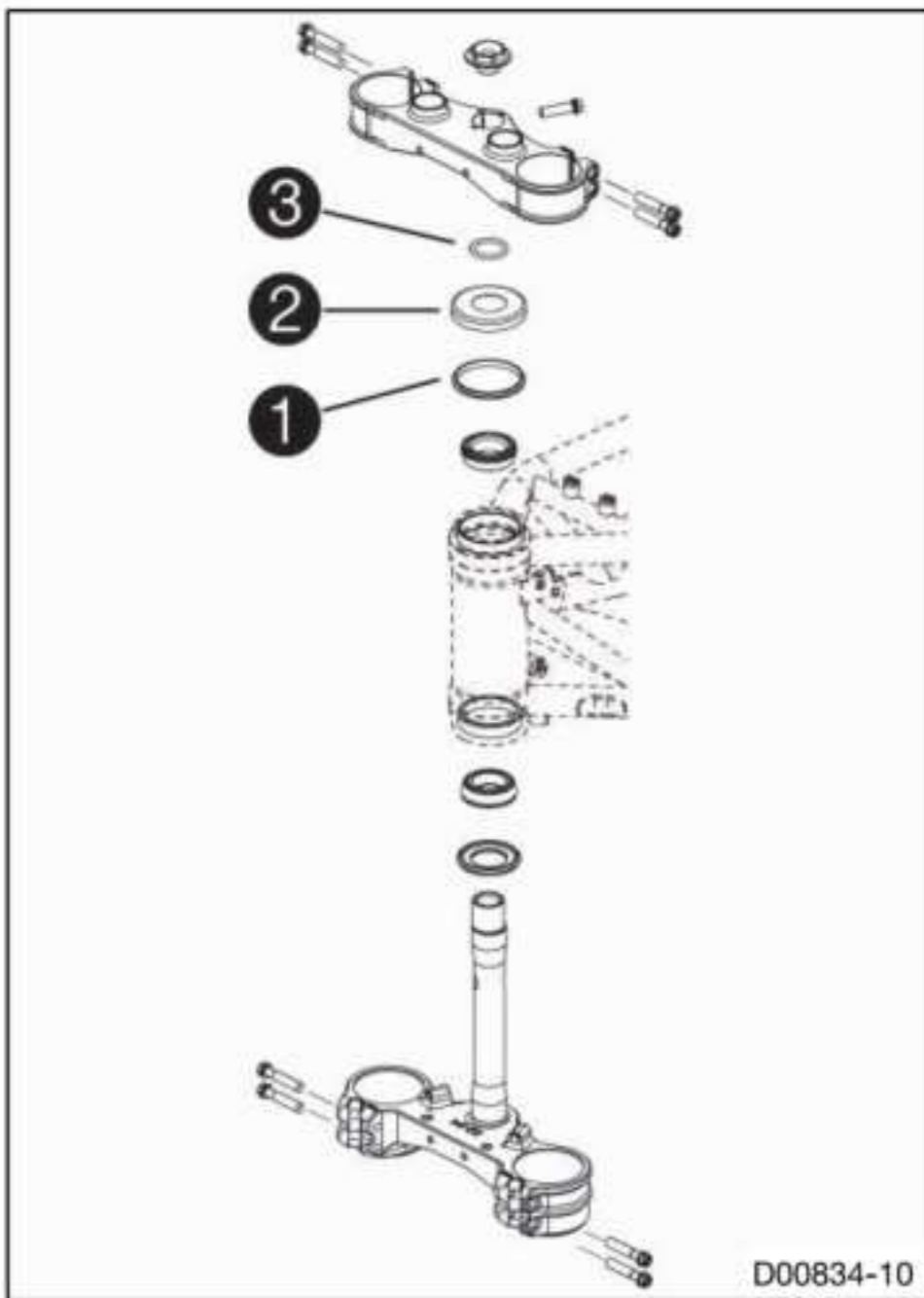


i Info
Cover the components to protect them against damage.
Do not kink the cables and lines.

- Remove O-ring ④. Remove protective ring ⑤.
- Take off the lower triple clamp with the steering stem.
- Remove the upper steering head bearing.

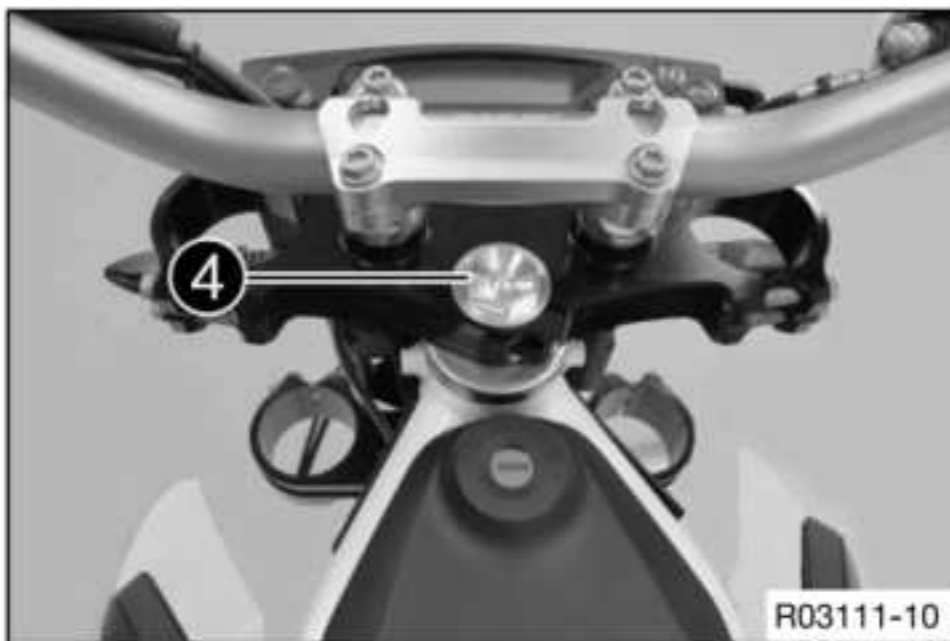


6.14 Installing the lower triple clamp

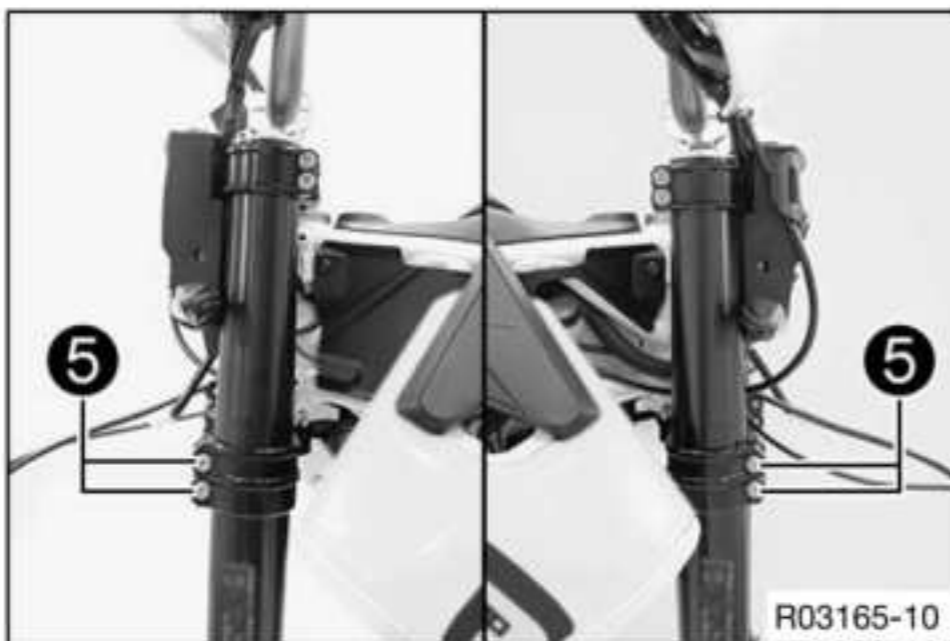


Main work

- Clean the bearing and sealing elements, check for damage, and grease.
- High viscosity grease (📖 p. 378)
- Insert the lower triple clamp with the steering stem. Mount the upper steering head bearing.
 - Check whether upper steering head seal ① is correctly positioned.
 - Slide on protective ring ② and O-ring ③.



- Position the upper triple clamp with the handlebar.
- Mount screw ④ but do not tighten yet.



- Position the fork legs in the triple clamps.

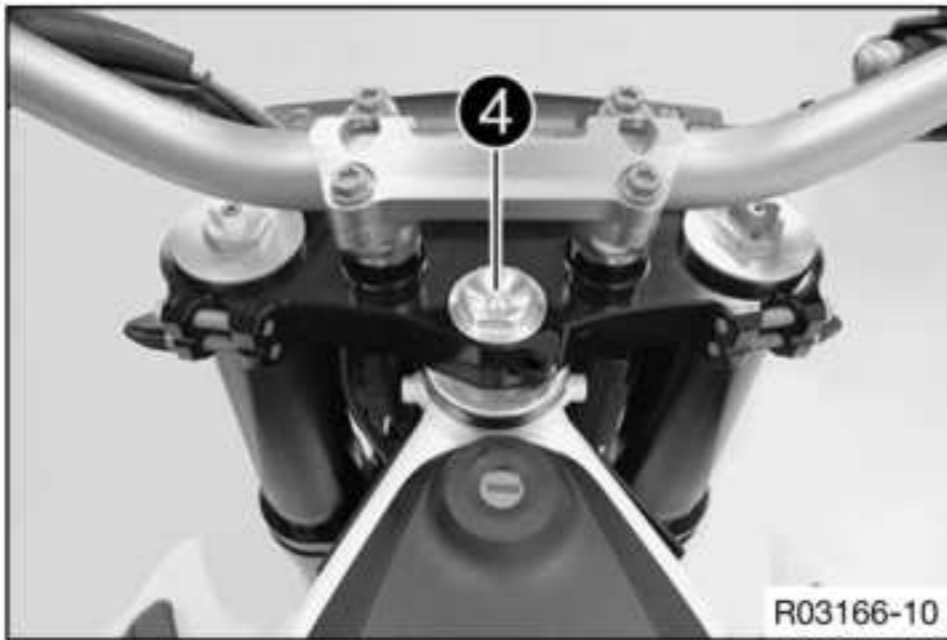
i Info

Grooves are milled into the side of the upper end of the fork legs. The second milled groove (from the top) must be flush with the top edge of the upper triple clamp.

- Tighten screws ⑤.

Guideline

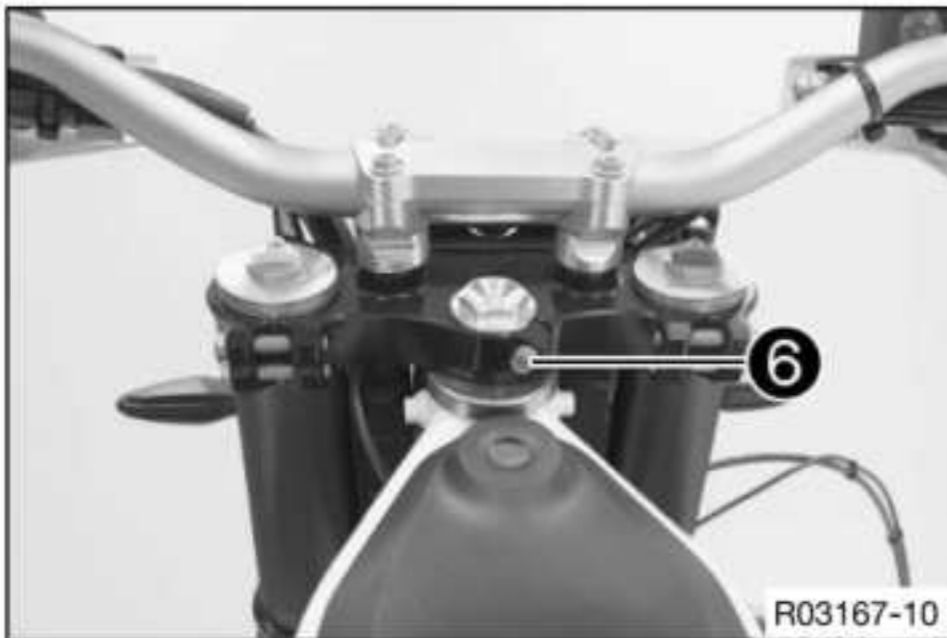
Screw, bottom triple clamp	M8	12 Nm (8.9 lbf ft)
----------------------------	----	--------------------



- Tighten screw 4.

Guideline

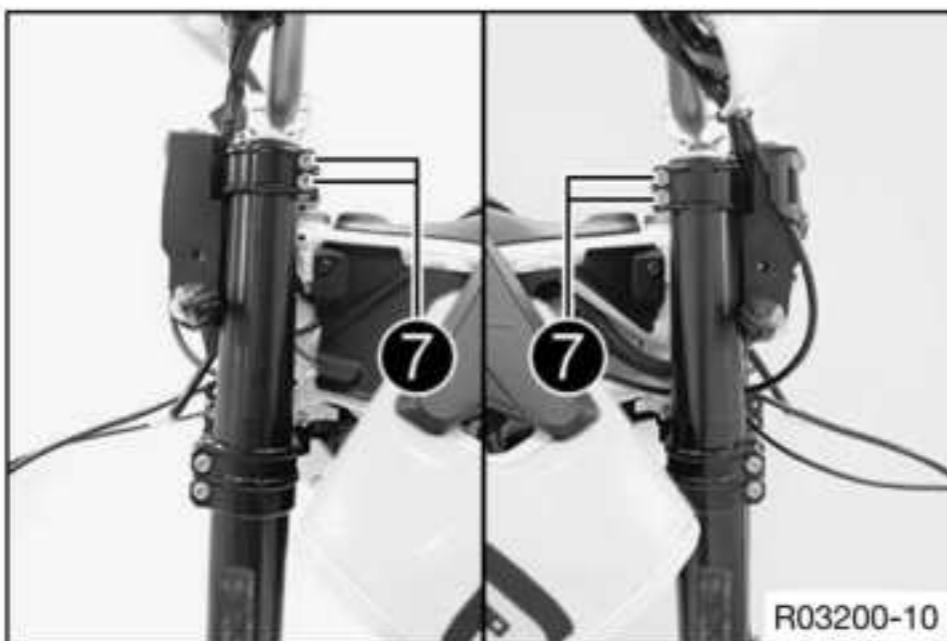
Screw, top steering head	M20x1.5	12 Nm (8.9 lbf ft)
--------------------------	---------	--------------------



- Mount and tighten screw 6.

Guideline

Screw, steering stem	M8	20 Nm (14.8 lbf ft) Loctite®243™
----------------------	----	--



- Using a plastic hammer, tap lightly on the upper triple clamp to avoid stresses.
- Tighten screws 7.

Guideline

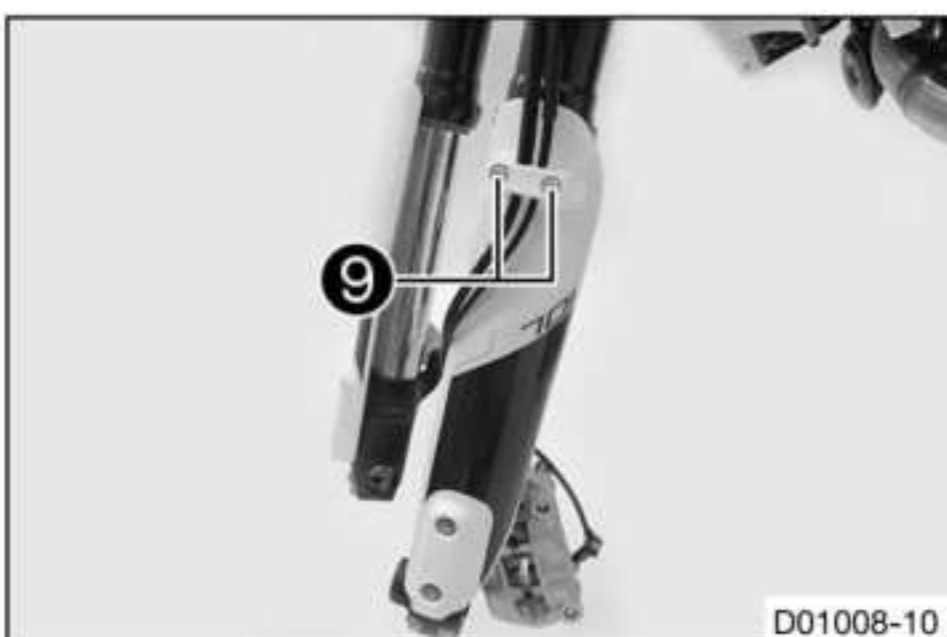
Screw, top triple clamp	M8	17 Nm (12.5 lbf ft)
-------------------------	----	---------------------



- Mount and tighten screws 8.

Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------



- Position the brake line, wiring harness, and clamp. Mount and tighten screws 9.

Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------

Finishing work

- Install front fender. (📖 p. 109)
- Install the headlight mask with the headlight. (📖 p. 171)
- Install the front wheel using a work stand. (📖 p. 116)

- Check that the wiring harness, throttle cables, and brake and clutch lines can move freely and are routed correctly.
- Check steering head bearing play. (📖 p. 31)
- Remove the load from the rear of the vehicle.
- Remove the motorcycle from the work stand. (📖 p. 15)
- Check the headlight setting. (📖 p. 169)

6.15 Changing the steering head bearing

Preparatory work

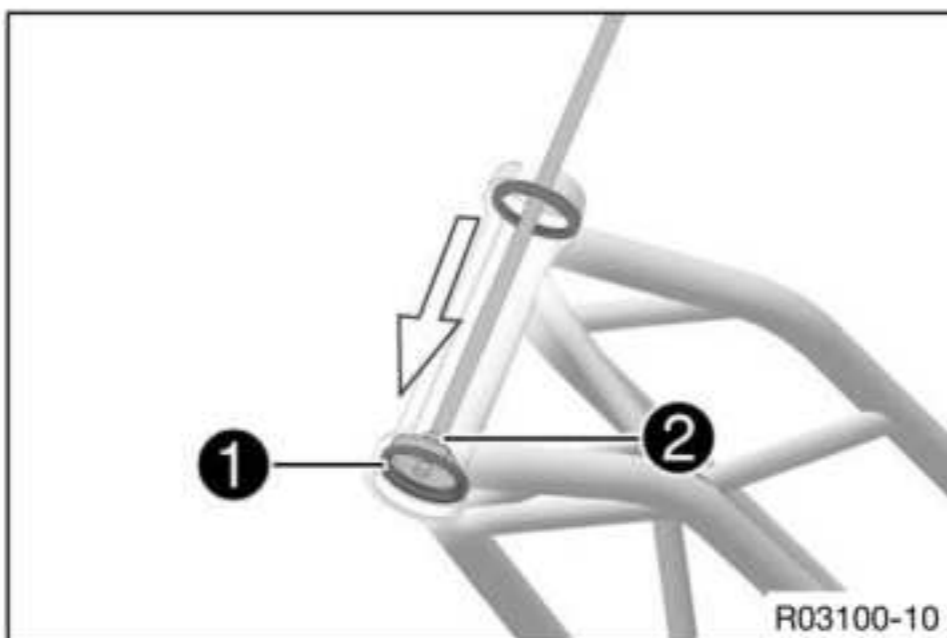
- Remove the headlight mask with the headlight. (📖 p. 170)
- Remove front fender. (📖 p. 109)
- Raise the motorcycle with the work stand. (📖 p. 14)
- Place a load on rear of the vehicle.
 - ✓ The front wheel is not in contact with the ground.
- Remove front wheel using a work stand. (📖 p. 114)
- Remove the fork legs. (📖 p. 20)
- Remove the lower triple clamp. (📖 p. 33)

Main work

- Remove lower bearing ring ❶ with special tool ❷.

Tool bracket (58429089000) (📖 p. 383)

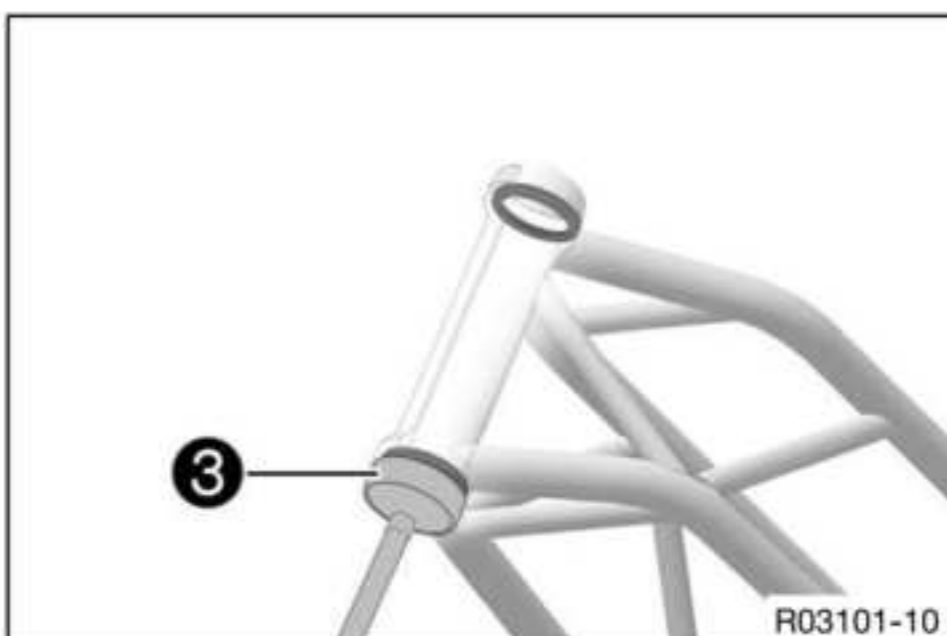
Pressing tool (58429092000) (📖 p. 383)
--



- Press the new bearing ring up to the stop with special tool ❸.

Tool bracket (58429089000) (📖 p. 383)

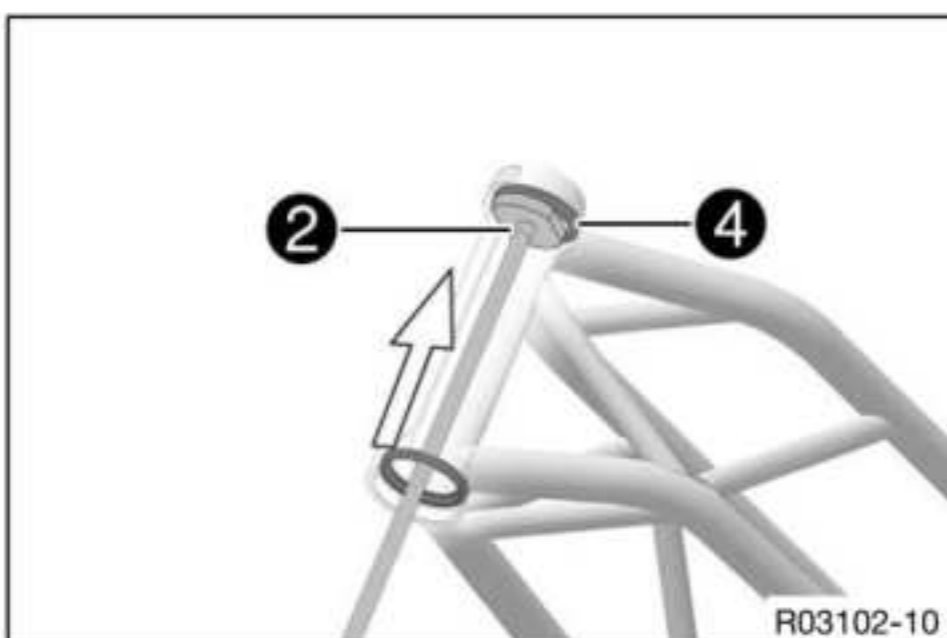
Pressing tool (58429091000) (📖 p. 383)
--

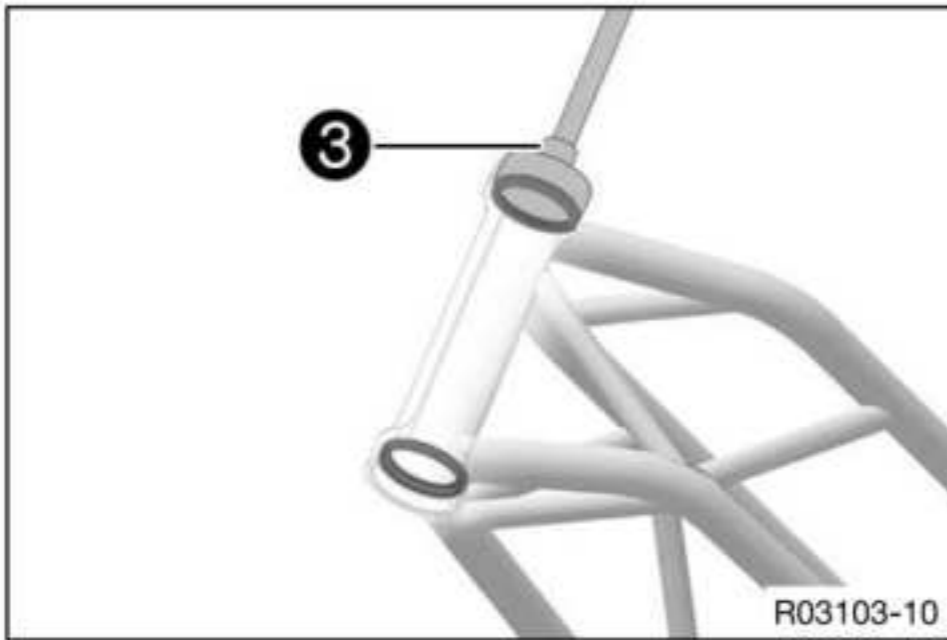


- Remove upper bearing ring ❹ with special tool ❷.

Tool bracket (58429089000) (📖 p. 383)

Pressing tool (58429092000) (📖 p. 383)
--

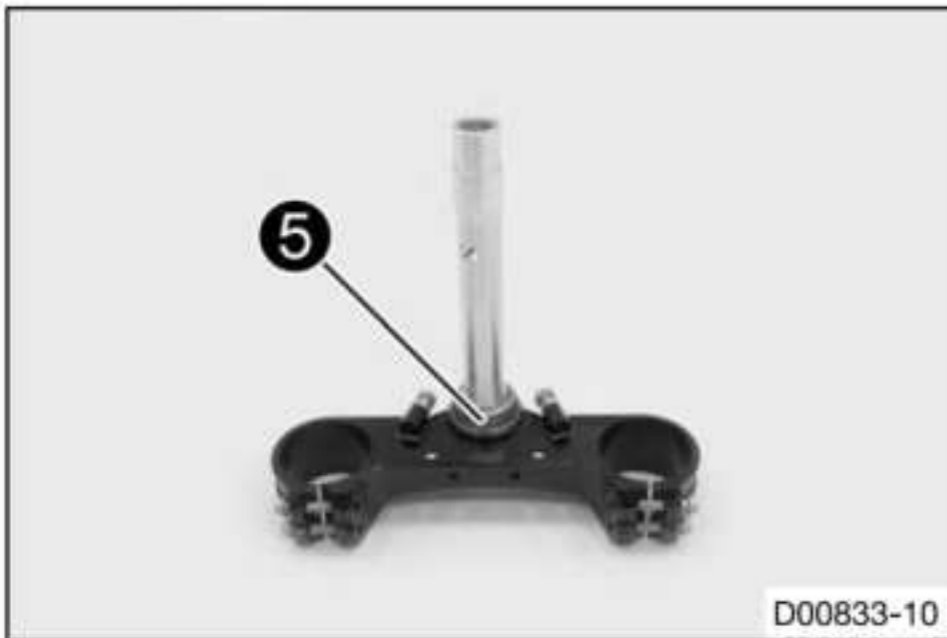




- Press the new bearing ring up to the stop with special tool **3**.

Tool bracket (58429089000) (📖 p. 383)

Pressing tool (58429091000) (📖 p. 383)
--



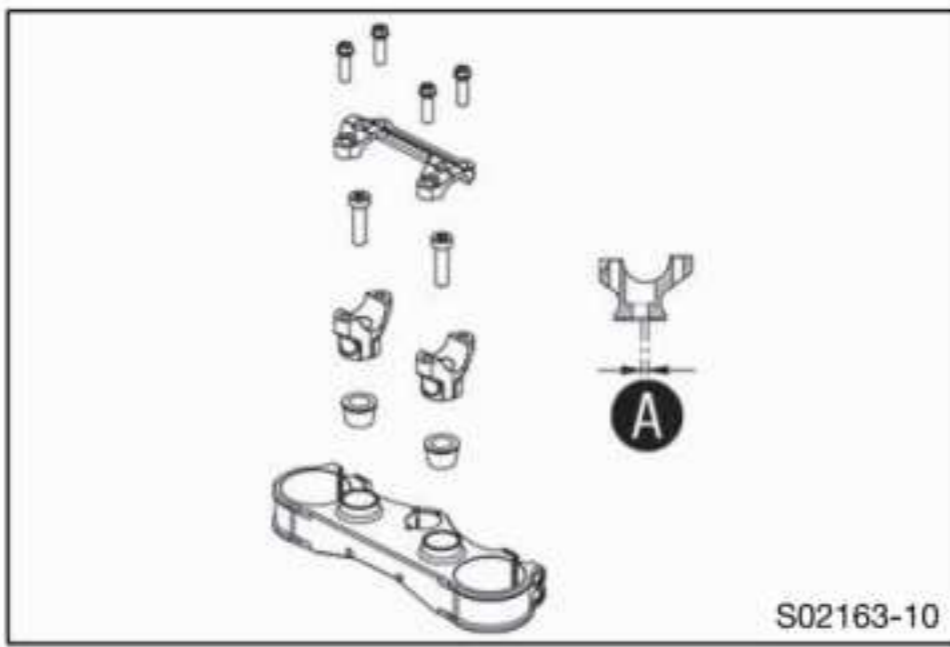
- Remove lower steering head bearing **5**.
- Remove the seal ring.
- Grease and mount the new seal ring.
- Press on the new bearing with a suitable tube as far as it will go.

Finishing work

- Install the lower triple clamp. (📖 p. 34)
- Install front fender. (📖 p. 109)
- Install the headlight mask with the headlight. (📖 p. 171)
- Install the front wheel using a work stand. (📖 p. 116)
- Check that the wiring harness, throttle cables, and brake and clutch lines can move freely and are routed correctly.
- Check steering head bearing play. (📖 p. 31)
- Remove the load from the rear of the vehicle.
- Remove the motorcycle from the work stand. (📖 p. 15)
- Check the headlight setting. (📖 p. 169)

7 HANDLEBAR, CONTROLS

7.1 Handlebar position



The holes on the handlebar support are placed at a distance of **A** from the center.

Hole distance A	3.5 mm (0.138 in)
------------------------	-------------------

The handlebar can be mounted in 2 different positions. This allows the handlebar to be mounted in the most comfortable position for the rider.

7.2 Adjusting the handlebar position

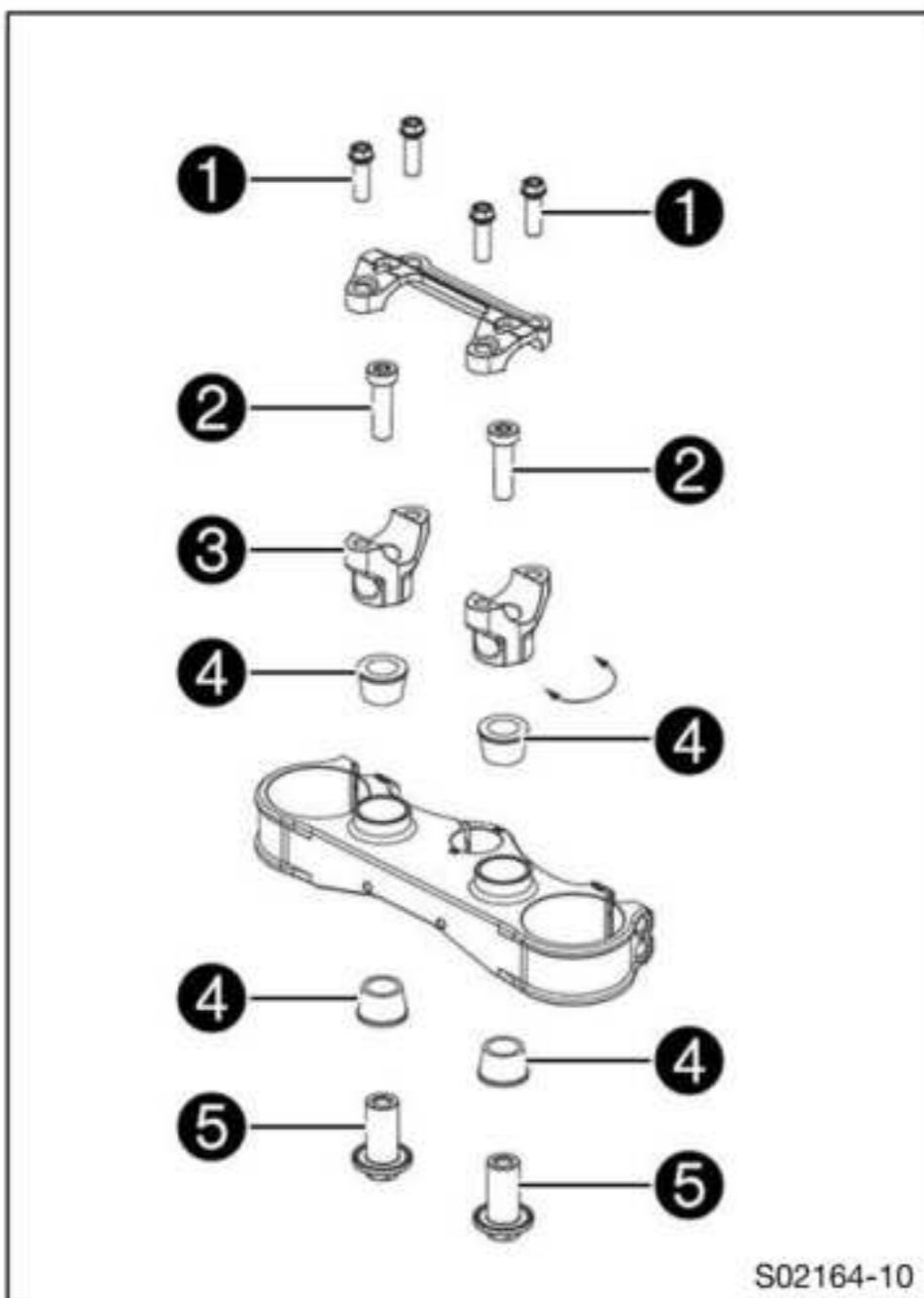


Warning

Danger of accidents A repaired handlebar poses a safety risk.

If the handlebar is bent or straightened, the material becomes fatigued. The handlebar may break as a result.

- Change the handlebar if the handlebar is damaged or bent.



- Remove screws **1**. Take off the handlebar clamp. Remove the handlebar and lay it to one side.

Info

Cover the components to protect them against damage.

Do not kink the cables and lines.

- Remove screws **2**. Remove handlebar support **3**.
- Position rubber bushings **4** and push through nuts **5** from below.
- Place the handlebar support in the required position.

Info

The handlebar supports are longer and higher on one side.

Position the left and right handlebar supports evenly.

- Mount and tighten screws **2**.

Guideline

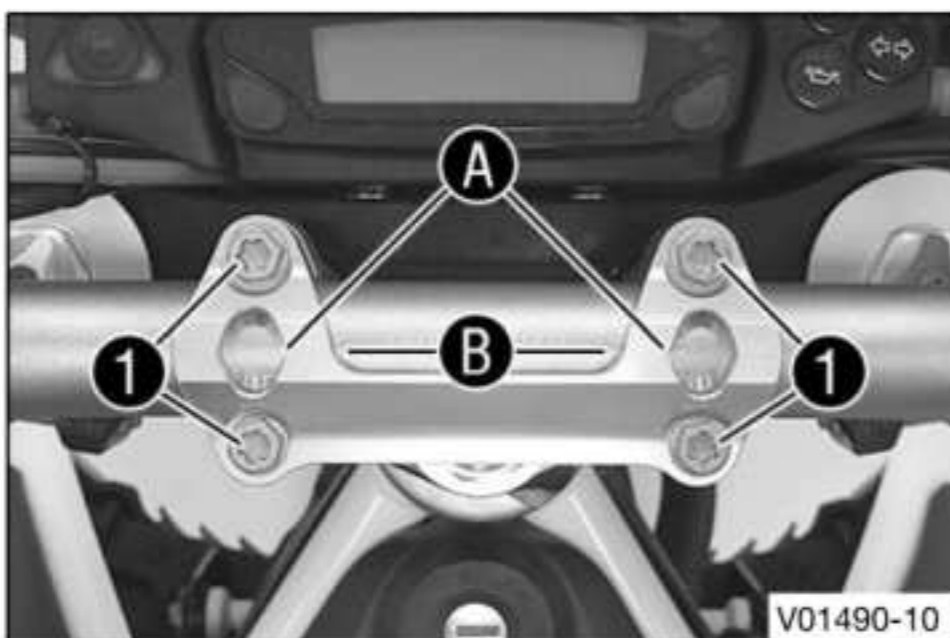
Screw, handlebar support	M10	45 Nm (33.2 lbf ft) Loctite®243™
--------------------------	-----	--

- Position the handlebar.

Info

Make sure the cables and wiring are positioned correctly.

- Position the handlebar clamp.
- Mount screws **1** but do not tighten yet.



- ✓ Handlebar clamp marking **A** is aligned with center line **A** of the handlebar scale.
- First bolt the handlebar clamp with screws **1** onto the longer, higher side of the handlebar supports so that both parts touch.
- Tighten screws **1** evenly.

Guideline

Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)
------------------------	----	---------------------

7.3 Changing the throttle grip

Preparatory work

- Remove the headlight mask with the headlight. (📖 p. 170)
- Remove the seat. (📖 p. 93)
- Take off the side cover. (📖 p. 93)

Main work

- Remove the cable ties.



- Remove screw **1**.



- Push the trim aside.
- Disconnect plug-in connector **2**.
- Expose the cable of the accelerator position sensor.

7 HANDLEBAR, CONTROLS



- Slip out the accelerator position sensor cable through the opening in the instrument support.



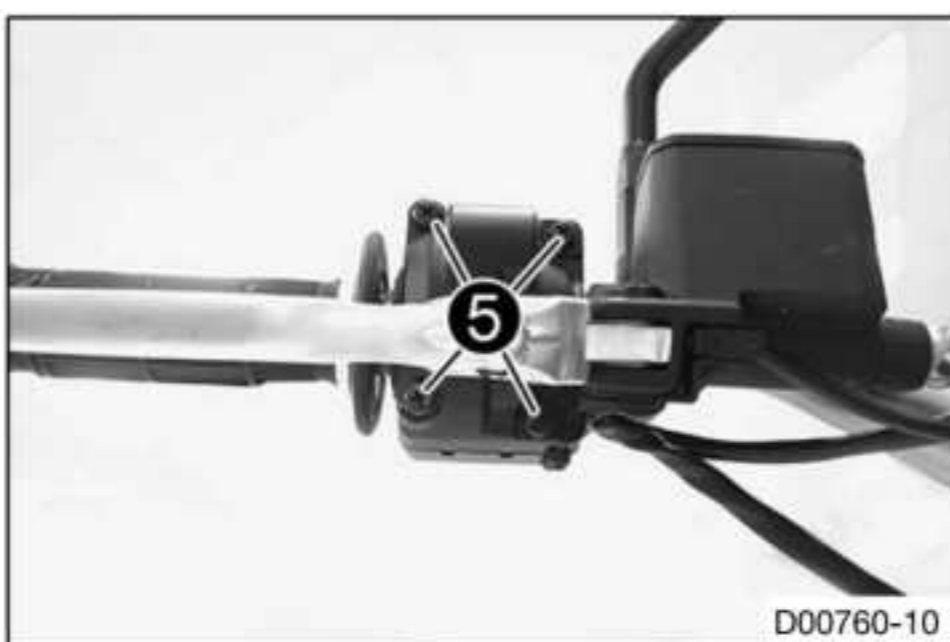
- Remove the cable ties.



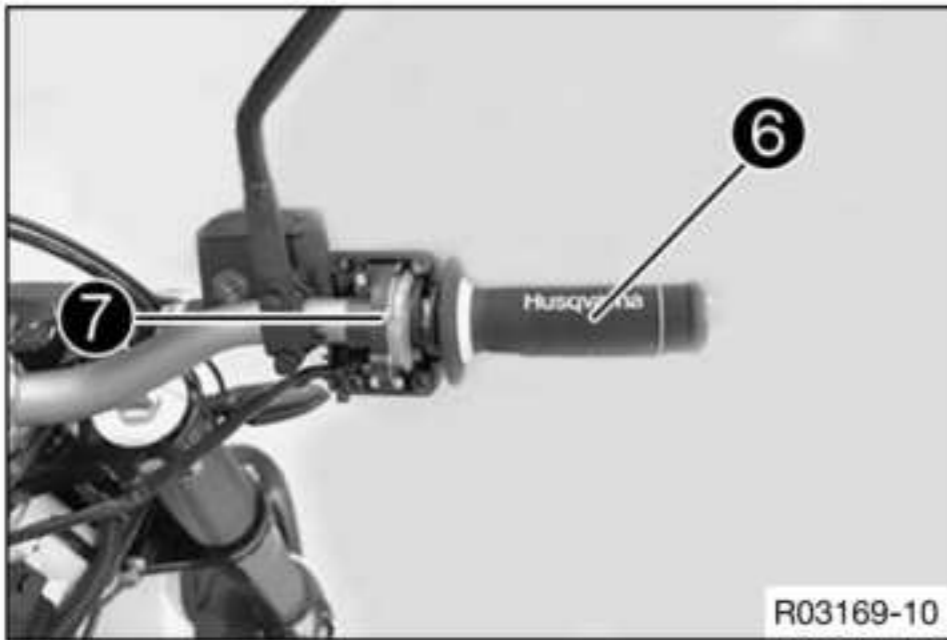
- Loosen screw ③.



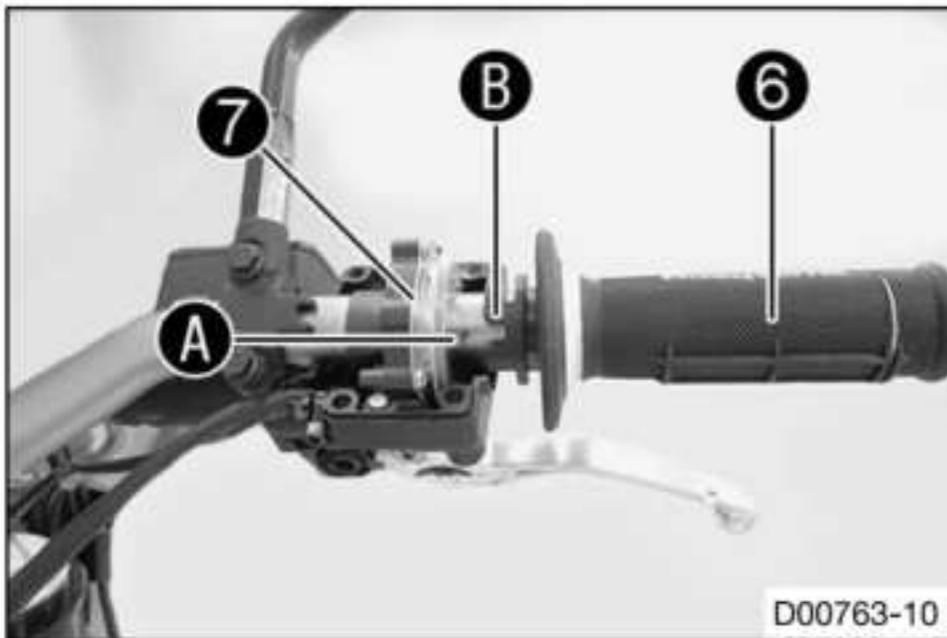
- Remove screw ④.
- Take off hand guard.



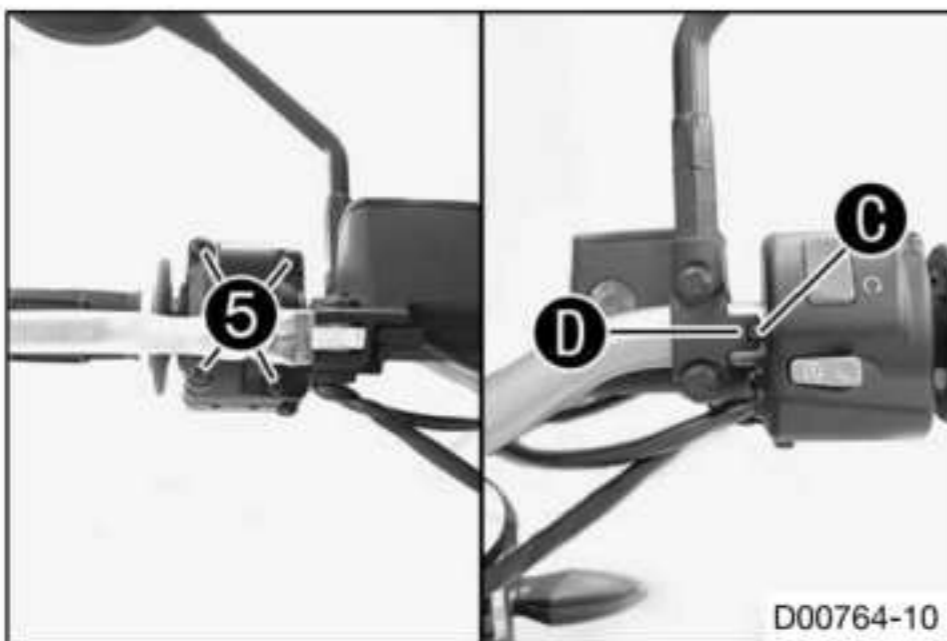
- Remove screws ⑤.



- Pull throttle grip **6** and accelerator position sensor **7** from the handlebar.



- Position throttle grip **6** and accelerator position sensor **7** on the handlebar.
- ✓ Holding lug **A** engages in inner clutch hub **B**.



- Mount and tighten screws **5**.

Guideline

Screw, throttle grip	M5	3.5 Nm (2.58 lbf ft)
----------------------	----	----------------------

- ✓ The holding lug **C** engages in the recess **D**.



- Position hand guard.
- Mount and tighten screw **4**.

Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------



- Tighten screw **3**.



- Route the cable without tension and secure with cable ties.



- Route the accelerator position sensor cable through the opening in the instrument support without tension.



- Push the trim aside.
- Join plug-in connector **2**.
- Route the wiring harness of the accelerator position sensor without tension.



- Mount and tighten screw **1**.
- Route the wiring harness of the accelerator position sensor without tension.



- Secure the cable with the cable ties.

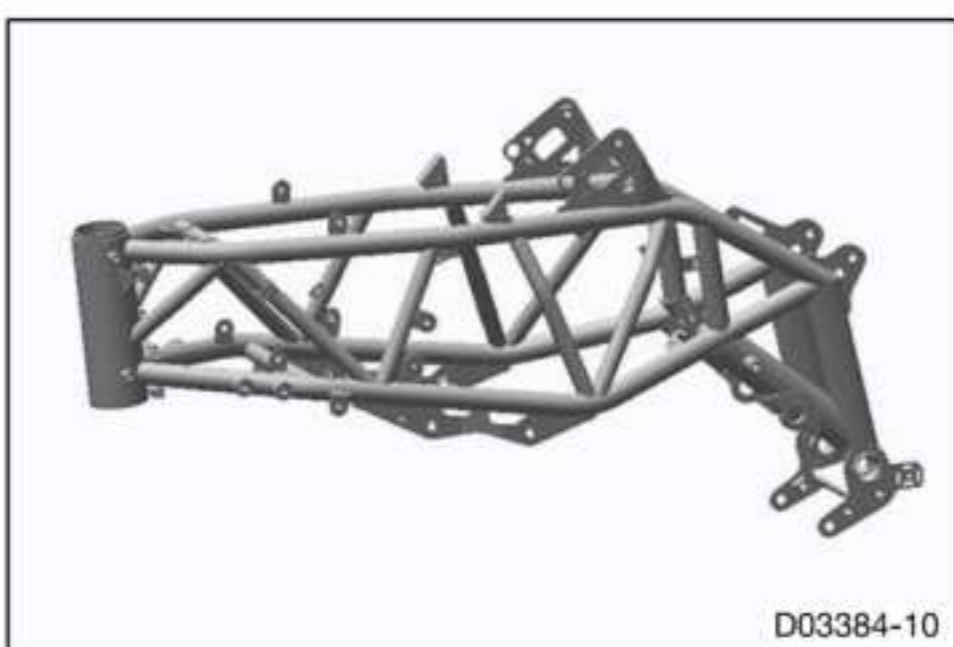
Finishing work

- Install the headlight mask with the headlight. (📖 p. 171)
- Check the headlight setting. (📖 p. 169)
- Reset the engine electronics control unit. (📖 p. 311)

- Program the gear position sensor. (📖 p. 281)
- Mount the side cover. (📖 p. 94)
- Mount the seat. (📖 p. 93)



8.1 Checking the frame



- Check the frame for cracks and deformation.
 - » If the frame exhibits cracks or deformation due to a mechanical impact:
 - Change the frame.

i Info Always replace a frame that has been damaged due to a mechanical impact. Repair of the frame is not authorized by Husqvarna Motorcycles.

9.1 Adjusting the high-speed compression damping of the shock absorber



Caution

Risk of injury Parts of the shock absorber will move around if the shock absorber is detached incorrectly.

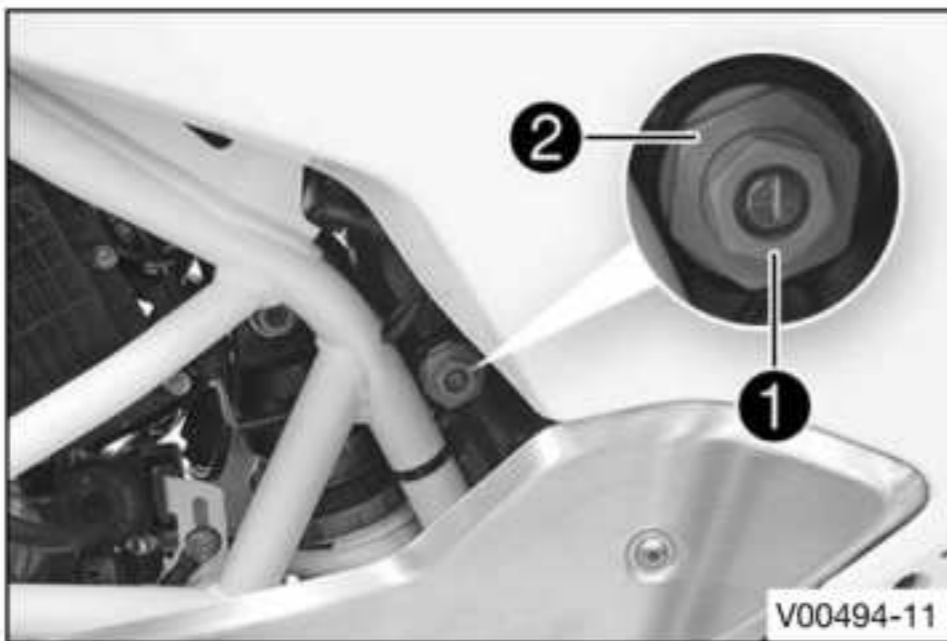
The shock absorber is filled with highly compressed nitrogen.

- Please follow the description provided.



Info

The high-speed setting takes effect during fast compression of the shock absorber.



(EU)

- Turn adjusting screw **1** all the way clockwise with a socket wrench.



Info

Do not loosen fitting **2**!

- Turn counterclockwise by the number of turns corresponding to the shock absorber type.

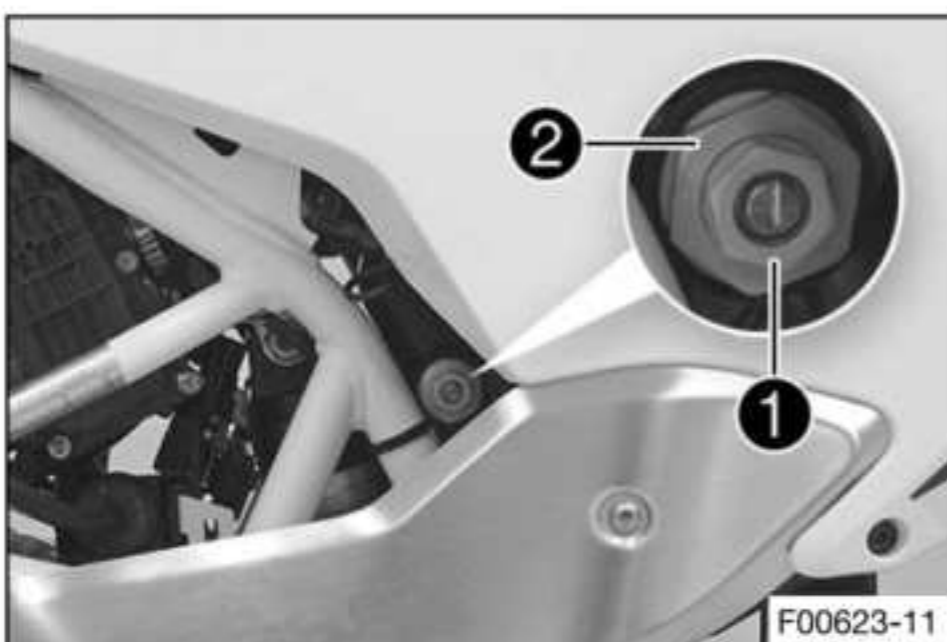
Guideline

High-speed compression damping	
Comfort	2 turns
Standard	1.5 turns
Sport	1 turn
Full payload	1 turn



Info

Turn clockwise to increase damping; turn counterclockwise to reduce damping.



(US)

- Turn adjusting screw **1** all the way clockwise with a socket wrench.



Info

Do not loosen fitting **2**!

- Turn counterclockwise by the number of turns corresponding to the shock absorber type.

Guideline

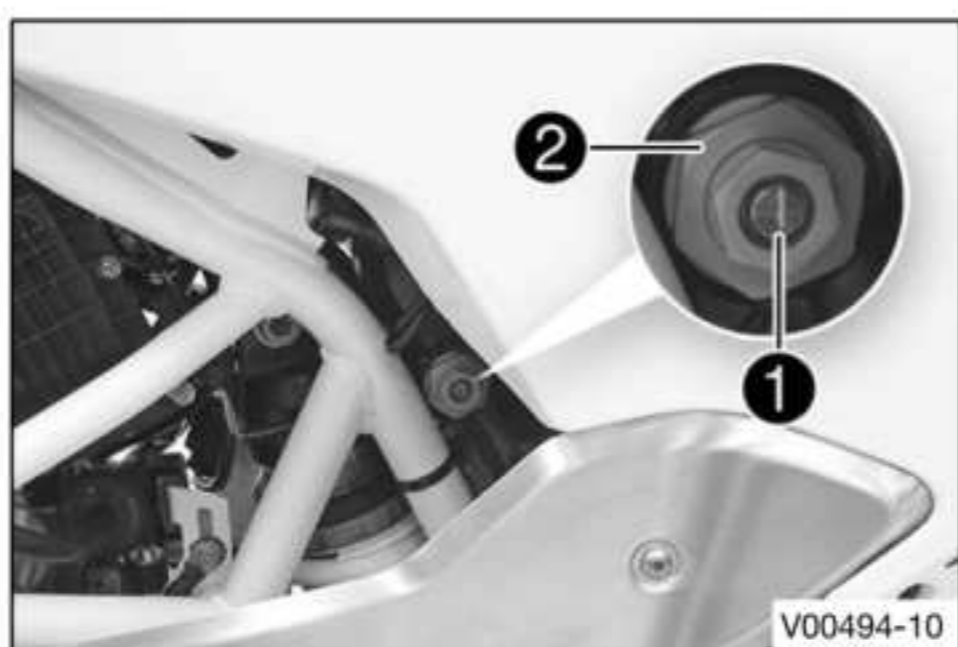
High-speed compression damping	
Comfort	2 turns
Standard	1.5 turns
Sport	1 turn
Full payload	1 turn

i Info
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

9.2 Adjusting the low-speed compression damping of the shock absorber

! Caution
Risk of injury Parts of the shock absorber will move around if the shock absorber is detached incorrectly.
The shock absorber is filled with highly compressed nitrogen.
– Please follow the description provided.

i Info
The low-speed setting takes effect during slow to normal compression of the shock absorber.



(EU)

- Turn adjusting screw **1** clockwise with a screwdriver as far as the last perceptible click.

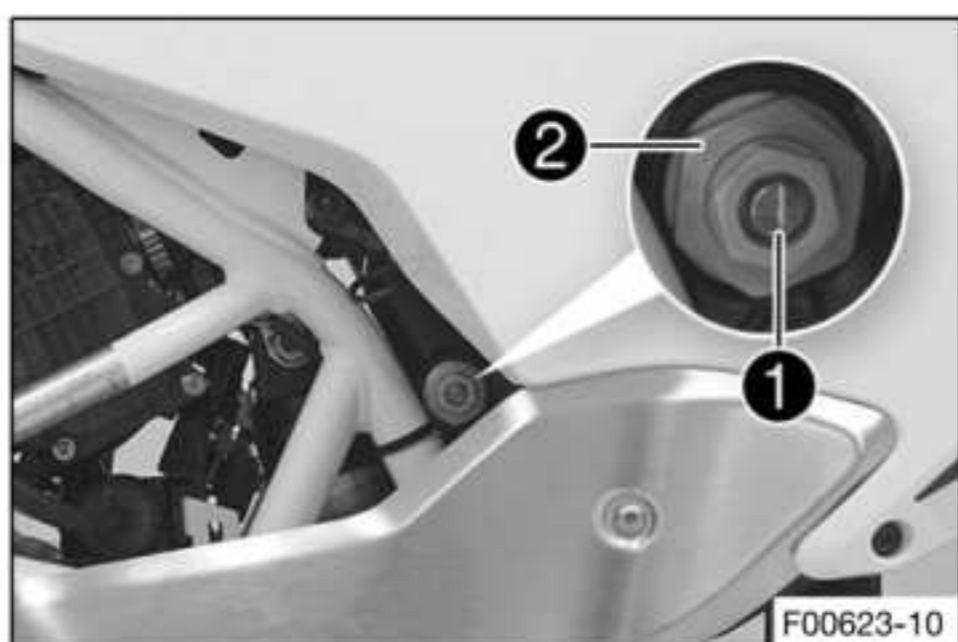
i Info
Do not loosen fitting **2**!

- Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

Guideline

Low-speed compression damping	
Comfort	25 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	10 clicks

i Info
Turn clockwise to increase damping; turn counterclockwise to reduce damping.



(US)

- Turn adjusting screw **1** clockwise with a screwdriver as far as the last perceptible click.

i Info
Do not loosen fitting **2**!

- Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

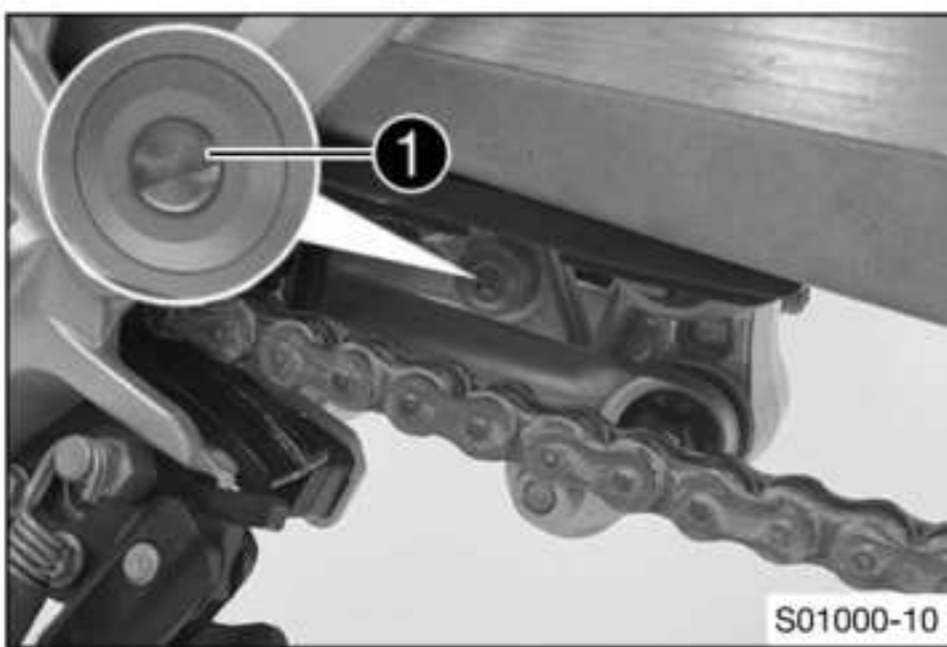
Guideline

Low-speed compression damping	
Comfort	25 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	10 clicks

i Info
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

9.3 Adjusting the rebound damping of the shock absorber

⚠ Caution
Risk of injury Parts of the shock absorber will move around if the shock absorber is detached incorrectly.
The shock absorber is filled with highly compressed nitrogen.
– Please follow the description provided.



- Turn adjusting screw **1** clockwise up to the last perceptible click.
- Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

Guideline

Rebound damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	10 clicks

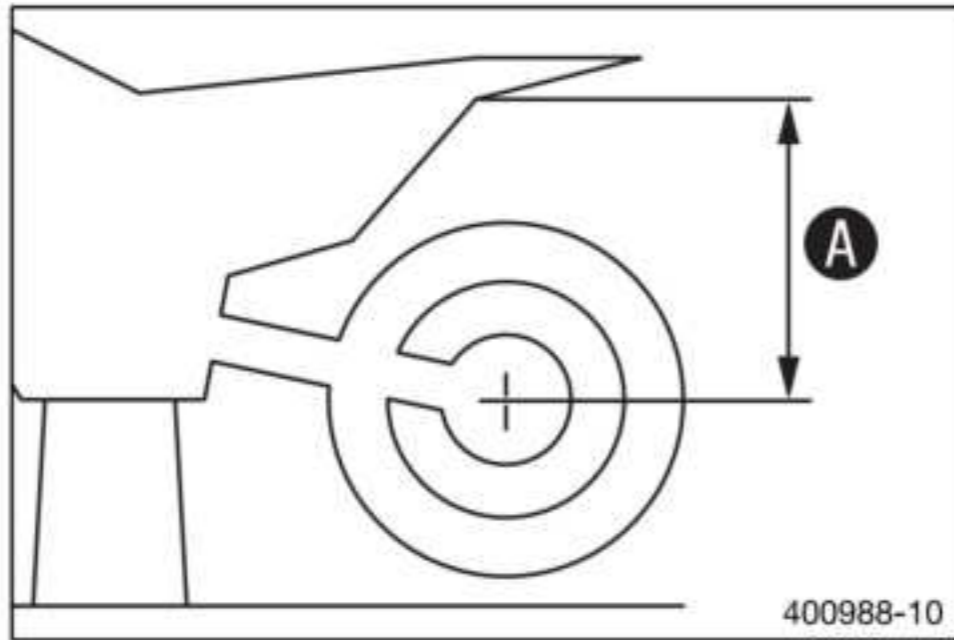
i Info
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

9.4 Measuring the rear wheel dimension unloaded

Preparatory work

- Raise the motorcycle with the work stand. (📖 p. 14)

9 SHOCK ABSORBER, LINK FORK



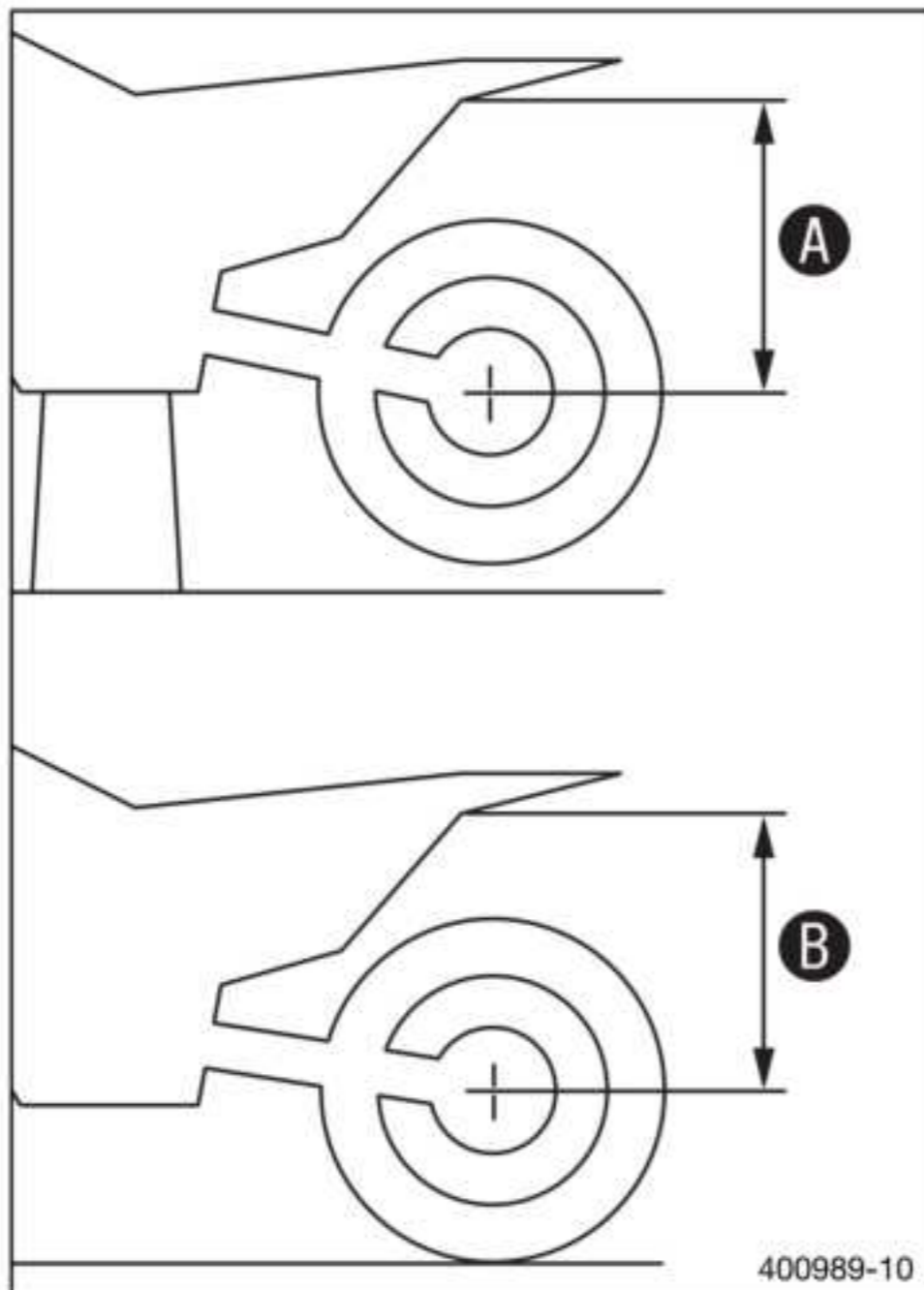
Main work

- Measure the distance – as vertical as possible – between the rear axle and a fixed point, for example, a mark on the rear fairing.
- Note down the value as dimension **A**.

Finishing work

- Remove the motorcycle from the work stand. (📖 p. 15)

9.5 Checking the static sag of the shock absorber



- Measure dimension **A** of rear wheel unloaded. (📖 p. 47)
- Hold the motorcycle upright with the aid of an assistant.
- Measure the distance between the rear axle and the fixed point again.
- Note down the value as dimension **B**.

i Info

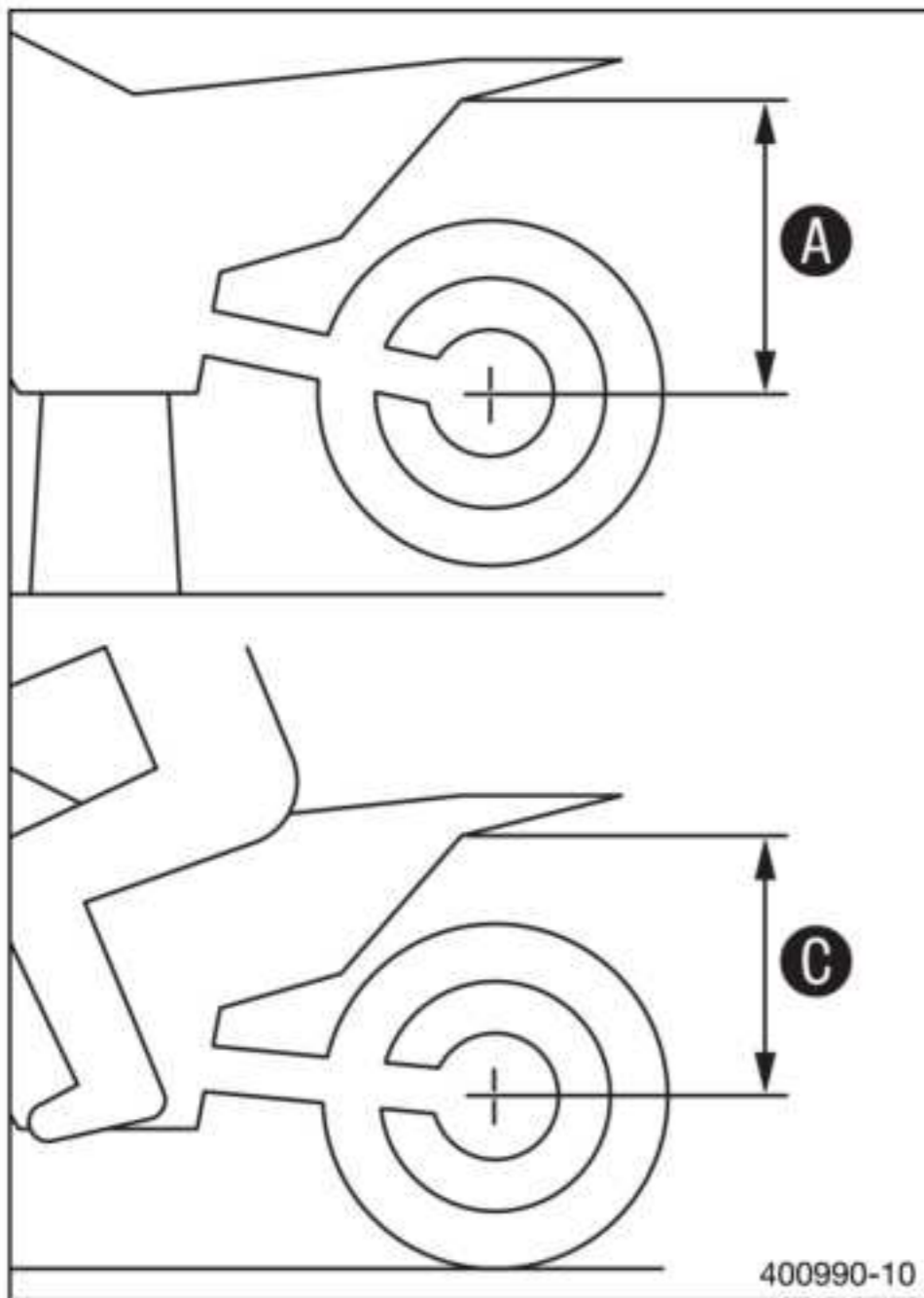
The static sag is the difference between measurements **A** and **B**.

- Check the static sag.

Static sag	25 mm (0.98 in)
------------	-----------------

- » If the static sag is less or more than the specified value:
 - Adjust the spring preload of the shock absorber. (📖 p. 49)

9.6 Checking the riding sag of the shock absorber



- Measure dimension **A** of rear wheel unloaded. (📖 p. 47)
- With another person holding the motorcycle, the rider, wearing full protective clothing, sits on the seat in a normal sitting position (feet on footrests) and bounces up and down a few times.
 - ✓ The rear wheel suspension levels out.
- Another person now measures the distance between the rear axle and the fixed point.
- Note down the value as dimension **C**.

i Info
The riding sag is the difference between measurements **A** and **C**.

- Check the riding sag.

Riding sag	70 ... 75 mm (2.76 ... 2.95 in)
------------	---------------------------------

- » If the riding sag differs from the specified measurement:
 - Adjust the riding sag. (📖 p. 50)

9.7 Adjusting the spring preload of the shock absorber

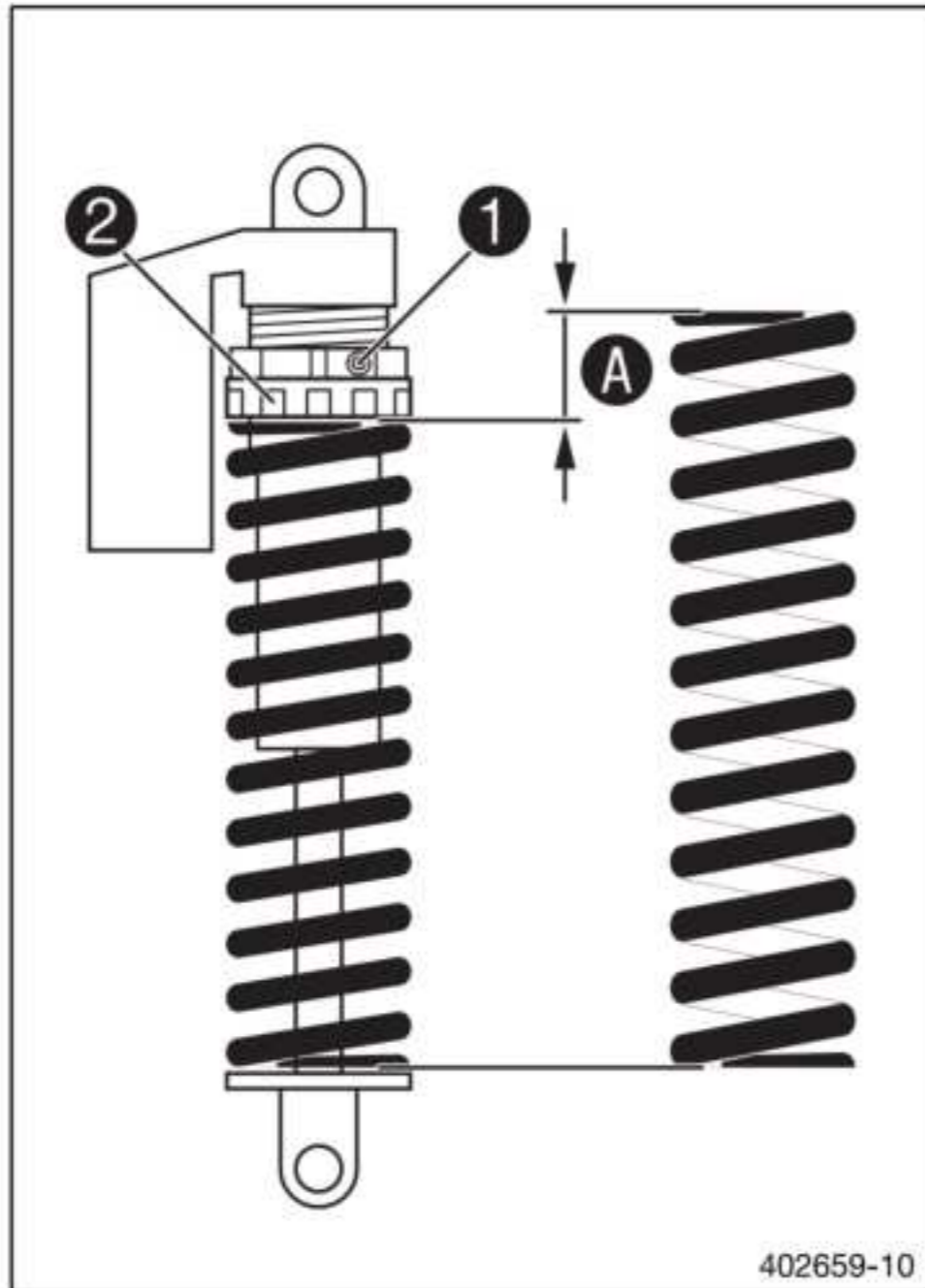
⚠ Caution
Risk of injury Parts of the shock absorber will move around if the shock absorber is detached incorrectly.
The shock absorber is filled with highly compressed nitrogen.

- Please follow the description provided.

i Info
Before changing the spring preload, make a note of the present setting, e.g., by measuring the spring length.

Preparatory work

- Raise the motorcycle with the work stand. (📖 p. 14)
- Remove the seat. (📖 p. 93)
- Take off the side cover. (📖 p. 93)
- Remove the air filter box. (📖 p. 87)
- Remove the rear fairing. (📖 p. 96)
- Remove the rear left side cover. (📖 p. 95)
- Remove the rear right side cover. (📖 p. 94)
- Remove the shock absorber. (📖 p. 52)
- After removing the shock absorber, clean it thoroughly.



Main work

- Loosen screw ①.
- Turn adjusting ring ② until the spring is no longer under tension.

Hook wrench (T106S) (📖 p. 396)

- Measure the overall spring length while the spring is not under tension.
- Tighten the spring by turning adjusting ring ② to measurement A.

Guideline

Spring preload	21 mm (0.83 in)
----------------	-----------------

i Info

Depending on the static sag and/or the riding sag, it may be necessary to increase or decrease the spring preload.

- Tighten screw ①.

Guideline

Screw, shock absorber adjusting ring	M5	5 Nm (3.7 lbf ft)
--------------------------------------	----	-------------------

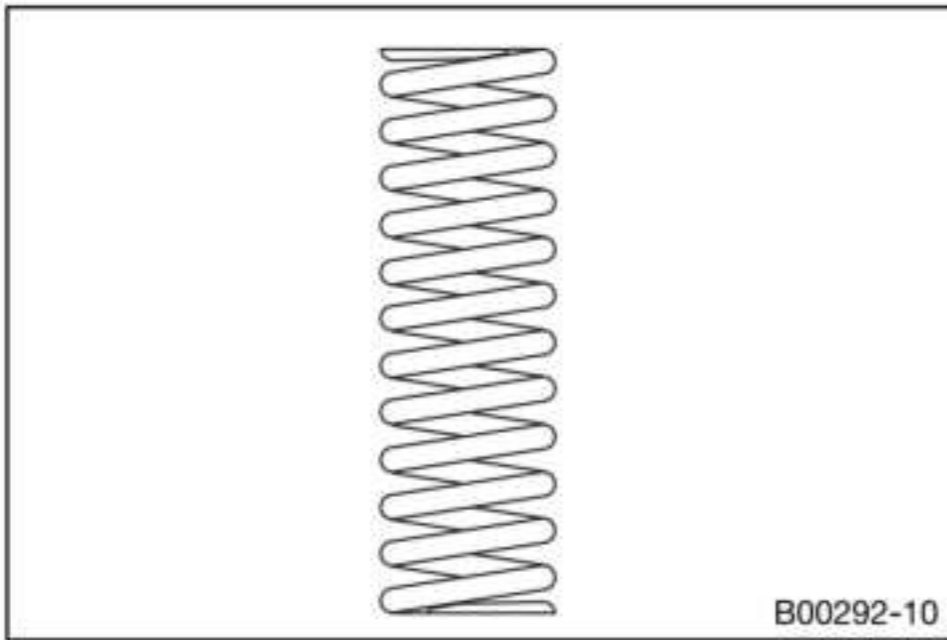
Finishing work

- Install the shock absorber. (📖 p. 53)
- Install the rear right side cover. (📖 p. 95)
- Install the rear left side cover. (📖 p. 96)
- Fit the rear fairing. (📖 p. 97)
- Install the air filter box. (📖 p. 89)
- Mount the side cover. (📖 p. 94)
- Mount the seat. (📖 p. 93)
- Remove the motorcycle from the work stand. (📖 p. 15)

9.8 Adjusting the riding sag

Preparatory work

- Raise the motorcycle with the work stand. (📖 p. 14)
- Remove the seat. (📖 p. 93)
- Take off the side cover. (📖 p. 93)
- Remove the air filter box. (📖 p. 87)
- Remove the rear fairing. (📖 p. 96)
- Remove the rear left side cover. (📖 p. 95)
- Remove the rear right side cover. (📖 p. 94)
- Remove the shock absorber. (📖 p. 52)
- After removing the shock absorber, clean it thoroughly.

**Main work**

- Choose and mount a suitable spring.

Guideline

Spring rate	
Medium (standard)	75 N/mm (428 lb/in)
Hard	80 N/mm (457 lb/in)

**Info**

The spring rate is shown on the outside of the spring.

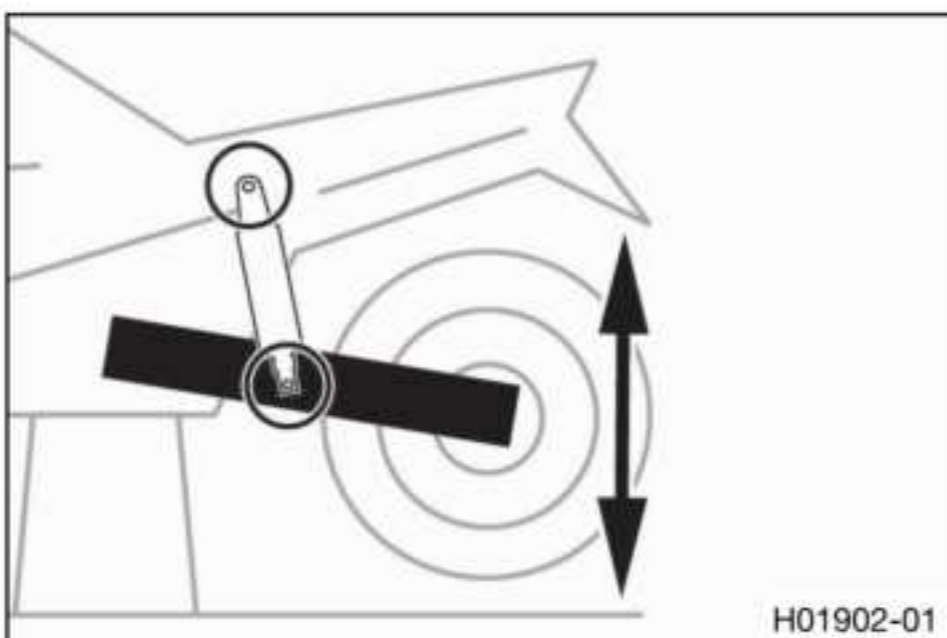
Finishing work

- Install the shock absorber. (📖 p. 53)
- Install the rear right side cover. (📖 p. 95)
- Install the rear left side cover. (📖 p. 96)
- Fit the rear fairing. (📖 p. 97)
- Install the air filter box. (📖 p. 89)
- Mount the side cover. (📖 p. 94)
- Mount the seat. (📖 p. 93)
- Remove the motorcycle from the work stand. (📖 p. 15)
- Check the static sag of the shock absorber. (📖 p. 48)
- Adjust the rebound damping of the shock absorber. (📖 p. 47)

9.9 Checking the heim joint for play

Preparatory work

- Raise the motorcycle with the work stand. (📖 p. 14)
- Place a load on the front of the vehicle.
 - ✓ The rear wheel is not in contact with the ground.

**Main work**

- Check the upper heim joint.
- Move the link fork up and down.
 - » If there is detectable play:
 - Change silent block. (📖 p. 57)
- Check the lower heim joint.
- Move the link fork up and down.
 - » If there is detectable play:
 - Change the heim joint. (📖 p. 55)

Finishing work

- Remove the motorcycle from the work stand. (📖 p. 15)

9.10 Removing the shock absorber

Preparatory work

- Raise the motorcycle with the work stand. (📖 p. 14)
- Remove the seat. (📖 p. 93)
- Take off the side cover. (📖 p. 93)
- Remove the air filter box. (📖 p. 87)
- Remove the rear fairing. (📖 p. 96)
- Remove the rear left side cover. (📖 p. 95)
- Remove the rear right side cover. (📖 p. 94)

Main work

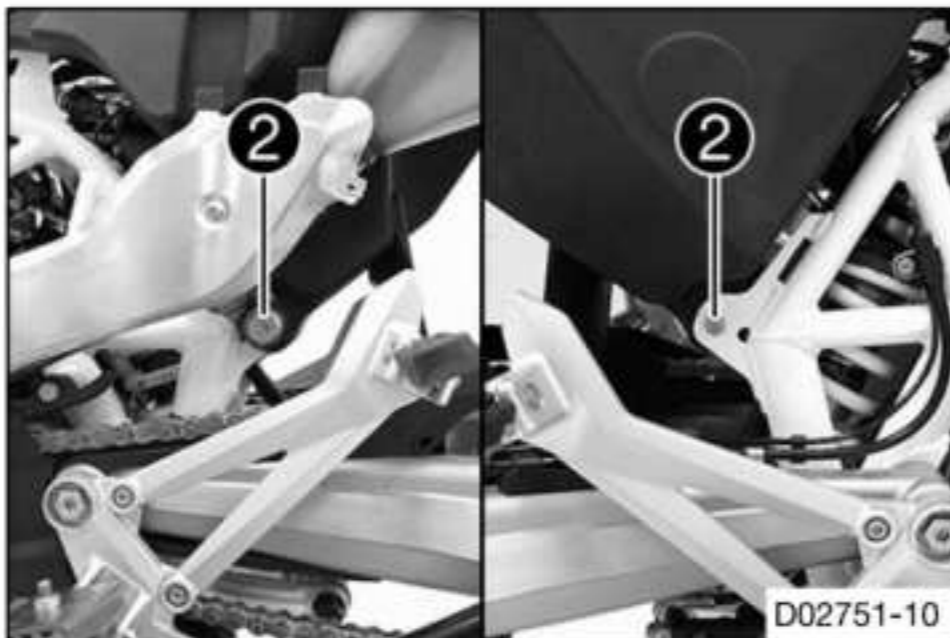
- Remove screws ❶.



- Remove the cable ties.

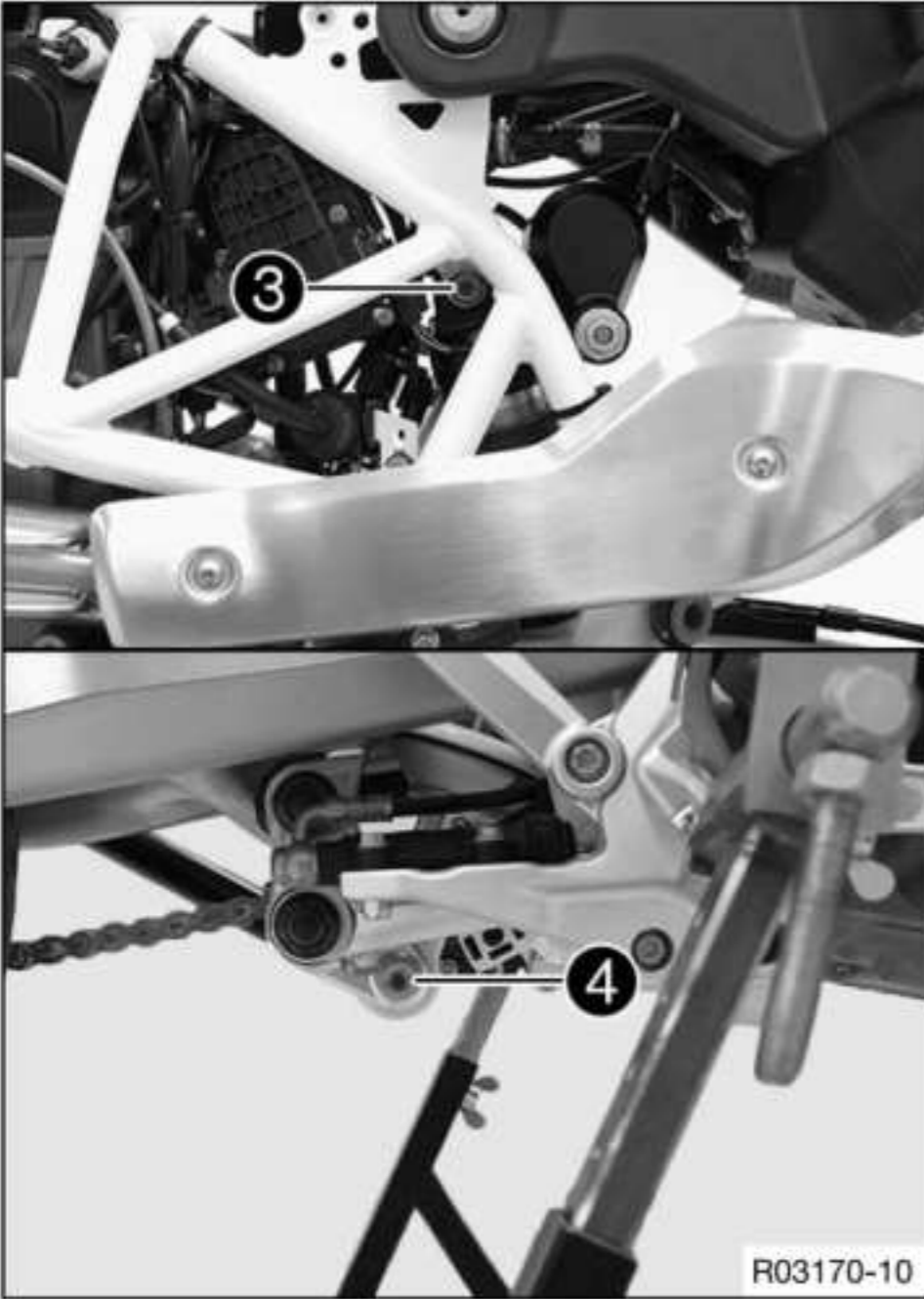


- Remove screws ❷.

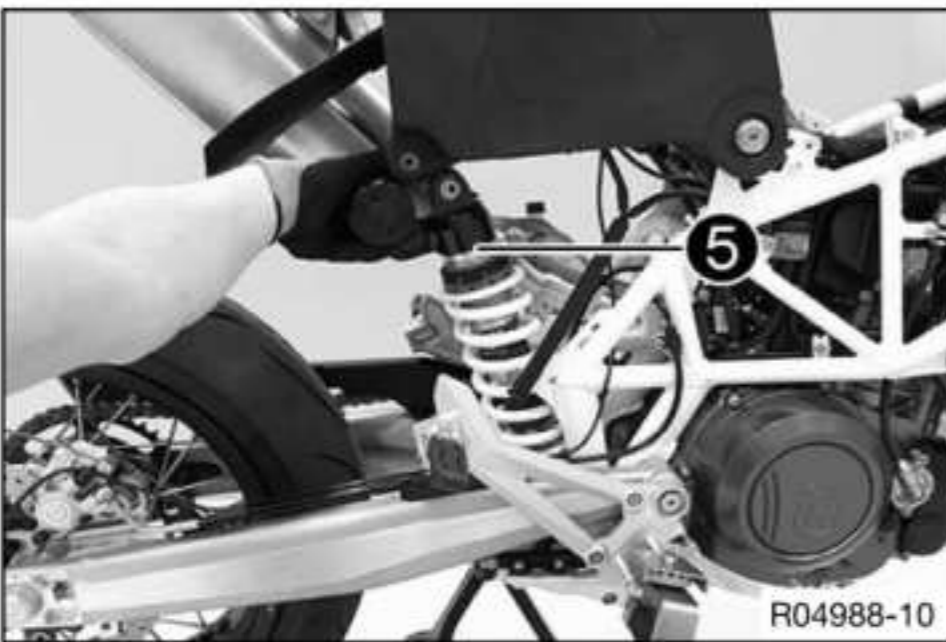


- Pivot the subframe up and secure it.



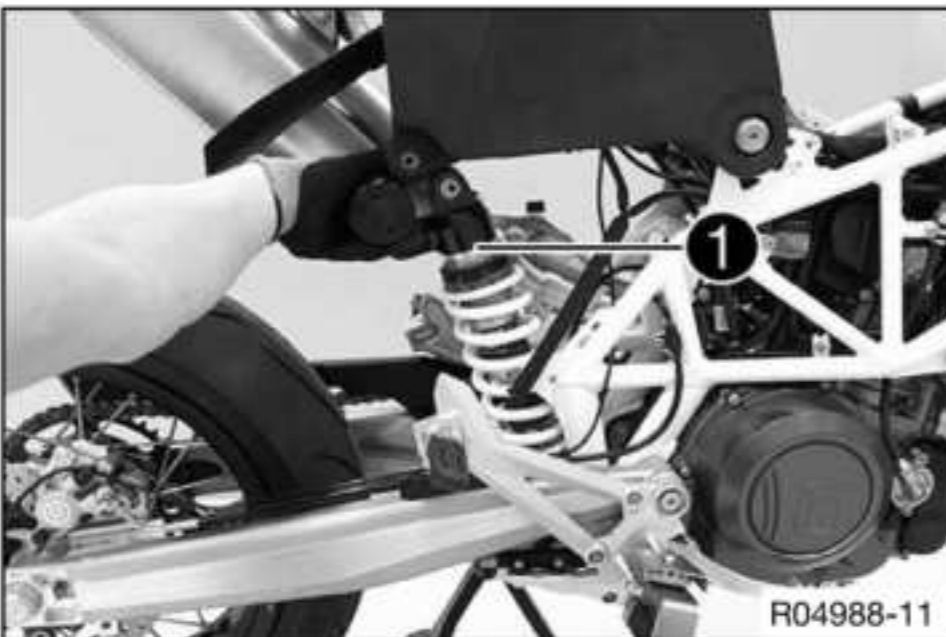


- Loosen screw ③.
- Remove screw ④.
- Remove screw ③.



- Lift off shock absorber ⑤.

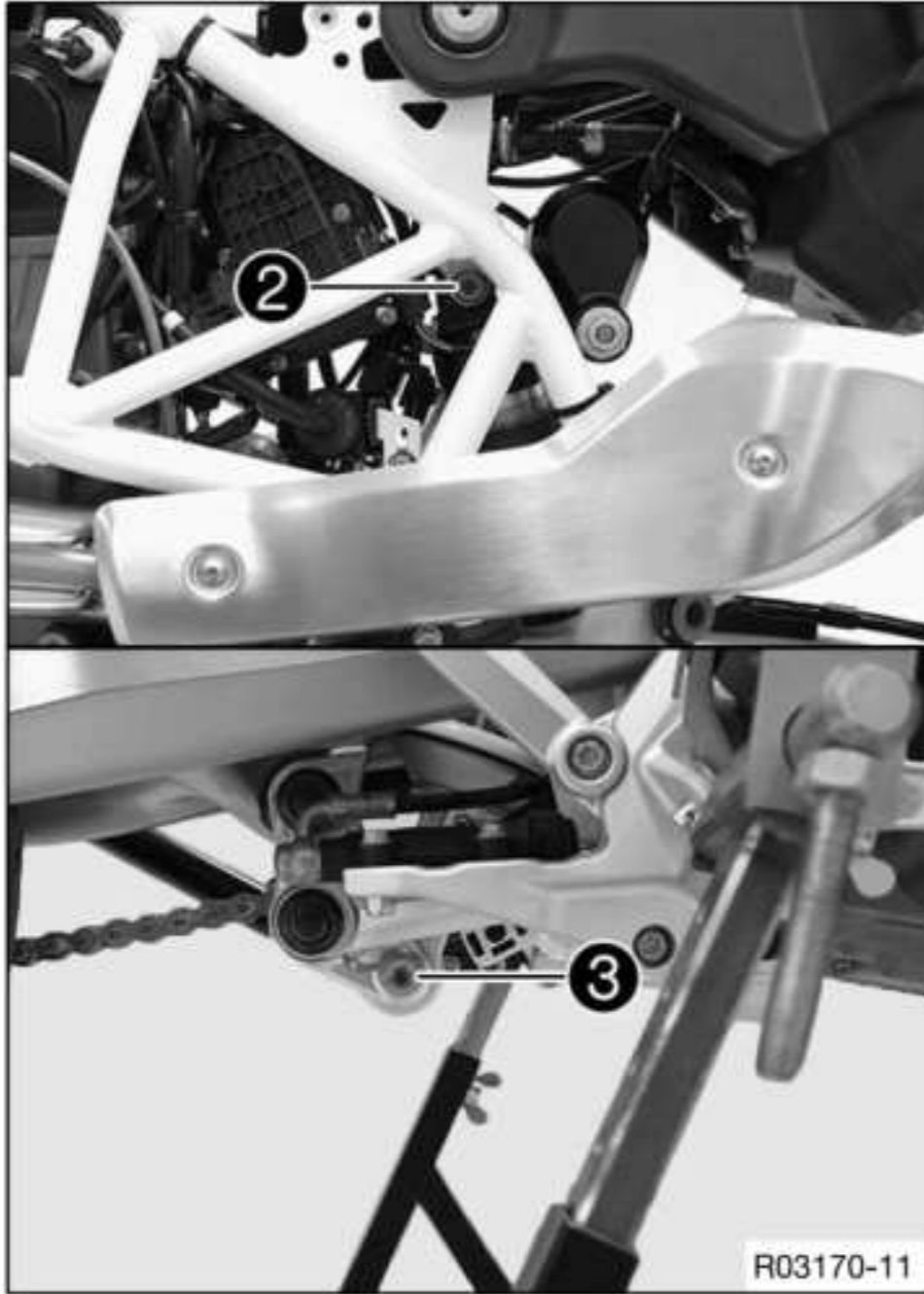
9.11 Installing the shock absorber



Main work

- Position shock absorber ① from above.

9 SHOCK ABSORBER, LINK FORK



- Mount screw **2** but do not tighten yet.

Guideline

Screw, top shock absorber	M10	45 Nm (33.2 lbf ft) Loctite®243™
---------------------------	-----	--

- Mount and tighten screw **3**.

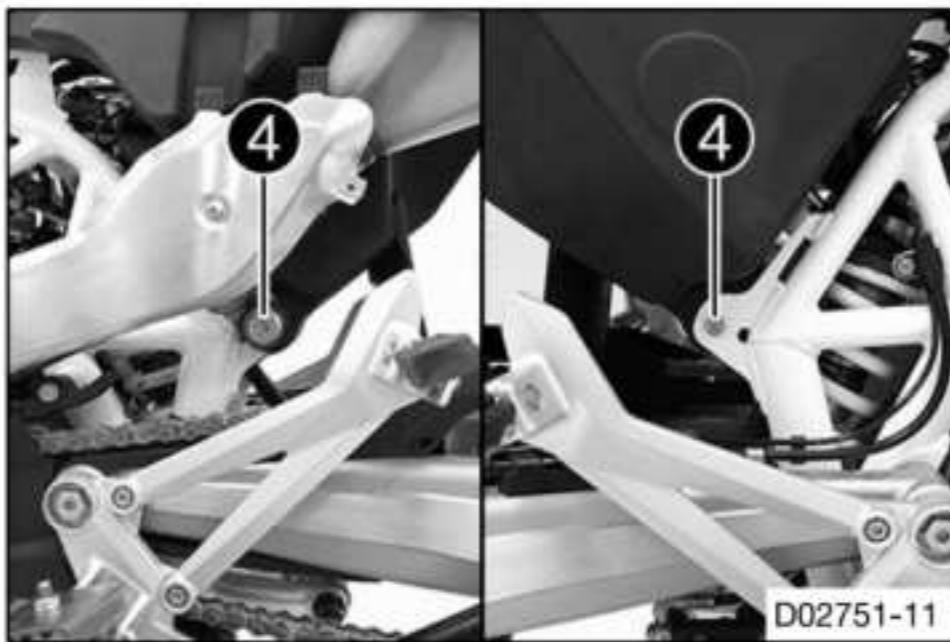
Guideline

Screw, bottom shock absorber	M10	45 Nm (33.2 lbf ft) Loctite®243™
------------------------------	-----	--

- Tighten screw **2**.

Guideline

Screw, top shock absorber	M10	45 Nm (33.2 lbf ft) Loctite®243™
---------------------------	-----	--



- Remove the locking piece and position the subframe.

- Mount and tighten screws **4**.

Guideline

Screw, fuel tank, bottom	M8	25 Nm (18.4 lbf ft) Loctite®243™
--------------------------	----	--



- Mount the cable ties.



- Mount and tighten screws **5**.

Guideline

Screw, main silencer holder on fuel tank	M8	25 Nm (18.4 lbf ft)
--	----	---------------------

Finishing work

- Install the rear right side cover. (📖 p. 95)
- Install the rear left side cover. (📖 p. 96)
- Fit the rear fairing. (📖 p. 97)

- Install the air filter box. (📖 p. 89)
- Mount the side cover. (📖 p. 94)
- Mount the seat. (📖 p. 93)
- Remove the motorcycle from the work stand. (📖 p. 15)

9.12 Changing the heim joint

Preparatory work

- Raise the motorcycle with the work stand. (📖 p. 14)
- Remove the seat. (📖 p. 93)
- Take off the side cover. (📖 p. 93)
- Remove the air filter box. (📖 p. 87)
- Remove the rear fairing. (📖 p. 96)
- Remove the rear left side cover. (📖 p. 95)
- Remove the rear right side cover. (📖 p. 94)
- Remove the shock absorber. (📖 p. 52)

Main work

- Clamp the shock absorber into the vise.

Guideline

Use soft jaws.

- Remove collar bushing ❶ of the heim joint.

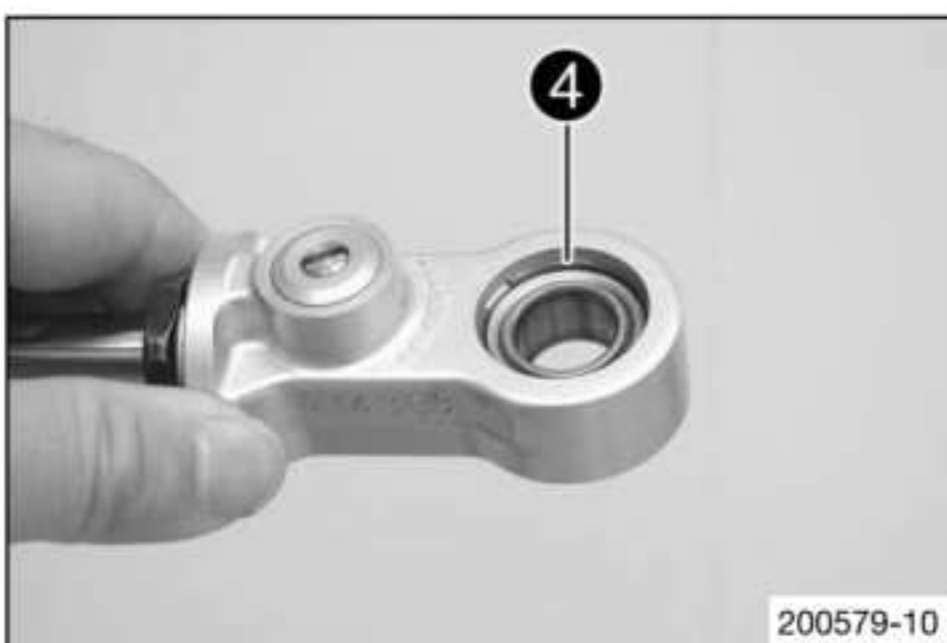
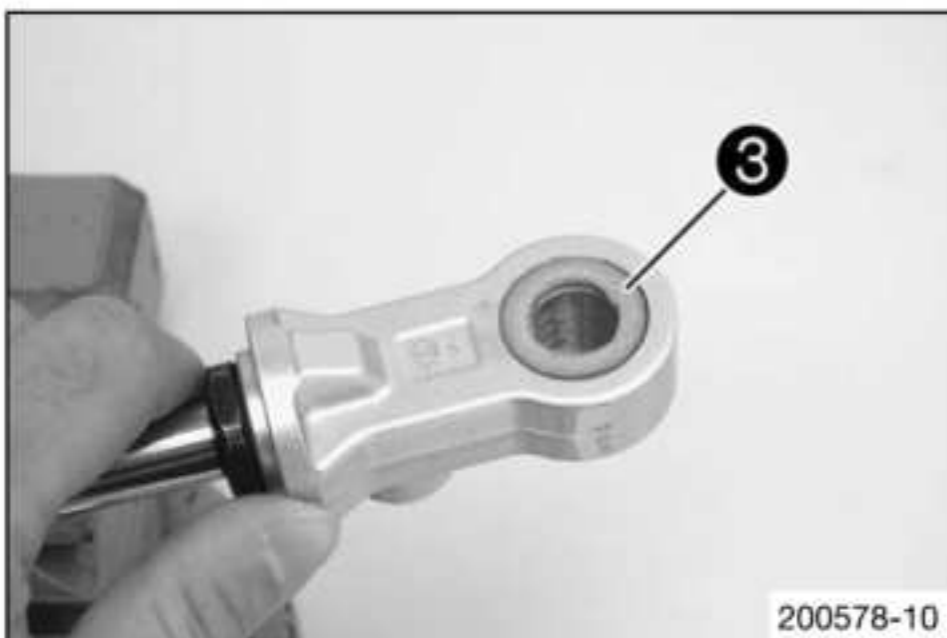
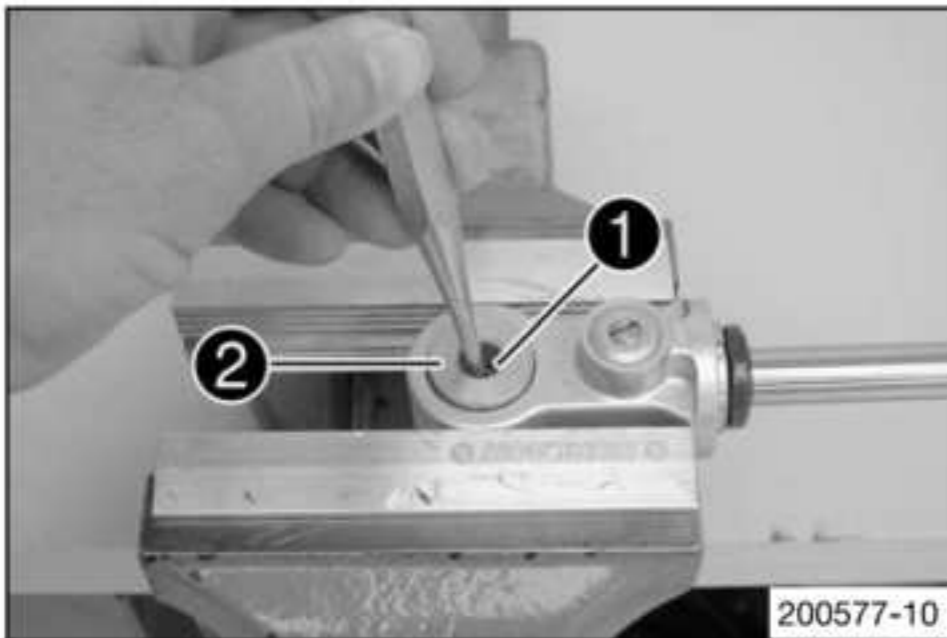
Drift (T120) (📖 p. 396)

- Turn around the shock absorber and remove collar bushing ❷ of the heim joint.

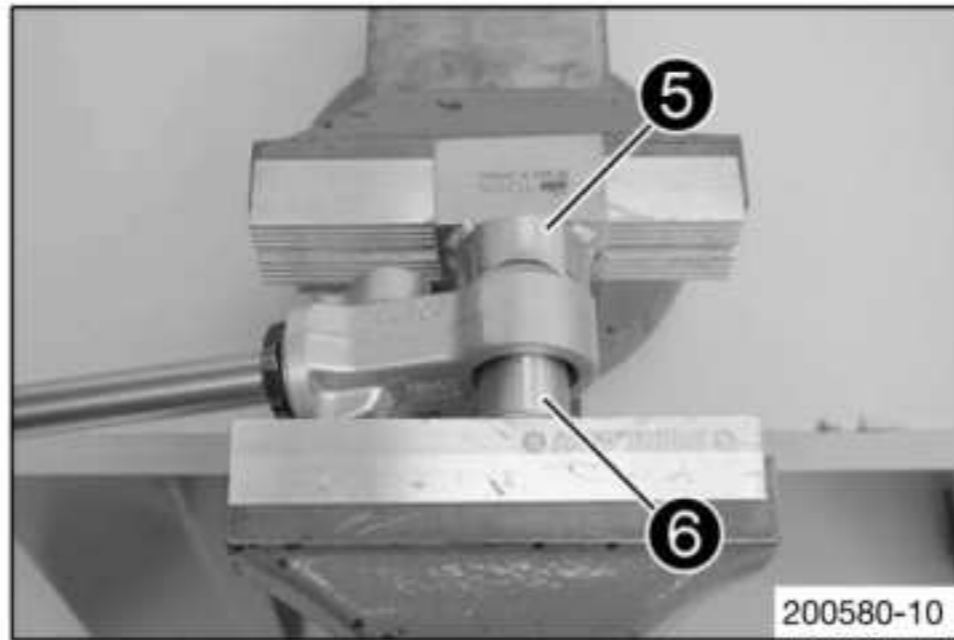
Drift (T120) (📖 p. 396)

- Remove seal ❸ on both sides.

- Remove lock ring ❹ on both sides.

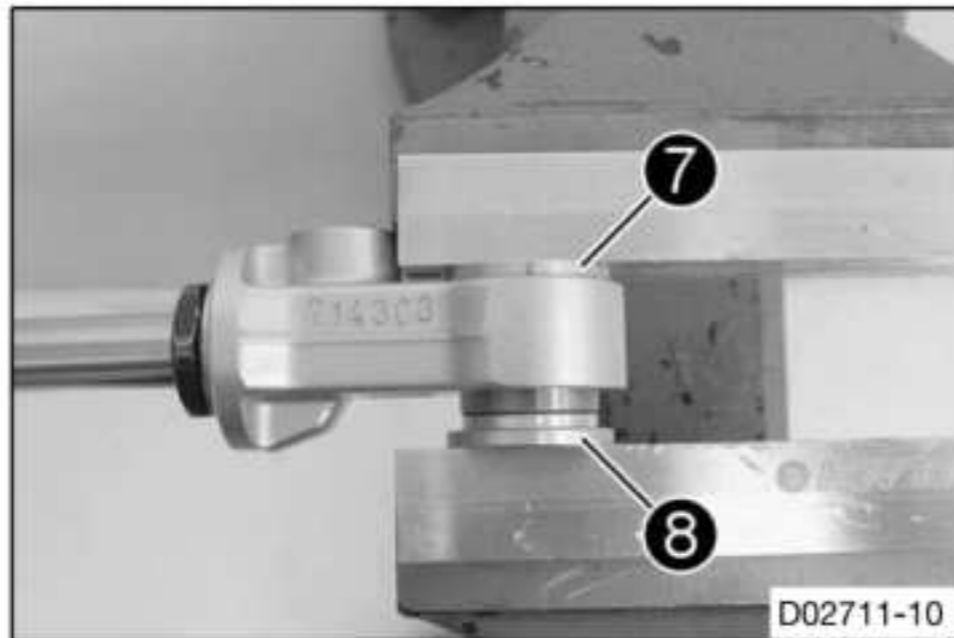


9 SHOCK ABSORBER, LINK FORK



- Place special tool **5** underneath and press out the heim joint with special tool **6**.

Pressing tool (T1207S) (📖 p. 397)



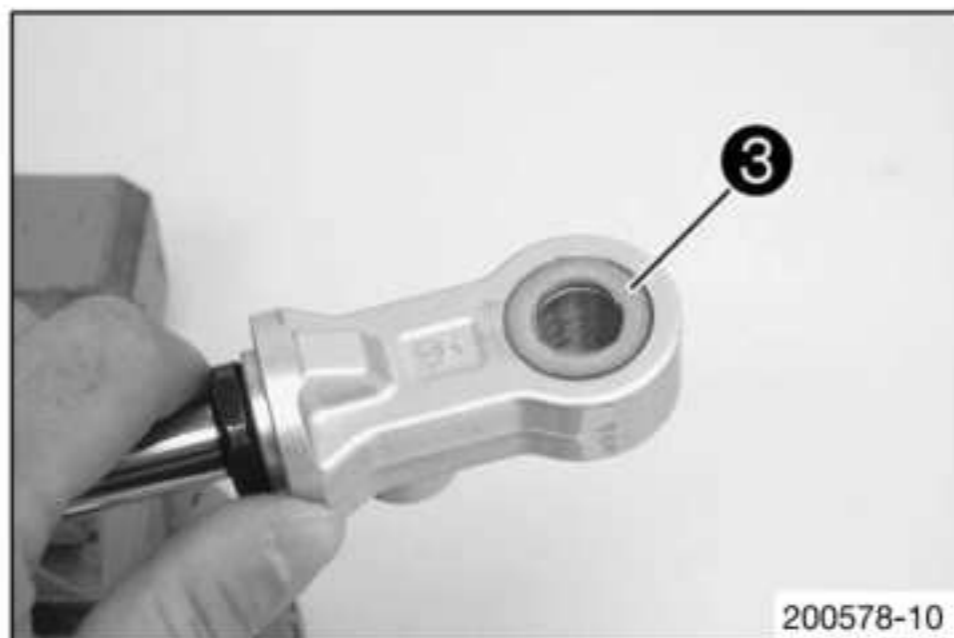
- Place special tool **7** underneath and push the heim joint to the middle using special tool **8**.

Pressing tool (T1206) (📖 p. 397)

Pressing tool (T129) (📖 p. 397)

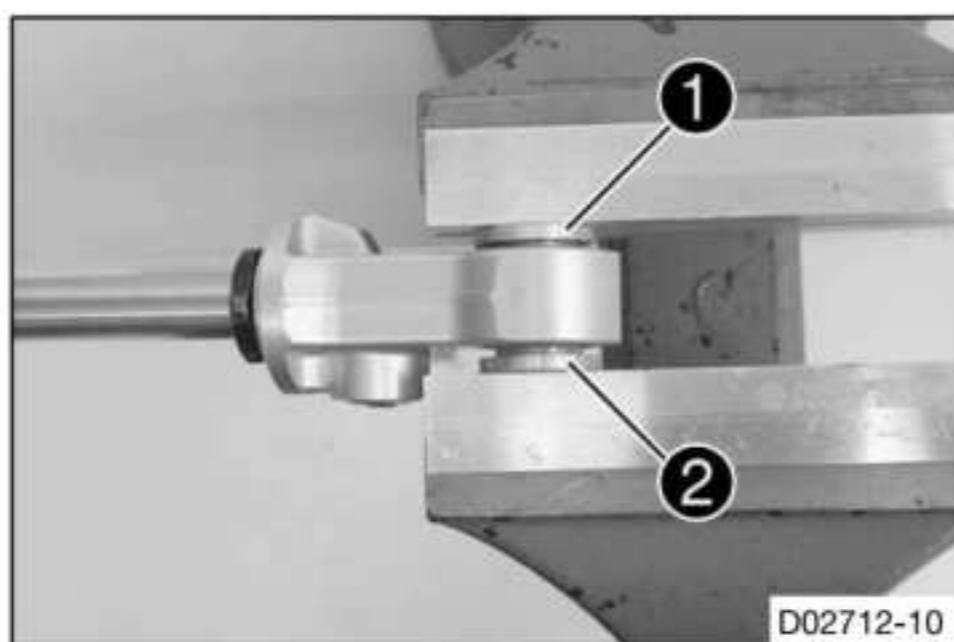


- Mount lock ring **4** on both sides.



- Mount and grease seal ring **3** on both sides.

Lubricant (T158) (📖 p. 378)



- Press in both collar bushings **2** and **1** of the heim joint.

Finishing work

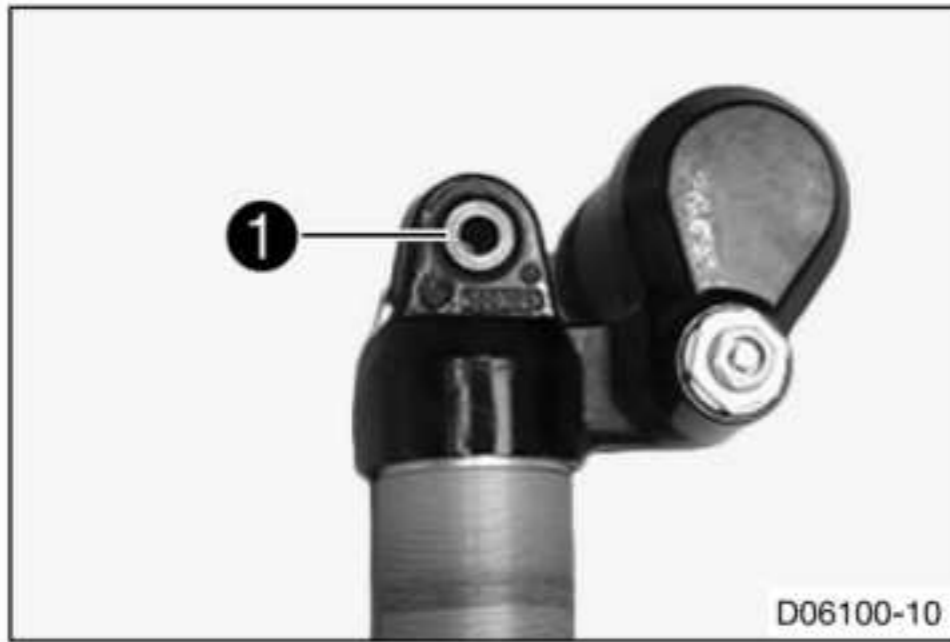
- Install the shock absorber. (📖 p. 53)
- Install the rear right side cover. (📖 p. 95)
- Install the rear left side cover. (📖 p. 96)

- Fit the rear fairing. (📖 p. 97)
- Install the air filter box. (📖 p. 89)
- Mount the side cover. (📖 p. 94)
- Mount the seat. (📖 p. 93)
- Remove the motorcycle from the work stand. (📖 p. 15)

9.13 Changing silent block

Condition

The shock absorber has been removed.

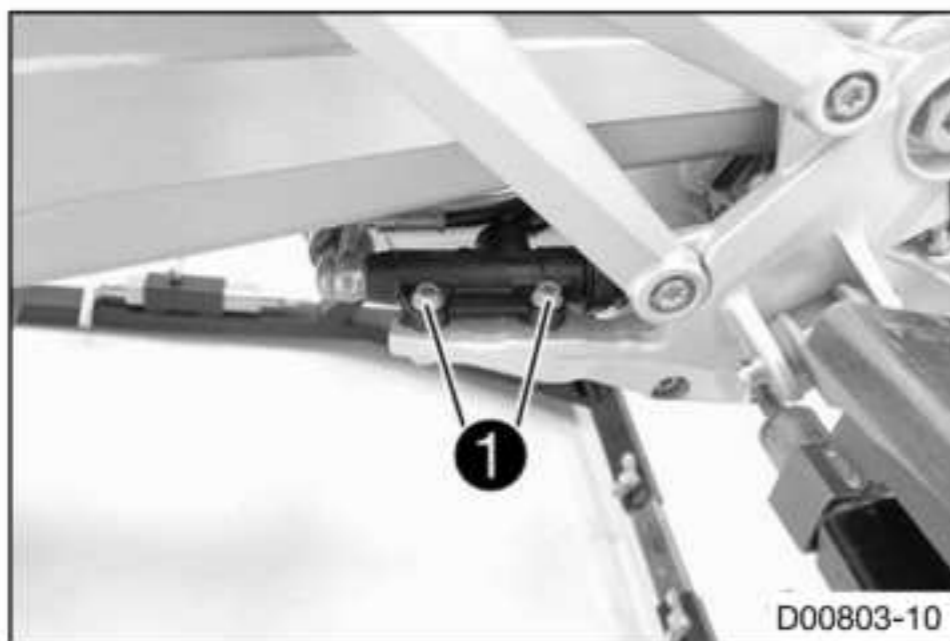


- Press out silent block ① using a suitable tool.
- Press in new silent block ① until it is flush using a suitable tool.

9.14 Checking the shock absorber linkage

Preparatory work

- Raise the motorcycle with the work stand. (📖 p. 14)



Main work

- Remove fittings ①.
- Hang the foot brake cylinder to the side.



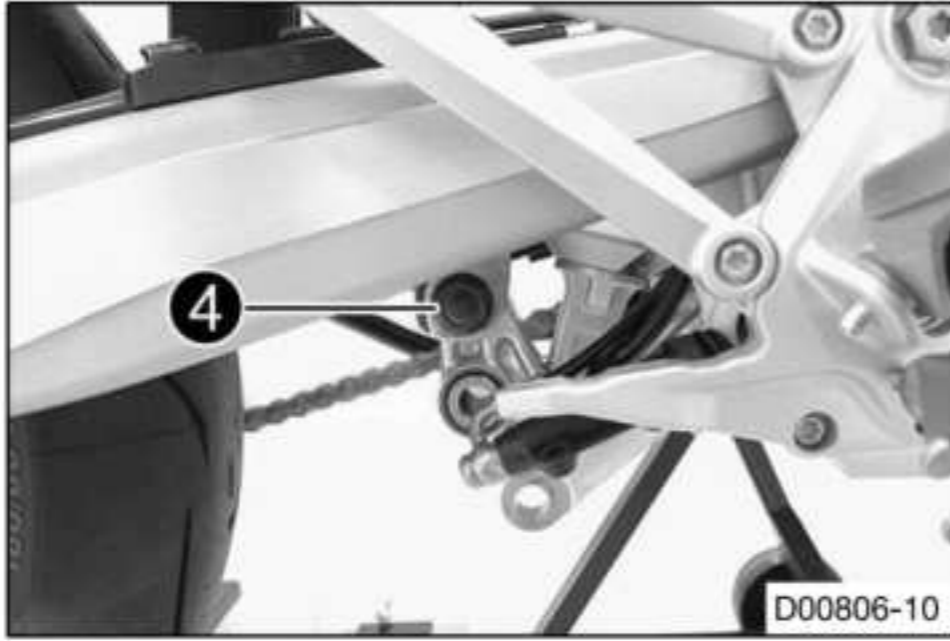
- Remove screw ②.
- Remove fitting ③.



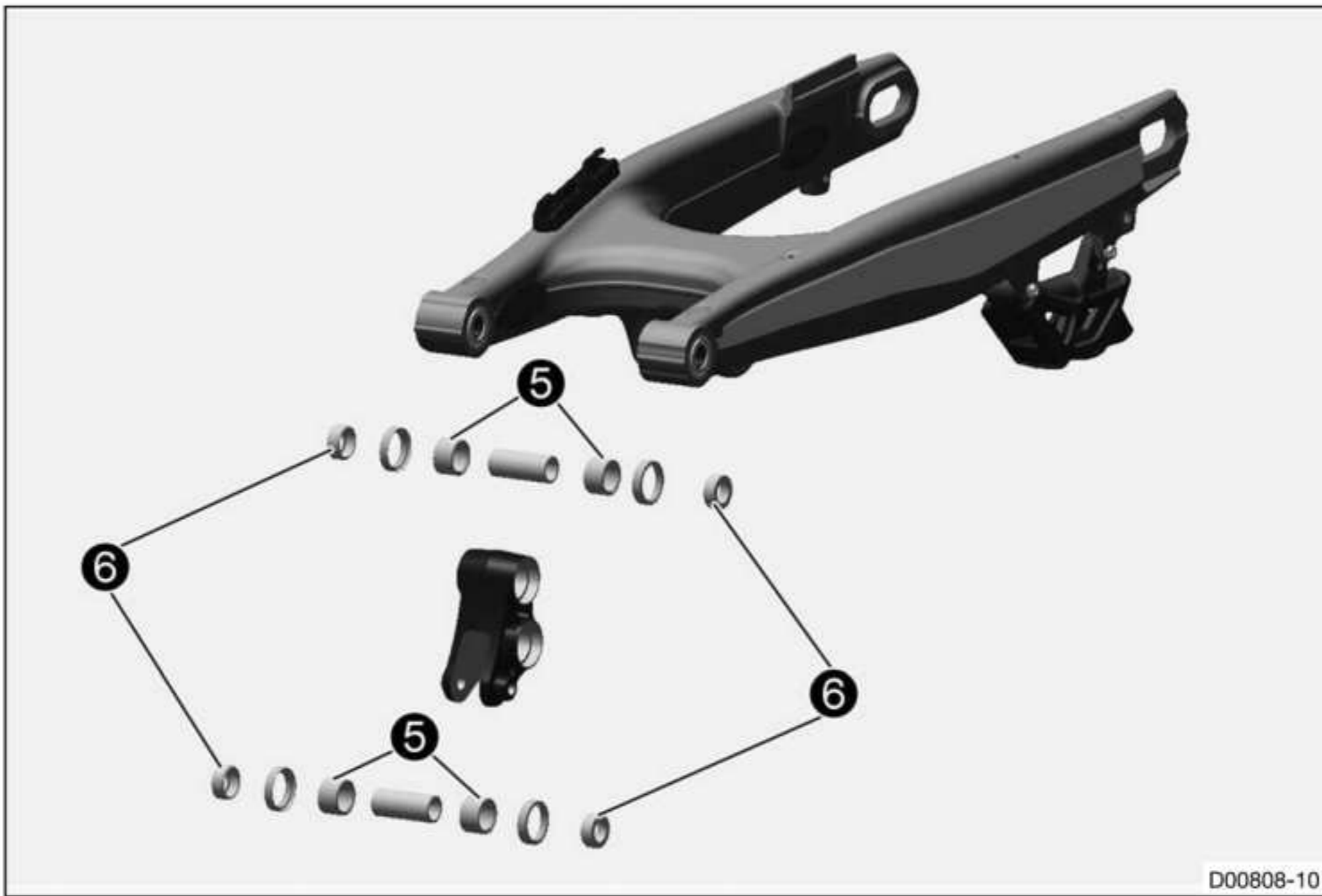
Info

Raise the wheel slightly to be able to remove the screws more easily.

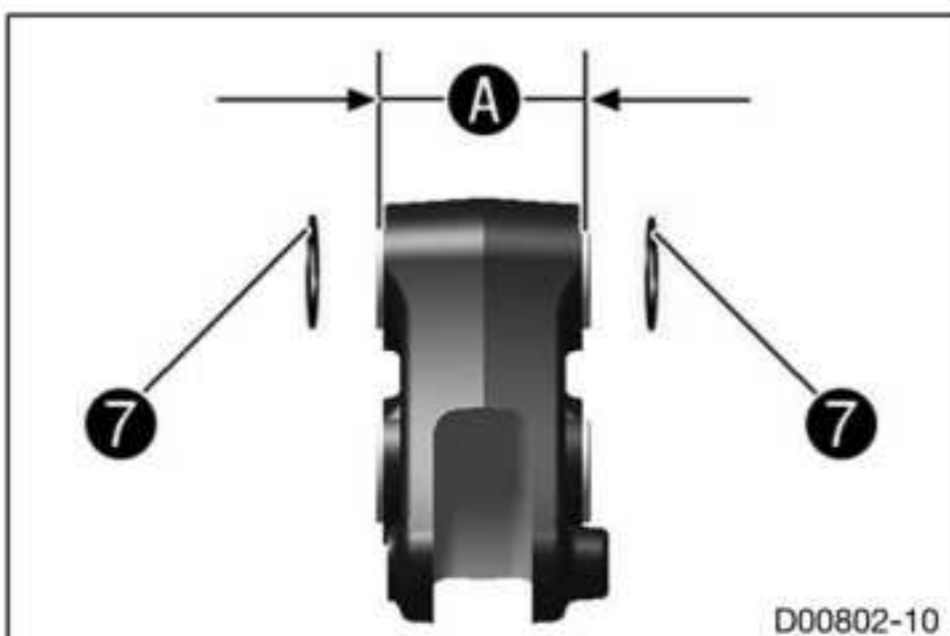
9 SHOCK ABSORBER, LINK FORK



- Remove fitting **4**.
- Take off the angle lever.



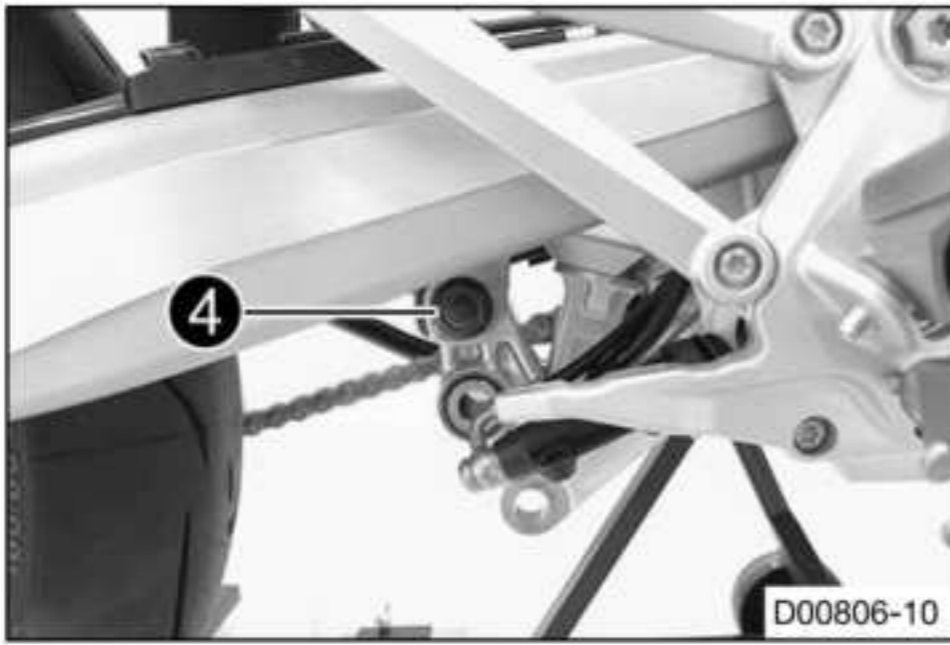
- Check needle bearing **5** for damage and wear.
 - » If there is damage or wear:
 - Change the needle bearings.
- Check spacers **6** for damage and wear.
 - » If there is damage or wear:
 - Change the spacers.
- Check the shaft seal rings for damage and wear.
 - » If there is damage or wear:
 - Change the shaft seal rings.



- Check dimension **A**.

51.91 ... 52.00 mm (2.0437 ... 2.0472 in)

- » If dimension **A** is below the specified value:
 - Add the necessary spacing washers **7**.



- Position the angle lever.
- Mount the fitting **4** but do not tighten yet.

Guideline

Nut, angle lever to link fork	M14x1.5	100 Nm (73.8 lbf ft)
-------------------------------	---------	----------------------



- Mount screw **2** but do not tighten yet.

Guideline

Screw, bottom shock absorber	M10	45 Nm (33.2 lbf ft) Loctite®243™
------------------------------	-----	--

i Info
Raise the wheel slightly to be able to mount the screw more easily.



- Position the linkage lever.
- Mount and tighten fitting **3**.

Guideline

Nut, linkage lever to rocker arm	M14x1.5	100 Nm (73.8 lbf ft)
----------------------------------	---------	----------------------

i Info
Raise the wheel slightly to be able to mount the screw more easily.

- Tighten screw **2**.

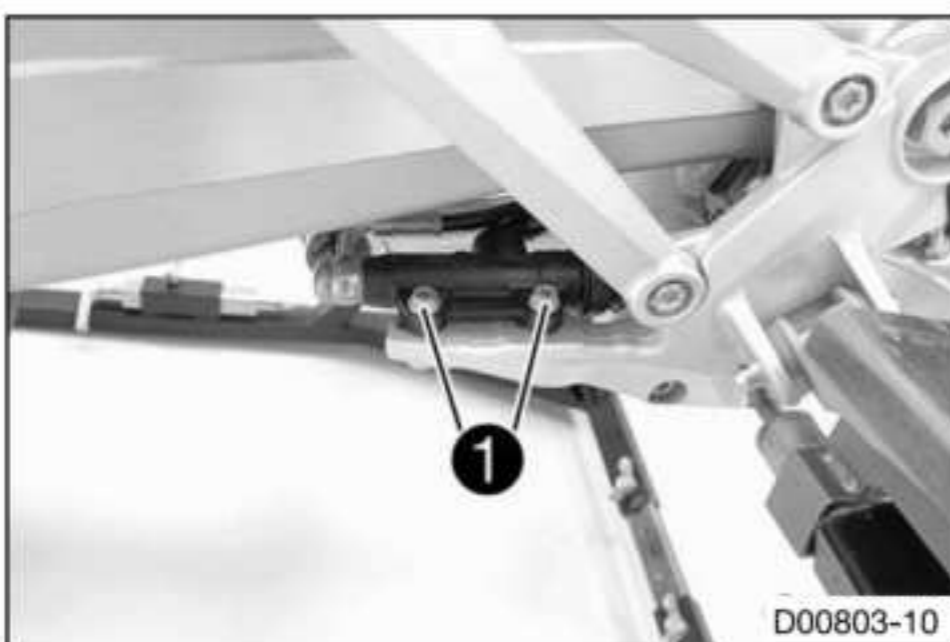
Guideline

Screw, bottom shock absorber	M10	45 Nm (33.2 lbf ft) Loctite®243™
------------------------------	-----	--

- Tighten fitting **4**.

Guideline

Nut, angle lever to link fork	M14x1.5	100 Nm (73.8 lbf ft)
-------------------------------	---------	----------------------



- Position the foot brake cylinder.
- Mount and tighten fittings **1**.

Guideline

Screw connection, foot brake cylinder	M6	10 Nm (7.4 lbf ft)
---------------------------------------	----	--------------------

Finishing work

- Remove the motorcycle from the work stand. (📖 p. 15)
- Check the free travel of the foot brake lever. (📖 p. 161)

9.15 Servicing the shock absorber

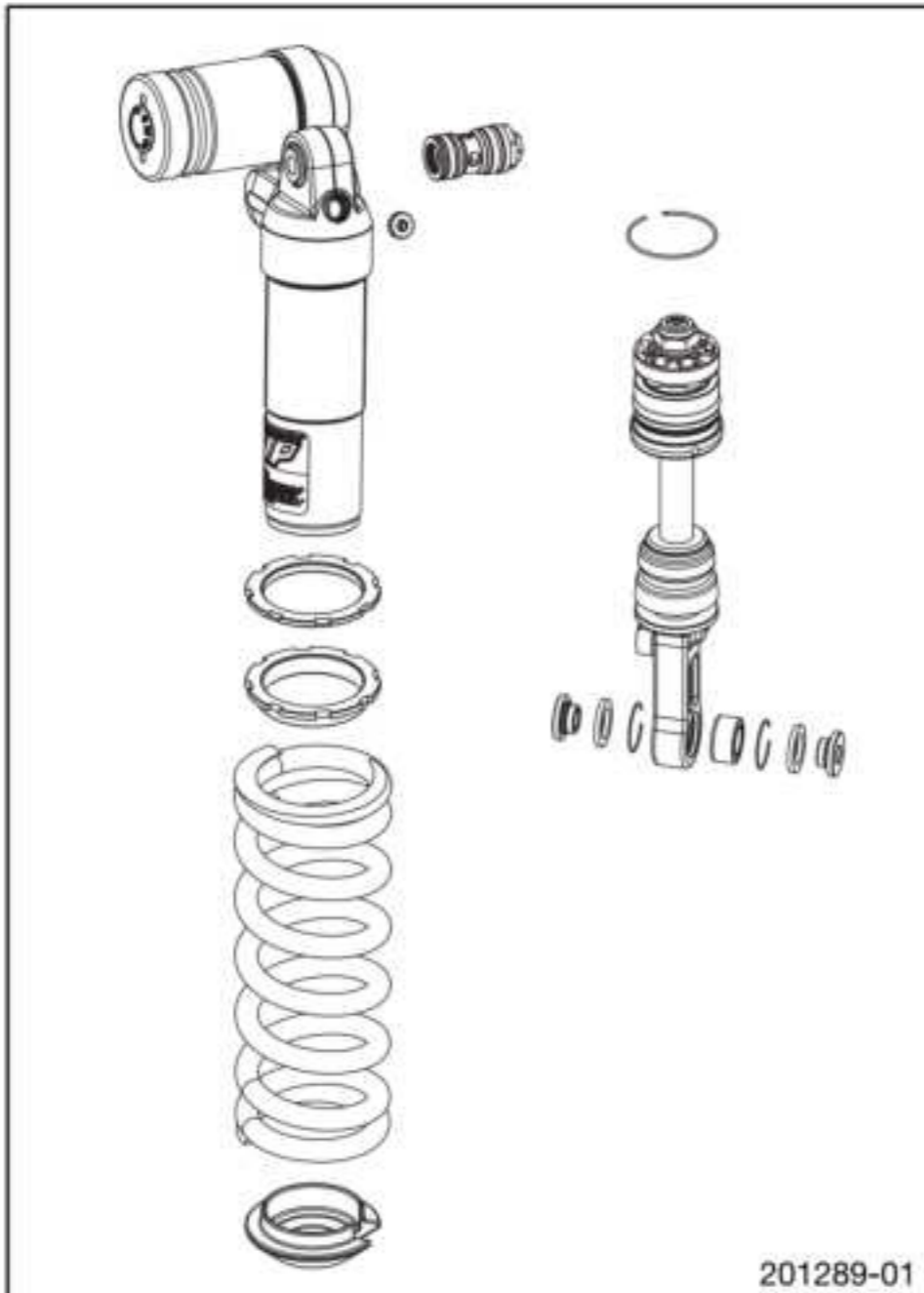


Caution

Risk of injury Parts of the shock absorber will move around if the shock absorber is detached incorrectly.

The shock absorber is filled with highly compressed nitrogen.

- Please follow the description provided.

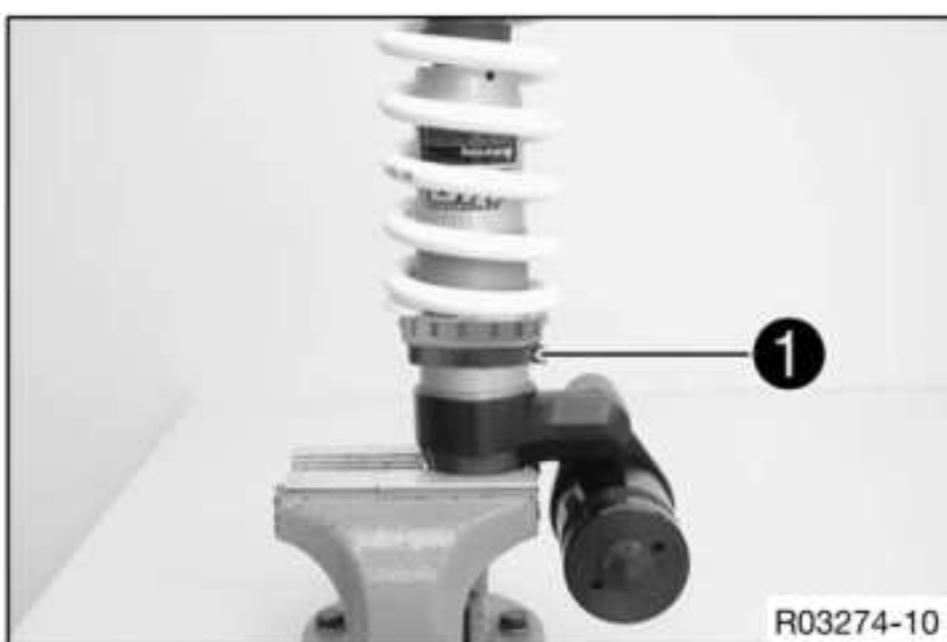


Condition

The shock absorber has been removed.

- Remove the spring. (📖 p. 60)
- Disassemble the damper. (📖 p. 61)
- Disassemble the piston rod. (📖 p. 62)
- Check the damper. (📖 p. 63)
- Remove the heim joint. (📖 p. 64)
- Install the heim joint. (📖 p. 65)
- Assemble the piston rod. (📖 p. 66)
- Assemble the damper. (📖 p. 67)
- Install the spring. (📖 p. 74)

9.16 Removing the spring



Condition

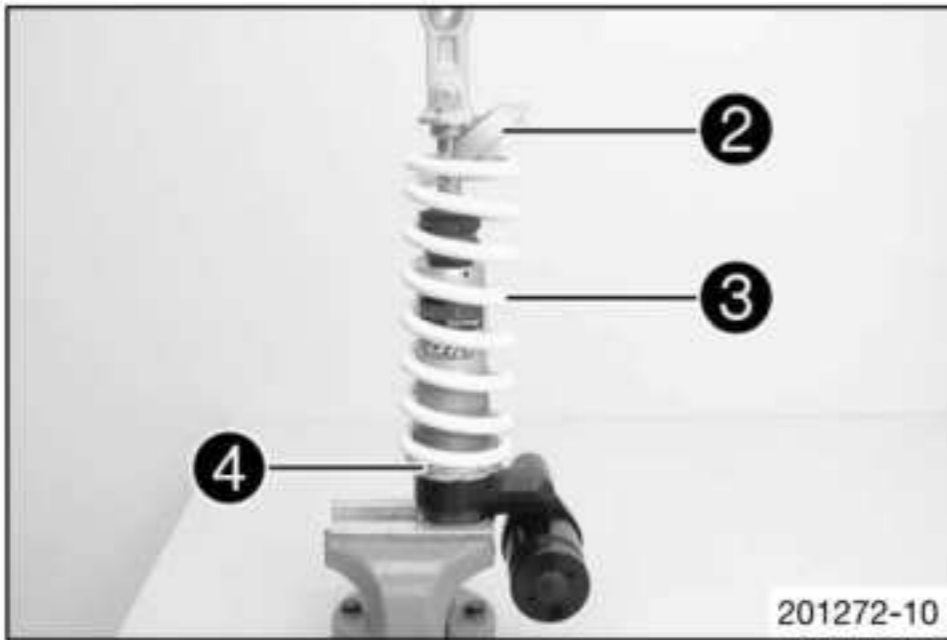
The shock absorber has been removed.

- Clamp the shock absorber into the vise.

Guideline

Use soft jaws.

- Measure and note the spring length while the spring is under tension.
 - Loosen screw ①.
- Hook wrench (T106S) (📖 p. 396)
- Turn the adjusting ring until the spring is completely without tension.

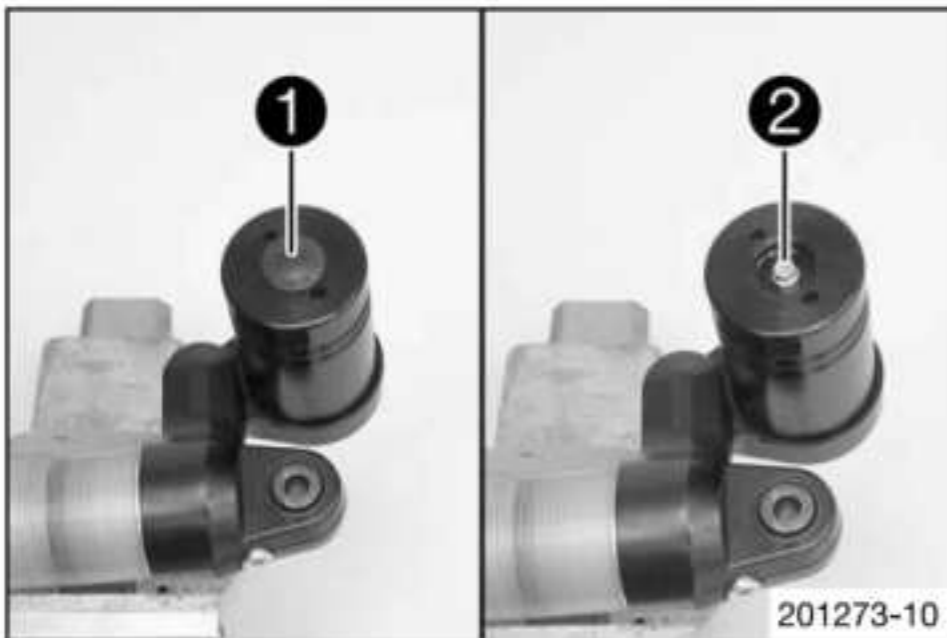


- Remove spring retainer ②.
- Take off spring ③ with adjusting ring ④.

9.17 Disassembling the damper

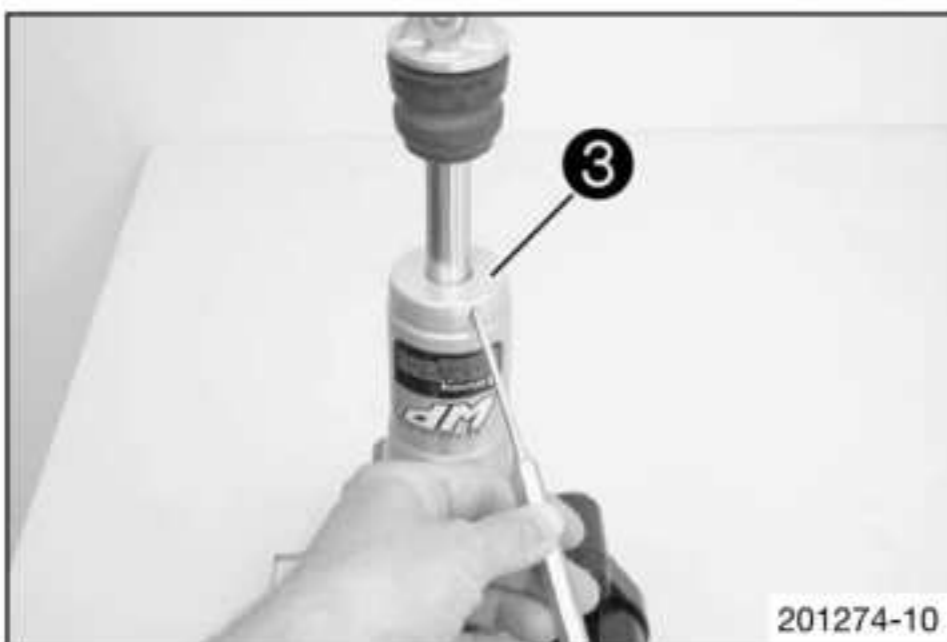
Preparatory work

- Remove the spring. (📖 p. 60)



Main work

- Note down the present state of rebound damping and compression damping.
- Open the adjusters of the rebound and compression damping completely.
- Remove rubber cap ① of the reservoir.
- Slowly open screw ②.
- ✓ The nitrogen pressure dissipates.



- Clamp the damper in the bench vise.

Guideline

Use soft jaws.

- Remove locking cap ③.

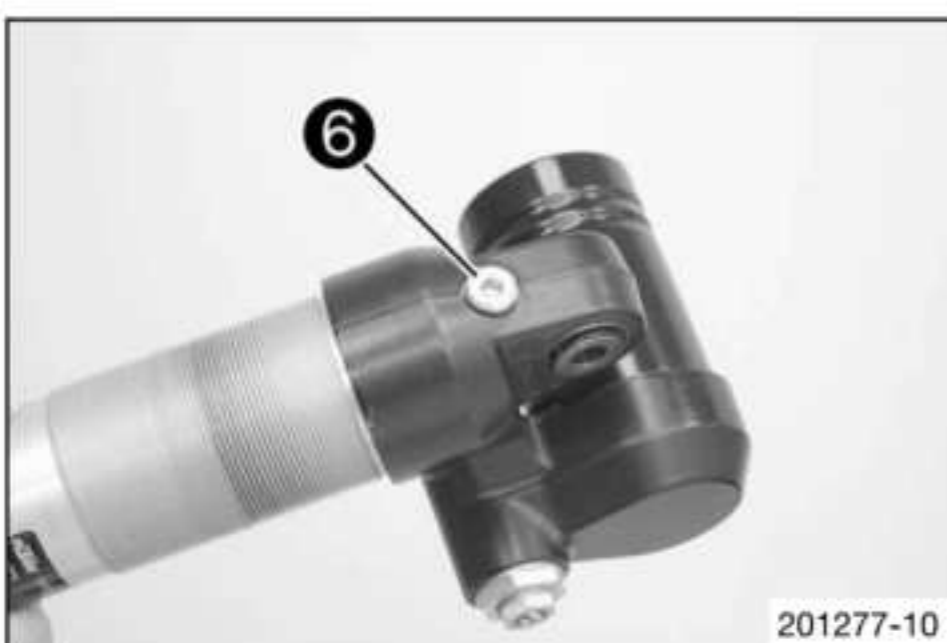


- Push in seal ring retainer ④. Remove lock ring ⑤.



Info

Do not scratch the inside surface.



- Remove screw ⑥. Let the oil drain.

9 SHOCK ABSORBER, LINK FORK



- Remove the piston rod. Drain the remaining oil.



- Remove compression adjuster 7. Remove the spring, sleeve and piston.



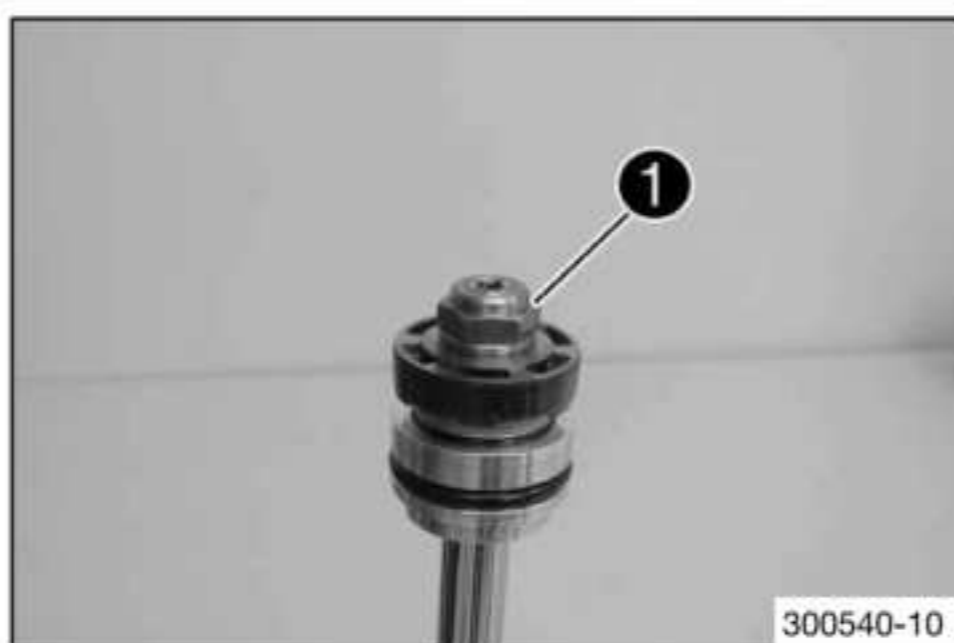
9.18 Disassembling the piston rod

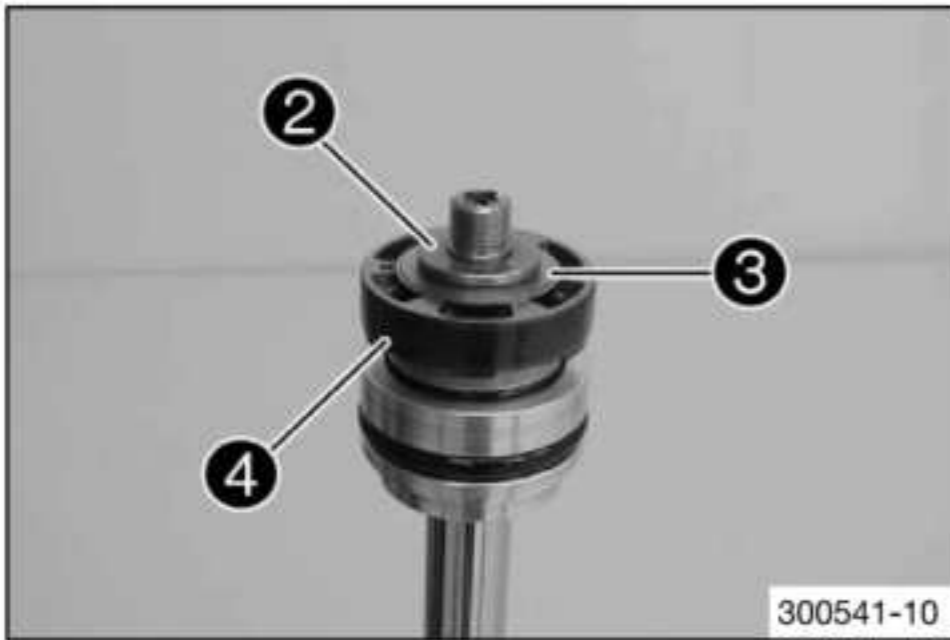
Preparatory work

- Remove the spring. (📖 p. 60)
- Disassemble the damper. (📖 p. 61)

Main work

- Clamp the piston rod with the heim joint in a vise.
- Remove nut 1.





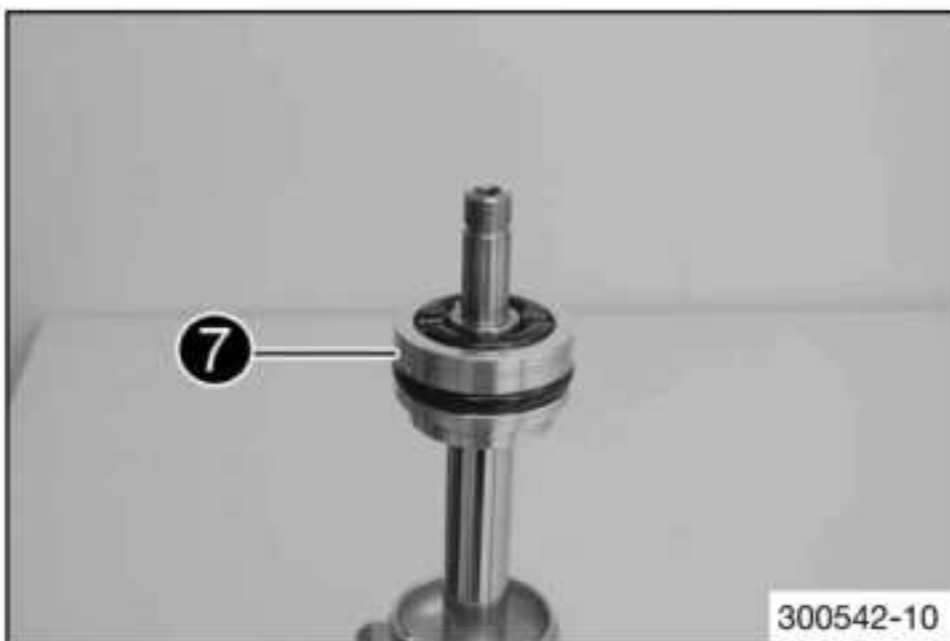
- Remove supporting plate ② and rebound shim stack ③ together with piston ④.

i Info
Thread the rebound shim set on a screwdriver and set the parts down together.

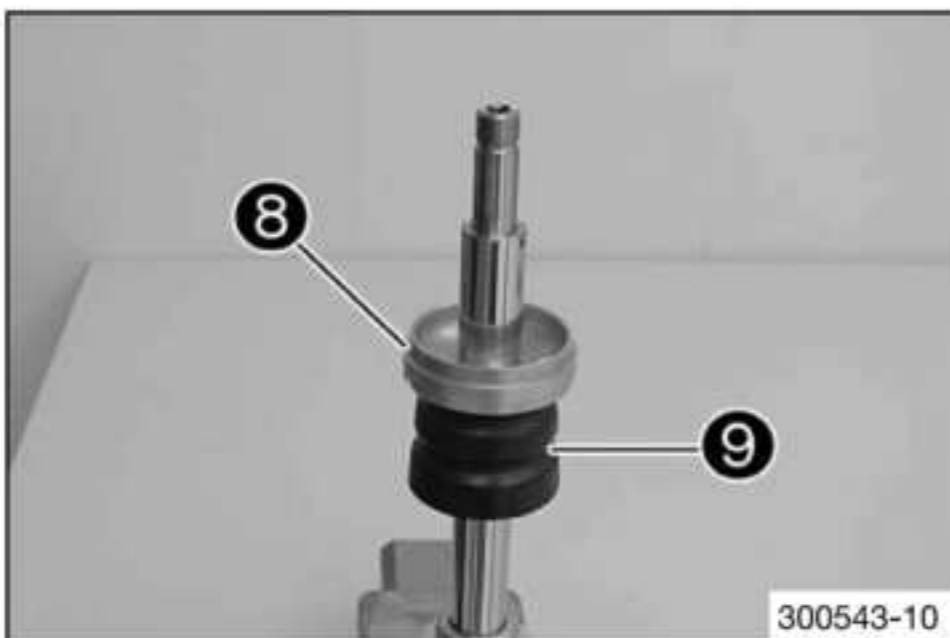


- Remove compression shim stack ⑥ with supporting plate ⑤.

i Info
Thread the compression shim stack on a screwdriver and set the parts down together.



- Remove seal ring retainer ⑦.



- Remove locking cap ⑧ and rubber buffer ⑨.

9.19 Checking the damper

Condition

The damper has been disassembled.

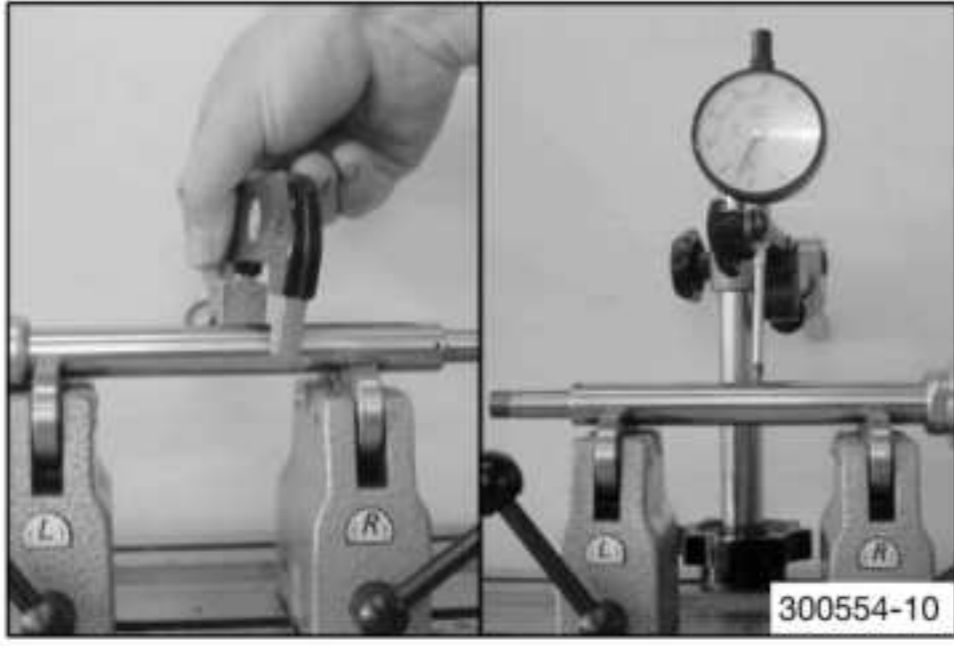


- Measure the inside diameter at both ends and in the center of the damper cartridge.

Damper cartridge	
Diameter	46.10 mm (1.815 in)

- » If the measured value is greater than the specified value:
 - Change the damper cartridge.
- Check the damper cartridge for damage and wear.
 - » If there is damage or wear:
 - Change the damper cartridge.

9 SHOCK ABSORBER, LINK FORK



- Measure the diameter of the piston rod.

Piston rod	
Diameter	≥ 17.95 mm (≥ 0.7067 in)

- » If the specification is not reached:

- Change the piston rod.

- Measure the run-out of the piston rod.

Piston rod	
Run-out	≤ 0.03 mm (≤ 0.0012 in)

- » If the measured value is greater than the specified value:

- Change the piston rod.

- Check the piston rod for damage and wear.

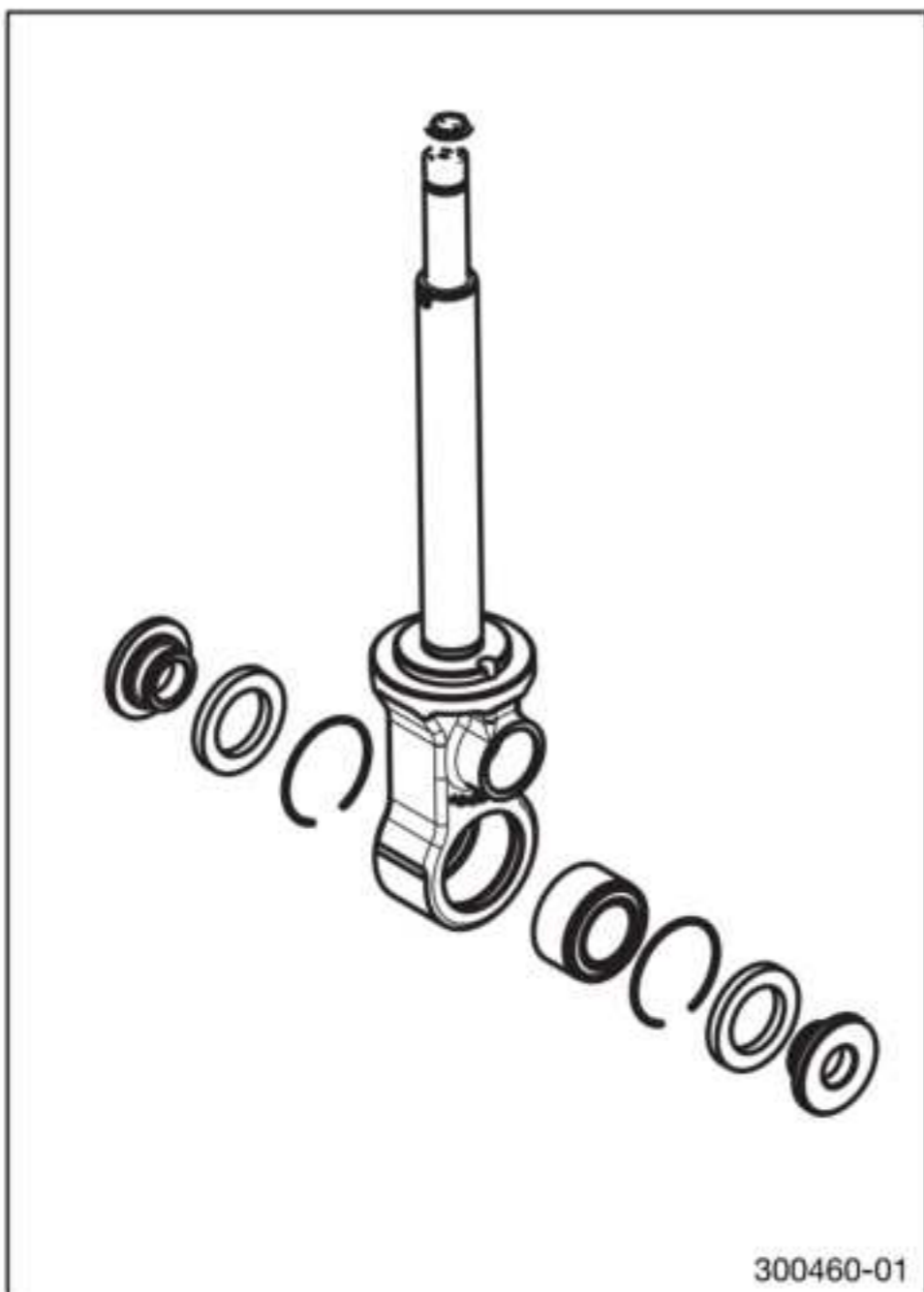
- » If there is damage or wear:

- Change the piston rod.

- Check the heim joint for damage and wear.

- » If there is damage or wear:

- Change the heim joint.



9.20 Removing the heim joint

Condition

The shock absorber has been removed.

- Clamp the shock absorber into the vise.

Guideline

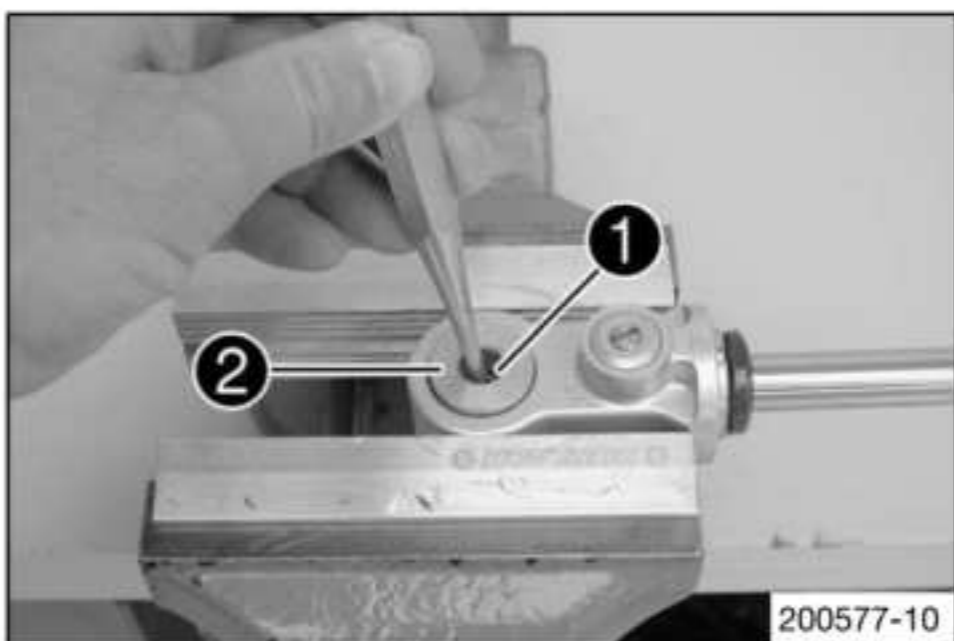
Use soft jaws.

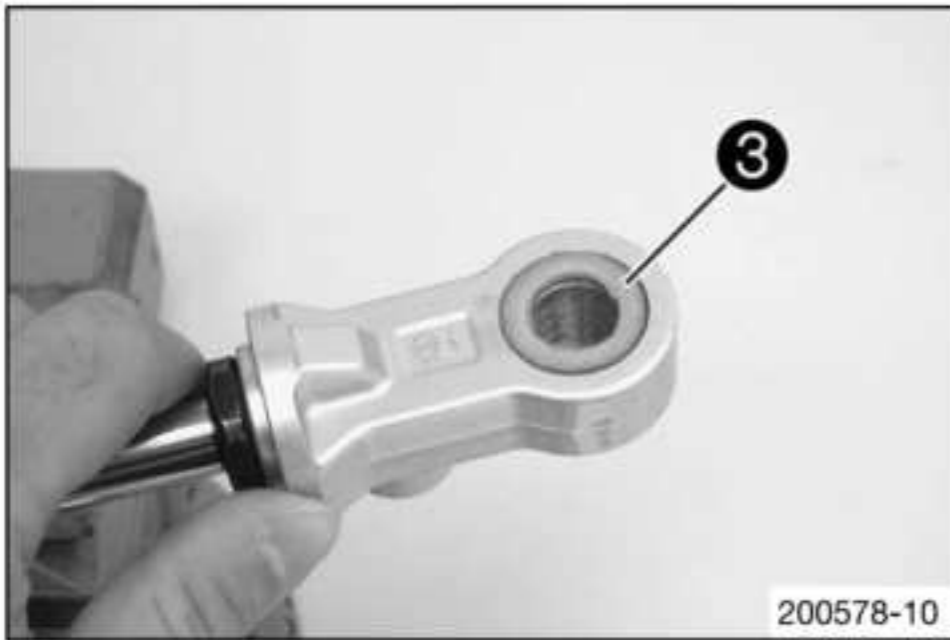
- Remove collar bushing **1** of the heim joint.

Drift (T120) (📖 p. 396)

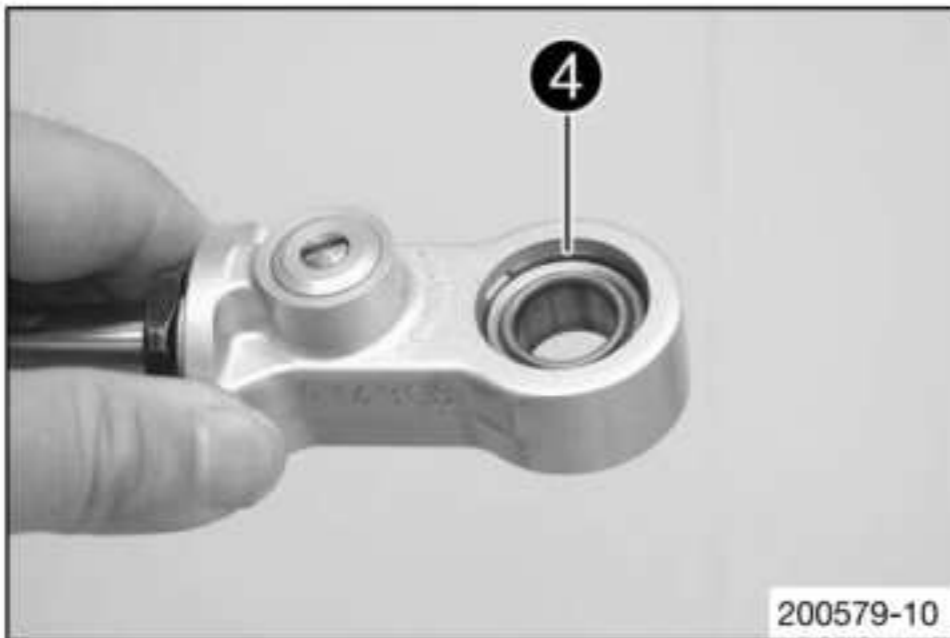
- Turn around the shock absorber and remove collar bushing **2** of the heim joint.

Drift (T120) (📖 p. 396)

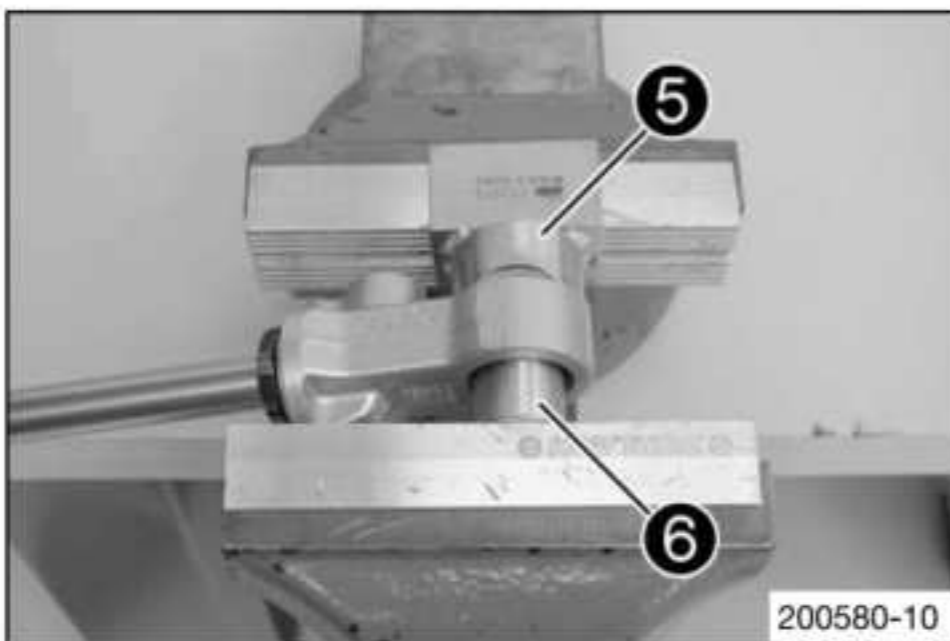




- Remove seal **3** on both sides.



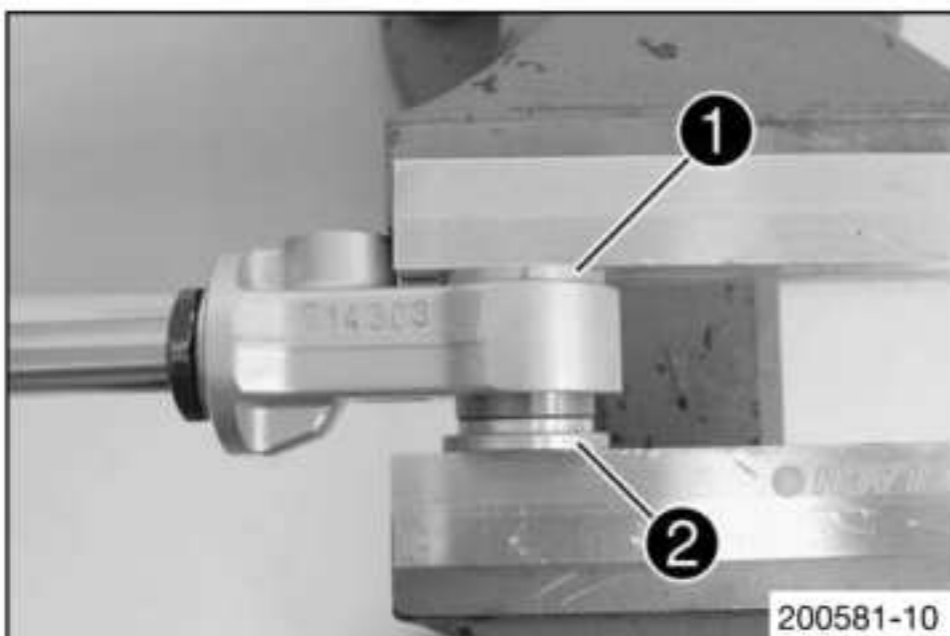
- Remove lock ring **4** on both sides.



- Place special tool **5** underneath and press out the heim joint with special tool **6**.

Pressing tool (T1207S) (📖 p. 397)

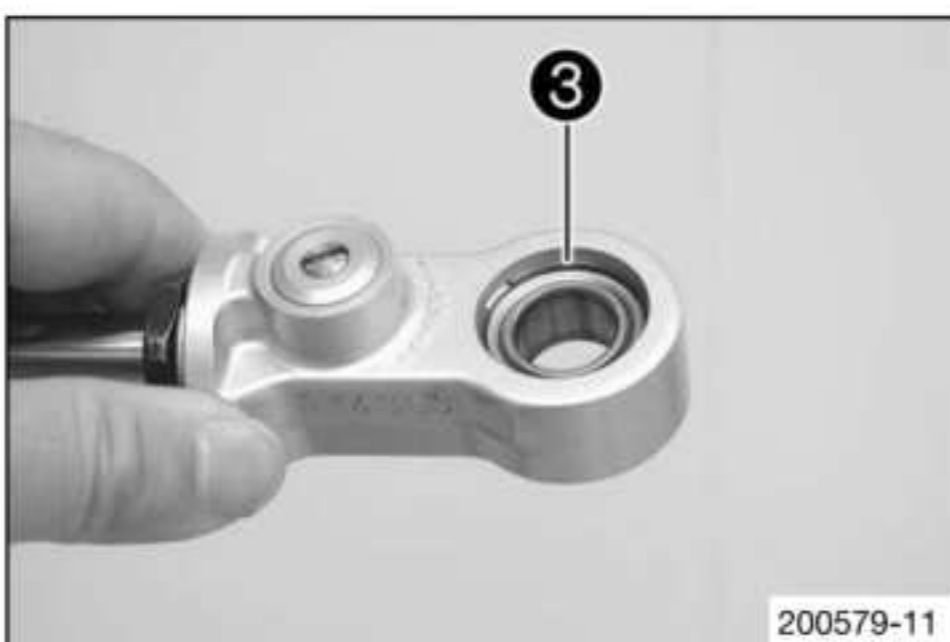
9.21 Installing the heim joint



- Place special tool **1** underneath and push the heim joint to the middle using special tool **2**.

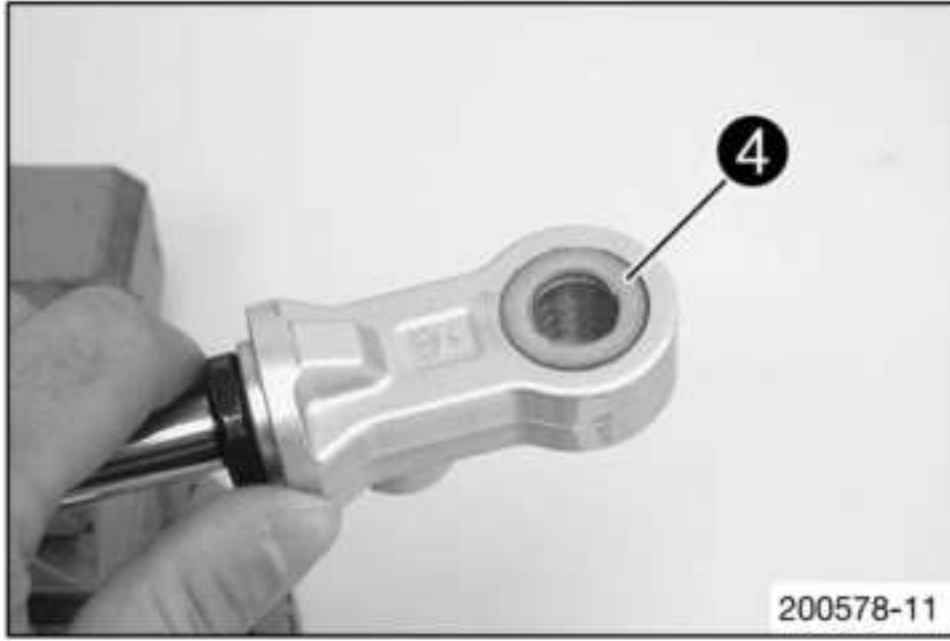
Pressing tool (T1206) (📖 p. 397)

Pressing tool (T129) (📖 p. 397)



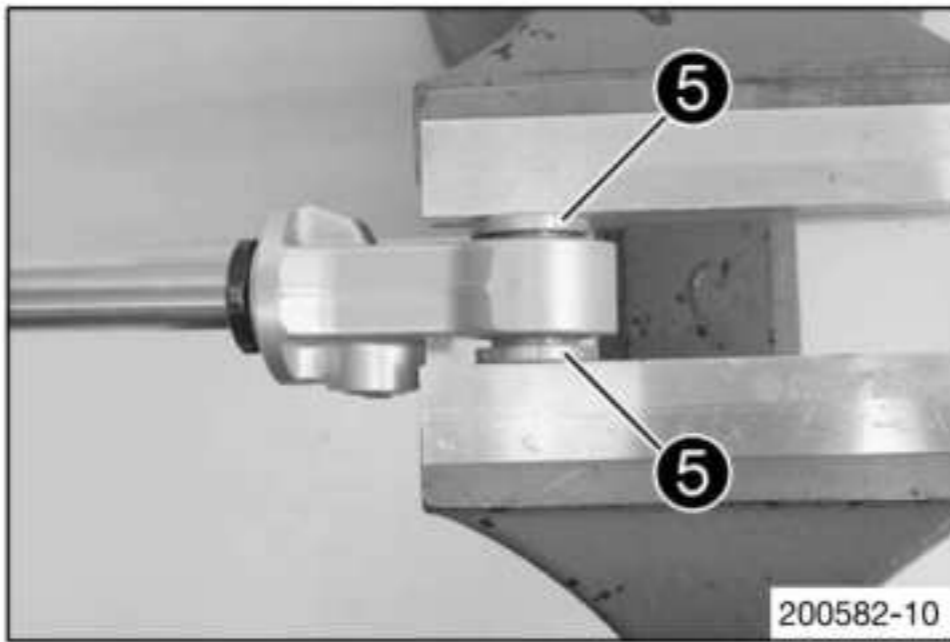
- Mount lock ring **3** on both sides.

9 SHOCK ABSORBER, LINK FORK



- Mount and grease seal ring 4 on both sides.

Lubricant (T158) (📖 p. 378)



- Press in both collar bushings 5 of the heim joint.

9.22 Assembling the piston rod

Preparatory work

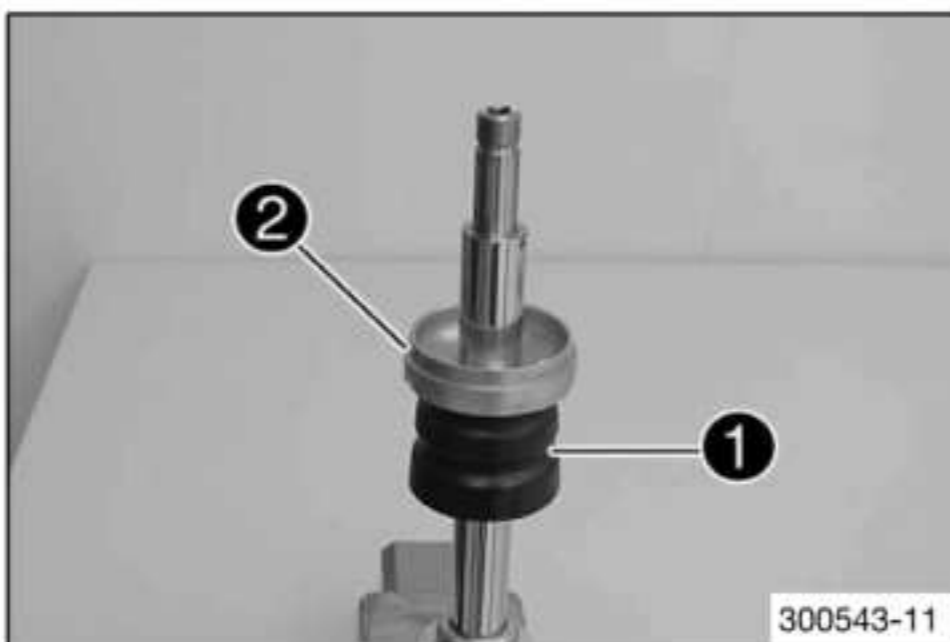
- Check the damper. (📖 p. 63)

Main work

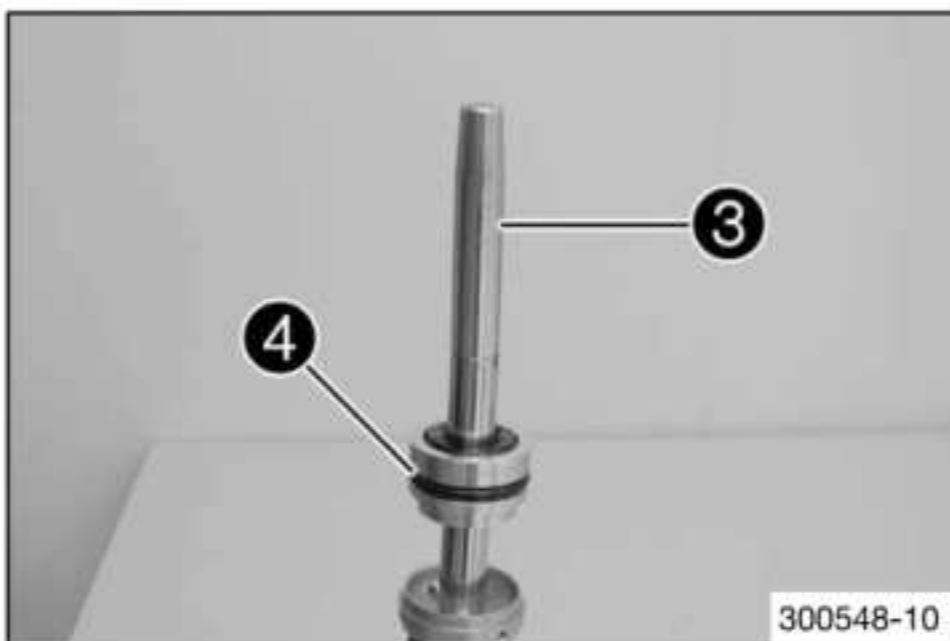
- Clamp the piston rod with the heim joint in a vise.

Guideline

Use soft jaws.



- Mount rubber buffer 1 and locking cap 2.



- Position special tool 3 on the piston rod.

Mounting sleeve (T1515) (📖 p. 399)

- Grease the seal ring and push seal ring retainer 4 on to the piston rod.

Lubricant (T625) (📖 p. 378)

- Remove the special tool.



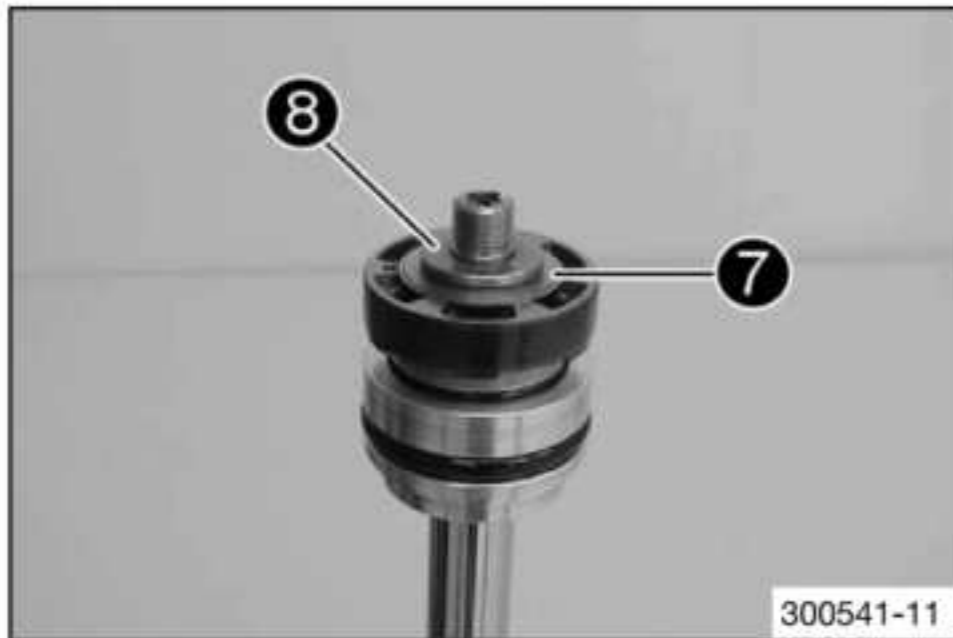
- Mount supporting plate 5 with the rounded side facing downward.
- Mount the compression shim stack 6 with the smaller shims facing downward.



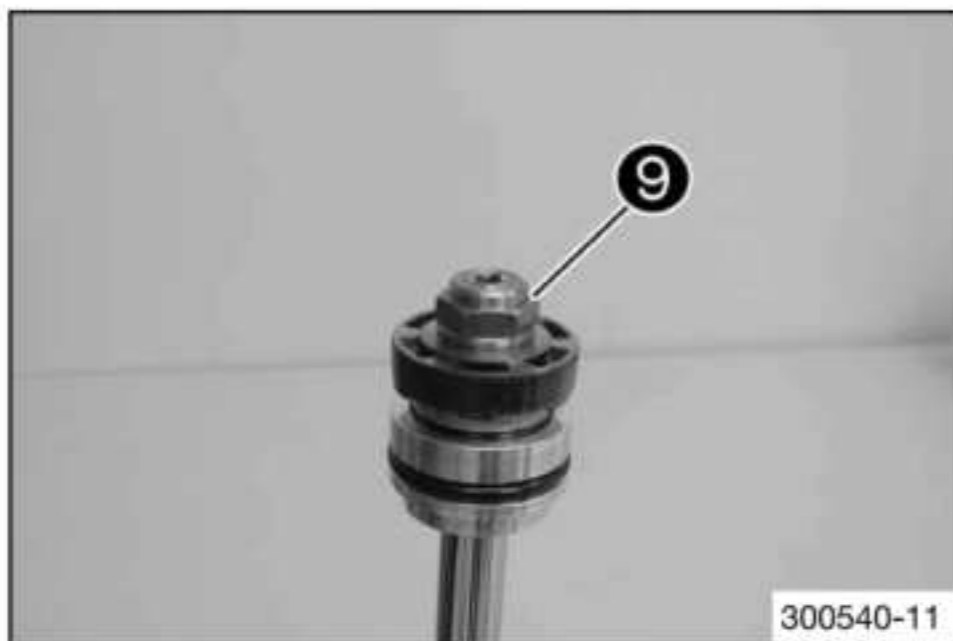
- Sand both sides of the piston on a surface plate using 1200-grit sandpaper.
- Clean the piston.
- Assemble the piston.

Guideline

View A	Piston from above
View B	Piston from below



- Mount the rebound shim stack **7** with the smaller shims facing upward.
- Install supporting plate **8**.



- Mount and tighten nut **9**.

Guideline

Piston rod nut	M12x1	40 Nm (29.5 lbf ft)
----------------	-------	---------------------

9.23 Assembling the damper

Preparatory work

- Check the damper. (📖 p. 63)
- Assemble the piston rod. (📖 p. 66)

9 SHOCK ABSORBER, LINK FORK



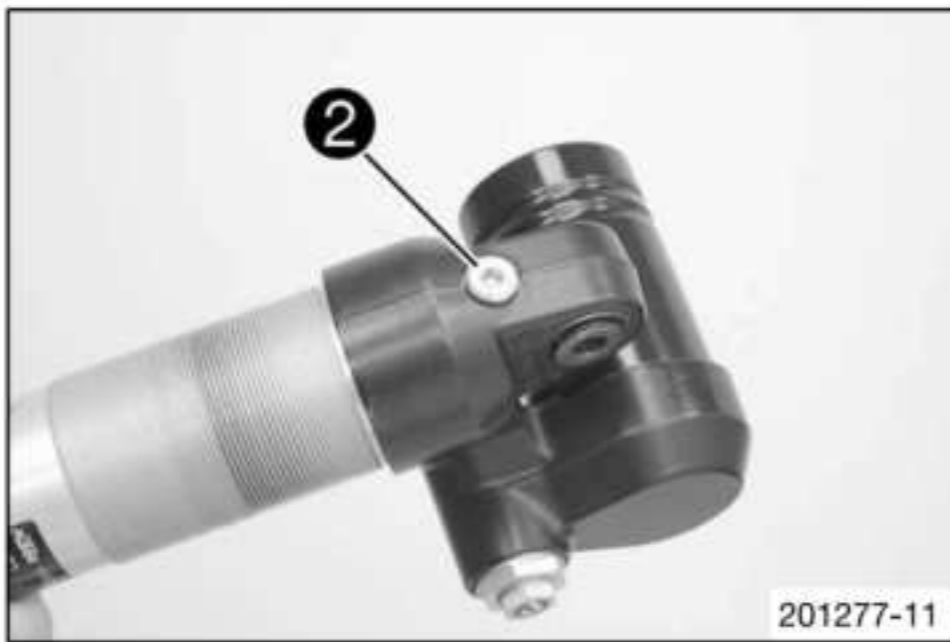
201279-11

Main work

- Push the spring and sleeve onto the compression adjuster. Mount the piston.
- Mount and tighten compression adjuster **1**.

Guideline

Compression adjuster	M26x1	30 Nm (22.1 lbf ft)
----------------------	-------	---------------------



201277-11

- Mount and tighten screw **2**.

Guideline

Filling port screw	M10x1	14 Nm (10.3 lbf ft)
--------------------	-------	---------------------



201288-10

- Clamp the damper in the bench vise.

Guideline

Use soft jaws.

- Fill the damper cartridge about half full.

Shock absorber fluid (SAE 2.5) (50180751S1) (📖 p. 377)
--



201278-11

- Grease O-ring **3** of the seal ring retainer.

Lubricant (T158) (📖 p. 378)

- Mount the piston rod carefully.



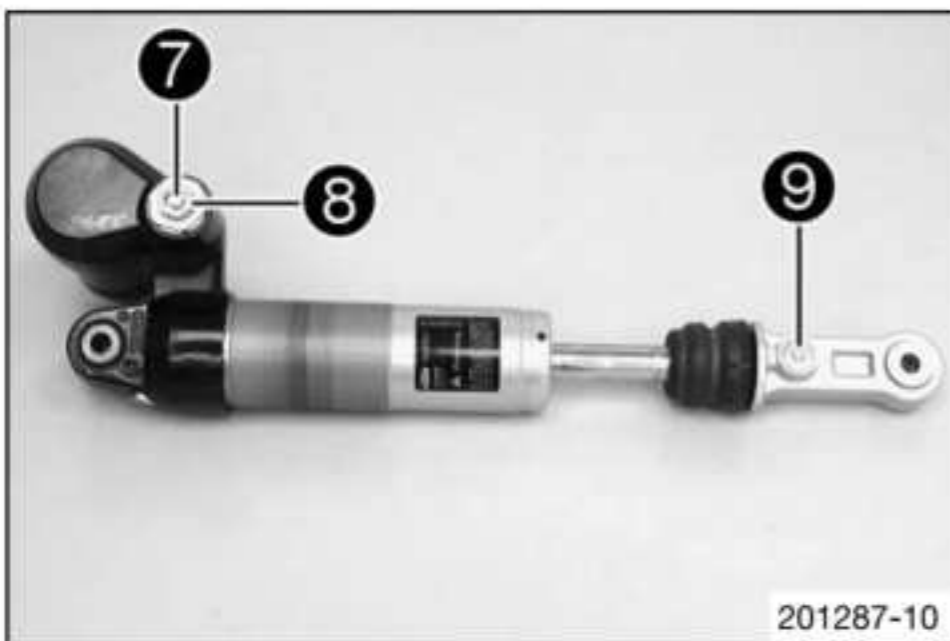
- Mount seal ring retainer ④ and slide it under the ring groove.
- Mount lock ring ⑤.

i Info
Do not scratch the inside surface.

- Pull out the piston rod until the seal ring retainer is flush with the lock ring.



- Mount locking cap ⑥ of the damper cartridge.
- Bleed and fill the damper. (📖 p. 70)
- Fill the damper with nitrogen. (📖 p. 73)



Alternative 1

- Turn adjusting screw ⑦ clockwise with a screwdriver as far as the last perceptible click.
- Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

Guideline

Low-speed compression damping	
Comfort	25 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	10 clicks

- Turn adjusting screw ⑧ all the way clockwise with a socket wrench.
- Turn counterclockwise by the number of turns corresponding to the shock absorber type.

Guideline

High-speed compression damping	
Comfort	2 turns
Standard	1.5 turns
Sport	1 turn
Full payload	1 turn

- Turn adjusting screw ⑨ clockwise up to the last perceptible click.
- Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

Guideline

Rebound damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	10 clicks

Alternative 2



Warning

Danger of accident Modifications to the suspension setting may seriously alter the handling characteristic.

Extreme modifications to the suspension setting may cause a serious deterioration in the handling characteristic and overload components.

- Only make adjustments within the recommended range.
- Ride slowly to start with after making adjustments to get the feel of the new handling characteristic.

- Position adjusting screws ⑦, ⑧, and ⑨ in the location determined during disassembly.

Finishing work

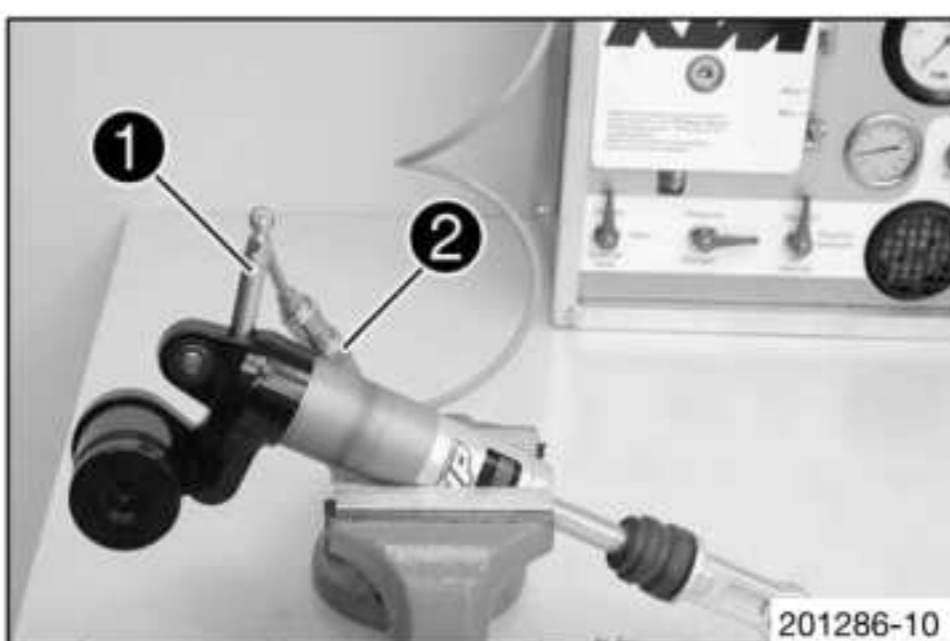
- Install the spring. (📖 p. 74)

9.24 Bleeding and filling the damper

i Info

Before working with the vacuum pump, carefully read the operating manual included with the vacuum pump.

Open the adjusters of the rebound and compression damping completely.



- Clamp the damper as shown.

Guideline

Use soft jaws.

i Info

The filling port must be located at the highest position. The piston rod moves in and out during filling; do not immobilize it by holding it with your hand.

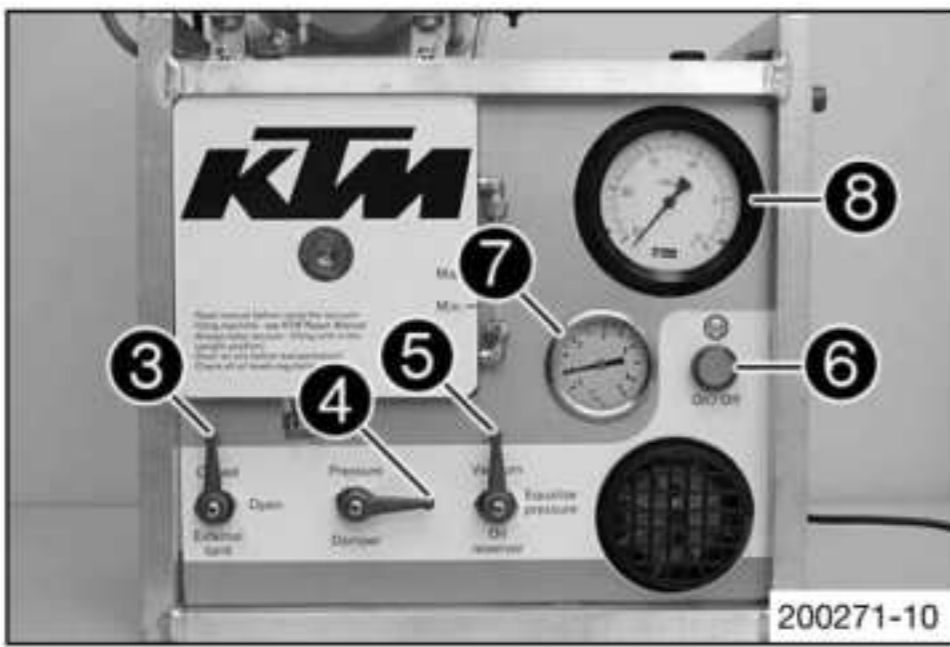
- Remove the screw from the filling port.
- Mount adapter ① on the damper.

i Info

Hand-tighten only without using a tool.

- Connect adapter ① to connector ② of the vacuum pump.

Vacuum pump (T1240S) (📖 p. 397)



- Adjust the control lever as shown.
 - ✓ Control lever **External tank 3** is set to **Closed**, **Damper 4** is set to **Vacuum** and **Oil reservoir 5** is set to **Vacuum**.
- Activate **On/Off switch 6**.
 - ✓ The suction process begins.
 - ✓ Pressure gauge **7** drops to the required value.

< 0 bar

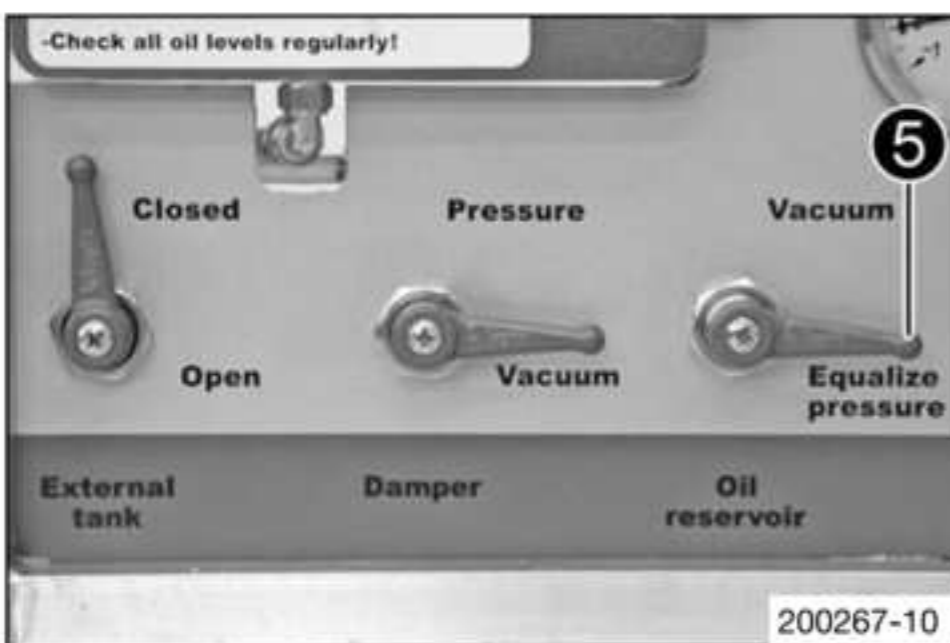
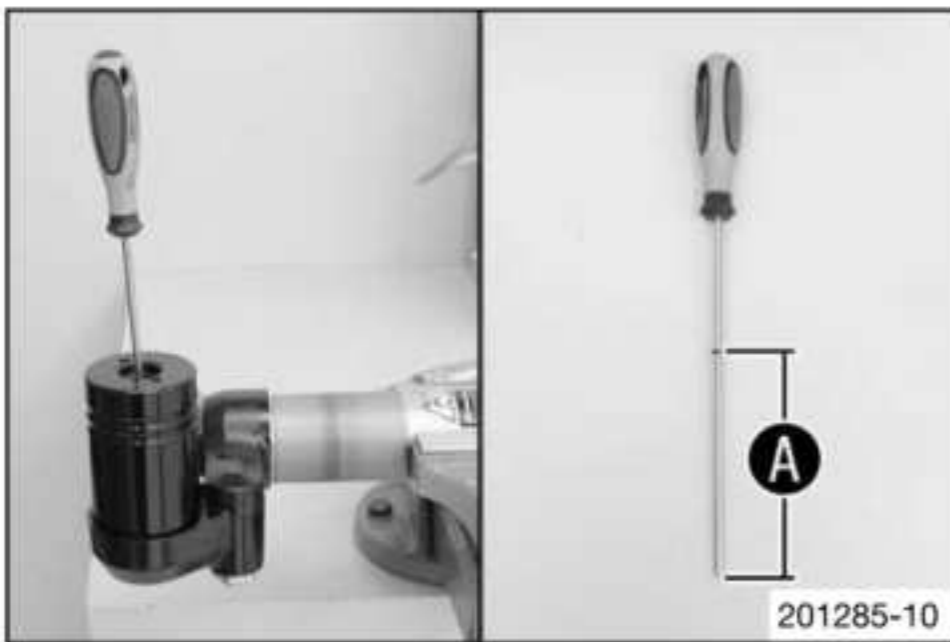
- ✓ Vacuum gauge **8** drops to the required value.

4 mbar

- Determine distance **A** between the floating piston and reservoir hole with the special tool.

Depth micrometer (T107S) (📖 p. 396)

- ✓ The floating piston is located in the lowermost position.



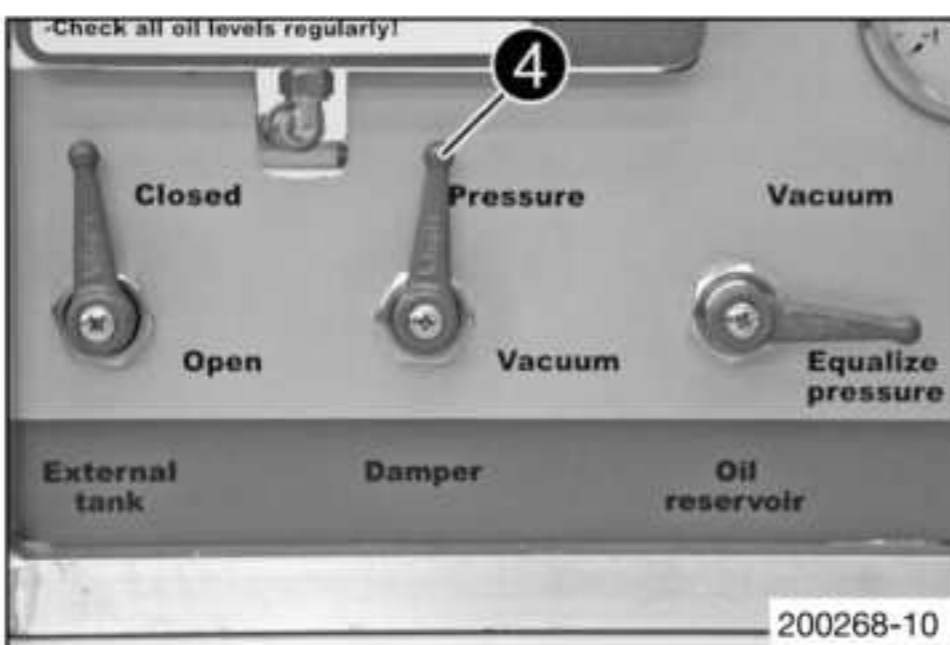
- When the vacuum gauge reaches the required value, turn control lever **Oil reservoir 5** to **Equalize pressure**.

Guideline

4 mbar

- ✓ The pressure gauge increases to the required value.

0 bar



- When the pressure gauge reaches the specified value, turn control lever **Damper 4** to **Pressure**.

Guideline

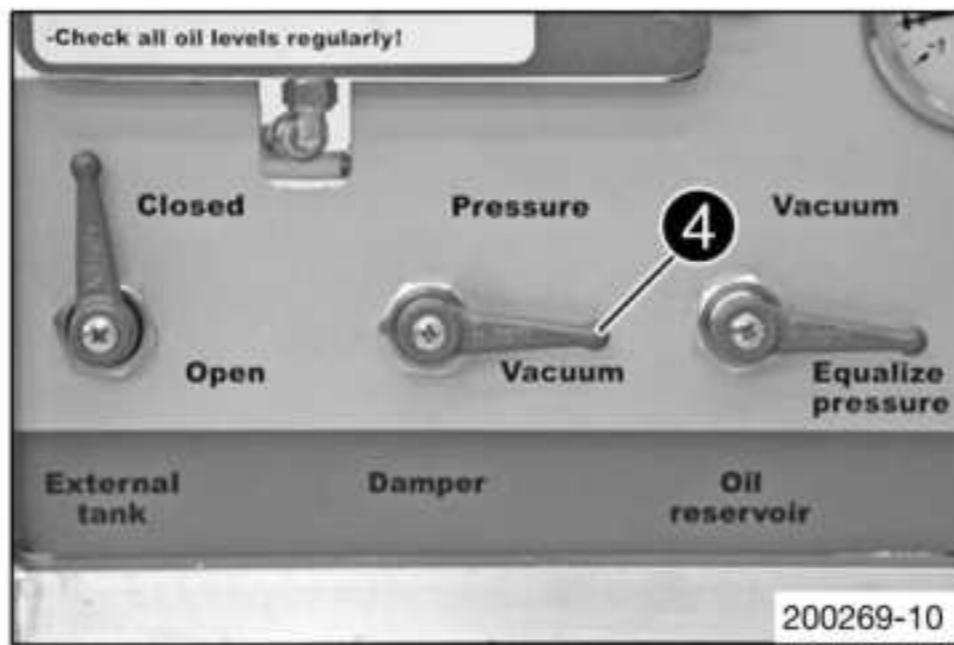
0 bar

- ✓ Oil is pumped into the damper.

- ✓ The pressure gauge increases to the required value.

3 bar

9 SHOCK ABSORBER, LINK FORK



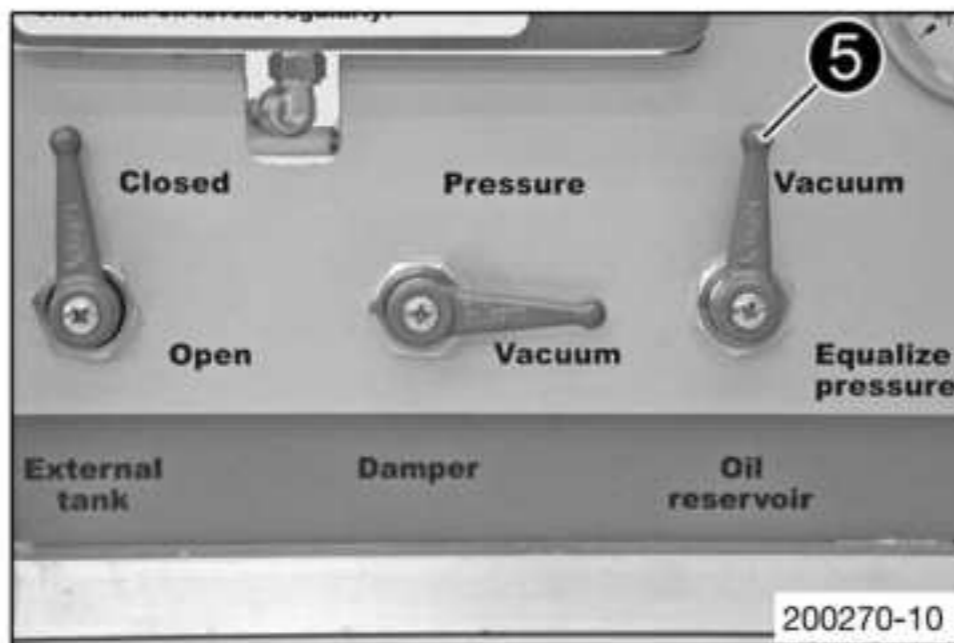
- When the pressure gauge reaches the specified value, turn control lever **Damper 4** to **Vacuum**.

Guideline

3 bar

- ✓ The pressure gauge drops to the required value.

0 bar



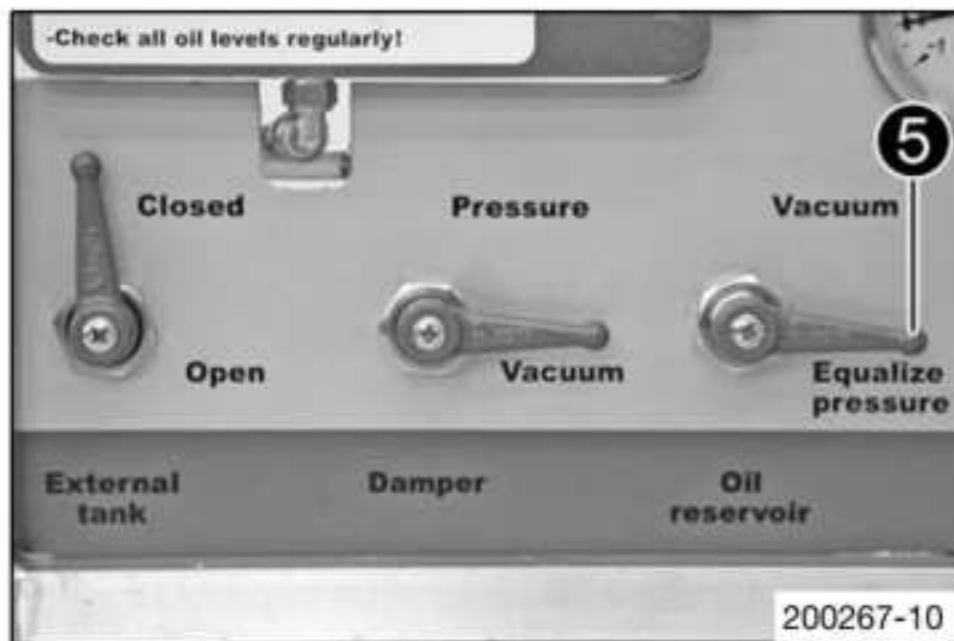
- When the pressure gauge reaches the specified value, turn control lever **Oil reservoir 5** to **Vacuum**.

Guideline

0 bar

- ✓ The vacuum gauge drops to the required value.

4 mbar



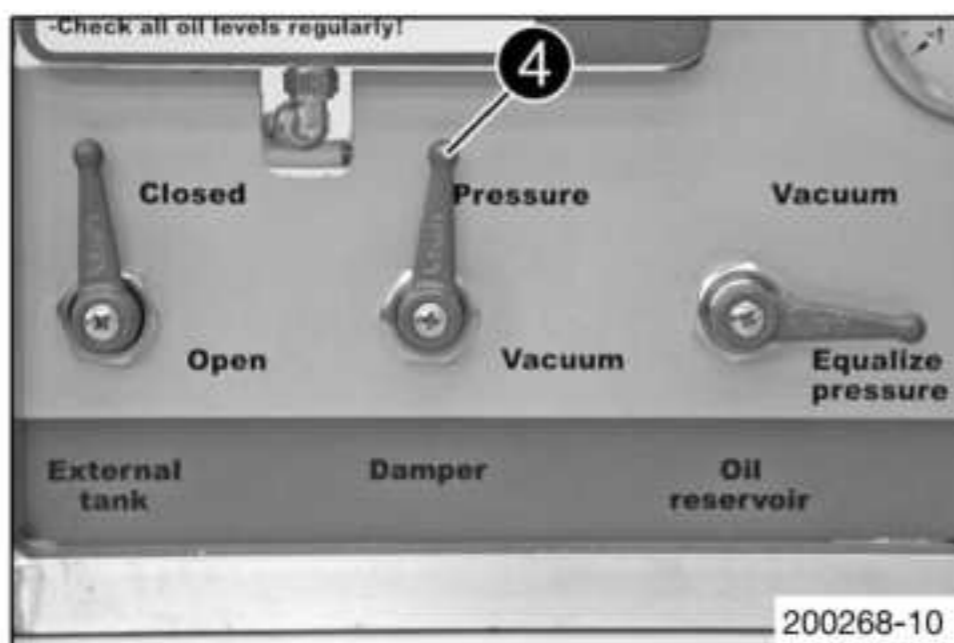
- When the vacuum gauge reaches the required value, turn control lever **Oil reservoir 5** to **Equalize Pressure**.

Guideline

4 mbar

- ✓ The pressure gauge drops to the required value.

0 bar



- When the pressure gauge reaches the specified value, turn control lever **Damper 4** to **Pressure**.

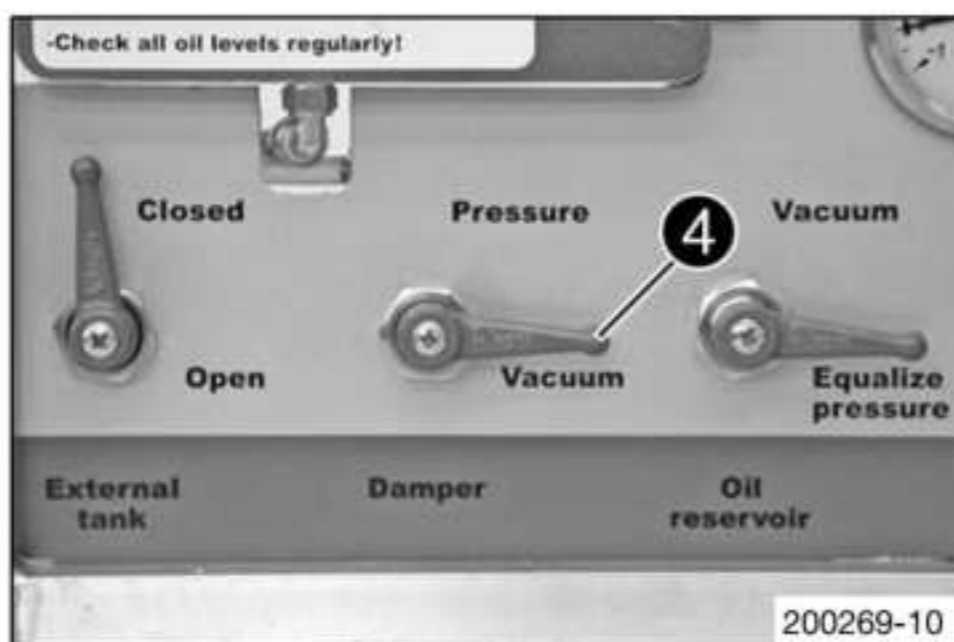
Guideline

0 bar

- ✓ Oil is pumped into the damper.

- ✓ The pressure gauge increases to the required value.

3 bar



- When the pressure gauge reaches the specified value, turn control lever **Damper 4** to **Vacuum**.

Guideline

3 bar

- ✓ The pressure gauge drops to the required value.

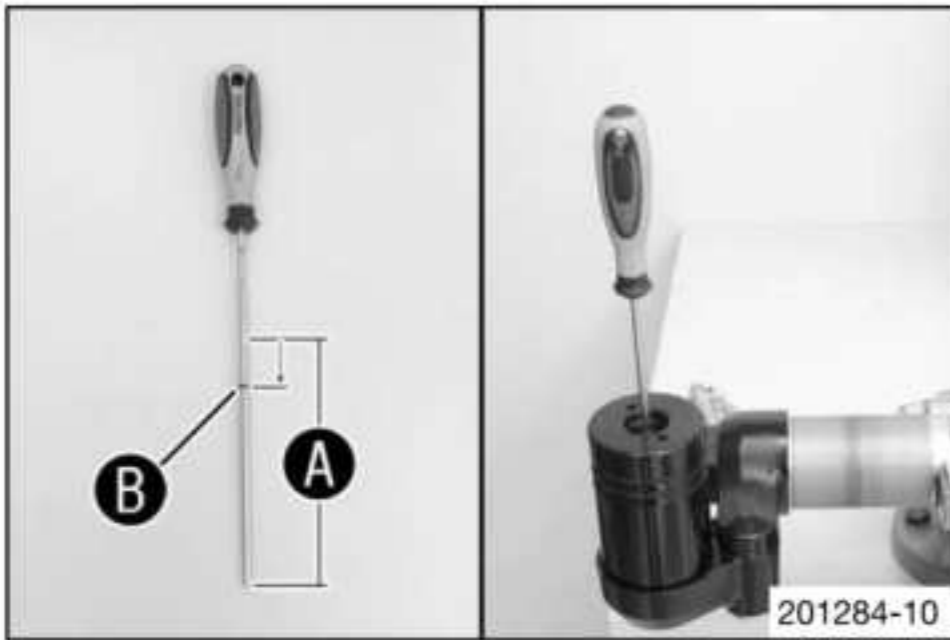
0 bar

- When the pressure gauge reaches the required value, activate the **On/Off** switch.

Guideline

0 bar

- ✓ The vacuum pump is switched off.



- Slide O-ring **B** to the end of the special tool by the specified value (distance **A** minus specified value).

Guideline

10 mm

Depth micrometer (T107S) (📖 p. 396)

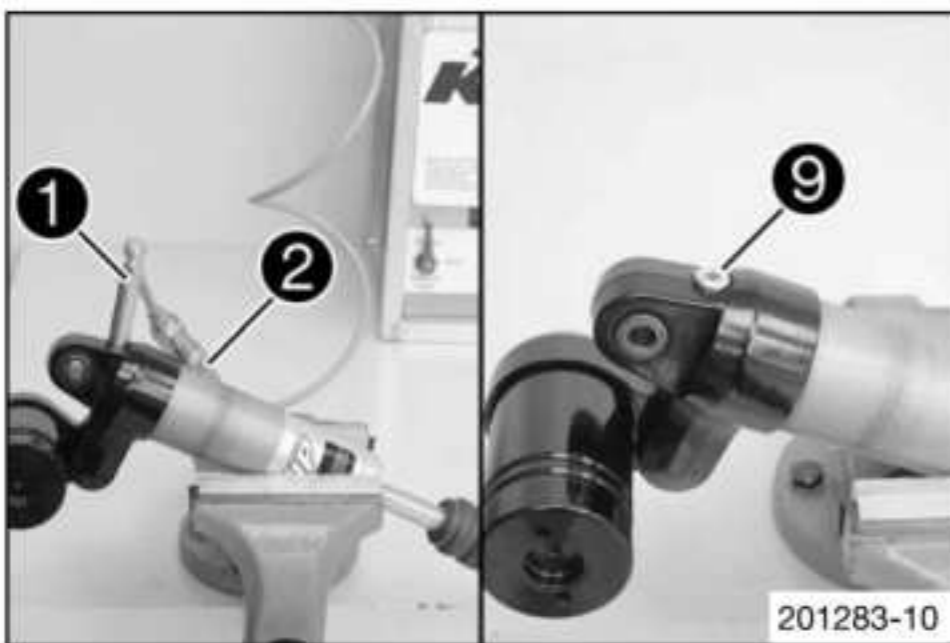
- Slide the floating piston into the reservoir to the shortened position using the special tool.



Info

The floating piston must be positioned at exactly this point when the piston rod is fully extended, otherwise damage will occur during compression of the shock absorber.

- Remove the special tool.
- Remove adapter **1** from connector **2** of the vacuum pump.



Info

Hold the damper so that the filling port is at the highest point.

- Remove the adapter.
- Mount and tighten screw **9**.

Guideline

Filling port screw	M10x1	14 Nm (10.3 lbf ft)
--------------------	-------	---------------------

9.25 Filling the damper with nitrogen

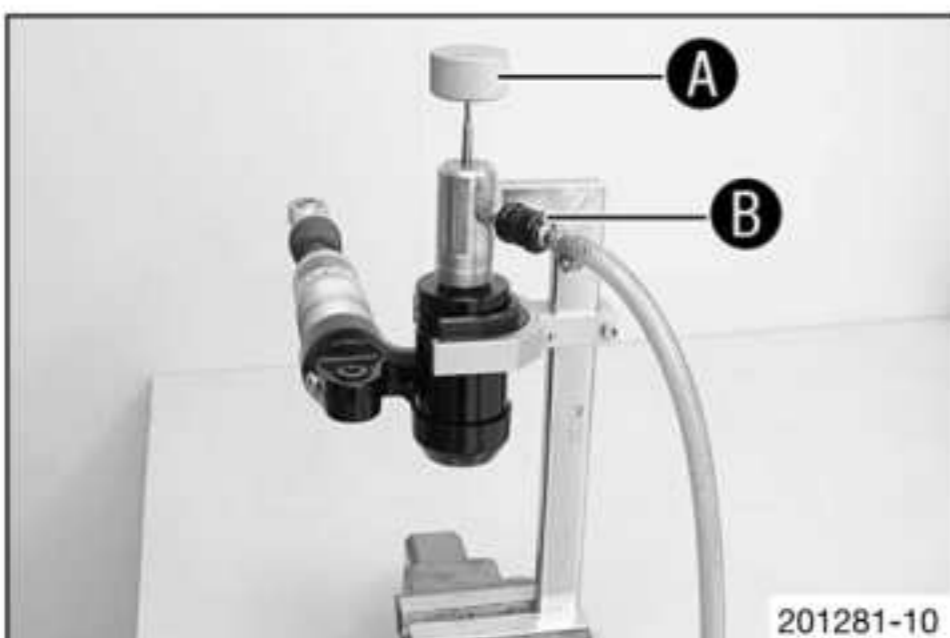


- Screw in screw **1** by approx. 2 rotations but do not tighten.



Info

The piston rod is fully extended.



- Clamp special tool in the vise.

Filling tool (T170S1) (📖 p. 399)

- Connect the special tool to the pressure regulator of the filling cylinder.

Filling gas - nitrogen

- Adjust pressure regulator.

Guideline

Gas pressure	10 bar (145 psi)
--------------	------------------

- Position the damper in the special tool.

9 SHOCK ABSORBER, LINK FORK

- ✓ The hexagonal part of the tap handle **A** engages in the hexagon socket of the filling port screw.
- Open filler tap **B**.
- Fill the damper for at least 15 seconds.

Guideline

Gas pressure	10 bar (145 psi)
--------------	------------------



Info

Watch the pressure regulator dial. Make sure that the damper is filled to the specified pressure.

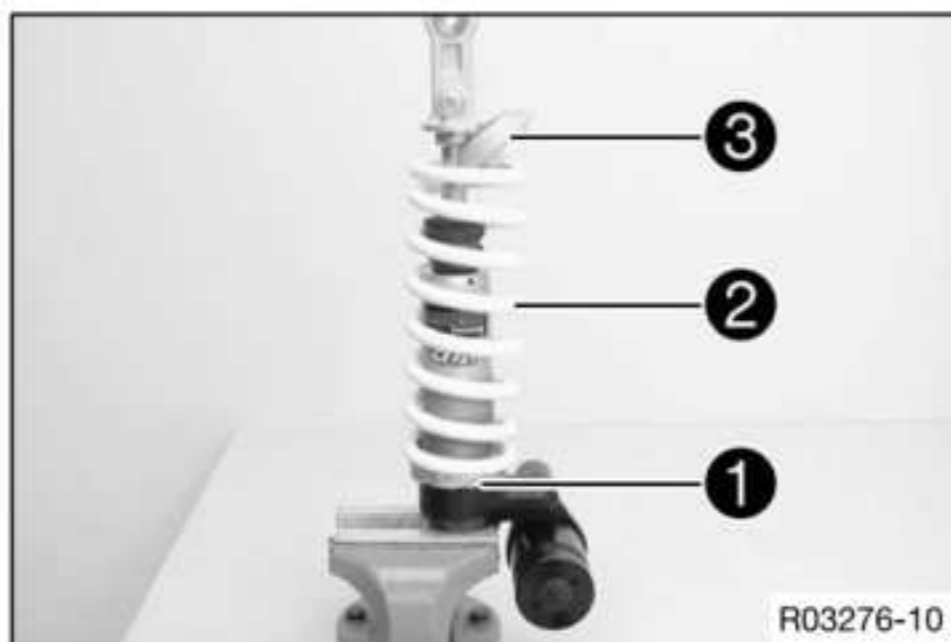
- Close the filling port screw using tap handle **A**.
- Close spigot **B** and take the damper out of the special tool.
- Tighten the filling port screw.

Guideline

Screw, reservoir filling port	M5	3 Nm (2.2 lbf ft)
-------------------------------	----	-------------------

- Mount the rubber cap of the reservoir.

9.26 Installing the spring



- Clamp the damper in the bench vise.

Guideline

Use soft jaws.

- Mount adjusting ring **1** and turn it all the way down.
 - ✓ The collar faces the spring.
- Measure the overall spring length while the spring is not under tension.
- Mount spring **2**.

Guideline

Spring rate	
Medium (standard)	75 N/mm (428 lb/in)
Hard	80 N/mm (457 lb/in)

- Mount spring retainer **3**.
 - ✓ The open end is opposite the spring end.

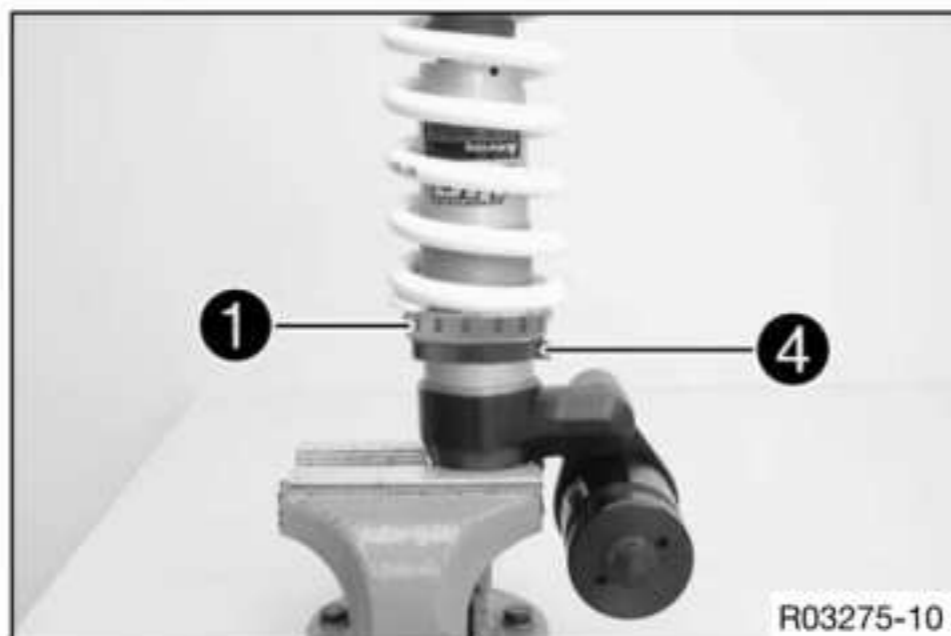
Alternative 1

- Tighten the spring by turning adjusting ring **1** to the specified measurement.

Guideline

Spring preload	21 mm (0.83 in)
----------------	-----------------

Hook wrench (T106S) (📖 p. 396)



Alternative 2

**Warning**

Danger of accident Modifications to the suspension setting may seriously alter the handling characteristic.

Extreme modifications to the suspension setting may cause a serious deterioration in the handling characteristic and overload components.

- Only make adjustments within the recommended range.
- Ride slowly to start with after making adjustments to get the feel of the new handling characteristic.

- Adjust the spring to the value determined when it was removed by turning adjusting ring ①.

Hook wrench (T106S) (📖 p. 396)

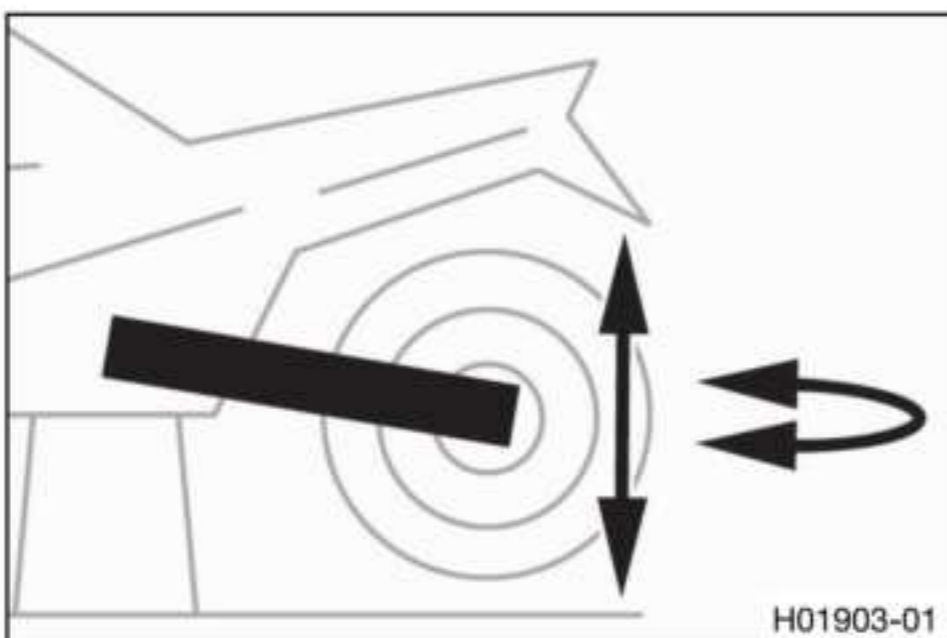
- Tighten screw ④.

9.27 Checking the link fork

- Check the link fork for damage, cracking, and deformation.
 - » If the link fork exhibits damage, cracking, or deformation:
 - Change the link fork.

**Info**

Always replace a damaged link fork. Husqvarna Motorcycles does not permit repairing link forks.

9.28 Checking the fork bearing for play**Preparatory work**

- Raise the motorcycle with the work stand. (📖 p. 14)
- Place a load on the front of the vehicle.
 - ✓ The rear wheel is not in contact with the ground.

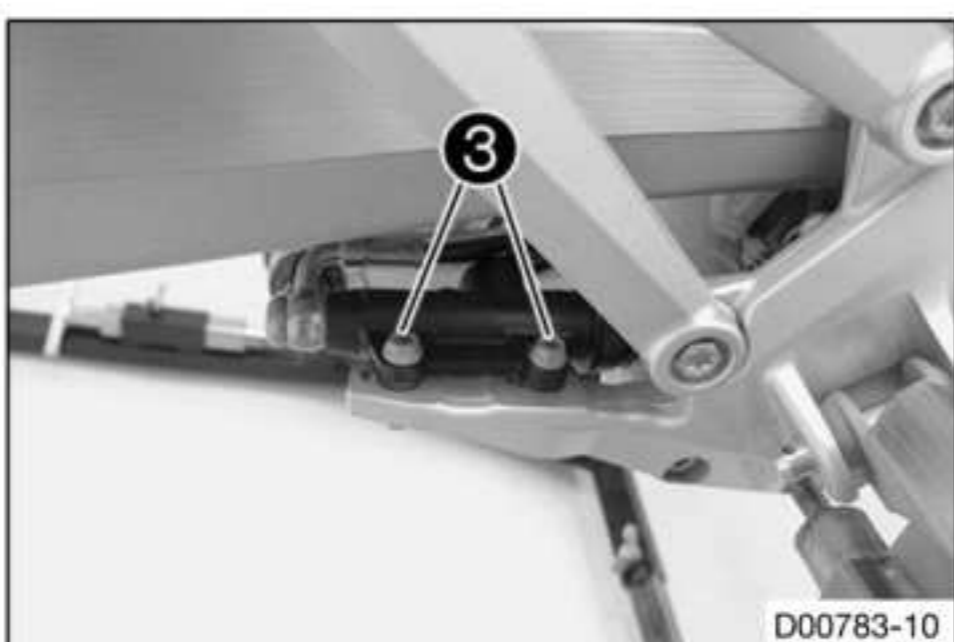
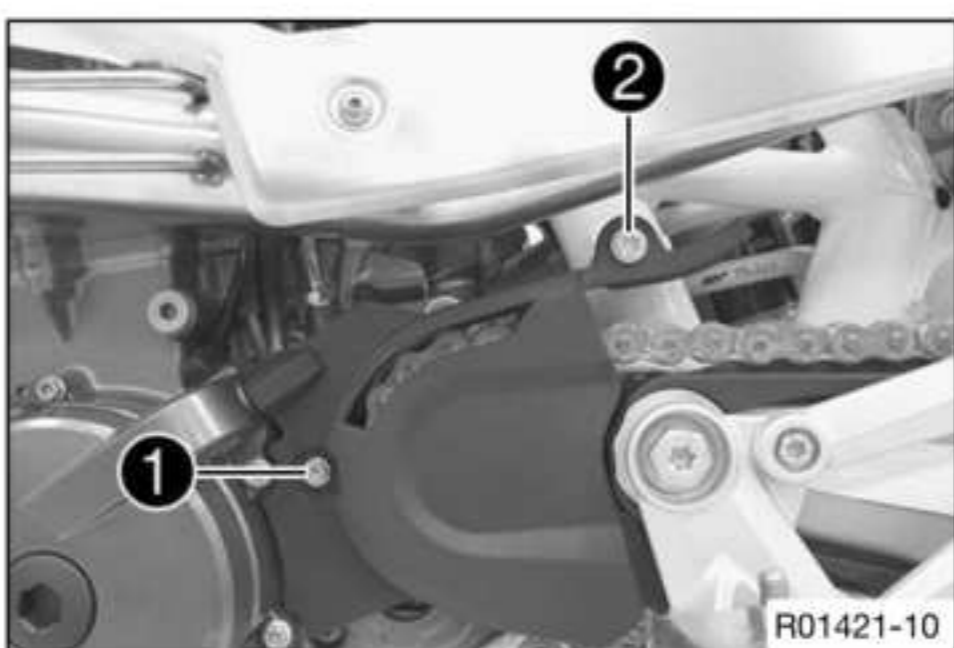
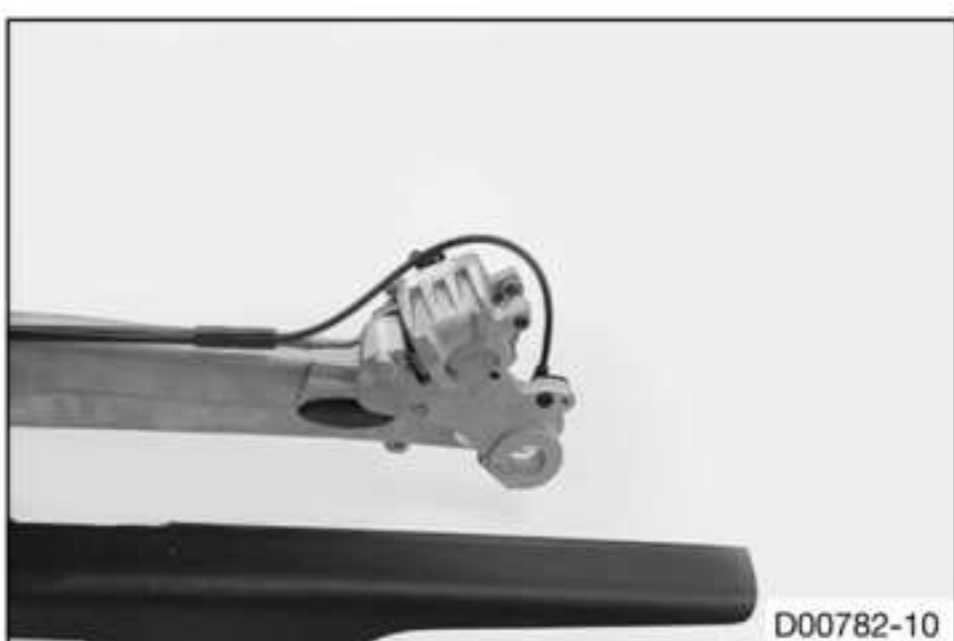
Main work

- Move the link fork up and down.
 - » If there is detectable play:
 - Change the fork bearing. (📖 p. 78)
- Move the link fork from one side to the other.
 - » If there is detectable play:
 - Change the fork bearing. (📖 p. 78)

Finishing work

- Remove the motorcycle from the work stand. (📖 p. 15)

9.29 Removing the link fork



Preparatory work

- Raise the motorcycle with the work stand. (p. 14)
- Remove the rear wheel using a work stand. (p. 120)

Main work

- Take the brake line out of the guide.

- Take the brake caliper out of the guide and hang it to the side.

i Info
Cover the components to protect them against damage.

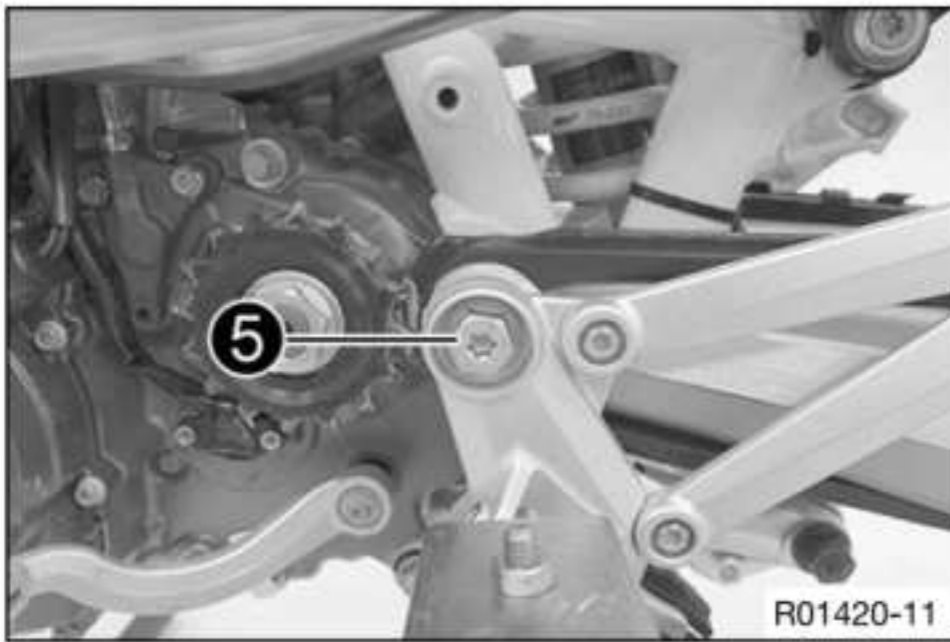
- Remove screws ① and ②.
- Take off the engine sprocket cover.
- Open the chain. (p. 134)

i Info
Cover the components to protect them against damage.

- Take off the chain.
- Remove fittings ③.
- Hang the foot brake cylinder to the side.

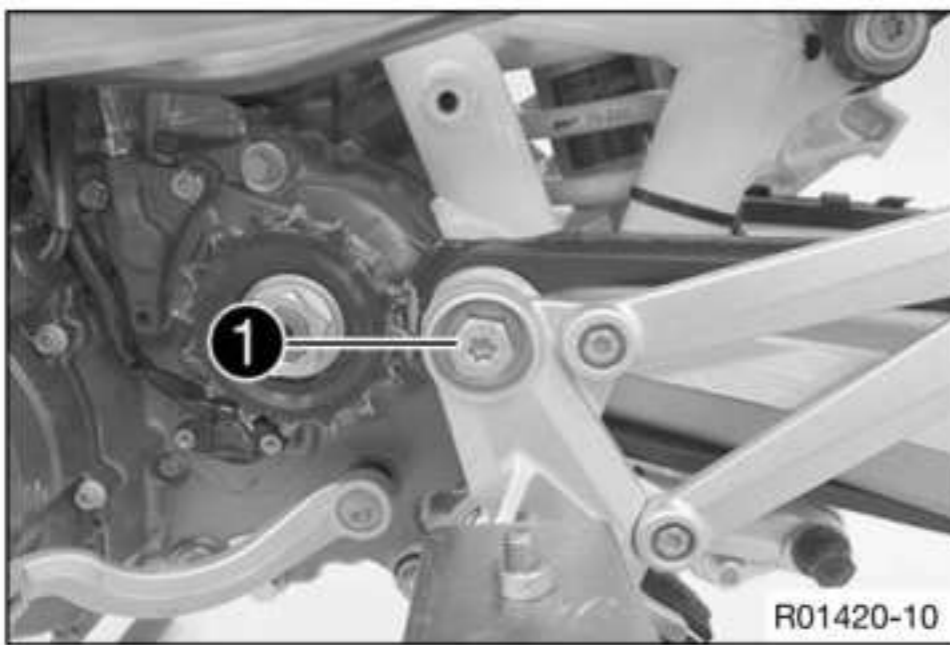


- Remove fitting ④.
- Lower the link fork.



- Remove screw ⑤.
- Remove the fork pivot.
- Take off the link fork.

9.30 Installing the link fork

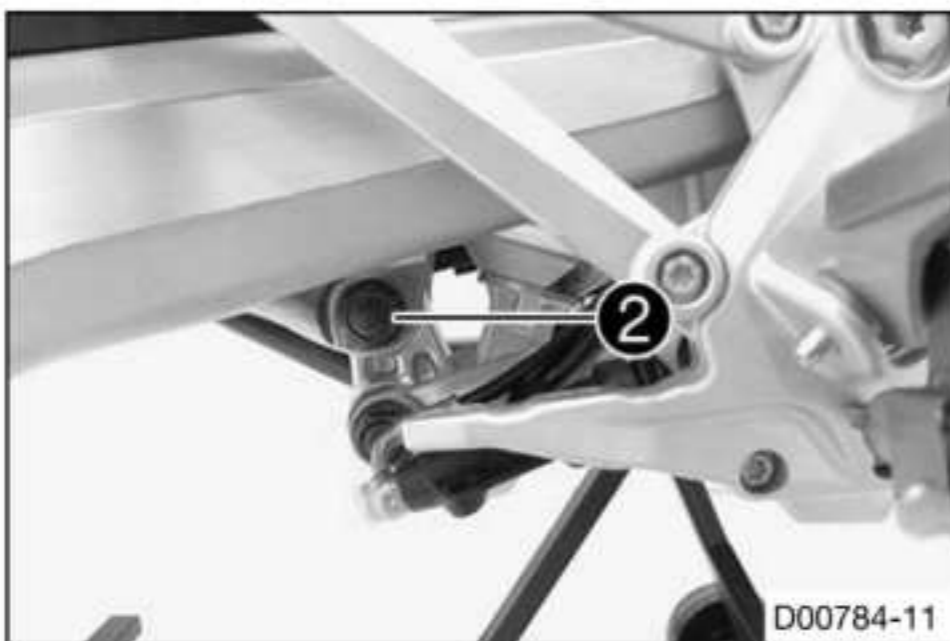


Main work

- Position the link fork.
- Mount the fork pivot.
- Mount and tighten screw ①.

Guideline

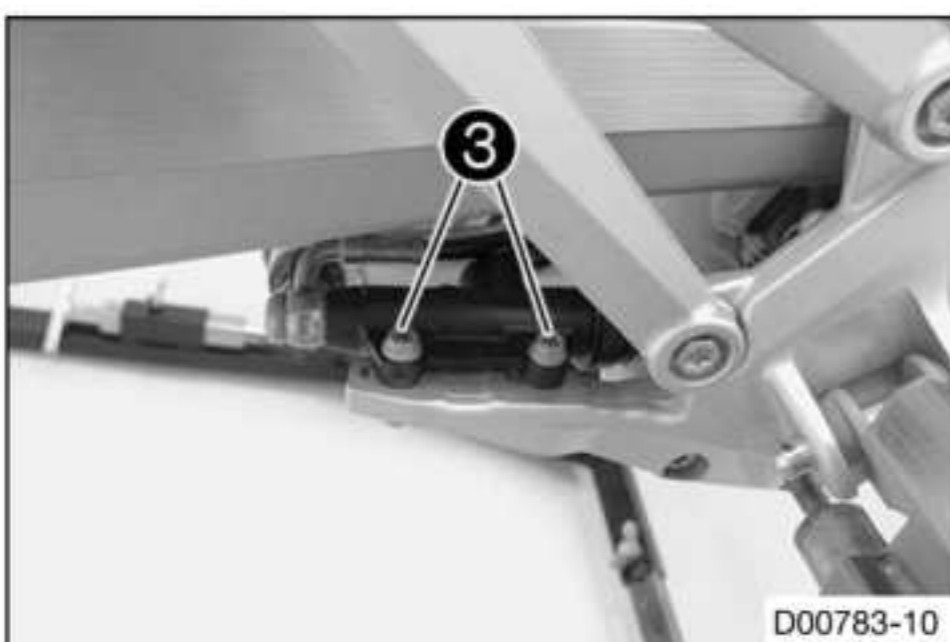
Screw, swingarm pivot	M12	80 Nm (59 lbf ft)
-----------------------	-----	-------------------



- Lift the link fork.
- Mount and tighten fitting ②.

Guideline

Nut, angle lever to link fork	M14x1.5	100 Nm (73.8 lbf ft)
-------------------------------	---------	----------------------

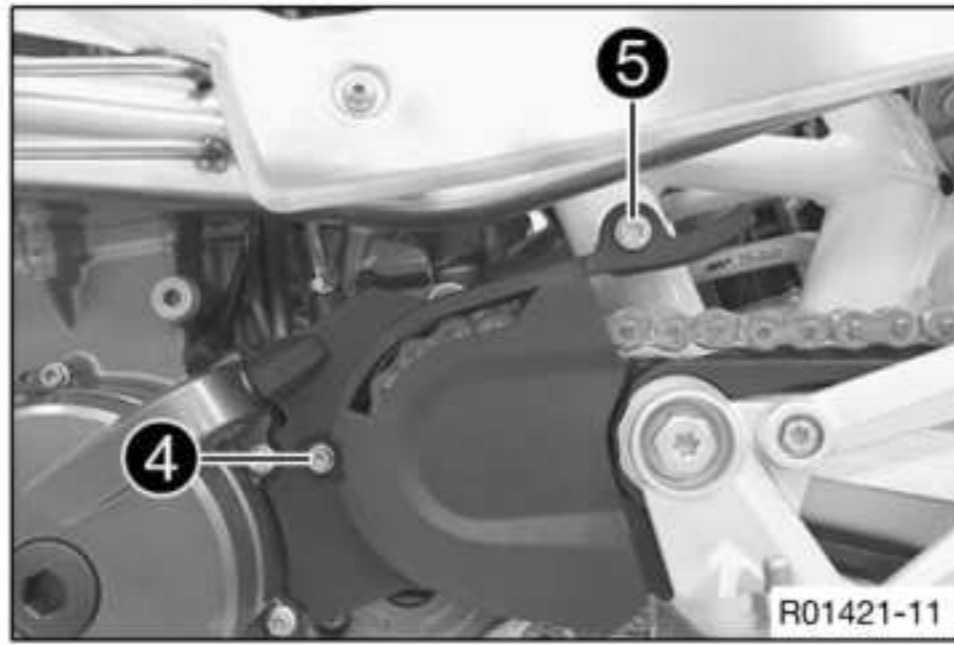


- Position the foot brake cylinder.
- Mount and tighten fittings ③.

Guideline

Screw connection, foot brake cylinder	M6	10 Nm (7.4 lbf ft)
---------------------------------------	----	--------------------

9 SHOCK ABSORBER, LINK FORK



- Mount the chain.
- Rivet the chain. (📖 p. 134)
- Position the engine sprocket cover.
- Mount and tighten screw ④.

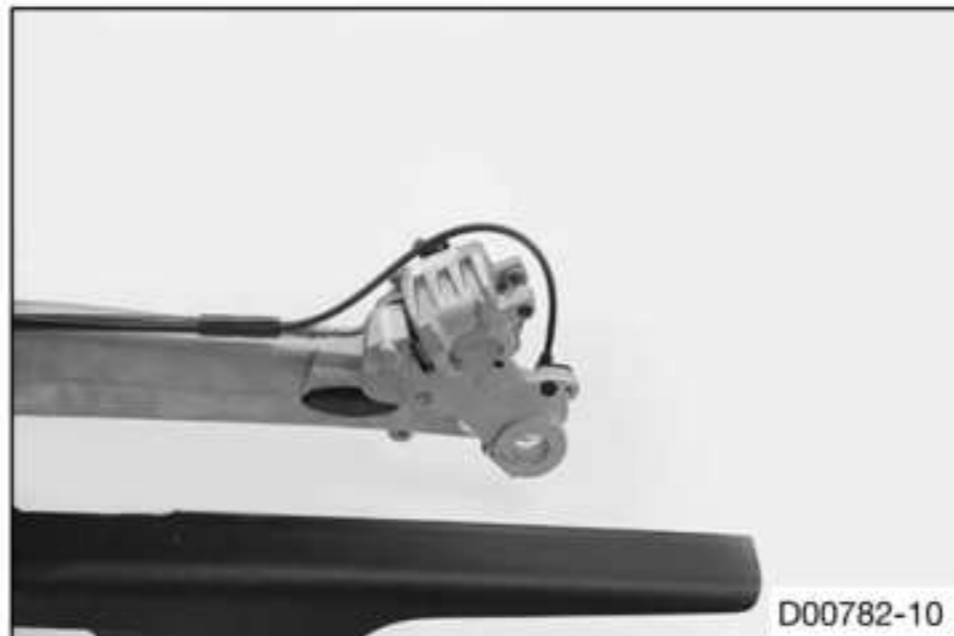
Guideline

Screw, clutch slave cylinder	M6x40	10 Nm (7.4 lbf ft) Loctite®243™
------------------------------	-------	---

- Mount and tighten screw ⑤.

Guideline

Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)
---------------------------	----	---------------------



- Position the brake caliper in the guide.



- Position the brake line in the guide.

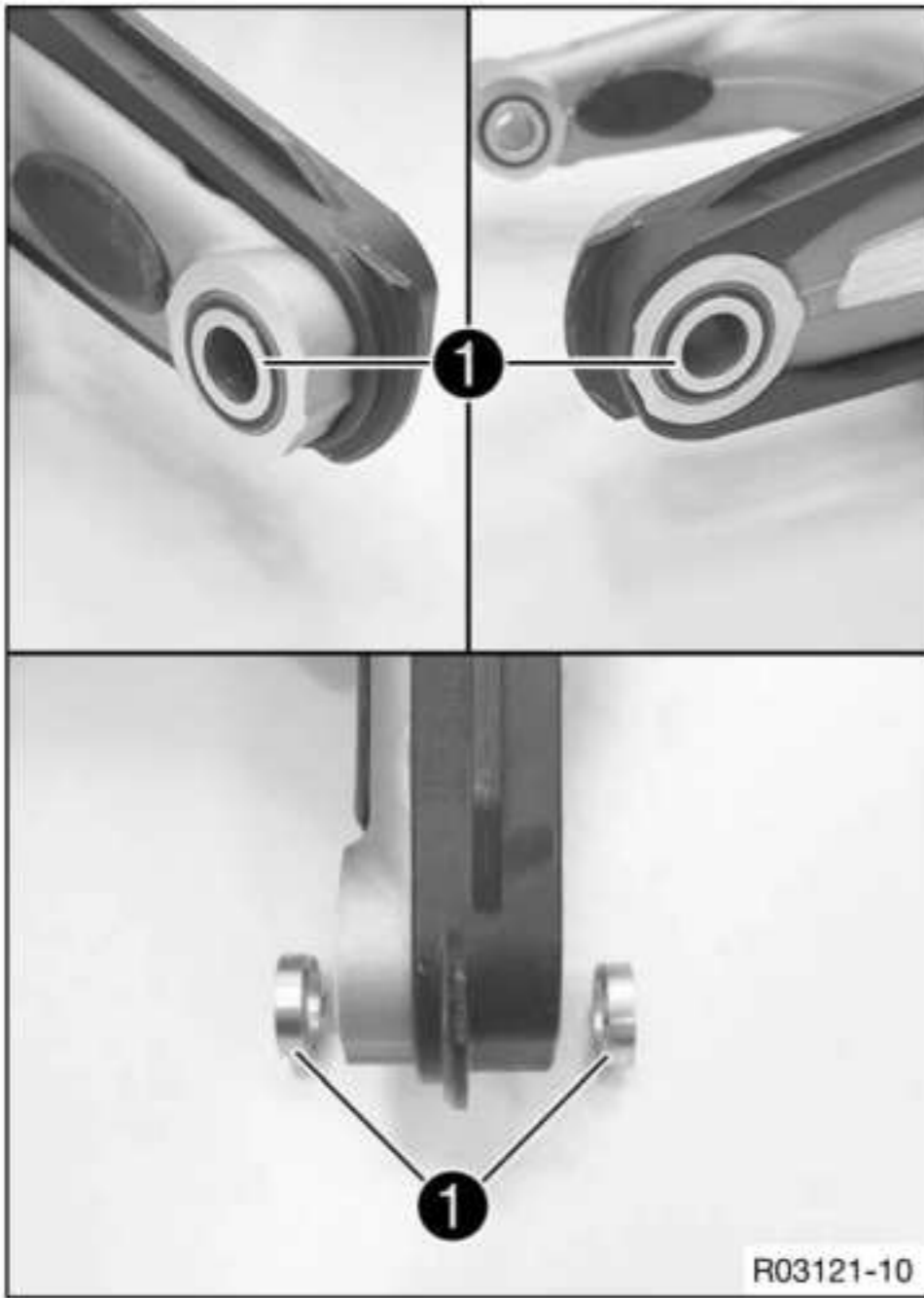
Finishing work

- Install the rear wheel using a work stand. (📖 p. 122)
- Remove the motorcycle from the work stand. (📖 p. 15)
- Check the chain tension. (📖 p. 130)
- Check the free travel of the foot brake lever. (📖 p. 161)

9.31 Changing the fork bearing

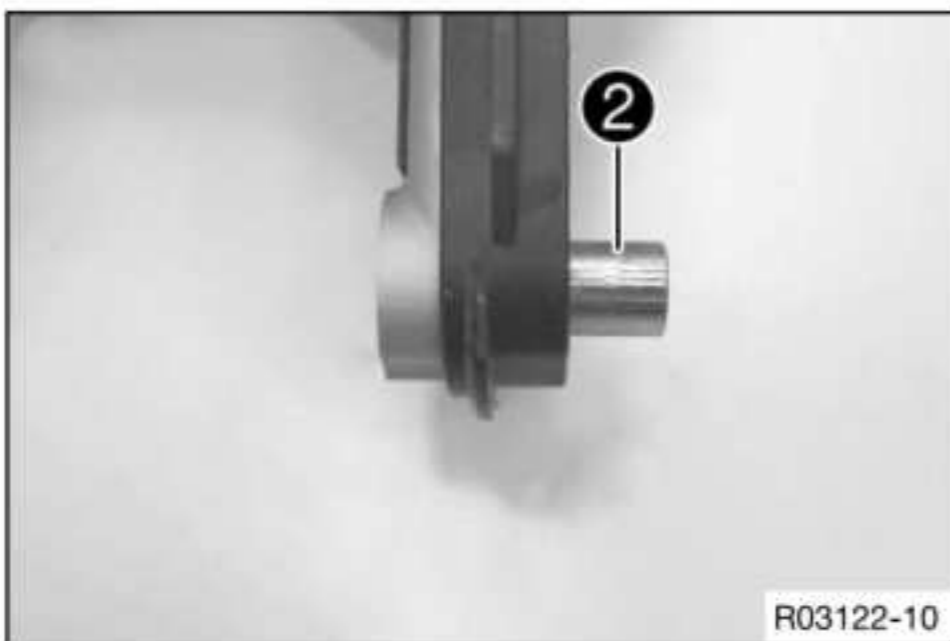
Preparatory work

- Raise the motorcycle with the work stand. (📖 p. 14)
- Remove the rear wheel using a work stand. (📖 p. 120)
- Remove the link fork. (📖 p. 76)

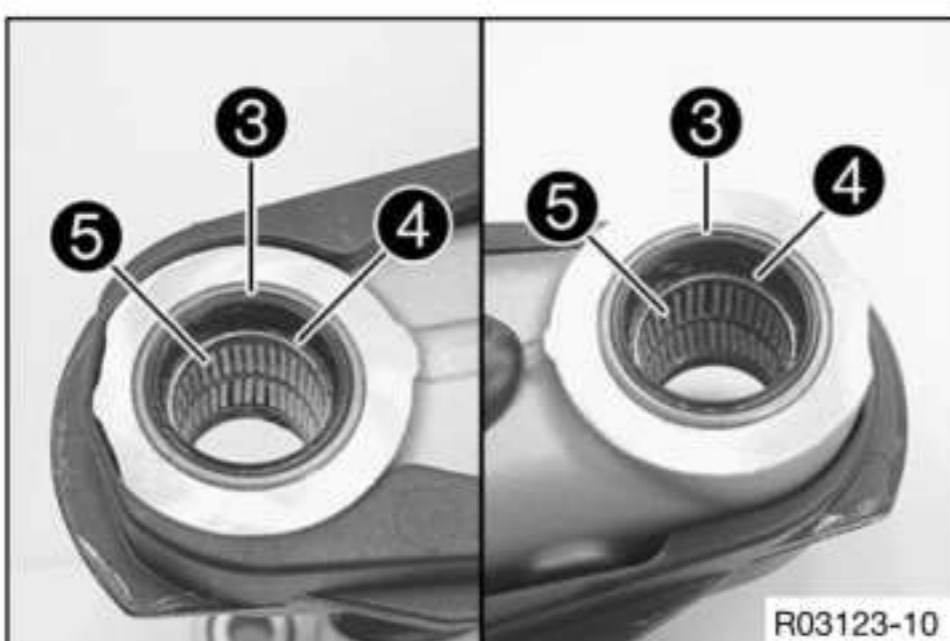


Left fork bearing

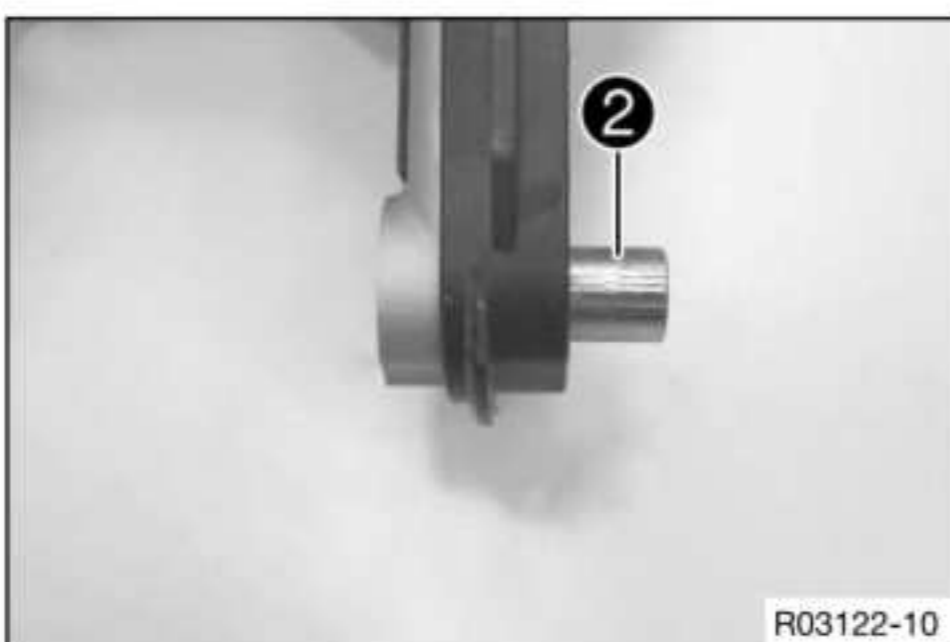
- Remove collar bushings **1**.



- Remove bushing **2**.

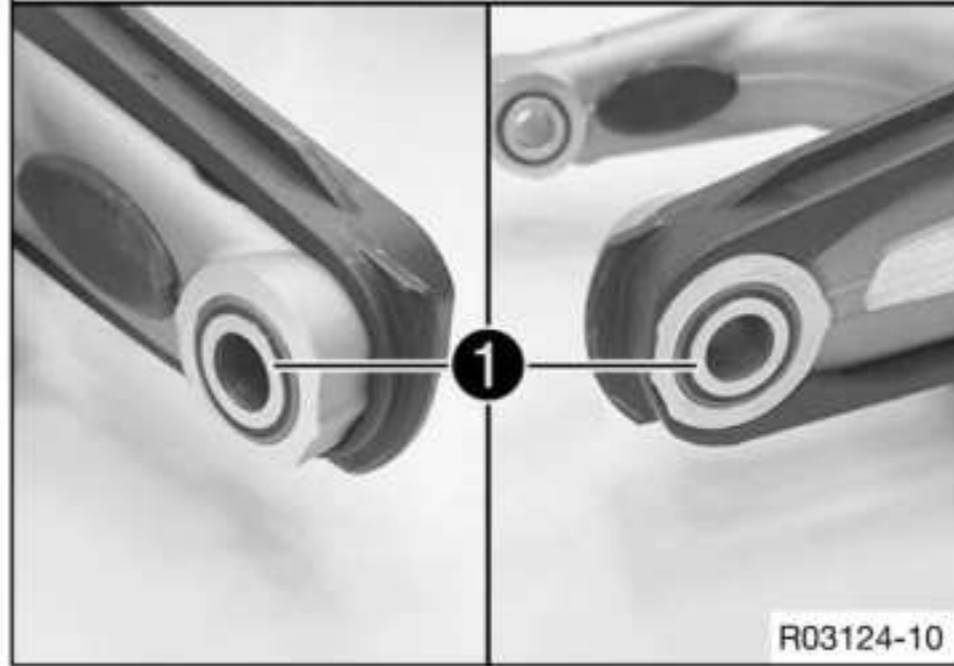
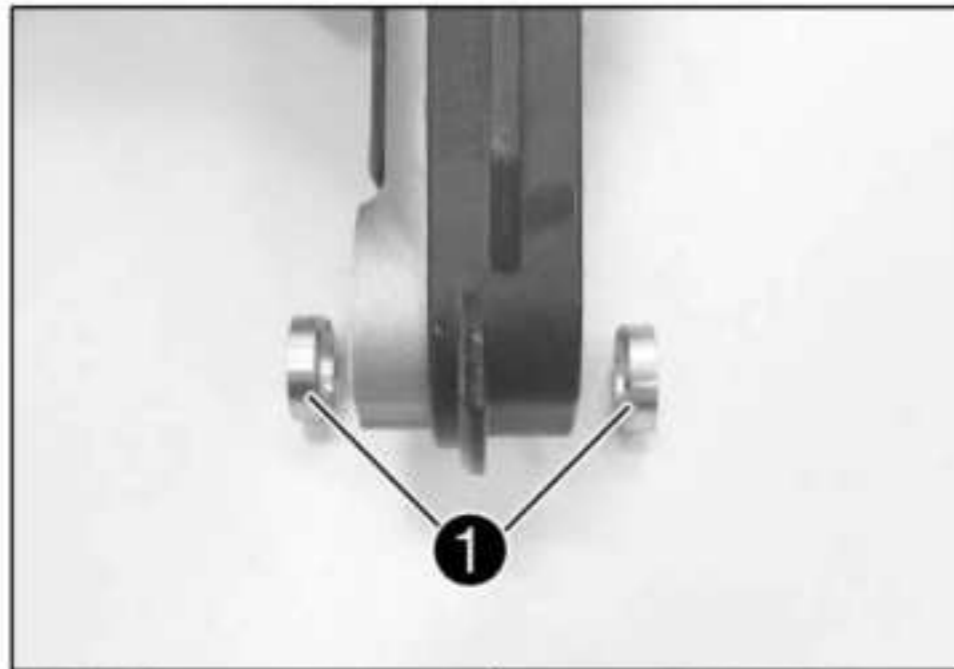


- Remove shaft seal rings **3** using a suitable tool.
- Remove stop disks **4**.
- Press out bearing **5** using a suitable tool.
- Using a suitable tool, press in new bearing **5**.
- Position the stop disks **4**.
- Press in shaft seal rings **3**.



- Mount bushing **2**.

9 SHOCK ABSORBER, LINK FORK

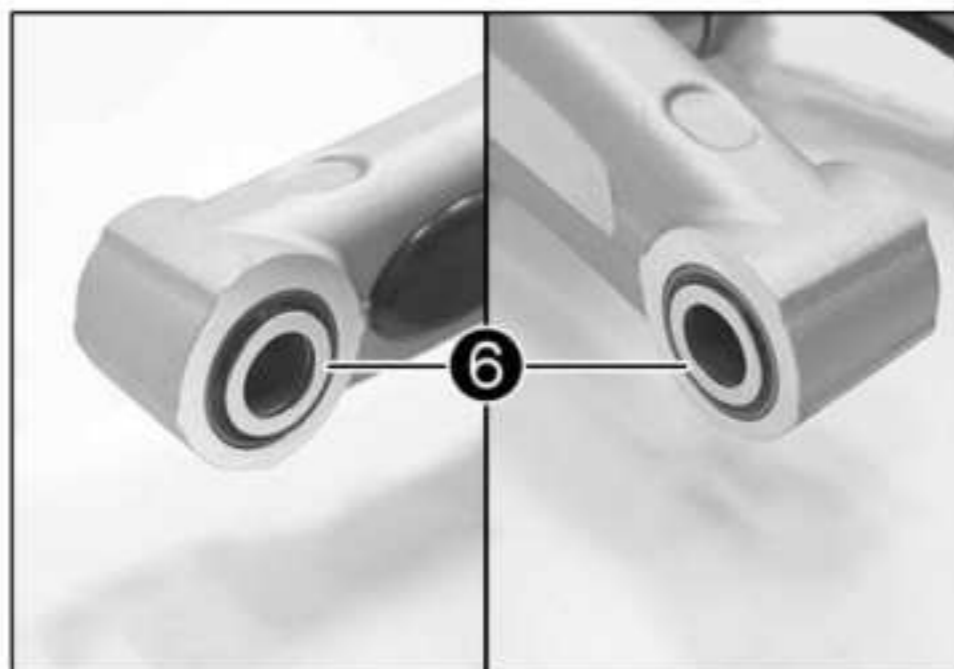


R03124-10

- Grease the shaft seal rings.

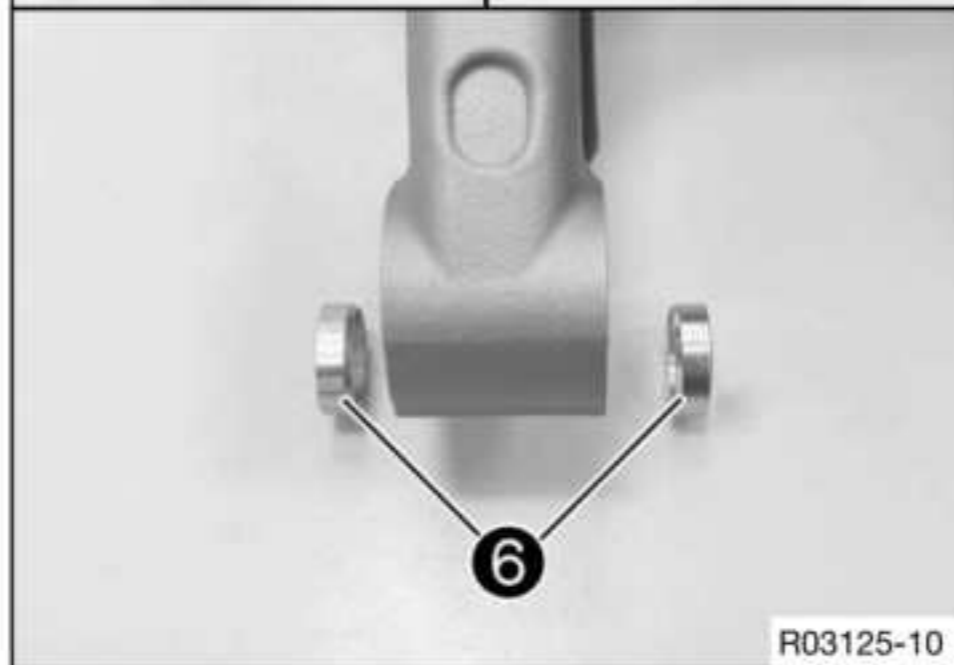
Long-life grease (🗨️ p. 378)

- Position the collar bushings ① with the shoulder facing inward.

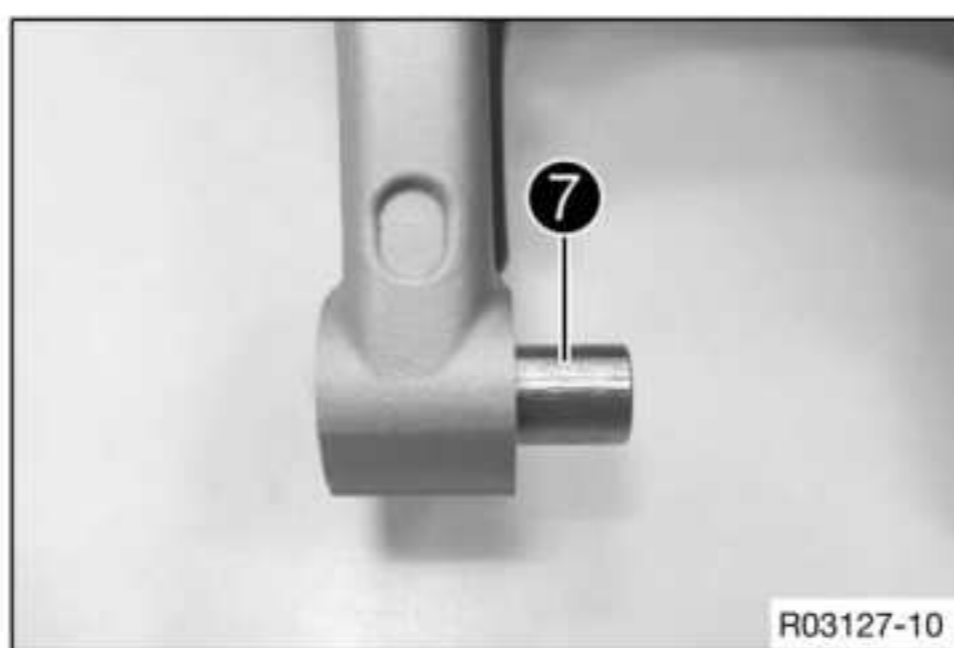


Right fork bearing

- Remove collar bushings ⑥.

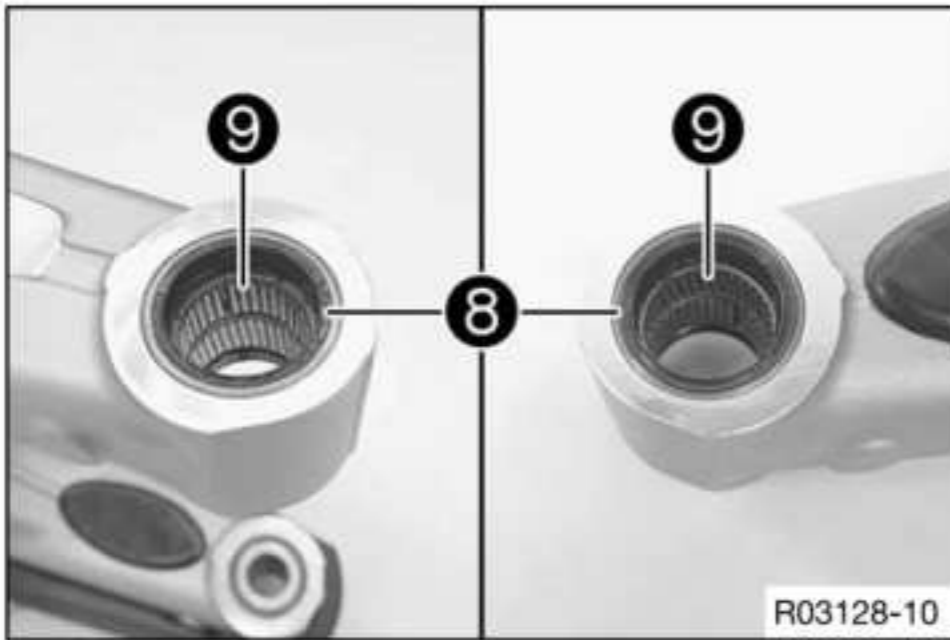


R03125-10

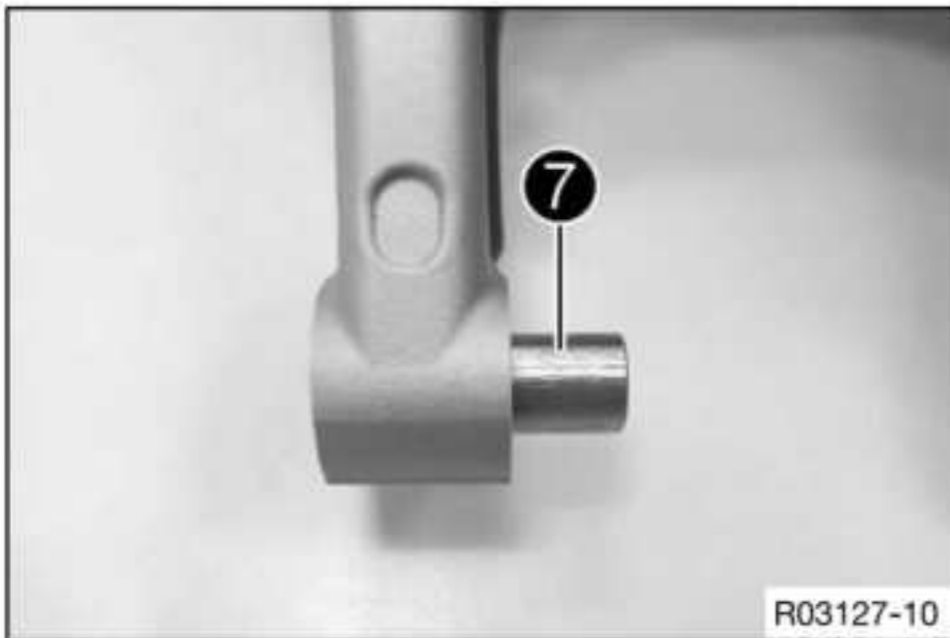


R03127-10

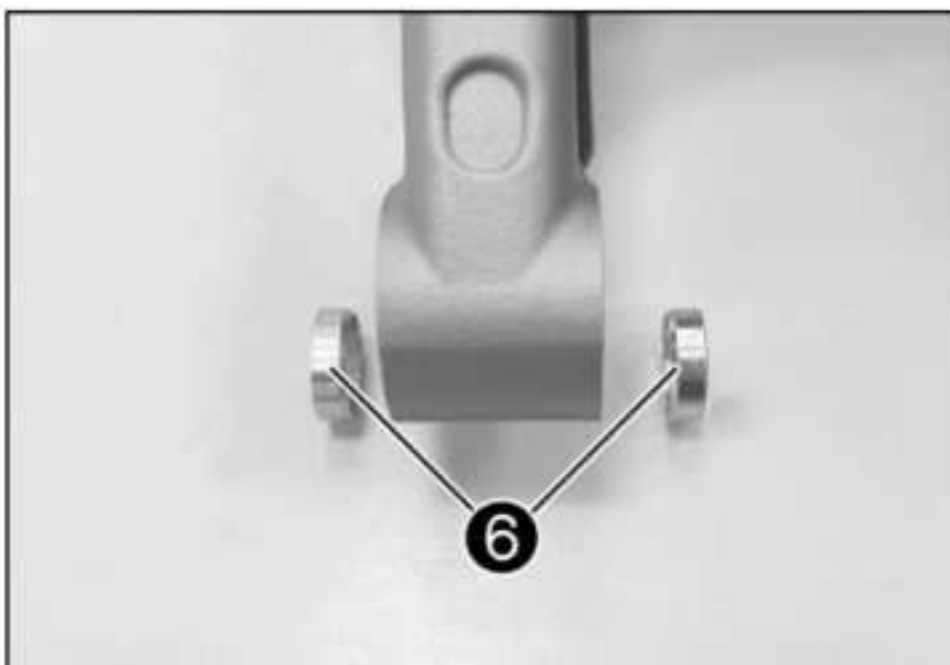
- Remove bushing ⑦.



- Remove shaft seal rings **8** using a suitable tool.
- Press out bearing **9** using a suitable tool.
- Using a suitable tool, press in new bearing **9**.
- Press in shaft seal rings **8**.



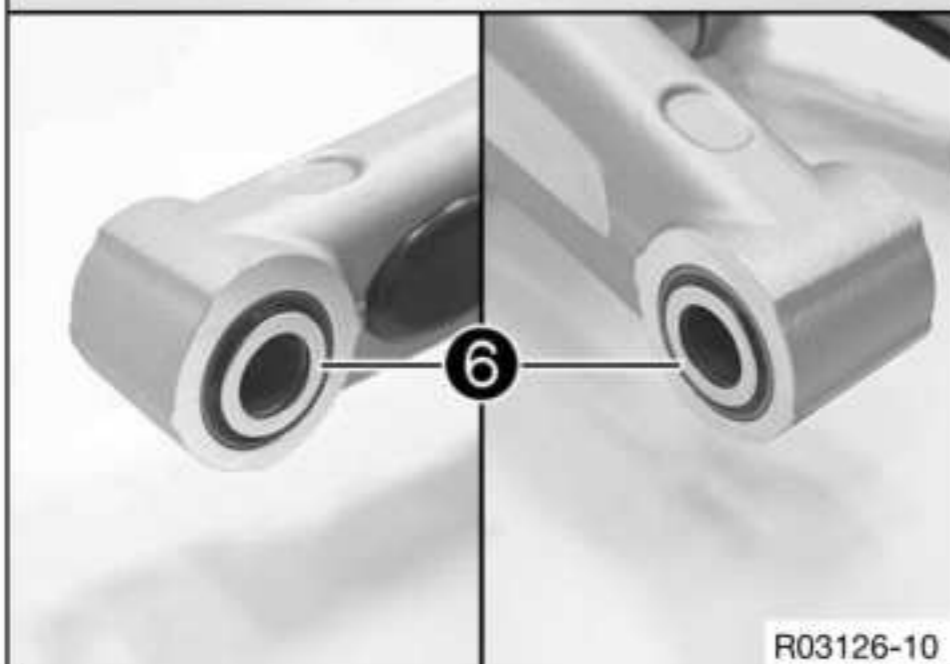
- Mount bushing **7**.



- Grease the shaft seal rings.

Long-life grease (📖 p. 378)

- Position the collar bushings **6** with the shoulder facing inward.



Finishing work

- Install the link fork. (📖 p. 77)
- Install the rear wheel using a work stand. (📖 p. 122)
- Remove the motorcycle from the work stand. (📖 p. 15)
- Check the chain tension. (📖 p. 130)
- Check the free travel of the foot brake lever. (📖 p. 161)

10.1 Removing the manifold



Warning

Danger of burns The exhaust system gets very hot when the vehicle is driven.

- Allow the exhaust system to cool down before performing any work on the vehicle.



Preparatory work

- Remove the seat. (📖 p. 93)
- Take off the side cover. (📖 p. 93)

Main work

- Remove the cable ties.
- Expose and disconnect plug-in connector **1** of the lambda sensor.
- Feed out the cable of the lambda sensor.



- Remove screws **2** and screw **3**.
- Remove the exhaust heat shield.

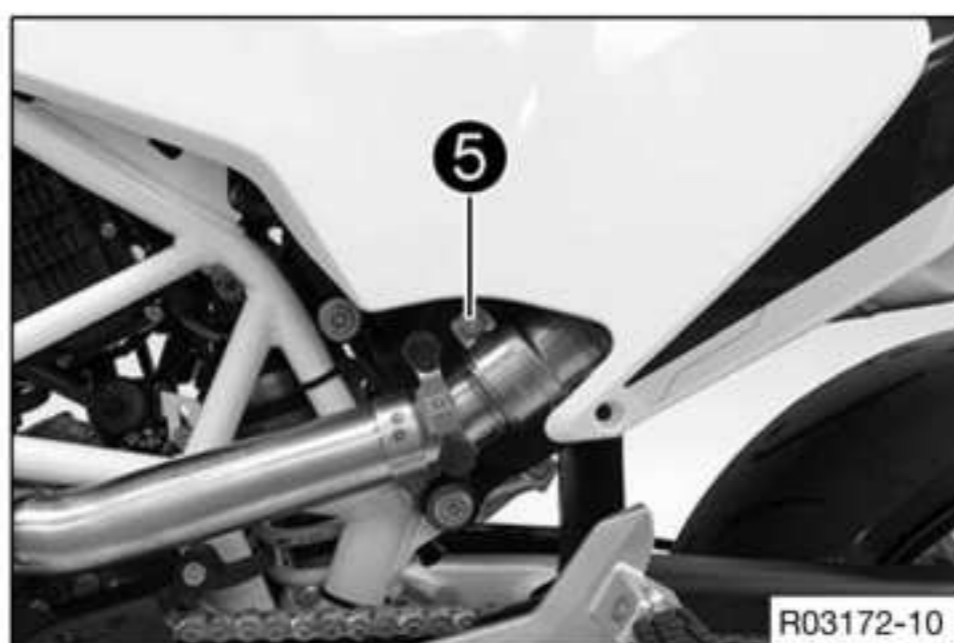


- Remove nuts **4**.

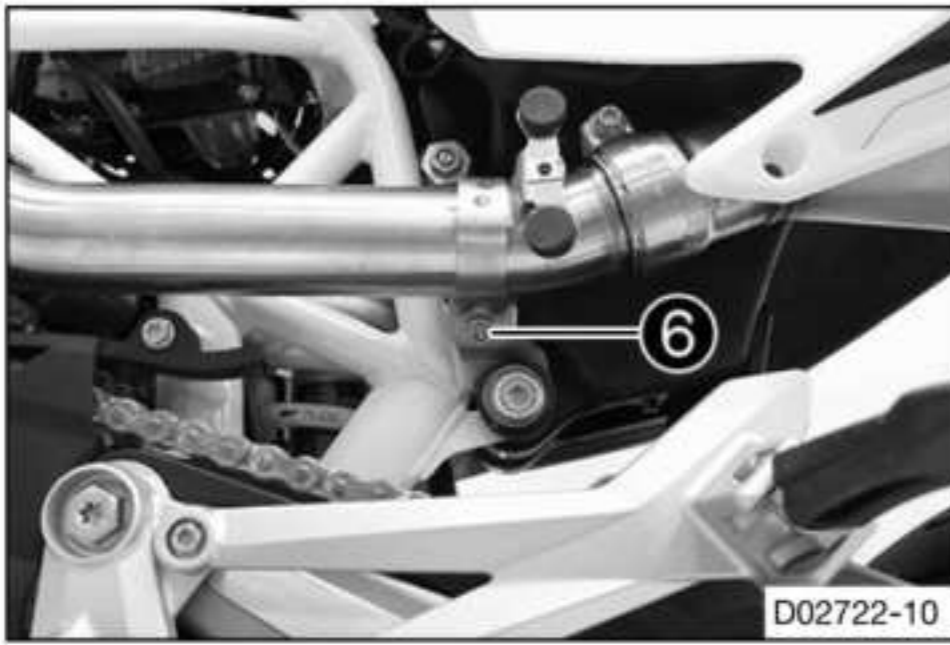


Info

Do not misplace the spacer.



- Loosen screw **5**.



- Remove screw ⑥.
- Take off the manifold.

10.2 Installing the manifold

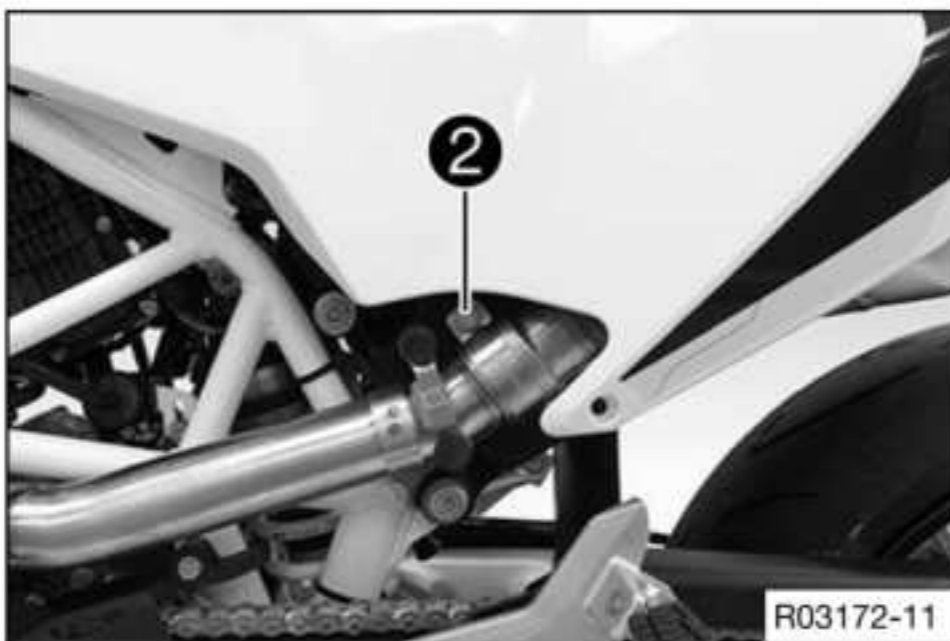


Main work

- Position the manifold with the seals.
- Position the spacer.
- Mount and tighten nuts ① with the gasket.

Guideline

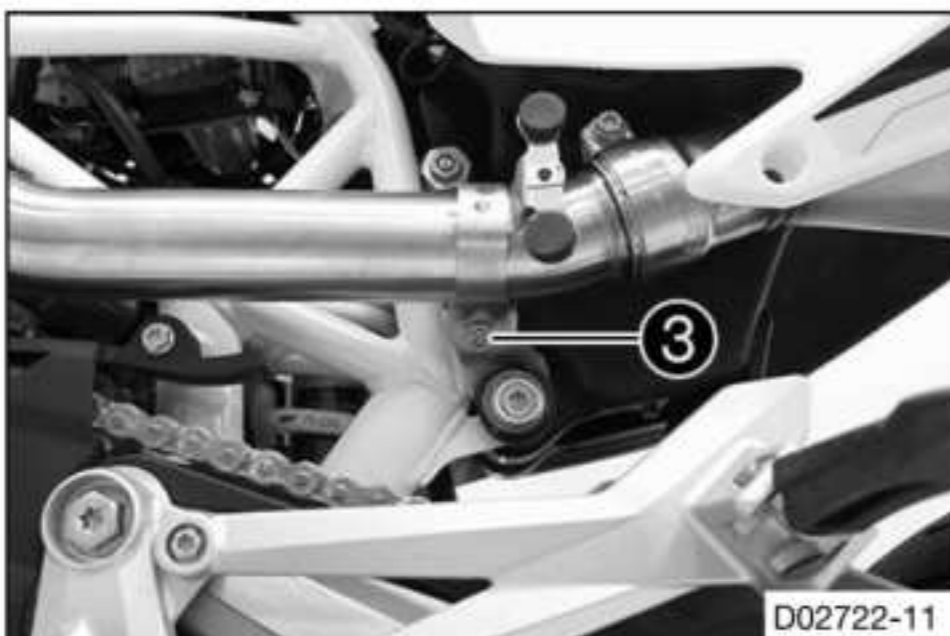
Nut, manifold on cylinder head	M8	20 Nm (14.8 lbf ft) Copper paste
--------------------------------	----	-------------------------------------



- Position the screw clamp.
- Tighten screw ②.

Guideline

Screw, main silencer clamp	M8	12 Nm (8.9 lbf ft) Copper paste
----------------------------	----	------------------------------------



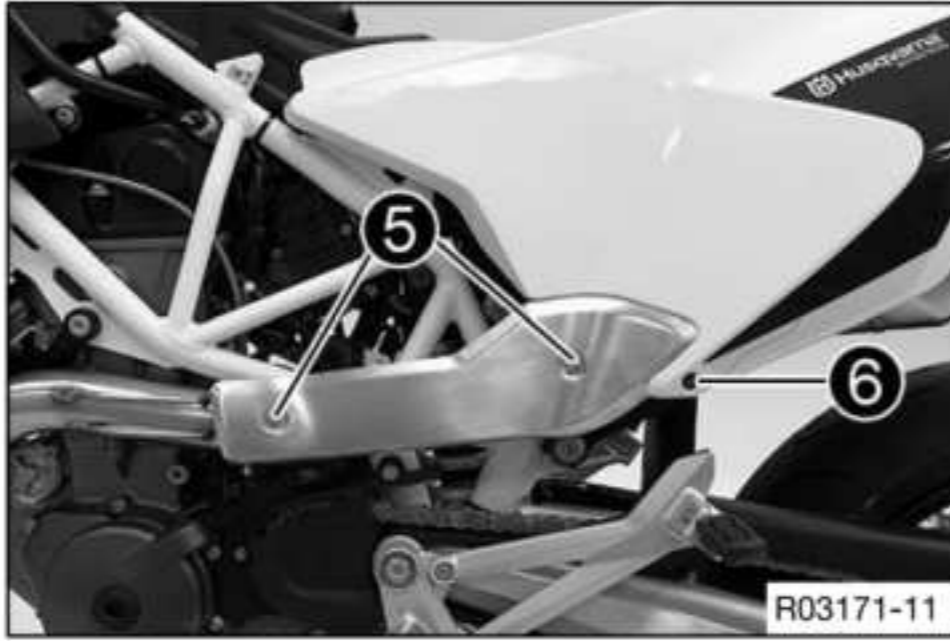
- Position the screw clamp.
- Mount and tighten screw ③.

Guideline

Screw, exhaust clamp	M8	12 Nm (8.9 lbf ft) Copper paste
----------------------	----	------------------------------------



- Connect plug-in connector ④ of the lambda sensor.
- Route the cable without tension and secure with cable ties.



- Position the exhaust heat guard.
- Mount and tighten screws ⑤.

Guideline

Screw, exhaust heat shield	M5	8 Nm (5.9 lbf ft) Loctite®243™
----------------------------	----	--

- Mount and tighten screw ⑥.

Guideline

Screw, trim	M5x12	3.5 Nm (2.58 lbf ft)
-------------	-------	----------------------

Finishing work

- Mount the side cover. (📖 p. 94)
- Mount the seat. (📖 p. 93)

10.3 Removing the main silencer



Warning

Danger of burns The exhaust system gets very hot when the vehicle is driven.

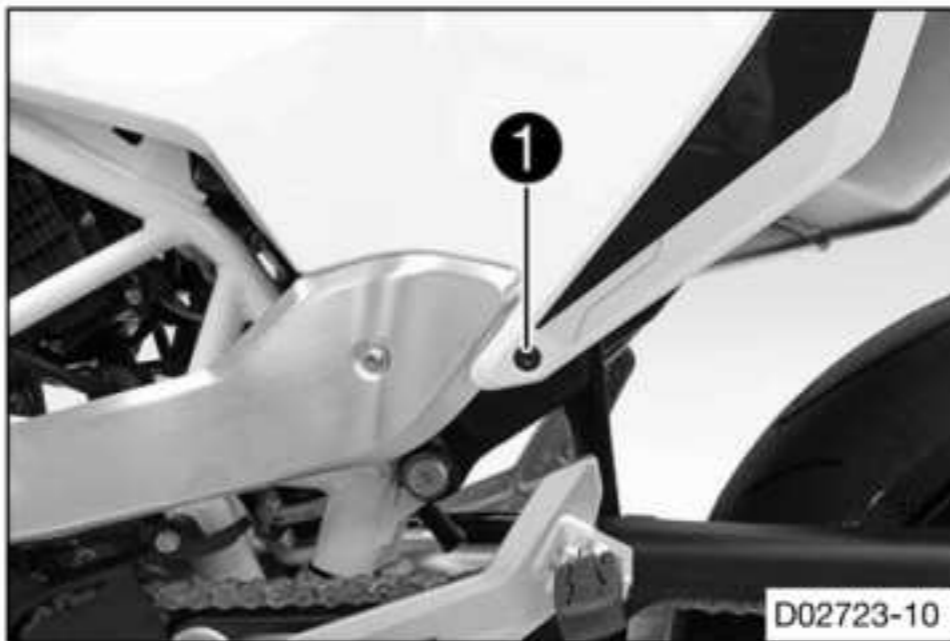
- Allow the exhaust system to cool down before performing any work on the vehicle.

Preparatory work

- Remove the seat. (📖 p. 93)

Main work

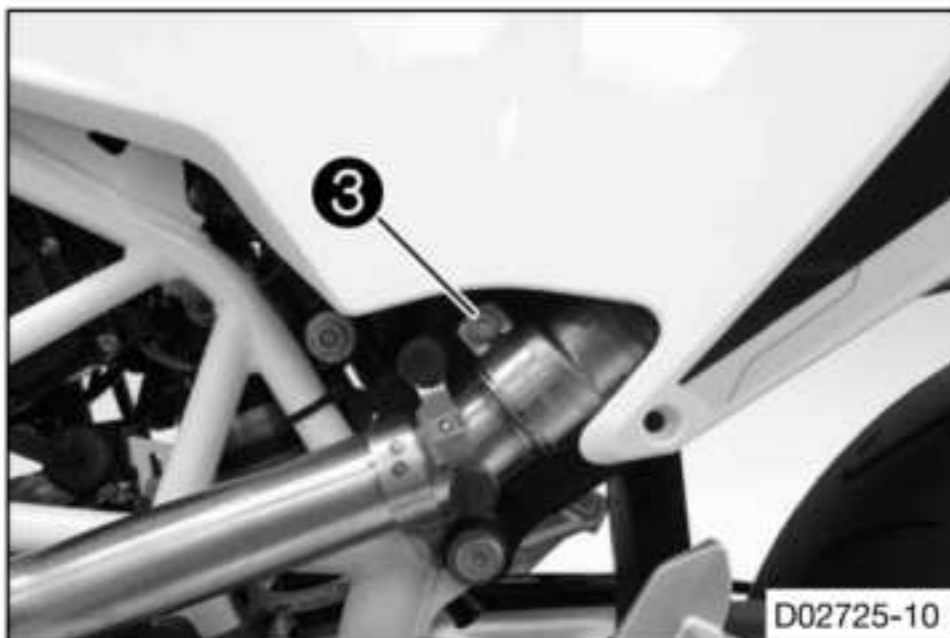
- Remove screw ①.

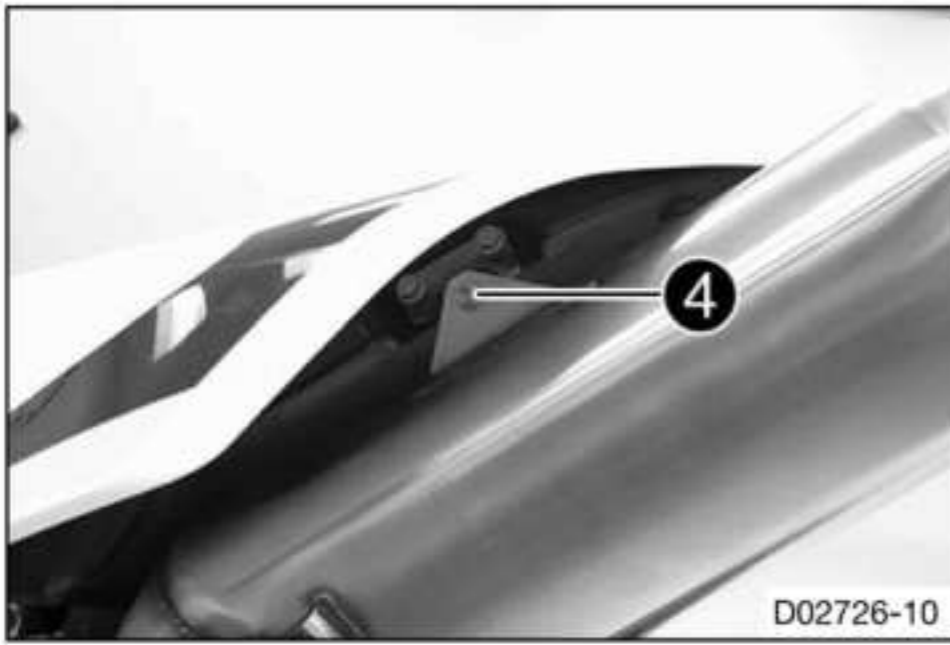


- Remove screws ②.
- Remove the exhaust heat guard.



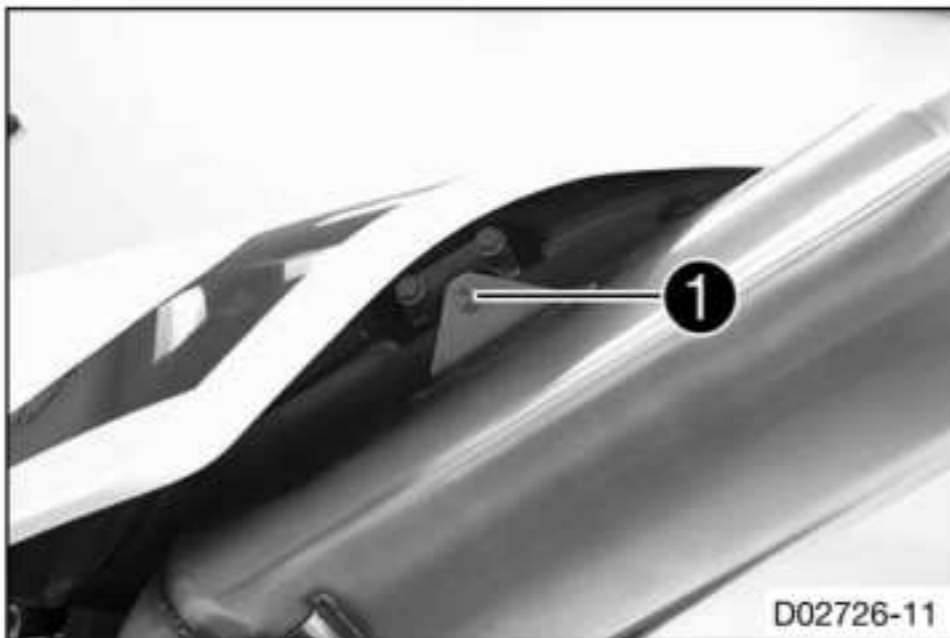
- Loosen screw ③.





- Lift the rear fairing.
- Remove screw ④.
- Take off the main silencer.

10.4 Installing the main silencer

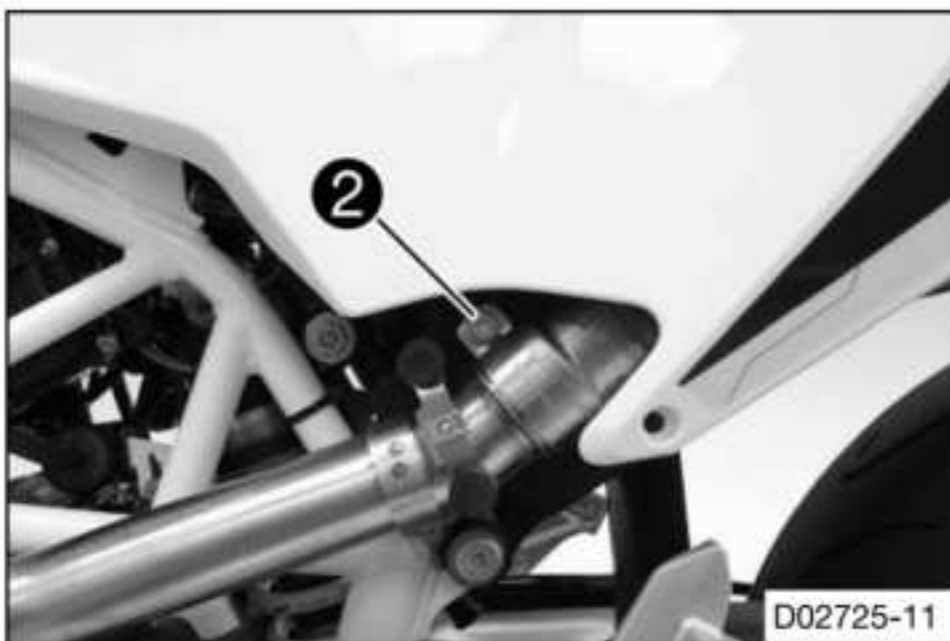


Main work

- Lift the rear fairing.
- Position the main silencer.
- Mount and tighten screw ①.

Guideline

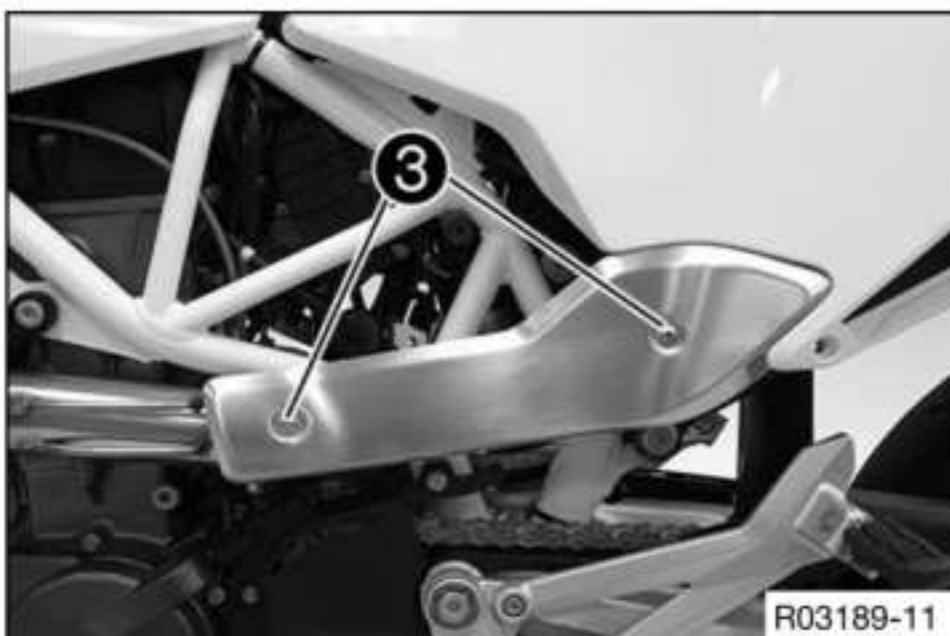
Screw, main silencer holder	M8	25 Nm (18.4 lbf ft)
-----------------------------	----	---------------------



- Position the screw clamp.
- Tighten screw ②.

Guideline

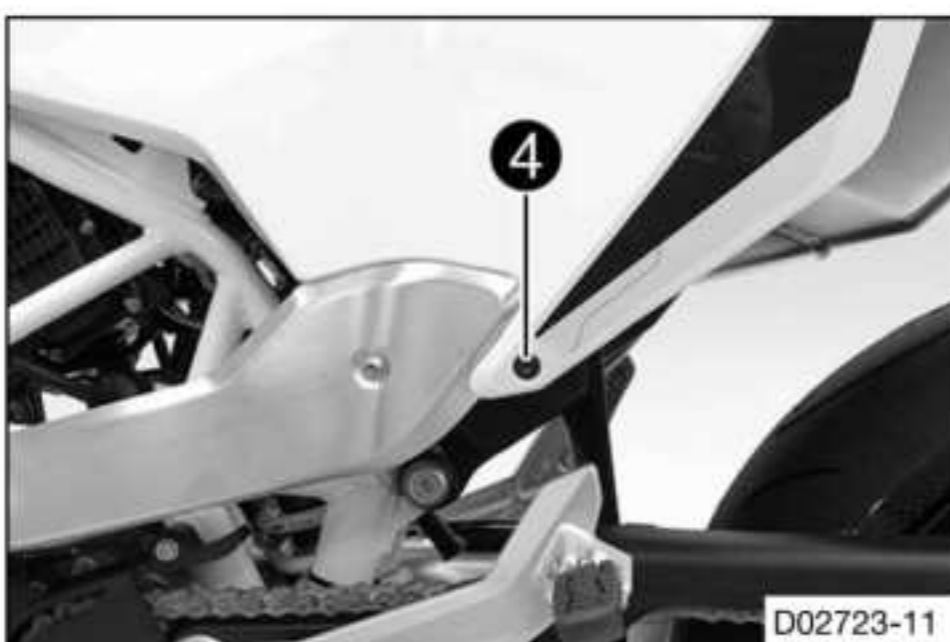
Screw, main silencer clamp	M8	12 Nm (8.9 lbf ft) Copper paste
----------------------------	----	------------------------------------



- Position the exhaust heat guard.
- Mount and tighten screws ③.

Guideline

Screw, exhaust heat shield	M5	8 Nm (5.9 lbf ft) Loctite®243™
----------------------------	----	--



- Mount and tighten screw ④.

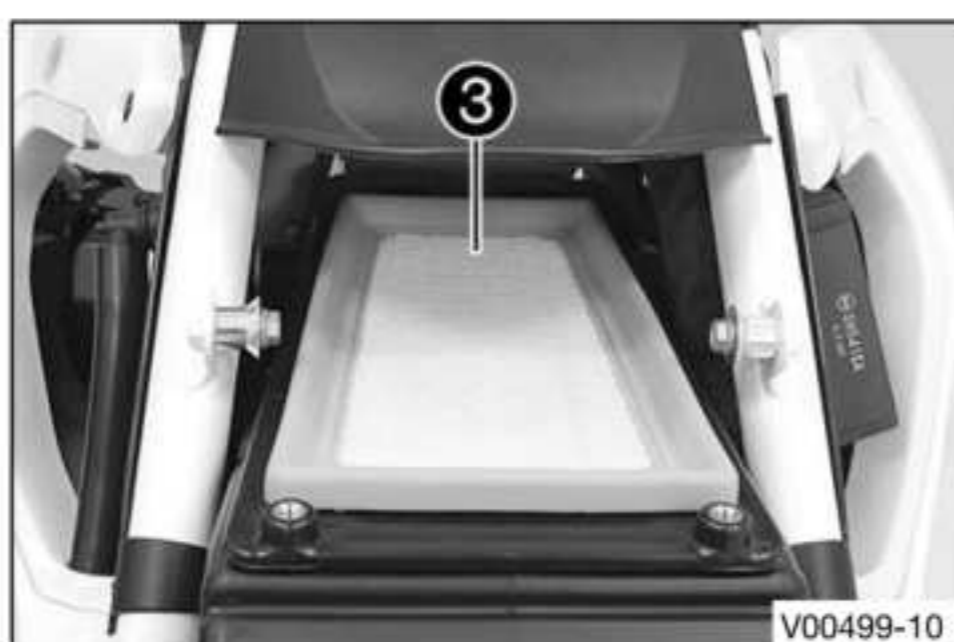
Guideline

Screw, trim	M5x12	3.5 Nm (2.58 lbf ft)
-------------	-------	----------------------

Finishing work

- Mount the seat. (📖 p. 93)

11.1 Removing the air filter



Preparatory work

- Remove the seat. (📖 p. 93)

Main work

- Remove screws ①.
- Remove the upper part of the air filter box ②.

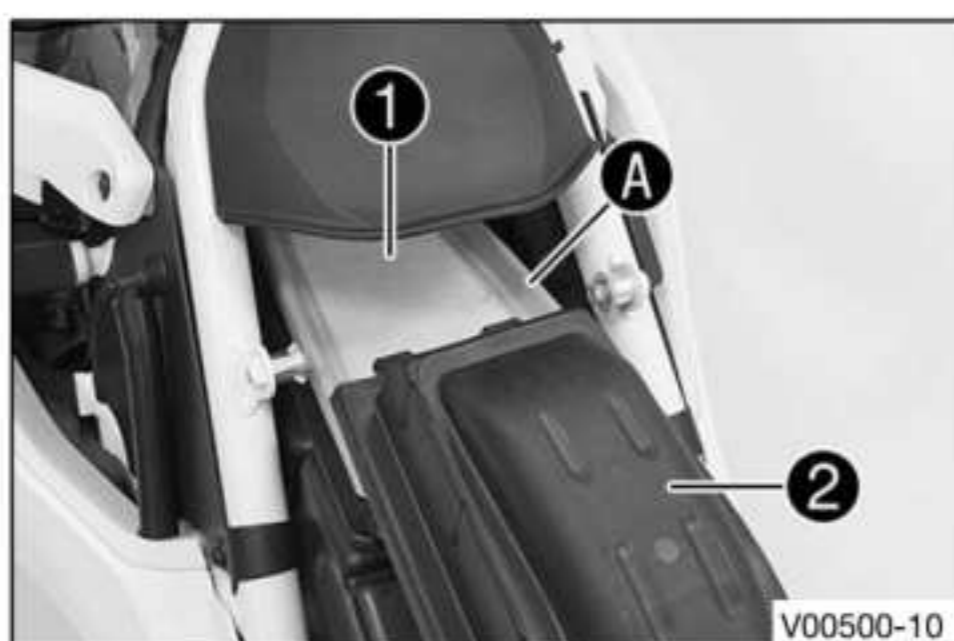
Note

Engine damage Unfiltered intake air has a negative effect on the service life of the engine.

Dust and dirt will enter the engine without an air filter.

- Never start to use the vehicle without an air filter.
- Remove air filter ③.

11.2 Installing the air filter



Main work

- Clean the air filter box.
- Mount air filter ①.

Info

The air filter must lie flush against the air filter box along the entire sealing surface A.

If the air filter is not mounted correctly, dust and dirt may enter the engine and result in damage.

- Hook air filter box top ② into the front of the air filter box and swing down.
- Mount and tighten screws ③.

Guideline

Screw, air filter box top	M6	2 Nm (1.5 lbf ft)
---------------------------	----	-------------------

Finishing work

- Mount the seat. (📖 p. 93)

11.3 Removing the air filter box

Preparatory work

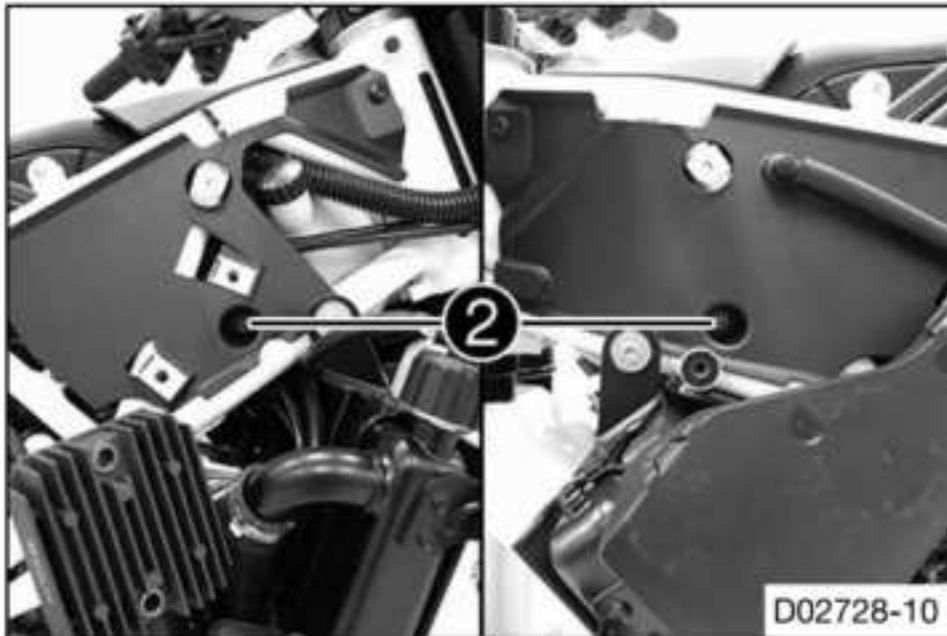
- Remove the seat. (📖 p. 93)
- Take off the side cover. (📖 p. 93)

Main work

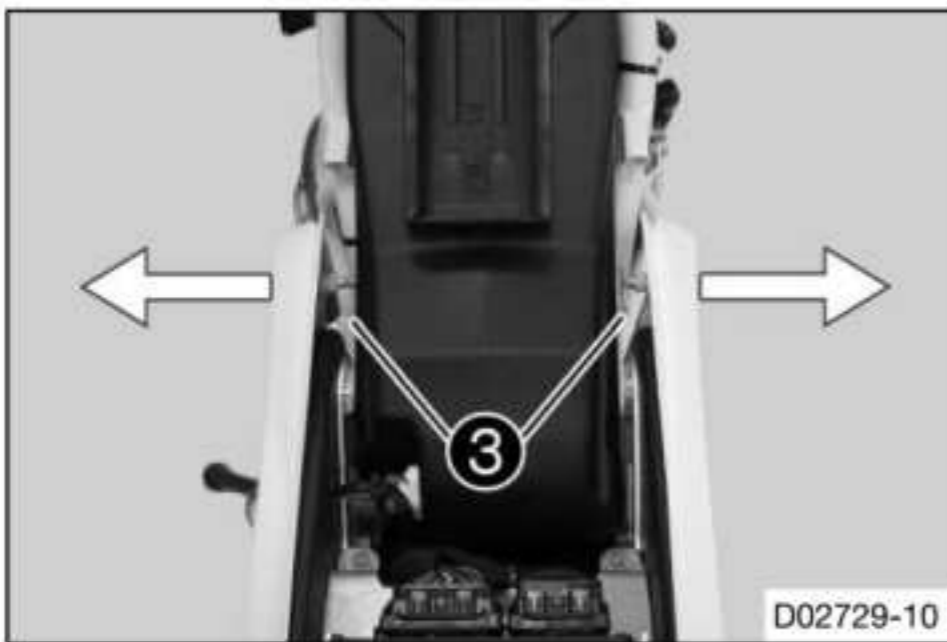
- Remove screws ❶.
- Remove the voltage regulator and allow it to hang tension-free to the side.



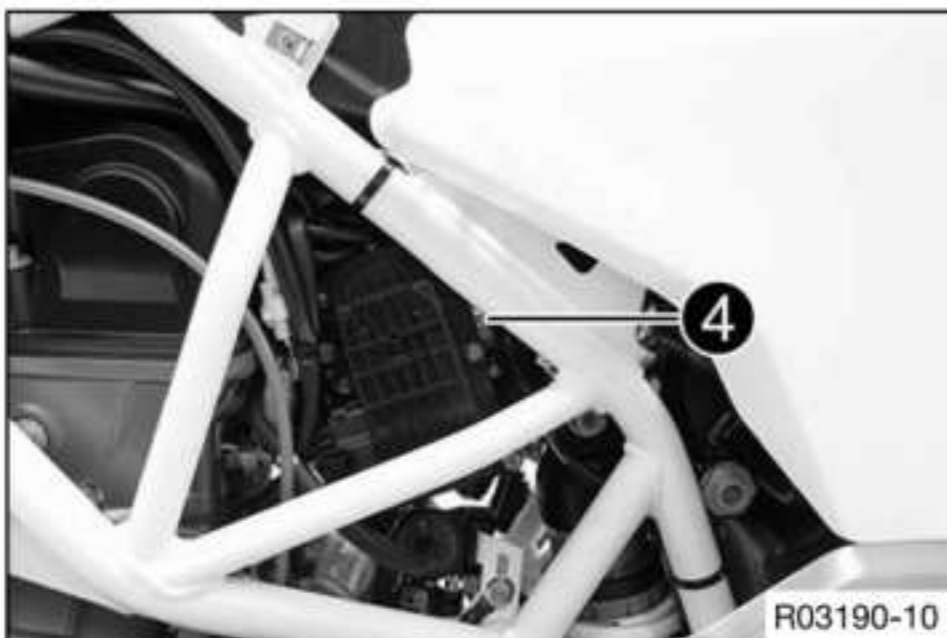
- Remove screws ❷.



- Detach rear fairing at the front and push slightly to the side.
- Remove screws ❸.



- Loosen hose clip ❹.



11 AIR FILTER



- Pull off air release hose **5**.



- Remove the cable tie.
- Pull off hose **6**.



- Take off engine electronics control unit **7** and hang to the side.



- Remove screws **8** with the sleeves.



- Remove the cable tie.
- Raise the air filter box at the rear.
- Disconnect connector **9** of the intake air temperature sensor.
- Remove the air filter box.

11.4 Installing the air filter box



Main work

- Plug in connector **1** of the intake air temperature sensor and secure with the cable tie(s).
- Position the air filter box.



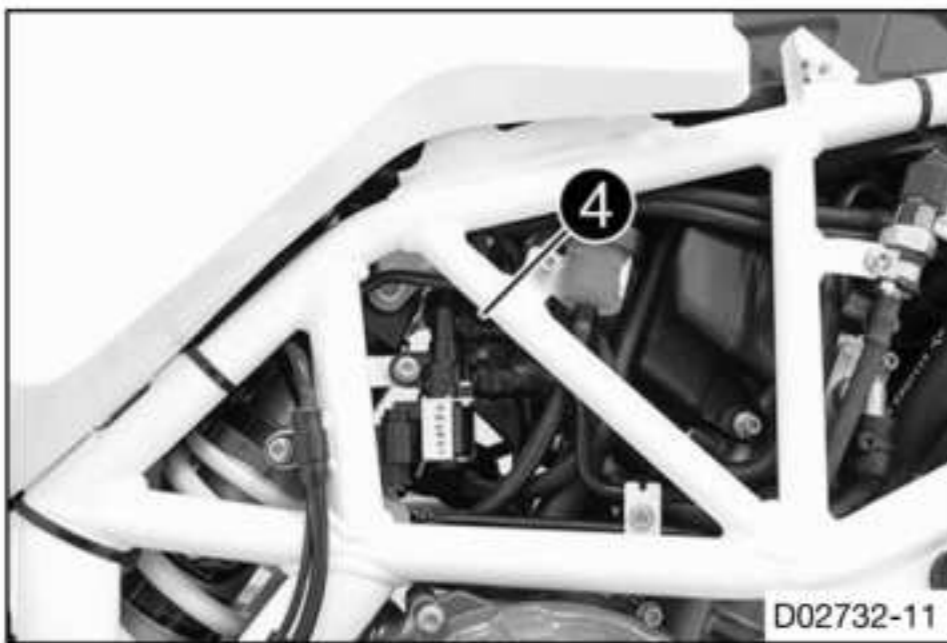
- Mount and tighten screws **2** with the sleeves.

Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------



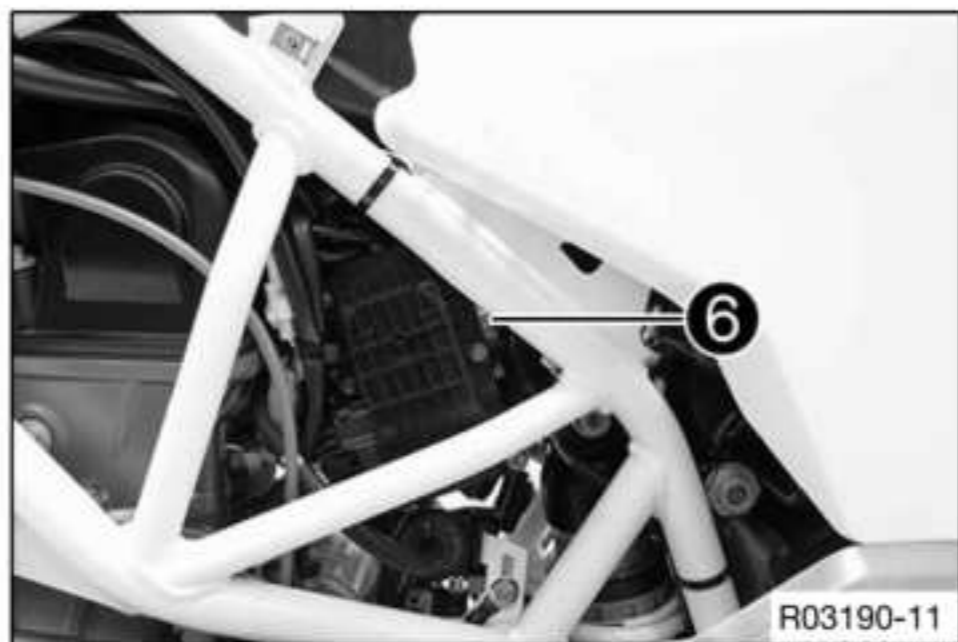
- Position engine electronics control unit **3**.



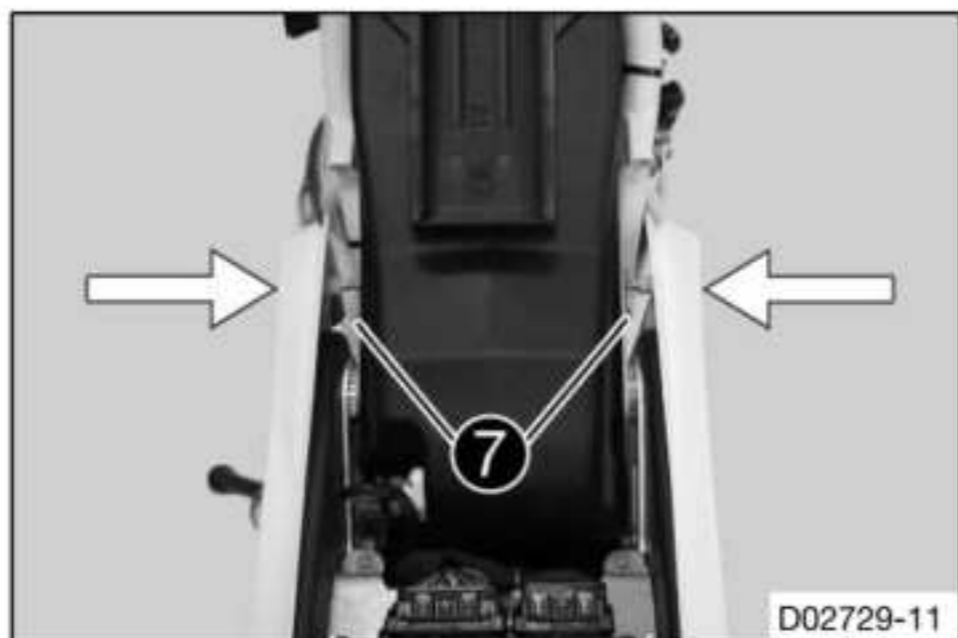
- Route hose **4** without kinks and secure it with cable tie(s).



- Route vent hose **5** without bends and mount.



- Mount and tighten hose clip **6**.

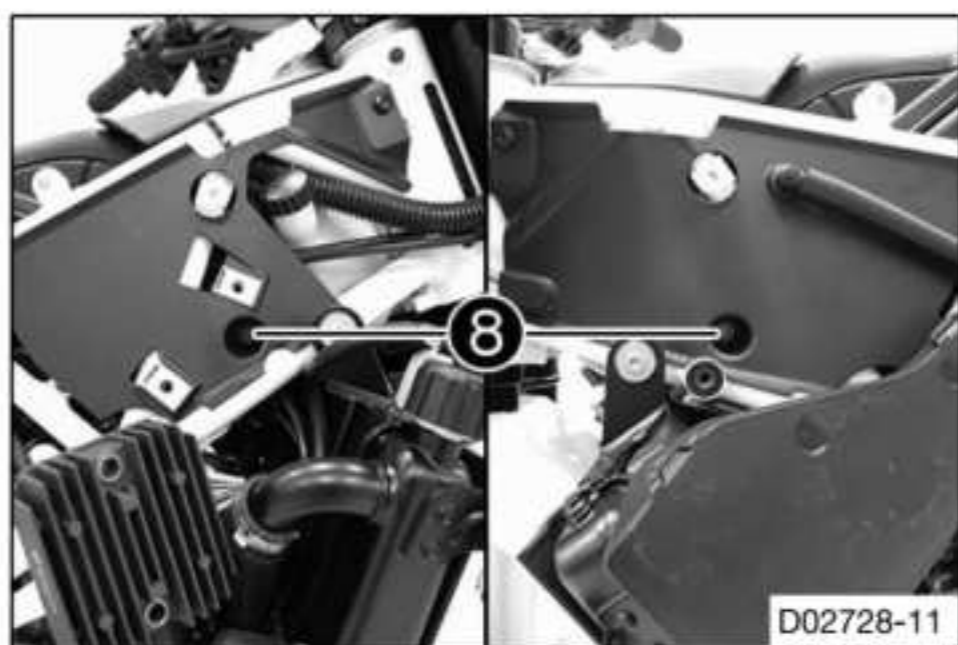


- Mount and tighten screws **7**.

Guideline

Screw, air filter box, on frame	M6	6 Nm (4.4 lbf ft)
---------------------------------	----	-------------------

- Hook on rear fairing at the front.



- Mount and tighten screws **8**.

Guideline

Screw, air filter box, on frame	M6	6 Nm (4.4 lbf ft)
---------------------------------	----	-------------------



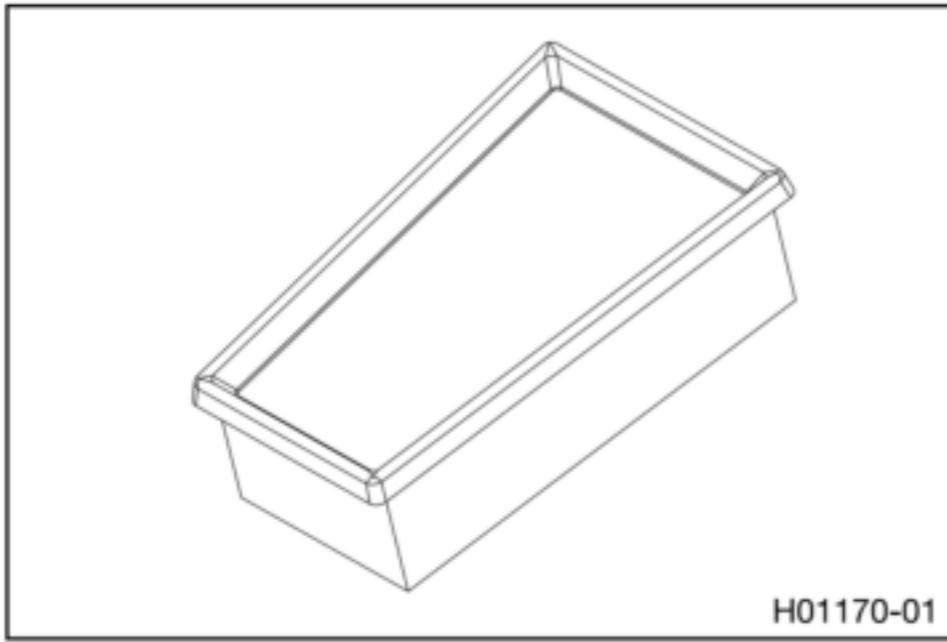
- Position the voltage regulator.
- Mount and tighten screws **9**.

Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------

Finishing work

- Mount the side cover. (📖 p. 94)
- Mount the seat. (📖 p. 93)

11.5 Change the air filter. Clean the air filter box.

- Remove the air filter. (📖 p. 86)
- Install the air filter. (📖 p. 86)

12.1 Opening fuel tank filler cap



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.



Note

Environmental hazard Improper handling of fuel is a danger to the environment.

- Do not allow fuel to enter the groundwater, the soil, or the sewage system.



- Lift cover ① of fuel tank filler cap and insert the ignition key.
- Turn the ignition key 90° counterclockwise and take off the fuel tank filler cap.



Info

The fuel tank filler cap has a fuel tank breather.

12.2 Closing the fuel tank filler cap



- Put the fuel tank filler cap back on and turn the ignition key 90° clockwise.
- Remove the ignition key and fold down the cover.

12.3 Removing the seat



(EU)

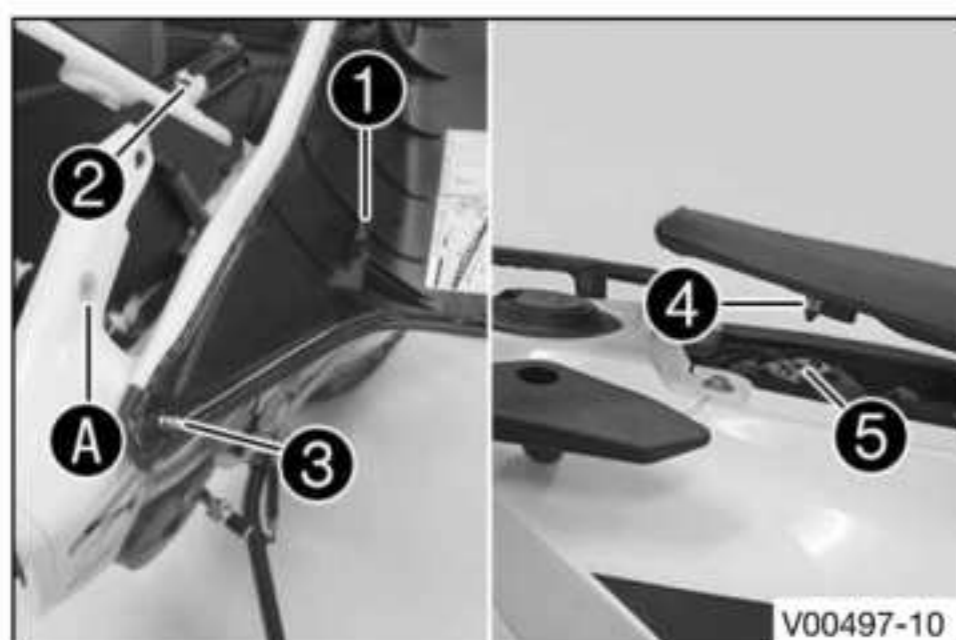
- Pull on the loop ① while raising the rear of the seat.
- Pull off the seat sideways at the front ends from the side cover.
- Pull seat back and lift it off.



(US)

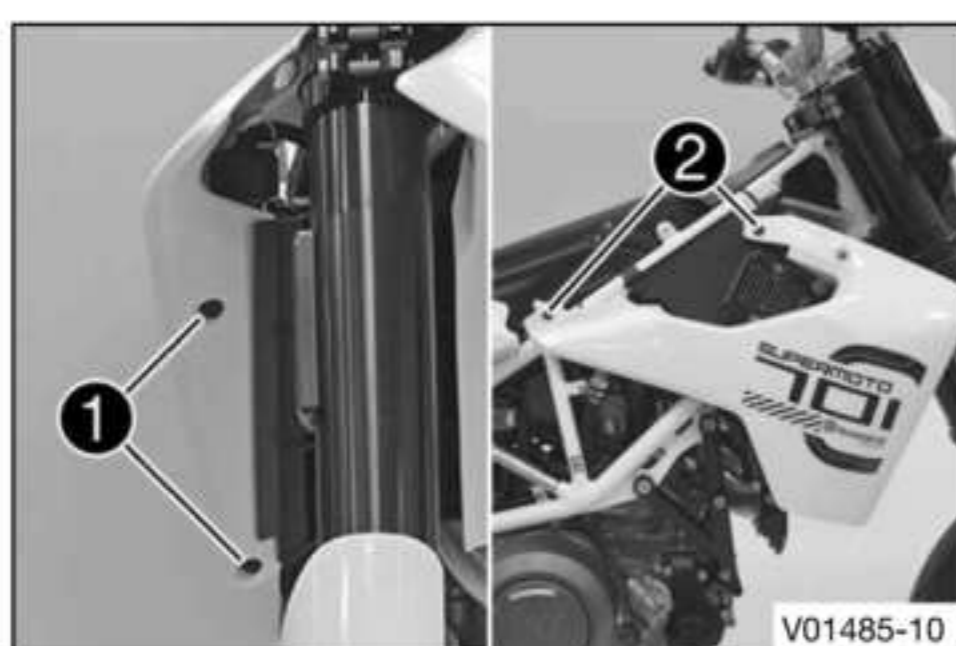
- Pull on loop ① while raising the rear of the seat.
- Pull off the seat sideways at the front ends from the side cover.
- Pull seat back and lift it off.

12.4 Mounting the seat



- Stretch the seat at the front ends slightly and position holding tabs ① on holders ②.
- ✓ The holding tabs engage in the holder.
- Press holding tab ③ into the bushings A.
- Insert locking pin ④ into the lock housing ⑤ and push down the rear of the seat until the locking pin engages with an audible click.
- Check, finally, that the seat is correctly mounted.

12.5 Take off the side cover



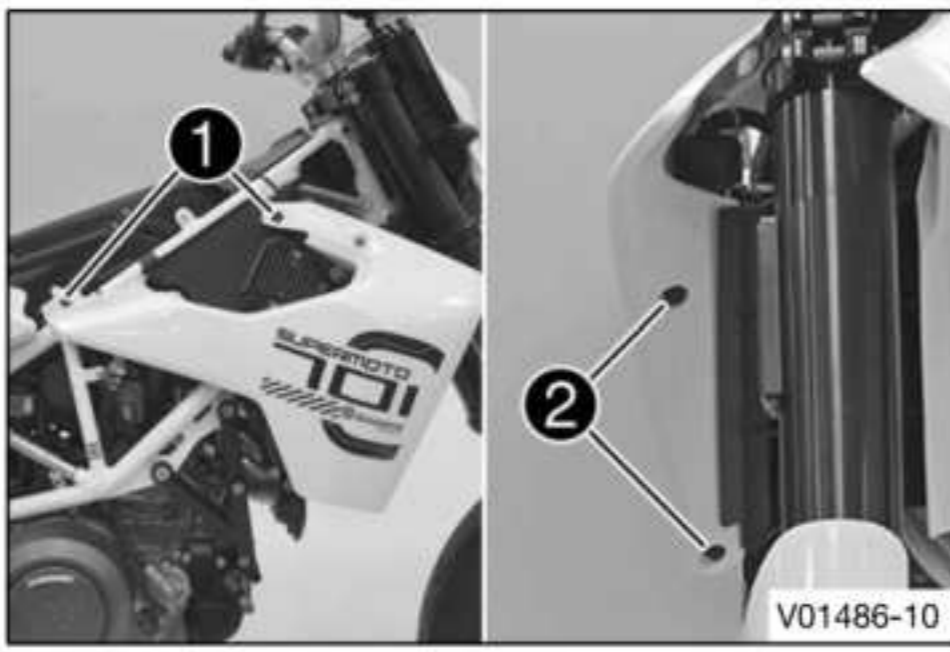
Preparatory work

- Remove the seat. (📖 p. 93)

Main work

- Remove screws ① and ②.
- Take off the side cover.
- Repeat these steps on the opposite side.

12.6 Mounting the side cover



Main work

- Position the side cover, and mount and tighten screws ①.

Guideline

Screw, trim	M5x12	3.5 Nm (2.58 lbf ft)
-------------	-------	----------------------

- Mount and tighten screws ②.

Guideline

Screw, trim	M5x17	3.5 Nm (2.58 lbf ft)
-------------	-------	----------------------

- Repeat these steps on the opposite side.

Finishing work

- Mount the seat. (📖 p. 93)

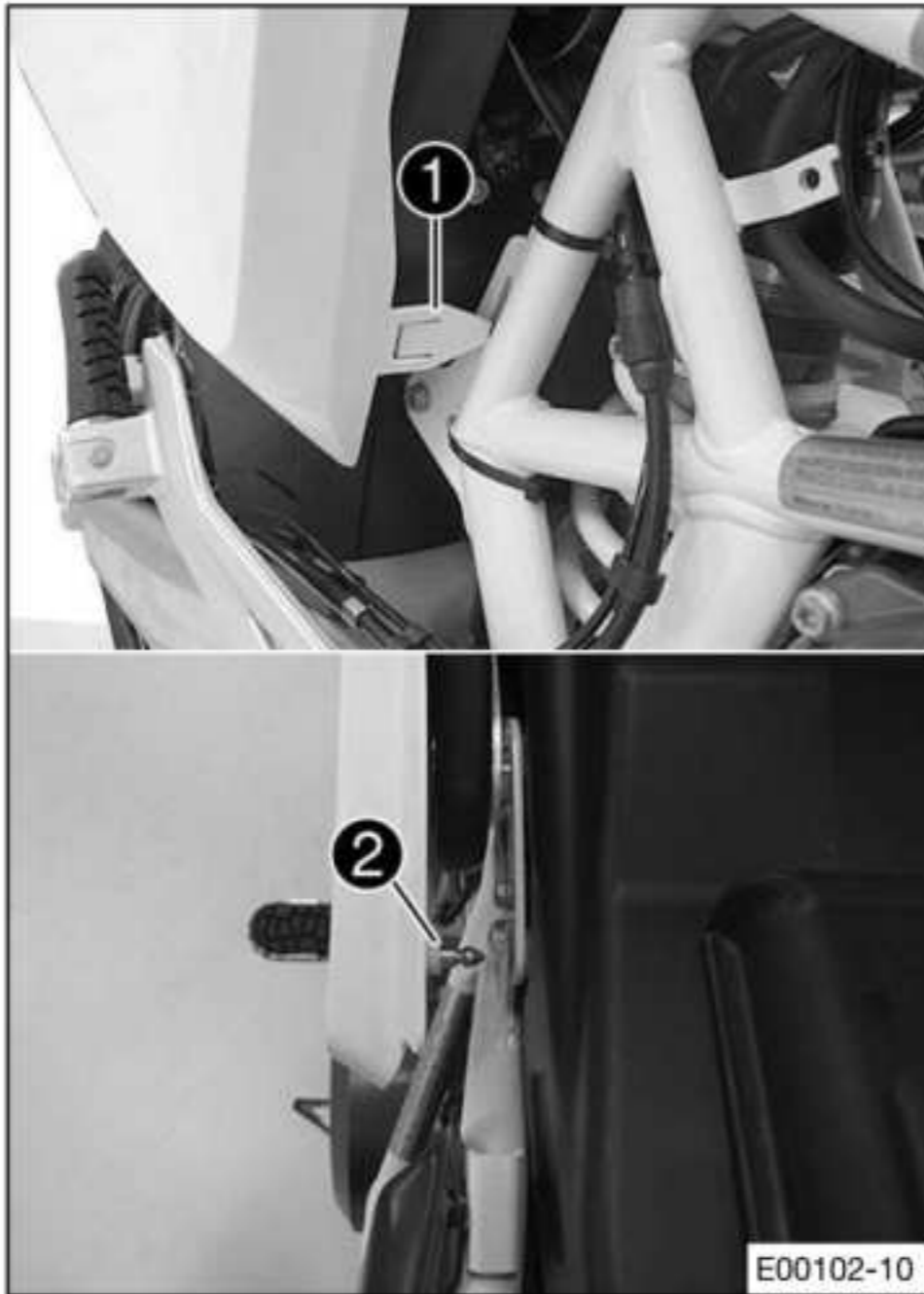
12.7 Removing the rear right side cover

Preparatory work

- Remove the seat. (📖 p. 93)
- Remove the rear fairing. (📖 p. 96)

Main work

- Unlock loop ① on the side cover.
- Detach holder ②.
- Remove the side cover downward opposite the direction of travel.



12.8 Installing the rear right side cover



Main work

- Position the side cover.
- Attach holder ①.
- Attach loop ② to opening ③ on the frame.

Finishing work

- Fit the rear fairing. (📖 p. 97)
- Mount the seat. (📖 p. 93)

12.9 Removing the rear left side cover



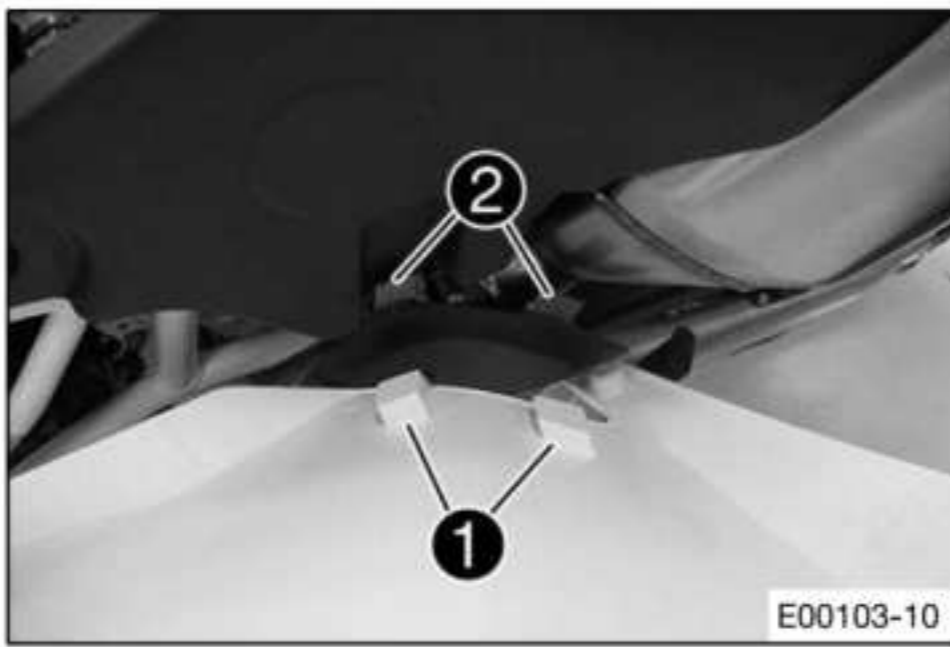
Preparatory work

- Remove the seat. (📖 p. 93)
- Remove the rear fairing. (📖 p. 96)

Main work

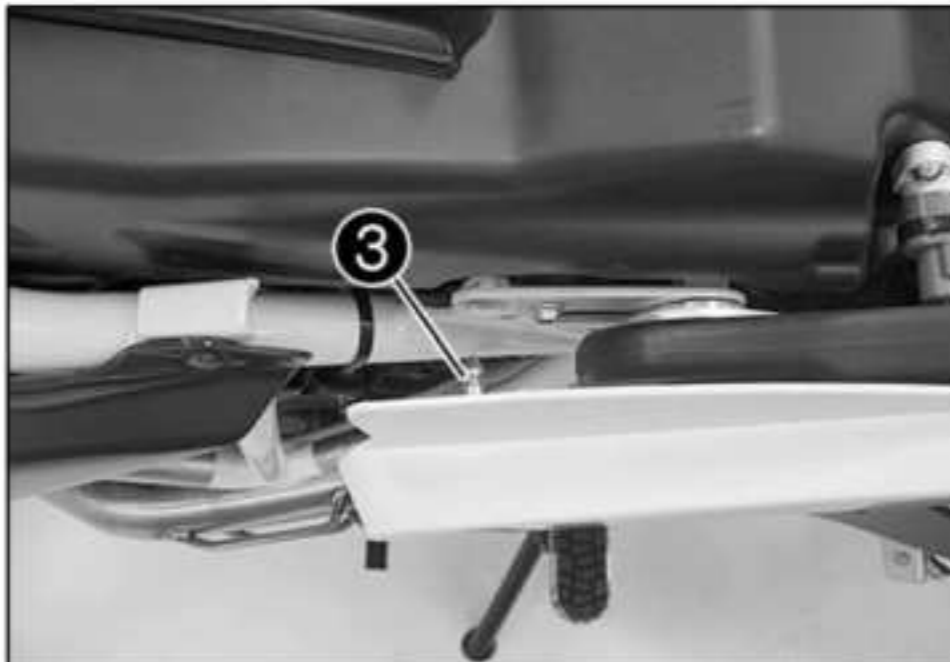
- Remove screw ①.
- Detach holder ②.
- Remove the side cover from above.

12.10 Installing the rear left side cover



Main work

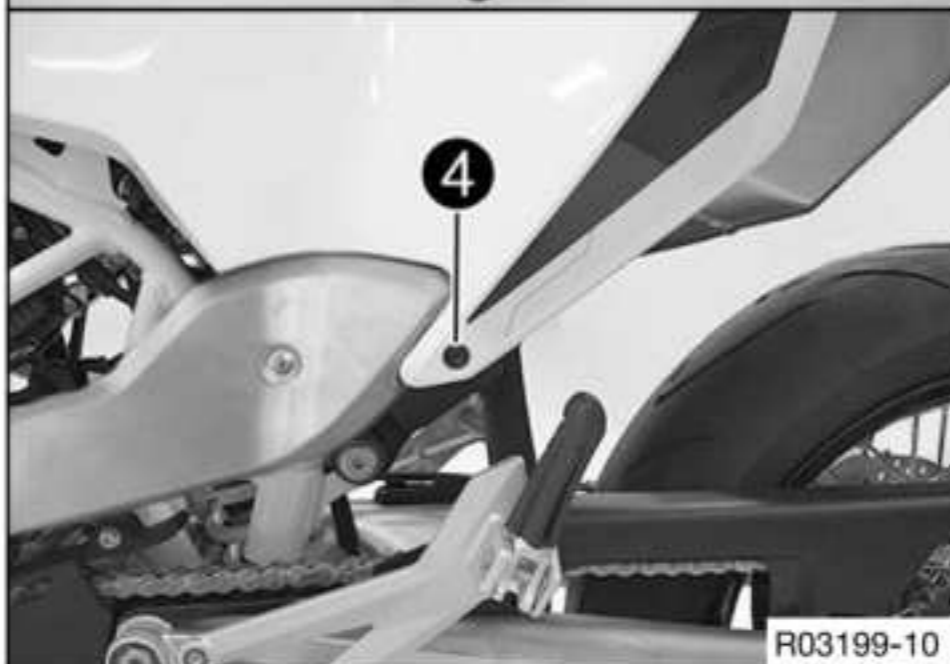
- Attach the side cover with holders ① to holding lugs ②, and position on the fuel tank.



- Attach holder ③.
- Mount and tighten screw ④.

Guideline

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



Finishing work

- Fit the rear fairing. (📖 p. 97)
- Mount the seat. (📖 p. 93)

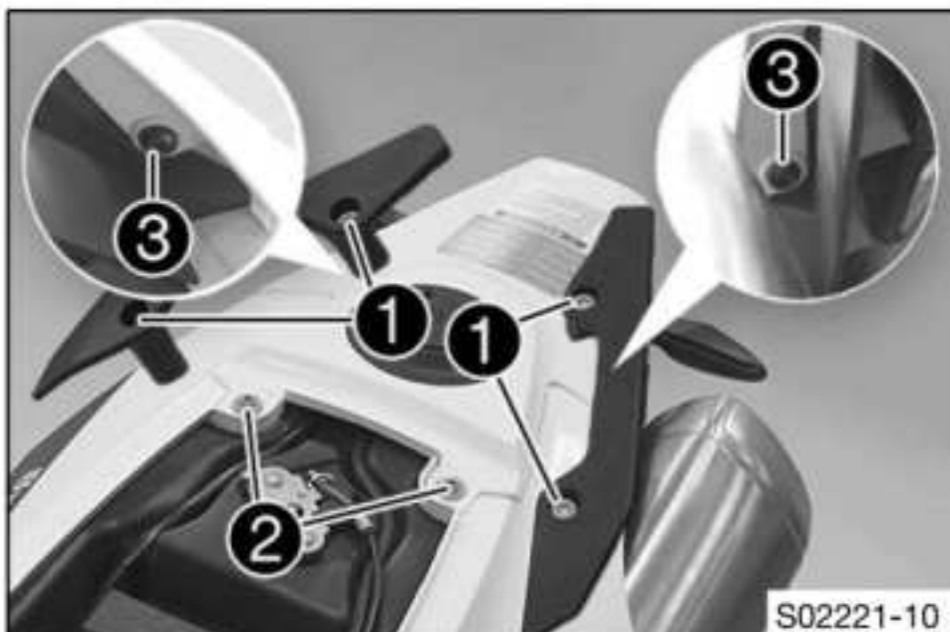
12.11 Removing the rear fairing

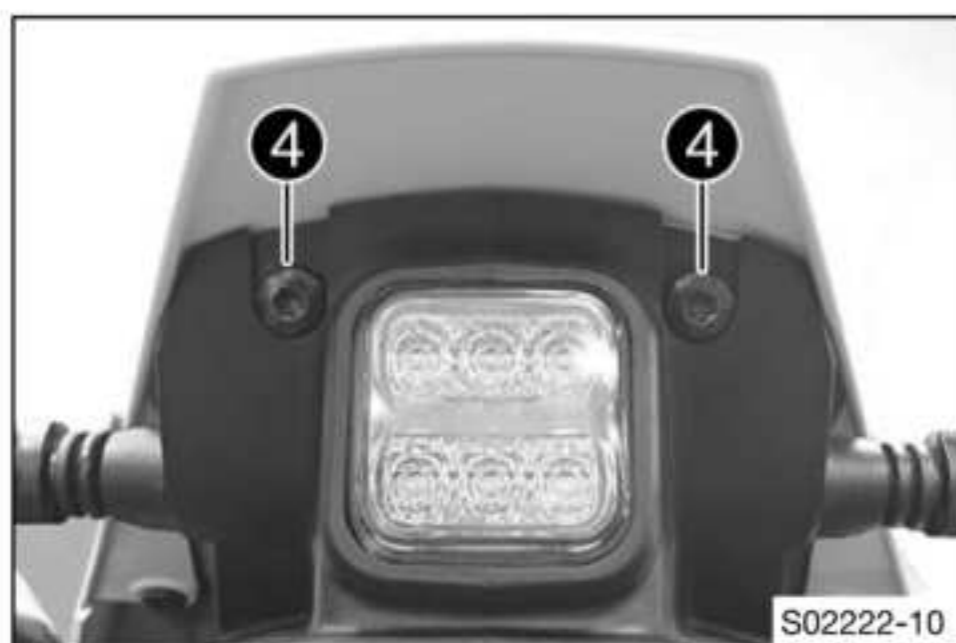
Preparatory work

- Remove the seat. (📖 p. 93)

Main work

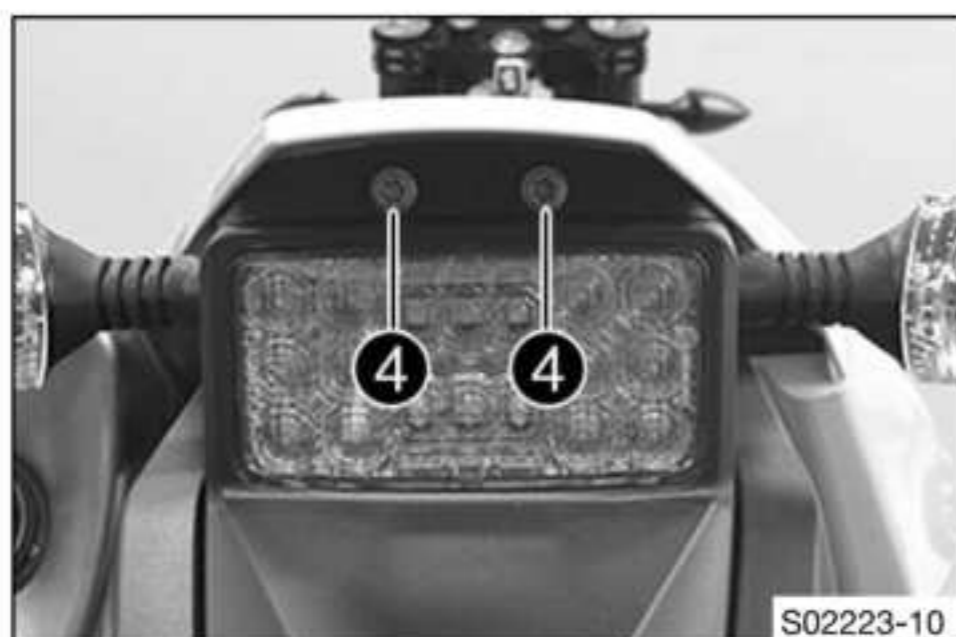
- Remove screws ① and take off the grab handle.
- Remove screws ② and ③.





(EU)

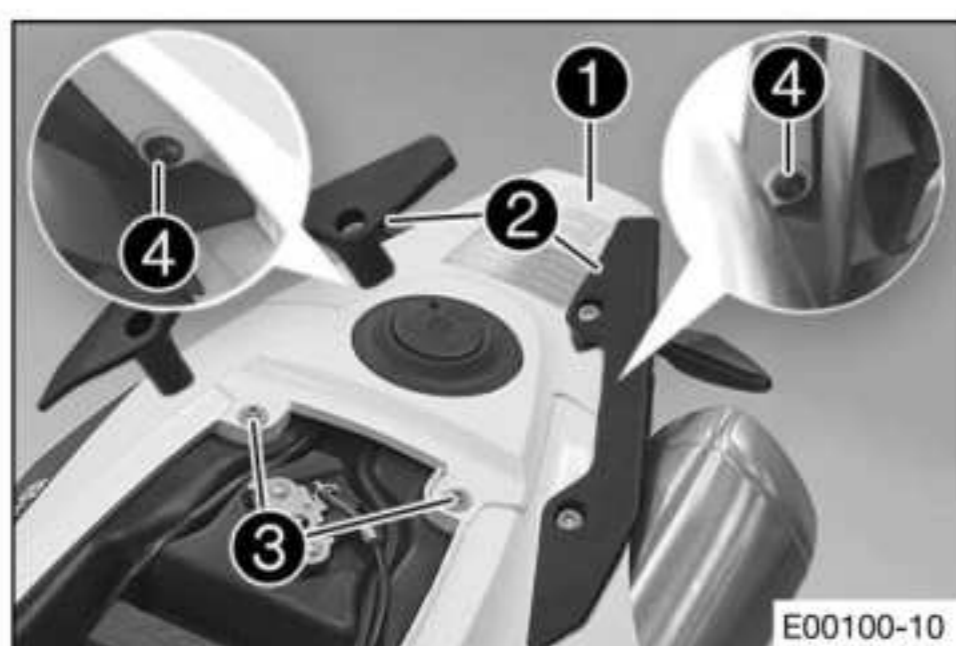
- Remove screws 4.
- Open fuel tank filler cap. (p. 92)
- Take off the rear fairing.
- Close the fuel tank filler cap. (p. 92)



(US)

- Remove screws 4.
- Open fuel tank filler cap. (p. 92)
- Take off the rear fairing.
- Close the fuel tank filler cap. (p. 92)

12.12 Fitting the rear fairing



Main work

- Open fuel tank filler cap. (p. 92)
- Position rear fairing 1 and grab handles 2 as shown in the figure.
- Mount, but do not yet tighten, the screws of the grab handles.

- Mount and tighten screws 3.

Guideline

Rear fairing screw, tail light	M6	2 Nm (1.5 lbf ft)
--------------------------------	----	-------------------

- Mount and tighten screws 4.

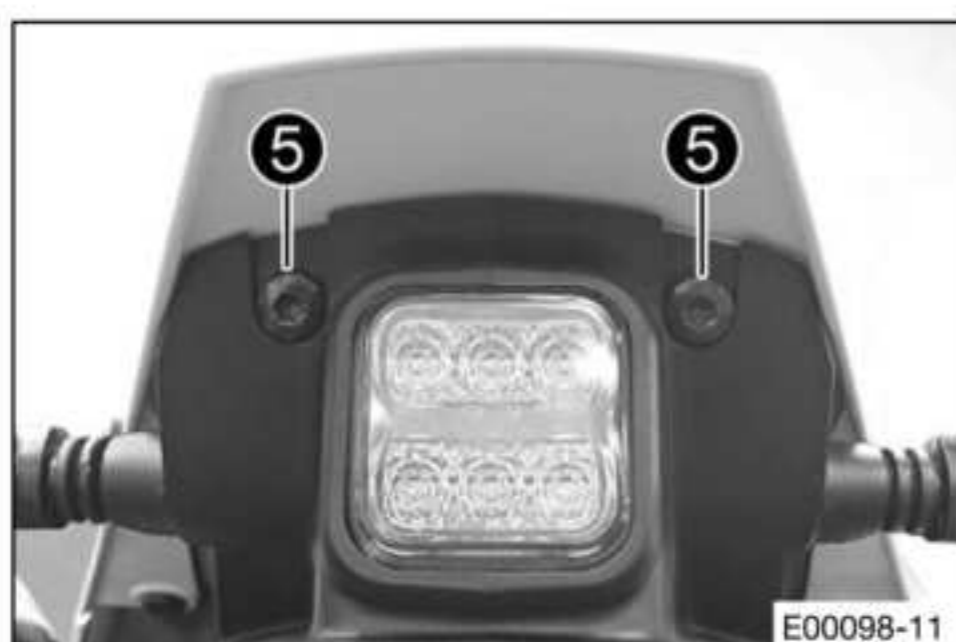
Guideline

Rear fairing screw	M6	3.5 Nm (2.58 lbf ft)
--------------------	----	----------------------

- Close the fuel tank filler cap. (p. 92)
- Tighten the screws of the grab handles.

Guideline

Screw, grab handle	M8	10 Nm (7.4 lbf ft)
--------------------	----	--------------------

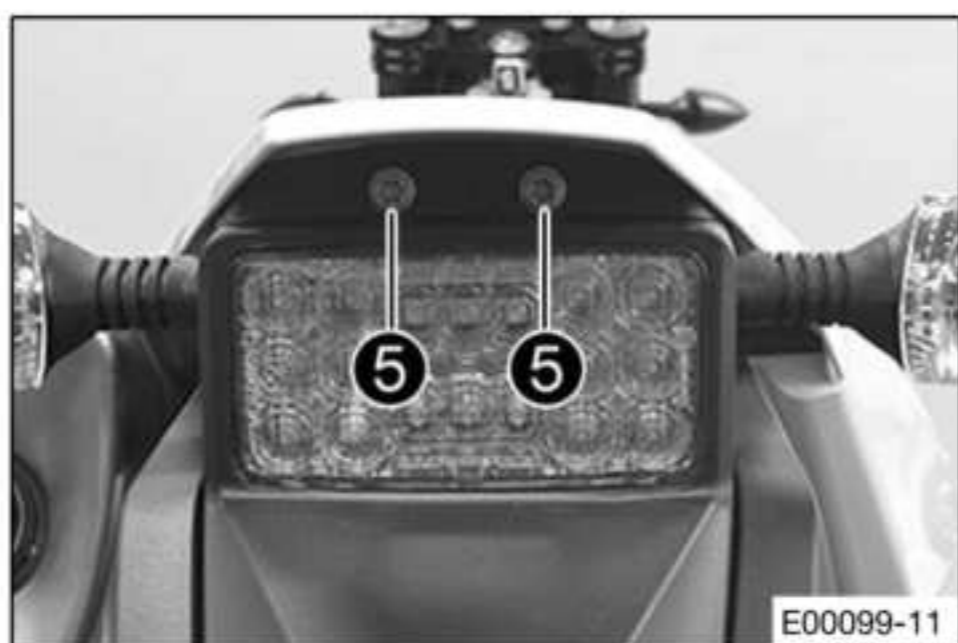


(EU)

- Mount and tighten screws 5.

Guideline

Rear fairing screw, tail light	M5	2 Nm (1.5 lbf ft)
--------------------------------	----	-------------------



(US)

- Mount and tighten screws **5**.

Guideline

Rear fairing screw, tail light	M5	2 Nm (1.5 lbf ft)
--------------------------------	----	-------------------

Finishing work

- Mount the seat. (📖 p. 93)

12.13 Checking the fuel pressure



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.

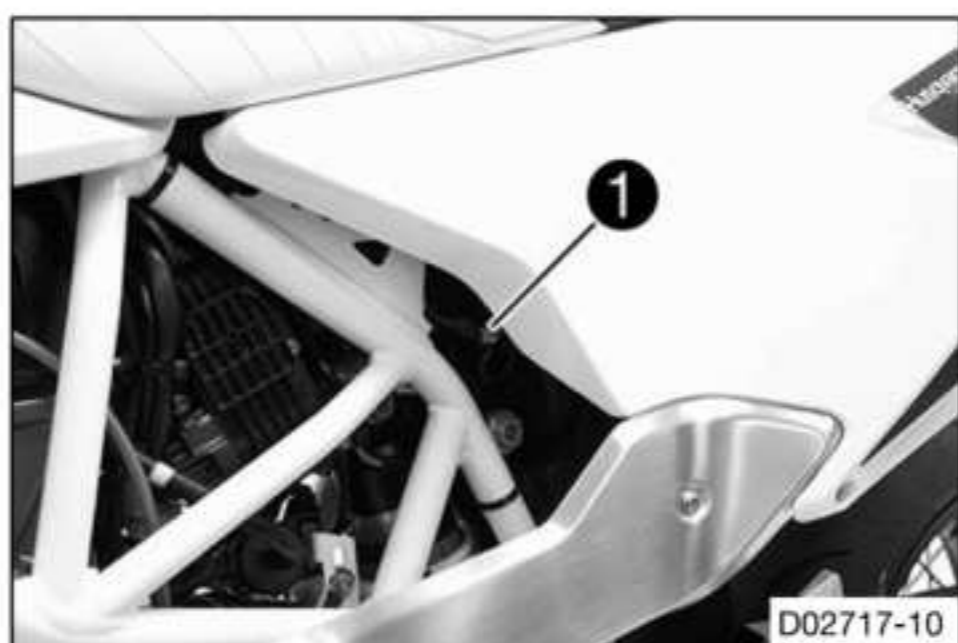
Condition

The fuel tank is completely full.

Ensure that the battery voltage does not drop below 12.5 V.

The ignition is off.

- Thoroughly clean the plug-in connection of the fuel line using compressed air.



Info

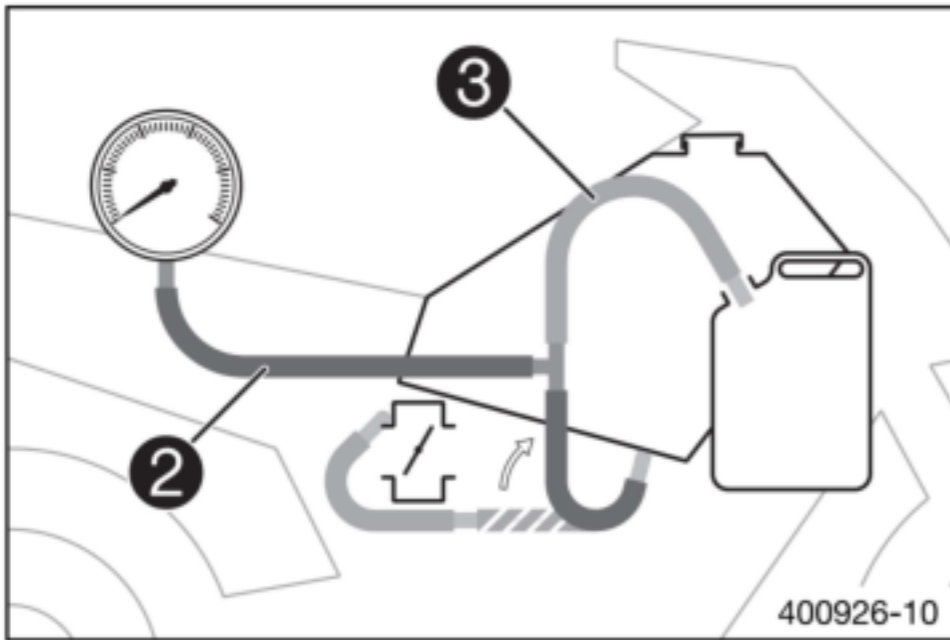
Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line clogs the injection valve!

- Press on the small metal plate and disconnect fuel hose connection **1**.



Info

Remaining fuel may flow out of the fuel hose.



- Mount special tool **2**.

Pressure testing tool (61029094000) (📖 p. 386)
--

- Mount special tool **3** with nozzle code **0,60**.

Testing hose (61029093000) (📖 p. 385)

- Position the hose end in a fuel can.

Guideline

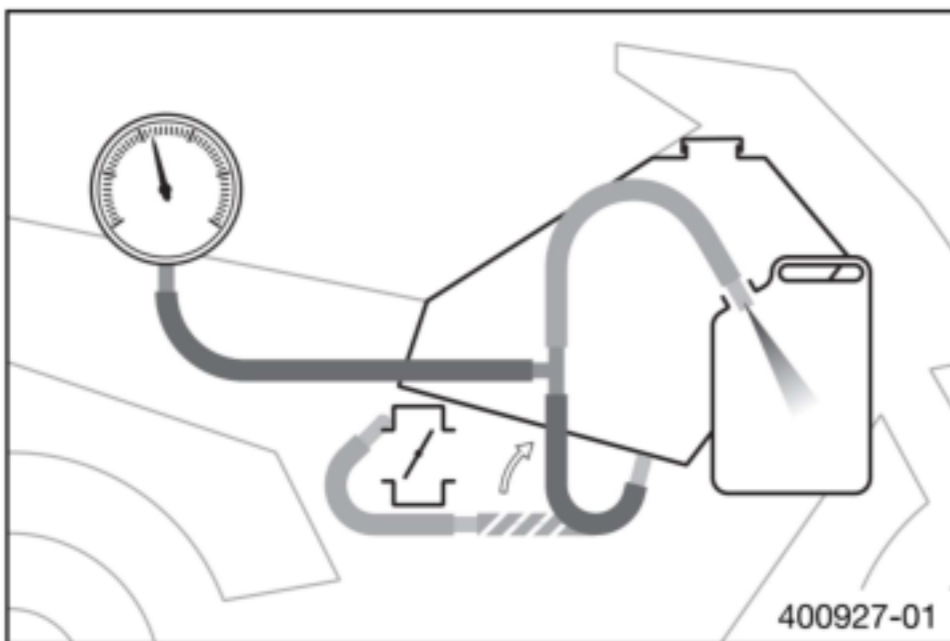
Minimum size, fuel can	10 l (2.6 US gal)
------------------------	-------------------

- Switch on the ignition.
- Connect the diagnostics tool and start it.
- **"Actuator test" > "Execute function test of fuel pump control"**.

Guideline

Maximum duration of the actuator test	3 min
---------------------------------------	-------

- Check the fuel pressure with the fuel tank filler cap closed.



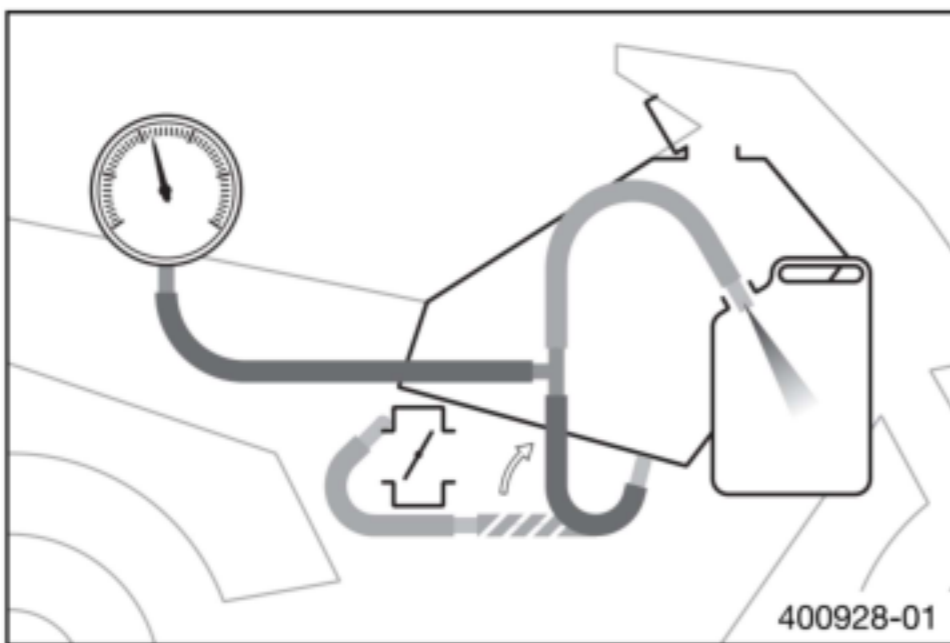
Fuel pressure

When the fuel pump is active	2.8 ... 3.2 bar (41 ... 46 psi)
------------------------------	---------------------------------

» If the specification is not reached:

- Open fuel tank filler cap. (📖 p. 92)
- Check the fuel tank breather.

- Check the fuel pressure with the fuel tank filler cap open.



Fuel pressure

When the fuel pump is active	2.8 ... 3.2 bar (41 ... 46 psi)
------------------------------	---------------------------------

» If the specification is not reached:

- Check that the fuel line is clear.
- Change the fuel filter. (📖 p. 101)
- Change the fuel pump. (📖 p. 105)

- **"Actuator test" > Stop "Function test of fuel pump controller"**.

- Remove the special tools.
- Join the fuel hose connection.

12.14 Changing the fuel screen



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.

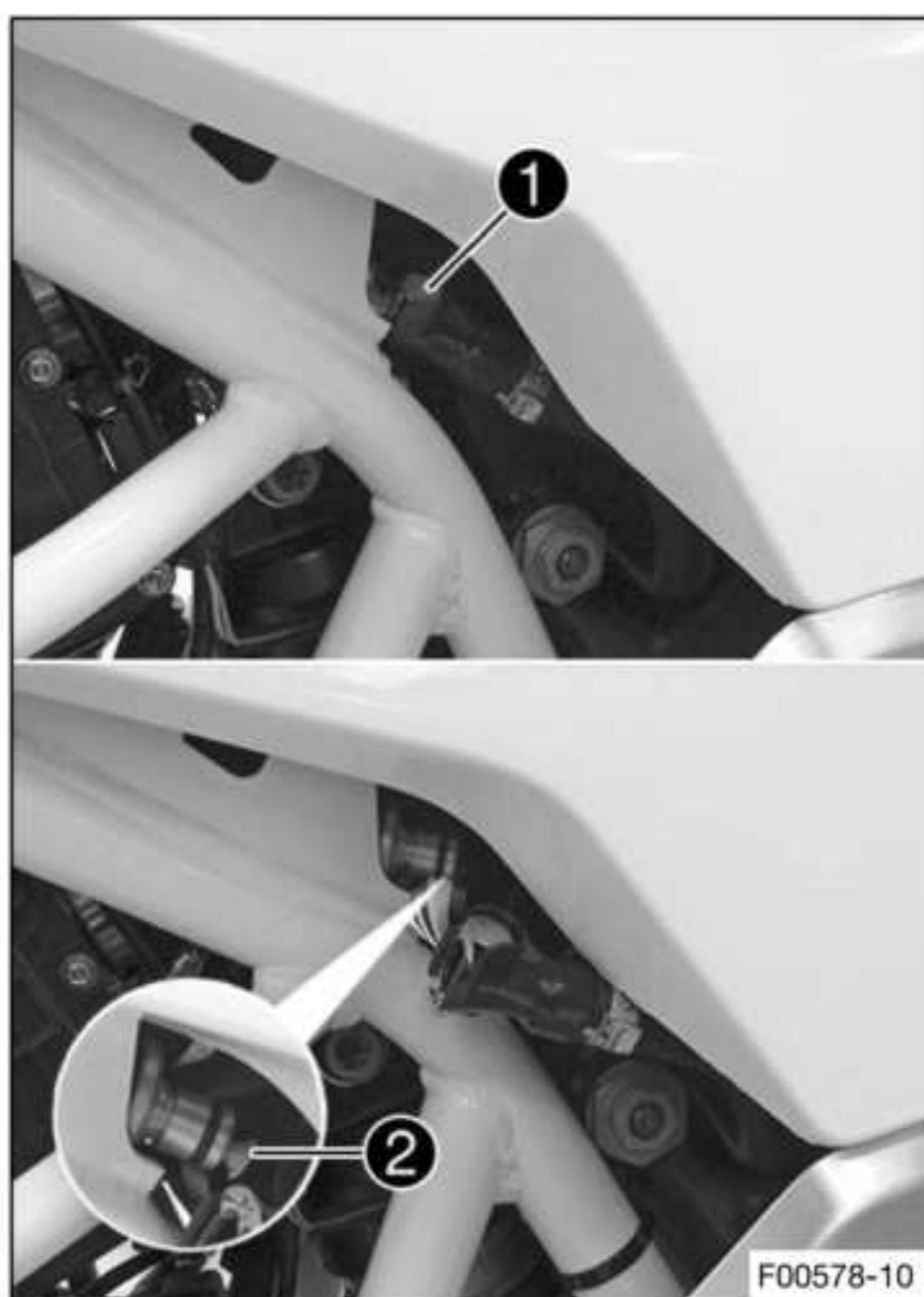
- Avoid skin, eye and clothing contact with fuel.
- Immediately consult a doctor if you swallow fuel.
- Do not inhale fuel vapors.
- In case of skin contact, rinse the affected area with plenty of water.
- Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.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



Note

Environmental hazard Improper handling of fuel is a danger to the environment.

- Do not allow fuel to enter the groundwater, the soil, or the sewage system.



- Clean plug-in connection **1** of the fuel line thoroughly with compressed air.



Info

Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line clogs the injection valve!

- Disconnect plug-in connection **1** of the fuel line.
- Pull fuel screen **2** out of the connecting piece.
- Insert the new fuel screen all the way into the connecting piece.
- Lubricate the O-ring and connect plug-in connection of the fuel line.



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 the response.

12.15 Changing the fuel filter

**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.


**Note****Environmental hazard** Improper handling of fuel is a danger to the environment.

- Do not allow fuel to enter the groundwater, the soil, or the sewage system.

Preparatory work

- Switch off the ignition by turning the ignition key to the **OFF**  position.
- Remove the seat. ( p. 93)
- Disconnect the 12-V battery. ( p. 141)
- Take off the side cover. ( p. 93)
- Remove the air filter box. ( p. 87)
- Remove the rear fairing. ( p. 96)
- Remove the rear left side cover. ( p. 95)
- Remove the rear right side cover. ( p. 94)
- Drain the fuel from the fuel tank into a suitable container.

Main work

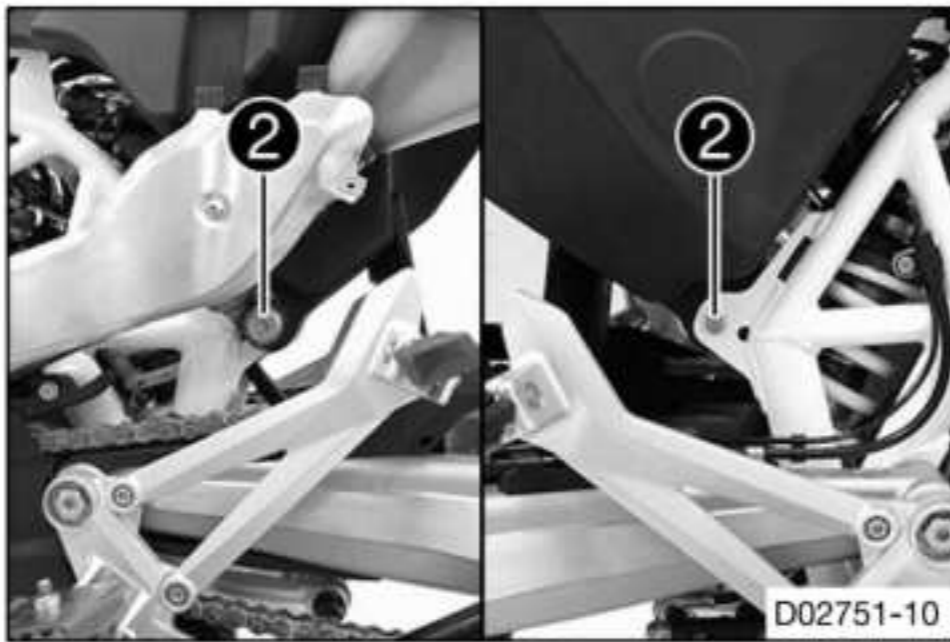
- Remove screws .



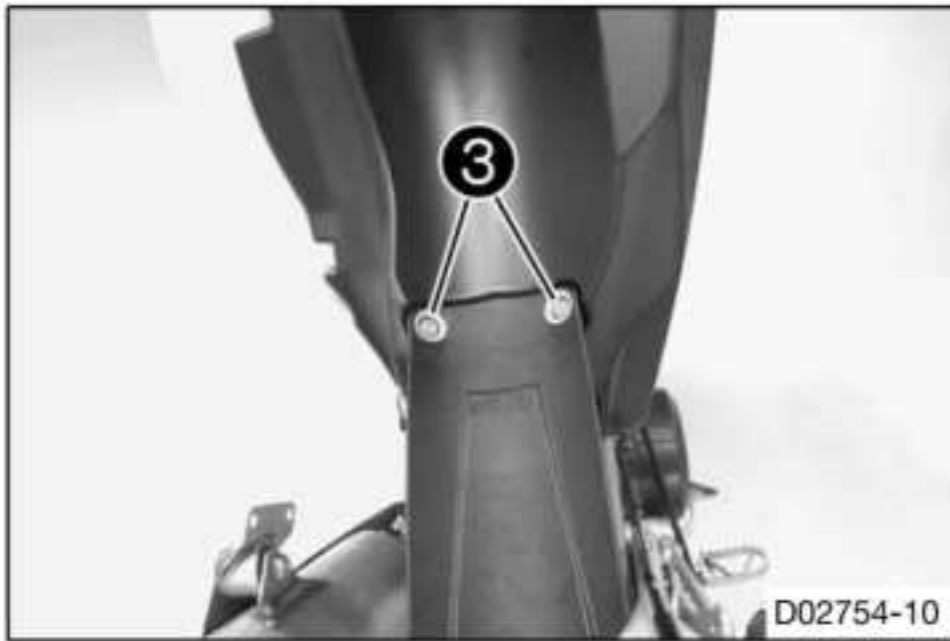
12 FUEL TANK, SEAT, TRIM



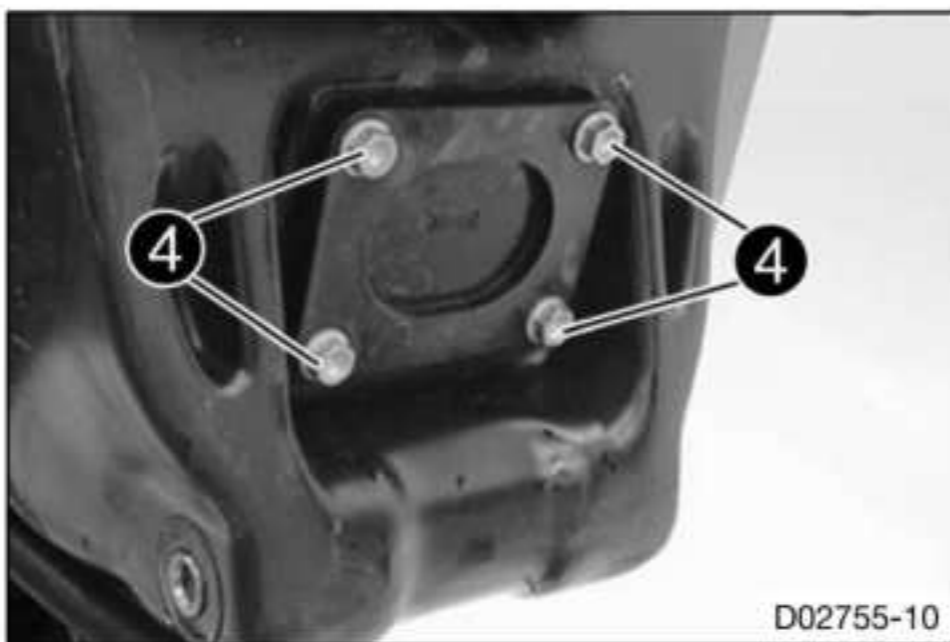
- Remove the cable ties.



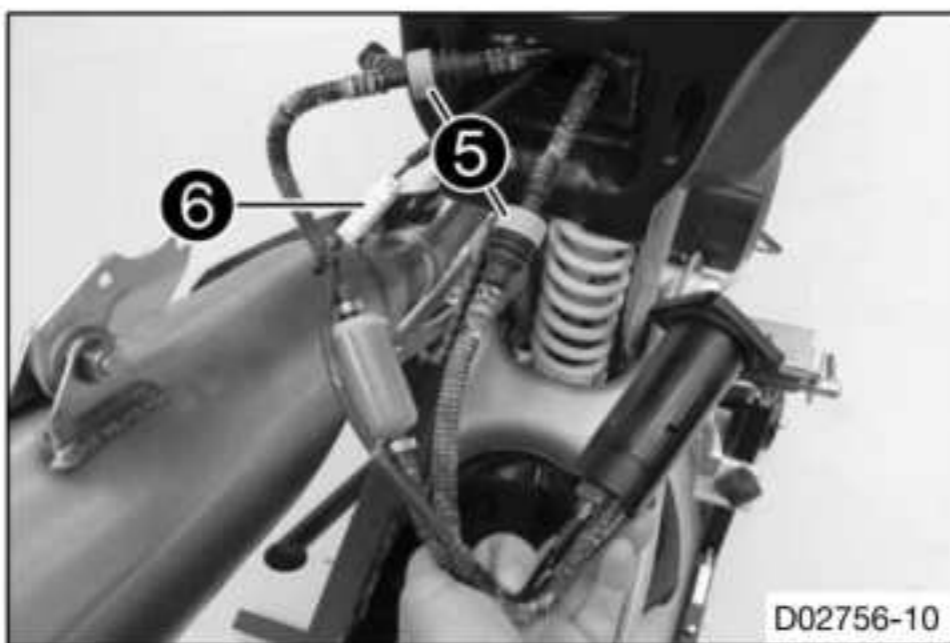
- Remove screws ② on both sides.
- Swing the rear end upward and secure it.



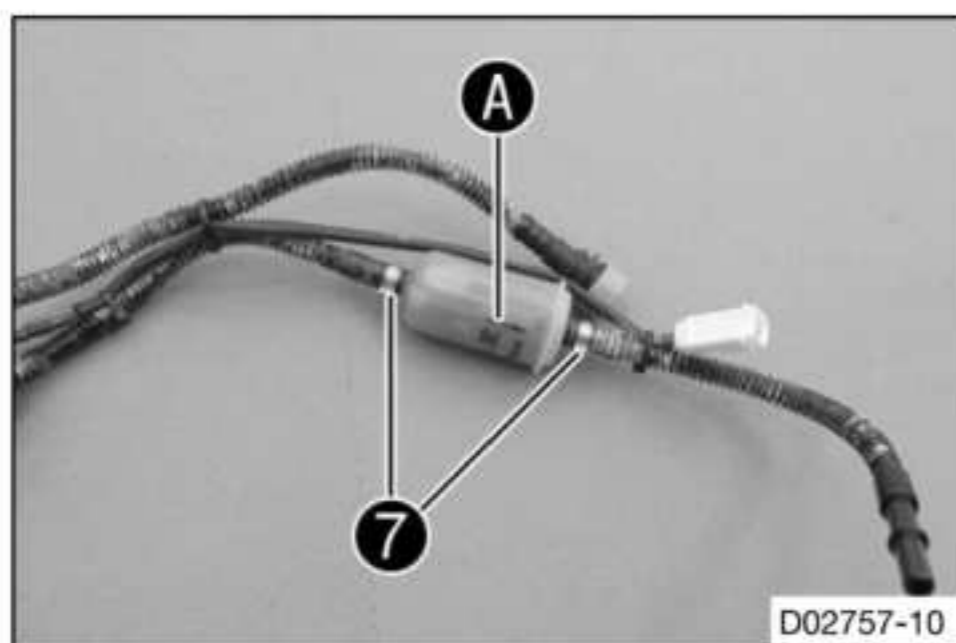
- Remove screws ③ and take off the splash protector.



- Remove screws ④.
- Pull out the fuel pump.

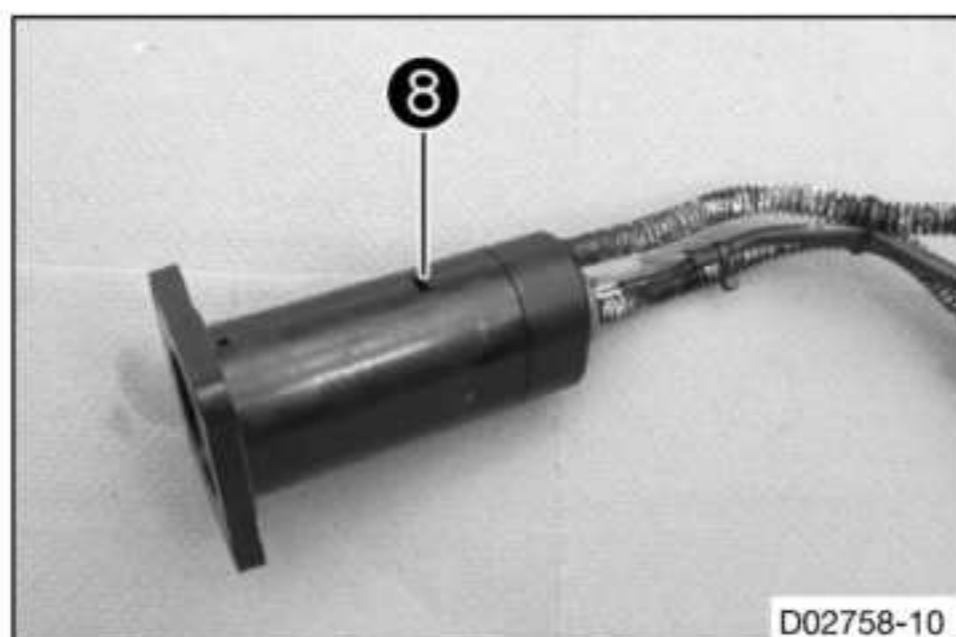


- Disconnect both fuel hose connections ⑤.
- Disconnect plug-in connector ⑥. Remove fuel pump.



- Remove hose clamps 7.
- Remove fuel filter.
- Mount the new fuel filter.
- ✓ Arrow A points away from the fuel pump.
- Mount hose clamps 7.

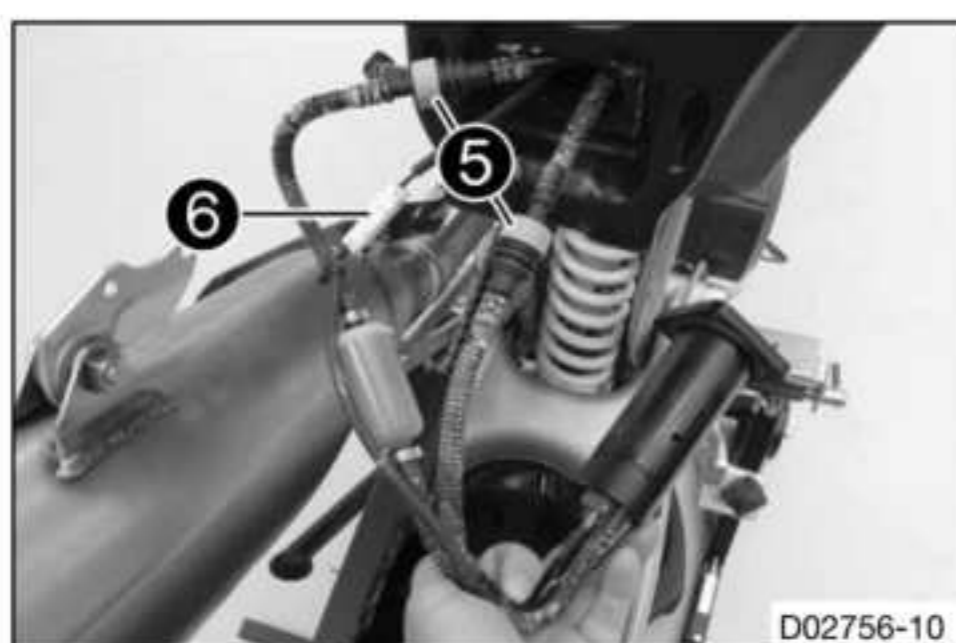
Hose clamp plier (60029057000) (📖 p. 385)



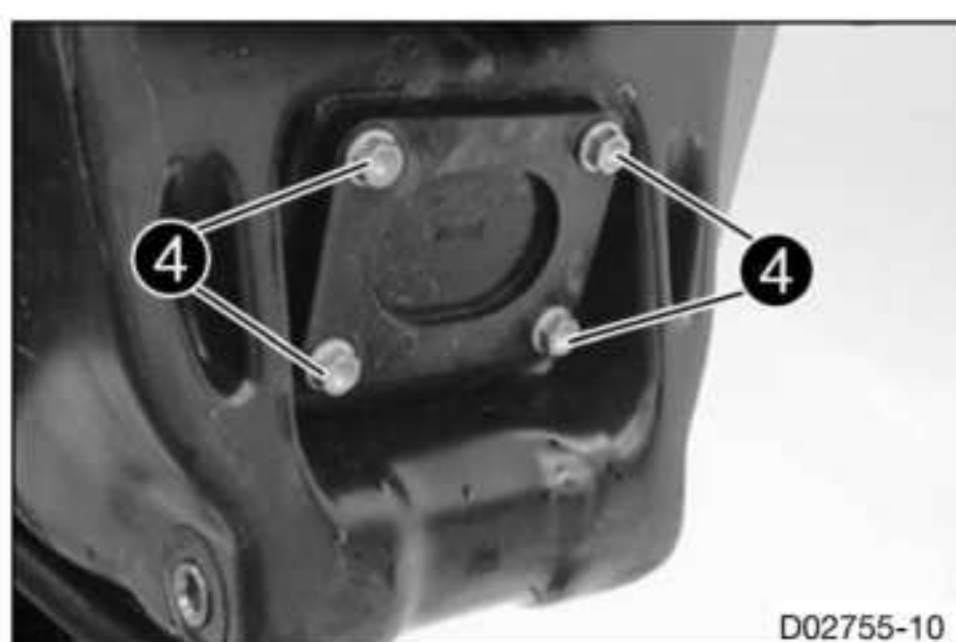
- Press locking mechanism 8 on both sides.
- Pull off the fuel pump housing.



- Change fuel screen 9.
- Mount the fuel pump housing.



- Connect both fuel hose connections 5.
- Join plug-in connector 6.



- Position the fuel pump.
- Mount and tighten screws 4.

Guideline

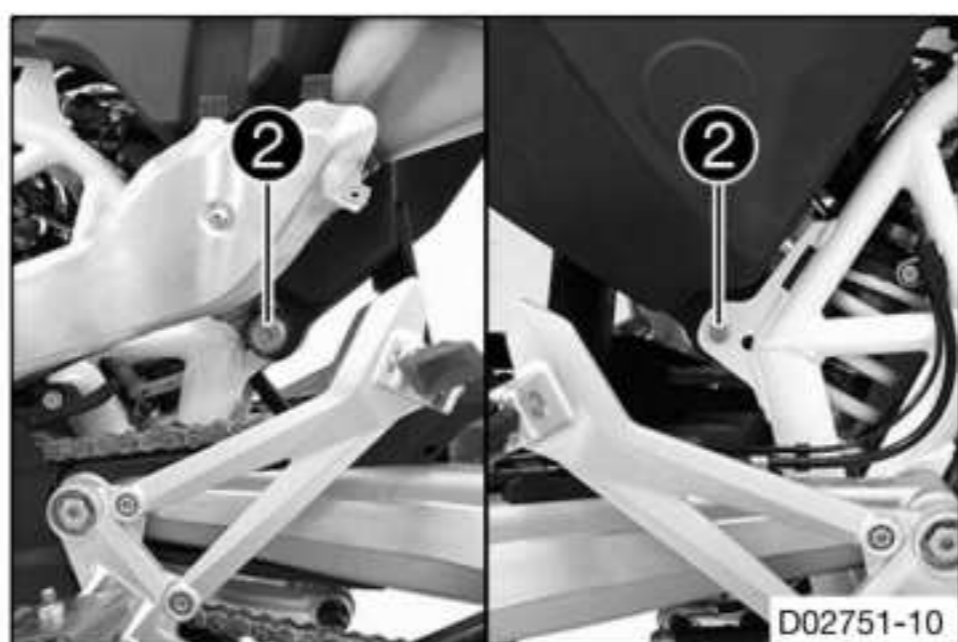
Screw, fuel pump	M5	4 Nm (3 lbf ft)
------------------	----	-----------------



- Position the splash protector. Mount and tighten screws **3**.

Guideline

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



- Position the rear end.
- Mount and tighten screws **2** on both sides.

Guideline

Screw, fuel tank, bottom	M8	25 Nm (18.4 lbf ft) Loctite®243™
--------------------------	----	--



- Mount the cable ties.



- Mount and tighten screws **1**.

Guideline

Screw, main silencer holder on fuel tank	M8	25 Nm (18.4 lbf ft)
--	----	---------------------

Finishing work

- Install the rear right side cover. (📖 p. 95)
- Install the rear left side cover. (📖 p. 96)
- Fit the rear fairing. (📖 p. 97)
- Install the air filter box. (📖 p. 89)
- Mount the side cover. (📖 p. 94)
- Connect the 12-V battery. (📖 p. 142)
- Mount the seat. (📖 p. 93)
- Adjust the clock. (📖 p. 167)

12.16 Changing the fuel pump

**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.


**Note****Environmental hazard** Improper handling of fuel is a danger to the environment.

- Do not allow fuel to enter the groundwater, the soil, or the sewage system.

Preparatory work

- Switch off the ignition by turning the ignition key to the **OFF**  position.
- Remove the seat. ( p. 93)
- Disconnect the 12-V battery. ( p. 141)
- Take off the side cover. ( p. 93)
- Remove the air filter box. ( p. 87)
- Remove the rear fairing. ( p. 96)
- Remove the rear left side cover. ( p. 95)
- Remove the rear right side cover. ( p. 94)
- Drain the fuel from the fuel tank into a suitable container.

Main work

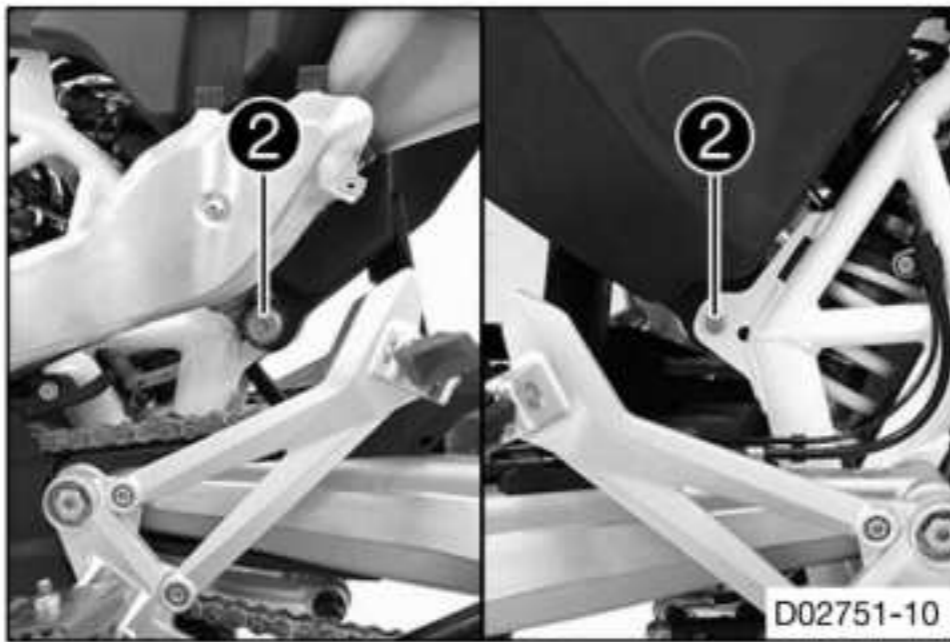
- Remove screws .



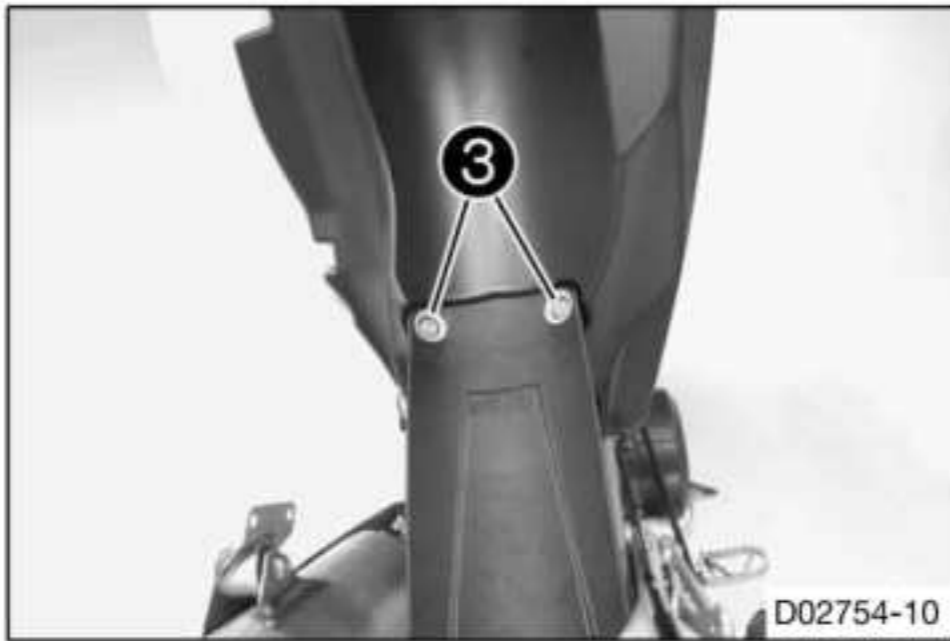
12 FUEL TANK, SEAT, TRIM



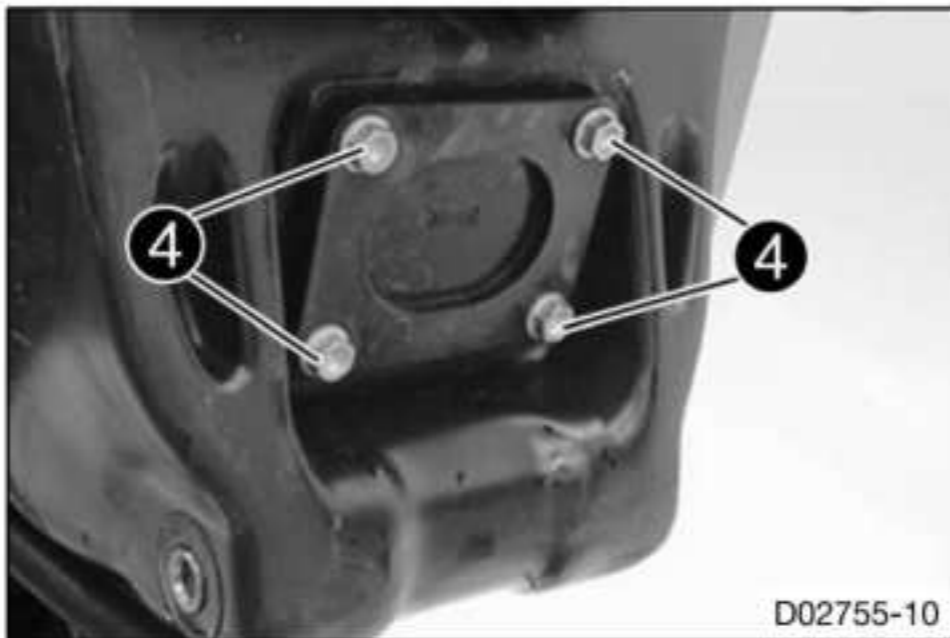
- Remove the cable ties.



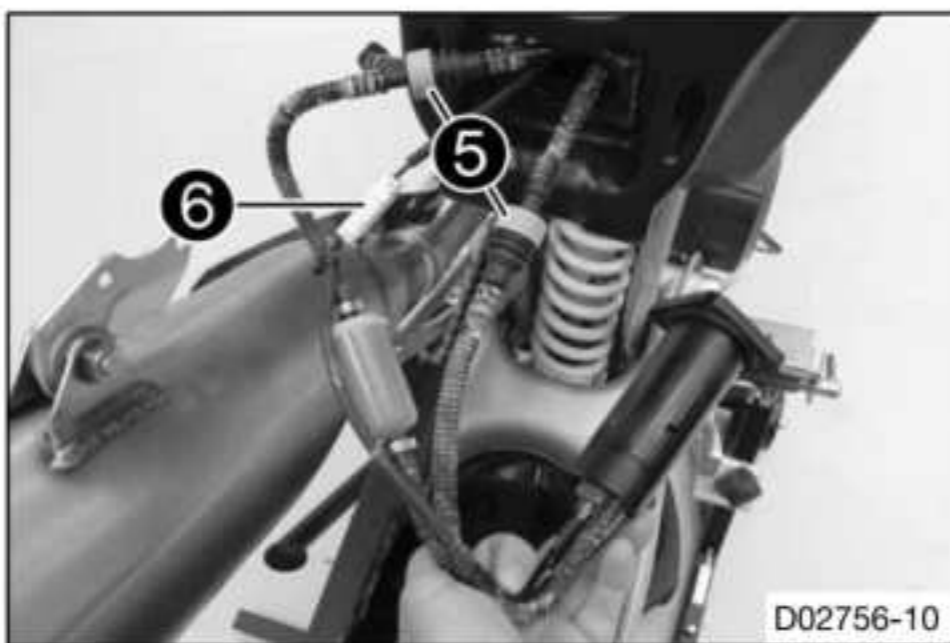
- Remove screws ② on both sides.
- Swing the rear end upward and secure it.



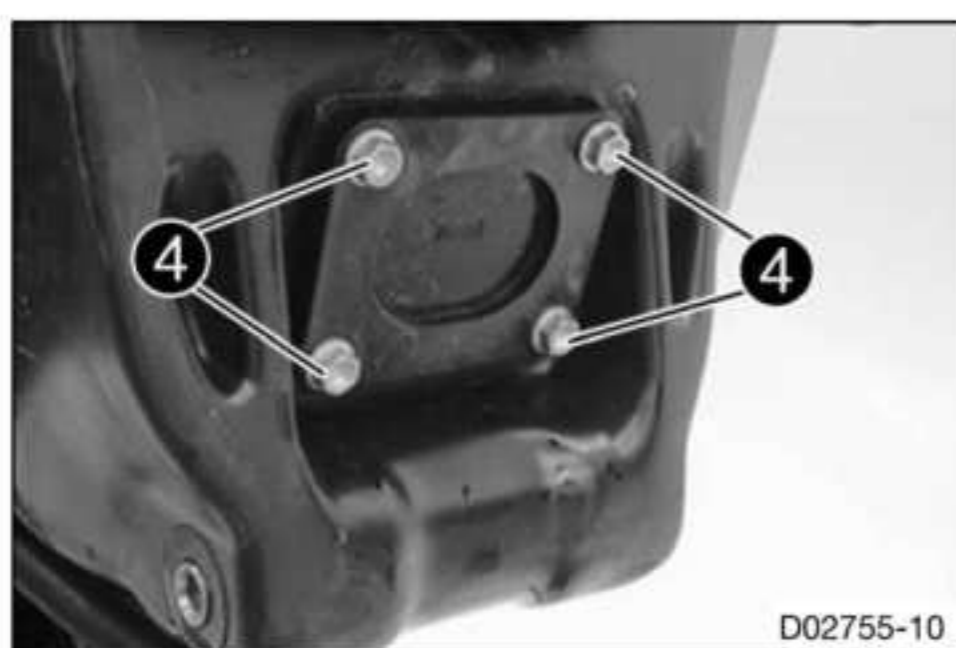
- Remove screws ③ and take off the splash protector.



- Remove screws ④.
- Pull out the fuel pump.



- Disconnect both fuel hose connections ⑤.
- Disconnect plug-in connector ⑥. Disconnect the fuel pump.
- Connect new fuel pump, connecting both fuel hose connections ⑤.
- Join plug-in connector ⑥.



- Position the fuel pump.
- Mount and tighten screws ④.

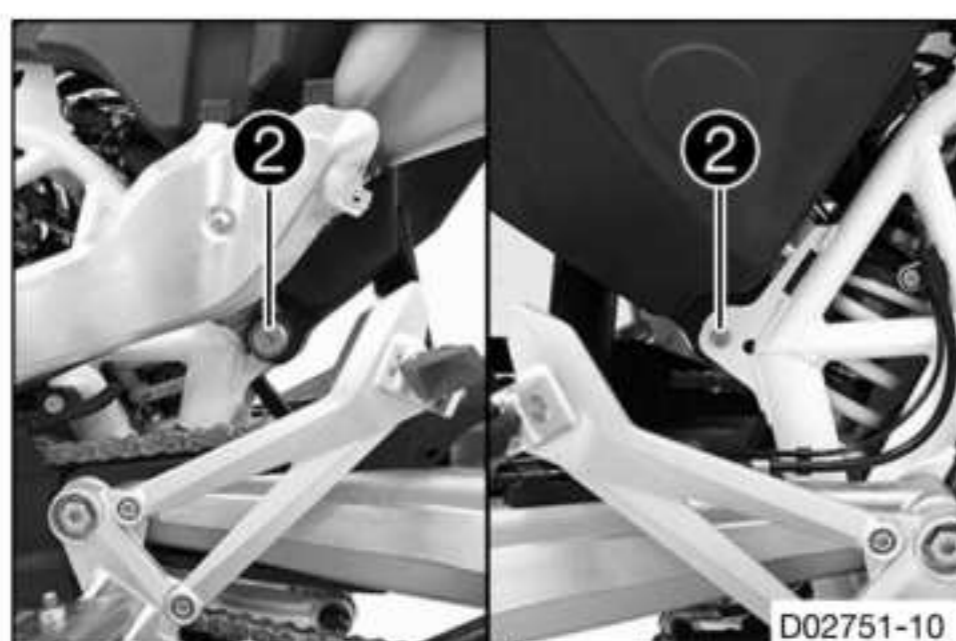
Guideline

Screw, fuel pump	M5	4 Nm (3 lbf ft)
------------------	----	-----------------



- Position the splash protector. Mount and tighten screws ③.
- Guideline

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



- Position the rear end.
- Mount and tighten screws ② on both sides.

Guideline

Screw, fuel tank, bottom	M8	25 Nm (18.4 lbf ft) Loctite®243™
--------------------------	----	--



- Mount the cable ties.



- Mount and tighten screws ①.
- Guideline

Screw, main silencer holder on fuel tank	M8	25 Nm (18.4 lbf ft)
--	----	---------------------

Finishing work

- Install the rear right side cover. (📖 p. 95)
- Install the rear left side cover. (📖 p. 96)
- Fit the rear fairing. (📖 p. 97)

12 FUEL TANK, SEAT, TRIM

- Install the air filter box. (📖 p. 89)
- Mount the side cover. (📖 p. 94)
- Connect the 12-V battery. (📖 p. 142)
- Mount the seat. (📖 p. 93)
- Adjust the clock. (📖 p. 167)

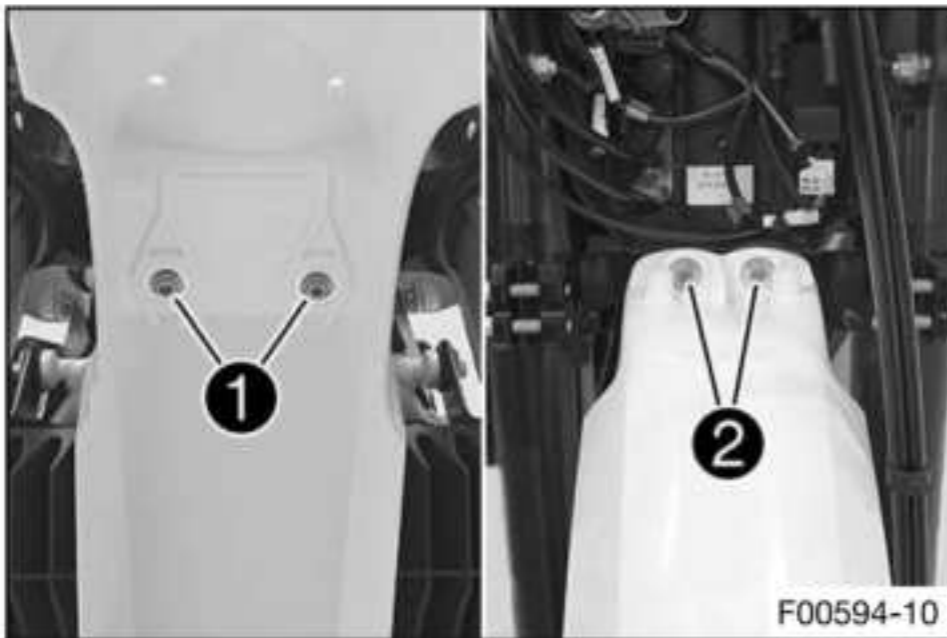
13.1 Removing front fender

Preparatory work

- Remove the headlight mask with the headlight. (📖 p. 170)

Main work

- Remove screws ❶.
- Remove screws ❷ and take off the fender.



13.2 Installing front fender

Main work

- Position front fender. Mount and tighten screws ❶.

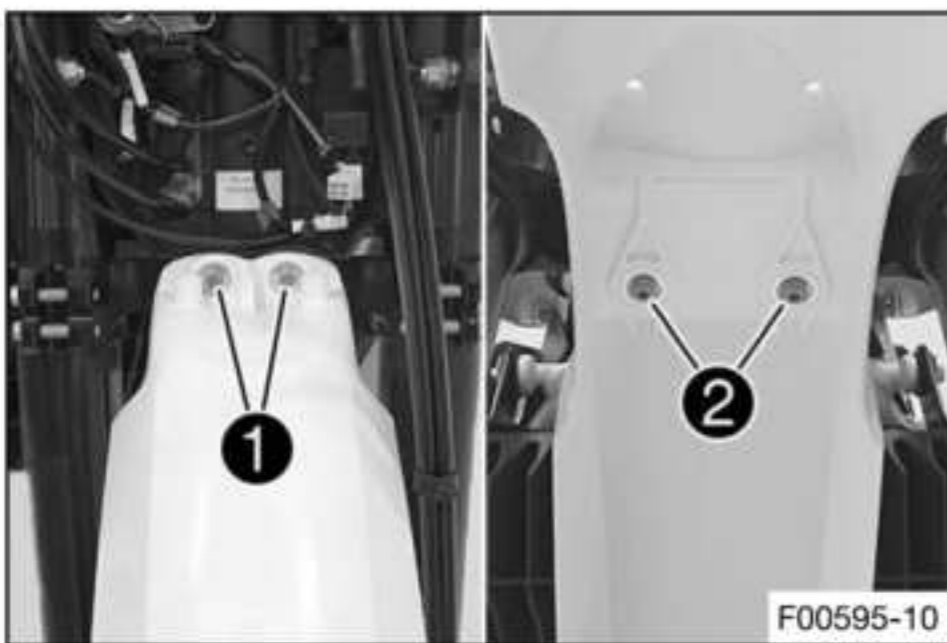
Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------

- Mount and tighten screws ❷.

Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------



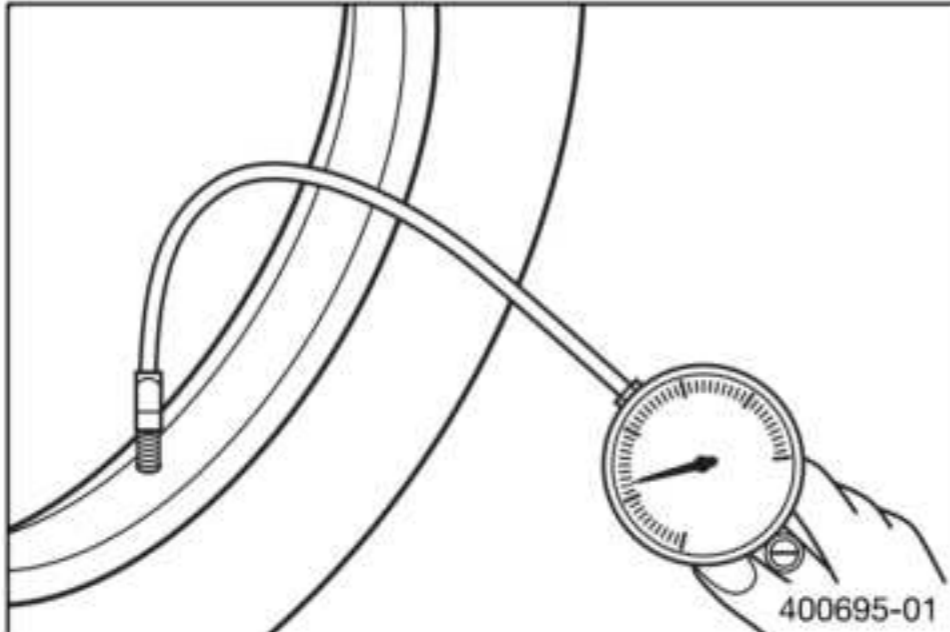
Finishing work

- Install the headlight mask with the headlight. (📖 p. 171)
- Check the headlight setting. (📖 p. 169)

14.1 Checking tire pressure

i Info

Low tire pressure leads to abnormal wear and overheating of the tire.
Correct tire pressure ensures optimal riding comfort and maximum tire service life.



- Remove the protection cap.
- Check the tire pressure when the tires are cold.

Tire pressure when solo	
front	2.0 bar (29 psi)
rear	2.0 bar (29 psi)

Tire pressure with passenger / full payload	
front	2.0 bar (29 psi)
rear	2.2 bar (32 psi)

- » If the tire pressure does not meet specifications:
 - Correct the tire pressure.
- Mount the protection cap.

14.2 Checking the tire condition



Warning

Danger of accidents If a tire bursts while riding, the vehicle becomes uncontrollable.

- Ensure that damaged or worn tires are replaced immediately.



Warning

Danger of crashing Different tire tread patterns on the front and rear wheel impair the handling characteristic.

Different tire tread patterns can make the vehicle significantly more difficult to control.

- Make sure that only tires with a similar tire tread pattern are fitted to the front and rear wheel.



Warning

Danger of accidents Non-approved or non-recommended tires and wheels impact the handling characteristic.

- Only use tires/wheels approved by Husqvarna Motorcycles with the corresponding speed index.



Warning

Danger of accidents New tires have reduced road grip.

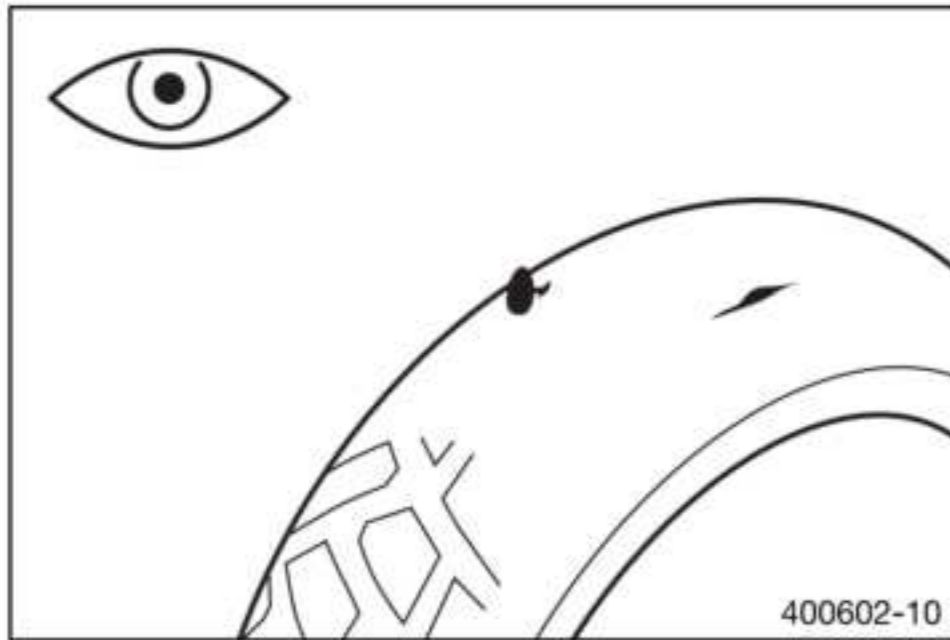
The contact surface on new tires is not yet roughened.

- Run in new tires with moderate riding at alternating angles.
Running-in phase 200 km (124 mi)

i Info

The type, condition, and pressure of the tires all have a major impact on the handling characteristic of the motorcycle.

Worn tires have a negative effect on handling characteristics, especially on wet surfaces.



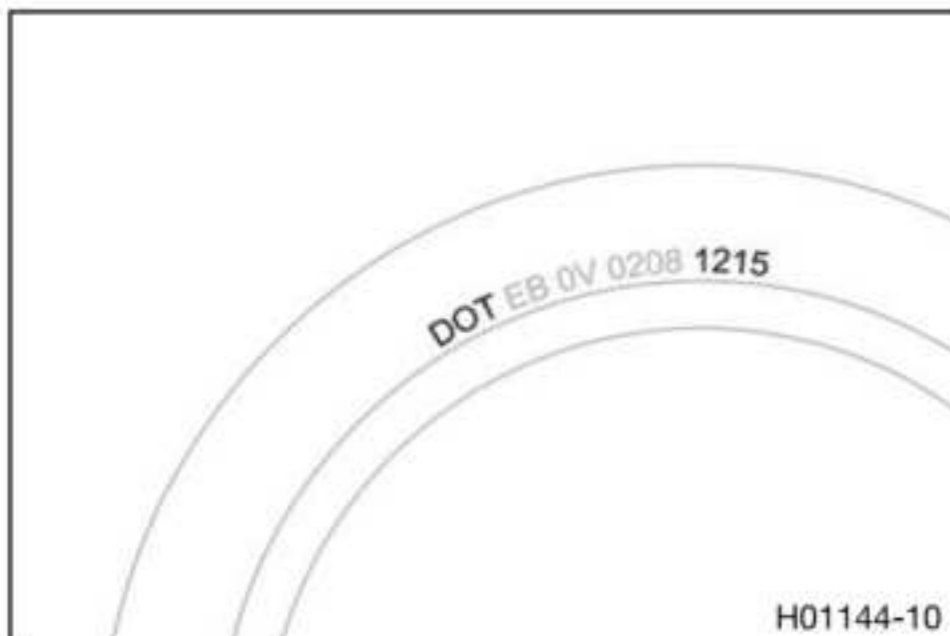
- Check the front and rear tires for cuts, run-in objects, and other damage.
 - » If the tires have cuts, run-in objects, or other damage:
 - Change the tires.
- Check the tread depth.

i Info
Adhere to the legally required minimum tread depth.

Minimum tread depth	≥ 2 mm (≥ 0.08 in)
---------------------	--------------------

- » If the tread depth is less than the minimum tread depth:
 - Change the tires.

- Check the tire age.



i Info
The tire date of manufacture is usually contained in the tire label and is indicated by the last four digits of the **DOT** number. The first two digits indicate the week of manufacture and the last two digits the year of manufacture.
Husqvarna Motorcycles recommends that the tires be changed after 5 years at the latest, regardless of the actual state of wear.

- » If the tires are more than 5 years old:
 - Change the tires.



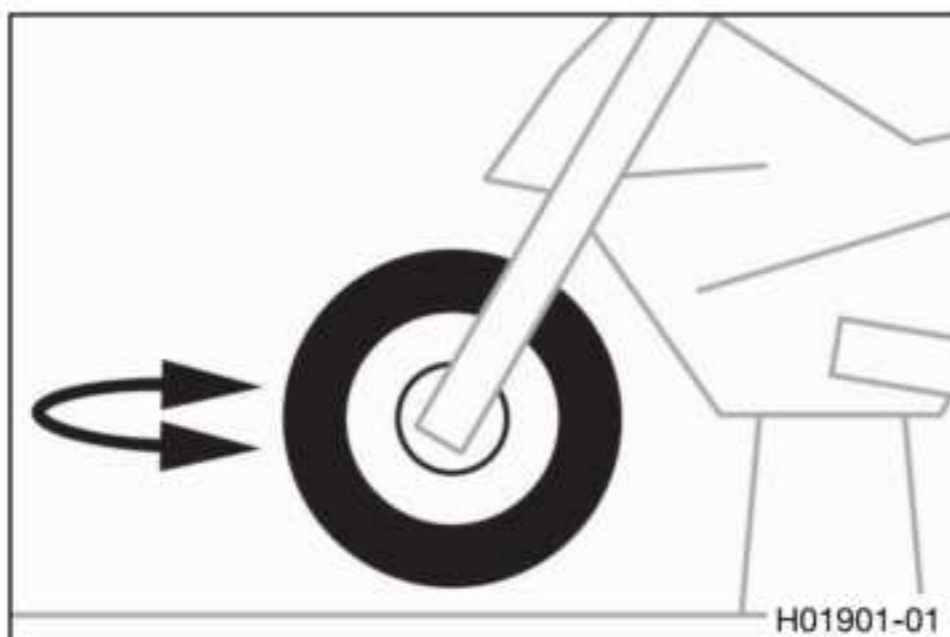
14.3 Checking the wheel bearing for play

Preparatory work

- Raise the motorcycle with the work stand. (📖 p. 14)
- Place a load on rear of the vehicle.
- ✓ The front wheel is not in contact with the ground.

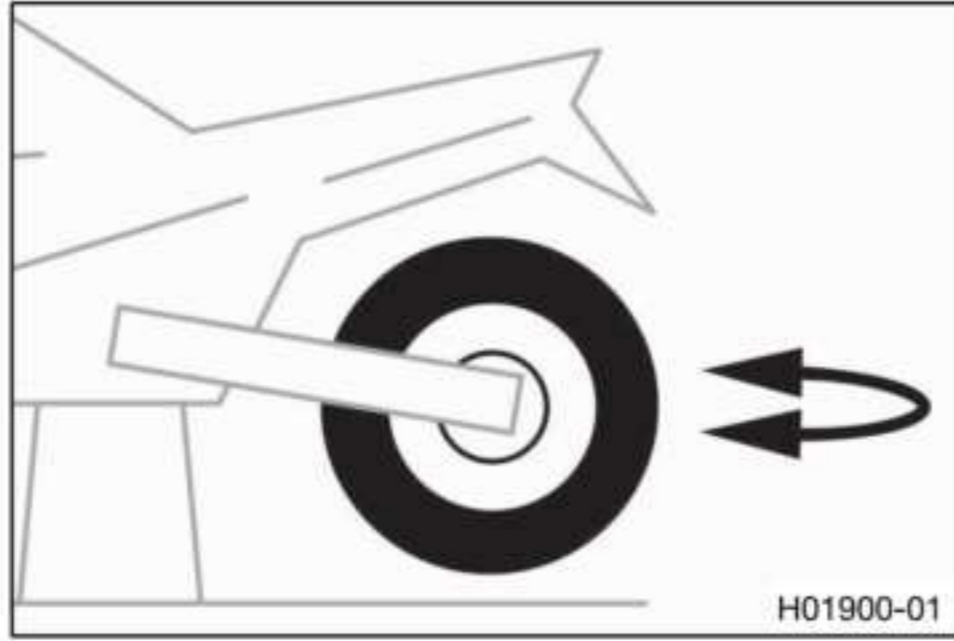
Main work

- Move the front wheel from side to side.



i Info
Hold the fork leg to check it.

- » If there is detectable play:
 - Change front wheel bearing. (📖 p. 119)



- Place a load on the front of the vehicle.
- ✓ The rear wheel is not in contact with the ground.
- Move the rear wheel from side to side.



Info

Hold the link fork to check it.

- » If there is detectable play:
 - Change the rear wheel bearing. (📖 p. 126)

Finishing work

- Remove the motorcycle from the work stand. (📖 p. 15)

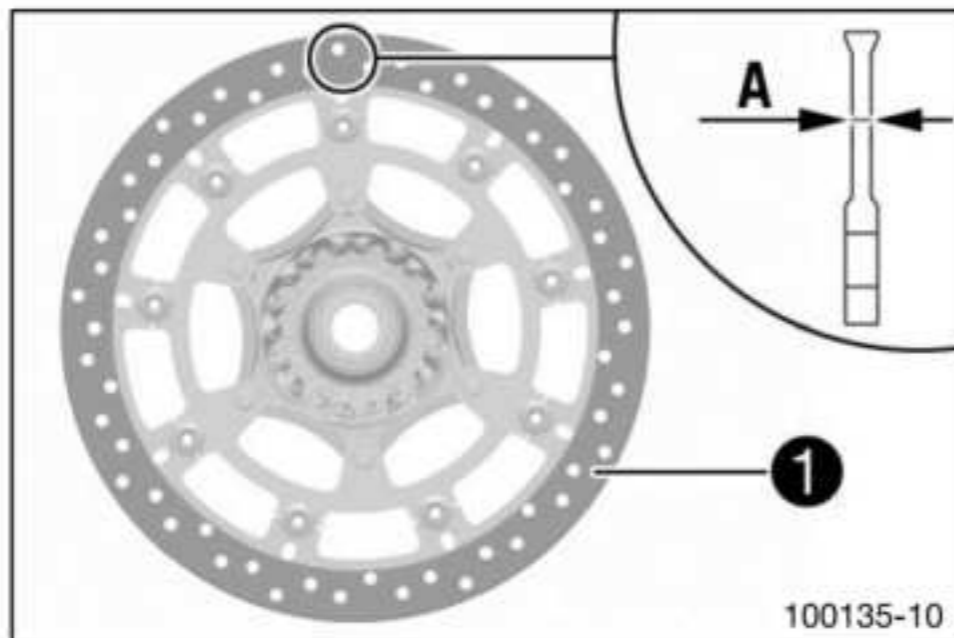
14.4 Checking the brake discs



Warning

Danger of accidents Worn-out brake discs reduce the braking effect.

- Make sure that worn-out brake discs are replaced immediately.



- Check the front and rear brake disc thickness at multiple points for the dimension **A**.



Info

Wear will reduce the thickness of the brake disc at contact surface **1** of the brake linings.

Brake discs - wear limit	
front	4.0 mm (0.157 in)
rear	4.5 mm (0.177 in)

- » If the brake disc thickness is less than the specified value.
 - Change the front brake disc. (📖 p. 118)
 - Change the rear brake disc. (📖 p. 129)
- Check the front and rear brake discs for damage, cracking, and deformation.
 - » If the brake disc exhibits damage, cracking, or deformation:
 - Change the front brake disc. (📖 p. 118)
 - Change the rear brake disc. (📖 p. 129)

14.5 Checking spoke tension



Warning

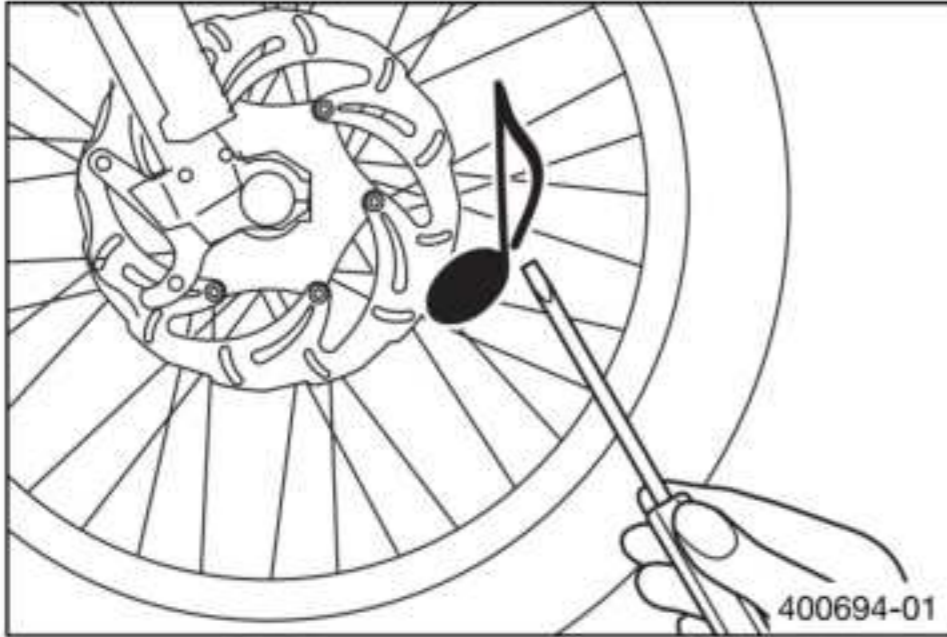
Danger of accidents Incorrectly tensioned spokes impair the handling characteristic and result in secondary damage.

The spokes break due to being overloaded if they are too tightly tensioned. If the tension in the spokes is too low, then lateral and radial run-out will form in the wheel. Other spokes will become looser as a result.

- Check spoke tension regularly, and in particular on a new vehicle.

i Info

A loose spoke can unbalance the wheel and other spokes may loosen within a short period. If the spokes are too tight, they can break due to local overload. Check the spoke tension regularly, especially on a new motorcycle.



- Strike each spoke briefly using a screwdriver blade.

i Info

The frequency of the sound depends on the spoke length and spoke diameter. If you hear different tone frequencies from different spokes of equal length and diameter, this is an indication of different spoke tensions.

You should hear a high note.

- » If the spoke tension differs:
 - Correct the spoke tension.

14.6 Checking the rim run-out**Warning**

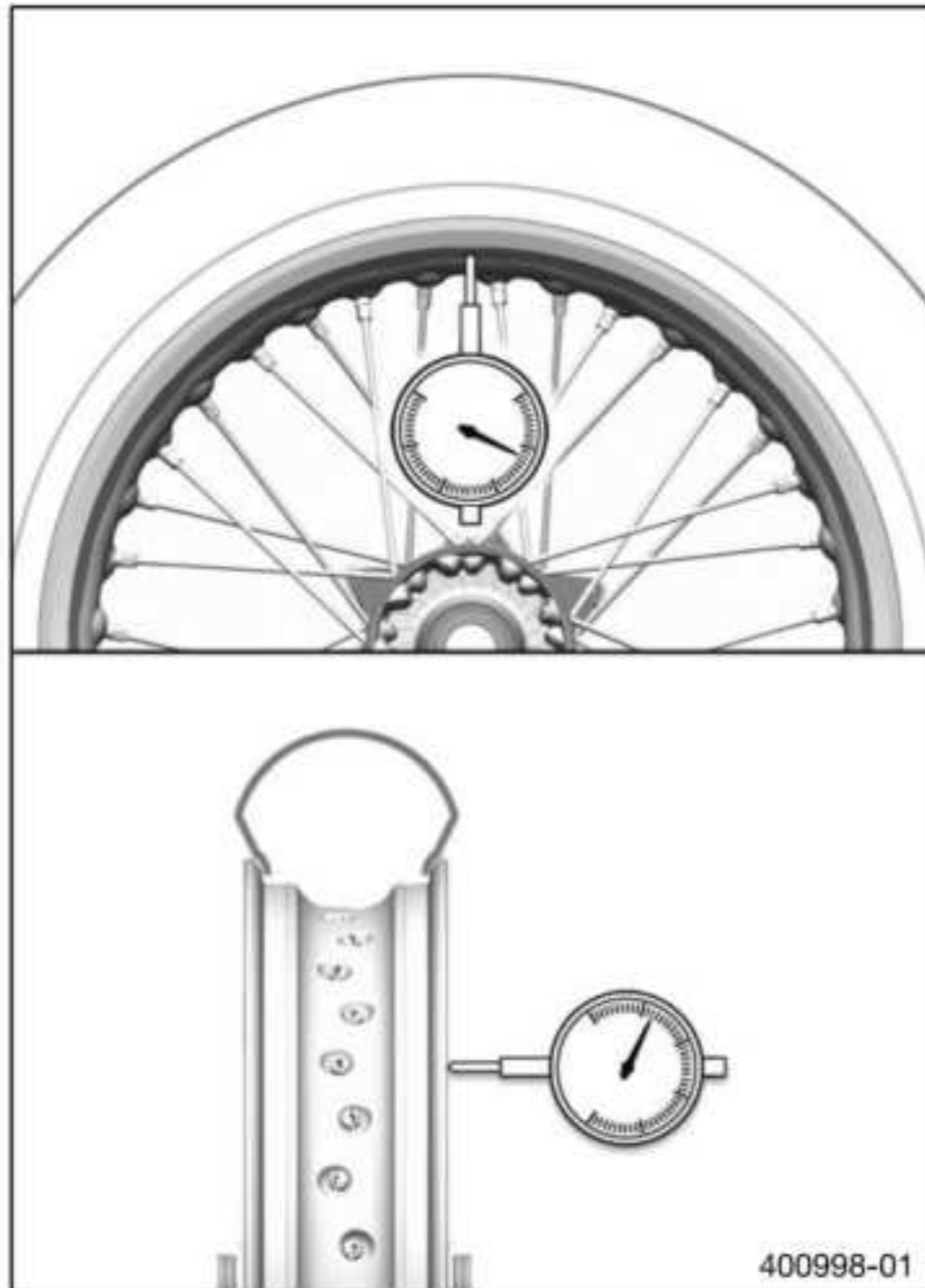
Danger of accidents Incorrectly tensioned spokes impair the handling characteristic and result in secondary damage.

The spokes break due to being overloaded if they are too tightly tensioned. If the tension in the spokes is too low, then lateral and radial run-out will form in the wheel. Other spokes will become looser as a result.

- Check spoke tension regularly, and in particular on a new vehicle.

i Info

A loose spoke can unbalance the wheel and other spokes may loosen within a short period. If the spokes are too tight, they can break due to local overload. Check the spoke tension regularly, especially on a new motorcycle.



- Check for lateral and radial run-out of the rims.

Axial run-out	
outside of the rim joint	< 1.8 mm (< 0.071 in)

Radial run-out	
outside of the rim joint	< 1.8 mm (< 0.071 in)

- » If the measured value is greater than the specified value:
 - Center the rim.



Info

Center the rim by pulling the spoke nipple on the other side of the rim run-out. If there is significant deformation, change the rim.

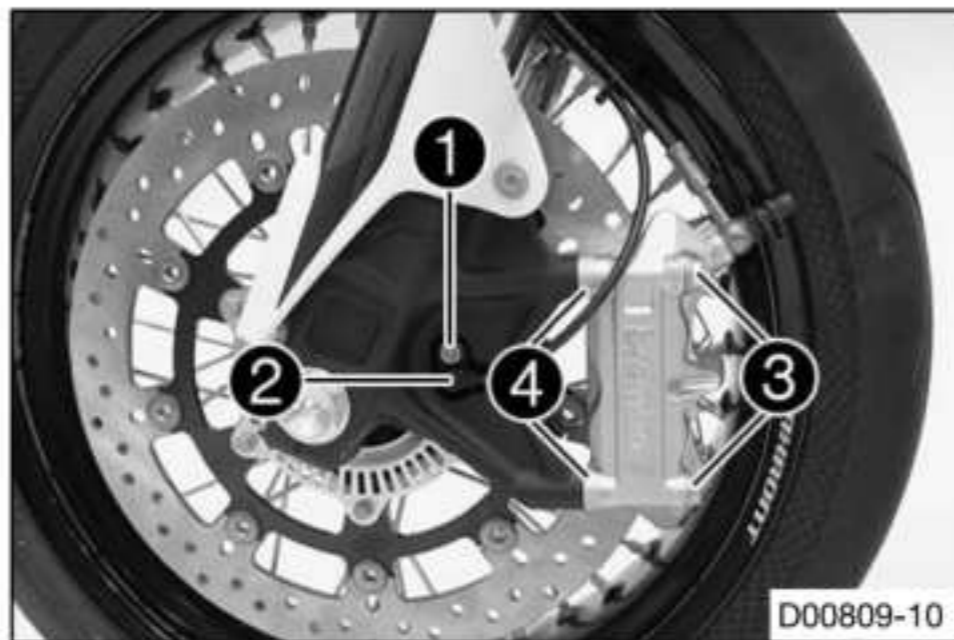
- Correct the spoke tension.

14.7 Front wheel

14.7.1 Removing the front wheel using work stand

Preparatory work

- Raise the motorcycle with the work stand. (📖 p. 14)
- Place a load on rear of the vehicle.
- ✓ The front wheel is not in contact with the ground.



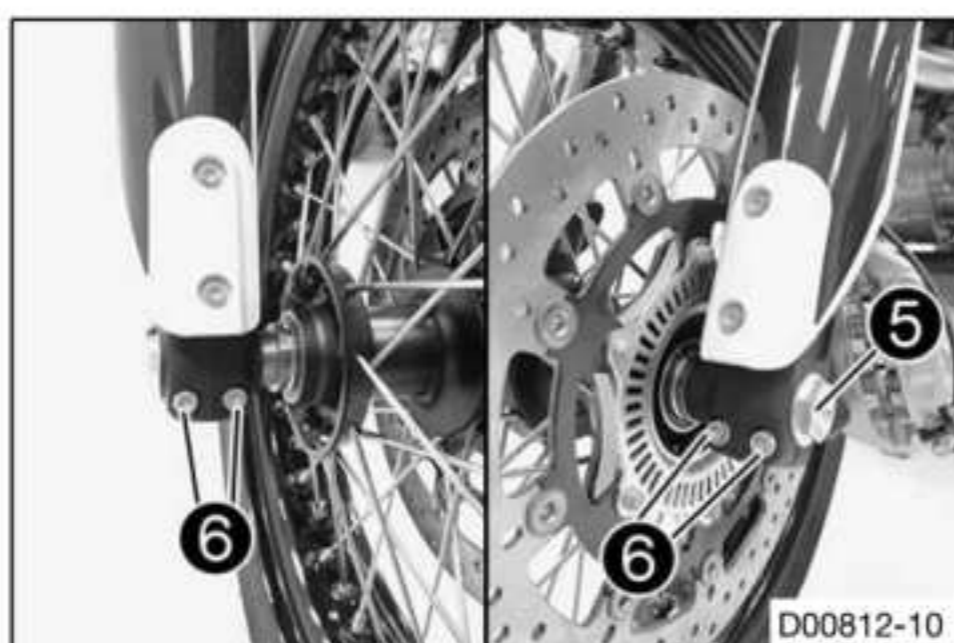
Main work

- Remove screw ① and pull wheel speed sensor ② out of the hole.
- Remove screws ③ and spacers ④.
- Press back the brake linings by slightly tilting the brake caliper laterally on the brake disc.
- Pull the brake caliper carefully back from the brake disc and hang to the side.



Info

Do not operate the hand brake lever if the brake caliper has been removed.



- Loosen screw ⑤ by several rotations.
- Loosen screws ⑥.
- Press on screw ⑤ to push the wheel spindle out of the axle clamp.
- Remove screw ⑤.

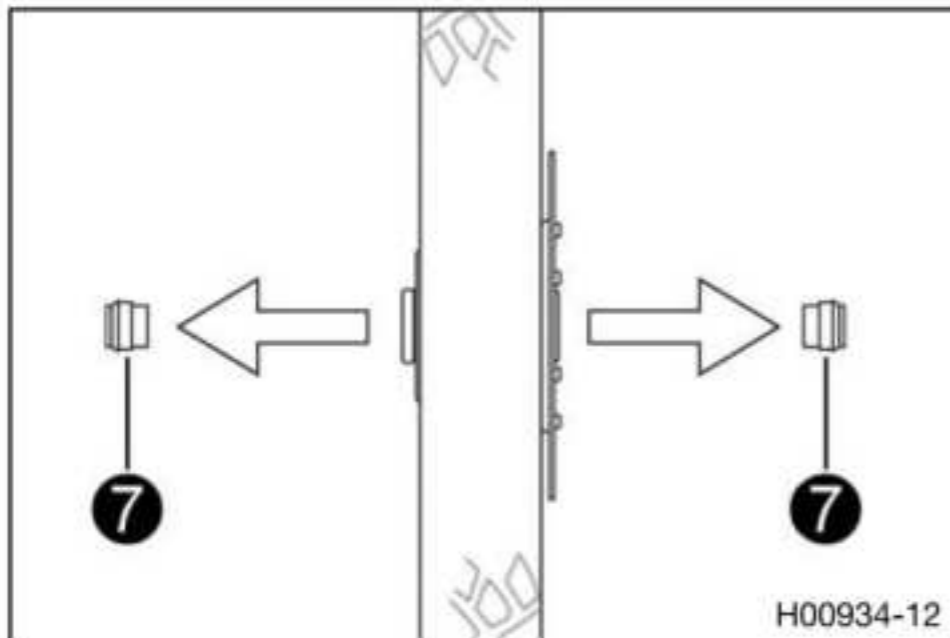


Warning

Danger of accidents Damaged brake discs reduce the braking effect.

- Always lay the wheel down in such a way that the brake disc is not damaged.

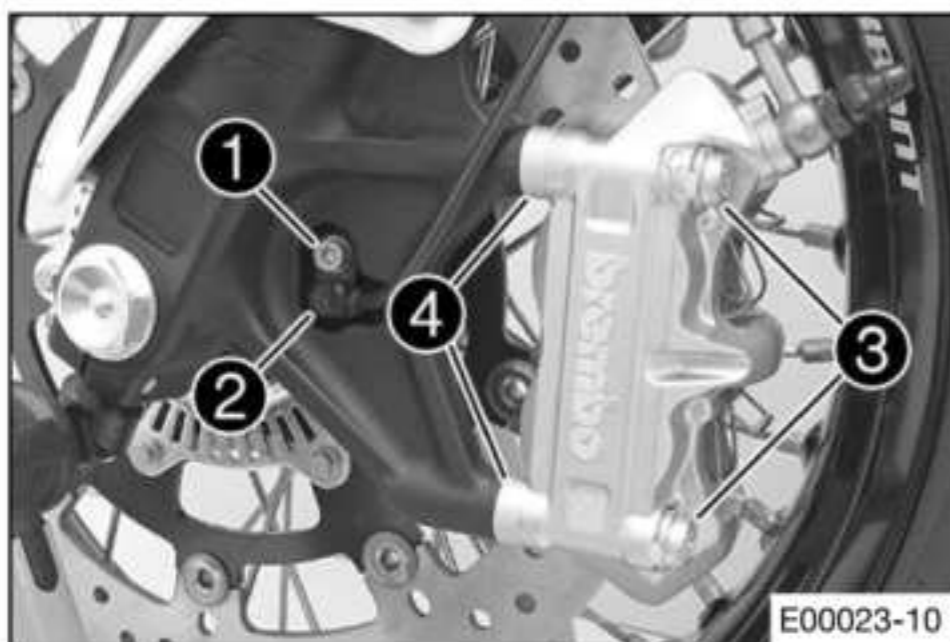
- Hold the front wheel and remove the wheel spindle. Take the front wheel out of the fork.
- Remove spacers 7.



14.7.2 Removing the front wheel

Preparatory work

- Raise the motorcycle with the rear lifting gear. (p. 13)
- Lift the motorcycle with the front lifting gear. (p. 13)



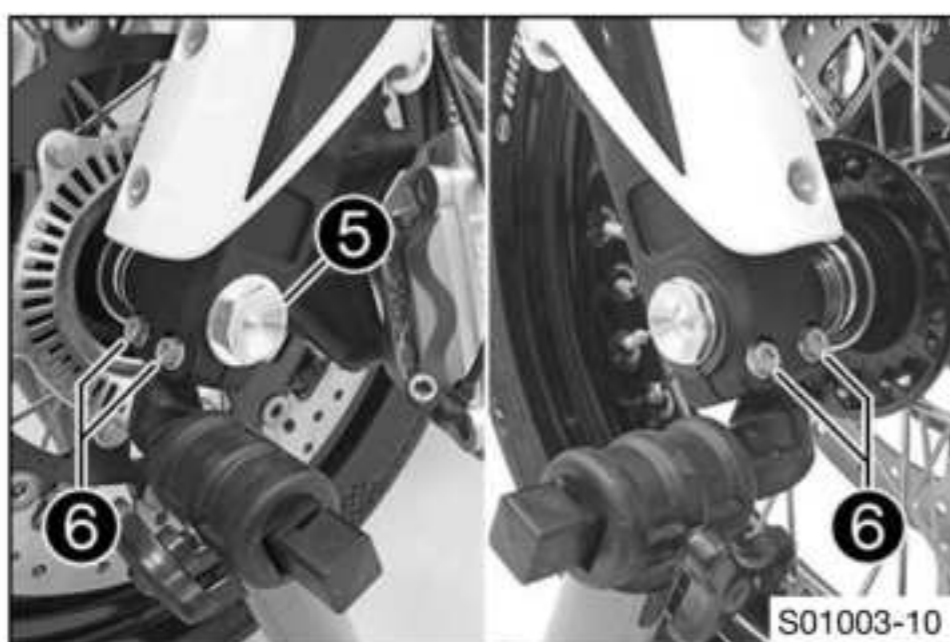
Main work

- Remove screw 1 and pull wheel speed sensor 2 out of the hole.
- Remove screws 3 and spacers 4.
- Press back the brake linings by slightly tilting the brake caliper laterally on the brake disc.
- Pull the brake caliper carefully back from the brake disc and hang to the side.



Info

Do not operate the hand brake lever if the brake caliper has been removed.



- Loosen screw 5 by several rotations.
- Loosen screws 6.
- Press on screw 5 to push the wheel spindle out of the axle clamp.
- Remove screw 5.

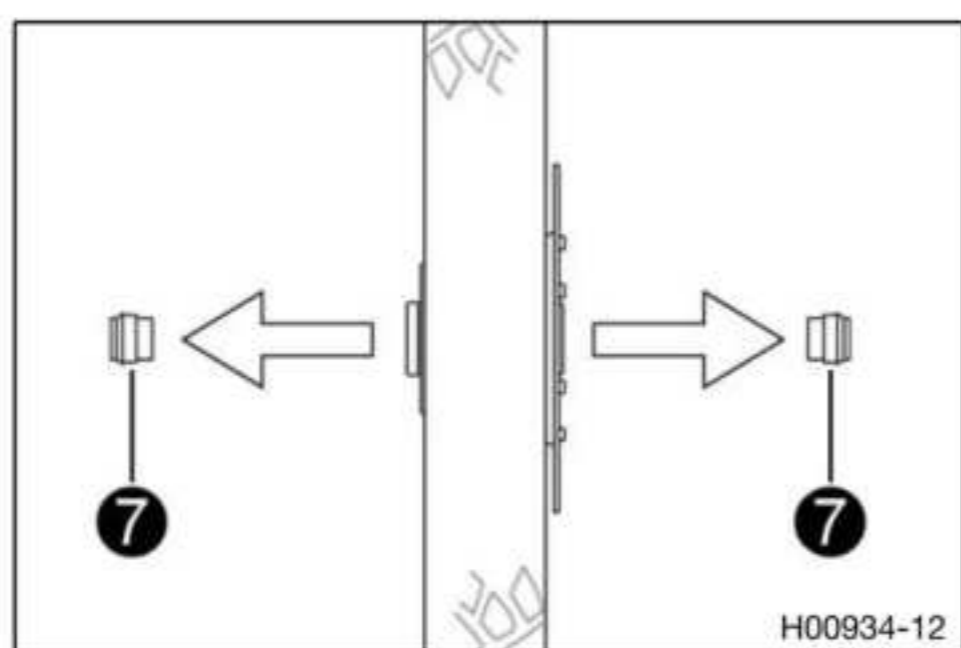


Warning

Danger of accidents Damaged brake discs reduce the braking effect.

- Always lay the wheel down in such a way that the brake disc is not damaged.

- Hold the front wheel and remove the wheel spindle. Take the front wheel out of the fork.



- Remove spacers 7.

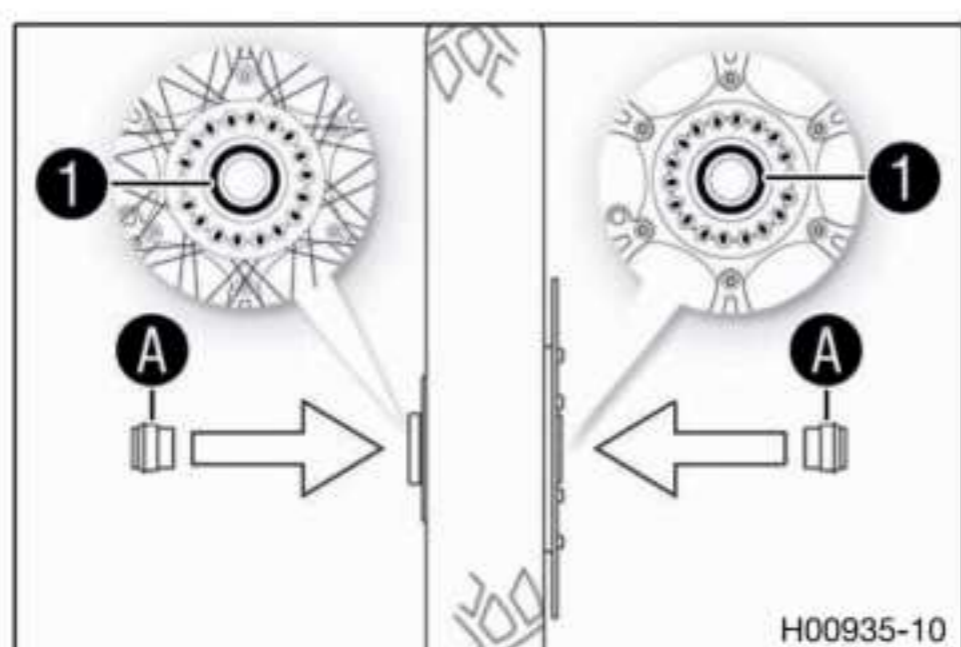
14.7.3 Installing the front wheel using a work stand



Warning

Danger of accidents Oil or grease on the brake discs reduces the braking effect.

- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.

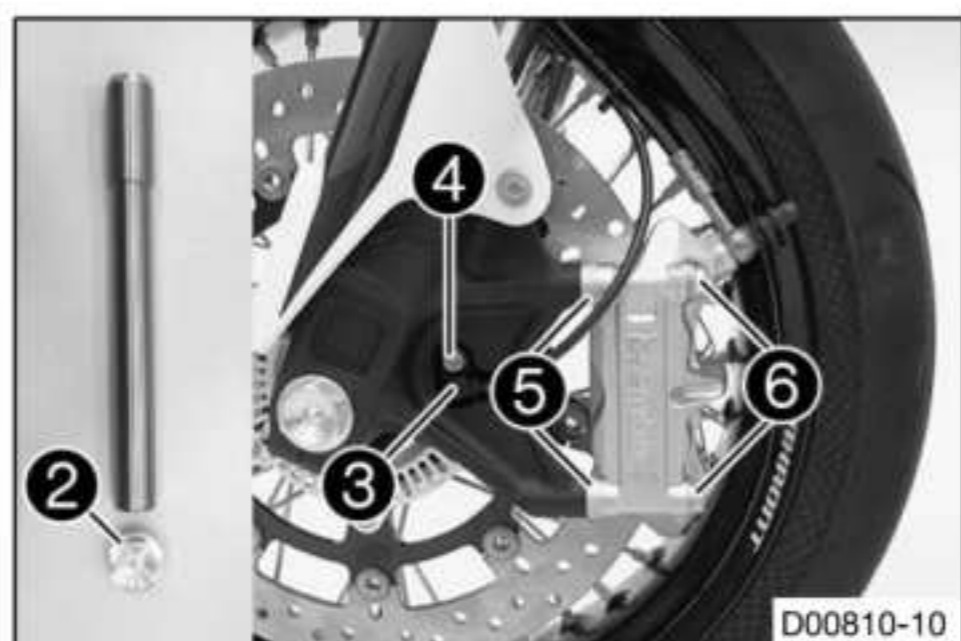


Main work

- Check the wheel bearing for damage and wear.
 - » If the wheel bearing is damaged or worn:
 - Change front wheel bearing. (p. 119)
- Clean and grease shaft seal rings 1 and contact surfaces A of the spacers.

Long-life grease (p. 378)

- Insert the spacers.
- Place a load on rear of the vehicle.
- Jack up the front wheel into the fork, position it, and insert the wheel spindle.



- Mount and tighten screw 2.

Guideline

Screw, front wheel spindle	M24x1.5	45 Nm (33.2 lbf ft)
----------------------------	---------	---------------------

- Position wheel speed sensor 3 in the hole.
- Mount and tighten screw 4.

Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------

- Position the brake caliper on the brake disc.
 - ✓ The brake linings are correctly positioned.
- Position spacers 5. Mount screws 6 but do not tighten yet.

Guideline

Screw, front brake caliper	M10x1.25	45 Nm (33.2 lbf ft) Loctite®243™
----------------------------	----------	--

- Operate the hand brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point. Fix the hand brake lever in the activated position.

✓ The brake caliper straightens.

- Tighten screws ⑥.

Guideline

Screw, front brake caliper	M10x1.25	45 Nm (33.2 lbf ft) Loctite®243™
----------------------------	----------	--

- Remove the locking piece of the hand brake lever.
- Remove the load from the rear of the vehicle.
- Operate the front brake and compress the fork a few times firmly.

✓ The fork legs straighten.

- Tighten screws ⑦.

Guideline

Screw, fork stub	M8	15 Nm (11.1 lbf ft)
------------------	----	---------------------



Finishing work

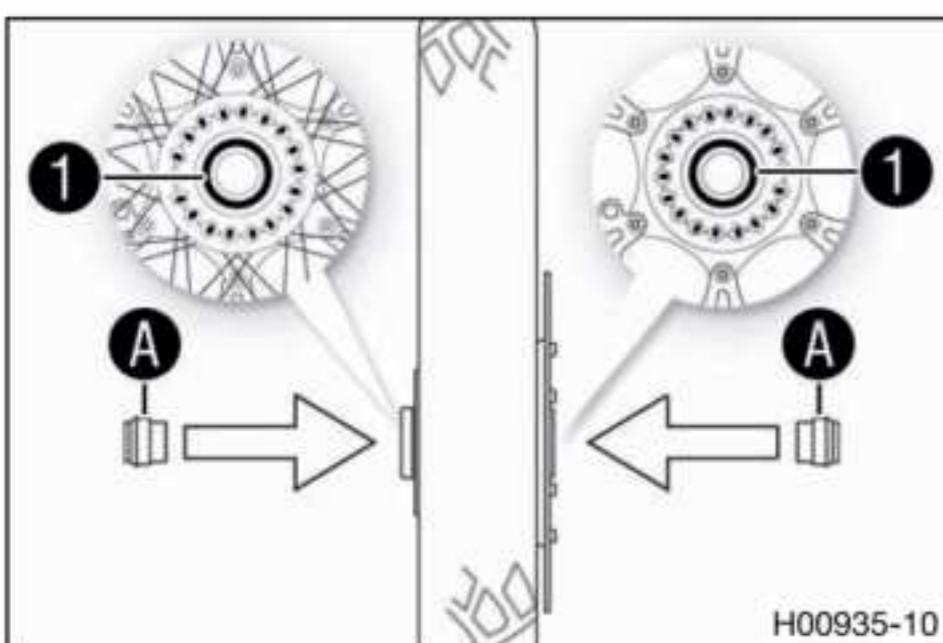
- Remove the motorcycle from the work stand. (📖 p. 15)

14.7.4 Installing the front wheel

Warning

Danger of accidents Oil or grease on the brake discs reduces the braking effect.

- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.



Main work

- Check the wheel bearing for damage and wear.
 - » If the wheel bearing is damaged or worn:
 - Change front wheel bearing. (📖 p. 119)
- Clean and grease shaft seal rings ① and contact surfaces A of the spacers.

Long-life grease (📖 p. 378)

- Insert the spacers.
- Clean and grease the wheel spindle.

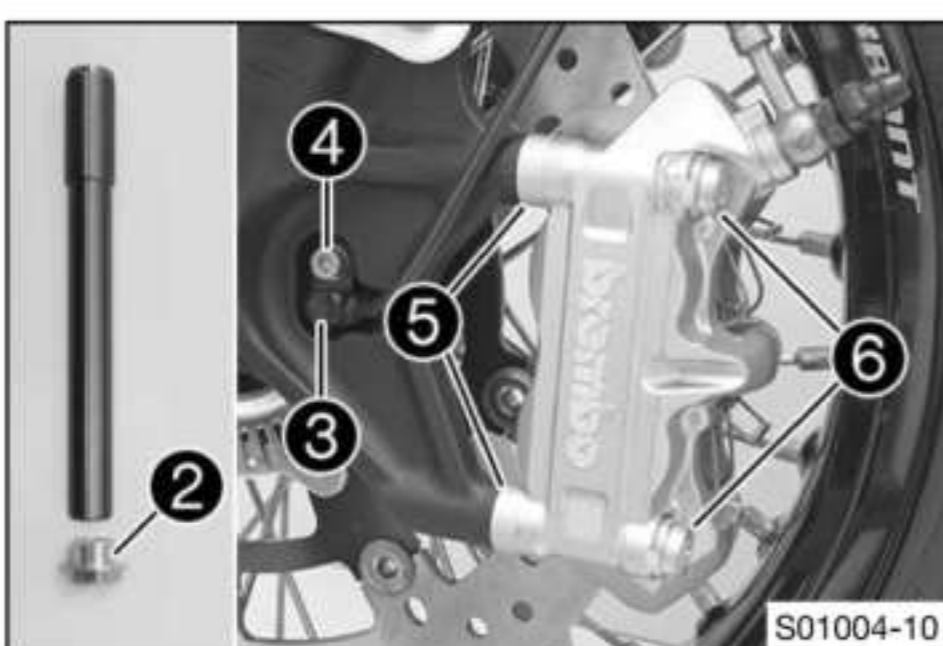
Long-life grease (📖 p. 378)

- Jack up the front wheel into the fork, position it, and insert the wheel spindle.
- Mount and tighten screw ②.

Guideline

Screw, front wheel spindle	M24x1.5	45 Nm (33.2 lbf ft)
----------------------------	---------	---------------------

- Position wheel speed sensor ③ in the hole.
- Mount and tighten screw ④.



Guideline

Screw, wheel speed sensor	M6	6 Nm (4.4 lbf ft)
---------------------------	----	-------------------

- Position the brake caliper on the brake disc.
 - ✓ The brake linings are correctly positioned.
- Position spacers ⑤. Mount screws ⑥ but do not tighten yet.

Guideline

Screw, front brake caliper	M10x1.25	45 Nm (33.2 lbf ft) Loctite®243™
----------------------------	----------	--

- Operate the hand brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point. Fix the hand brake lever in the activated position.
 - ✓ The brake caliper straightens.
- Tighten screws ⑥.

Guideline

Screw, front brake caliper	M10x1.25	45 Nm (33.2 lbf ft) Loctite®243™
----------------------------	----------	--

- Remove the locking piece of the hand brake lever.
- Take the motorcycle off the front lifting gear. (📖 p. 14)
- Operate the front brake and compress the fork a few times firmly.
 - ✓ The fork legs straighten.
- Tighten screws ⑦.

Guideline

Screw, fork stub	M8	15 Nm (11.1 lbf ft)
------------------	----	---------------------



Finishing work

- Remove the rear of the motorcycle from the wheel stand. (📖 p. 13)

14.7.5 Changing the front brake disc

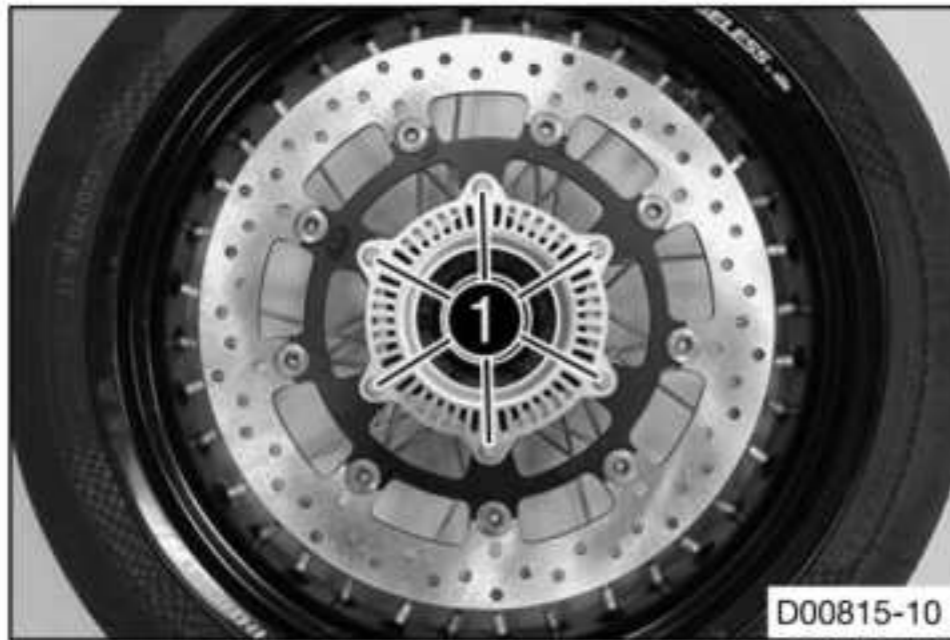


Info

If the brake discs are changed, the brake linings must also be changed.

Preparatory work

- Raise the motorcycle with the rear lifting gear. (📖 p. 13)
- Lift the motorcycle with the front lifting gear. (📖 p. 13)
- Remove the front wheel. (📖 p. 115)



Main work

- Remove screws 1.
- Take off the ABS sensor wheel and brake disc.
- Clean the contact surface of the brake disc.
- Position the new brake disc with the label facing outward.
- Position the ABS sensor wheel.
- Mount and tighten screws 1.

Guideline

Screw, front brake disc	M6	14 Nm (10.3 lbf ft) Loctite®243™
----------------------------	----	--

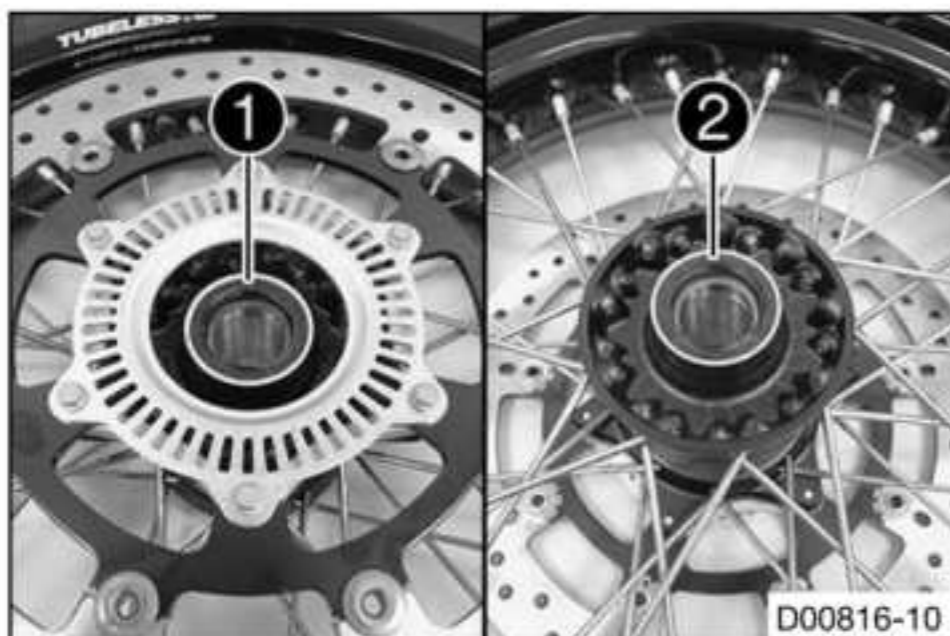
Finishing work

- Install the front wheel. (📖 p. 117)
- Remove the rear of the motorcycle from the wheel stand. (📖 p. 13)

14.7.6 Changing the front wheel bearing

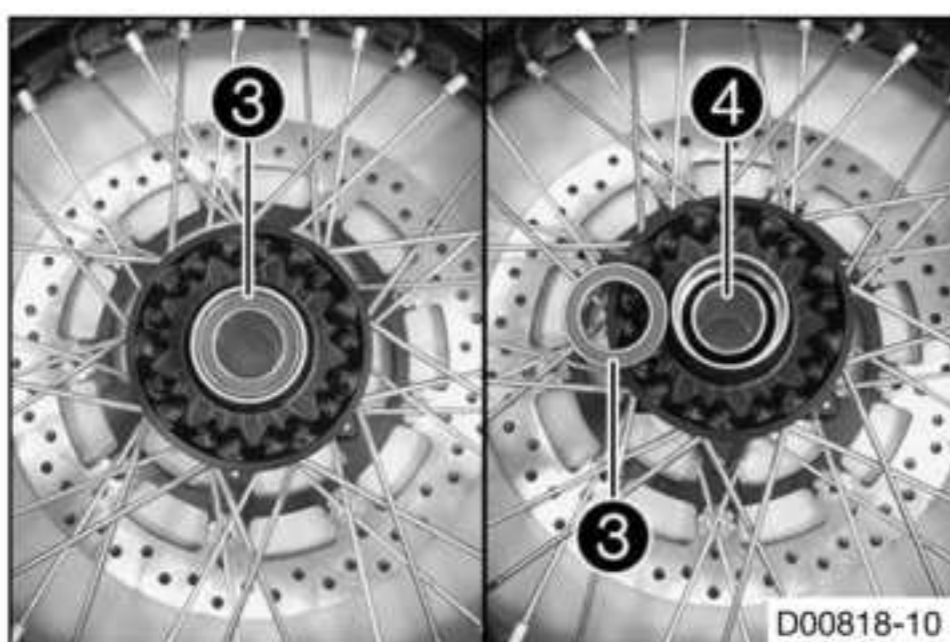
Preparatory work

- Raise the motorcycle with the rear lifting gear. (📖 p. 13)
- Lift the motorcycle with the front lifting gear. (📖 p. 13)
- Remove the front wheel. (📖 p. 115)



Main work

- Remove shaft seal rings 1 and 2.

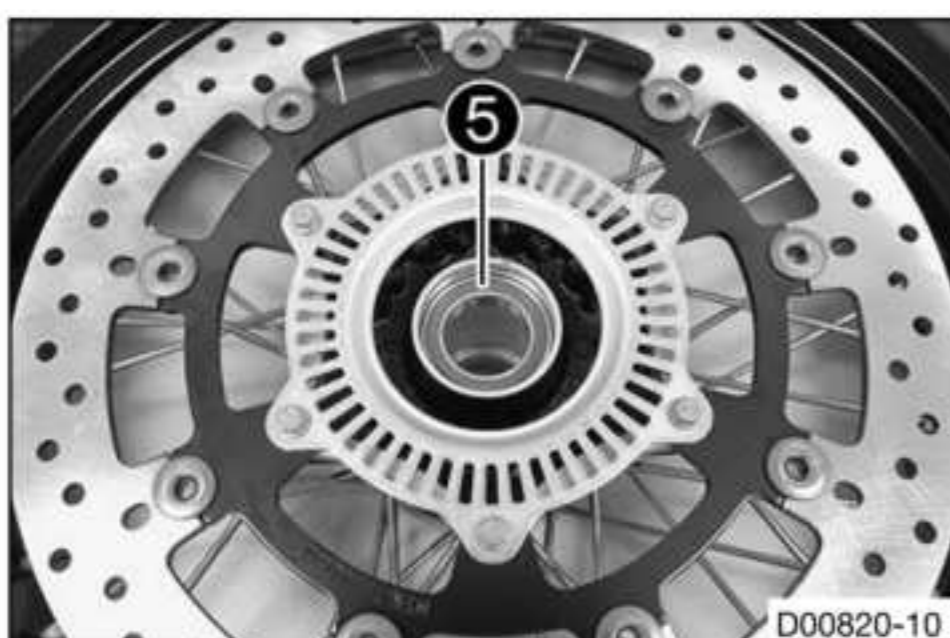


- Press out bearing 3 using a suitable tool.

i Info

Spacing tube 4 can be pushed aside.

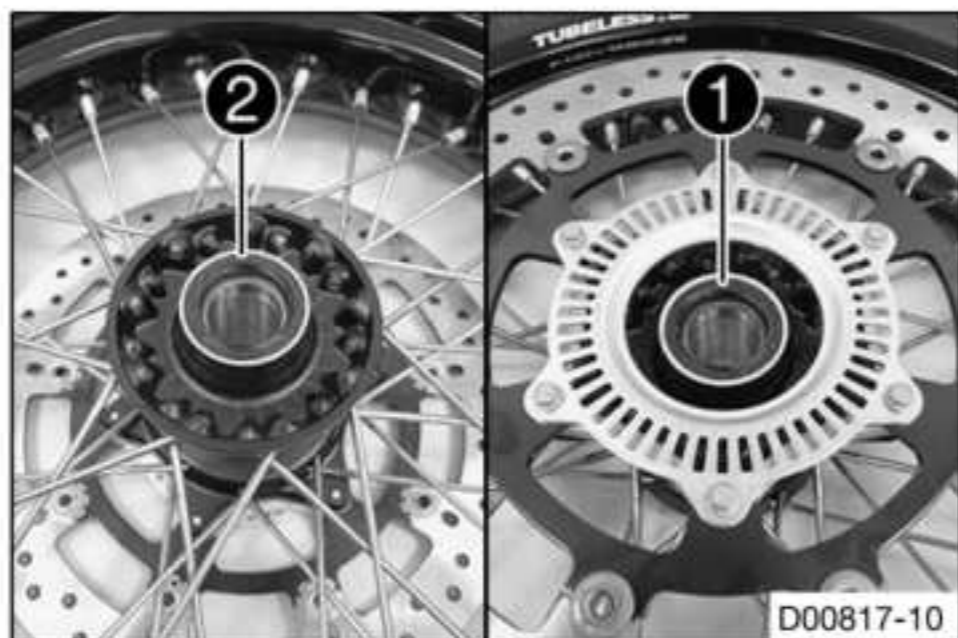
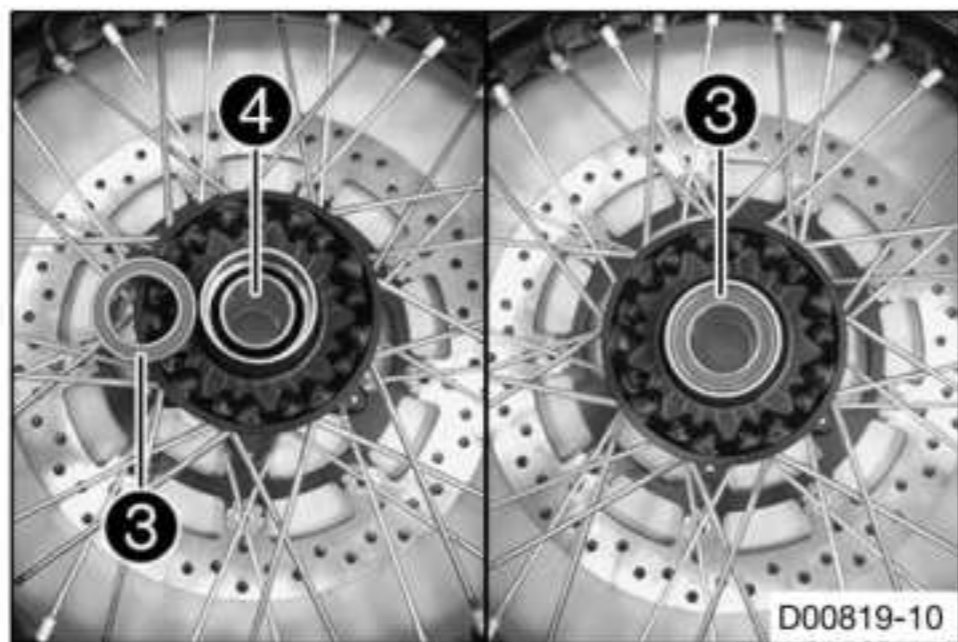
- Remove the spacing tube.



- Press out bearing 5 using a suitable tool.
- Press in new bearing 5 all the way using a suitable tool.

i Info

Only press the bearing in via the outer bearing race otherwise the bearing will be damaged when it is pressed in.



- Clean, grease, and mount spacing tube 4.

Long-life grease (p. 378)

- Press in new bearing 3 all the way using a suitable tool.

i Info

Only press the bearing in via the outer bearing race otherwise the bearing will be damaged when it is pressed in.

- Grease new shaft seal rings 2 and 1 and press in until they are flush.

Finishing work

- Install the front wheel. (p. 117)
- Remove the rear of the motorcycle from the wheel stand. (p. 13)

14.8 Rear wheel

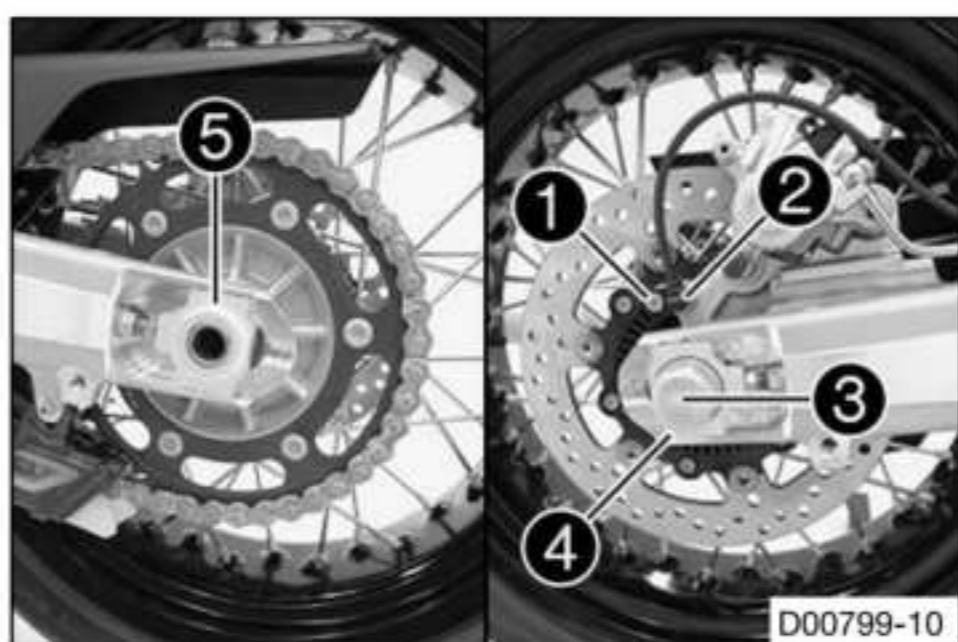
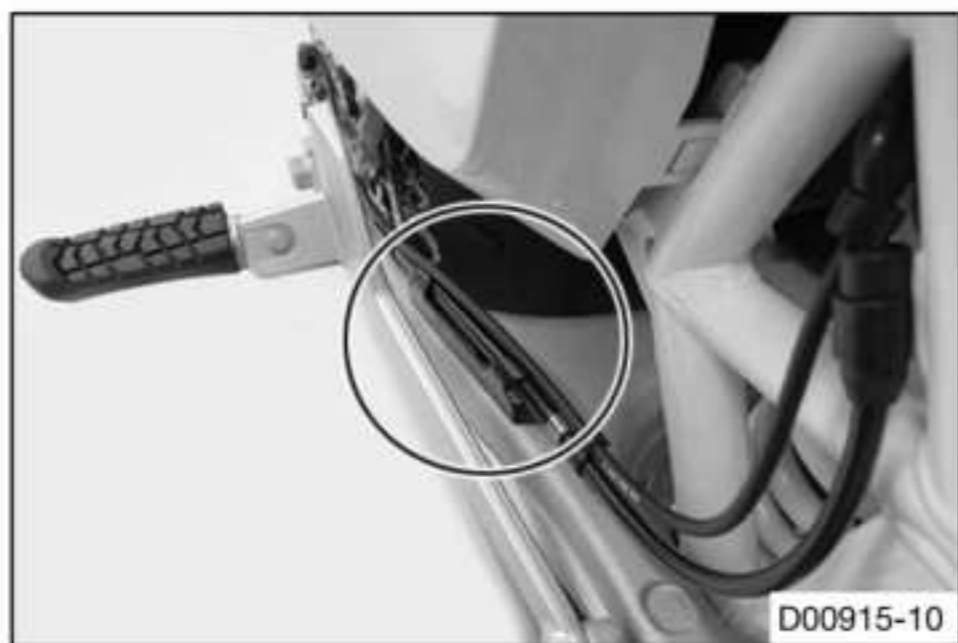
14.8.1 Removing the rear wheel using a work stand

Preparatory work

- Raise the motorcycle with the work stand. (p. 14)

Main work

- Take the brake line out of the guide.



- Press the brake caliper onto the brake disc by hand in order to push back the brake piston.
- Remove screw 1 and pull wheel speed sensor 2 out of the hole.
- Remove nut 3. Remove chain adjuster 4.
- Pull out wheel spindle 5 to the point where the chain adjuster is no longer in contact with the adjusting screw.



- Push the rear wheel forward as far as possible and take the chain off the rear sprocket.



Info

Cover the components to protect them against damage.

- Hold the rear wheel and remove the wheel spindle.



Warning

Danger of accidents Reduced braking effect caused by damaged brake discs.

- Always lay the wheel down in such a way that the brake discs are not damaged.

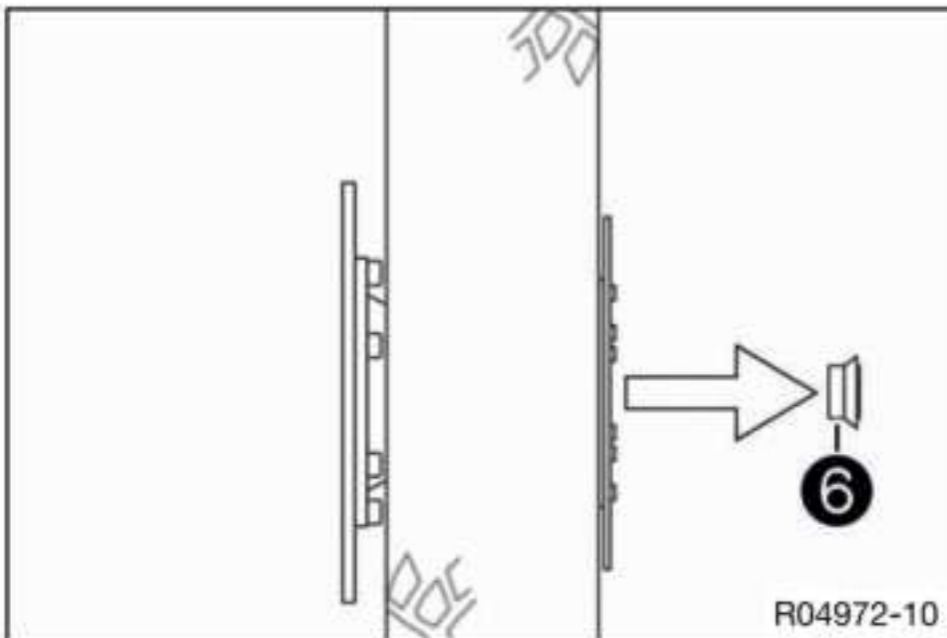
- Take the rear wheel out of the link fork.



Info

Do not operate the foot brake when the rear wheel is removed.

- Remove spacer ⑥.



14.8.2 Removing the rear wheel

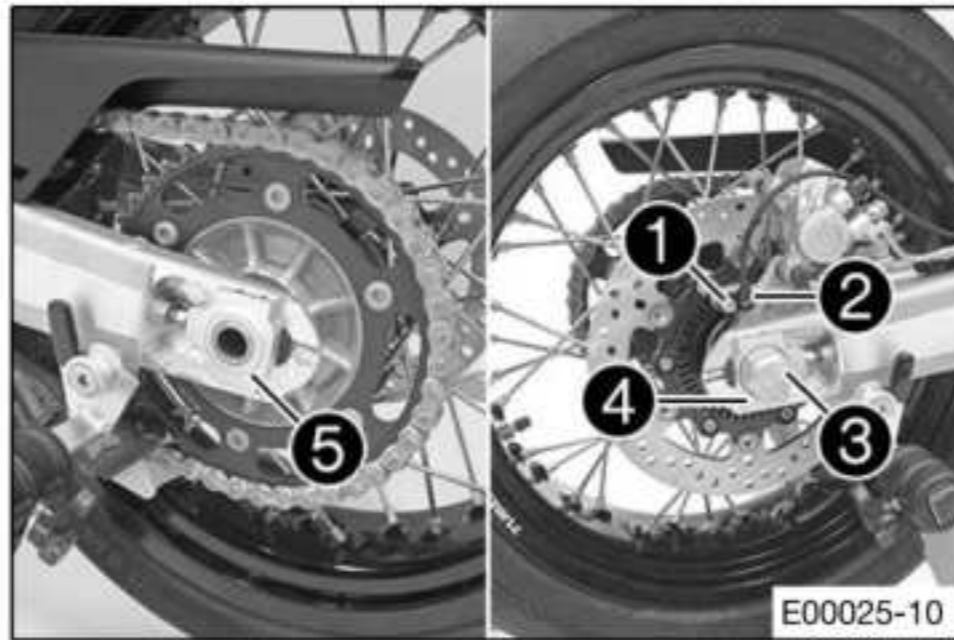
Preparatory work

- Raise the motorcycle with the rear lifting gear. (📖 p. 13)

Main work

- Take the brake line out of the guide.





- Press the brake caliper onto the brake disc by hand in order to push back the brake piston.
- Remove screw ① and pull wheel speed sensor ② out of the hole.
- Remove nut ③. Remove chain adjuster ④.
- Pull out wheel spindle ⑤ to the point where the chain adjuster is no longer in contact with the adjusting screw.

- Push the rear wheel forward as far as possible and take the chain off the rear sprocket.



Info

Cover the components to protect them against damage.

- Hold the rear wheel and remove the wheel spindle.



Warning

Danger of accidents Damaged brake discs reduce the braking effect.

- Always lay the wheel down in such a way that the brake disc is not damaged.

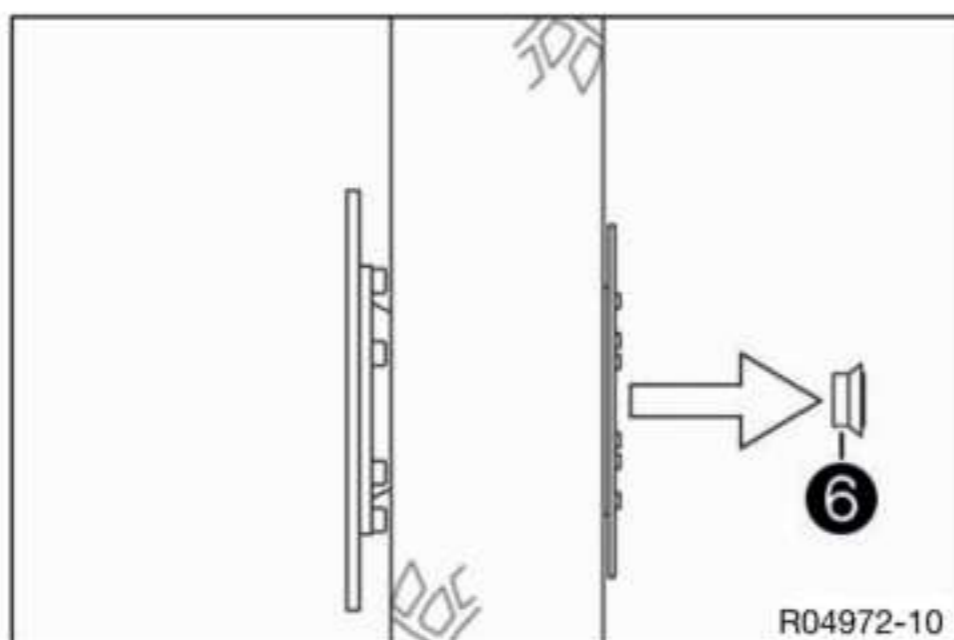
- Take the rear wheel out of the link fork.



Info

Do not operate the foot brake when the rear wheel is removed.

- Remove spacer ⑥.



14.8.3 Removing the rear wheel using a work stand



Warning

Danger of accidents Oil or grease on the brake discs reduces the braking effect.

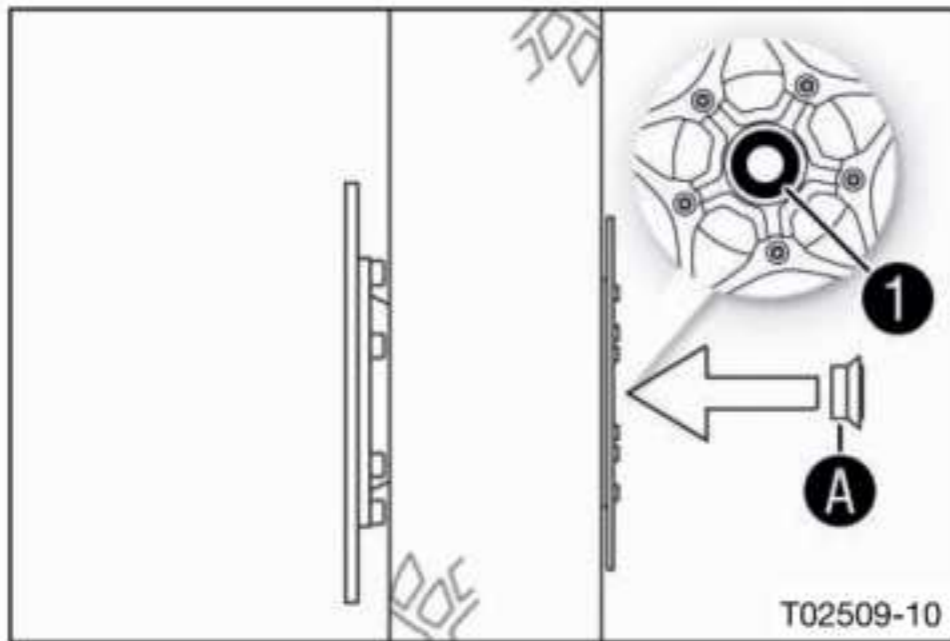
- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.



Warning

Danger of accidents There is no braking effect to start with at the rear brake after installing the rear wheel.

- Actuate the foot brake several times before going on a ride until you can feel a firm pressure point.



Main work

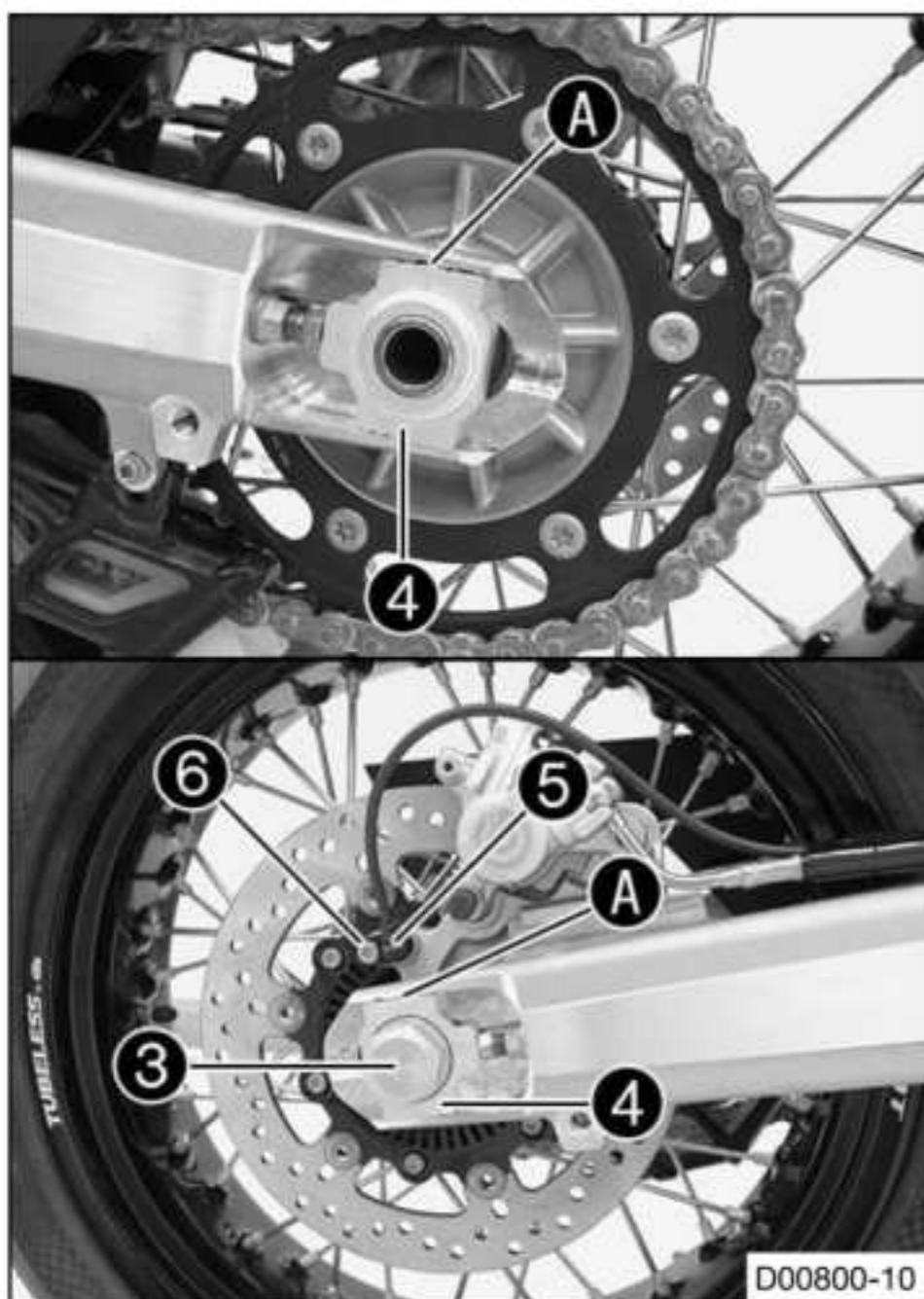
- Check the rear hub damping rubber pieces. (📖 p. 136)
- Check the wheel bearing for damage and wear.
 - » If the wheel bearing is damaged or worn:
 - Change the rear wheel bearing. (📖 p. 126)
- Remove spacer **1**.
- Clean and grease shaft seal ring **2** and contact surface of the spacer.

Long-life grease (📖 p. 378)

- Insert the spacer.
- Clean and grease the thread of the wheel spindle and nut **3**.

Long-life grease (📖 p. 378)

- Mount the damping rubber and rear sprocket carrier in the rear wheel.
- Position the rear wheel.
 - ✓ The brake linings are correctly positioned.



- Push the rear wheel forward as far as possible and lay the chain on the rear sprocket.
- Mount wheel spindle and chain adjuster **4**. Mount nut **3**, but do not tighten it yet.
- Make sure that chain adjusters **4** are fitted correctly on the adjusting screws.

Guideline

In order for the rear wheel to be correctly aligned, the markings on the left and right chain adjusters must be in the same position relative to reference markings **A**.



Info

Mount left and right chain adjusters **4** in the same position.

- Tighten nut **3**.

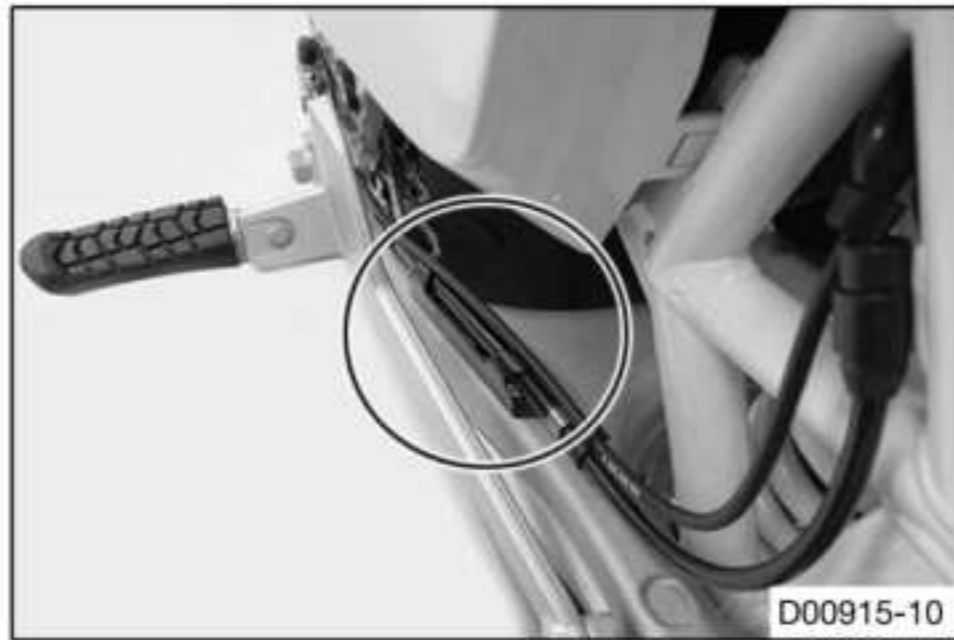
Guideline

Nut, rear wheel spindle	M25x1.5	90 Nm (66.4 lbf ft)
-------------------------	---------	---------------------

- Position wheel speed sensor **5** in the hole.
- Mount and tighten screw **6**.

Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------



- Position the brake line in the guide.
- Operate the foot brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point.

Finishing work

- Remove the motorcycle from the work stand. (📖 p. 15)
- Check the chain tension. (📖 p. 130)

14.8.4 Installing the rear wheel



Warning

Danger of accidents Oil or grease on the brake discs reduces the braking effect.

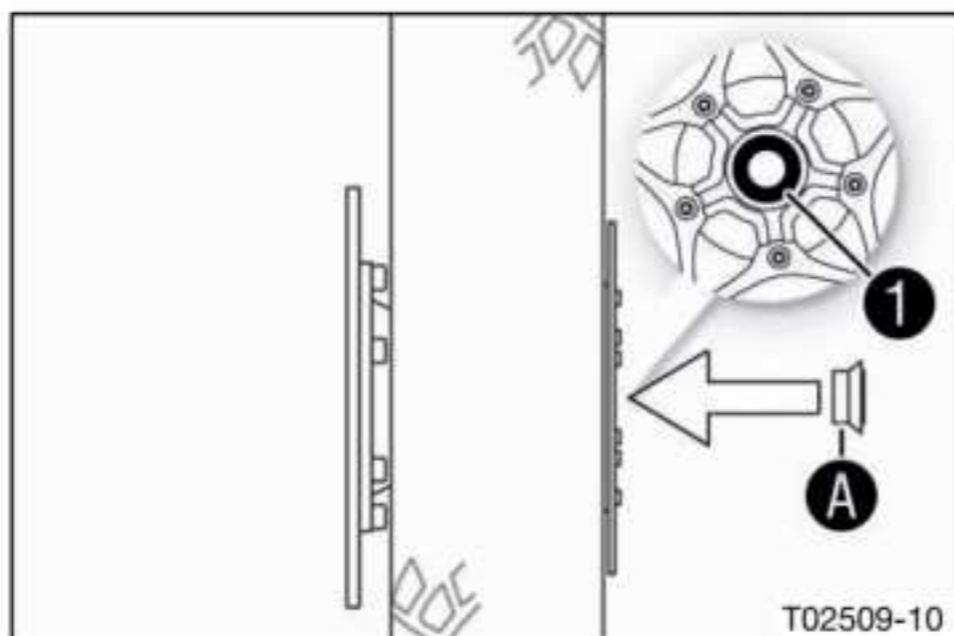
- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.



Warning

Danger of accidents There is no braking effect to start with at the rear brake after installing the rear wheel.

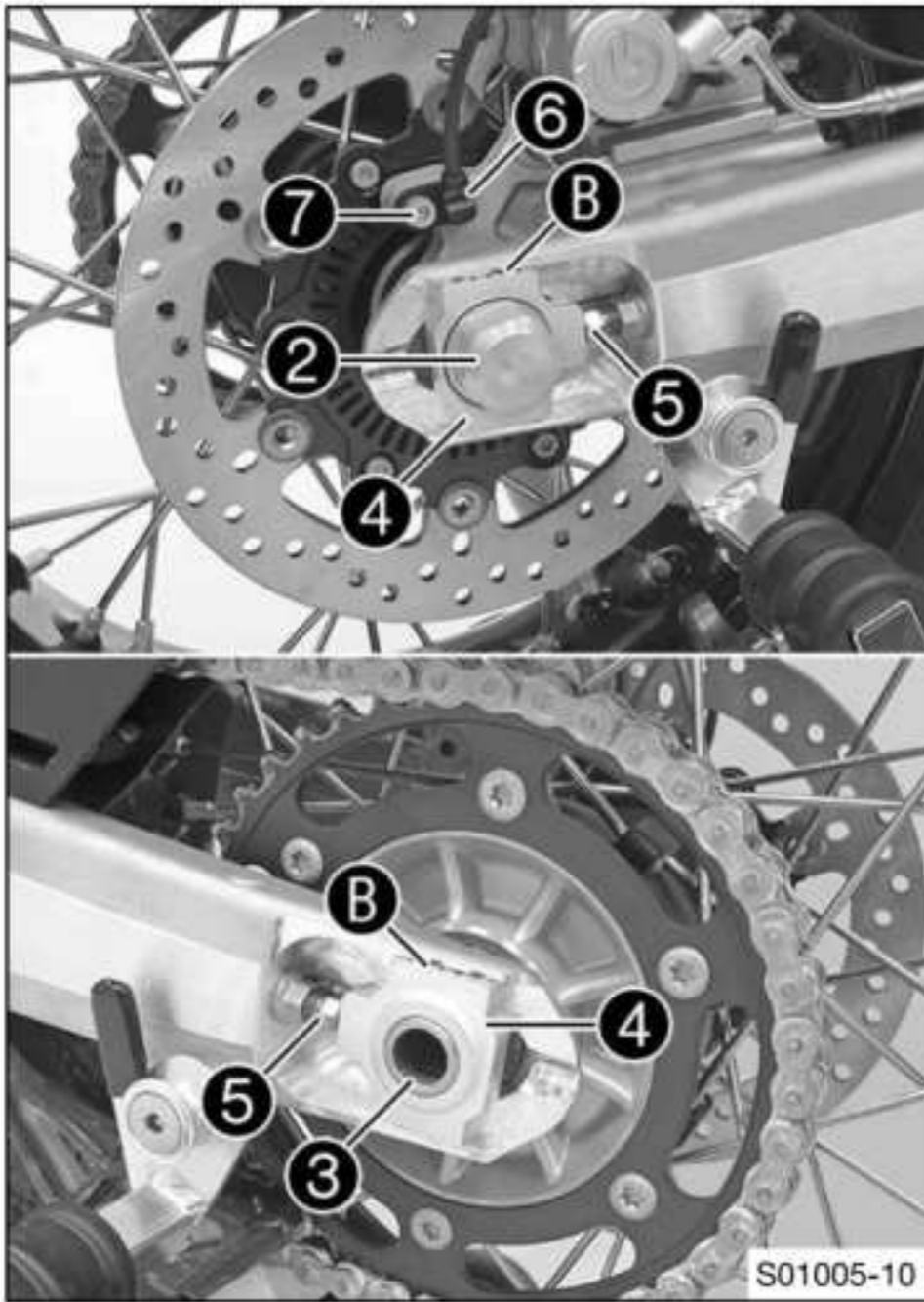
- Actuate the foot brake several times before going on a ride until you can feel a firm pressure point.



Main work

- Check the rear hub damping rubber pieces. (📖 p. 136)
- Check the wheel bearing for damage and wear.
 - » If the wheel bearing is damaged or worn:
 - Change the rear wheel bearing. (📖 p. 126)
- Clean and grease shaft seal ring **1** and contact surface **A** of the spacer.

Long-life grease (📖 p. 378)
- Insert the spacer.



- Clean and grease the thread of the wheel spindle and nut ②.

Long-life grease (📖 p. 378)

- Clean and grease the wheel spindle.

Long-life grease (📖 p. 378)

- Mount the damping rubber and rear sprocket carrier in the rear wheel.
- Position the rear wheel.
 - ✓ The brake linings are correctly positioned.
- Push the rear wheel forward as far as possible and lay the chain on the rear sprocket.
- Mount wheel spindle ③ and chain adjuster ④. Mount nut ②, but do not tighten it yet.
- Make sure that chain adjusters ④ are fitted correctly on adjusting screws ⑤.

Guideline

In order for the rear wheel to be correctly aligned, the markings on the left and right chain adjusters must be in the same position relative to reference markings B.

i Info

Mount left and right chain adjusters ④ in the same position.

- Tighten nut ②.

Guideline

Nut, rear wheel spindle	M25x1.5	90 Nm (66.4 lbf ft)
-------------------------	---------	---------------------

- Position wheel speed sensor ⑥ in the hole.
- Mount and tighten screw ⑦.

Guideline

Screw, wheel speed sensor	M6	6 Nm (4.4 lbf ft)
---------------------------	----	-------------------

- Position the brake line in the guide.
- Operate the foot brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point.



Finishing work

- Remove the rear of the motorcycle from the wheel stand. (📖 p. 13)
- Check the chain tension. (📖 p. 130)

14.8.5 Changing the rear wheel bearing

Preparatory work

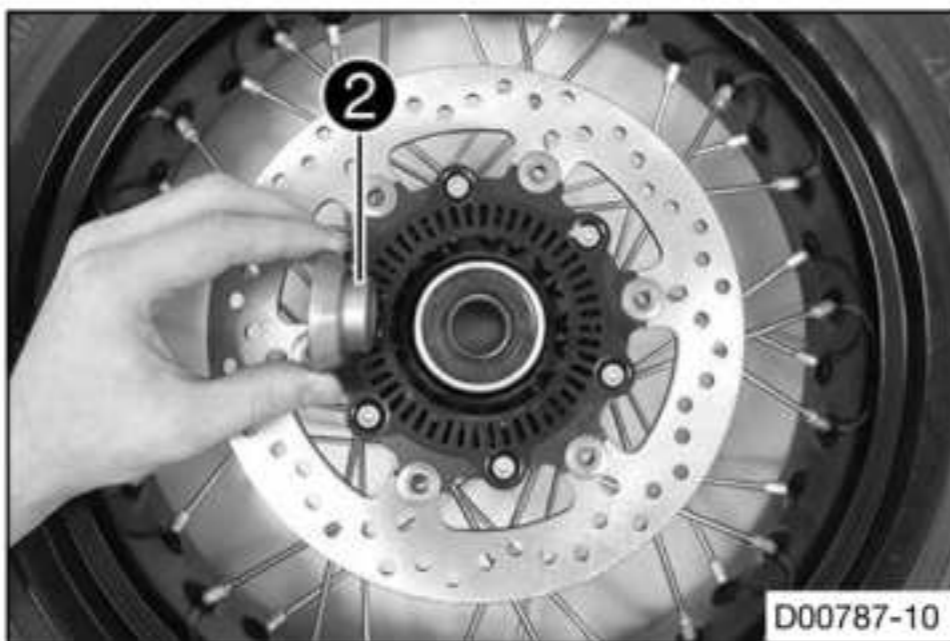
- Raise the motorcycle with the rear lifting gear. (📖 p. 13)
- Remove the rear wheel. (📖 p. 121)

Main work

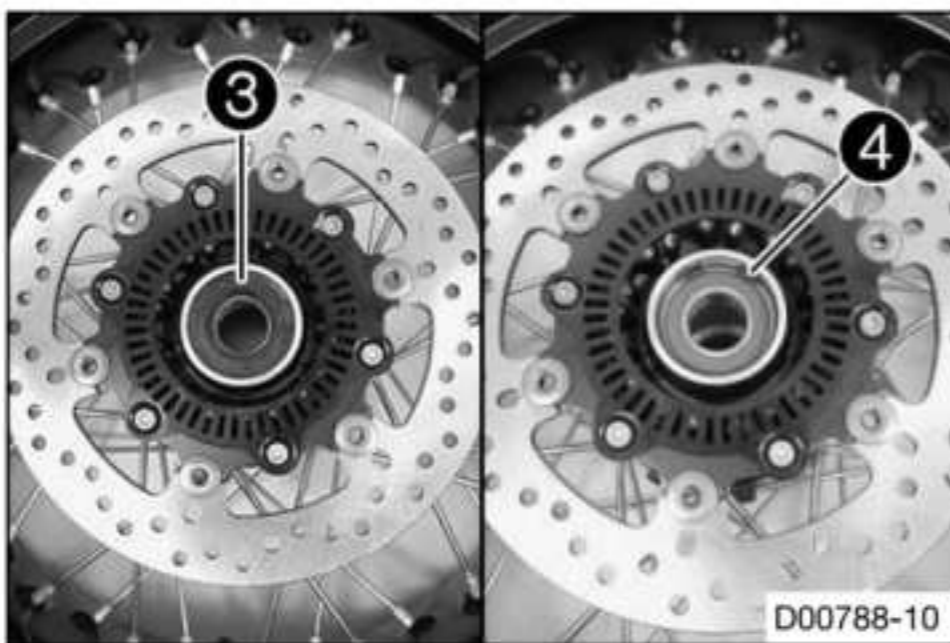
- Remove rear sprocket carrier ❶.



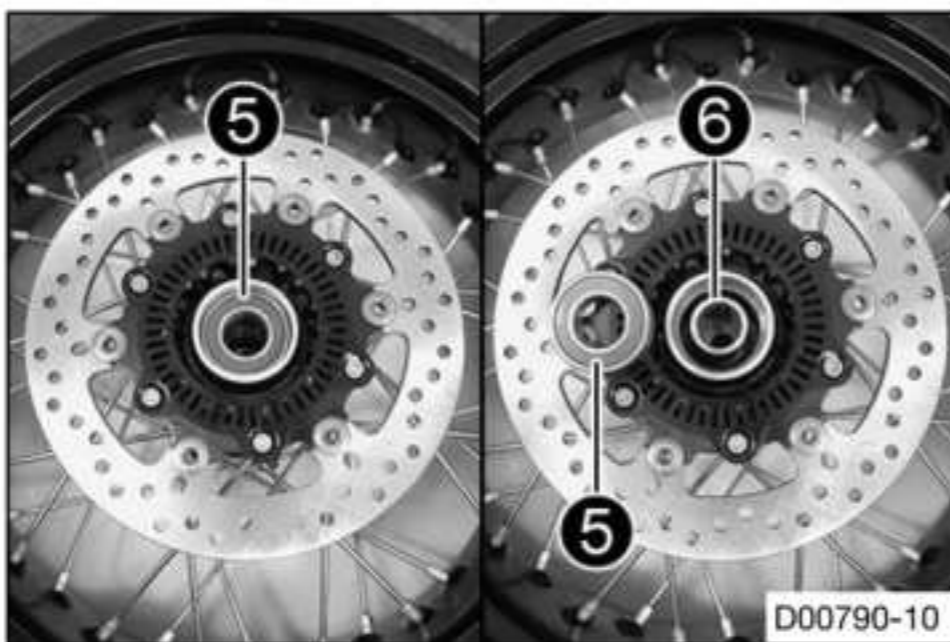
- Remove spacer ❷.

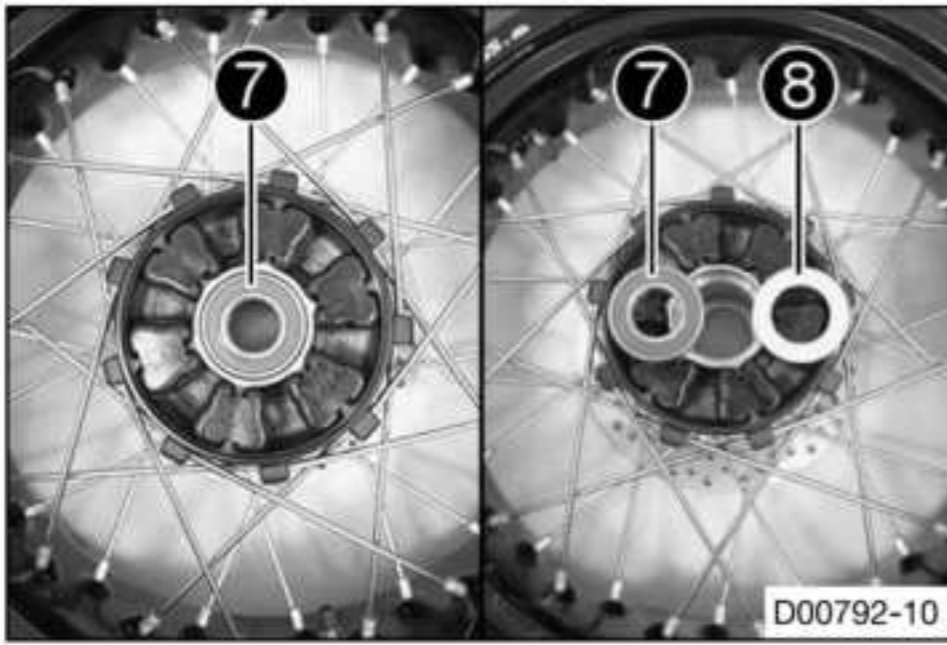


- Remove shaft seal ring ❸.
- Remove lock ring ❹.

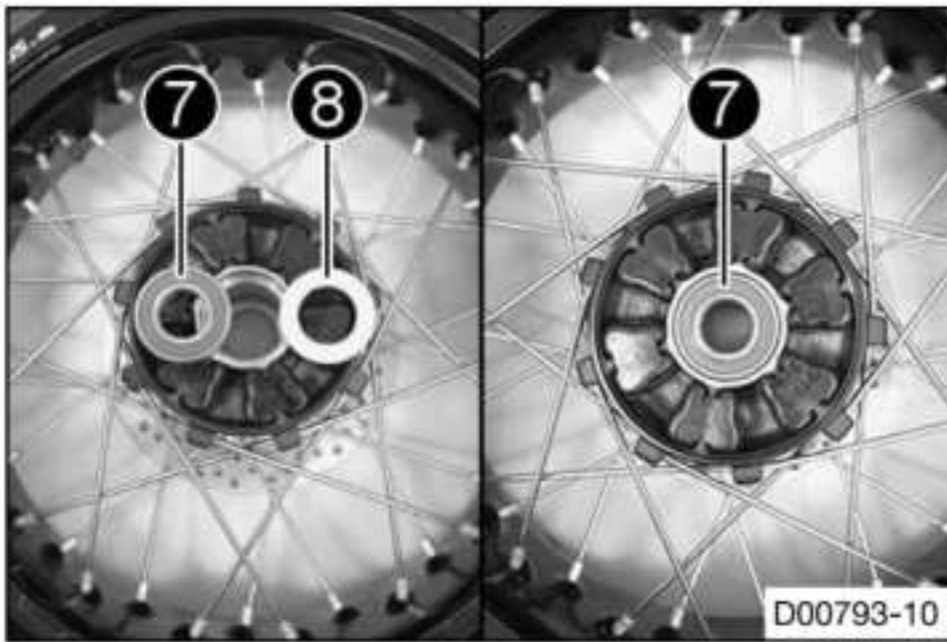


- Using a suitable tool, press bearing ❺ out from the inside to the outside.
- Remove spacing tube ❻.



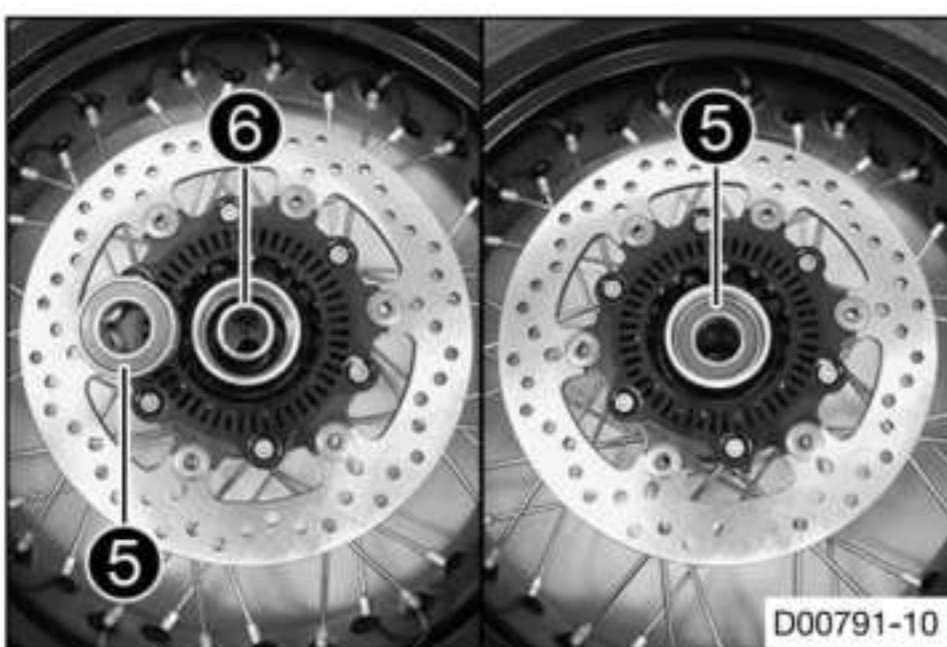


- Using a suitable tool, press bearing 7 out from the inside to the outside.
- Remove spacer washer 8.



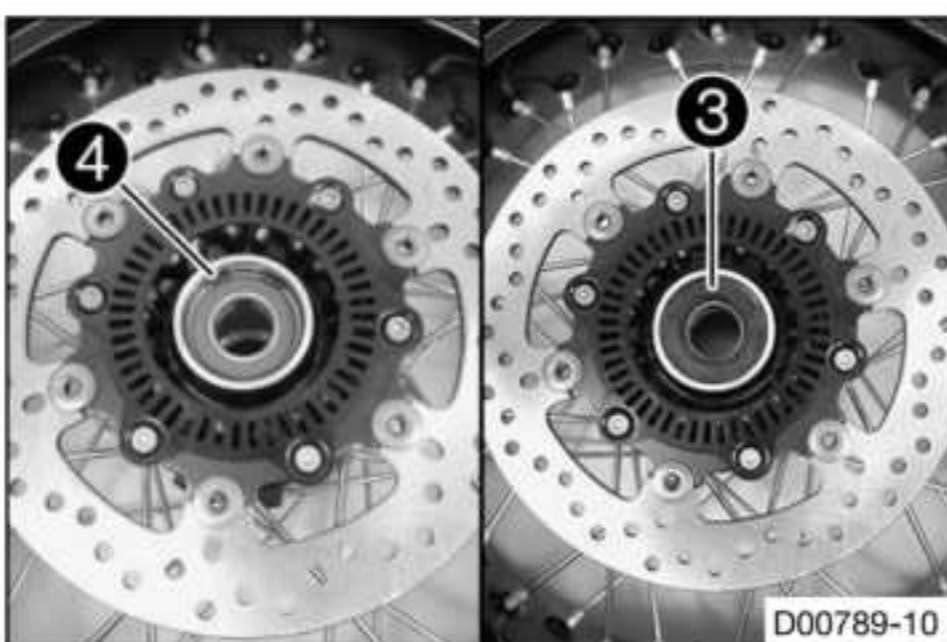
- Check spacer washer 8 for damage and wear.
 - » If the spacer washer is damaged or worn:
 - Replace the spacer washer.
- Position spacer washer 8.
- Press new bearing 7 all the way in from the outside to the inside.

i Info
Only press the bearing in via the outer bearing race otherwise the bearing will be damaged when it is pressed in.

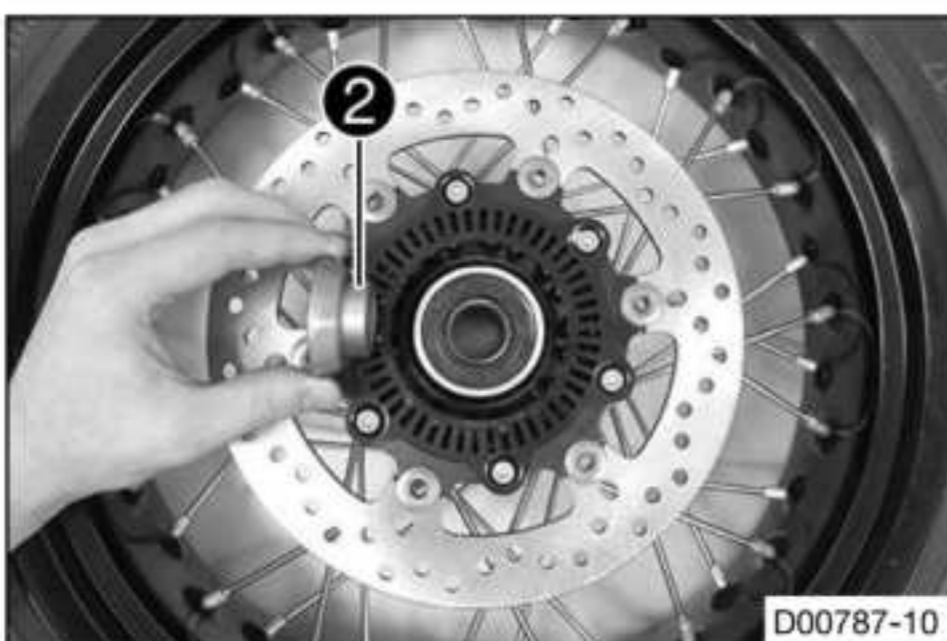


- Clean, grease, and mount spacing tube 6.
- Long-life grease (📖 p. 378)
- Press new bearing 5 all the way in from the outside to the inside.

i Info
Only press the bearing in via the outer bearing race otherwise the bearing will be damaged when it is pressed in.



- Mount lock ring 4.
 - ✓ The lock ring engages audibly.
- Grease new shaft seal ring 3 and press it in until it is flush.



- Insert spacer 2.



- Ensure that the damping rubber pieces are correctly seated.
- Mount rear sprocket carriers **1**.

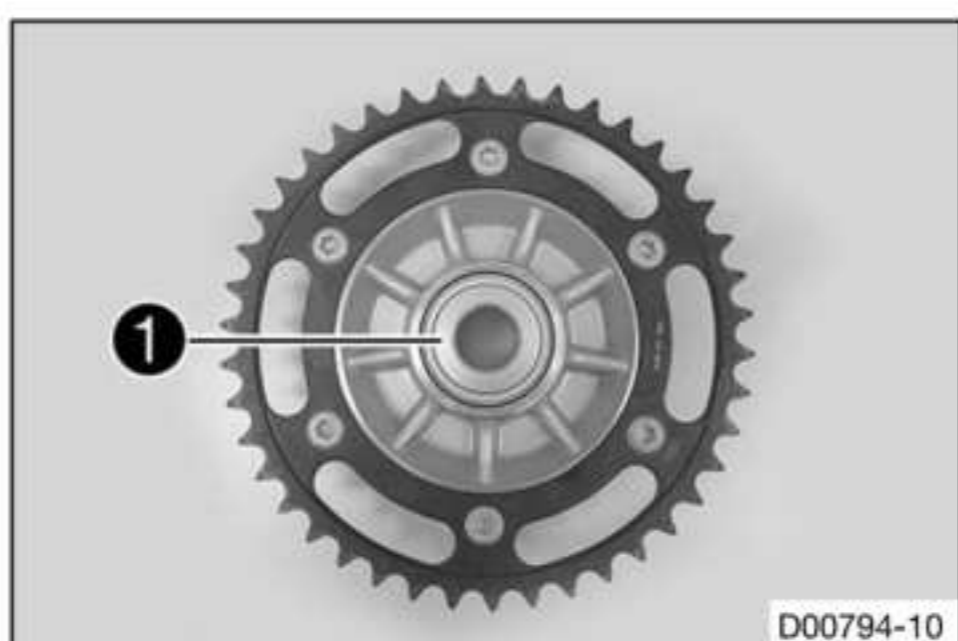
Finishing work

- Install the rear wheel. (📖 p. 124)
- Remove the rear of the motorcycle from the wheel stand. (📖 p. 13)
- Check the chain tension. (📖 p. 130)

14.8.6 Changing the bearing of the rear sprocket carrier

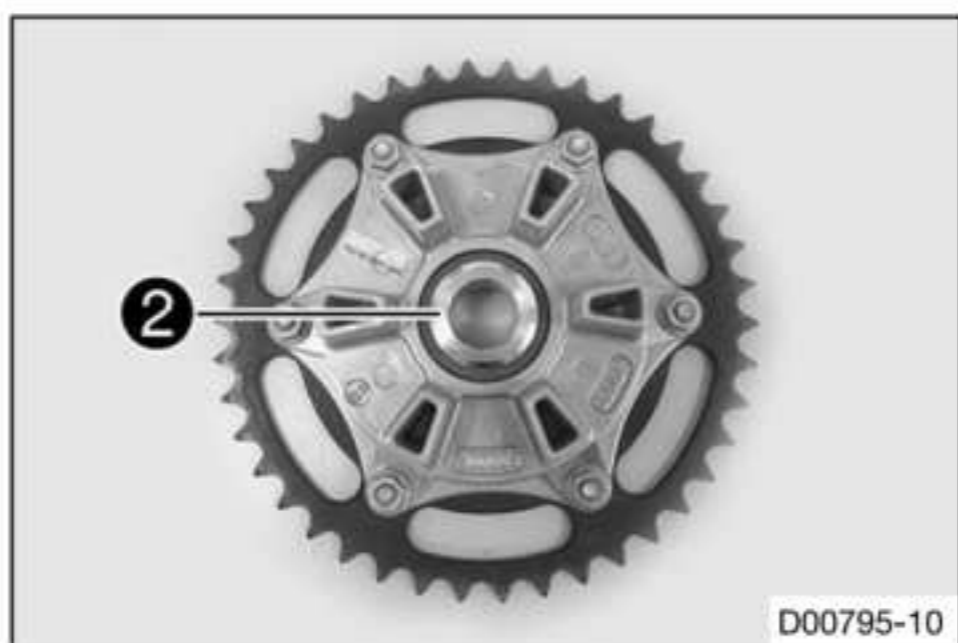
Preparatory work

- Raise the motorcycle with the rear lifting gear. (📖 p. 13)
- Remove the rear wheel. (📖 p. 121)

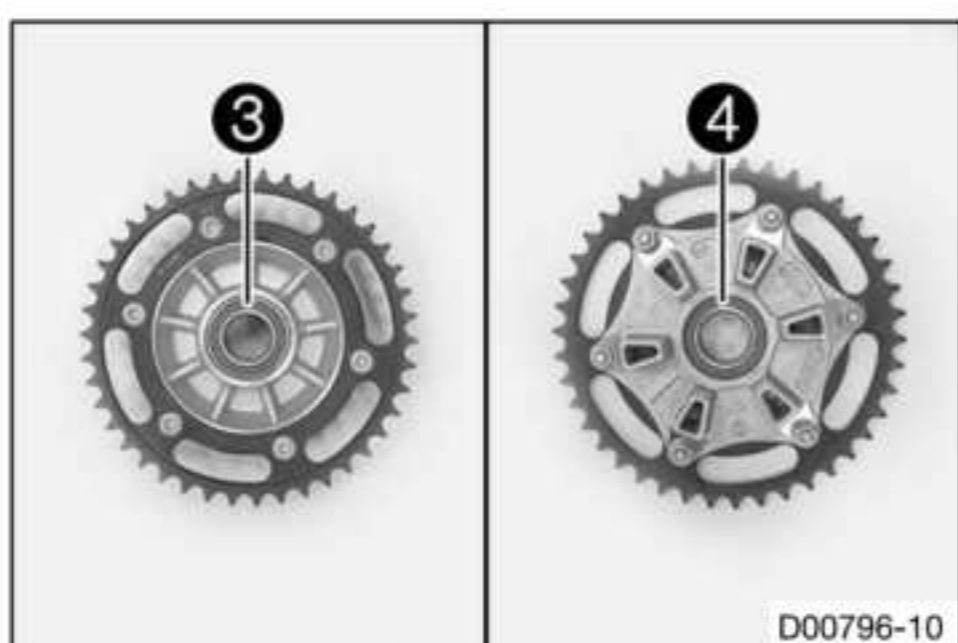


Main work

- Remove spacer **1** with washer.



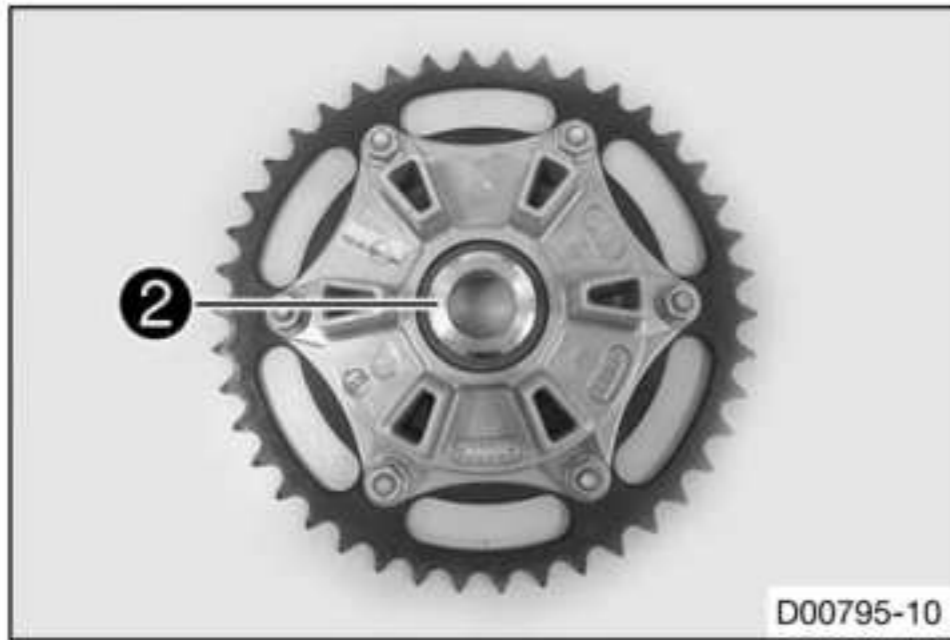
- Remove collar bushing **2**.



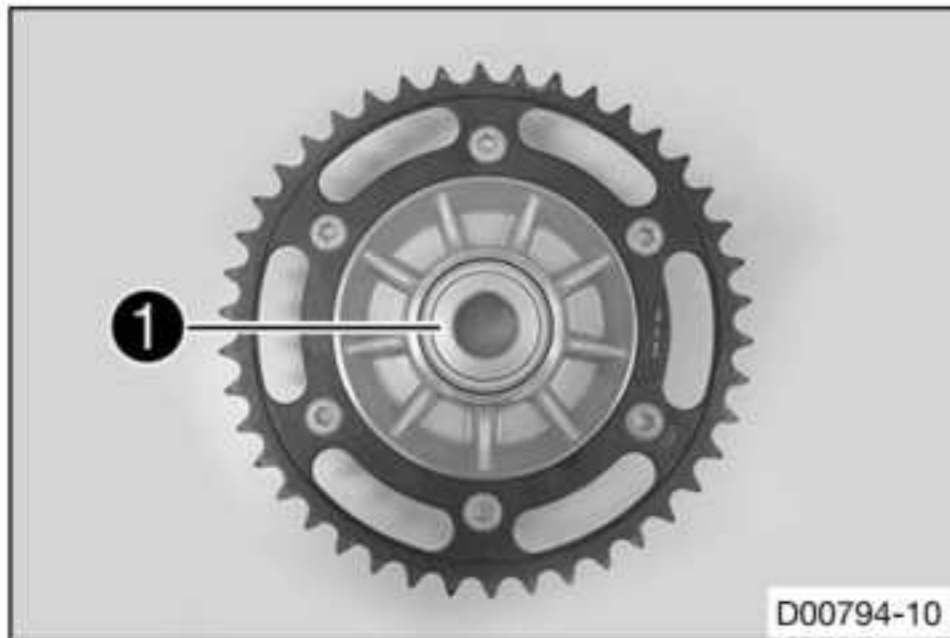
- Using a suitable tool, press bearings **3** and **4** out from the inside to the outside.
- Press in new bearings **4** and **3** from the outside all the way to the inside.

i Info

Only press the bearings in using the outer bearing race; otherwise, the bearings will be damaged when they are pressed in.



- Mount collar bushing 2.



- Mount spacer 1 with washer.

Finishing work

- Install the rear wheel. (📖 p. 124)
- Remove the rear of the motorcycle from the wheel stand. (📖 p. 13)
- Check the chain tension. (📖 p. 130)

14.8.7 Changing the rear brake disc

i Info

If the brake discs are changed, the brake linings must also be changed.

Preparatory work

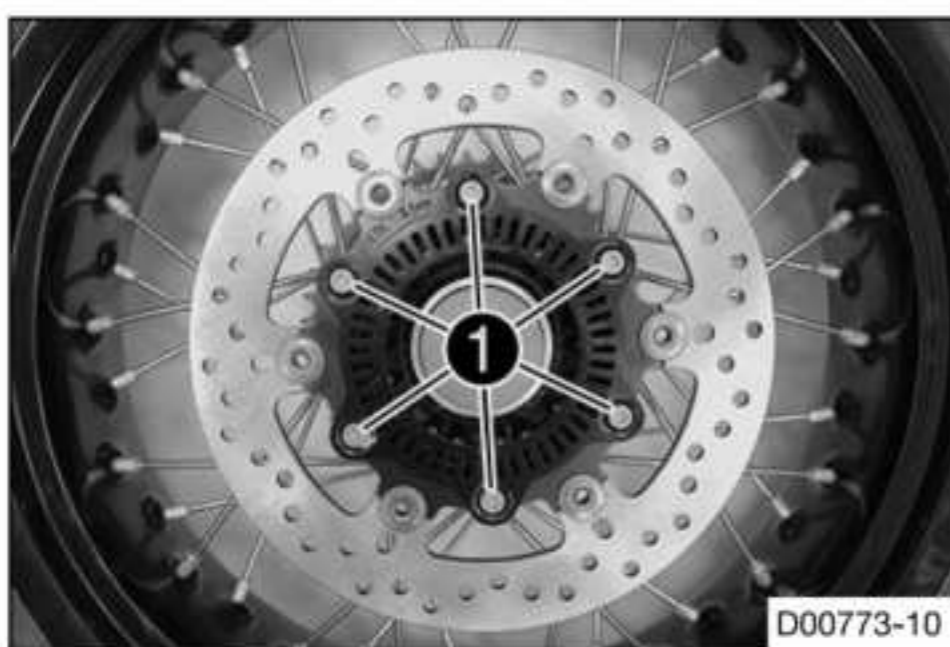
- Raise the motorcycle with the rear lifting gear. (📖 p. 13)
- Remove the rear wheel. (📖 p. 121)

Main work

- Remove screws 1.
- Take off the ABS sensor wheel and brake disc.
- Clean the contact surface of the brake disc.
- Position the new brake disc with the label facing outward.
- Position the ABS sensor wheel.
- Mount and tighten screws 1.

Guideline

Screw, rear brake disc	M6	14 Nm (10.3 lbf ft) Loctite®243™
---------------------------	----	--



Finishing work

- Install the rear wheel. (📖 p. 124)
- Remove the rear of the motorcycle from the wheel stand. (📖 p. 13)
- Check the chain tension. (📖 p. 130)

14.8.8 Checking the chain tension



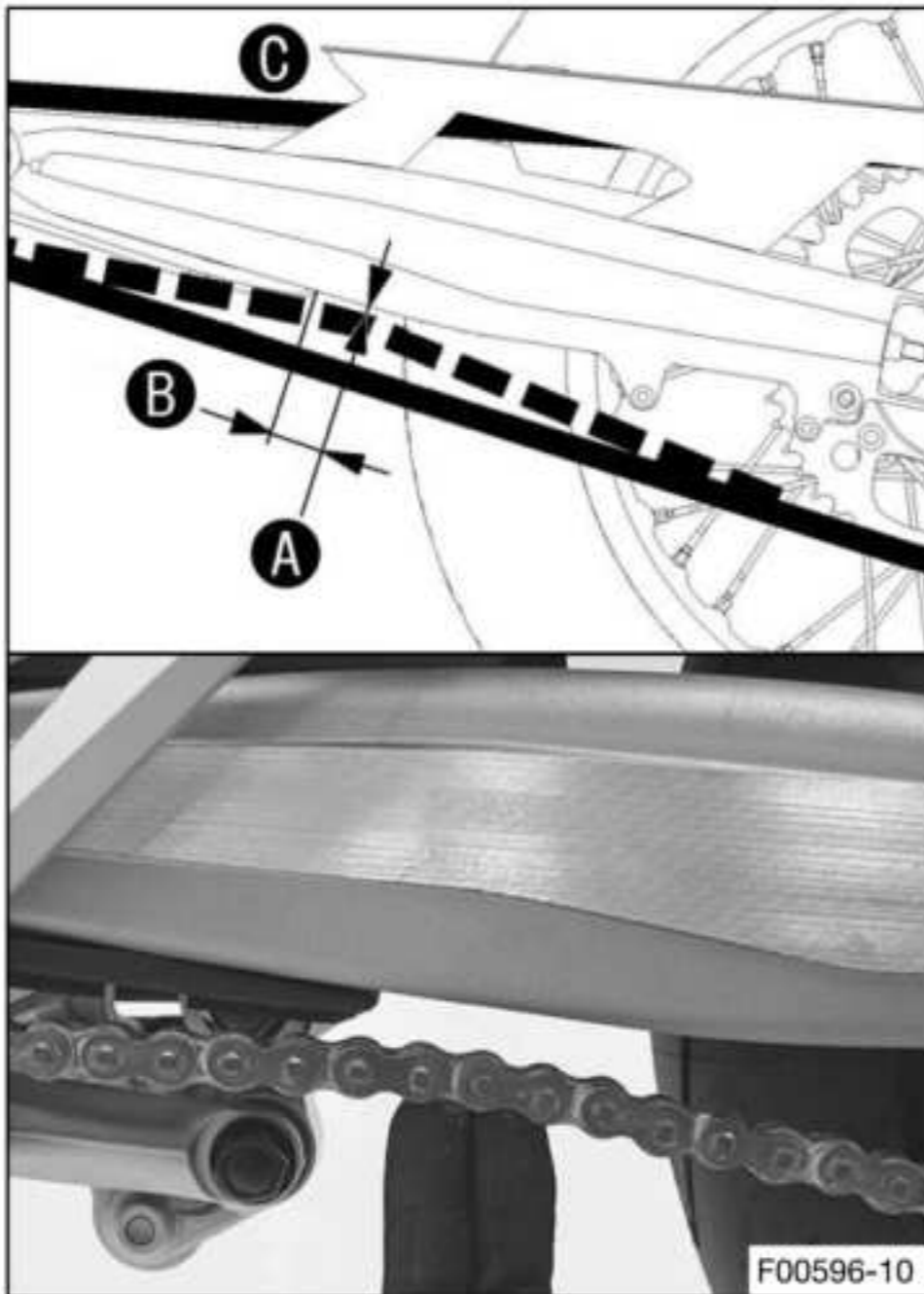
Warning

Danger of accidents Incorrect chain tension damages components and results in accidents.

If the chain is tensioned too much, the chain, engine sprocket, rear sprocket, transmission and rear wheel bearings wear more quickly. Some components may break if overloaded.

If the chain is too loose, the chain may fall off the engine sprocket or the rear sprocket. As a result, the rear wheel locks or the engine will be damaged.

- Check the chain tension regularly.
- Set the chain tension in accordance with the specification.



- Place the motorcycle onto the side stand.
- Shift the transmission to neutral position.
- Push the chain upward at a distance **B** from the chain sliding guard and determine chain tension **A**.

i Info

Top chain section **C** must be taut. Chain wear is not always even. Repeat this measurement at different chain positions.

Chain tension A	5 mm (0.2 in)
Distance B to chain sliding guard	30 mm (1.18 in)

- » If the chain tension does not meet the specification:
- Adjust the chain tension. (📖 p. 130)

14.8.9 Adjusting the chain tension



Warning

Danger of accidents Incorrect chain tension damages components and results in accidents.

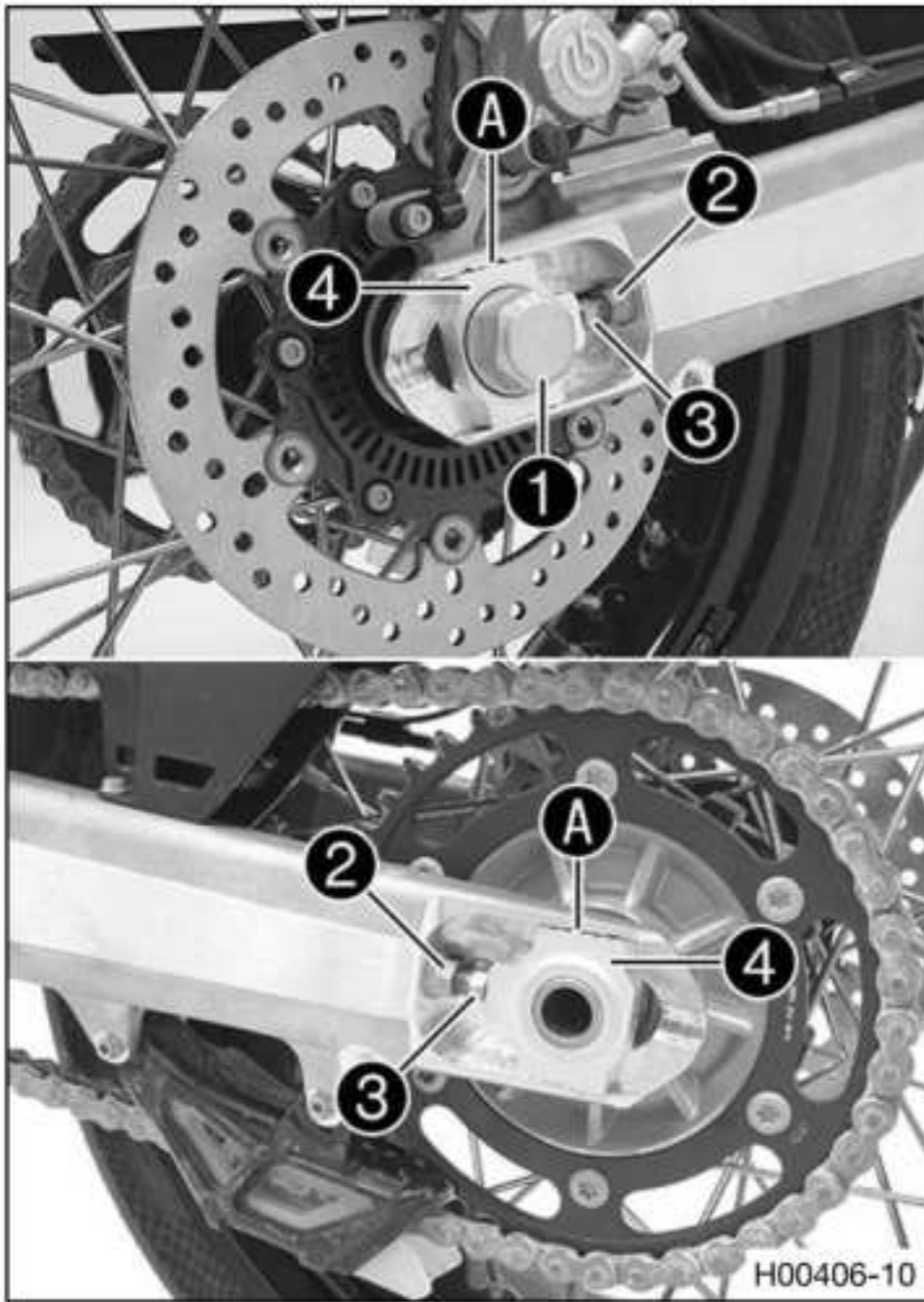
If the chain is tensioned too much, the chain, engine sprocket, rear sprocket, transmission and rear wheel bearings wear more quickly. Some components may break if overloaded.

If the chain is too loose, the chain may fall off the engine sprocket or the rear sprocket. As a result, the rear wheel locks or the engine will be damaged.

- Check the chain tension regularly.
- Set the chain tension in accordance with the specification.

Preparatory work

- Check the chain tension. (📖 p. 130)



Main work

- Loosen nut ①.
- Remove nuts ② on the left and right.
- Adjust the chain tension by turning adjusting screws ③ left and right.

Guideline

Chain tension	5 mm (0.2 in)
Turn the adjusting screws ③ on the left and right so that the markings on the left and right chain adjusters ④ are in the same position relative to the reference marks A. The rear wheel is then correctly aligned.	

i Info

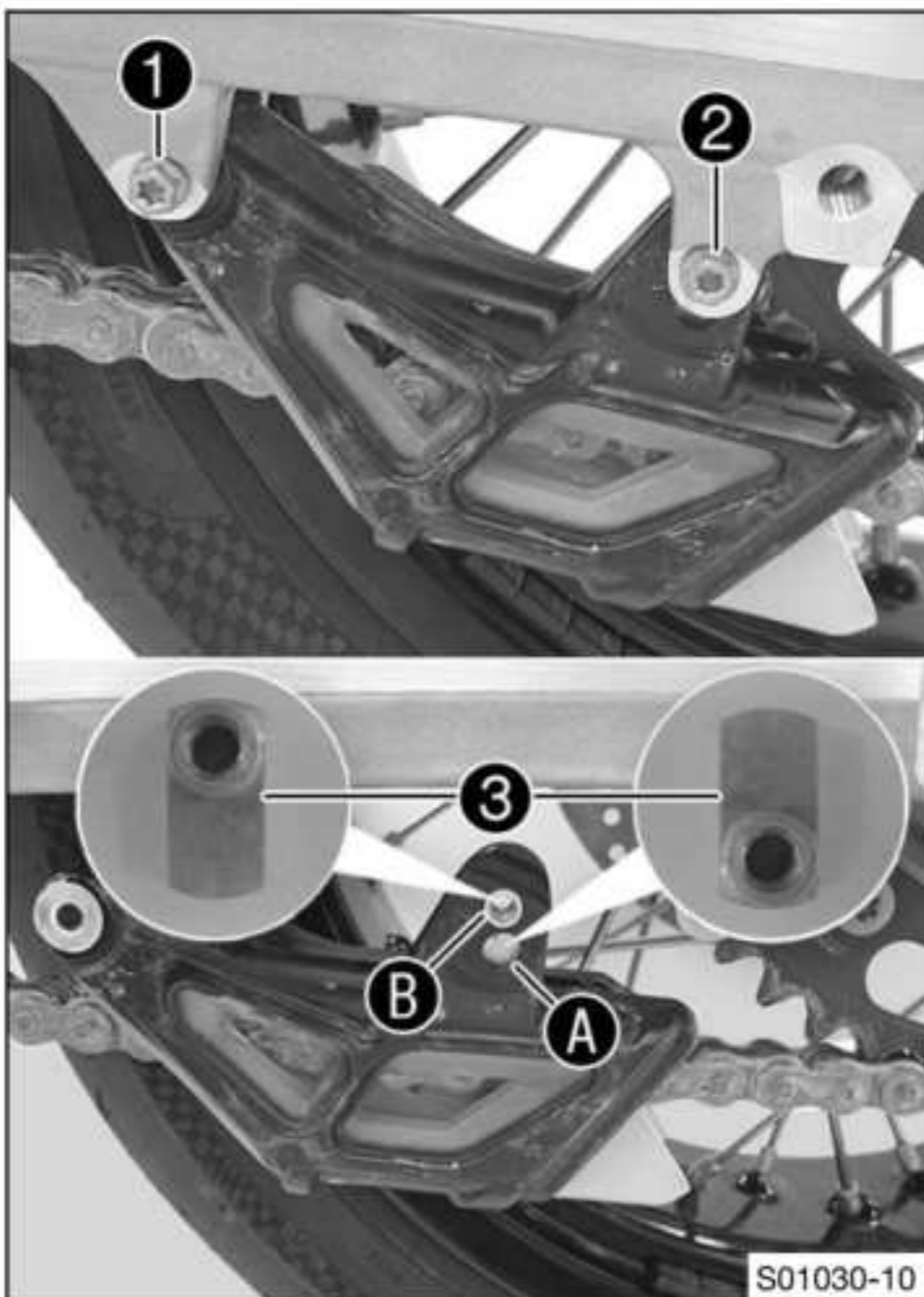
The top chain section must be taut. Chain wear is not always even. Repeat this measurement at different chain positions.

- Tighten nuts ②.
- Make sure that chain adjusters ④ are fitted correctly on adjusting screws ③.
- Tighten nut ①.

Guideline

Nut, rear wheel spindle	M25x1.5	90 Nm (66.4 lbf ft)
-------------------------	---------	---------------------

14.8.10 Adjusting the chain guide



- Remove screws ① and ②. Take off the chain guide.

Condition

Number of teeth: ≤ 44 teeth

- Insert nut ③ in hole A. Position the chain guide.
- Mount and tighten screws ① and ②.

Guideline

Screw, chain guide	M6	8 Nm (5.9 lbf ft)
--------------------	----	-------------------

Condition

Number of teeth: ≥ 45 teeth

- Insert nut ③ in hole B. Position the chain guide.
- Mount and tighten screws ① and ②.

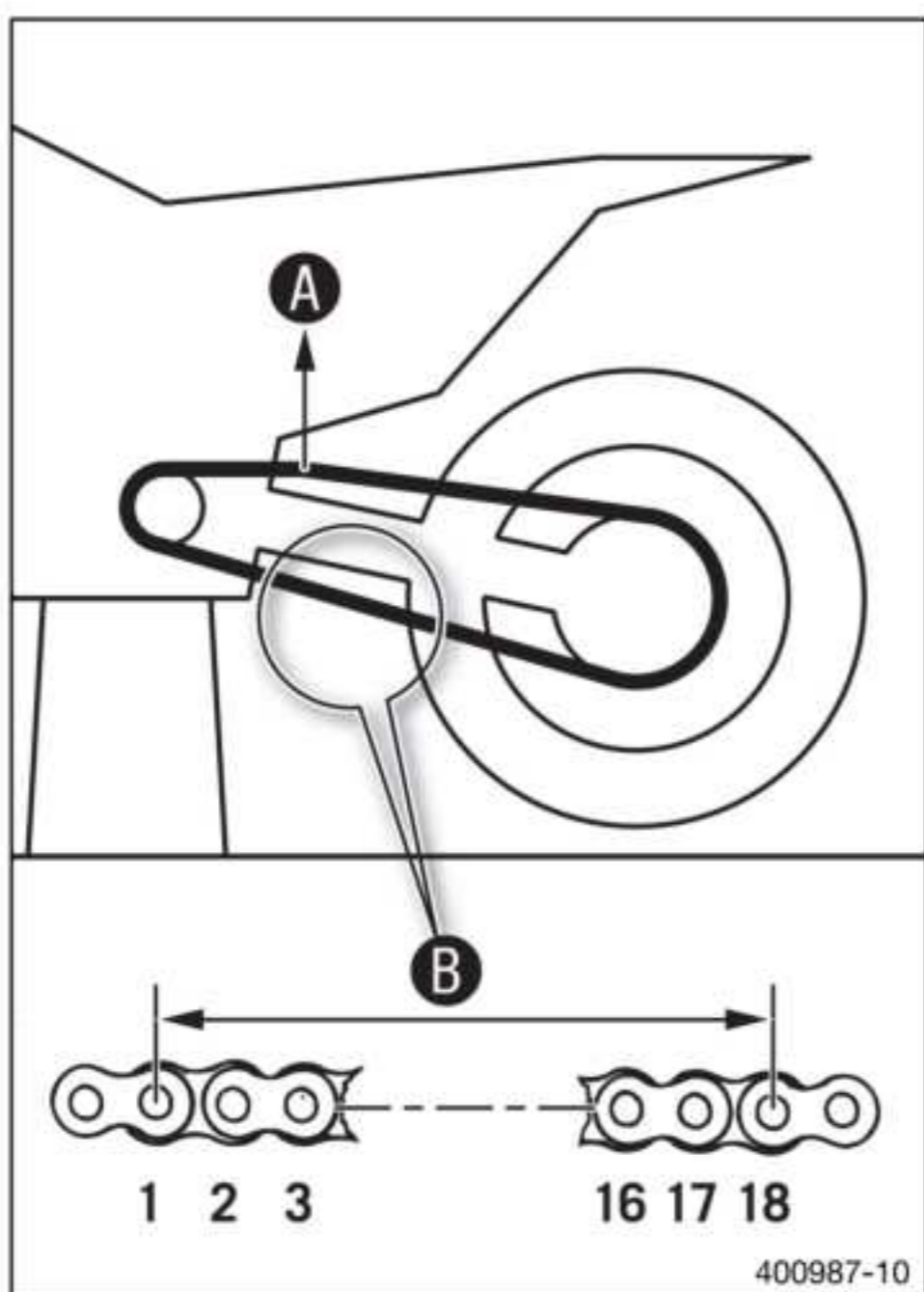
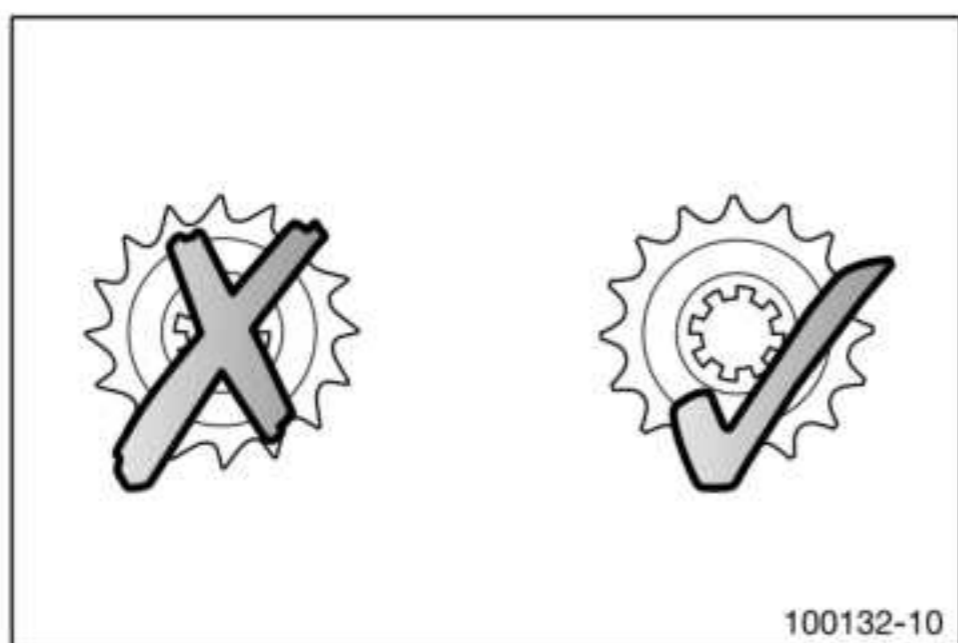
Guideline

Screw, chain guide	M6	8 Nm (5.9 lbf ft)
--------------------	----	-------------------

14.8.11 Checking the chain, rear sprocket, engine sprocket, and chain guide

Preparatory work

- Raise the motorcycle with the rear lifting gear. (p. 13)



Main work

- Shift the transmission into neutral.
- Check the rear sprocket and engine sprocket for wear.
 - » If the rear sprocket or engine sprocket is worn:
 - Change the drivetrain kit. (📖 p. 137)

i Info
The engine sprocket, rear sprocket and chain should always be replaced together.

- Pull on the top section of the chain with the specified weight **A**.

Guideline

Weight of chain wear measurement	15 kg (33 lb.)
----------------------------------	----------------

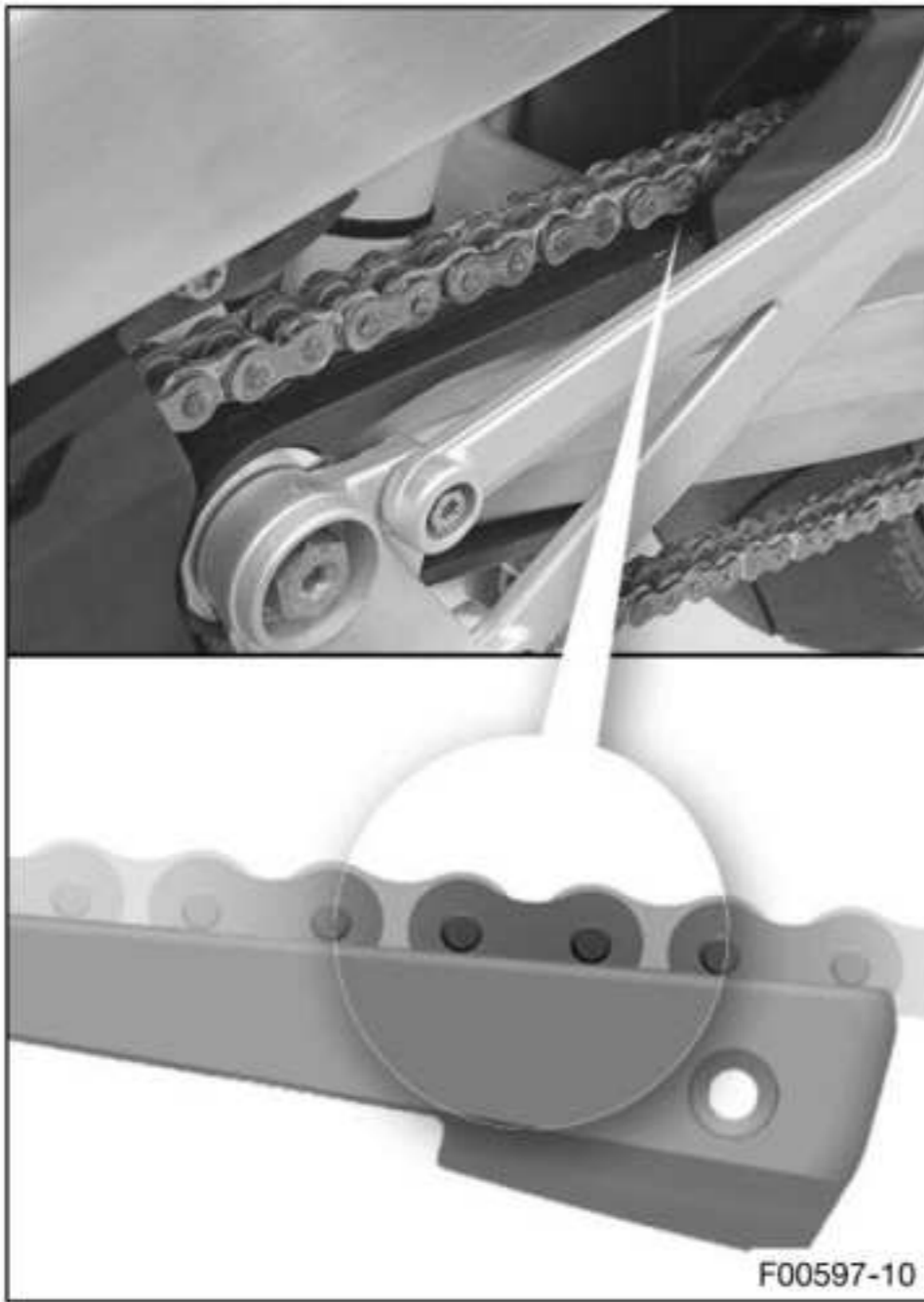
- Measure distance **B** of 18 chain rollers in the lower chain section.

i Info
Chain wear is not always even, so you should repeat this measurement at different chain positions.

Maximum distance B from 18 chain rollers at the longest chain section	272 mm (10.71 in)
--	-------------------

- » If distance **B** is greater than the specified measurement:
 - Change the drivetrain kit. (📖 p. 137)

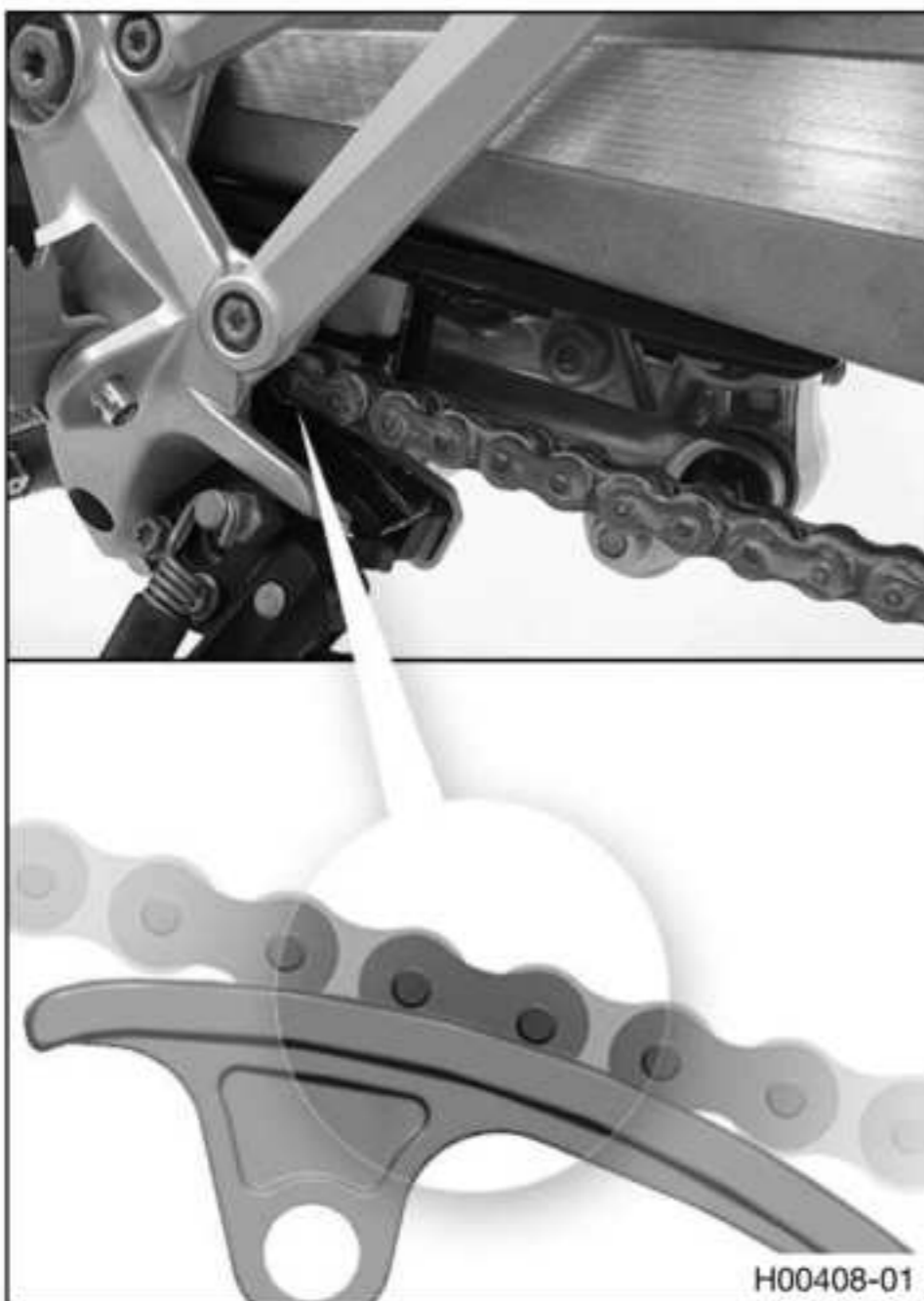
i Info
When a new chain is mounted, the rear sprocket and engine sprocket should also be changed.
New chains wear out faster on an old, worn rear sprocket or engine sprocket.



- Check the chain sliding guard for wear.
 - » If the lower edge of the chain pins is in line with, or below, the chain sliding guard:
 - Replace the chain sliding guard.
- Check that the chain sliding guard is firmly seated.
 - » If the chain sliding guard is loose:
 - Tighten the screws on the chain sliding guard.

Guideline

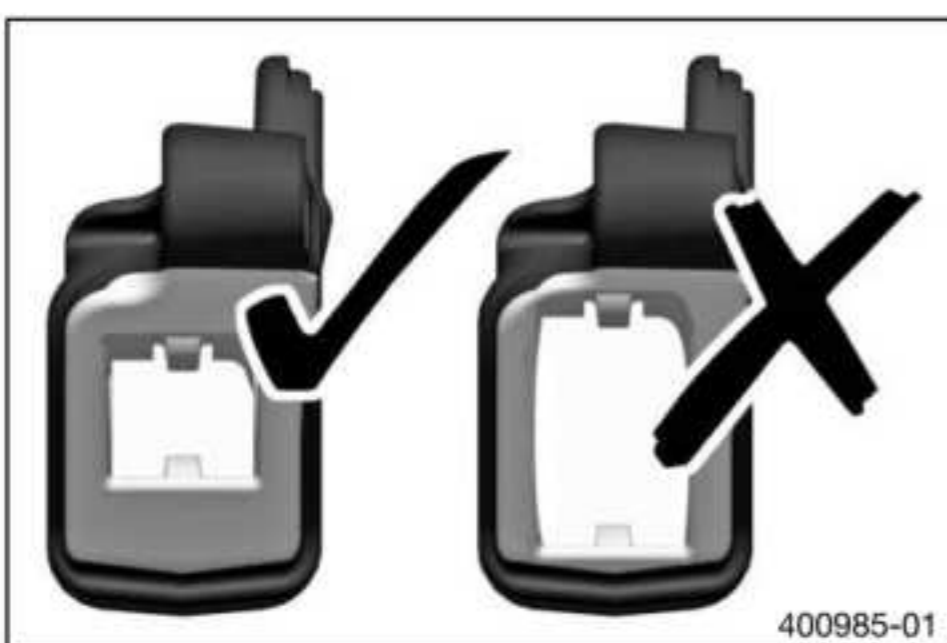
Screw, chain sliding guard	M6	8 Nm (5.9 lbf ft) Loctite®243™
----------------------------	----	--



- Check the chain sliding piece for wear.
 - » If the lower edge of the chain pins is in line with or below the chain sliding piece:
 - Change the chain sliding piece.
- Check that the chain sliding piece is firmly seated.
 - » If the chain sliding piece is loose:
 - Tighten the screw on the chain sliding piece.

Guideline

Screw, chain sliding piece	M8	15 Nm (11.1 lbf ft)
----------------------------	----	------------------------



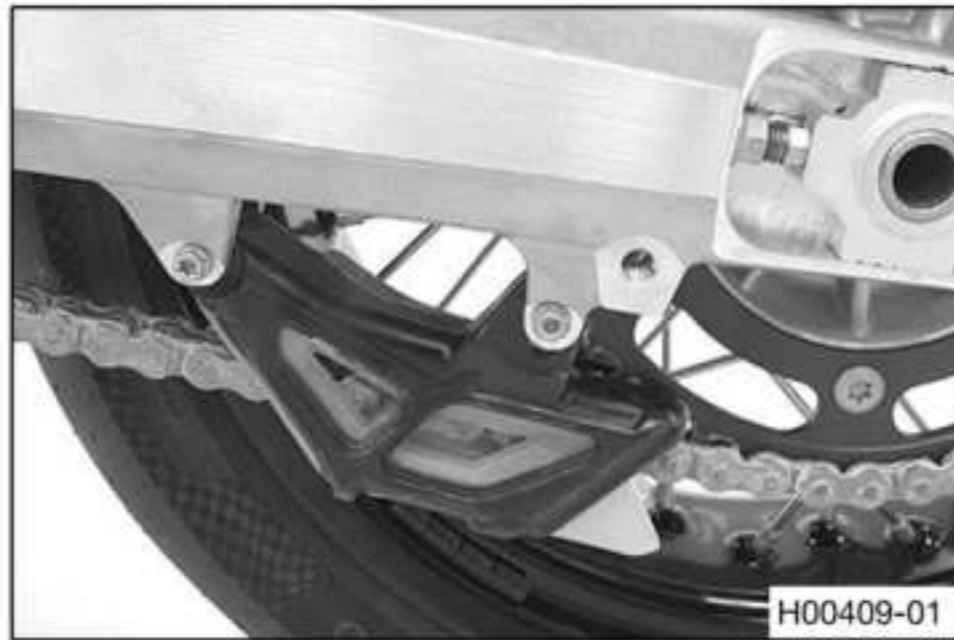
- Check the chain guide for wear.



Info

Wear can be seen on the front of the chain guide.

- » If the light part of the chain guide is worn:
 - Change the chain guide.



- Check that the chain guide is firmly seated.
 - » If the chain guide is loose:
 - Tighten the screws on the chain guide.

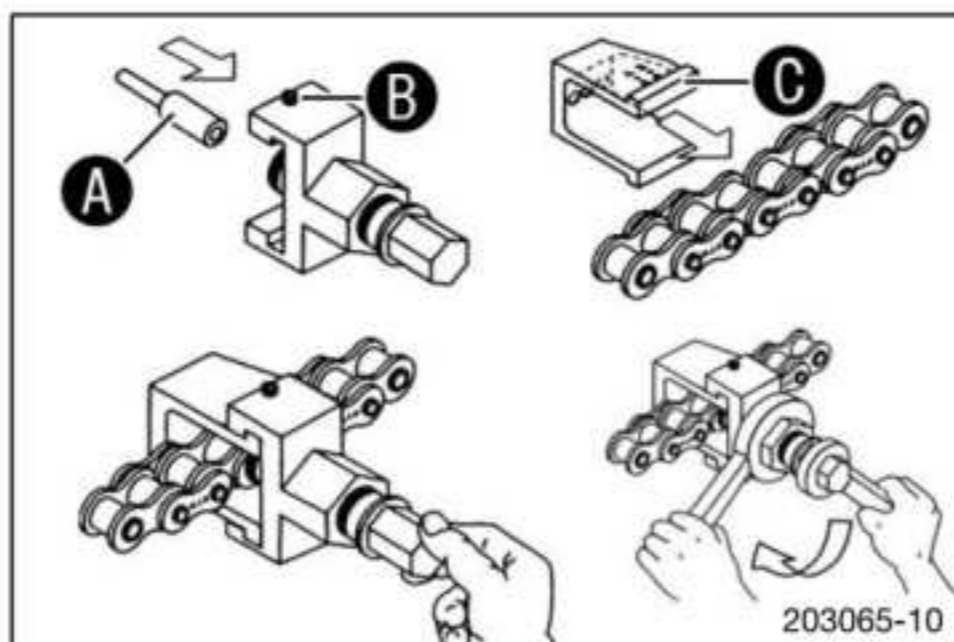
Guideline

Screw, chain guide	M6	8 Nm (5.9 lbf ft)
--------------------	----	-------------------

Finishing work

- Remove the rear of the motorcycle from the wheel stand. (p. 13)

14.8.12 Opening the chain

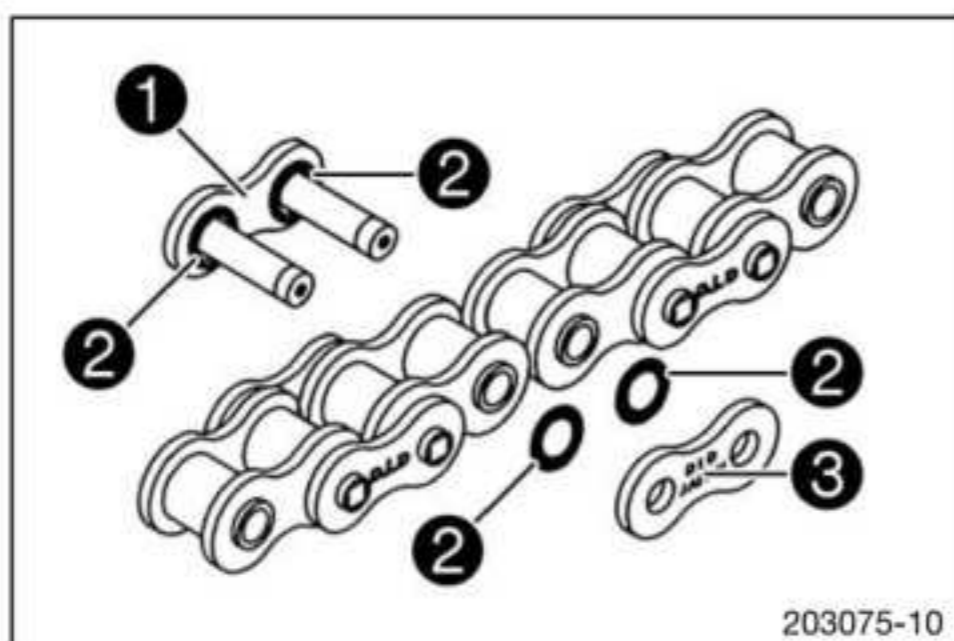


- Mount press drift **A** with the larger diameter in the spindle of the special tool. Turn the spindle counterclockwise.

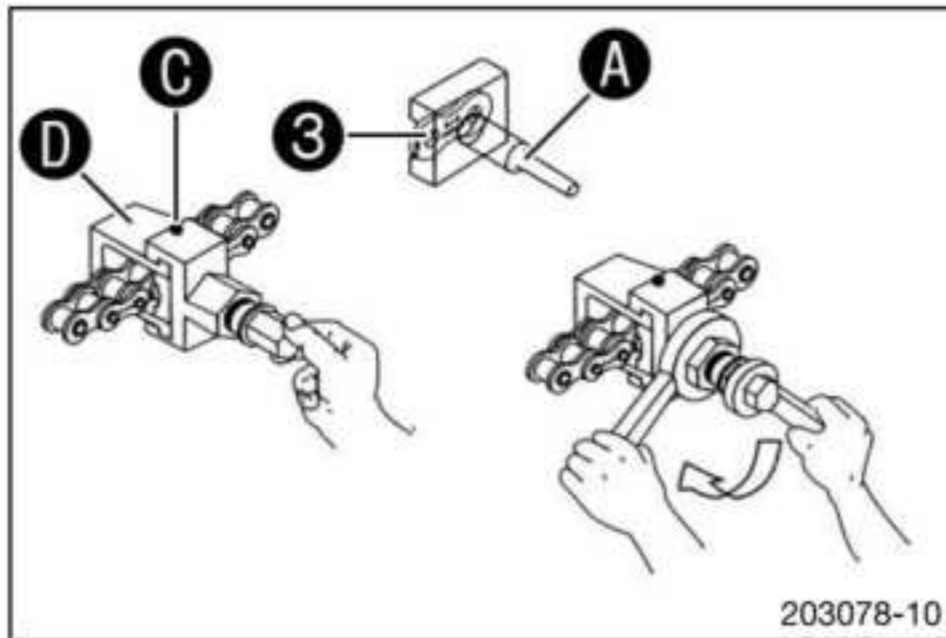
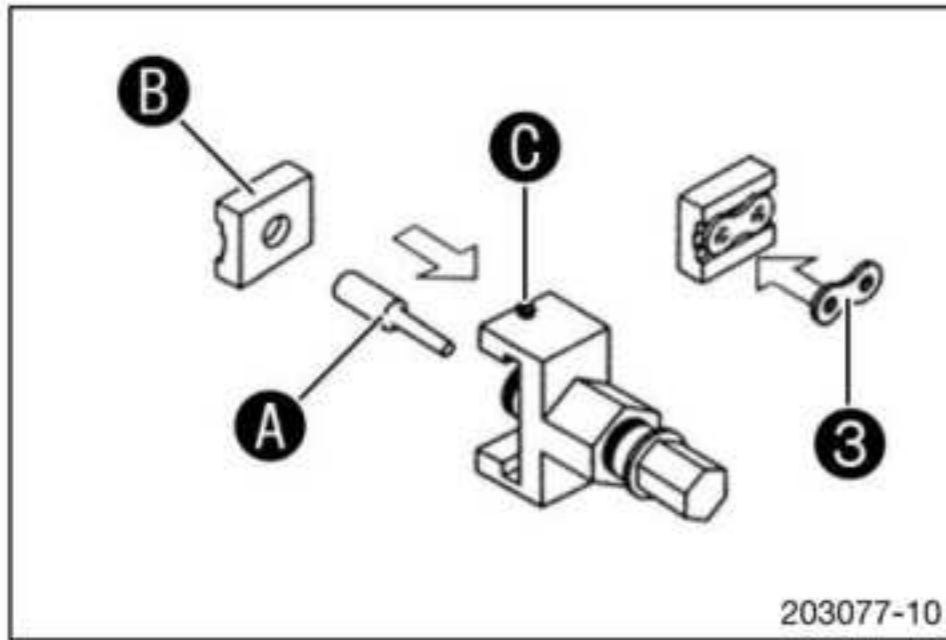
Chain rivet tool (60029020000) (p. 385)

- Make the connecting link of the chain accessible. Fret the riveting point.
- Position the special tool with the press drift on one of the 2 pins of the connecting link of the chain.
 - ✓ Locking screw **B** points upwards.
- Position retaining clamp **C** of the special tool on the chain from the rear.
 - ✓ Markings **A** and **B** point upwards.
- Slide retaining clamp **C** of the special tool into the pressing tool.
 - ✓ The arrow of marking **A** points to locking screw **B**.
- Screw the locking screw hand-tight as far as it will go.
 - ✓ The retaining clamp is fixed.
- Hold the special tool and screw in the spindle.
 - ✓ The chain pin is pressed out through the retaining clamp drill hole.
- Unscrew the locking screw and remove the special tool.
- Repeat the process on the second pin of the chain link.

14.8.13 Riveting the chain



- Grease new connecting link **1** and position an X-ring **2** on each pin.
- Connect the chain ends with a connecting link.
- Position another X-ring **2** on each pin.



- Mount press drift **A** with the smaller diameter in the spindle of the special tool. Turn the spindle counterclockwise.

Chain rivet tool (60029020000) (📖 p. 385)

- Position press plate **B** of the special tool on the press drift.
- Position chain joint plate **3** in the press plate.

- Position the special tool on the chain.
 - ✓ Locking screw **C** points upwards.
- Position retaining clamp **D** of the special tool on the chain from the rear.
 - ✓ Markings **A** and **B** point upwards.
- Slide retaining clamp **D** of the special tool into the pressing tool.
 - ✓ The arrow of marking **A** points to locking screw **C**.
- Screw the locking screw hand-tight as far as it will go.
 - ✓ The retaining clamp is fixed.
- Hold the special tool and screw in the spindle.
 - ✓ Press drift **A** of the special tool presses against the center of the chain joint plate **3**.
 - ✓ The chain joint plate is pressed on.
- Unscrew the locking screw and remove the special tool.
- Rivet the two pins of the connecting link with special tool.

Chain rivet tool (60029020000) (📖 p. 385)

14.8.14 Cleaning the chain



Warning

Danger of accidents Lubricants on the tires reduces the road grip.

- Remove lubricants from the tires using a suitable cleaning agent.



Warning

Danger of accidents Oil or grease on the brake discs reduces the braking effect.

- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.



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.

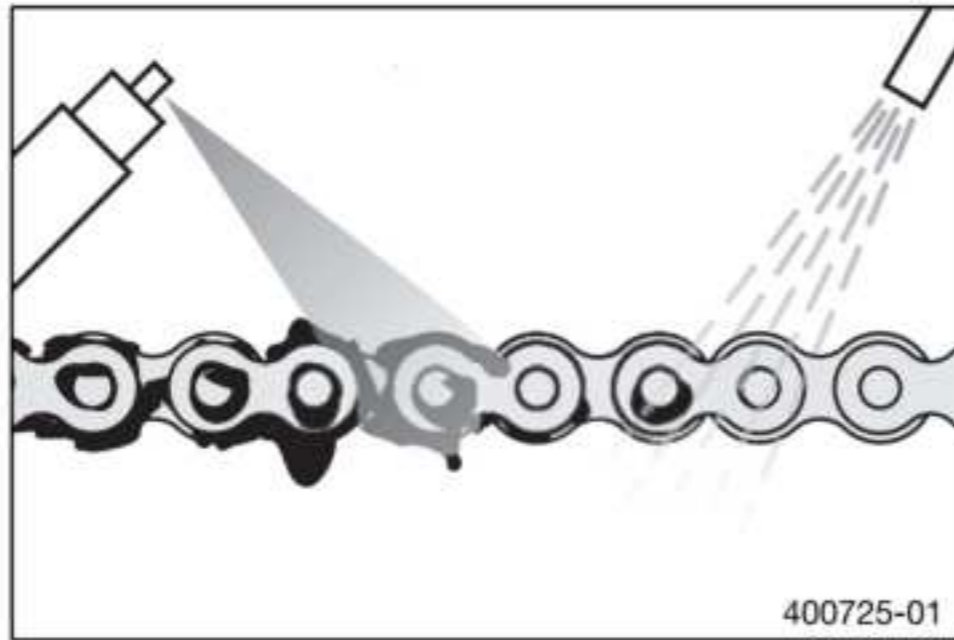


Info

The service life of the chain depends largely on its maintenance.

Preparatory work

- Raise the motorcycle with the rear lifting gear. (📖 p. 13)



Main work

- Rinse off loose dirt with a soft jet of water.
- Remove old grease residue with chain cleaner.

Chain cleaner (📖 p. 378)

- After drying, apply chain spray.

Street chain spray (📖 p. 379)

Finishing work

- Remove the rear of the motorcycle from the wheel stand. (📖 p. 13)

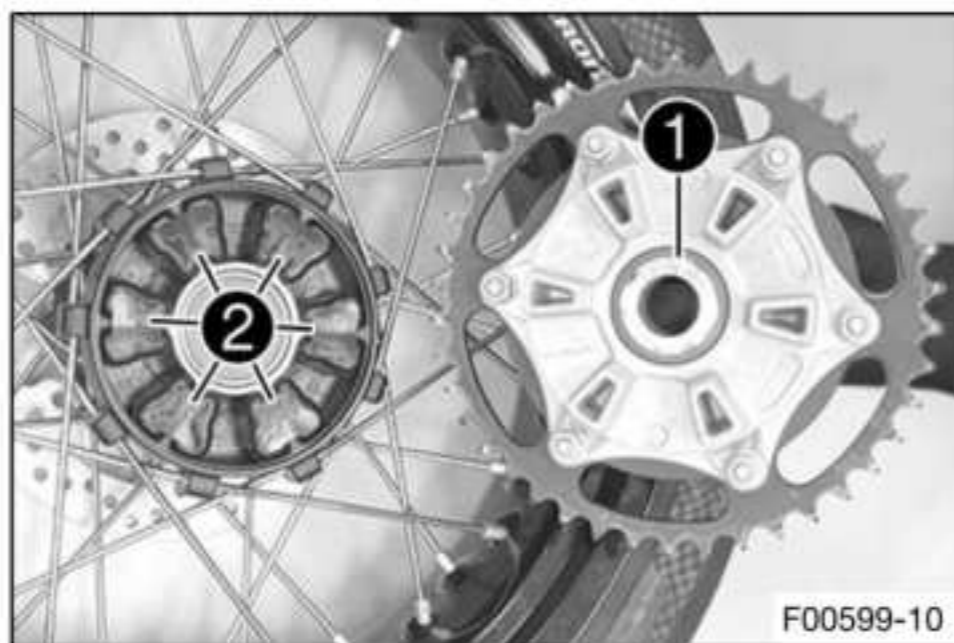
14.8.15 Checking the rear hub damping rubber pieces

i Info

The engine power is transmitted from the rear sprocket to the rear wheel via the 6 damping rubber pieces. They eventually wear out during operation. If the damping rubber pieces are not changed in time, the rear sprocket carrier and the rear hub will be damaged.

Preparatory work

- Raise the motorcycle with the rear lifting gear. (📖 p. 13)
- Remove the rear wheel. (📖 p. 121)



Main work

- Check bearing ①.
 - » If the bearing is damaged or worn:
 - Change the bearing of the rear sprocket carrier. (📖 p. 128)
- Check the damping rubber pieces ② of the rear hub for damage and wear.
 - » If the damping rubber pieces of the rear hub are damaged or worn:
 - Change all the damping rubber pieces of the rear hub.
- Lay the rear wheel on a workbench with the rear sprocket facing upwards and insert the wheel spindle in the hub.
- To check play A, hold the rear wheel tight and try to turn the rear sprocket with your hand.



i Info

Measure the play on the outside of the rear sprocket.

Play of damping rubber pieces on rear wheel	≤ 5 mm (≤ 0.2 in)
---	-------------------

- » If clearance A is larger than the specified value:
 - Change all the damping rubber pieces of the rear hub.

Finishing work

- Install the rear wheel. (📖 p. 124)
- Remove the rear of the motorcycle from the wheel stand. (📖 p. 13)

- Check the chain tension. (📖 p. 130)



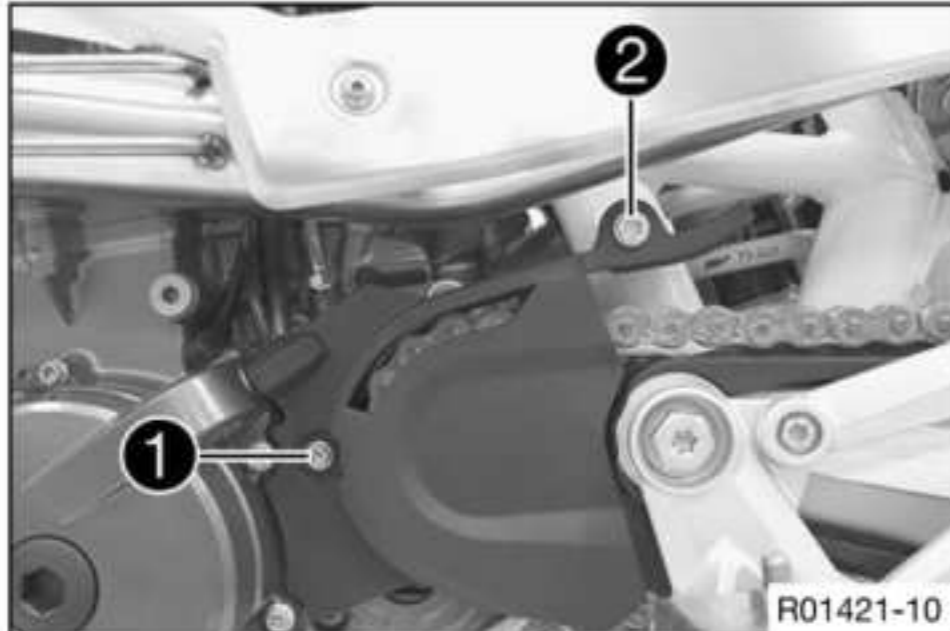
14.8.16 Changing the drivetrain kit

Preparatory work

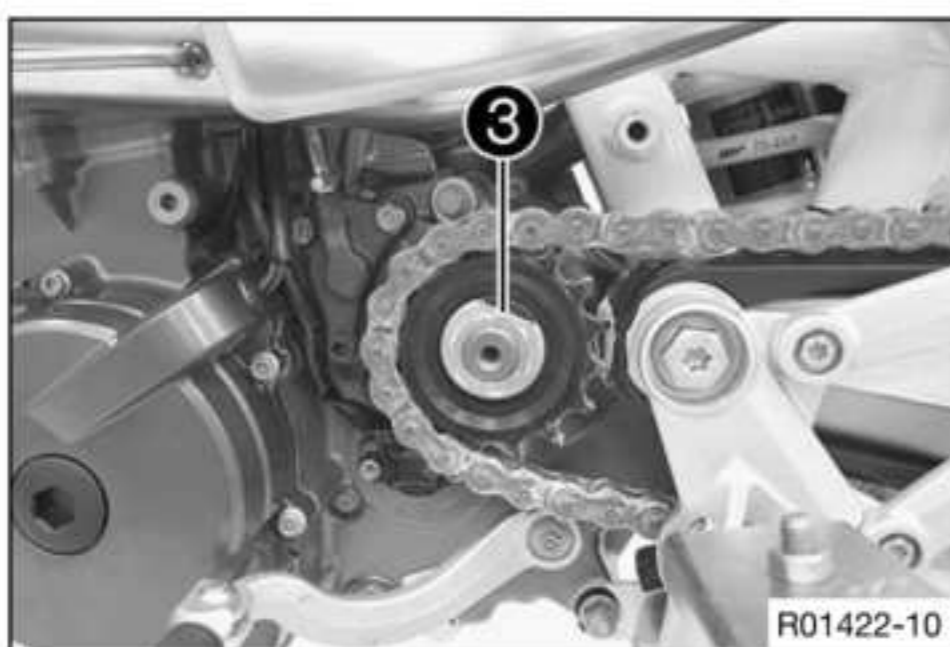
- Raise the motorcycle with the work stand. (📖 p. 14)

Main work

- Remove screws **1** and **2**.
- Take off the engine sprocket cover.

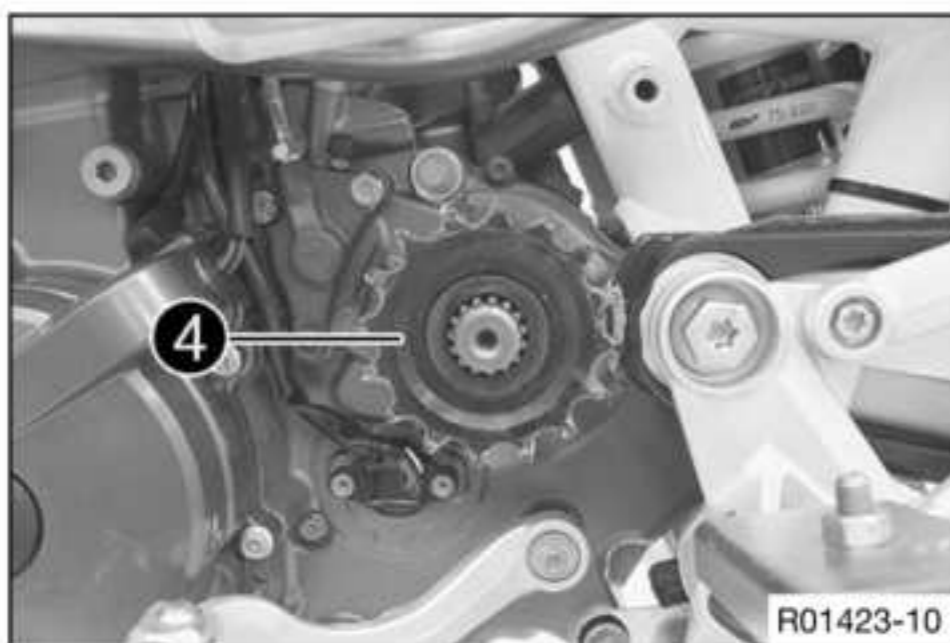


- Bend up lock washer **3**.
- Have an assistant operate the rear brake.
- Remove the nut with the lock washer.
- Remove the rear wheel using a work stand. (📖 p. 120)



- Open the chain. (📖 p. 134)

i Info
Cover the components to protect them against damage.



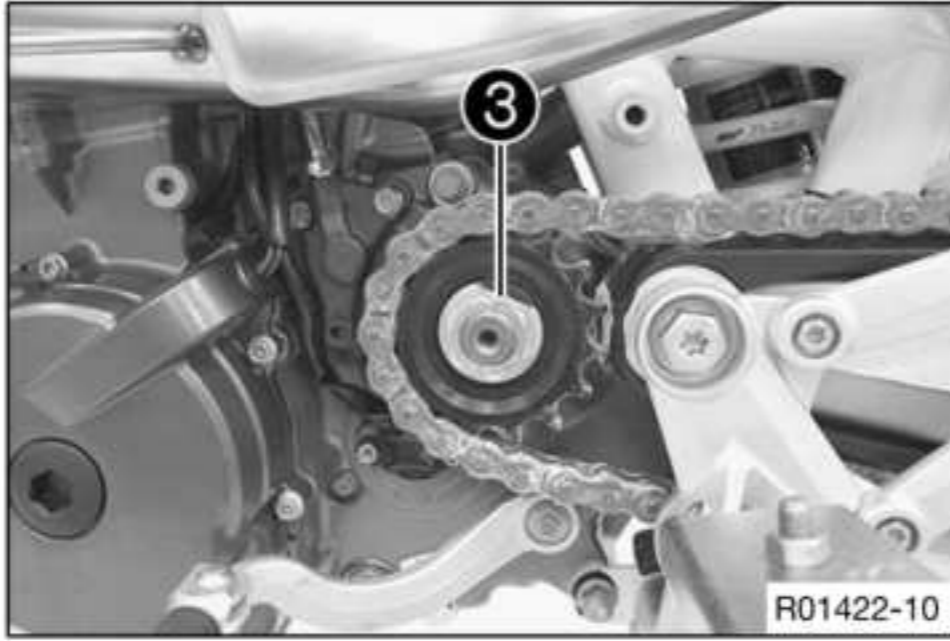
- Remove engine sprocket **4**.
- Slide new engine sprocket **4** onto the main shaft.
- Mount the new chain.
- Rivet the chain. (📖 p. 134)
- Remove fittings **5**. Take off the rear sprocket.
- Position the new rear sprocket. Mount and tighten the fittings.

Guideline

Nut, rear sprocket screw	M8	35 Nm (25.8 lbf ft) Loctite®2701™
--------------------------	----	---

- Install the rear wheel using a work stand. (📖 p. 122)



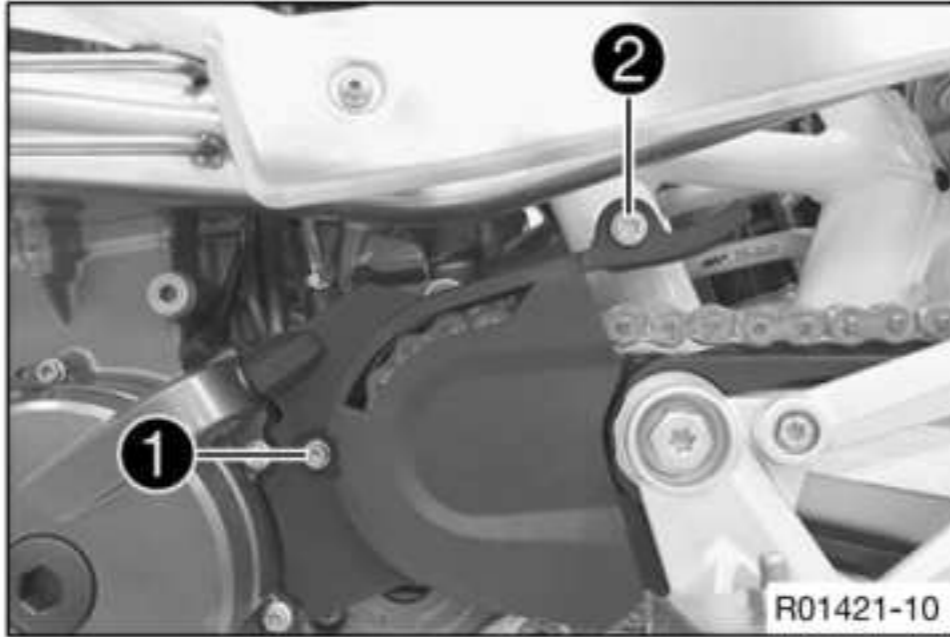


- Have an assistant operate the rear brake.
- Mount and tighten nut with new lock washer **3**.

Guideline

Nut, engine sprocket	M20x1.5	80 Nm (59 lbf ft) Loctite®243™
----------------------	---------	--

- Secure the nut with the lock washer.



- Position the engine sprocket cover.
- Mount and tighten screw **1**.

Guideline

Screw, clutch slave cylinder	M6x40	10 Nm (7.4 lbf ft) Loctite®243™
------------------------------	-------	---

- Mount and tighten screw **2**.

Guideline

Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)
---------------------------	----	---------------------

Finishing work

- Remove the motorcycle from the work stand. (📖 p. 15)

15.1 Removing the 12-V battery





Warning

Risk of injury Battery acid and battery gases cause serious chemical burns.

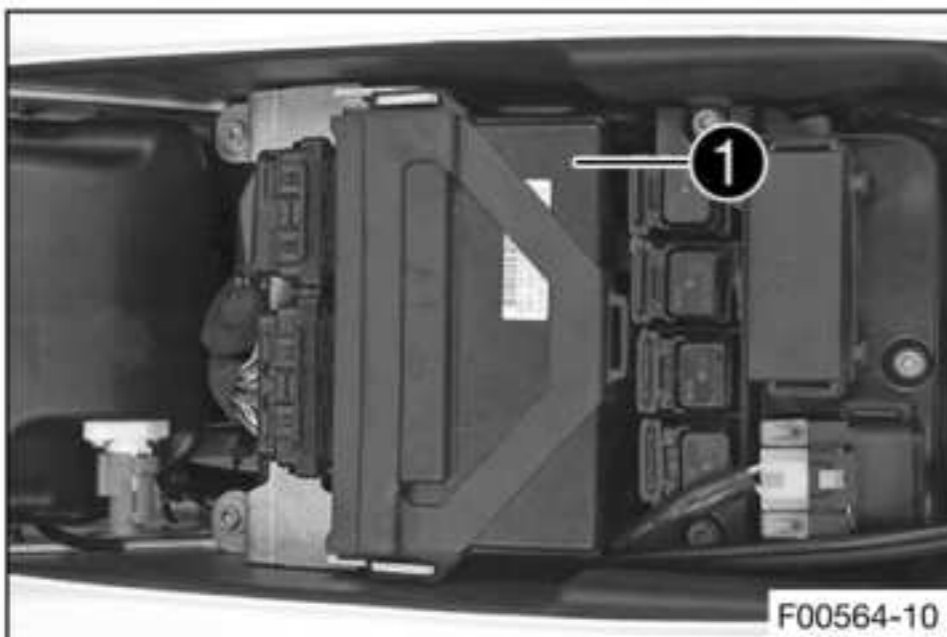
- Keep 12 V batteries out of the reach of children.
- Wear suitable protective clothing and safety glasses.
- Avoid contact with battery acid and battery gases.
- Keep sparks or open flames away from the 12 V battery.
- Only charge 12 V batteries in well-ventilated rooms.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes with water for at least 15 minutes and consult a doctor immediately if battery acid and battery gases get into the eyes.

Preparatory work

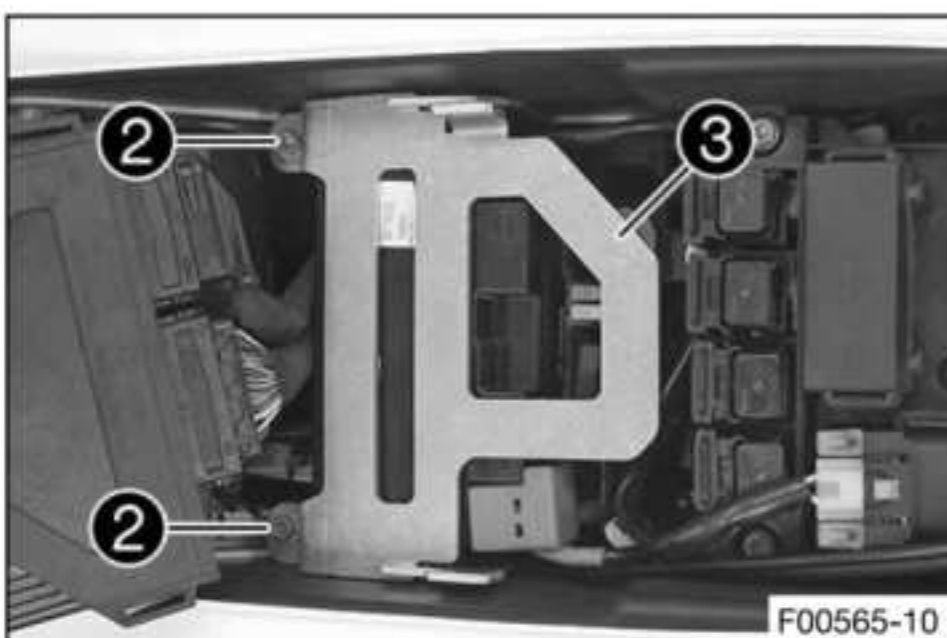
- Switch off the ignition by turning the ignition key to the **OFF**  position.
- Remove the seat. ( p. 93)

Main work

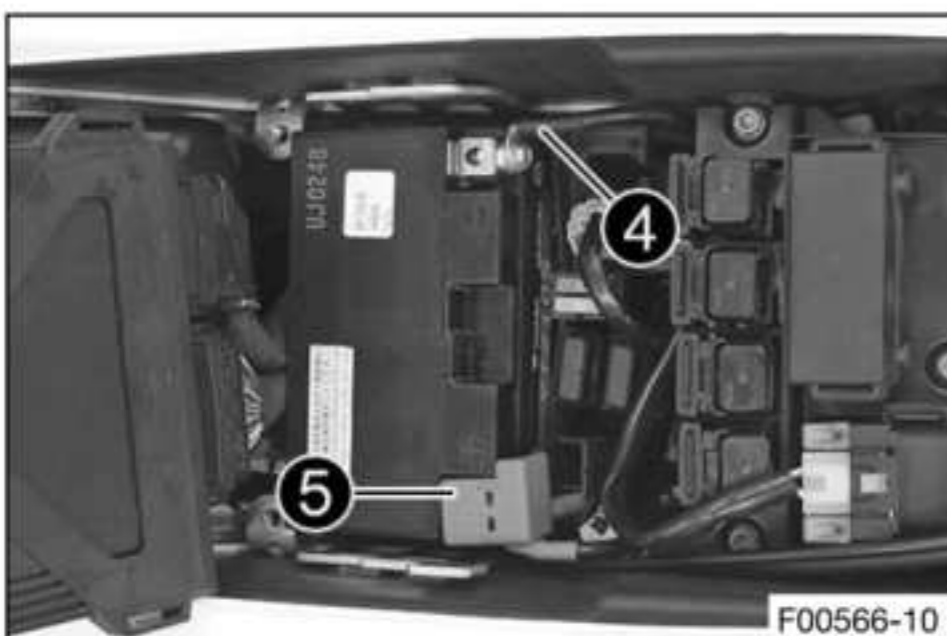
- Pull engine electronics control unit **1** off of the holder and set it to one side.

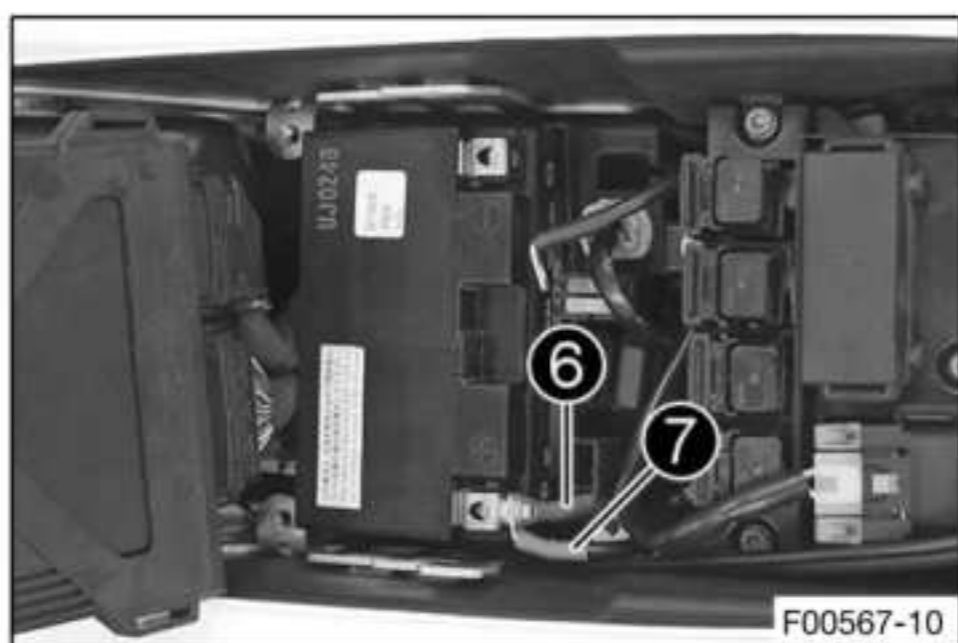


- Remove screws **2**.
- Pull retaining bracket **3** of the 12-V battery forward and remove it.



- Disconnect negative cable **4** from the 12-V battery.
- Take off positive terminal cover **5**.



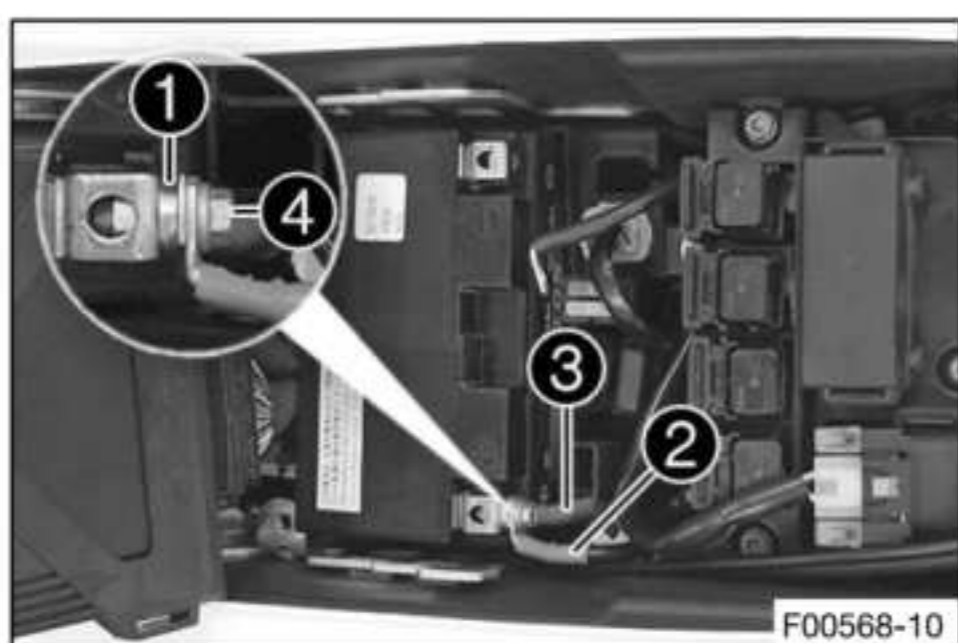


- Disconnect ABS connection cable ⑥ and positive cable ⑦ from the 12-V battery.
- Lift out the 12-V battery.

i Info

Never operate the motorcycle with a discharged 12-V battery or without a 12-V battery. In both cases, electrical components and safety devices can be damaged. The vehicle will therefore no longer be roadworthy.

15.2 Installing the 12-V battery



Main work

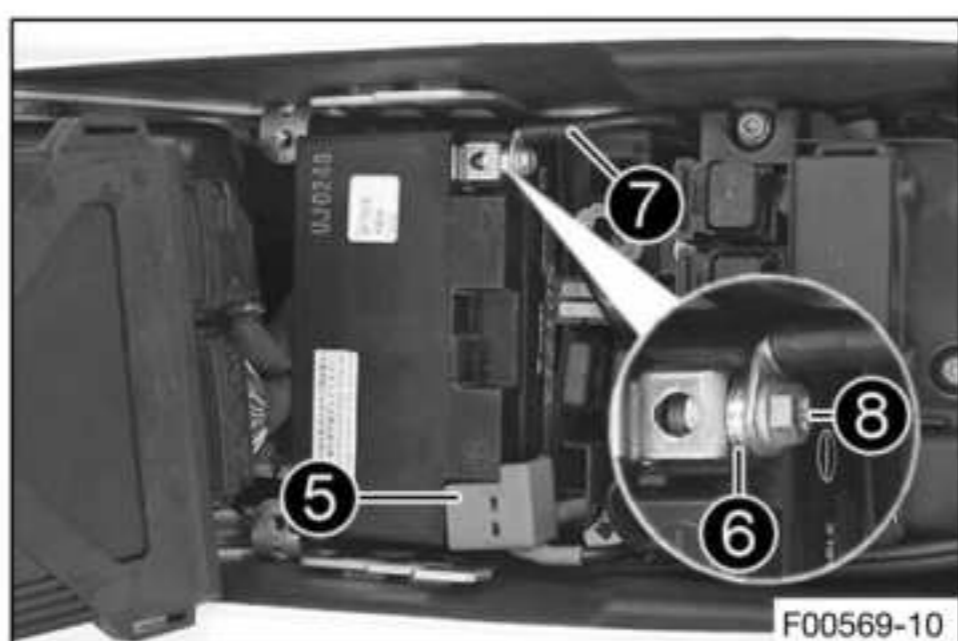
- Insert the 12-V battery into the battery compartment with the terminals facing to the rear.

12-V battery (YTZ10S) (p. 319)

- Position washer ①, positive cable ②, and ABS connection cable ③.
- Mount and tighten screw ④.

Guideline

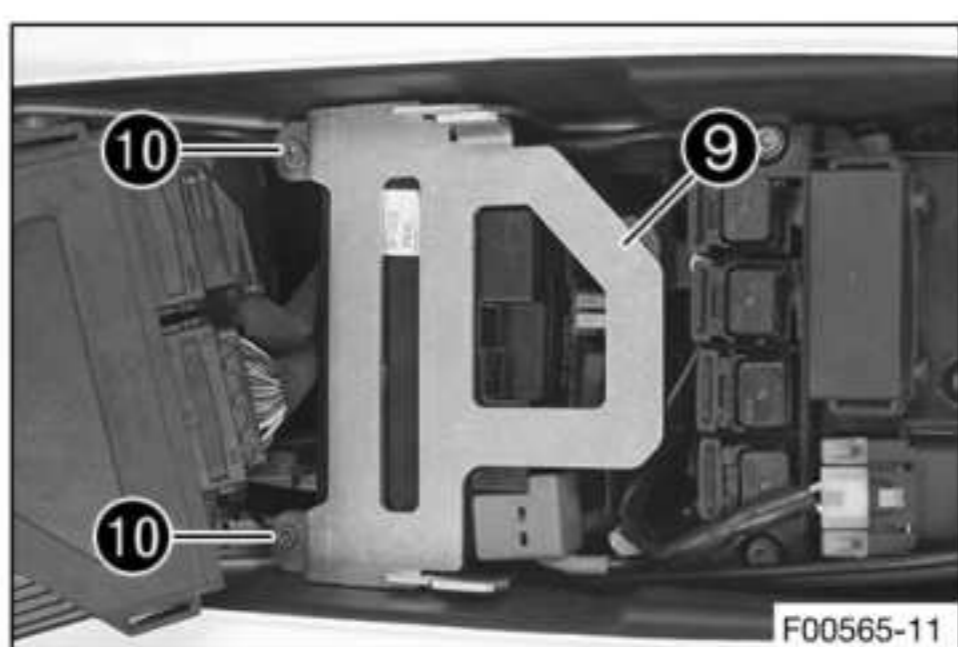
Screw, battery terminal	M6	4.5 Nm (3.32 lbf ft)
-------------------------	----	----------------------



- Position positive terminal cover ⑤.
- Position washer ⑥ and negative cable ⑦.
- Mount and tighten screw ⑧.

Guideline

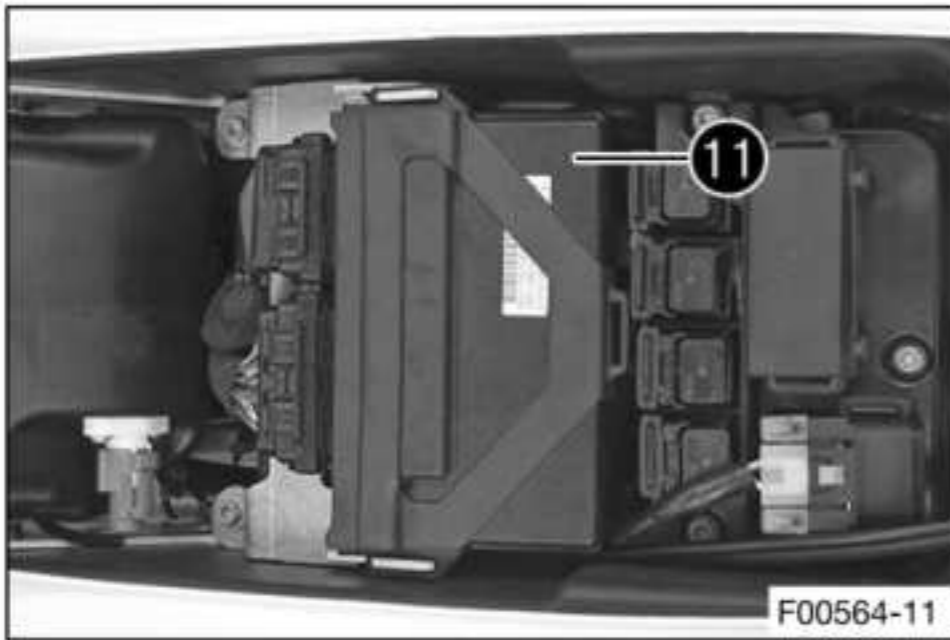
Screw, battery terminal	M6	4.5 Nm (3.32 lbf ft)
-------------------------	----	----------------------



- Position retaining bracket ⑨ and mount and tighten screws ⑩.

Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------



- Mount engine electronics control unit **11**.

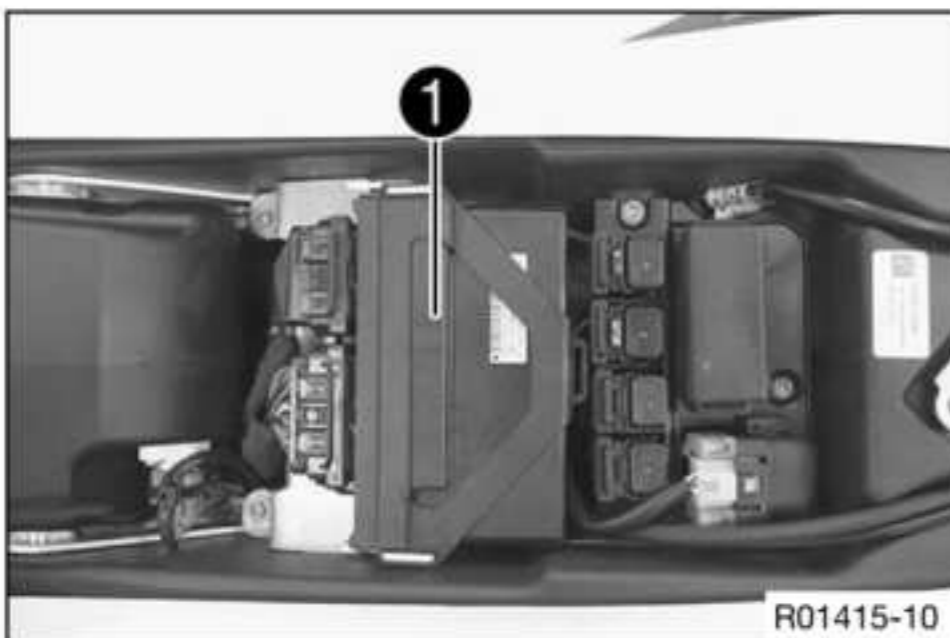
Finishing work

- Mount the seat. (📖 p. 93)
- Adjust the clock. (📖 p. 167)

15.3 Disconnecting the 12-V battery

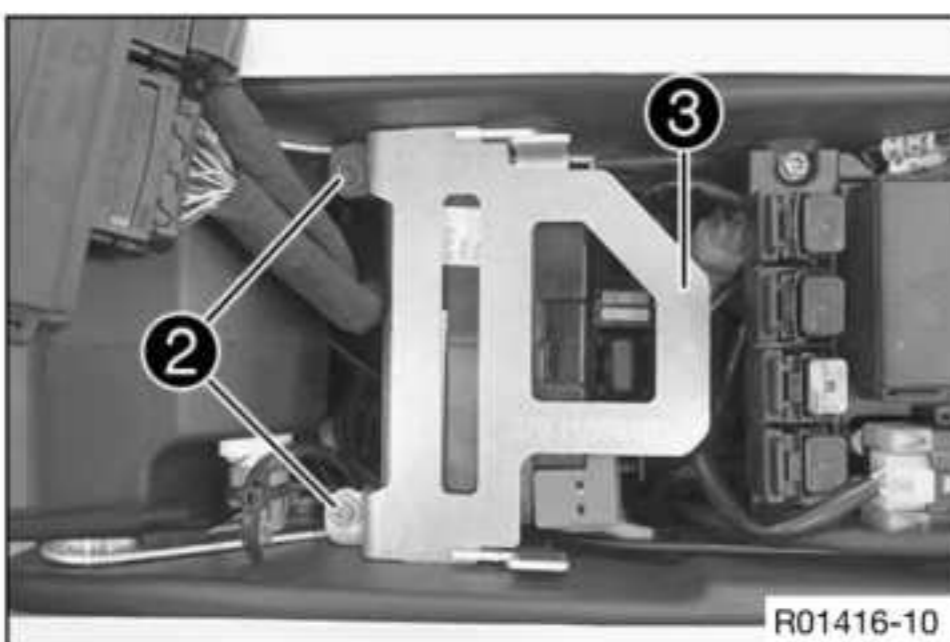
Preparatory work

- Switch off the ignition by turning the ignition key to the **OFF** ☒ position.
- Remove the seat. (📖 p. 93)

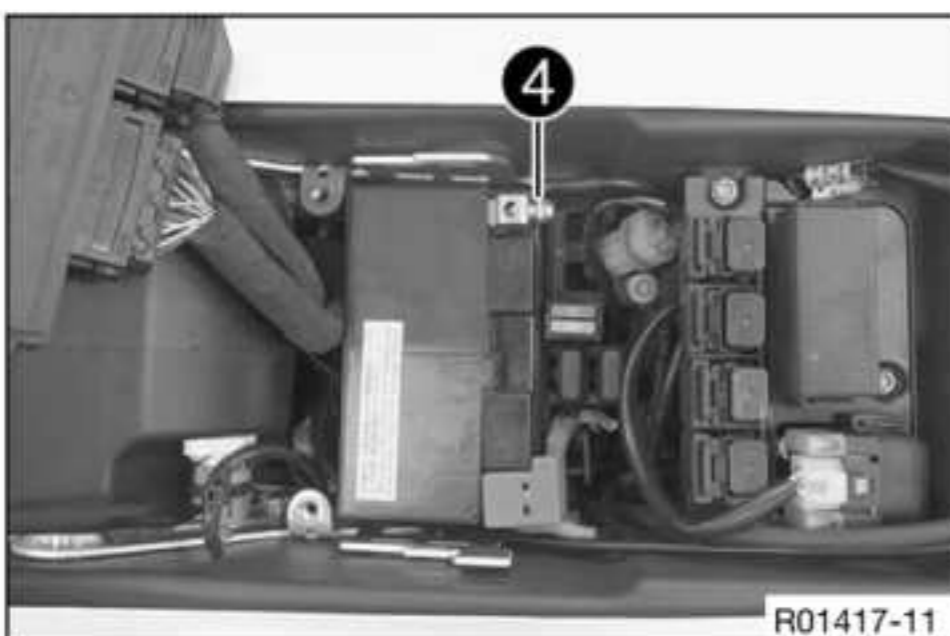


Main work

- 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.



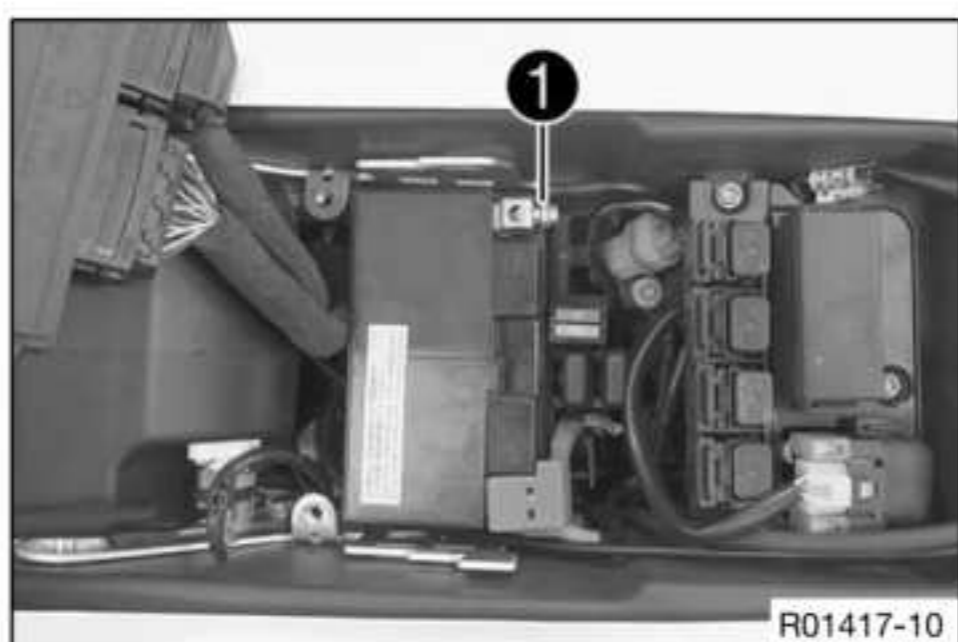
- Disconnect negative cable **4** of the 12-V battery.



Info

Never operate the motorcycle with a discharged 12-V battery or without a 12-V battery. In both cases, electrical components and safety devices can be damaged. The vehicle will therefore no longer be roadworthy.

15.4 Connecting the 12-V battery

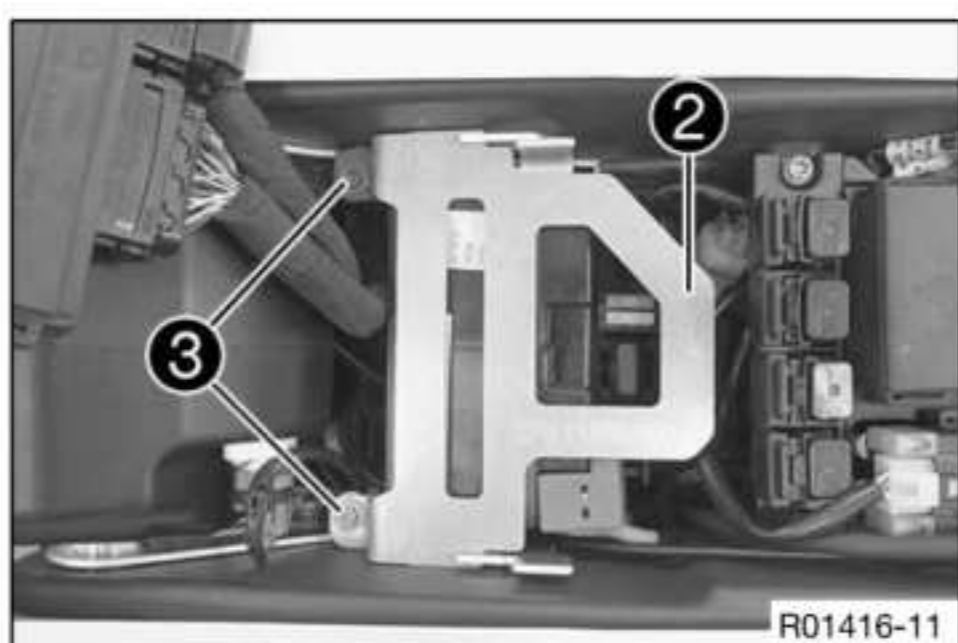


Main work

- Position washer and negative cable ①, and mount and tighten the screw.

Guideline

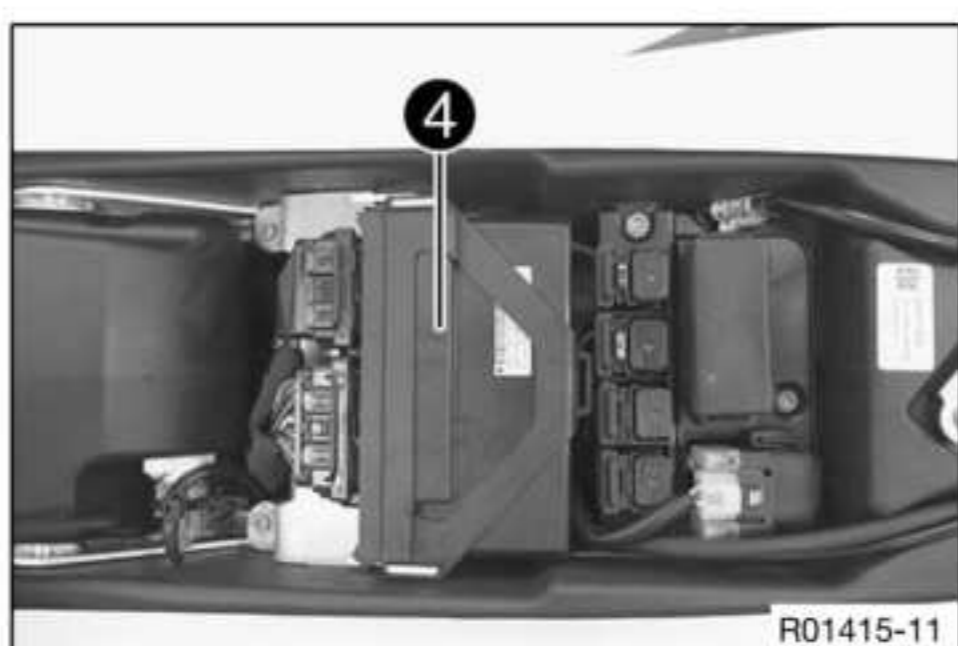
Screw, battery terminal	M6	4.5 Nm (3.32 lbf ft)
-------------------------	----	----------------------



- Position retaining bracket ②.
- Mount and tighten screws ③.

Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------



- Mount engine electronics control unit ④.

Finishing work

- Mount the seat. (📖 p. 93)
- Adjust the clock. (📖 p. 167)

15.5 Charging the 12-V battery



Warning

Risk of injury Battery acid and battery gases cause serious chemical burns.

- Keep 12 V batteries out of the reach of children.
- Wear suitable protective clothing and safety glasses.
- Avoid contact with battery acid and battery gases.
- Keep sparks or open flames away from the 12 V battery.
- Only charge 12 V batteries in well-ventilated rooms.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes with water for at least 15 minutes and consult a doctor immediately if battery acid and battery gases get into the eyes.



Note

Environmental hazard 12 V batteries contain environmentally hazardous materials.

- Do not dispose of 12 V batteries as household waste.
- Dispose of 12 V batteries at a collection point for used batteries.



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

Even if there is no load on the 12-V battery, it discharges steadily.

The charging level and the method of charging are very important for the service life of the 12-V battery. Rapid recharging with a high charging current shortens the service life of the battery.

If the charging current, charging voltage, or charging time is exceeded, electrolyte escapes through the safety valves. This reduces the capacity of the 12-V battery.

If the 12-V battery is depleted by repeated starting, the 12-V battery must be charged immediately.

If the 12-V battery is left in a discharged state for an extended period, it will become deeply discharged and sulfating occurs, destroying the battery.

The 12-V battery is maintenance-free. The acid level does not have to be checked.

Preparatory work

- Switch off the ignition by turning the ignition key to the **OFF** ☒ position.
- Remove the seat. (📖 p. 93)
- Disconnect the 12-V battery. (📖 p. 141)

Main work

- Connect the battery charger to the 12-V battery. Adjust the battery charger.

EU battery charger **XCharge-professional** (00029095050)
(📖 p. 380)

Alternative 1

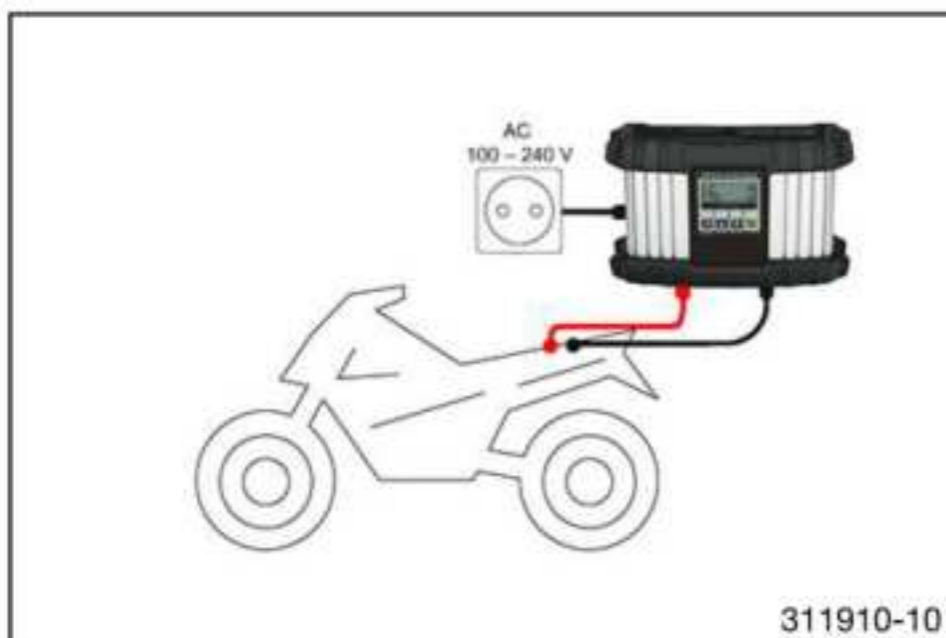
US battery charger **XCharge-professional**
(00029095051) (📖 p. 381)

Alternative 2

UK battery charger **XCharge-professional**
(00029095052) (📖 p. 381)

Alternative 3

CH battery charger **XCharge-professional**
(00029095053) (📖 p. 381)



Info

Follow the instructions of the charger and the manual.

- Disconnect the battery charger after charging the 12-V battery.

Guideline

The charging current, charging voltage, and charging time must not be exceeded.

Recharge the 12-V battery regularly when the motorcycle is not being used	3 months
---	----------

Finishing work

- Connect the 12-V battery. (📖 p. 142)
- Mount the seat. (📖 p. 93)
- Adjust the clock. (📖 p. 167)

15.6 Checking the charging voltage

Condition

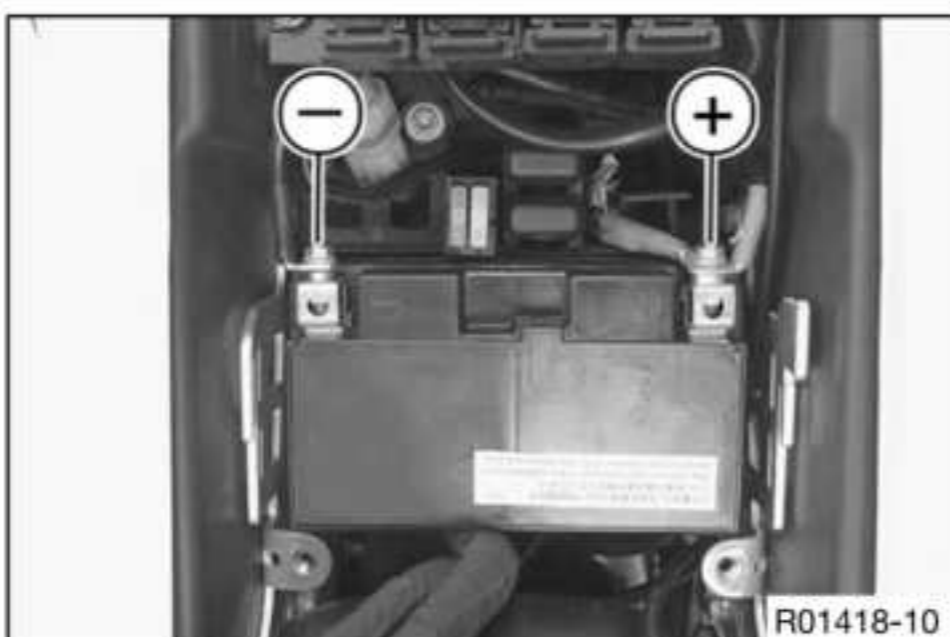
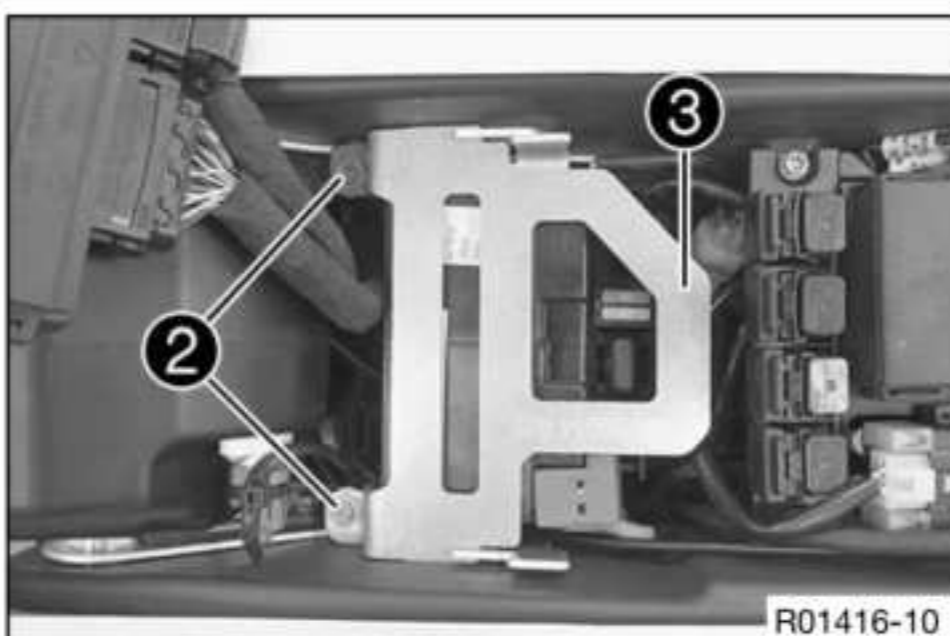
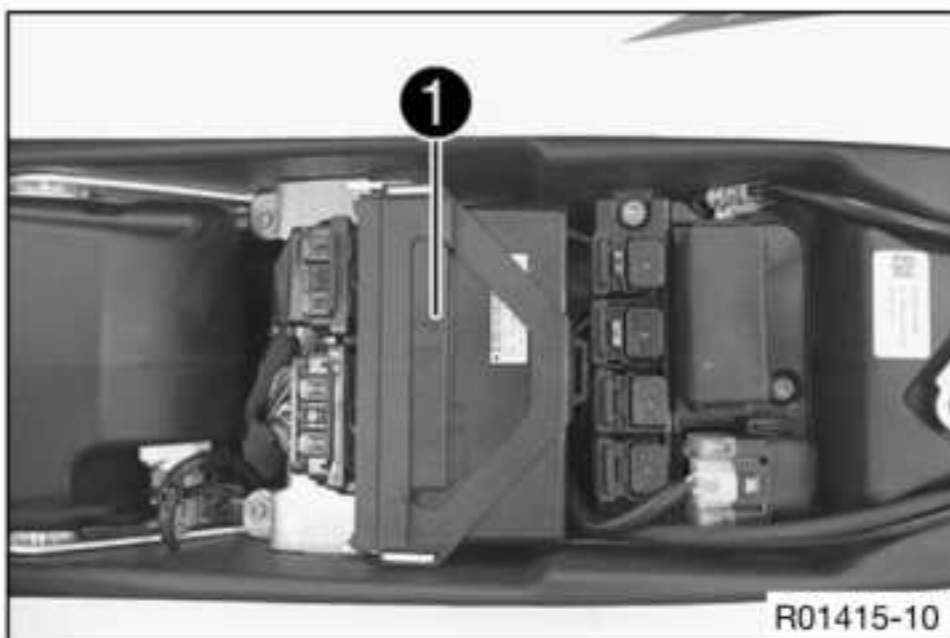
The 12-V battery must be fully functional and completely charged.

Preparatory work

- Remove the seat. (📖 p. 93)

Main work

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

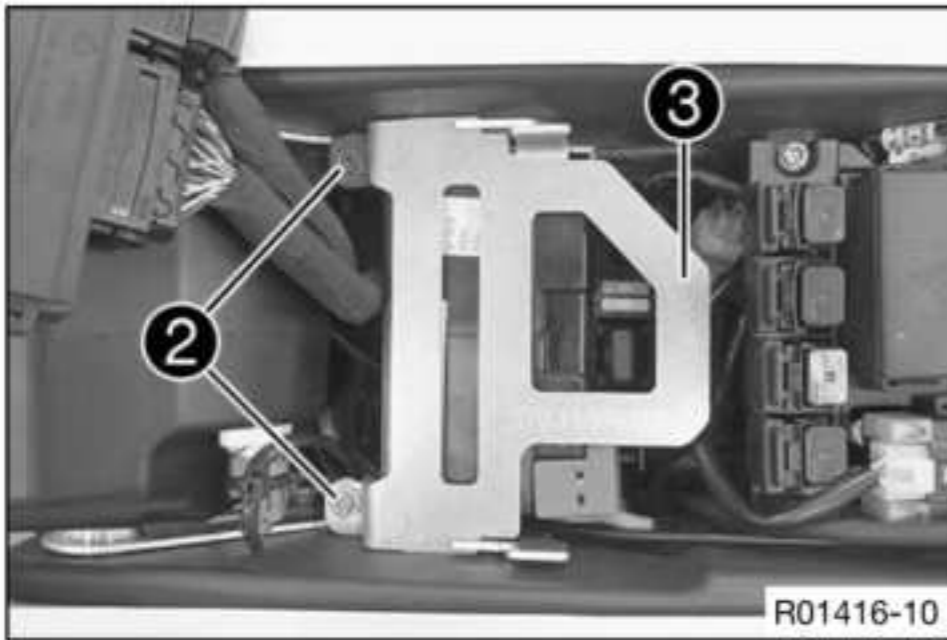


- Remove screws **2**.
- Pull retaining bracket **3** of the 12-V battery forward and remove it.
- Remove positive terminal cover.
- Start the motorcycle to check the function. (📖 p. 17)

- **V** Measure the voltage between the specified points. Measuring point **plus (+)** – Measuring point **Ground (-)**

Charging voltage	
5,000 rpm	13.5 ... 15.0 V

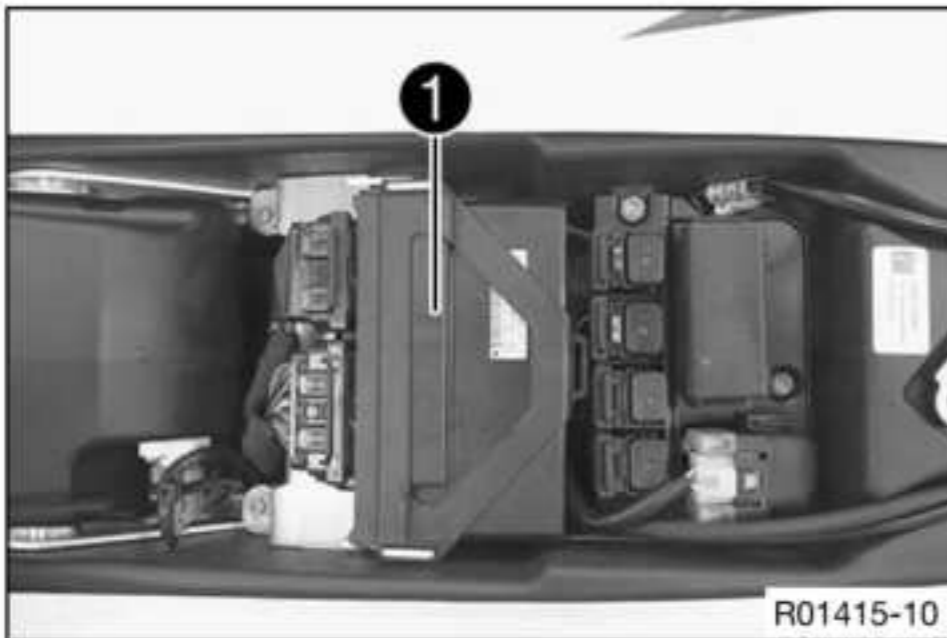
- » If the displayed value is greater than the specified value:
 - Change the voltage regulator.



- Mount the positive terminal cover.
- Position retaining bracket ③.
- Mount and tighten screws ②.

Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------



- Mount engine electronics control unit ①.

Finishing work

- Mount the seat. (📖 p. 93)

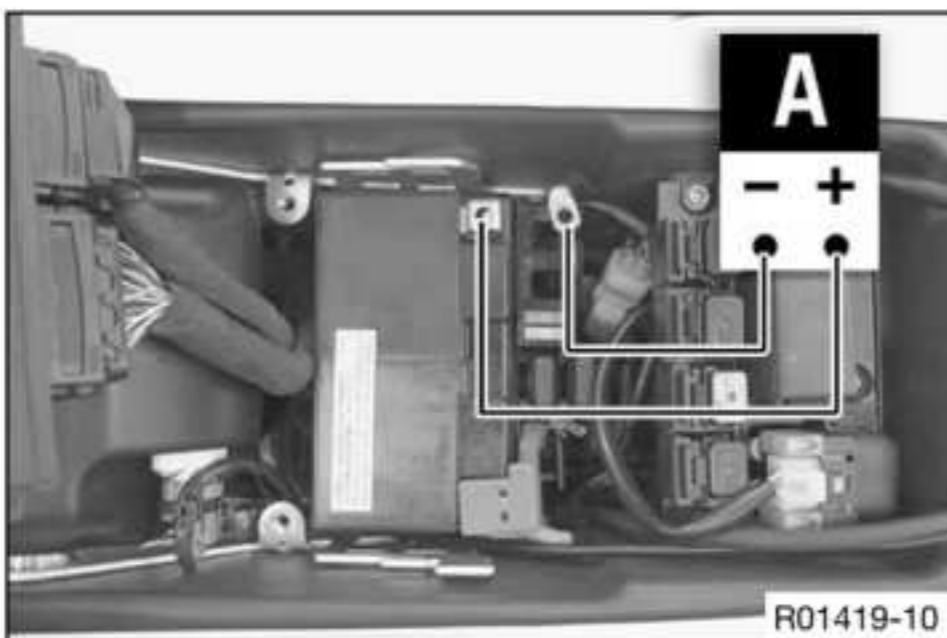
15.7 Checking the open-circuit current

Preparatory work

- Switch off the ignition by turning the ignition key to the **OFF** ☒ position.
- Remove the seat. (📖 p. 93)
- Disconnect the 12-V battery. (📖 p. 141)

Main work

- Measure the current between 12-V battery ground (-) and the negative cable.



i Info

The value of the open-circuit current only applies to vehicles in their original state without additional power consumers.

Maximum open-circuit current	< 1.0 mA
------------------------------	----------

- » If the measured value is greater than the specified value:
 - Disconnect the voltage regulator from the wiring harness and perform the measurement again.

Finishing work

- Connect the 12-V battery. (📖 p. 142)
- Mount the seat. (📖 p. 93)
- Adjust the clock. (📖 p. 167)

15.8 Changing the main fuse



Warning

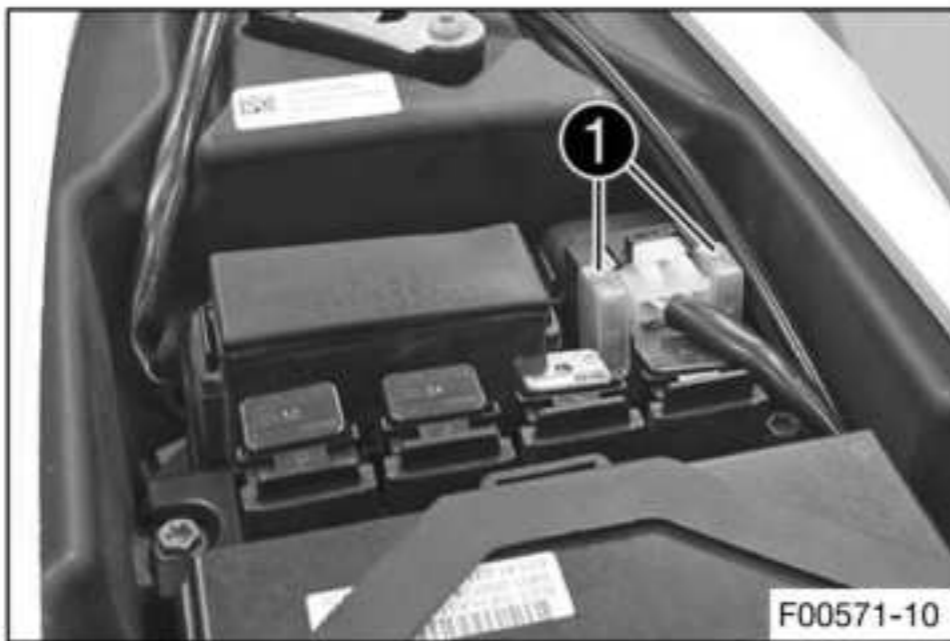
Fire hazard Incorrect fuses overload the electrical system.

- Only use fuses with the required ampere value.
- Do not bypass or repair fuses.

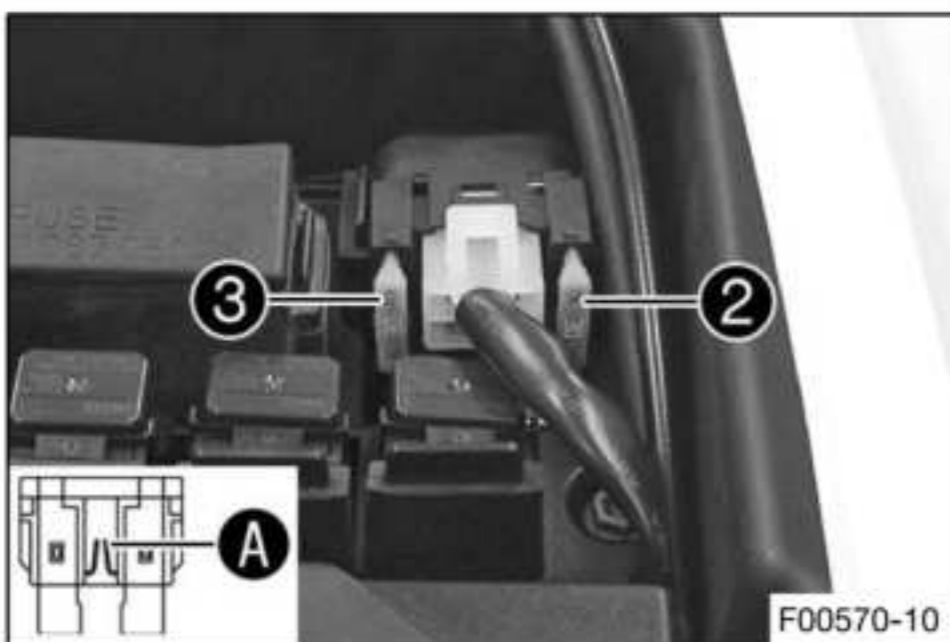


Info

The main fuse protects all power consumers of the vehicle. It is in the housing of the starter relay next to the 12-V battery.



F00571-10



F00570-10

Preparatory work

- Switch off the ignition by turning the ignition key to the **OFF** ☒ position.
- Remove the seat. (📖 p. 93)

Main work

- Take off protection caps **1**.

- Remove a defective main fuse **2** with needle nose pliers.



Info

A faulty fuse has a burned-out fuse wire **A**.
A spare fuse **3** is located in the starter relay.

- Insert a new main fuse.

Fuse (58011109130) (📖 p. 319)



Info

Insert a new spare fuse into the starter relay to have it available when needed.

- Check that the electrical system is functioning properly.
- Mount the protection caps.

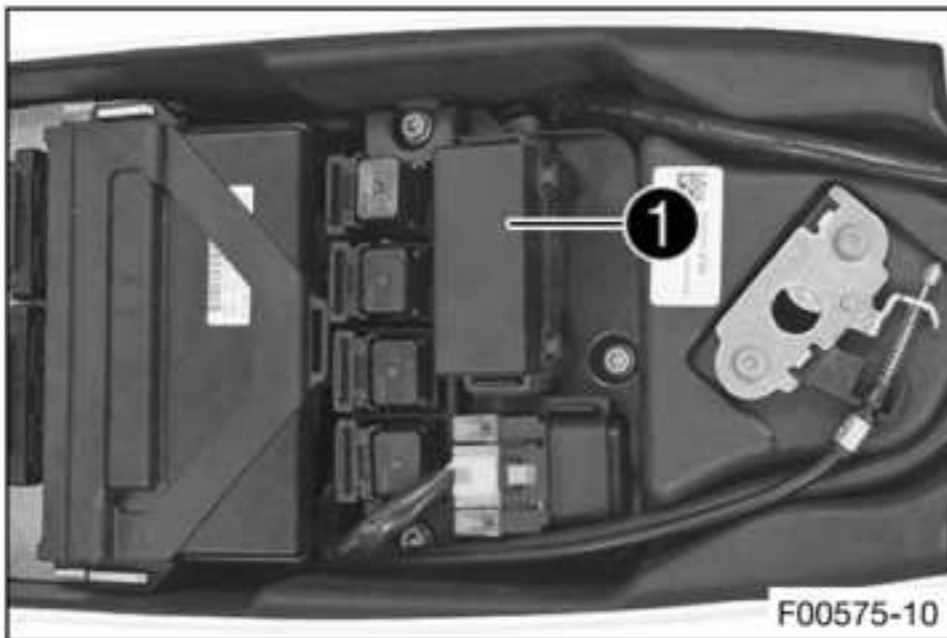
Finishing work

- Mount the seat. (📖 p. 93)
- Adjust the clock. (📖 p. 167)

15.9 Changing the fuses of individual power consumers

i Info

The fuse box containing the fuses of individual power consumers is located under the seat.



Preparatory work

- Switch off the ignition by turning the ignition key to the **OFF** position.
- Remove the seat. (p. 93)

Main work

- Open fuse box cover **1**.

- Remove the faulty fuse.

Guideline

Fuse 1 - 10 A - ignition
Fuse 2 - 10 A - ignition, combination instrument, engine electronics control unit, lambda sensor, ABS switch
Fuse 3 - 10 A - fuel pump
Fuse 4 - 10 A - radiator fan
Fuse 5 - 10 A - horn, brake light, turn signal, oil pressure sensor
Fuse 6 - 15 A - high beam, low beam, position light, tail light, license plate lamp
Fuse 7 - 10 A - for auxiliary equipment (permanent positive)
Fuse 8 - 10 A - for auxiliary equipment (accessories connected with ignition switch)
Fuse 9 - 10 A - ABS control unit, diagnostics connector
Fuse 10 - not assigned
Fuse SPARE - 10 A/15 A - spare fuses



Info

A faulty fuse has a burned-out fuse wire **A**.



Warning

Fire hazard Incorrect fuses overload the electrical system.

- Only use fuses with the required ampere value.
- Do not bypass or repair fuses.

- Insert a spare fuse with the correct rating.

Fuse (75011088010) (p. 319)

Fuse (75011088015)



Tip

Replace the spare fuse in the fuse box so that it is available if needed.

- Check that the power consumer is functioning properly.
- Close the fuse box cover.

Finishing work

- Mount the seat. (📖 p. 93)

15.10 Changing the ABS fuses



Warning

Fire hazard Incorrect fuses overload the electrical system.

- Only use fuses with the required ampere value.
- Do not bypass or repair fuses.



Info

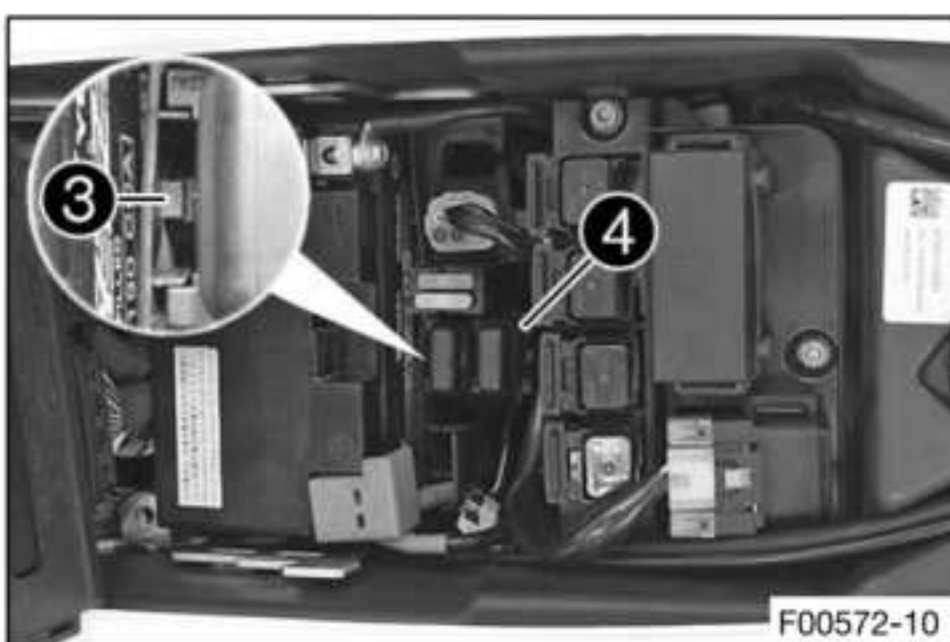
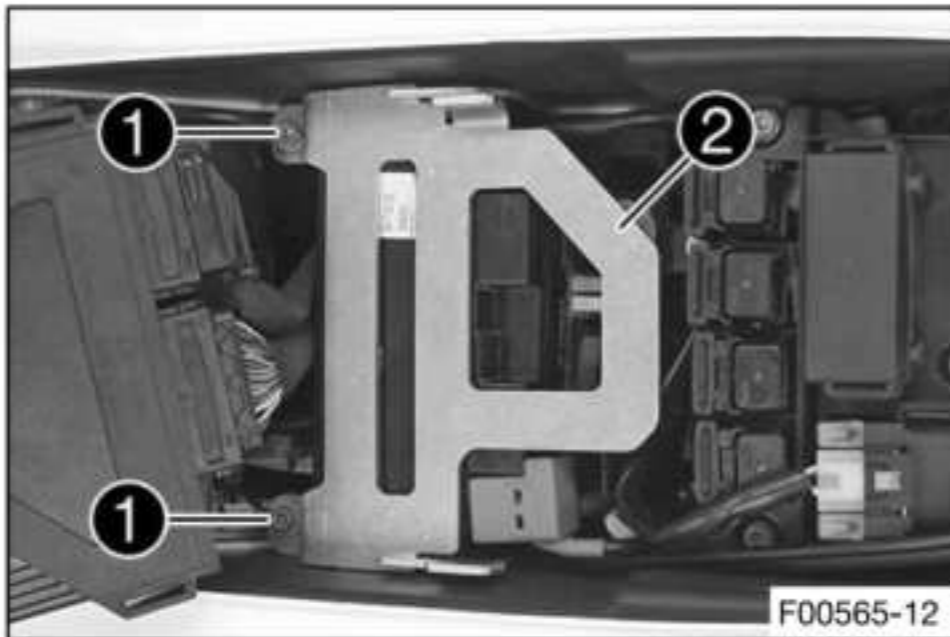
Two fuses for the ABS are located under the seat. These fuses protect the return pump and the hydraulic unit of the ABS. The third fuse, which protects the ABS control unit, is located in the fuse box.

Preparatory work

- Switch off the ignition by turning the ignition key to the **OFF** ☒ position.
- Remove the seat. (📖 p. 93)
- Pull the engine electronics control unit off the holder and set it to one side.

Main work

- Remove screws ①.
- Pull retaining bracket ② of the 12-V battery forward and remove it.



- Unlock holding lug ③ and lift off holder ④.

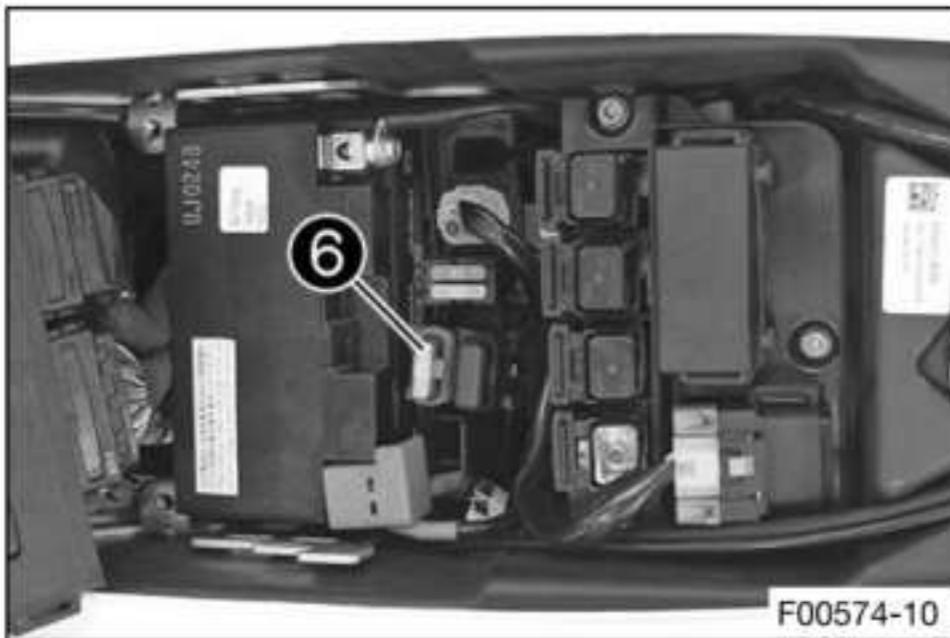


To change the fuse of the ABS hydraulic unit:

- Take off the protection cap and remove fuse 5.
- Insert a new fuse.

Fuse (58011109115) (📖 p. 319)

- Mount the protection cap.

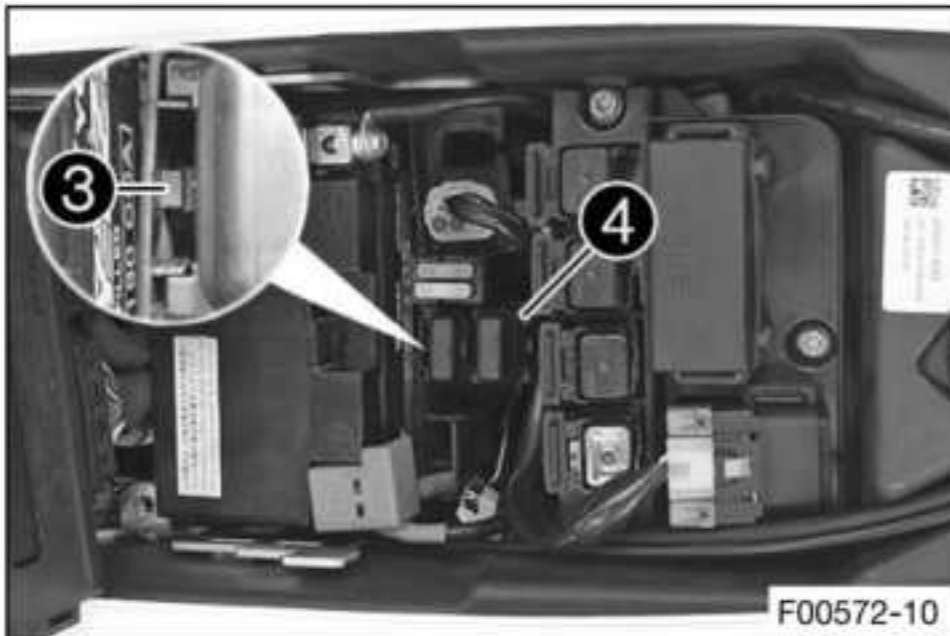


To change the fuse of the ABS return pump:

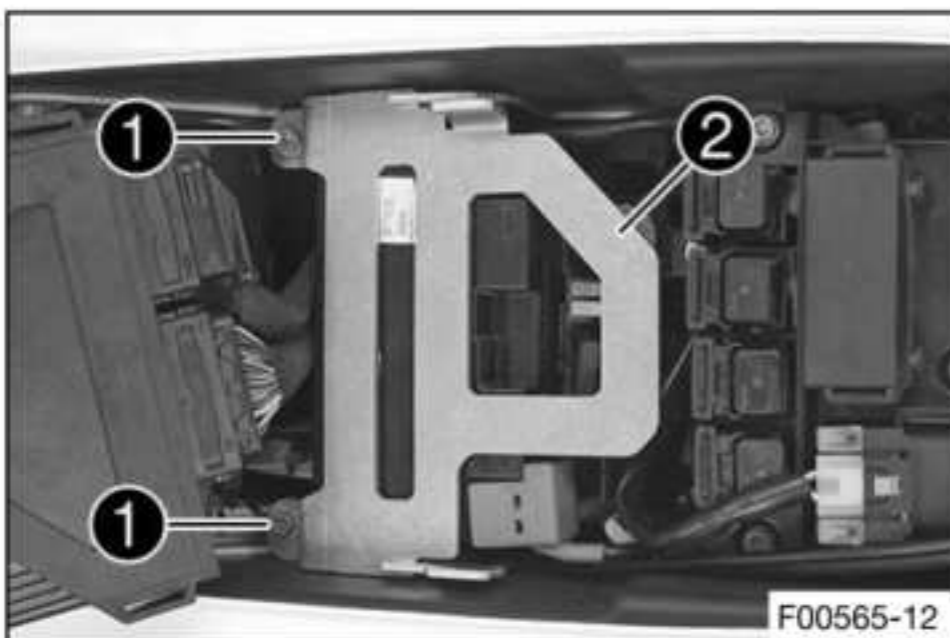
- Take off the protection cap and remove fuse 6.
- Insert a new fuse.

Fuse (58011109125) (📖 p. 319)

- Mount the protection cap.



- Position holder 4.
- ✓ Holding lug 3 engages audibly.



- Position retaining bracket 2 and mount and tighten screws 1.

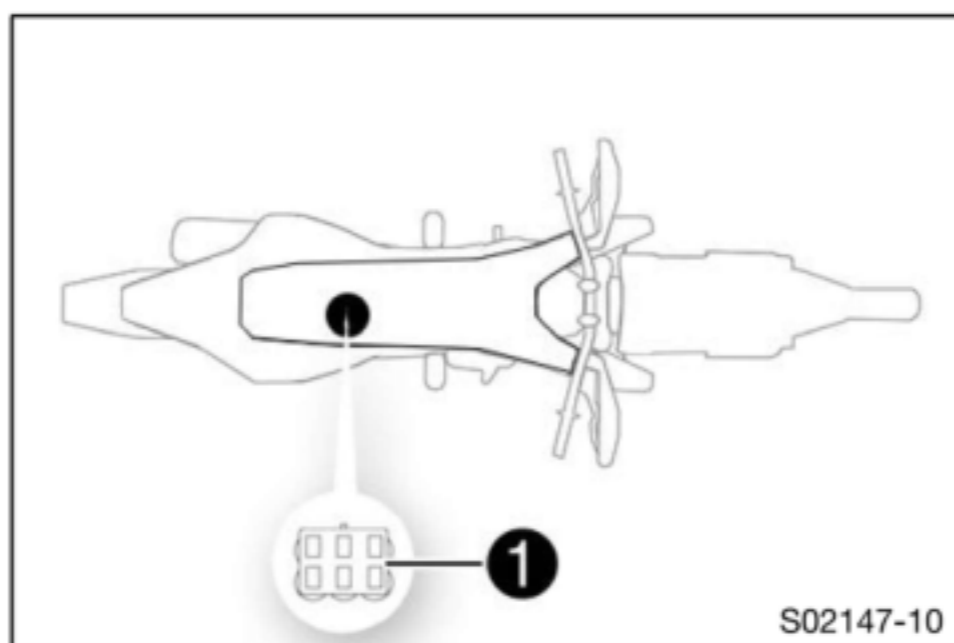
Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------

Finishing work

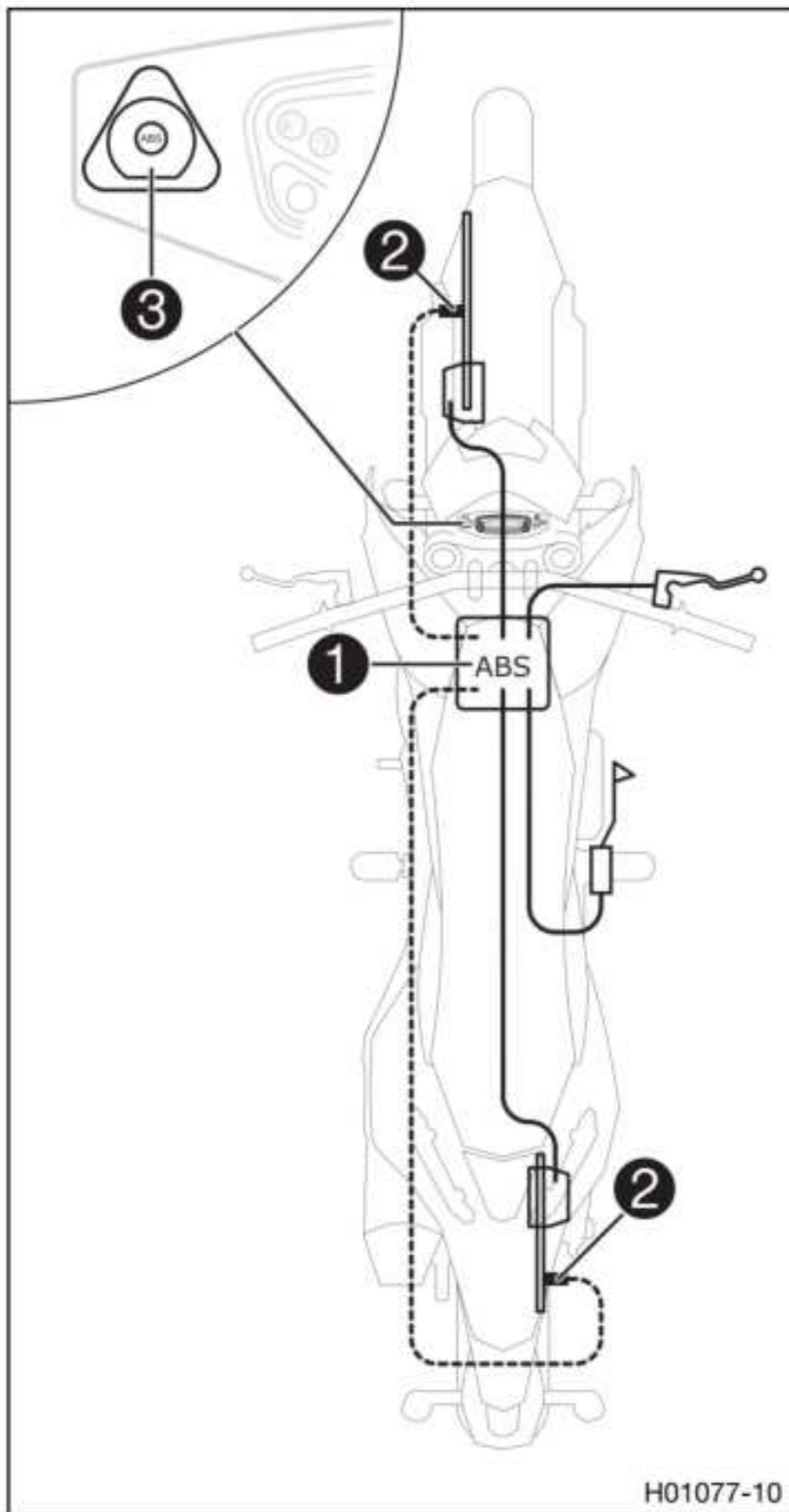
- Position the motor electronics control unit.
- Mount the seat. (📖 p. 93)

15.11 Diagnostics connector



Diagnostics connector **1** is located under the engine electronics control unit.

16.1 Anti-lock braking system (ABS)



The ABS unit **1**, which consists of a hydraulic unit, ABS control unit, and return pump, is installed under the seat. One wheel speed sensor **2** is located in each case on the front and the rear wheel.

(EU)

**Warning**

Danger of accidents Changes to the vehicle impair the function of the ABS.

- Only allow the rear wheel to spin with the front brake applied if the ABS is switched off (burn out).
- Do not make any changes to the suspension travel.
- Only use spare parts on the brake system which have been approved and recommended by Husqvarna Motorcycles.
- Only use tires/wheels approved by Husqvarna Motorcycles with the corresponding speed index.
- Maintain the specified tire pressure.
- Service work and repairs must be performed professionally.

Note

Voiding of the government approval for road use and the insurance coverage If the ABS is switched off completely, the vehicle's approval for road use is invalidated.

- Only operate the vehicle in closed-off areas remote from public road traffic if the ABS is switched off completely.

The ABS is a safety system that prevents locking of the wheels when driving straight ahead without the influence of lateral forces.

**Warning**

Danger of accidents Driving aids can only prevent a rollover within the physical limitations.

It is not always possible to compensate for extreme riding situations, for example with luggage loaded with a high center of gravity, varying road surfaces, steep descents or full braking without disengaging the gear.

- Adapt your riding style to the road conditions and your driving ability.

(US)



Warning

Danger of accidents Changes to the vehicle impair the function of the ABS.

- Only allow the rear wheel to spin with the front brake applied if the ABS is switched off (burn out).
- Do not make any changes to the suspension travel.
- Only use spare parts on the brake system which have been approved and recommended by Husqvarna Motorcycles.
- Only use tires/wheels approved by Husqvarna Motorcycles with the corresponding speed index.
- Maintain the specified tire pressure.
- Service work and repairs must be performed professionally.

The ABS is a safety system that prevents locking of the wheels when driving straight ahead without the influence of lateral forces.




Warning

Danger of accidents Driving aids can only prevent a rollover within the physical limitations.

It is not always possible to compensate for extreme riding situations, for example with luggage loaded with a high center of gravity, varying road surfaces, steep descents or full braking without disengaging the gear.

- Adapt your riding style to the road conditions and your driving ability.

The ABS operates with two independent brake circuits (front and rear brakes). During normal operation, the brake system operates like a conventional brake system without ABS. When the ABS control unit detects a locking tendency in a wheel, ABS begins regulating the brake pressure. The control function causes a slight pulsing of the hand and foot brake levers.

The ABS warning lamp  must light up after the ignition is switched on and go out after starting off. If it does not go out after starting off or if it lights up while riding, this indicates a fault in the ABS system. In this case, the ABS is no longer enabled and the wheels may lock during braking. The brake system itself stays functional; only ABS control is not available.

The ABS warning lamp may also light up if the rotating speeds of the front and rear wheels differ greatly under extreme riding conditions, for example when making "wheelies" or if the rear wheel spins. This causes the ABS to switch off.

To reactivate the ABS, stop the vehicle and switch off the ignition. The ABS is reactivated when the vehicle is switched on again. The ABS warning lamp goes out when you start off.

The **3** button can be used to switch the ABS off manually (see Starting).

16.2 Checking the front brake linings



Warning

Danger of accidents Worn-out brake linings reduce the braking effect.

- Ensure that worn-out brake linings are replaced immediately.

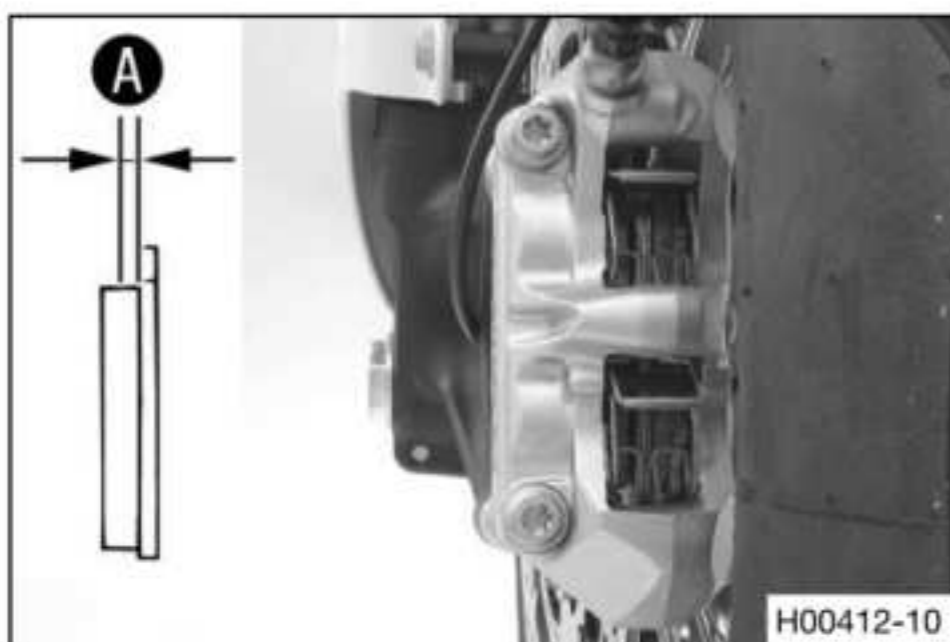


Warning

Danger of accidents Damaged brake discs reduce the braking effect.

If the brake linings are not changed in time, the brake lining carriers grind against the brake disc. As a consequence, the braking effect is greatly reduced and the brake discs are destroyed.

- Check the brake linings regularly.



- Check the brake linings for minimum thickness **A**.

Minimum thickness A	$\geq 1 \text{ mm } (\geq 0.04 \text{ in})$
----------------------------	---

- » If the minimum thickness is less than specified:
 - Change the front brake linings. (📖 p. 153)
- Check the brake linings for damage and cracking.
 - » If there is wear or tearing:
 - Change the front brake linings. (📖 p. 153)

16.3 Changing the front brake linings



Warning

Danger of accidents Incorrect servicing will cause the brake system to fail.

- Ensure that service work and repairs are performed professionally.



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.



Warning

Danger of accidents Old brake fluid reduces the braking effect.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.



Warning

Danger of accidents Oil or grease on the brake discs reduces the braking effect.

- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.



Warning

Danger of accidents Brake linings which have not been approved alter the braking efficiency.

Not all brake linings are tested and approved for Husqvarna motorcycles. The structure and friction coefficient of the brake linings, and thus their brake power, may vary greatly from that of original brake linings.

If brake linings are used that differ from the original equipment, compliance with the original homologation is not guaranteed. In this case, the vehicle no longer corresponds to its condition at delivery and the warranty shall be void.

- Only use brake linings approved and recommended by Husqvarna motorcycles.



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.

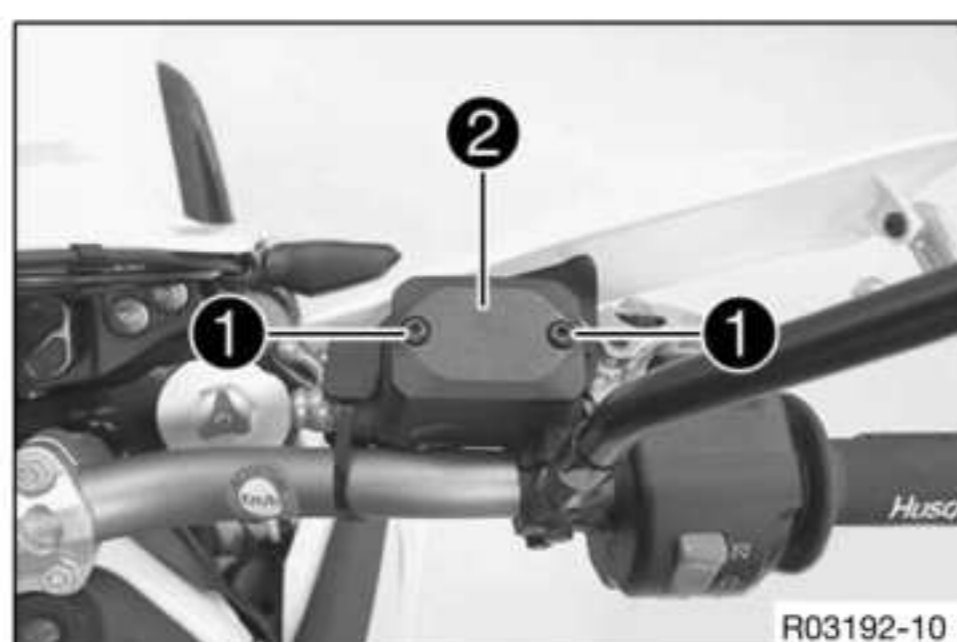


Info

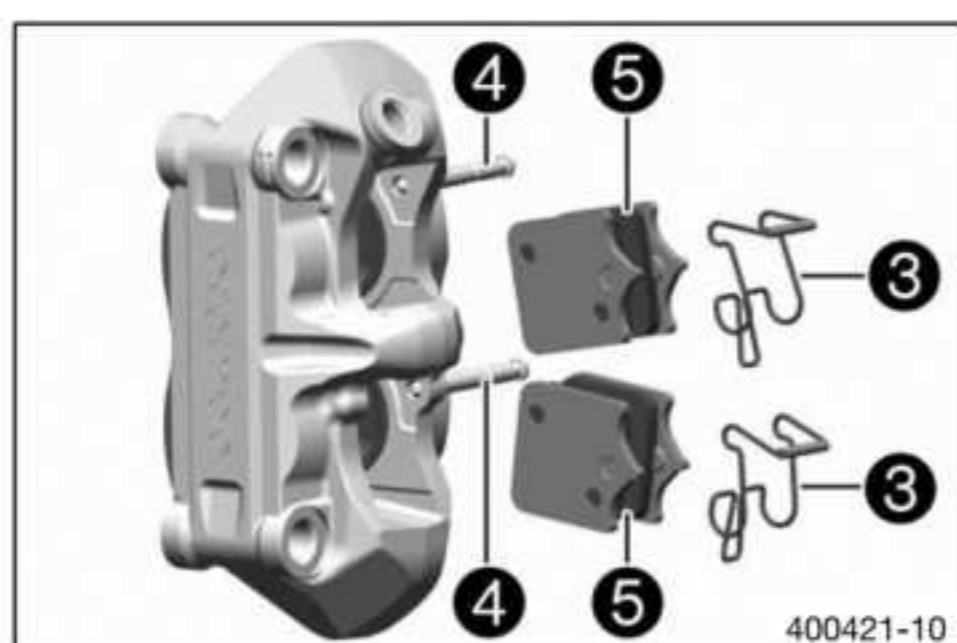
Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and brake lines are not designed for DOT 5 brake fluid.

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

Only use clean brake fluid from a sealed container.



- Move the brake reservoir mounted on the handlebar to a horizontal position.
- Remove screws ①.
- Take off cover ② with the membrane.
- Press the brake piston back into the basic position and ensure that brake fluid does not flow out of the brake fluid reservoir; extract some if necessary.



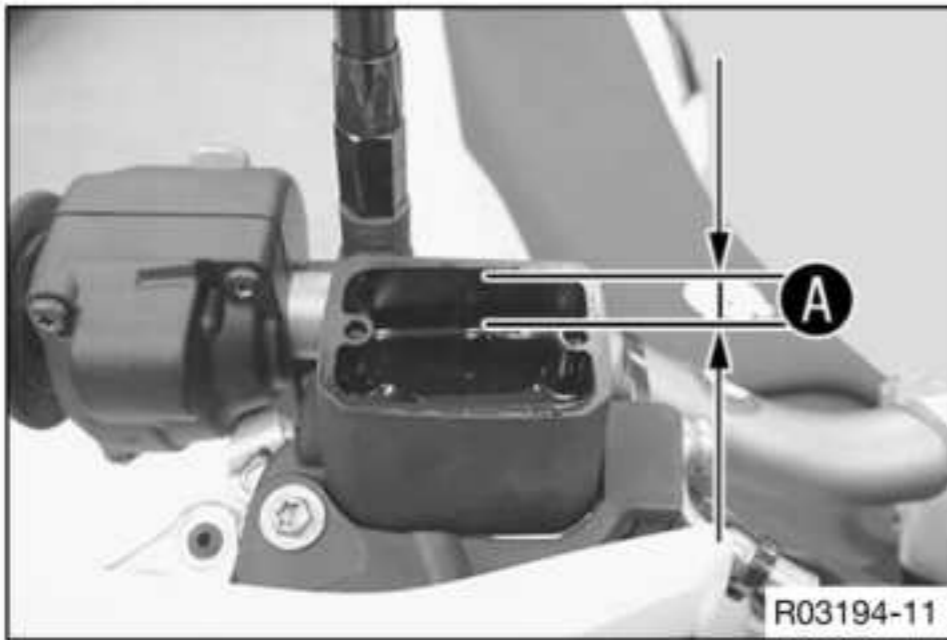
- Push the spring hanger forward from spring ③ and pull out pin ④.
- Take off springs ③. Remove brake linings ⑤.
- Clean the brake caliper.
- Insert new brake linings ⑤. Position springs ③ and mount pins ④.



Info

Always change the brake linings in pairs.

The spring hanger of springs ③ must be positioned upward.



- Correct the brake fluid quantity to level **A**.

Guideline

Dimension A	5 mm (0.2 in)
--------------------	---------------

Brake fluid DOT 4 / DOT 5.1 (📖 p. 376)

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

i Info
Clean up overflowed or spilled brake fluid immediately with water.

16.4 Adjusting the basic position of the hand brake lever



- Adjust the basic position of the hand brake lever to your hand size by turning adjusting wheel **1**.

i Info
Push the hand brake lever forward and turn the adjusting wheel.
Do not make any adjustments while riding.

16.5 Checking the front brake fluid level



Warning

Danger of accidents An insufficient brake fluid level will cause the brake system to fail.

If the brake fluid level drops below the specified marking or the specified value, the brake system is leaking or the brake linings are worn down.

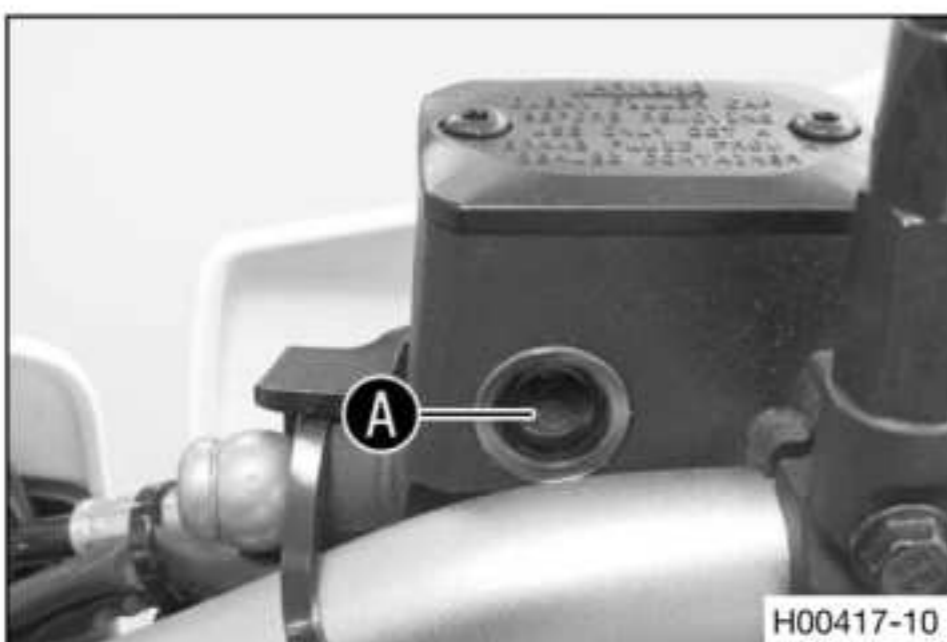
- Check the brake system and do not continue riding until the problem is eliminated.



Warning

Danger of accidents Old brake fluid reduces the braking effect.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.



- Move the brake reservoir mounted on the handlebar to a horizontal position.
- Check the brake fluid level in the viewer.
 - » If the brake fluid level has dropped below the marking **A**:
 - Add front brake fluid. (📖 p. 156)

16.6 Adding front brake fluid



Warning

Danger of accidents An insufficient brake fluid level will cause the brake system to fail. If the brake fluid level drops below the specified marking or the specified value, the brake system is leaking or the brake linings are worn down.

- Check the brake system and do not continue riding until the problem is eliminated.



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.



Warning

Danger of accidents Old brake fluid reduces the braking effect.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.



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 brake 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.

Preparatory work

- Check the front brake linings. (📖 p. 153)

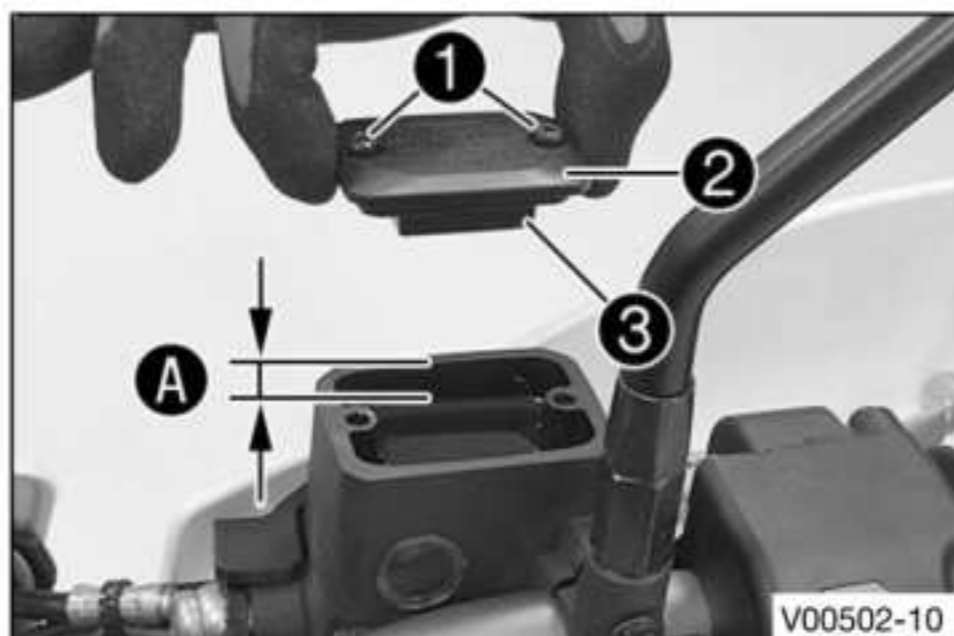
Main work

- Move the brake reservoir mounted on the handlebar to a horizontal position.
- Remove screws ①.
- Take off cover ② with membrane ③.
- Add brake fluid to level A.

Guideline

Level A (brake fluid level below reservoir rim)	5 mm (0.2 in)
---	---------------

Brake fluid DOT 4 / DOT 5.1 (📖 p. 376)
--



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

**Info**

Clean up overflowed or spilled brake fluid immediately with water.

16.7 Changing the front brake 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.

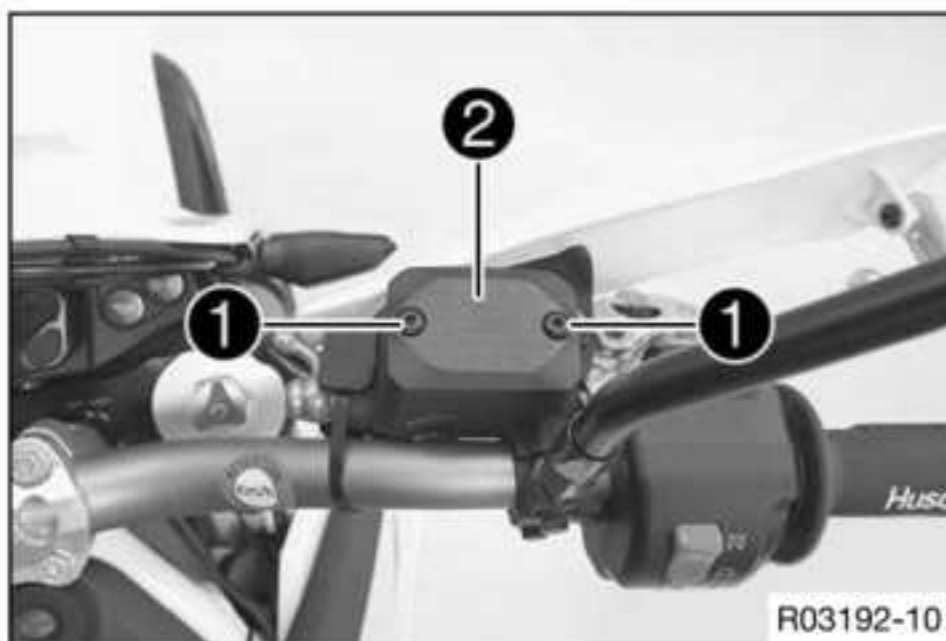
- Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

**Info**

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

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

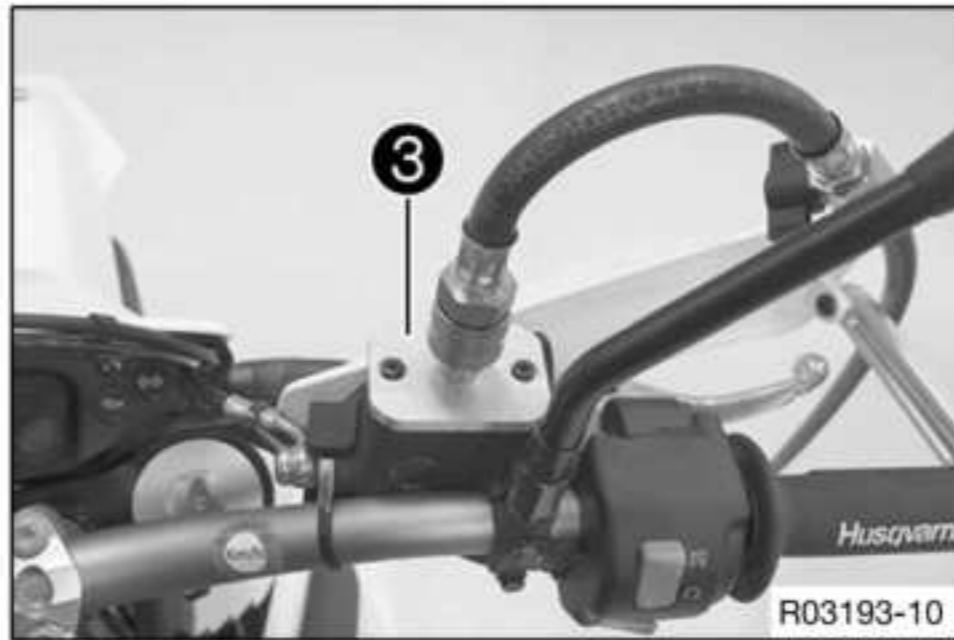
Only use clean brake fluid from a sealed container.



- Move the brake reservoir mounted on the handlebar to a horizontal position.
- Cover painted parts.
- Remove screws ①.
- Take off cover ② with the membrane.
- Extract the old brake fluid from the brake fluid reservoir using a syringe and fill with fresh brake fluid.

Syringe (50329050000) (📖 p. 382)

Brake fluid DOT 4 / DOT 5.1 (📖 p. 376)

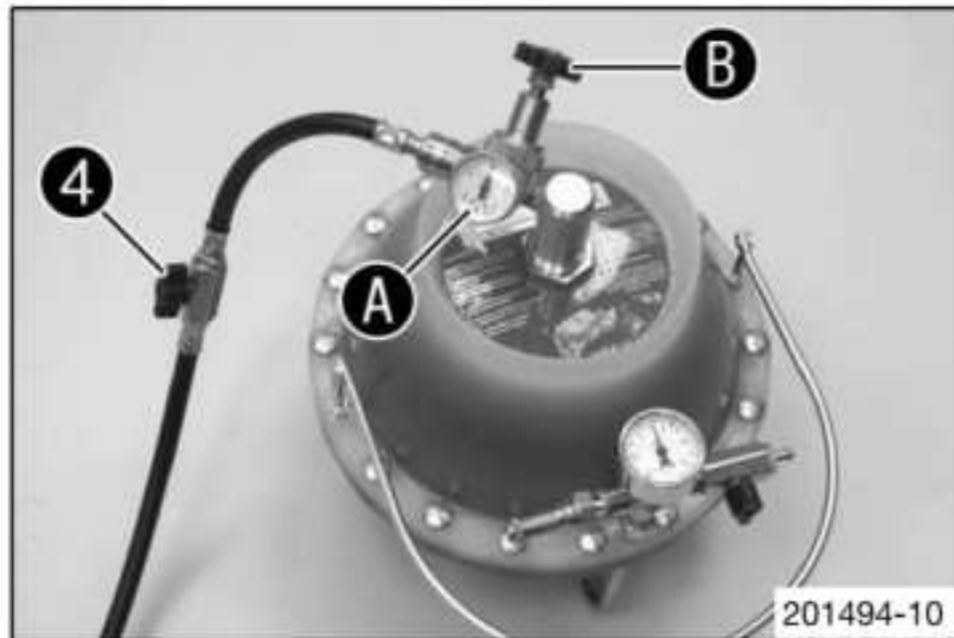


- Mount bleeder cover **3**.

Bleeder cover (00029013015) (📖 p. 380)
--

- Connect the bleeding device.

Bleeding device (00029013100) (📖 p. 380)
--



- Open shut-off valve **4**.

i Info

Follow the instructions in the Owner's Manual of the bleeding device.

- Ensure that the inflation pressure is set on pressure gauge **A**. Correct the inflation pressure on pressure regulator **B** if necessary.

Guideline

Inflation pressure	2 ... 2.5 bar (29 ... 36 psi)
--------------------	-------------------------------

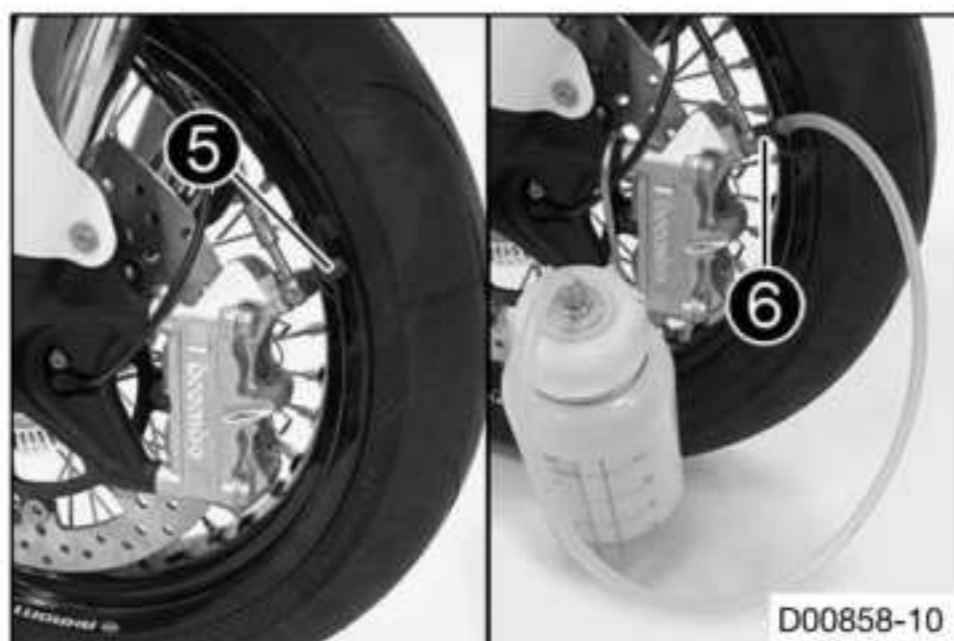
- Pull off protection cap **5** of the brake caliper bleeder screw. Connect the bleeder bottle hose.

Bleeding device (00029013100) (📖 p. 380)
--

- Open bleeder screw **6** by approx. one half turn.

i Info

Drain until fresh brake fluid emerges in the bleeder bottle hose without bubbles.



- Tighten the bleeder screw.
- Close shut-off valve **4**.
- Open the bleeder screw again until brake fluid stops emerging.

i Info

Overfilling the brake fluid reservoir is prevented.

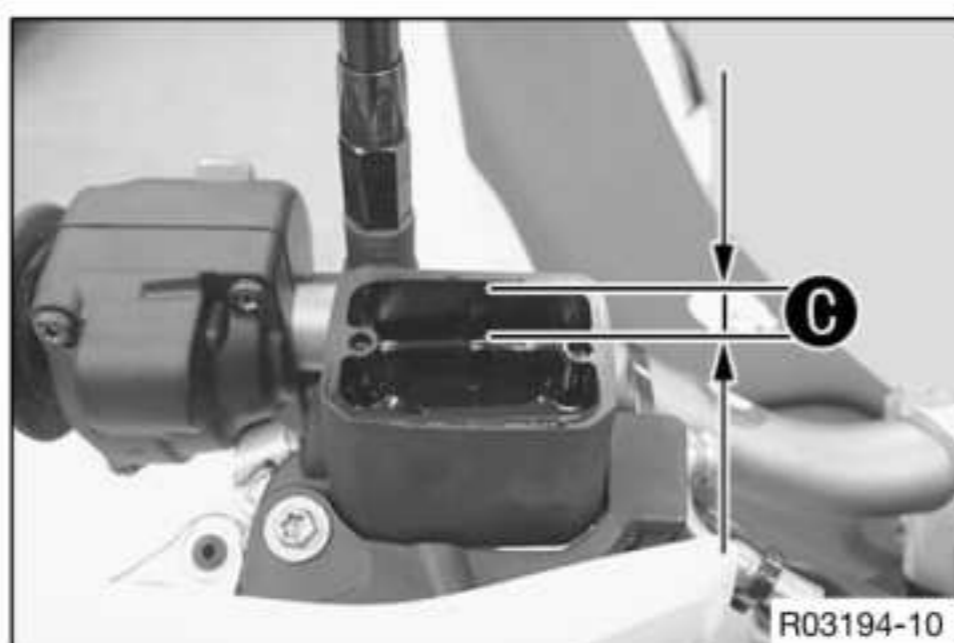
- Tighten the bleeder screw. Remove the bleeder bottle hose. Attach the protection cap.
- Disconnect the bleeding device. Remove the bleeder cover.
- Correct the brake fluid level.

Guideline

Add brake fluid to level C .	5 mm (0.2 in)
-------------------------------------	---------------

Brake fluid DOT 4 / DOT 5.1 (📖 p. 376)
--

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



**Info**

Clean up overflowed or spilled brake fluid immediately with water.

- Check the hand brake lever for a firm pressure point.

16.8 Checking the rear brake linings

**Warning**

Danger of accidents Worn-out brake linings reduce the braking effect.

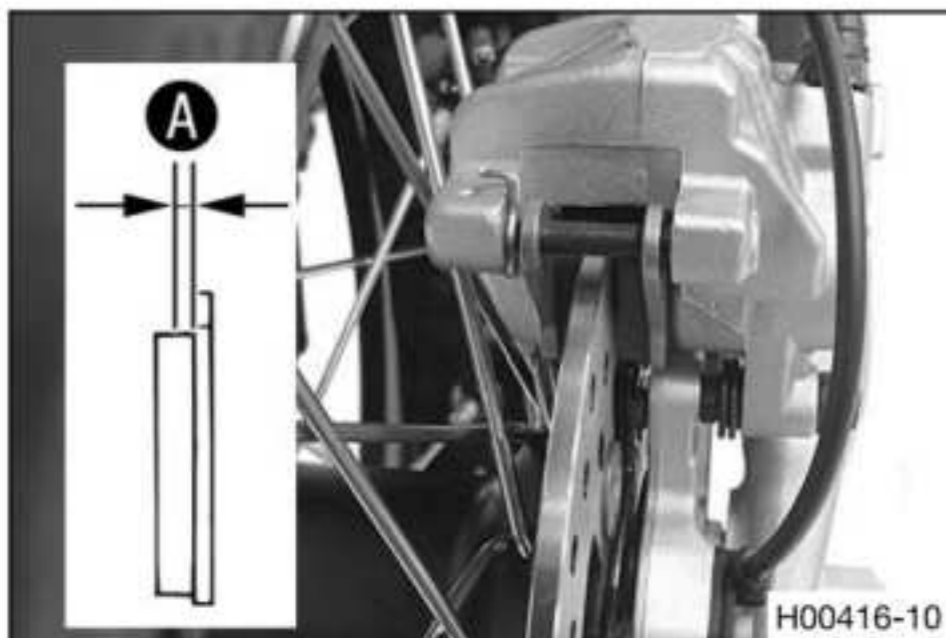
- Ensure that worn-out brake linings are replaced immediately.

**Warning**

Danger of accidents Damaged brake discs reduce the braking effect.

If the brake linings are not changed in time, the brake lining carriers grind against the brake disc. As a consequence, the braking effect is greatly reduced and the brake discs are destroyed.

- Check the brake linings regularly.



- Check the brake linings for minimum thickness **A**.

Minimum thickness A	$\geq 1 \text{ mm } (\geq 0.04 \text{ in})$
----------------------------	---

- » If the minimum thickness is less than specified:
 - Change the rear brake linings. (📖 p. 159)
- Check the brake linings for damage and cracking.
 - » If there is wear or tearing:
 - Change the rear brake linings. (📖 p. 159)

16.9 Changing the rear brake linings

**Warning**

Danger of accidents Incorrect servicing will cause the brake system to fail.

- Ensure that service work and repairs are performed professionally.

**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.

**Warning**

Danger of accidents Old brake fluid reduces the braking effect.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.



Warning

Danger of accidents Oil or grease on the brake discs reduces the braking effect.

- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.



Warning

Danger of accidents Brake linings which have not been approved alter the braking efficiency.

Not all brake linings are tested and approved for Husqvarna motorcycles. The structure and friction coefficient of the brake linings, and thus their brake power, may vary greatly from that of original brake linings.

If brake linings are used that differ from the original equipment, compliance with the original homologation is not guaranteed. In this case, the vehicle no longer corresponds to its condition at delivery and the warranty shall be void.

- Only use brake linings approved and recommended by Husqvarna motorcycles.



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.

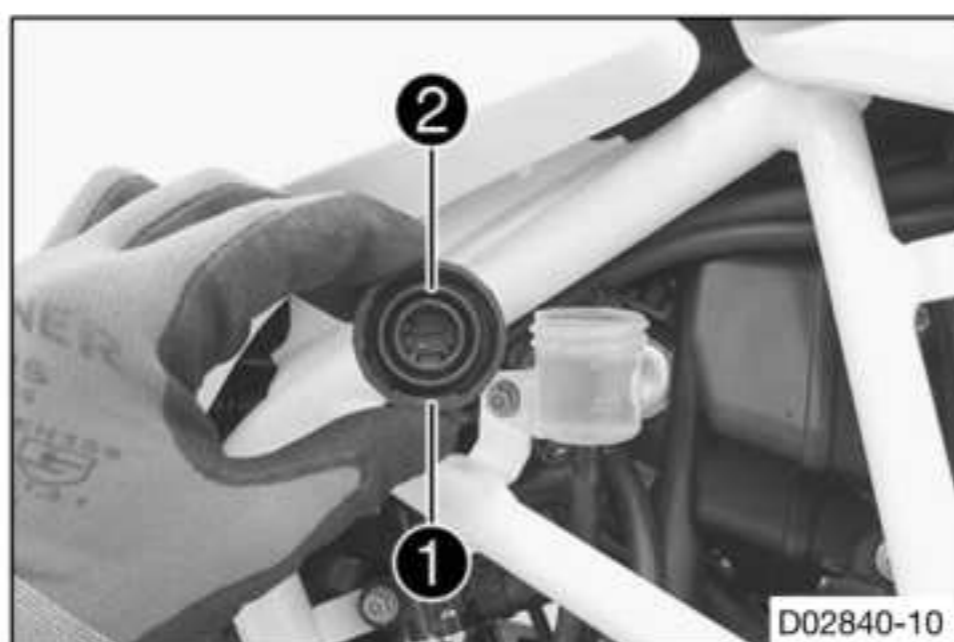


Info

Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and brake 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.

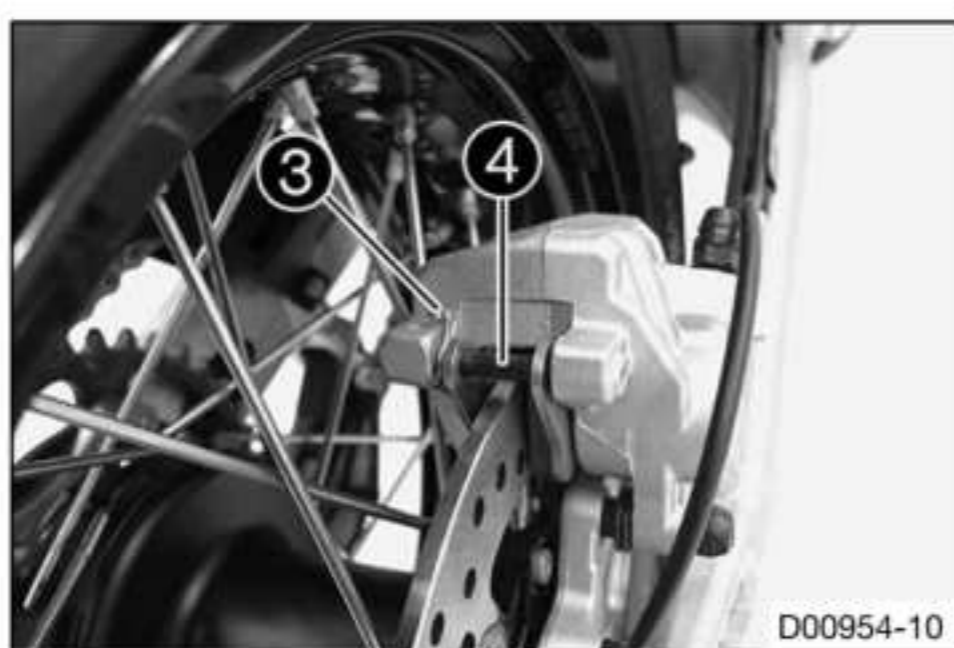


- Stand the vehicle upright.
- Remove screw cap ① with membrane ②.
- Press the brake caliper onto the brake disc by hand in order to push back the brake piston. Ensure that brake fluid does not flow out of the brake fluid reservoir; extract some if necessary.

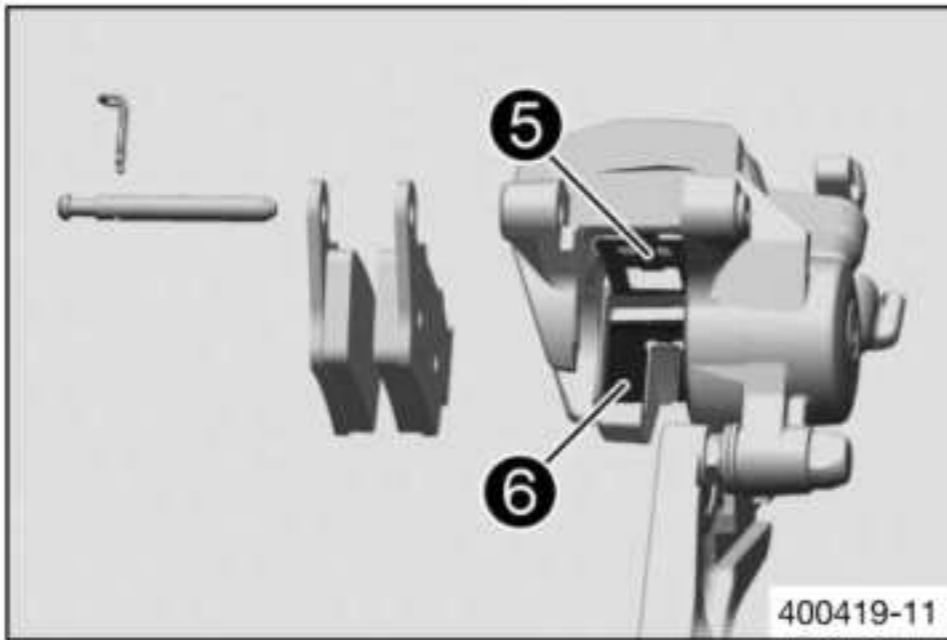


Info

Make sure that you do not press the brake caliper against the spokes when pushing back the brake piston.



- Remove cotter pin ③, remove pin ④ toward the left by striking it, and remove the brake linings.
- Clean the brake caliper and brake caliper bracket.



- Check that spring plate **5** in the brake caliper and sliding plate **6** in the brake caliper bracket are seated properly.
- Insert the new brake linings, insert the pin, and mount the cotter pins.



Info

Always change the brake linings in pairs.

- Operate the foot brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point.
- Adjust the brake fluid level to the **MAX** marking.

Brake fluid DOT 4 / DOT 5.1 (📖 p. 376)
--

- Mount screw cap with membrane.



Info

Clean up overflowed or spilled brake fluid immediately with water.

16.10 Checking the free travel of foot brake lever

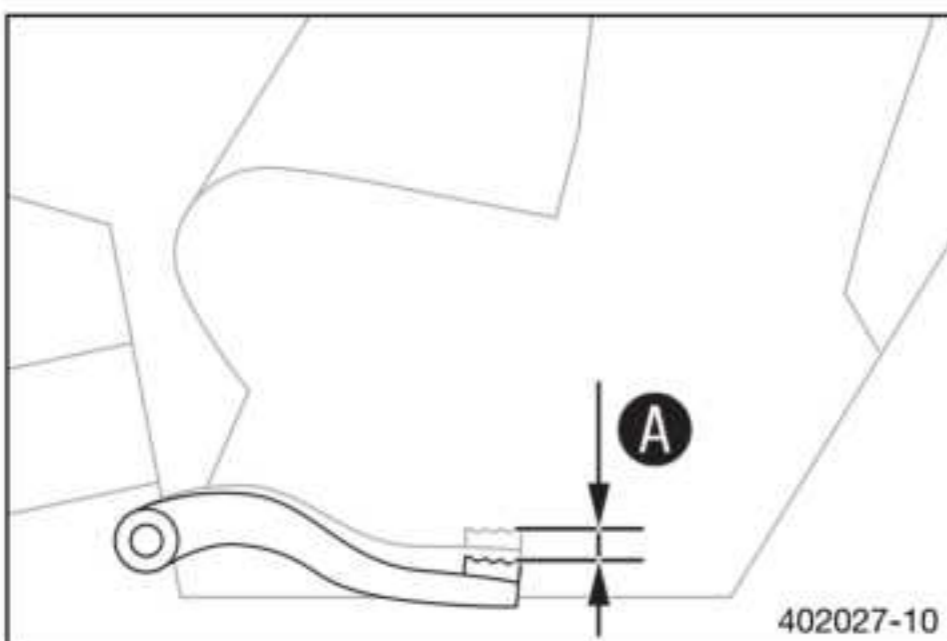


Warning

Danger of accidents The brake system fails in the event of overheating.

If there is no free travel on the foot brake lever, pressure builds up in the brake system on the rear brake.

- Set the free travel on the foot brake lever in accordance with the specification.



- Move the foot brake lever back and forth between the end stop and the contact to the foot brake cylinder piston and check free travel **A**.

Guideline

Free travel at foot brake lever	3 ... 5 mm (0.12 ... 0.2 in)
---------------------------------	------------------------------



Info

You will know that contact has been made with the foot brake cylinder piston when there is increased resistance when you activate the foot brake lever.

- » If the free travel does not meet specifications:
 - Adjust the basic position of the foot brake lever. (📖 p. 162)

16.11 Adjusting the basic position of the foot brake lever

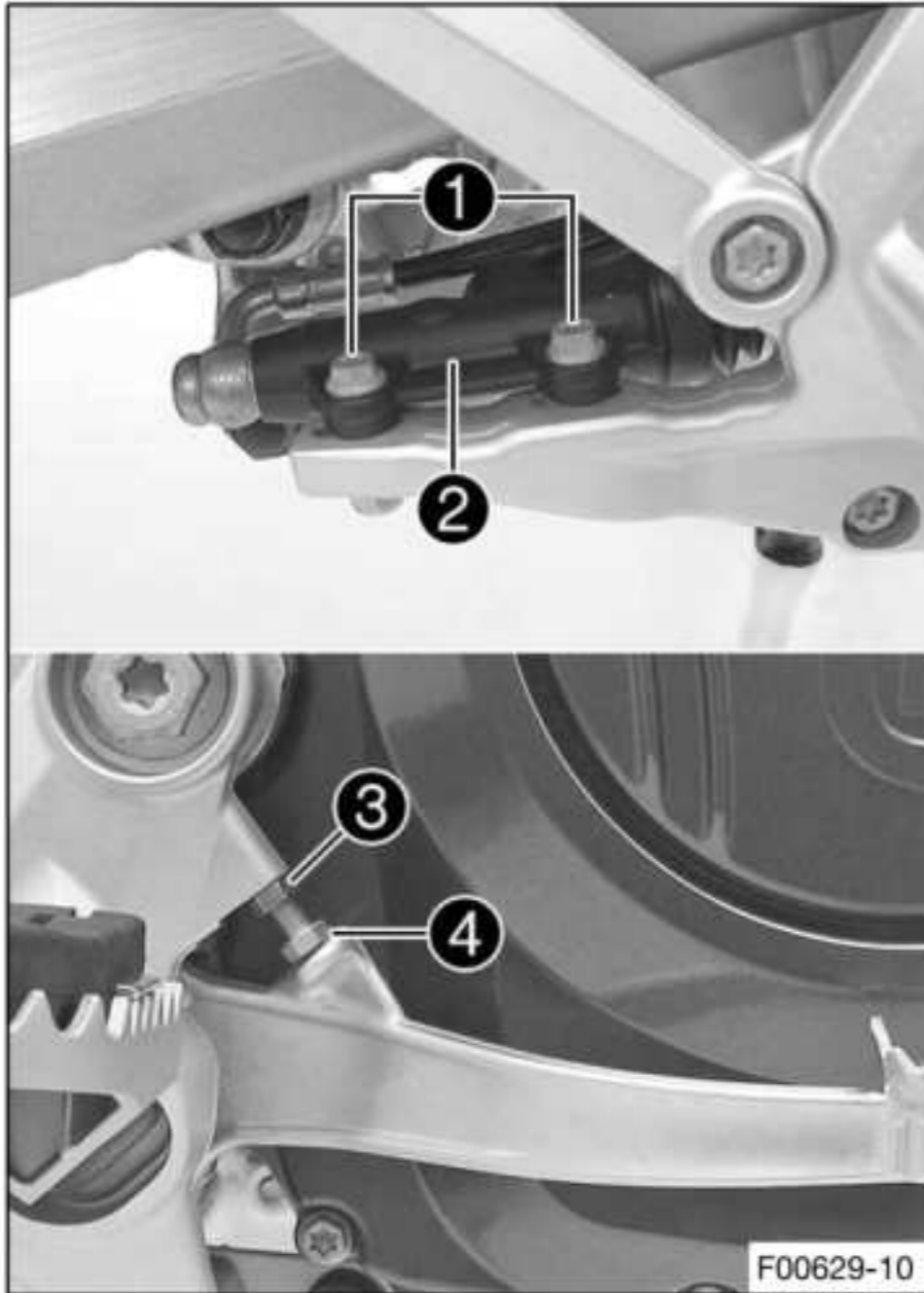


Warning

Danger of accidents The brake system fails in the event of overheating.

If there is no free travel on the foot brake lever, pressure builds up in the brake system on the rear brake.

- Set the free travel on the foot brake lever in accordance with the specification.



- Loosen fittings ① on foot brake cylinder ②.
- To adjust the basic position of the foot brake lever to individual requirements, loosen nut ③ and turn screw ④ accordingly.



Info

The range of adjustment is limited. The screw must be screwed into the footrest bracket by at least four turns.

- Position foot brake cylinder ② so that the foot brake lever has the necessary free travel.
- Tighten fittings ①.

Guideline

Screw connection, foot brake cylinder	M6	10 Nm (7.4 lbf ft)
---------------------------------------	----	--------------------

- Check the free travel of the foot brake lever. (📖 p. 161)
- Tighten nut ③.

16.12 Checking the rear brake fluid level



Warning

Danger of accidents An insufficient brake fluid level will cause the brake system to fail.

If the brake fluid level drops below the **MIN** marking, the brake system is leaking or the brake linings are worn down.

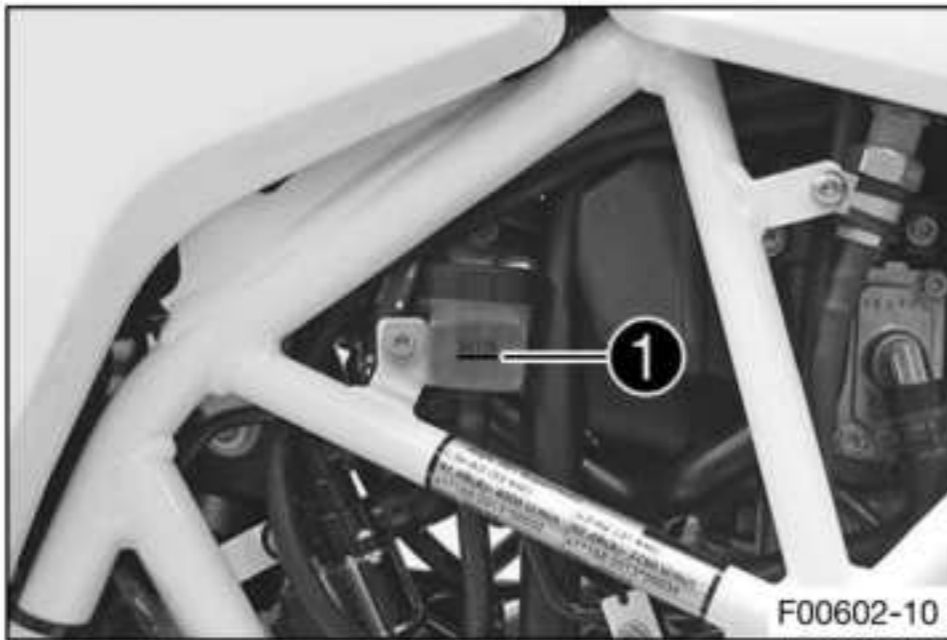
- Check the brake system and do not continue riding until the problem is eliminated.



Warning

Danger of accidents Old brake fluid reduces the braking effect.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.

**(EU)**

- Stand the vehicle upright.
- Check the brake fluid level in the brake fluid reservoir.
 - » If the fluid level reaches the **MIN** marking ①:
 - Add rear brake fluid. (📖 p. 163)

**(US)**

- Stand the vehicle upright.
- Check the brake fluid level in the brake fluid reservoir.
 - » If the fluid level reaches the **MIN** marking ①:
 - Add rear brake fluid. (📖 p. 163)

16.13 Adding rear brake fluid



Warning

Danger of accidents An insufficient brake fluid level will cause the brake system to fail.

If the brake fluid level drops below the **MIN** marking, the brake system is leaking or the brake linings are worn down.

- Check the brake system and do not continue riding until the problem is eliminated.



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.



Warning

Danger of accidents Old brake fluid reduces the braking effect.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.



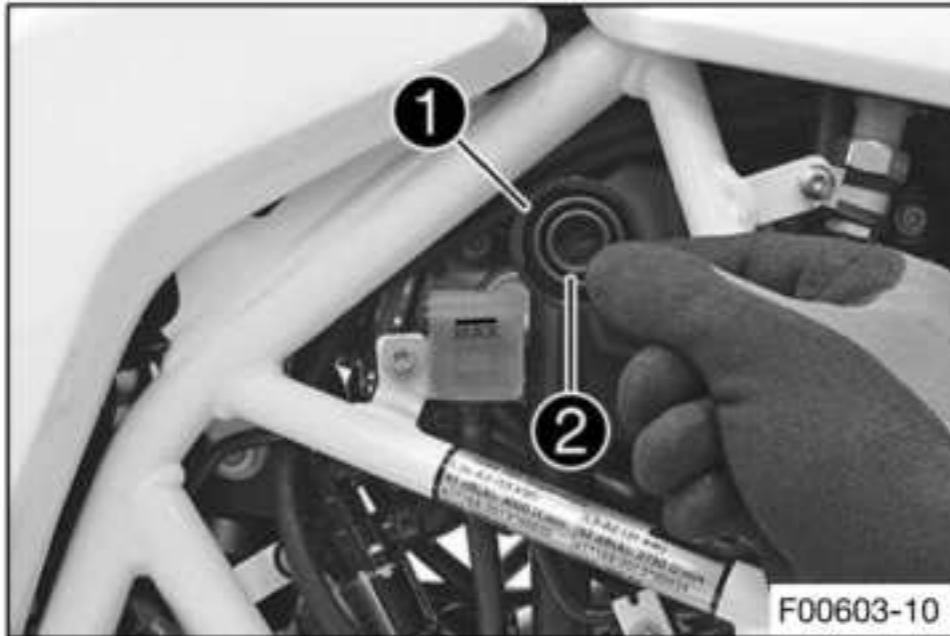
Note

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.

i Info

Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and brake 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.



Preparatory work

- Check the rear brake linings. (🗨️ p. 159)

Main work (EU)

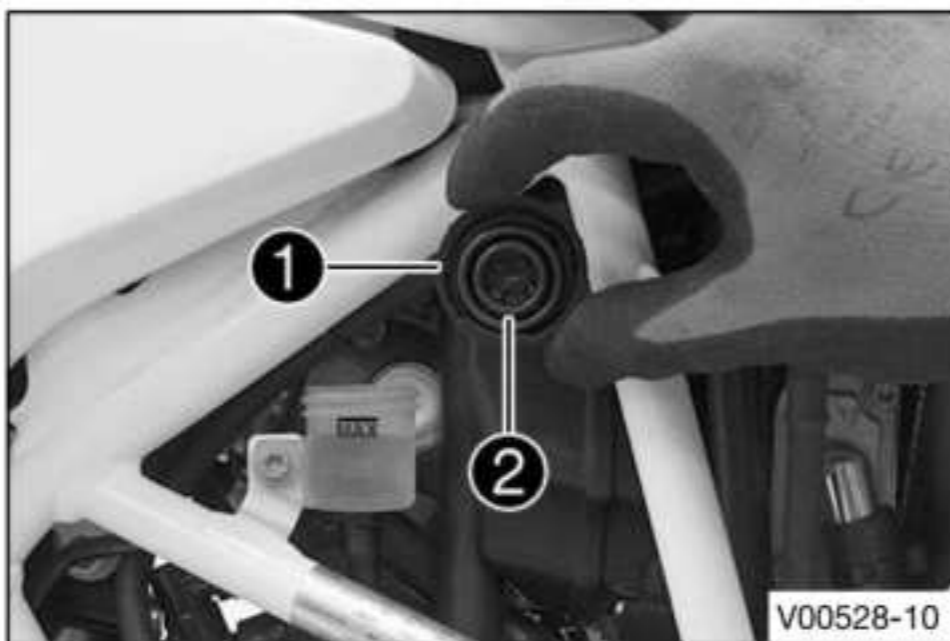
- Stand the vehicle upright.
- Remove screw cap ① with membrane ②.
- Add brake fluid up to the **MAX** marking.

Brake fluid DOT 4 / DOT 5.1 (🗨️ p. 376)

- Mount screw cap with membrane.

i Info

Clean up overflowed or spilled brake fluid immediately with water.



(US)

- Stand the vehicle upright.
- Remove screw cap ① with membrane ②.
- Add brake fluid up to the **MAX** marking.

Brake fluid DOT 4 / DOT 5.1 (🗨️ p. 376)

- Mount screw cap with membrane.

i Info

Clean up overflowed or spilled brake fluid immediately with water.

16.14 Changing the rear brake 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.

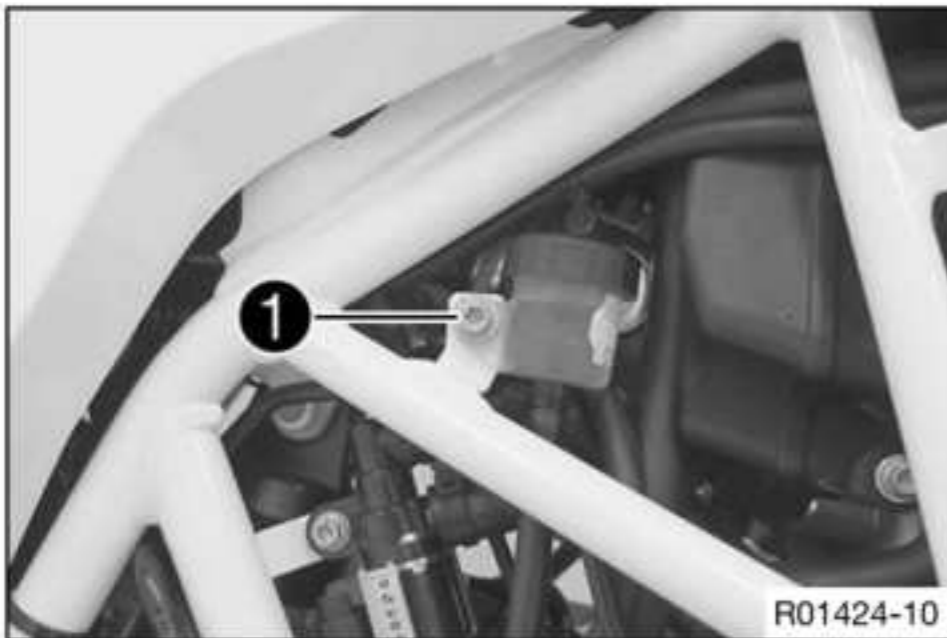


Info

Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and brake 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.

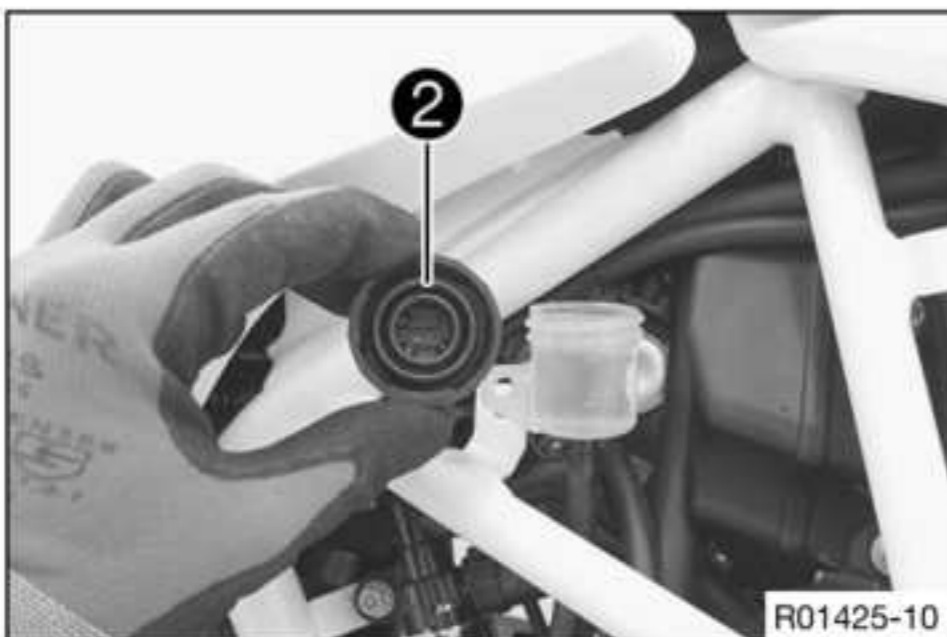


- Remove screw ①.
- Hang the brake fluid reservoir to the side.



Info

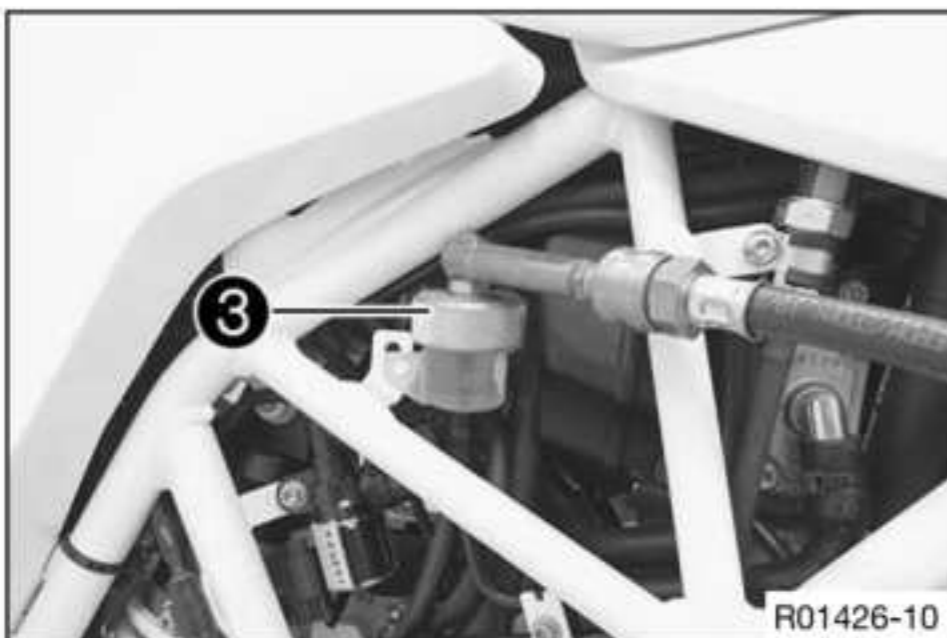
Make sure that the reservoir stays vertical and no brake fluid runs out.



- Cover painted parts.
- Take off screw cap ② with membrane.
- Extract the old brake fluid from the brake fluid reservoir using a syringe and fill with fresh brake fluid.

Syringe (50329050000) (📖 p. 382)

Brake fluid DOT 4 / DOT 5.1 (📖 p. 376)
--

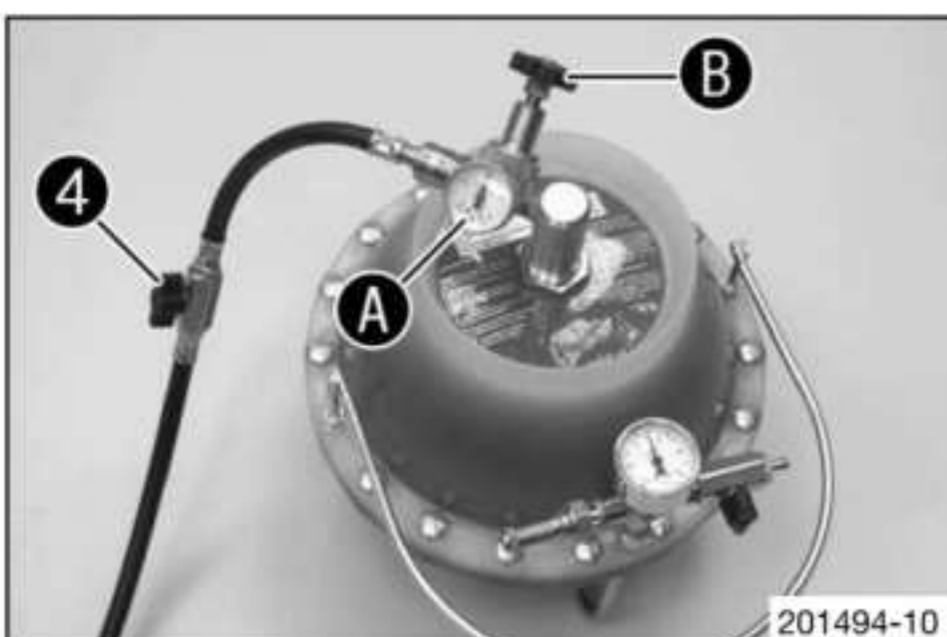


- Mount bleeder cover ③.

Bleeder cover (00029013004) (📖 p. 380)
--

- Connect the bleeding device.

Bleeding device (00029013100) (📖 p. 380)
--



- Open shut-off valve ④.



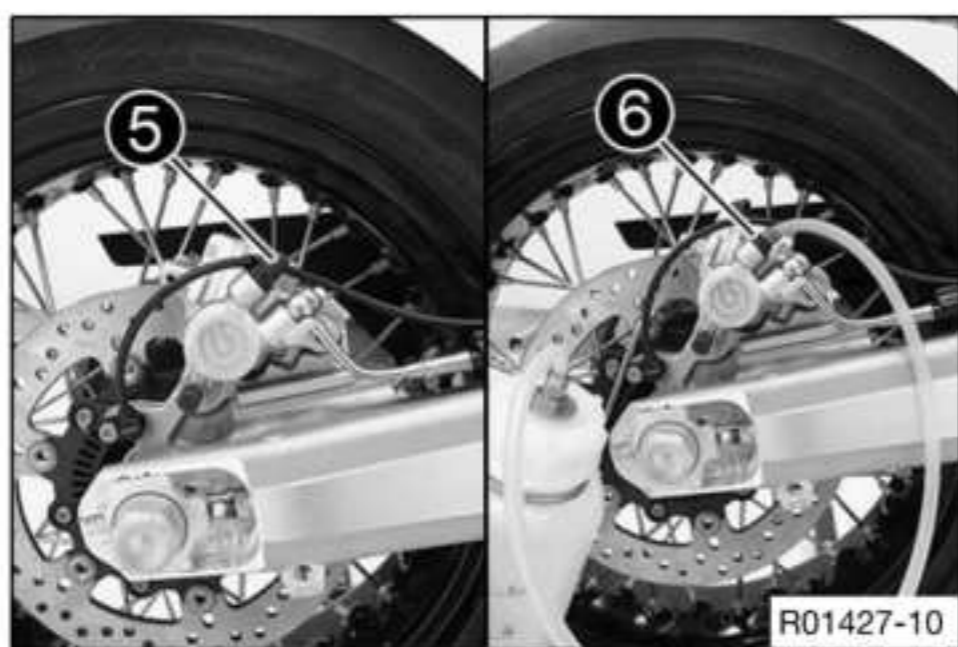
Info

Follow the instructions in the Owner's Manual of the bleeding device.

- Ensure that the inflation pressure is set on pressure gauge ①. Correct the inflation pressure on pressure regulator ② if necessary.

Guideline

Inflation pressure	2 ... 2.5 bar (29 ... 36 psi)
--------------------	-------------------------------



- Pull off protection cap **5** of the bleeder screw. Connect the bleeder bottle hose.

Bleeding device (00029013100) (📖 p. 380)

- Open bleeder screw **6** by approx. one half turn.

i Info

Drain until fresh brake fluid emerges in the bleeder bottle hose without bubbles.

- Tighten the bleeder screw.
- Close shut-off valve **4**.
- Open the bleeder screw again until brake fluid stops emerging.

i Info

Overfilling the brake fluid reservoir is prevented.

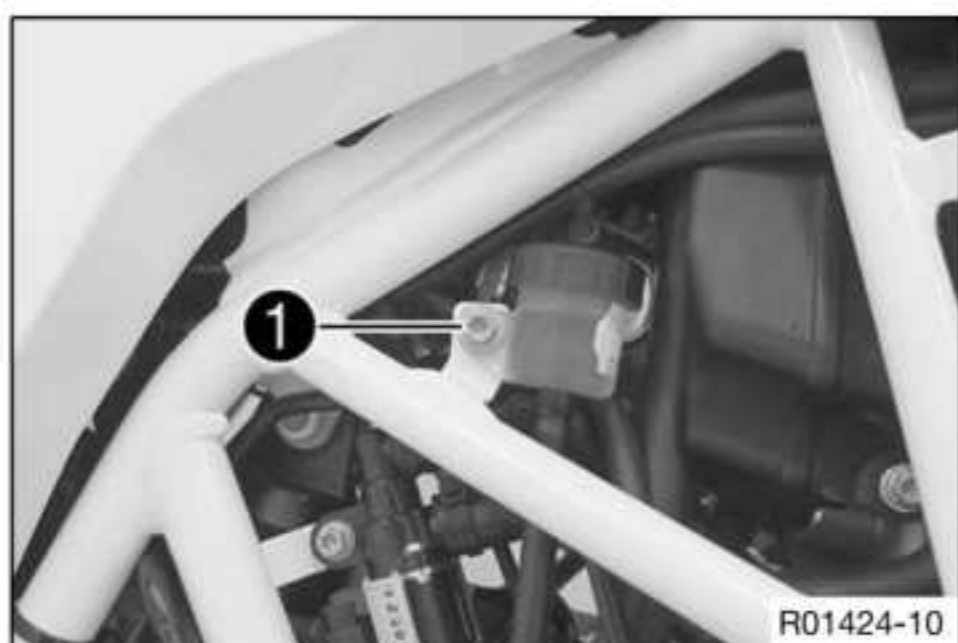
- Tighten the bleeder screw. Remove the bleeder bottle hose. Attach the protection cap.
- Disconnect the bleeding device. Remove the bleeder cover.
- Add brake fluid up to **MAX** marking **C**.

Brake fluid DOT 4 / DOT 5.1 (📖 p. 376)

- Mount screw cap with membrane.

i Info

Clean up overflowed or spilled brake fluid immediately with water.



- Position the brake fluid reservoir.
- Mount and tighten screw **1**.

Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------

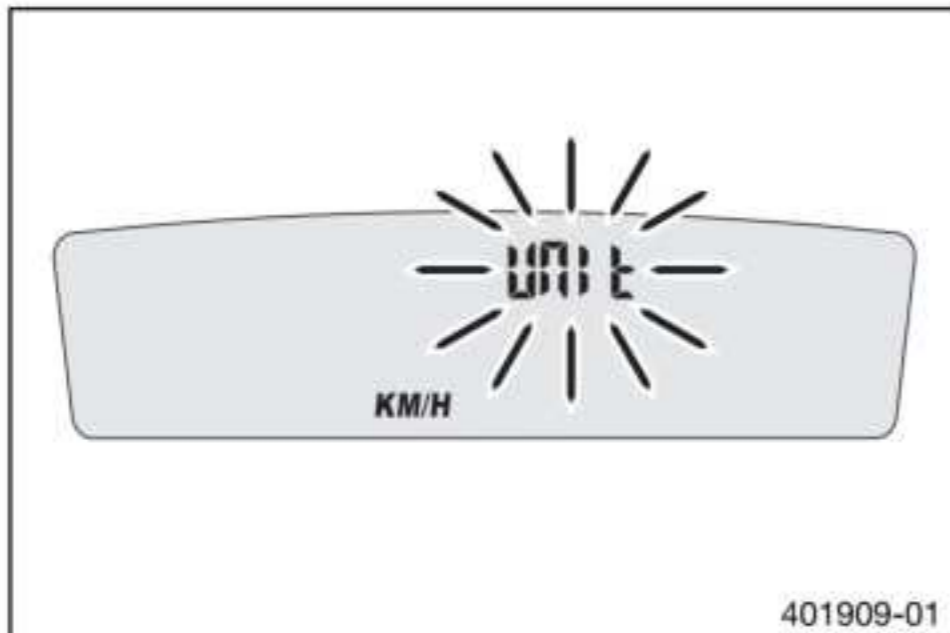
17.1 Combination instrument

17.1.1 Adjusting the kilometers or miles



Info

If the unit is changed, the value **ODO** is retained and converted accordingly.

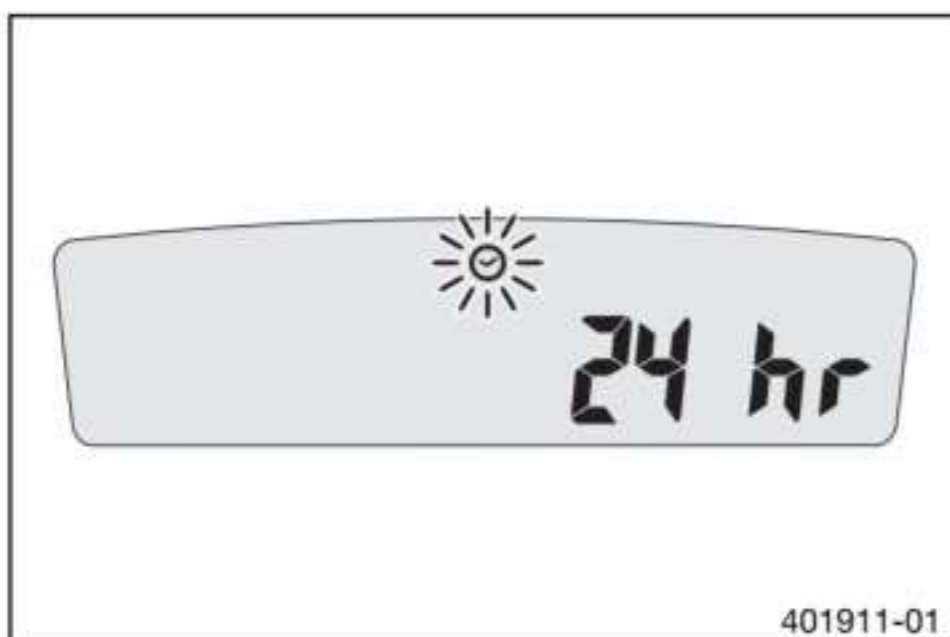


Condition

The motorcycle is stationary.

- Press and hold both buttons for 3 - 5 seconds.
 - ✓ The Setup menu is displayed. The **UNIT** display flashes.
- Press one of the buttons to select **UNIT** for the speed in kilometers **KM/H** or miles **M/H**.

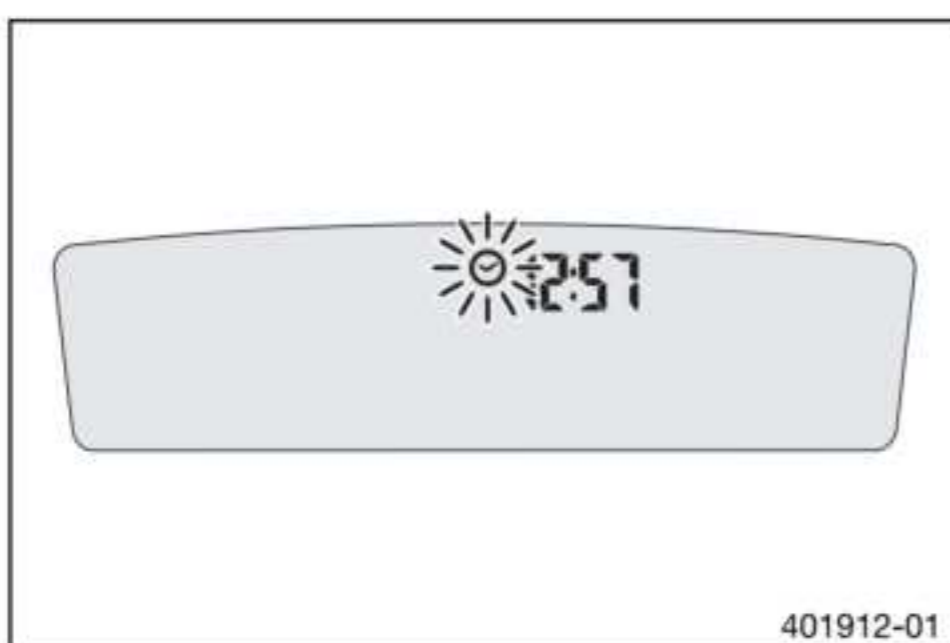
17.1.2 Adjusting the clock



Condition

The motorcycle is stationary.

- Press and hold both buttons for 3 - 5 seconds.
 - ✓ The Setup menu is displayed. The **UNIT** display flashes.
- Wait for the menu of the clock ☀ to flash.
- Press one of the buttons to select the 24h display or 12h display for the clock.



- Wait for 5 seconds.
 - ✓ The combination instrument changes to the next menu item. The clock ☀ symbol flashes.

Resetting the time

- Press the left button.
 - ✓ The value decreases.

Advancing the time

- Press the right button.
 - ✓ The value increases.

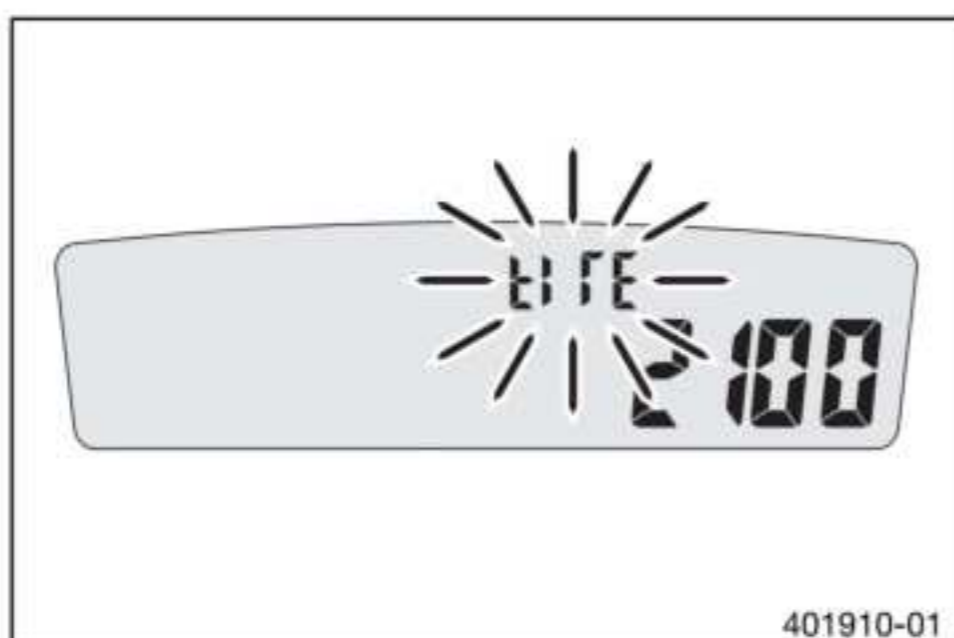
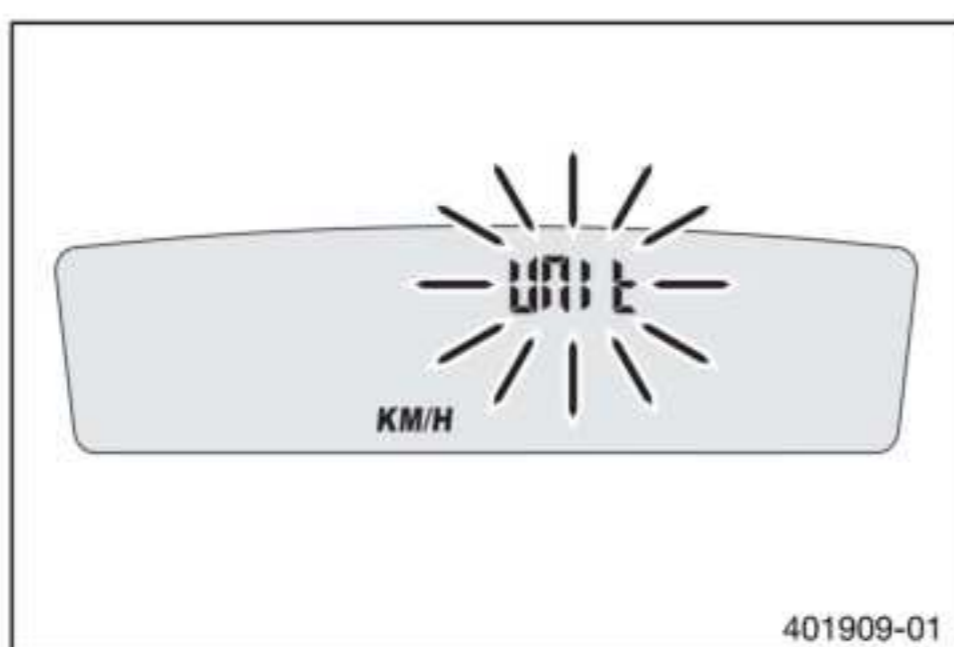
17.1.3 Adjusting the wheel circumference



Danger

Voiding of the government approval for road use and the insurance coverage The vehicle is only authorized for operation on public roads in the homologated version.

- If the vehicle is modified in any way, it may only be used on designated tracks away from public roads. Advise the vehicle owner and rider of this.
- If you undertake any modifications, please insist on receiving a signed workshop order from your customer in which you inform the customer in writing that these modifications are performed at the customer's own risk and that the vehicle will no longer be approved for use on public roads once modified.



Condition

The motorcycle is stationary.

Preparatory work

- Unplug combination instrument connector **DR**.

Main work

- Press both buttons for 3–5 seconds.
 - ✓ The Setup menu is displayed. The **UNIT** display flashes.

- Wait for the menu **TIRE** to flash.

Reducing the wheel circumference

- Press the left button.
 - ✓ The value decreases.

Enlarging the wheel circumference

- Press the right button.
 - ✓ The value increases.

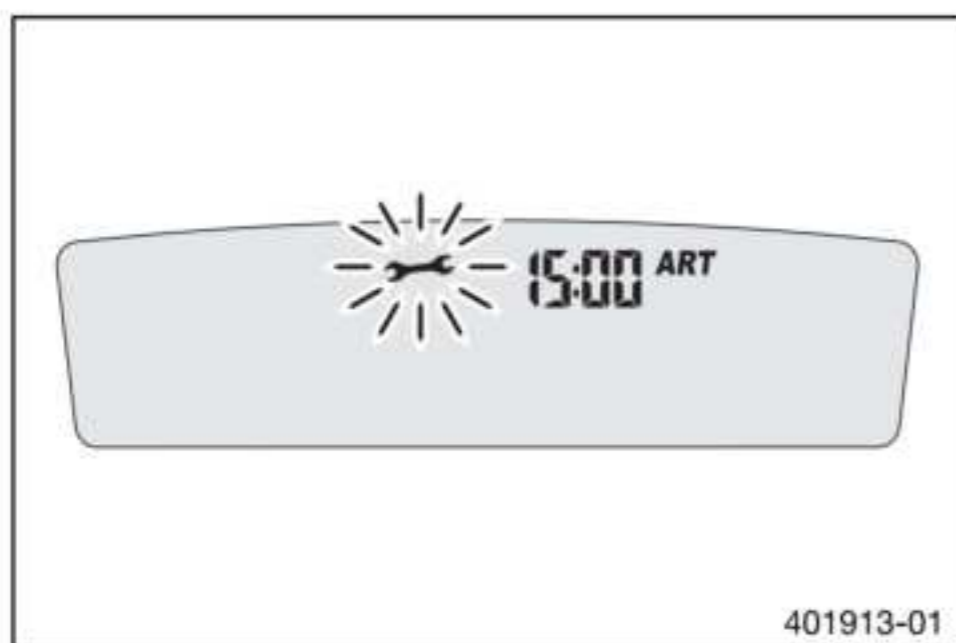
Finishing work

- Plug in combination instrument connector **DR**.

17.1.4 Setting the service display

Condition

The motorcycle is stationary.



- Press and hold both buttons for 3 - 5 seconds.
 - ✓ The Setup menu is displayed. The **UNIT** display flashes.
- Wait for the menu of the service display \rightarrow to flash.
- Set the service.

Guideline

Service display switched off

Shortening the service interval

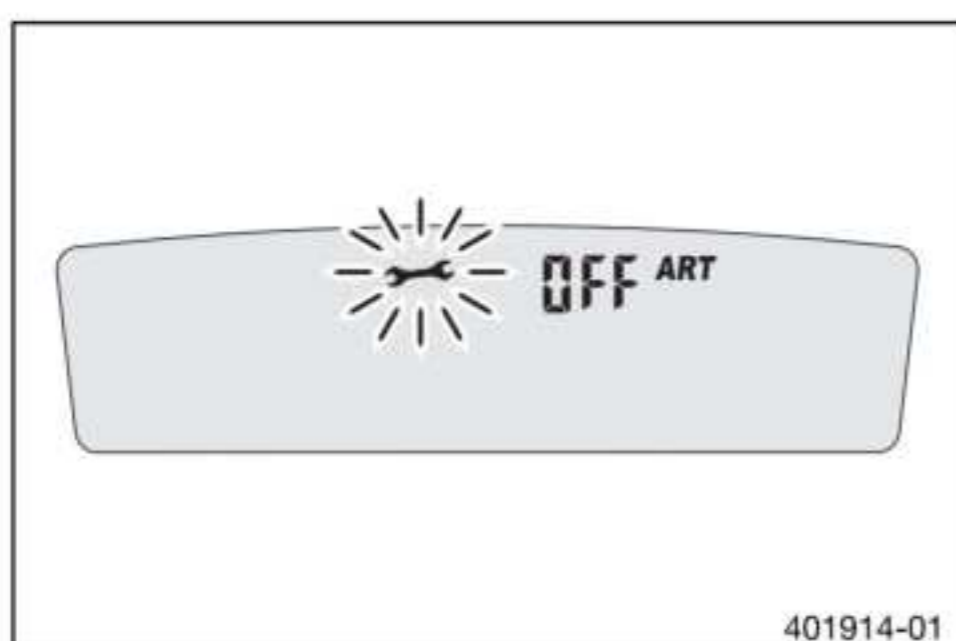
- Press the left button.
 - ✓ The value decreases.

Extending the service interval

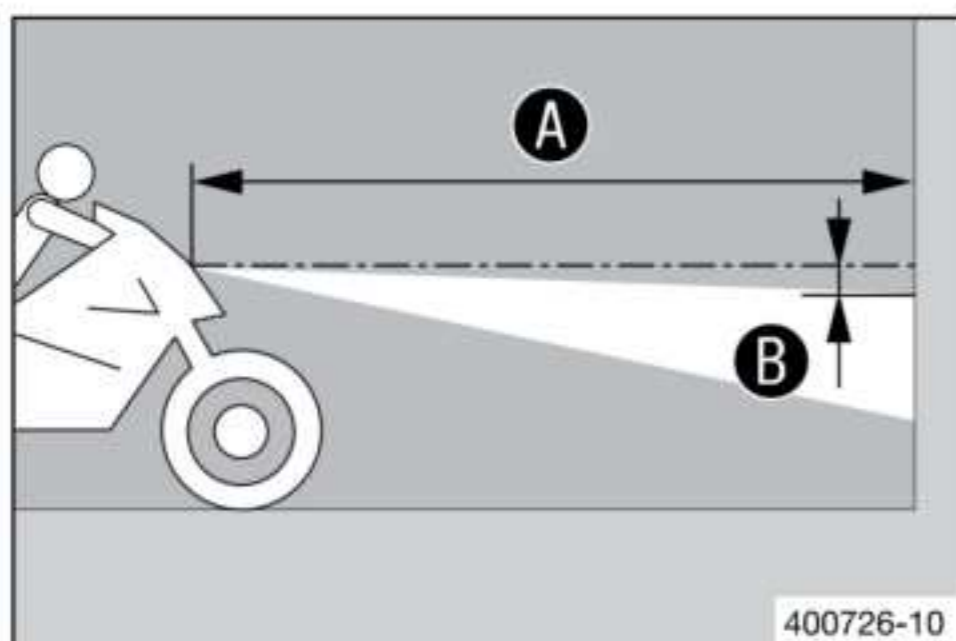
- Press the right button.
 - ✓ The value increases.

Switching off the service interval display

- Press and hold the left button.
 - ✓ **off** appears on the display.



17.2 Checking the headlight setting



- Position the vehicle upright on a horizontal surface in front of a light wall and make a marking at the height of the center of the low beam headlight.

- Make another mark at a distance **B** under the first marking.

Guideline

Distance B	5 cm (2 in)
-------------------	-------------

- Position the vehicle vertically at a distance **A** away from the wall.

Guideline

Distance A	5 m (16 ft)
-------------------	-------------

- The rider now mounts the motorcycle with luggage and passenger if applicable.
- Switch on the low beam.
- Check the headlight setting.

The light-dark boundary must be exactly on the lower marking when the motorcycle is ready to be operated with the rider mounted along with any luggage and a passenger if applicable.

- » If the boundary between light and dark does not meet specifications:

- Adjust the headlight range. (🔧 p. 170)

17.3 Adjusting the headlight range



Preparatory work

- Check the headlight setting. (📖 p. 169)

Main work

- Loosen screw **1**.
- Adjust the headlight range by pivoting the headlight.

Guideline

The boundary between light and dark must be exactly on the lower mark for a motorcycle with rider (instructions on how to apply the mark: Checking the headlight setting).

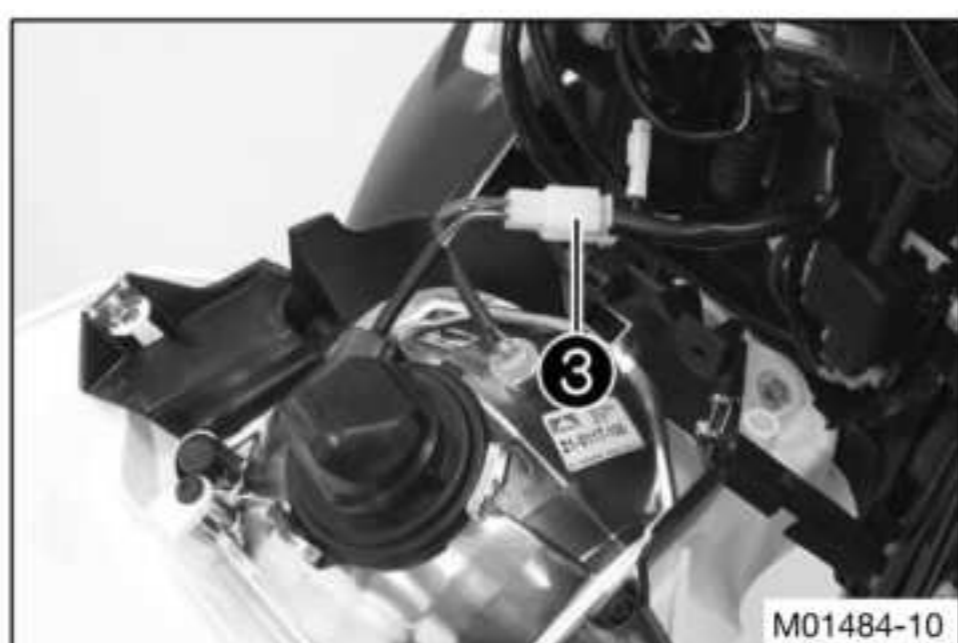
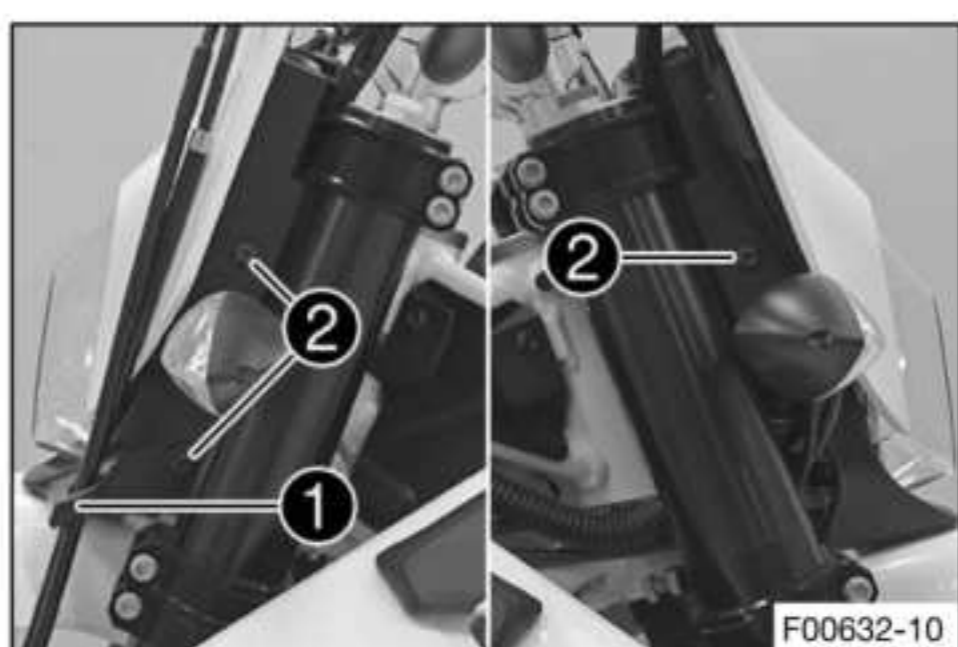
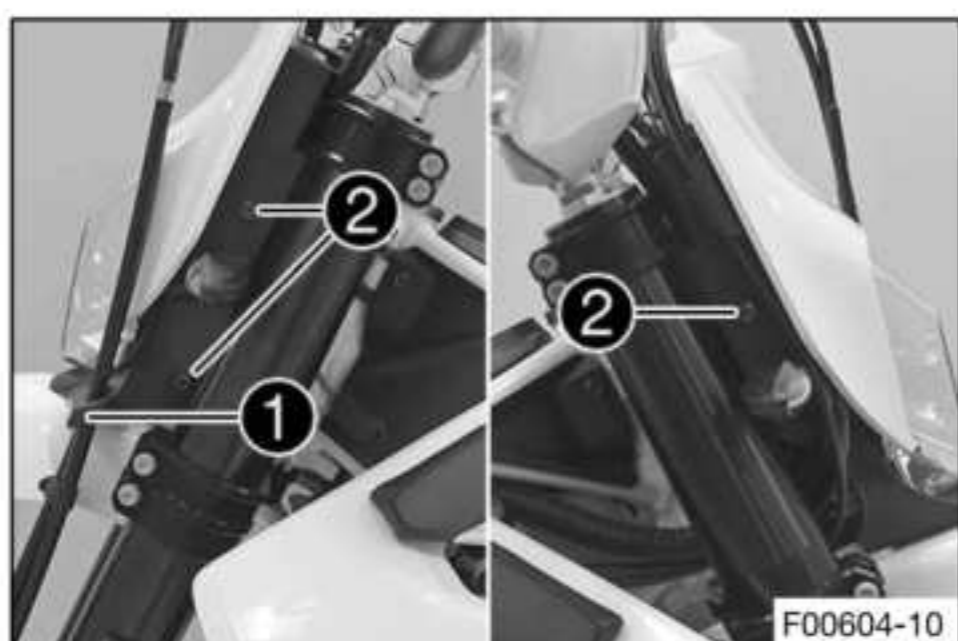


Info

If you have a payload, you may have to correct the headlight range.

- Tighten screw **1**.

17.4 Removing the headlight mask with the headlight



- Switch off the ignition by turning the ignition key to the **OFF** ☒ position.

(EU)

- Cover the fender with a cloth to protect it from damage.
- Detach the brake line and wiring harness from holder **1**.
- Remove screws **2** on both sides.
- Fold the headlight mask forward.

(US)

- Cover the fender with a cloth to protect it from damage.
- Detach the brake line and wiring harness from holder **1**.
- Remove screws **2** on both sides.
- Fold the headlight mask forward.

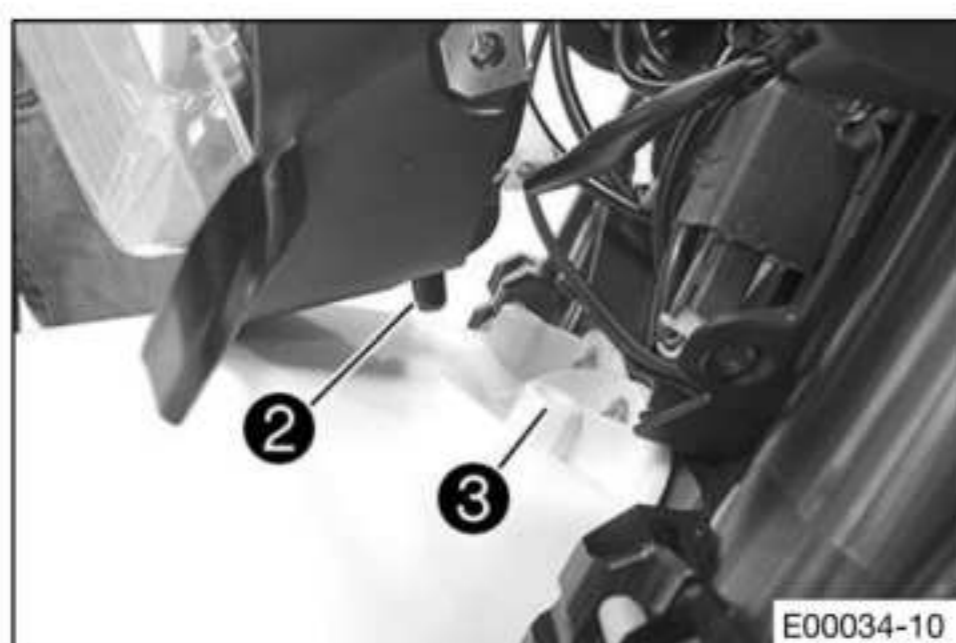
- Disconnect plug-in connector **3** of the headlight.
- Take off the headlight mask.

17.5 Installing the headlight mask with the headlight

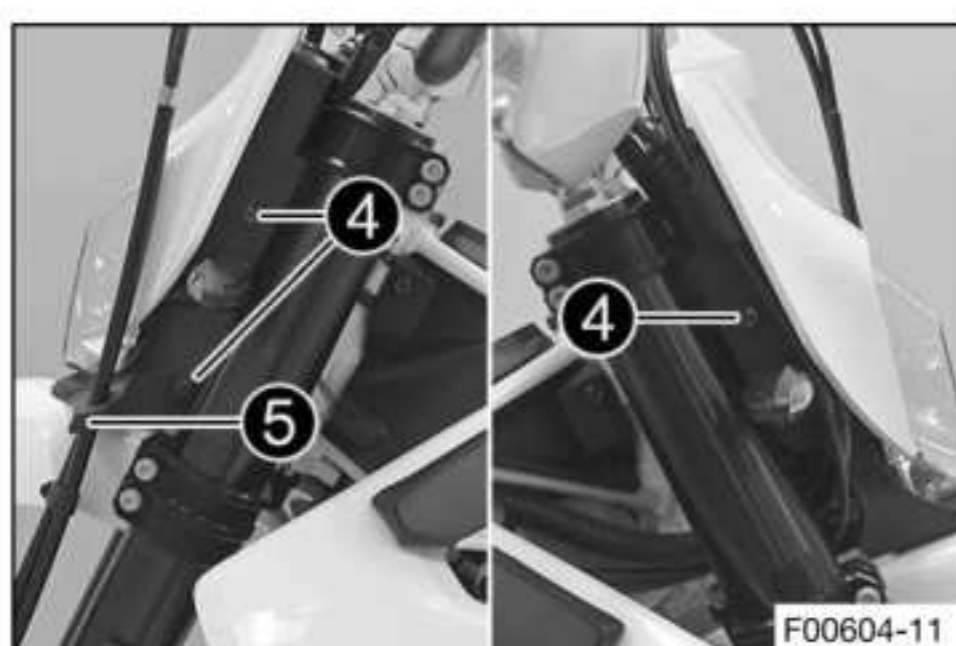


Main work

- Connect plug-in connector **1** of the headlight.
- Check that the lighting is functioning properly.



- Remove the cloth from the fender and position the headlight mask.
 - ✓ Both holding lugs **2** engage in drilled holes **3** of the fender.



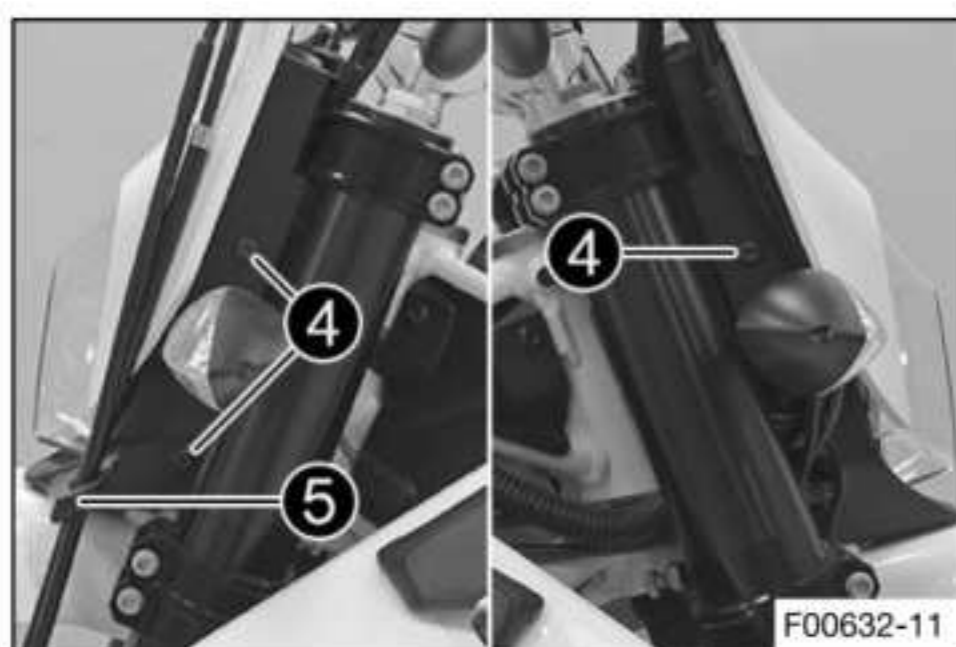
(EU)

- Mount and tighten screws **4**.

Guideline

Screw, headlight mask	M5	5 Nm (3.7 lbf ft)
-----------------------	----	-------------------

- Mount the brake line and wiring harness in holder **5**.



(US)

- Mount and tighten screws **4**.

Guideline

Screw, headlight mask	M5	5 Nm (3.7 lbf ft)
-----------------------	----	-------------------

- Mount the brake line and wiring harness in holder **5**.

Finishing work

- Check the headlight setting. (📖 p. 169)

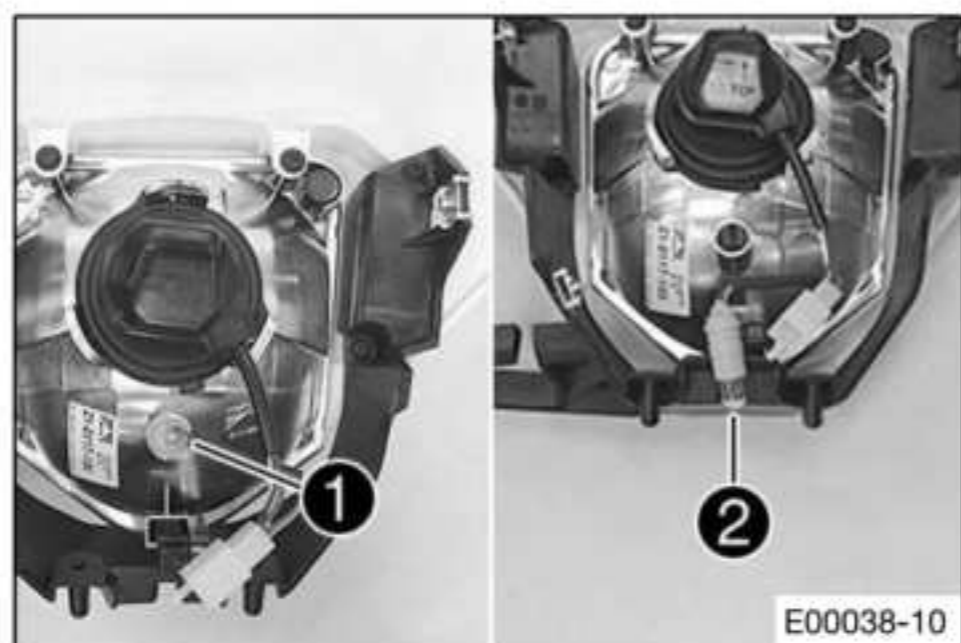
17.6 Changing the parking light bulb

Note

Damage to reflector Grease on the reflector reduces the light intensity.

Grease on the bulb will evaporate due to the heat and be deposited on the reflector.

- Clean and degrease the bulbs before mounting.
- Do not touch the bulbs with your bare hands.



Preparatory work

- Remove the headlight mask with the headlight. (📖 p. 170)

Main work

- Pull bulb socket ① out of the reflector.
- Pull parking light bulb ② out of the bulb socket.
- Insert a new parking light bulb in the bulb socket.

Position light (W5W / socket W2.1x9.5d) (📖 p. 319)

- Insert the bulb socket in the reflector.

Finishing work

- Install the headlight mask with the headlight. (📖 p. 171)
- Check the headlight setting. (📖 p. 169)

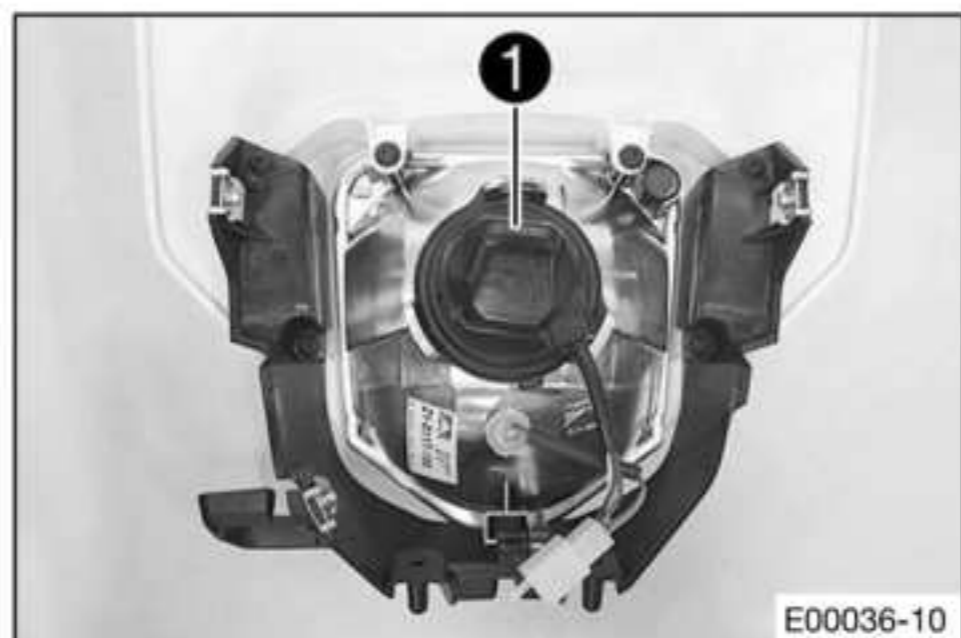
17.7 Changing the headlight bulb

Note

Damage to reflector Grease on the reflector reduces the light intensity.

Grease on the bulb will evaporate due to the heat and be deposited on the reflector.

- Clean and degrease the bulbs before mounting.
- Do not touch the bulbs with your bare hands.

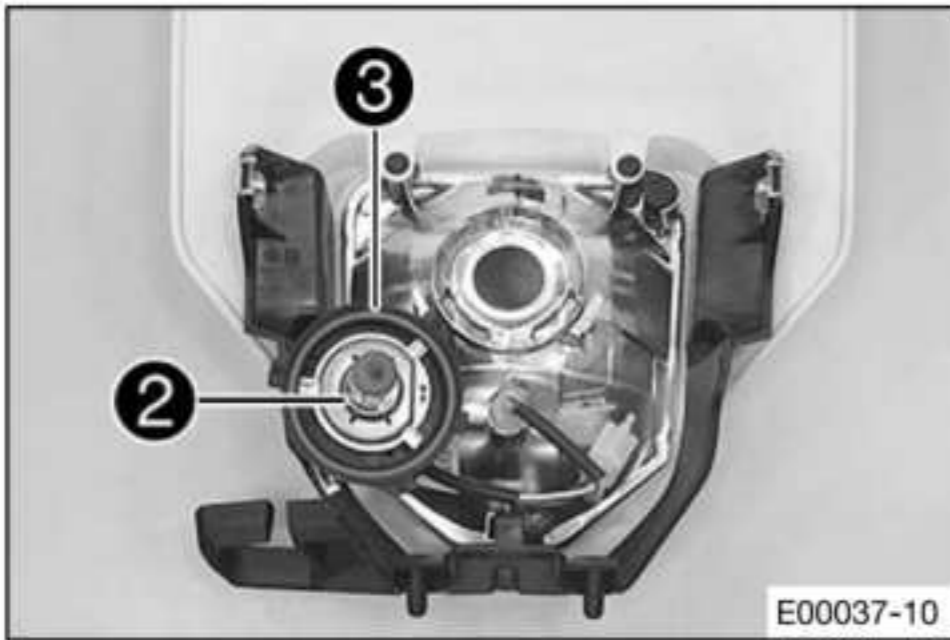


Preparatory work

- Remove the headlight mask with the headlight. (📖 p. 170)

Main work

- Turn protection cap ① together with the underlying bulb socket counterclockwise all the way and remove it.



- Pull out headlight bulb ②.
- Insert the new headlight bulb.

Headlight (H4/socket P43t) (📖 p. 319)

- Insert the protection cap with the bulb socket into the reflector and turn it clockwise all the way.



Info

Ensure that O-ring ③ is seated properly.

Finishing work

- Install the headlight mask with the headlight. (📖 p. 171)
- Check the headlight setting. (📖 p. 169)

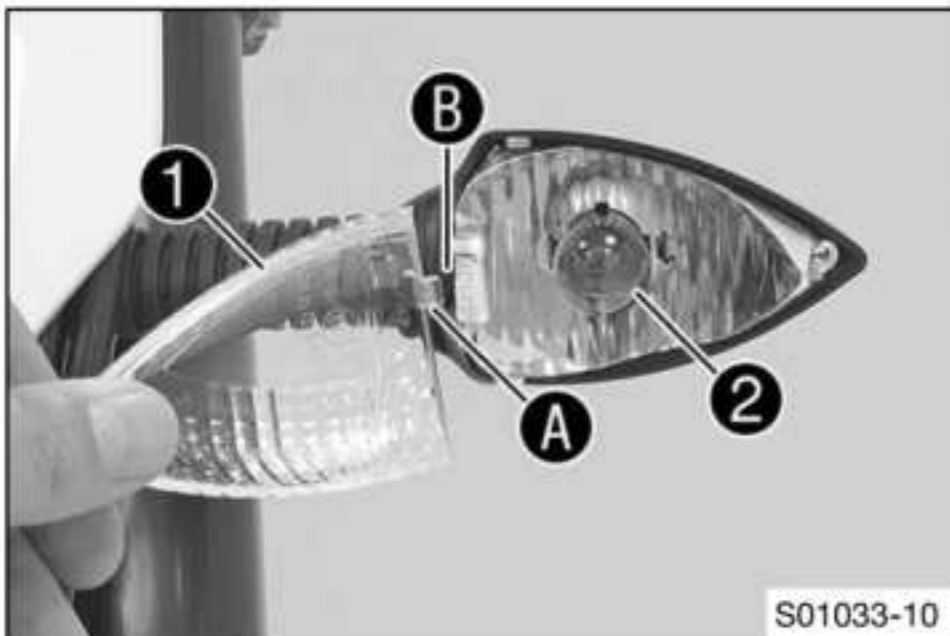
17.8 Changing the turn signal bulb (US)

Note

Damage to reflector Grease on the reflector reduces the light intensity.

Grease on the bulb will evaporate due to the heat and be deposited on the reflector.

- Clean and degrease the bulbs before mounting.
- Do not touch the bulbs with your bare hands.



- Remove the screw on the rear of the turn signal housing.
- Carefully remove turn signal glass ①.
- Press bulb ② carefully into the socket, turn it counterclockwise by about 30°, and take it out of the socket.



Info

Do not touch the reflector with your fingers and keep it free from grease.

- Push the new bulb gently into the socket and turn it clockwise all the way in.

Turn signal (RY10W/socket BAU15s) (📖 p. 319)

- Check that the turn signal is functioning properly.
- Position the turn signal glass.



Info

Insert holding lug ① into cut-out ②.

- Insert the screw and first turn counterclockwise until it engages in the thread with a small jerk. Tighten the screw lightly.

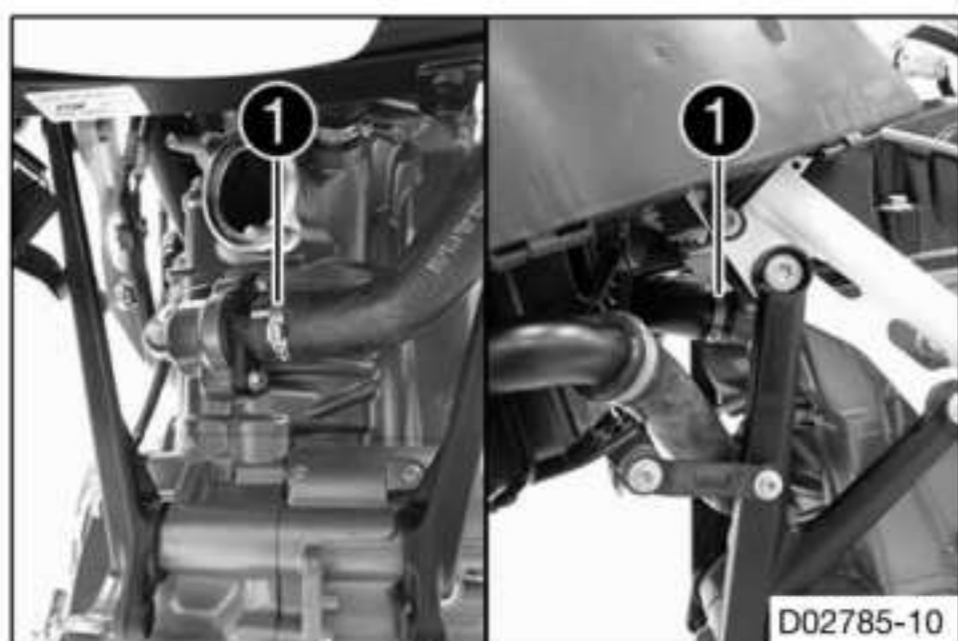
18.1 Removing the engine

Preparatory work

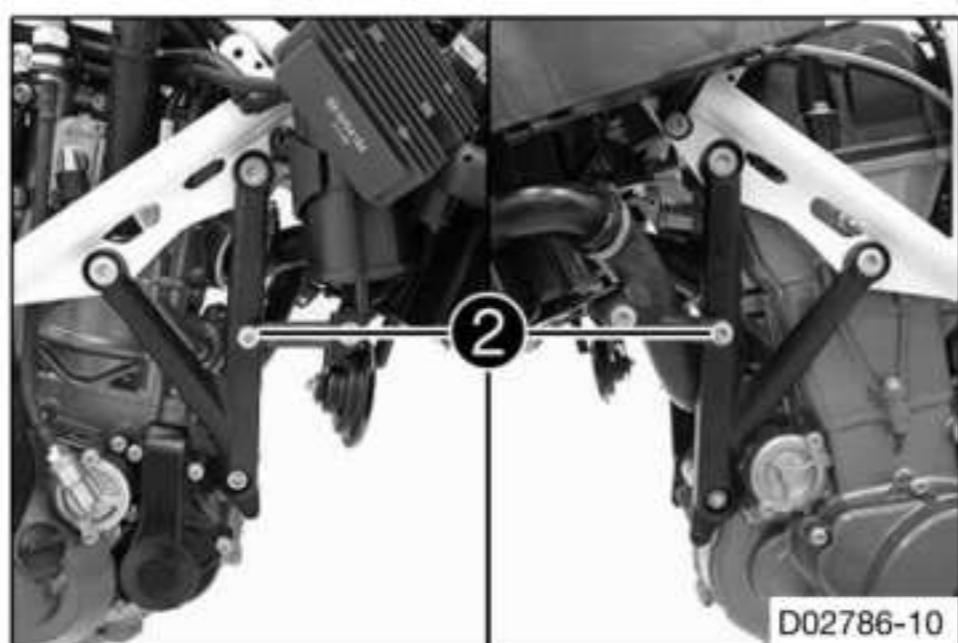
- Switch off the ignition by turning the ignition key to the **OFF** ☒ position.
- Remove the seat. (📖 p. 93)
- Disconnect the 12-V battery. (📖 p. 141)
- Raise the motorcycle with the work stand. (📖 p. 14)
- Take off the side cover. (📖 p. 93)
- Remove the air filter box. (📖 p. 87)
- Remove the manifold. (📖 p. 82)
- Drain the coolant. (📖 p. 282)

Main work

- Remove the hose clips ❶. Pull off the radiator hoses.

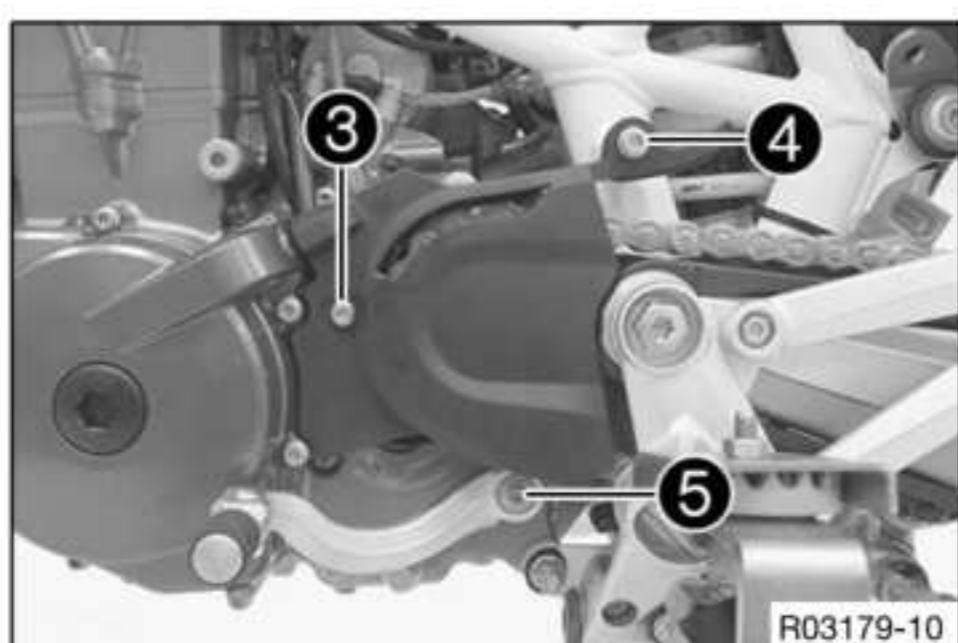


D02785-10



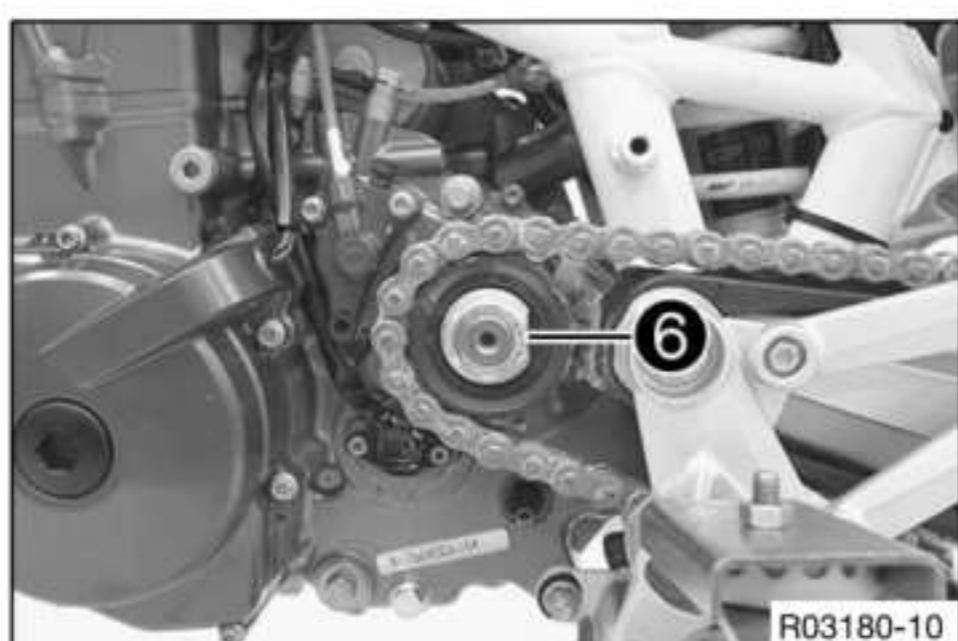
D02786-10

- Remove screws ❷.



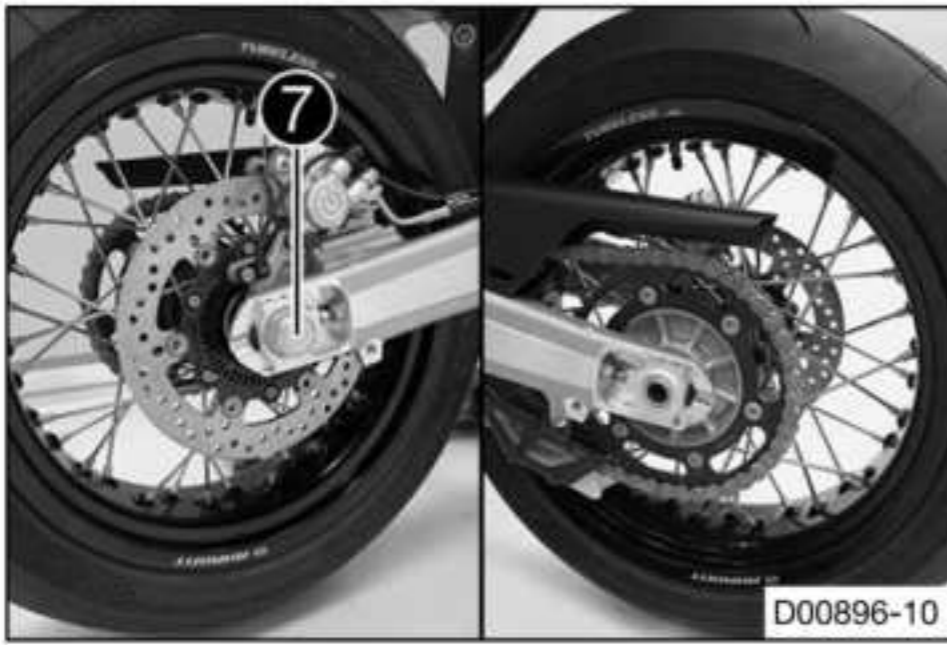
R03179-10

- Remove screw ❸.
- Remove screw ❹.
- Take off the engine sprocket cover.
- Remove screw ❺ with the washers.
- Take off the shift lever.



R03180-10

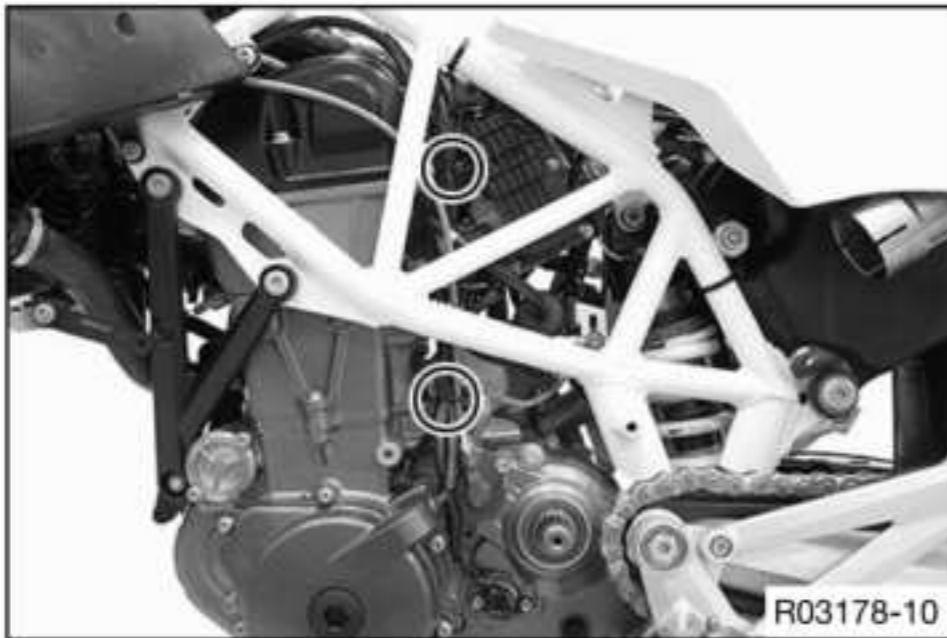
- Bend up lock washer ❻.
- Have an assistant operate the rear brake.
- Remove the nut of the engine sprocket with the lock washer.



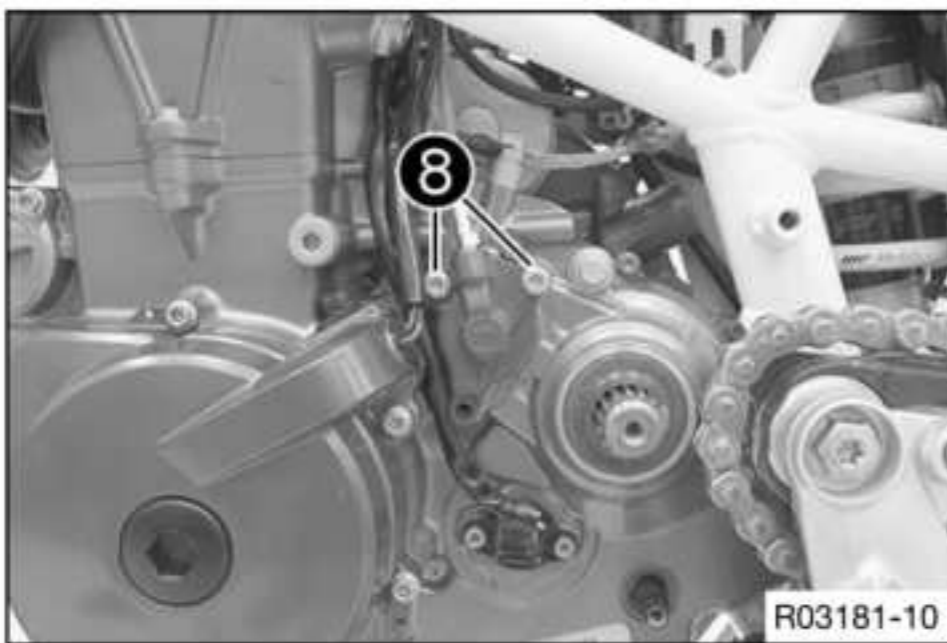
- Remove nut **7**. Remove the chain adjuster.
- Pull out wheel spindle far enough to allow the rear wheel to be pushed forward.
- Push the rear wheel forward as far as possible and take the chain off the rear sprocket.

**Info**

The rear wheel does not have to be fully removed.



- Take off the engine sprocket.
- Remove the cable tie(s) and expose the cables.

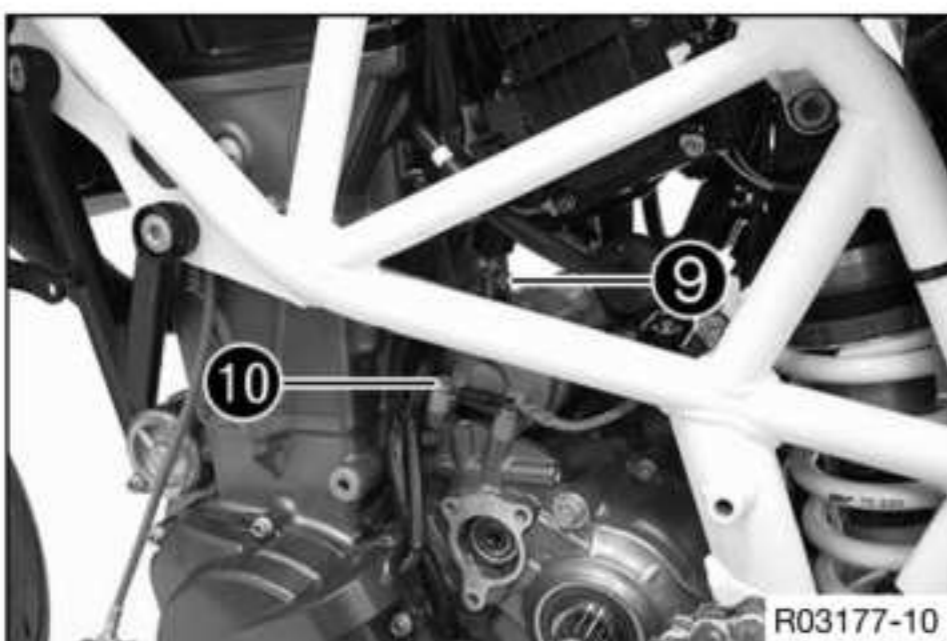


- Remove screws **8**.
- Take off the clutch slave cylinder with the gasket and hang it to the side.

**Info**

Do not kink the clutch line.

Do not activate the clutch lever while the slave cylinder of the clutch is removed.



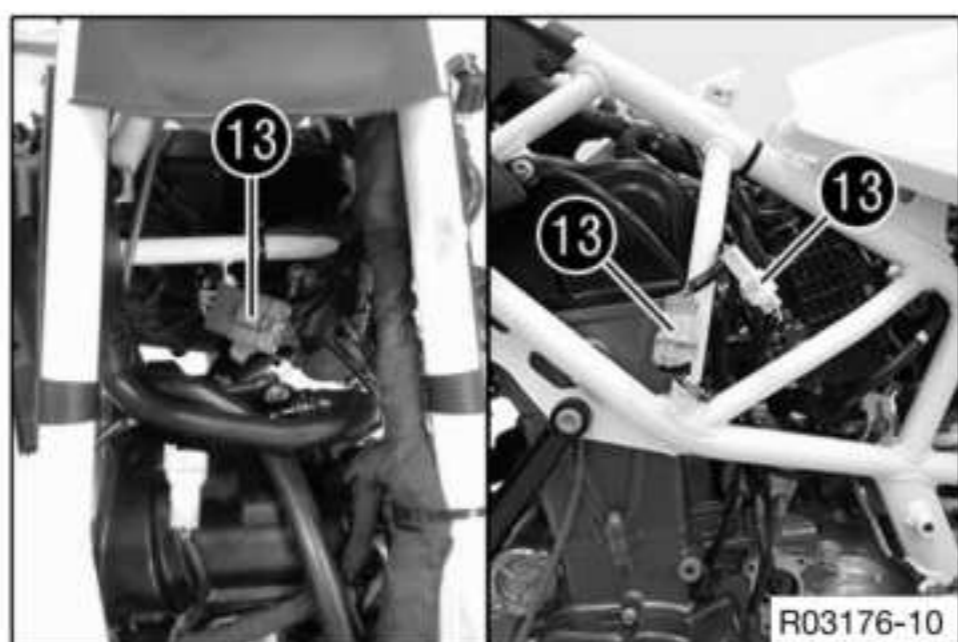
- Pull back the protection cap. Remove screw **9**.
- Remove screw **10**.



- Pull off hose **11** on the cylinder head.



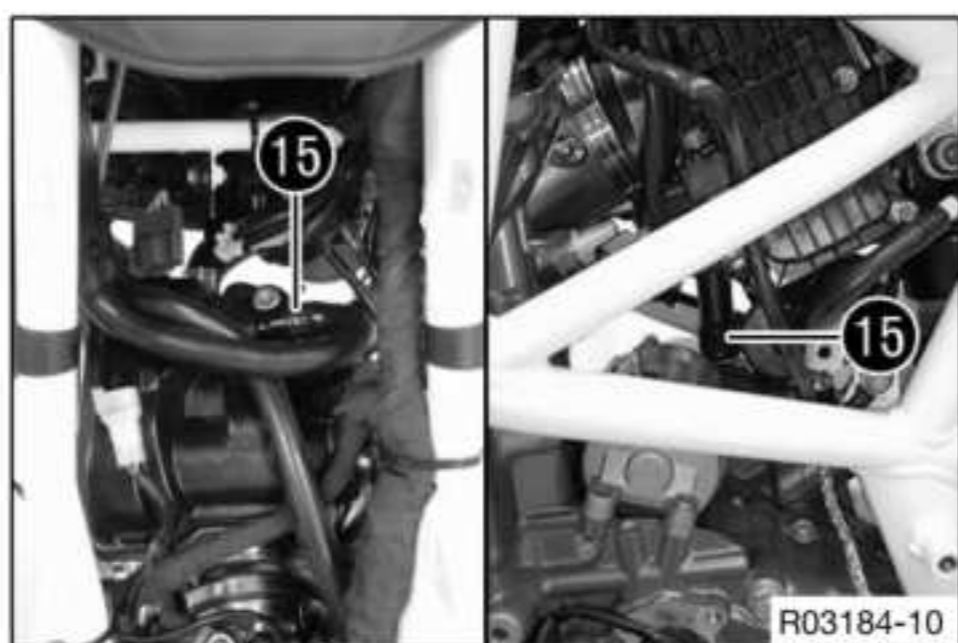
- Loosen hose clip 12.
- Pull off the throttle valve body to the rear.



- Disconnect plug-in connectors 13 of the gear position sensor, crankshaft speed sensor, and alternator.



- Disconnect connector of the coolant temperature sensor 14.

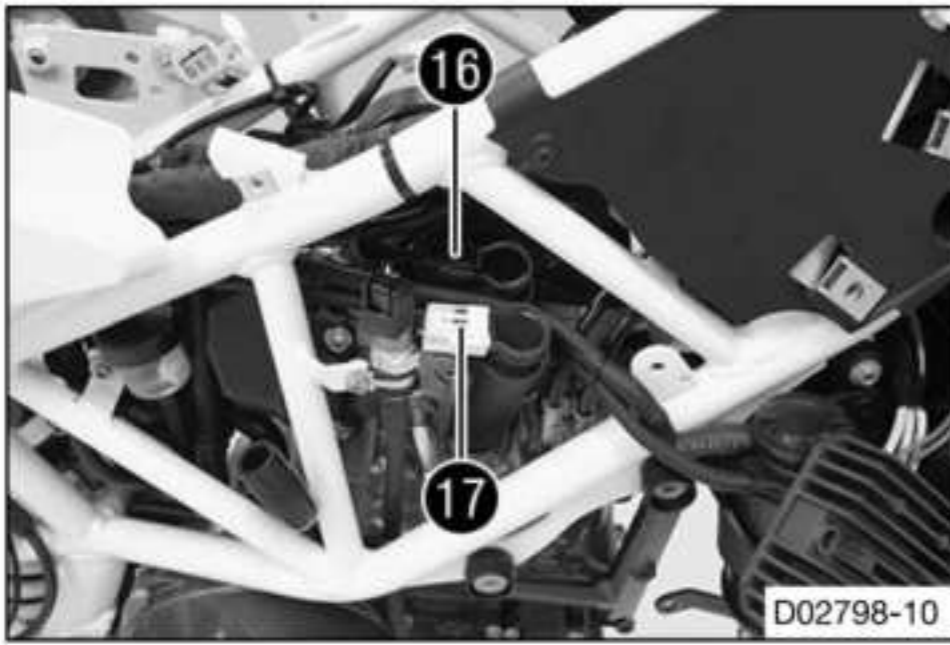


- Loosen the spring band clamps 15 using the special tool.

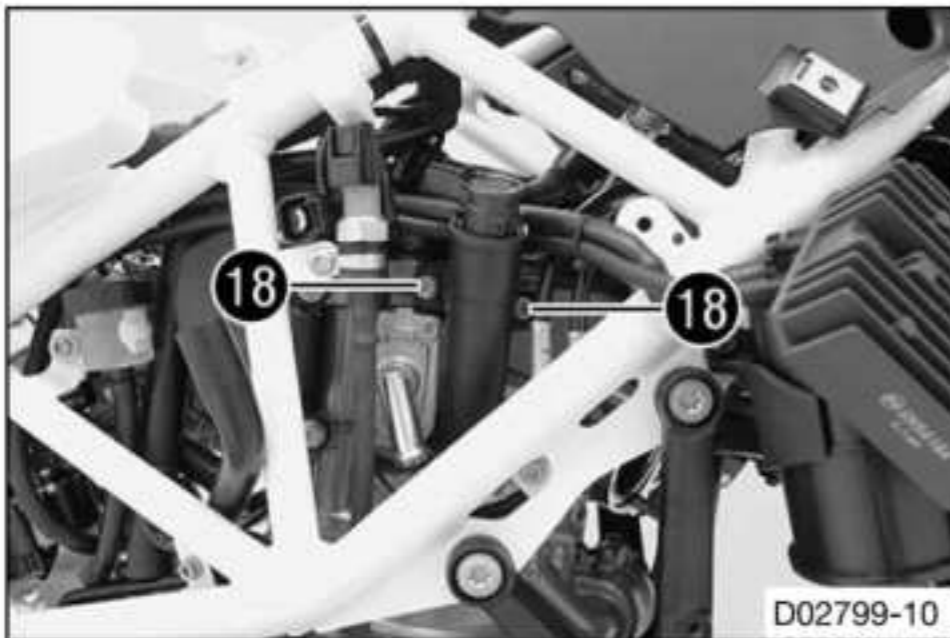
Spring band clamps plier (60029057100) (📖 p. 385)



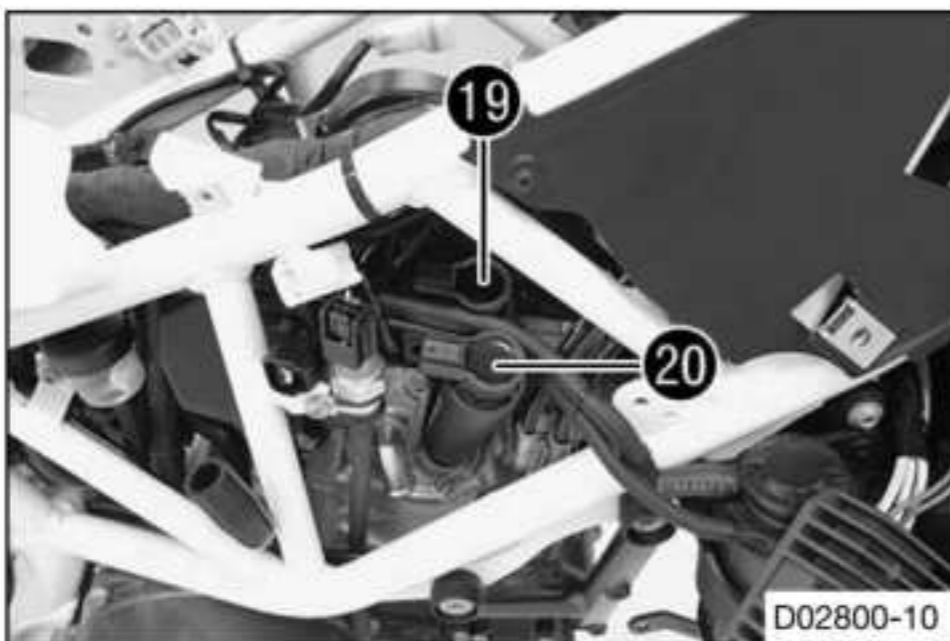
- Remove the cable tie.
- Pull off the hose.



- Unplug connectors 16 and 17 of the ignition coils.



- Remove screws 18.



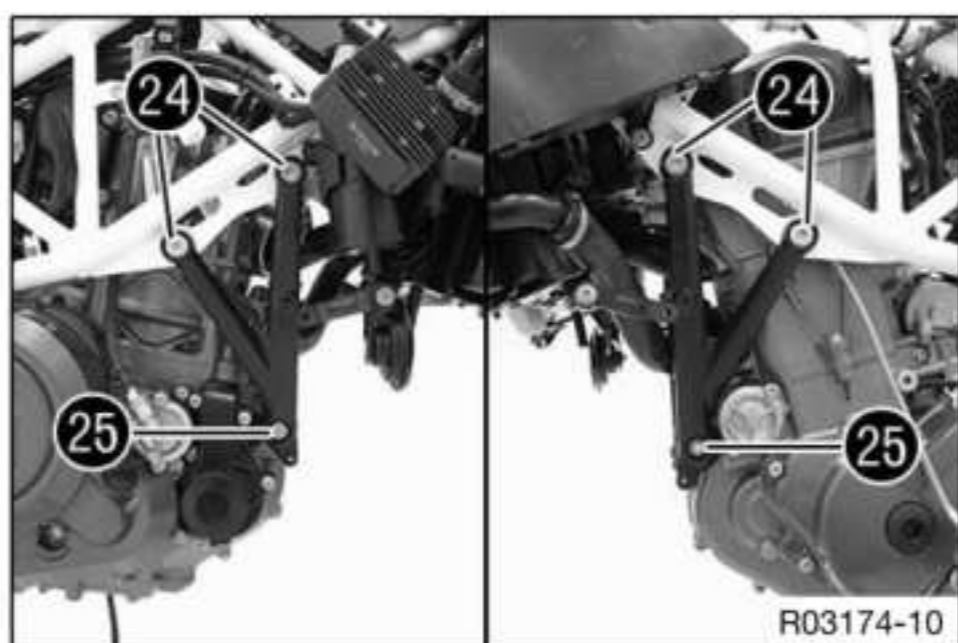
- Pull the spark plug shaft lightly to the side.
- Remove ignition coils 19 and 20.



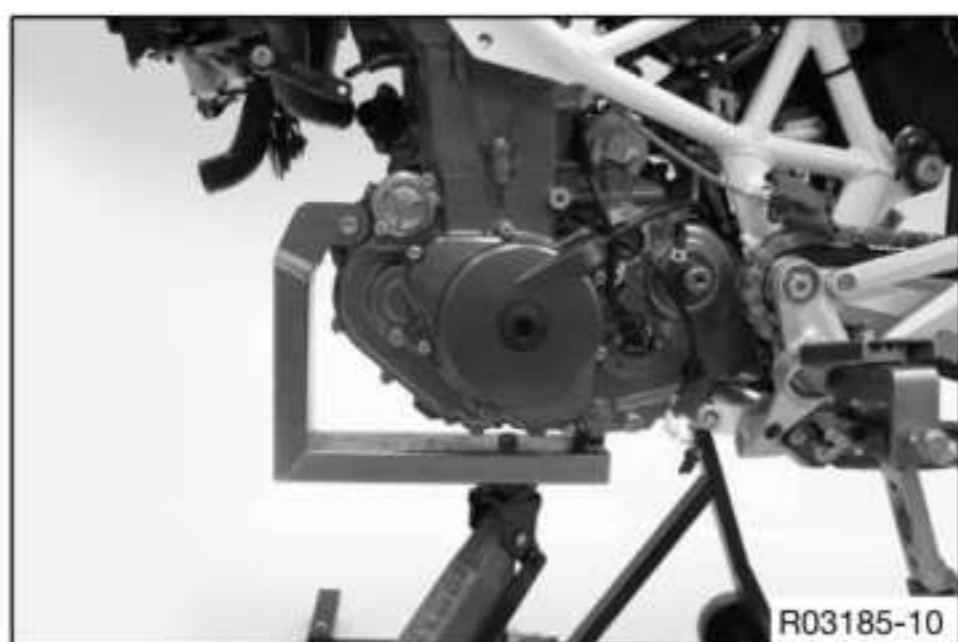
- Remove spark plug shaft 21.



- Unplug connector 22 of the oil pressure sensor. Remove screw 23.

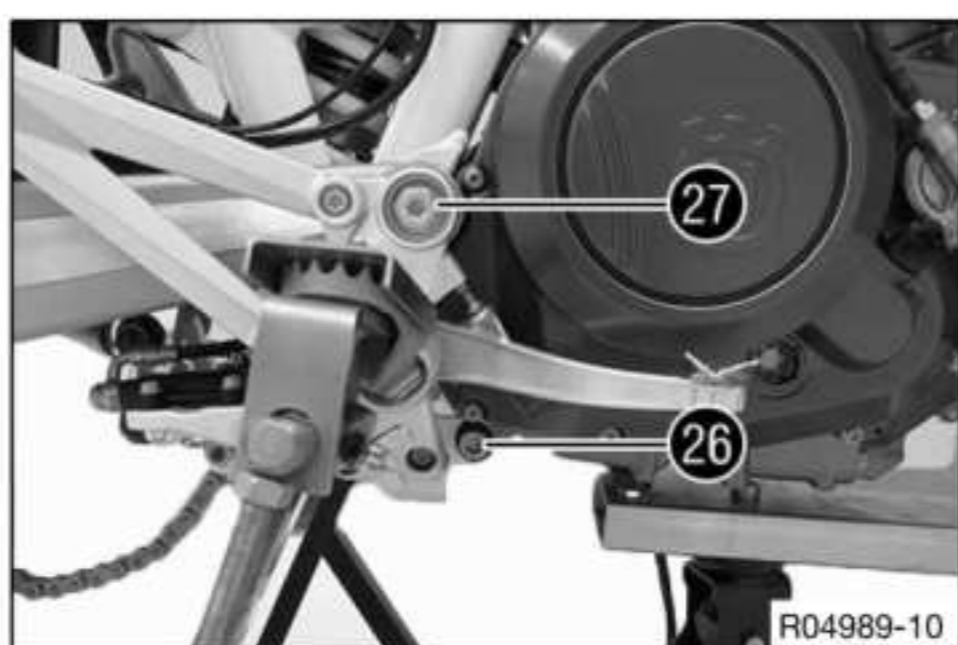


- Remove screws 24.
- Remove fitting 25.
- Take off the engine bearer.



- Position the floor jack under the engine and secure using the special tool.

Floor jack attachment (75029055000) (📖 p. 389)



- Remove fitting 26 of the lower engine mounting bracket.
- Remove screw 27.
- Pull the fork pivot out far enough to release the engine.



- Lower the engine.

i Info

The help of an assistant is useful in this step. Make sure that the engine is sufficiently secured against falling over. Cover the components to protect them against damage.

18.2 Installing the engine

Preparatory work

- Lift the engine onto the special tool and secure it.

Floor jack attachment (75029055000) (📖 p. 389)



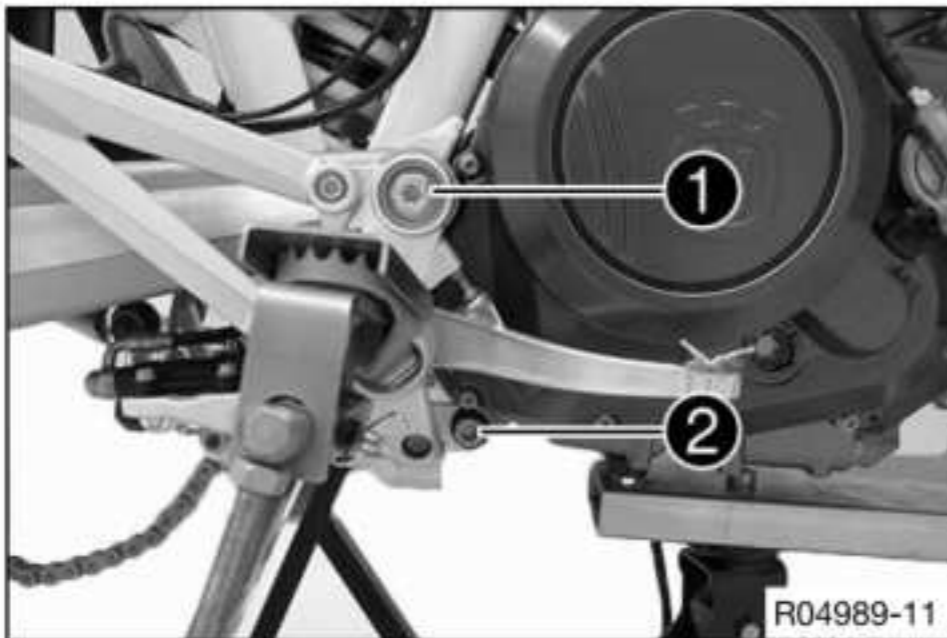
Main work

- Position the engine in the frame.



Info

The help of an assistant is useful in this step. Make sure that the engine is sufficiently secured against falling over. Cover the components to protect them against damage.

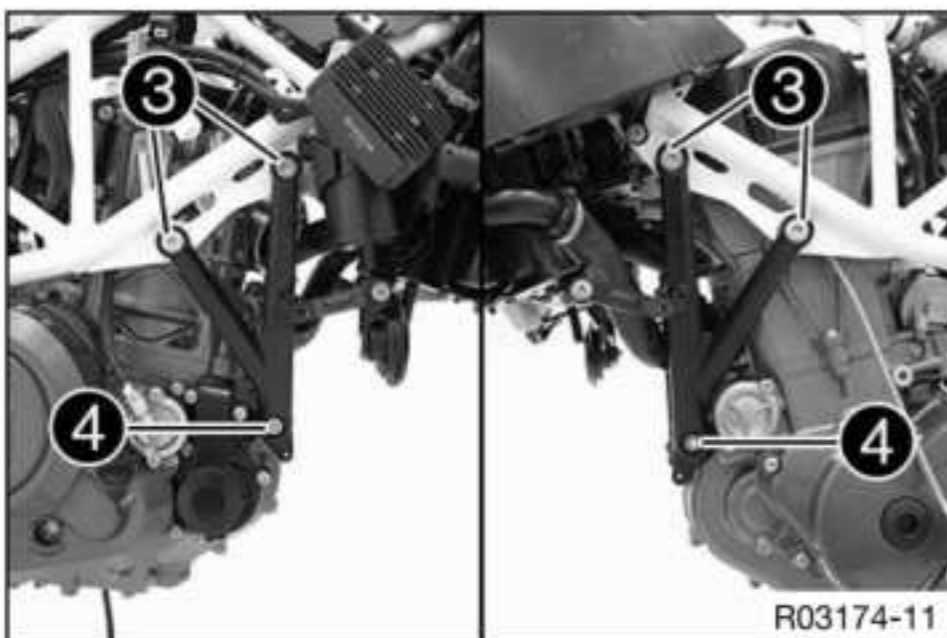


- Mount the fork pivot.
- Mount screw ① of the fork pivot but do not tighten yet.
- Mount fitting ② of the lower engine mounting bracket but do not tighten it yet.



- Remove the floor jack with the special tool.

Floor jack attachment (75029055000) (📖 p. 389)



- Position the engine bearer.
- Mount and tighten screws ③.

Guideline

Screw, engine bearer on frame	M10	45 Nm (33.2 lbf ft)
-------------------------------	-----	---------------------

- Mount and tighten fitting ④.

Guideline

Engine carrying screw	M10	45 Nm (33.2 lbf ft) Loctite®243™
-----------------------	-----	--

- Tighten screw ① of the fork pivot.

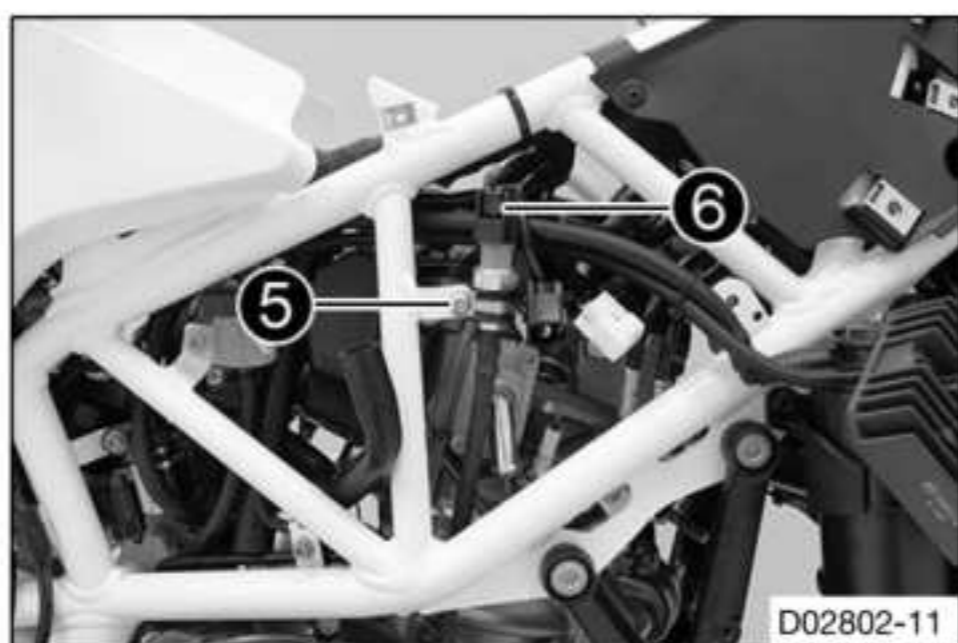
Guideline

Screw, swingarm pivot	M12	80 Nm (59 lbf ft)
-----------------------	-----	-------------------

- Tighten fitting ② of the lower engine mounting bracket.

Guideline

Engine carrying screw	M10	45 Nm (33.2 lbf ft) Loctite®243™
-----------------------	-----	--

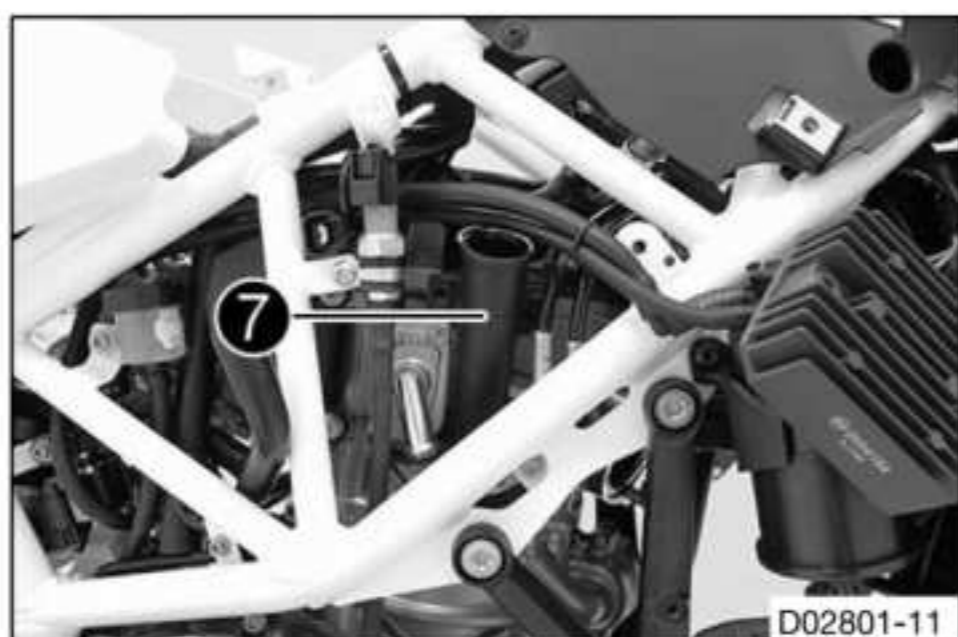


- Position the clamp of the oil line. Mount and tighten screw **5**.

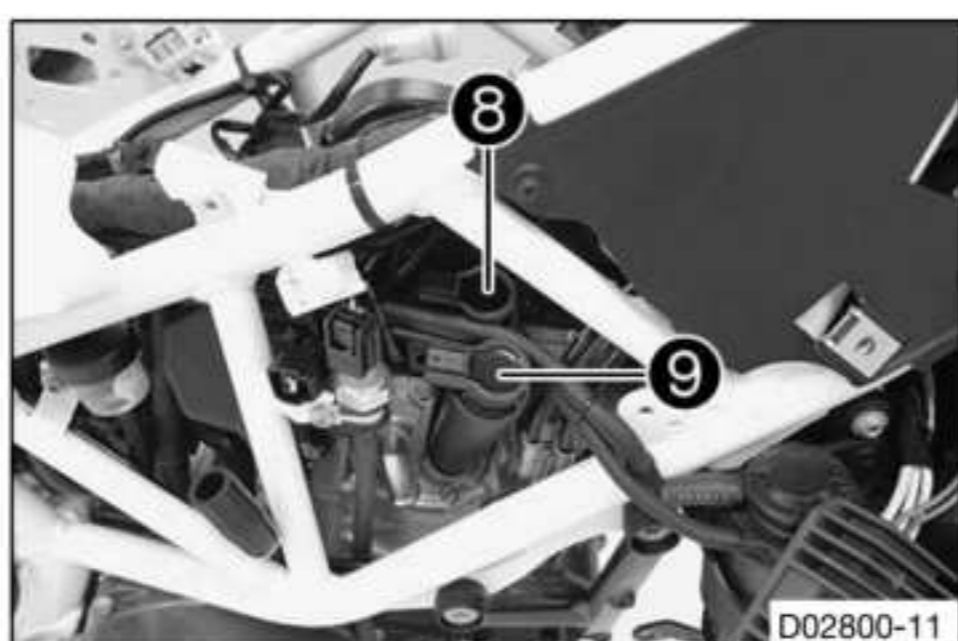
Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------

- Plug in connector **6**.



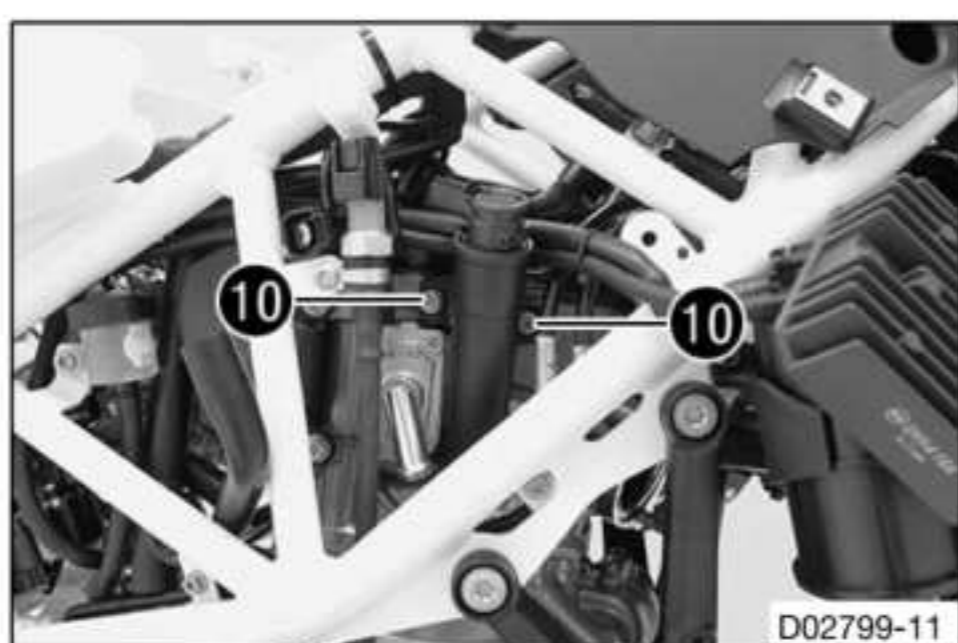
- Position spark plug shaft **7**.



- Position ignition coils **8** and **9**.

i Info

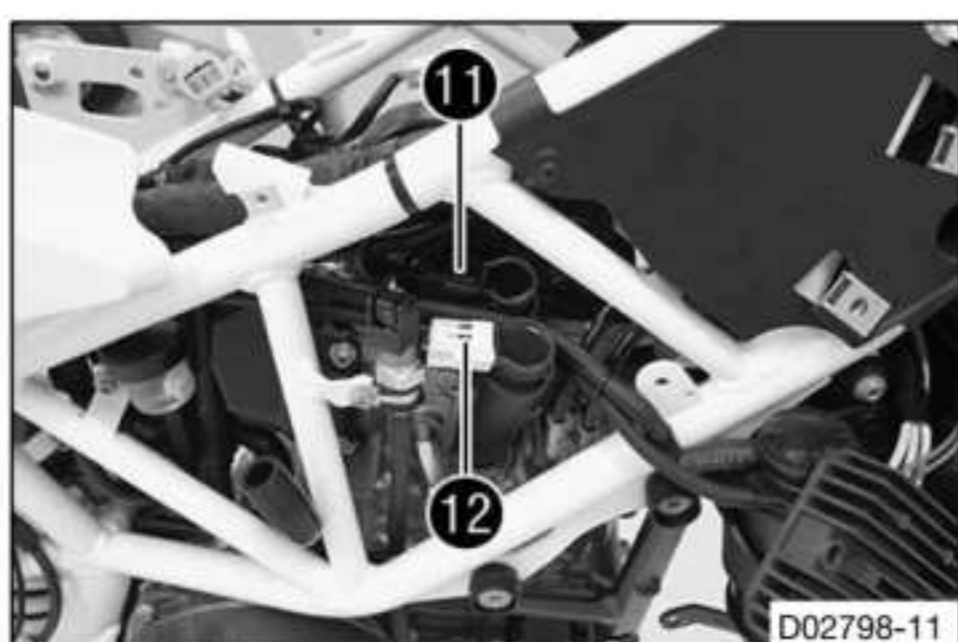
Ensure that the ignition coils are seated correctly.



- Mount and tighten screws **10**.

Guideline

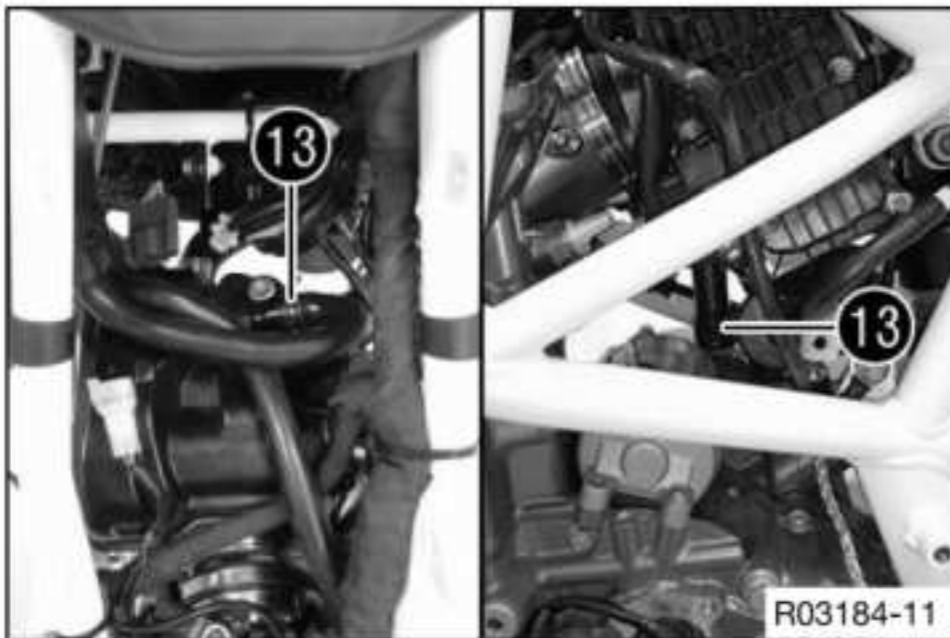
Screw, ignition coil	M6	10 Nm (7.4 lbf ft)
----------------------	----	--------------------



- Plug in connectors **11** and **12** of the ignition coils.
 - ✓ The cable with the white marking is connected to the outer ignition coil.

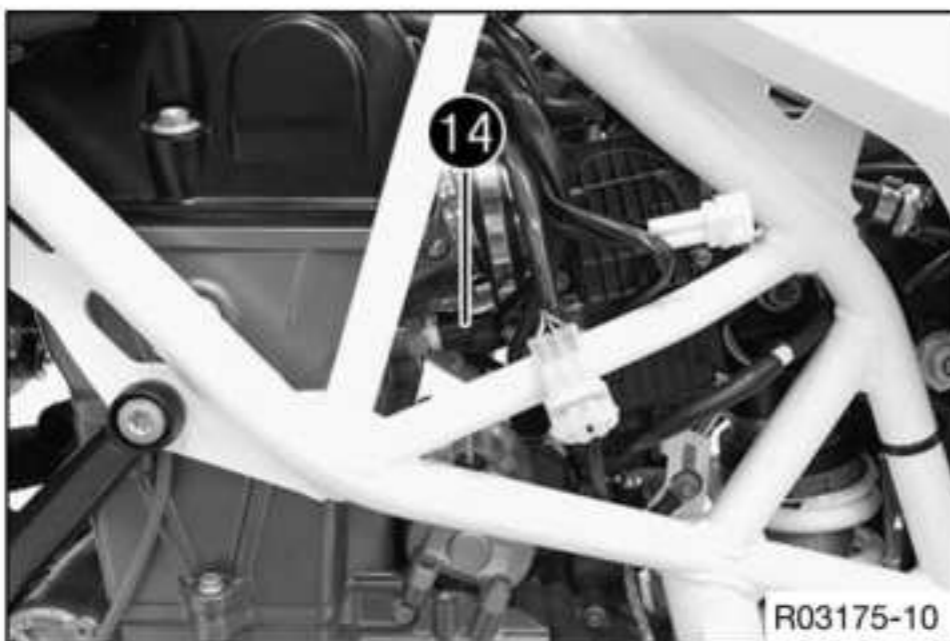


- Mount the hose and secure with cable tie(s).

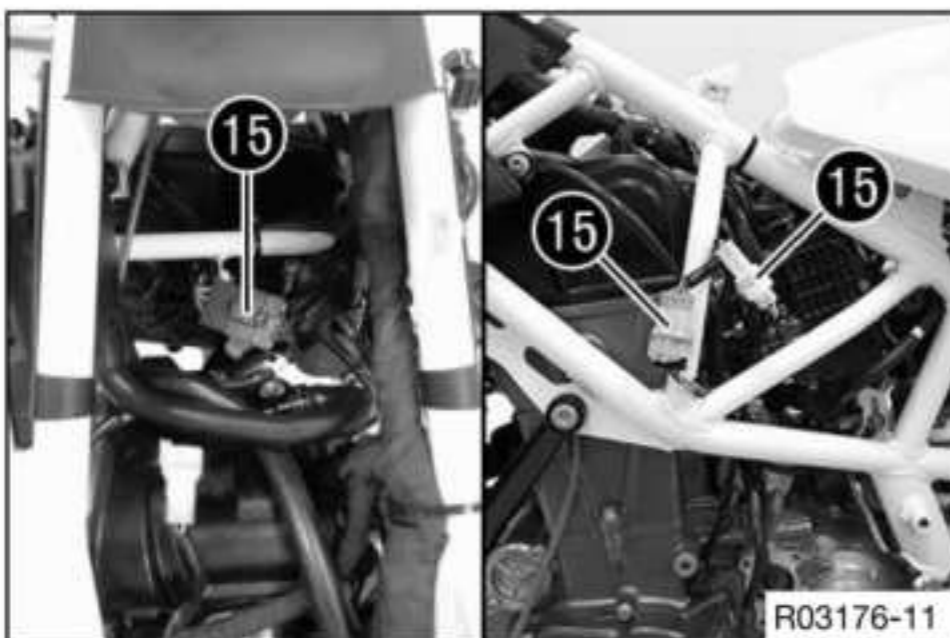


- Position the bleeder hoses.
- Mount the spring band clamps **13** using the special tool.

Spring band clamps plier (60029057100) (📖 p. 385)



- Plug in connector of the coolant temperature sensor **14**.



- Join plug-in connectors **15** of the gear position sensor, crankshaft speed sensor, and alternator.



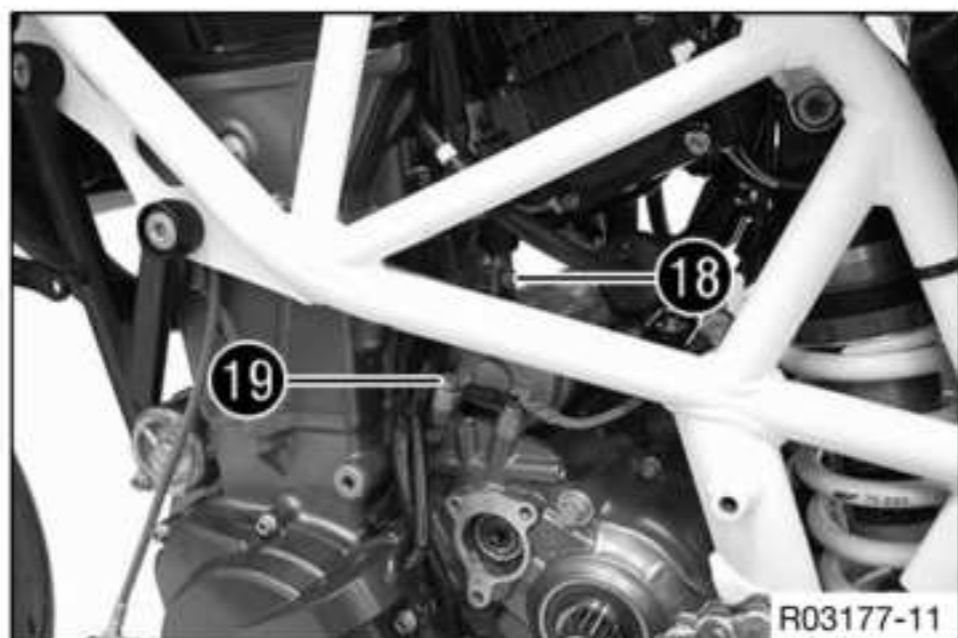
- Position the throttle valve body.
- Position and tighten hose clip **16**.

Guideline

Hose clamp, intake flange	M4	2.5 Nm (1.84 lbf ft)
---------------------------	----	----------------------



- Position hose 17 on the cylinder head.



- Position the electrical connection on the starter motor. Mount and tighten screw 18. Mount the protection cap.

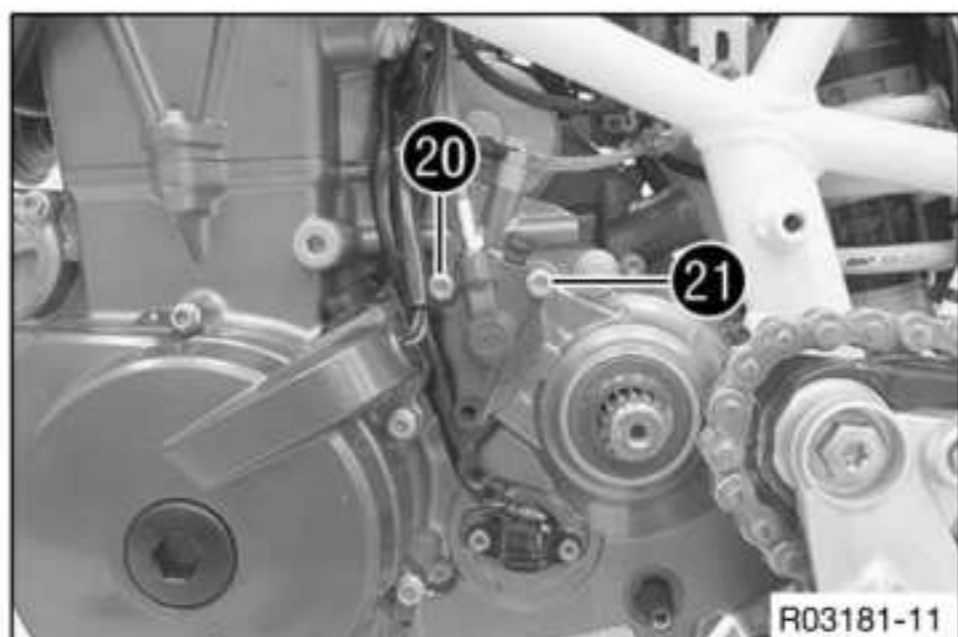
Guideline

Screw, cable on starter motor	M5	3 Nm (2.2 lbf ft)
-------------------------------	----	-------------------

- Position the ground wire on the starter motor. Mount and tighten screw 19.

Guideline

Screw, starter motor	M6	10 Nm (7.4 lbf ft) Loctite®243™
----------------------	----	---



- Position clutch slave cylinder.
- Mount and tighten screw 20.

Guideline

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

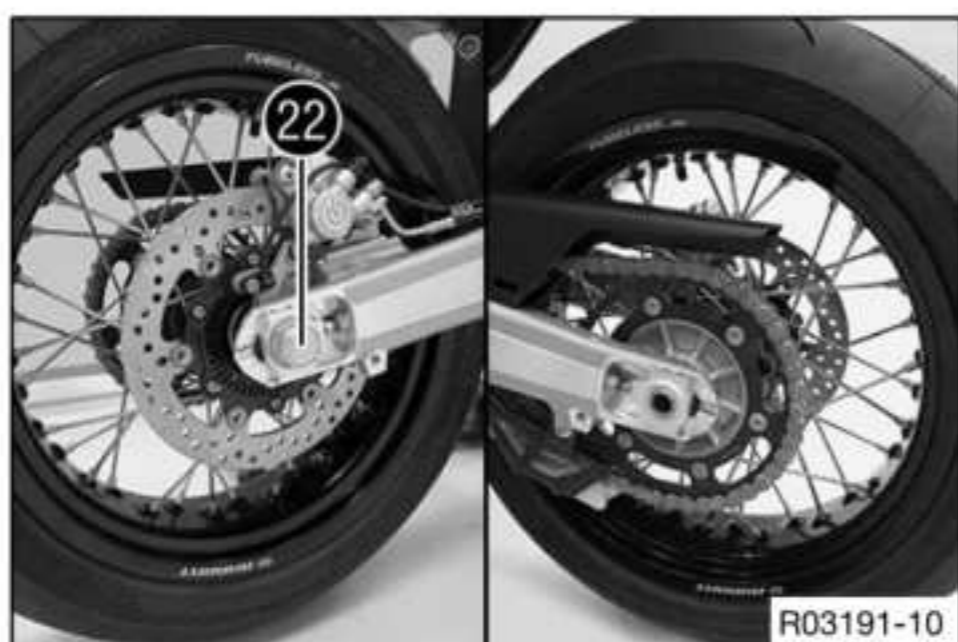
- Mount and tighten screw 21.

Guideline

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



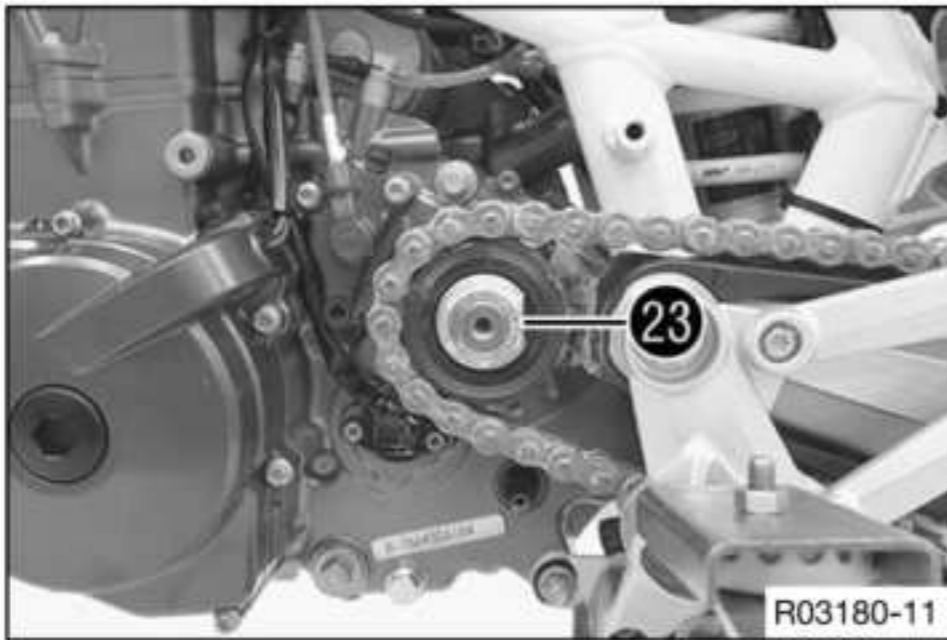
- Route the cable without tension and secure with cable ties.



- Mount the engine sprocket with the chain.
- Position the new lock washer and mount nut but do not tighten yet.
- Position the rear wheel.
- Mount the chain adjuster and nut.
- Push the rear wheel forward so that the chain adjusters rest against the tensioning screws, and tighten nut 22.

Guideline

Nut, rear wheel spindle	M25x1.5	90 Nm (66.4 lbf ft)
-------------------------	---------	---------------------

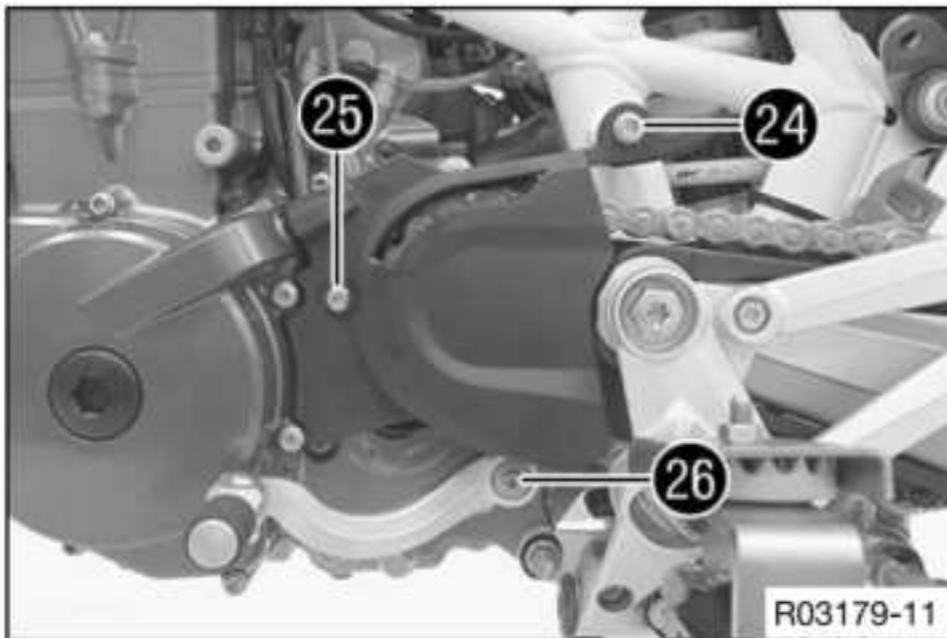


- Have an assistant operate the rear brake.
- Tighten the nut.

Guideline

Nut, engine sprocket	M20x1.5	80 Nm (59 lbf ft) Loctite®243™
----------------------	---------	--

- Secure the nut with new lock washer **23**.



- Position the engine sprocket cover.
- Mount and tighten screw **24**.

Guideline

Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)
---------------------------	----	---------------------

- Mount and tighten screw **25**.

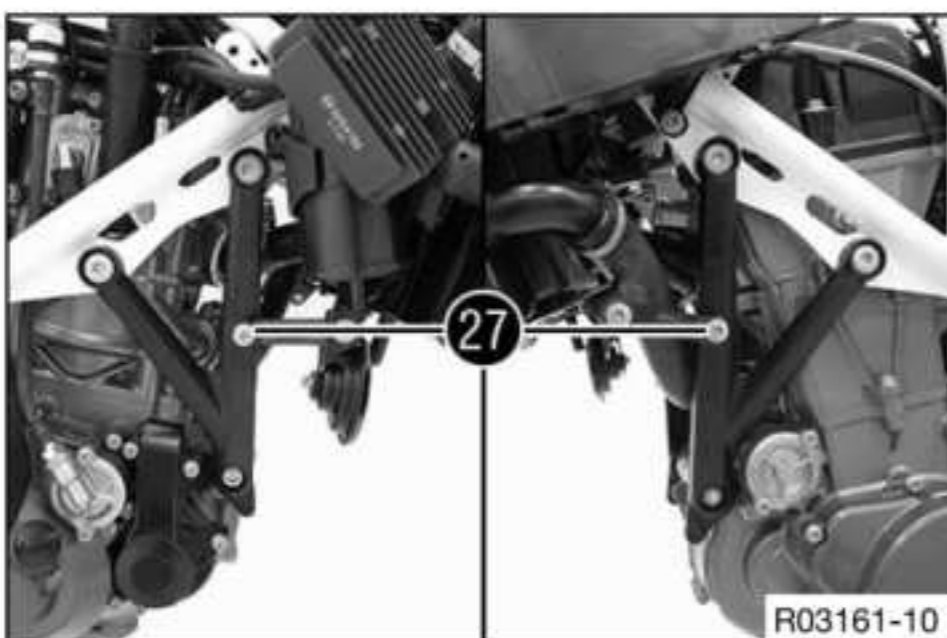
Guideline

Screw, clutch slave cylinder	M6x40	10 Nm (7.4 lbf ft) Loctite®243™
------------------------------	-------	---

- Position the shift lever.
- Mount and tighten screw **26** with washers.

Guideline

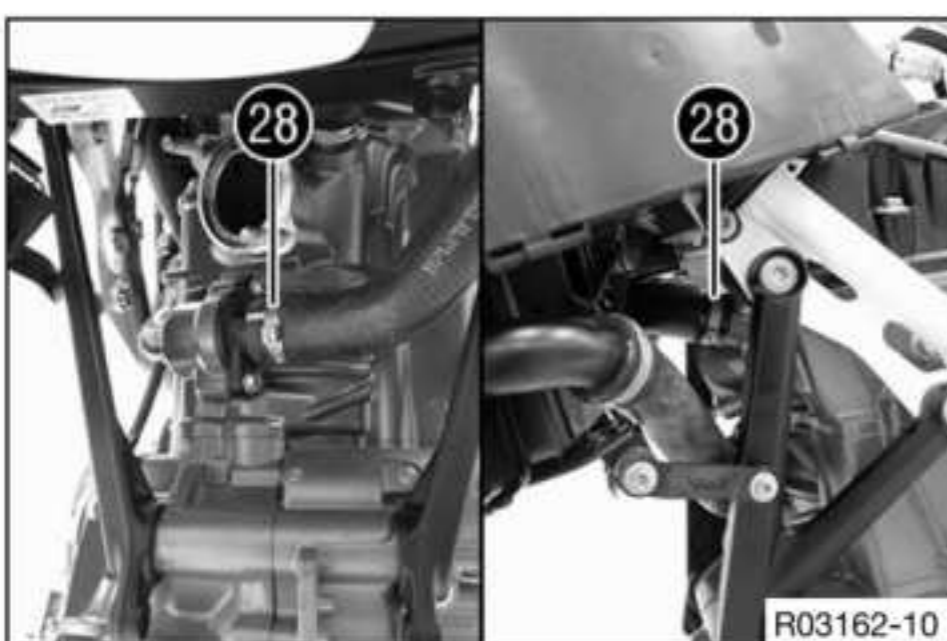
Screw, shift lever	M6	14 Nm (10.3 lbf ft) Loctite®243™
--------------------	----	--



- Mount and tighten screws **27**.

Guideline

Screw, upper radiator bracket	M6	10 Nm (7.4 lbf ft)
-------------------------------	----	--------------------



- Position the radiator hoses. Mount hose clips **28**.
- Install the manifold. (📖 p. 83)
- Connect the 12-V battery. (📖 p. 142)



- Remove filler plug 29 with the O-ring, and fill up with engine oil.

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

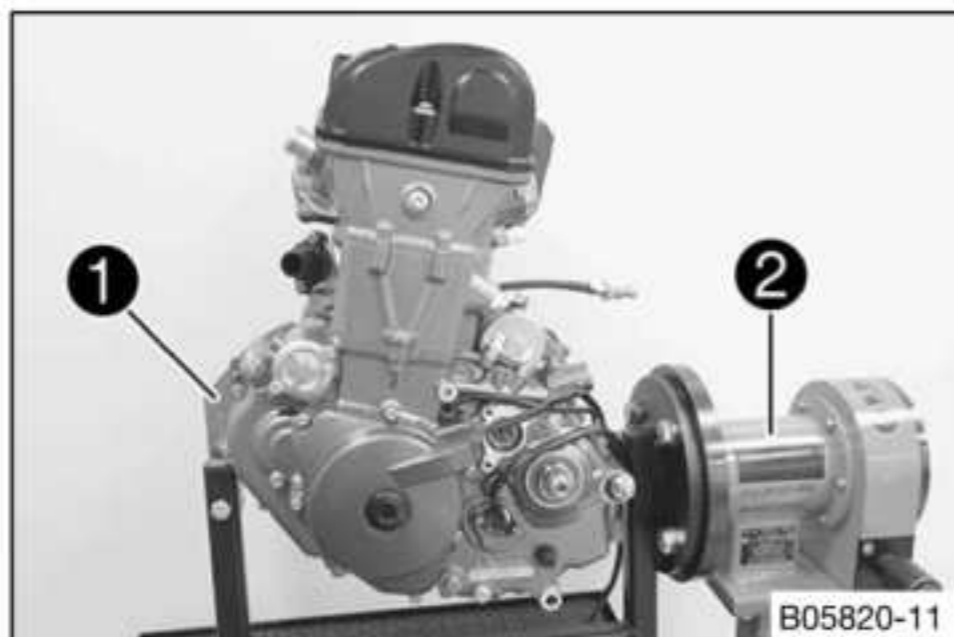
- Mount and tighten oil filler plug 29 with the O-ring.

Finishing work

- Fill/bleed the cooling system. (p. 282)
- Install the air filter box. (p. 89)
- Mount the side cover. (p. 94)
- Mount the seat. (p. 93)
- Remove the motorcycle from the work stand. (p. 15)
- Perform the initialization run. (p. 311)
- Go for a short test ride.
- Read out the fault memory using the Husqvarna Motorcycles diagnostics tool.
- Check the engine for leak tightness.
- Check the engine oil level. (p. 290)
- Check the coolant level. (p. 284)

18.3 Engine disassembly

18.3.1 Clamping the engine into the engine assembly stand



- Mount special tool 1 on engine assembly stand 2.

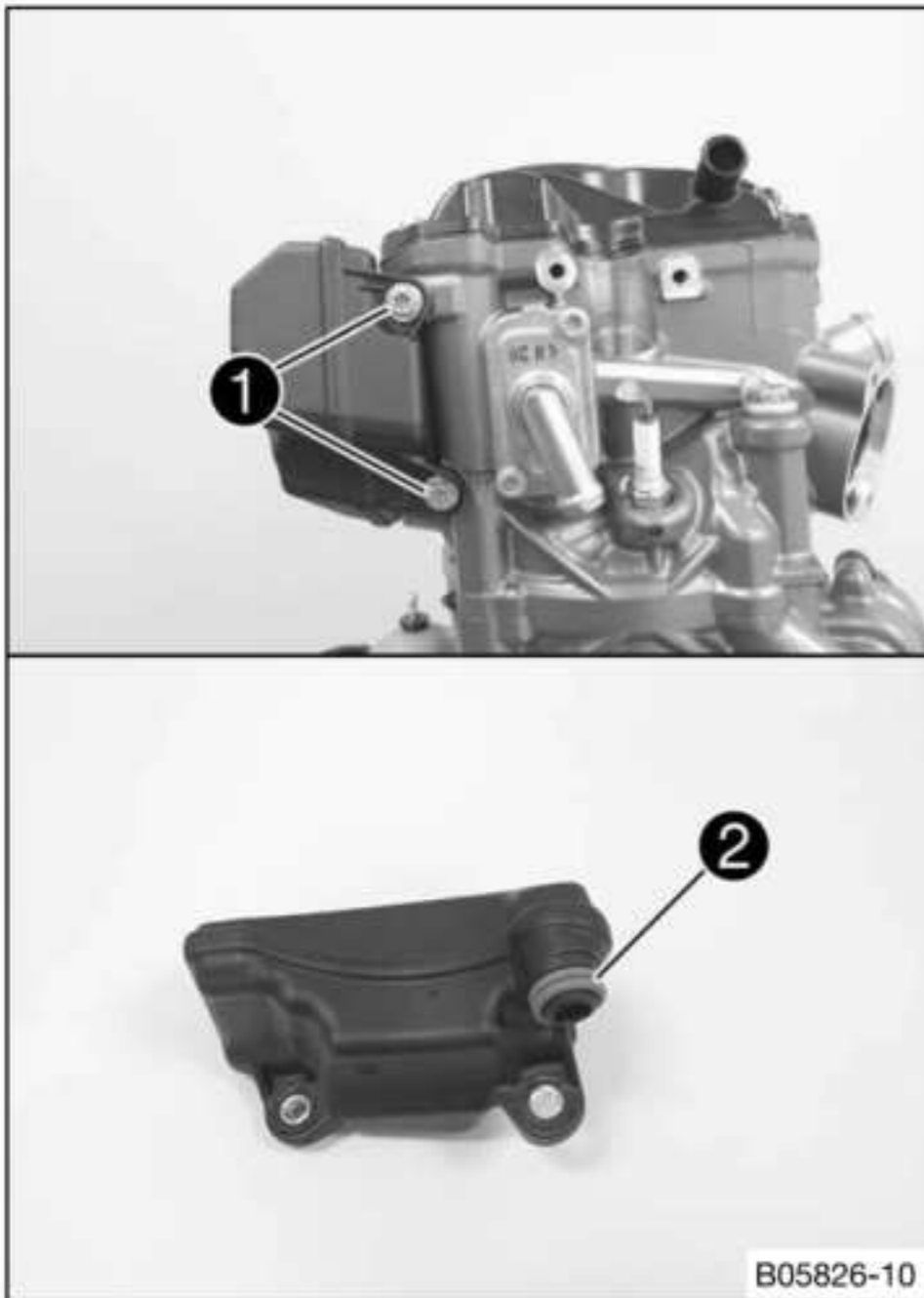
Engine assembly stand (80329001000) (p. 393)
Fitting for work stand (75012001060) (p. 387)
Holder for engine motor stand (75012001070) (p. 387)

- Mount the motor on special tool 1.

i Info

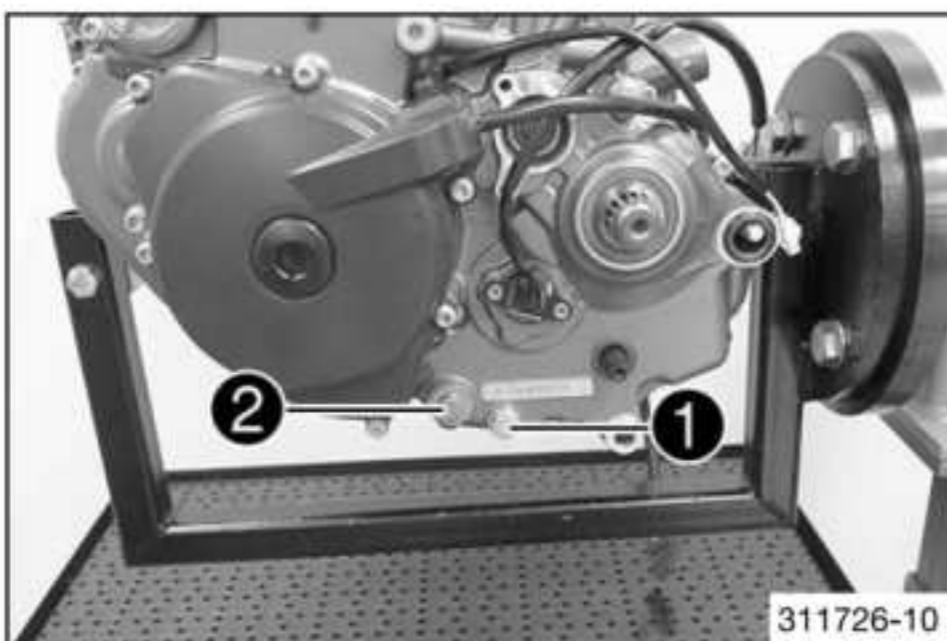
Work with an assistant or a motorized hoist.

18.3.2 Removing the resonator

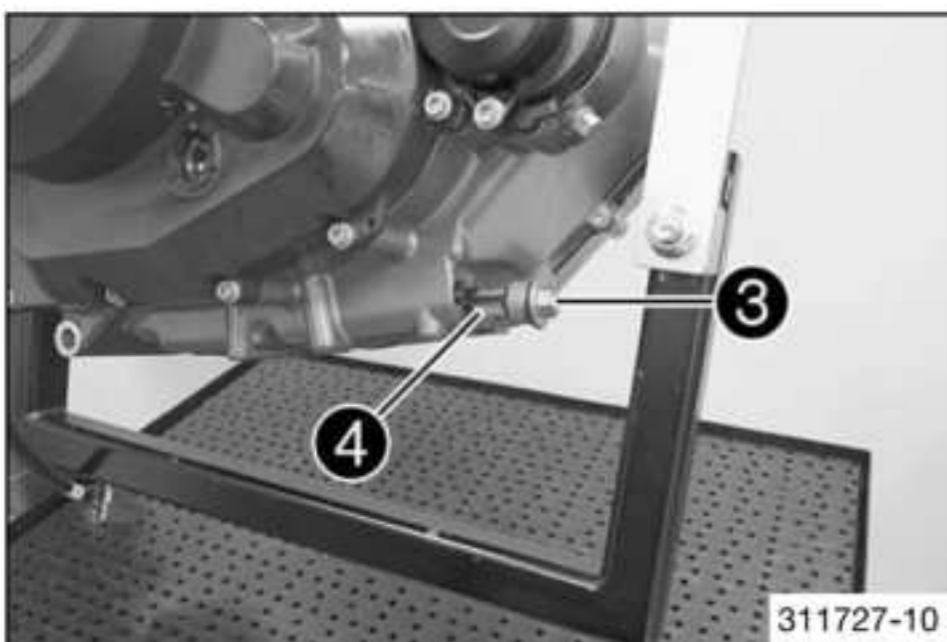


- Remove screws ①.
- Take off resonator with O-rings ②.

18.3.3 Draining the engine oil

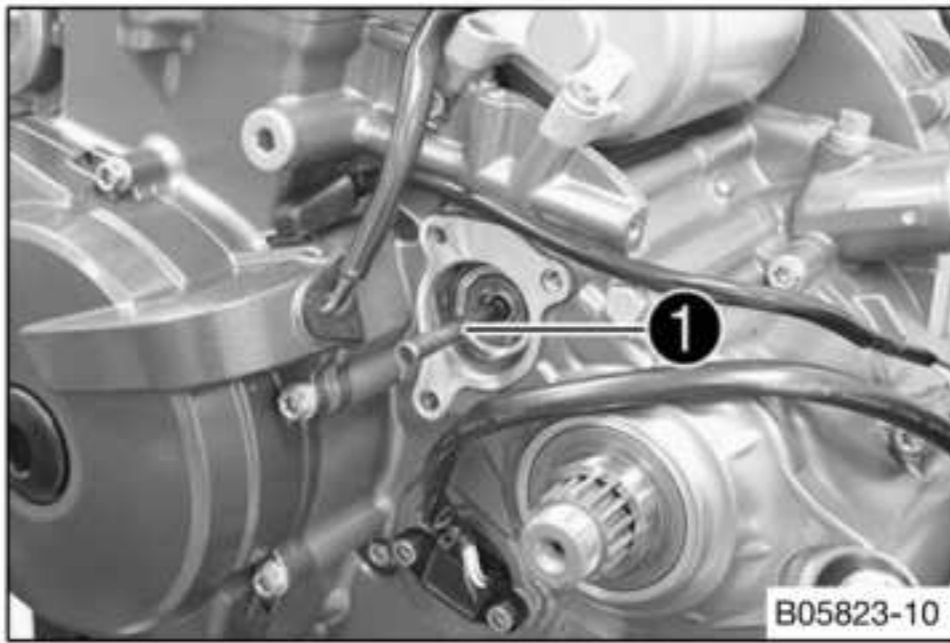


- Remove the oil drain plug ① with the magnet and seal ring.
- Remove plug ② with oil screen and the O-rings.



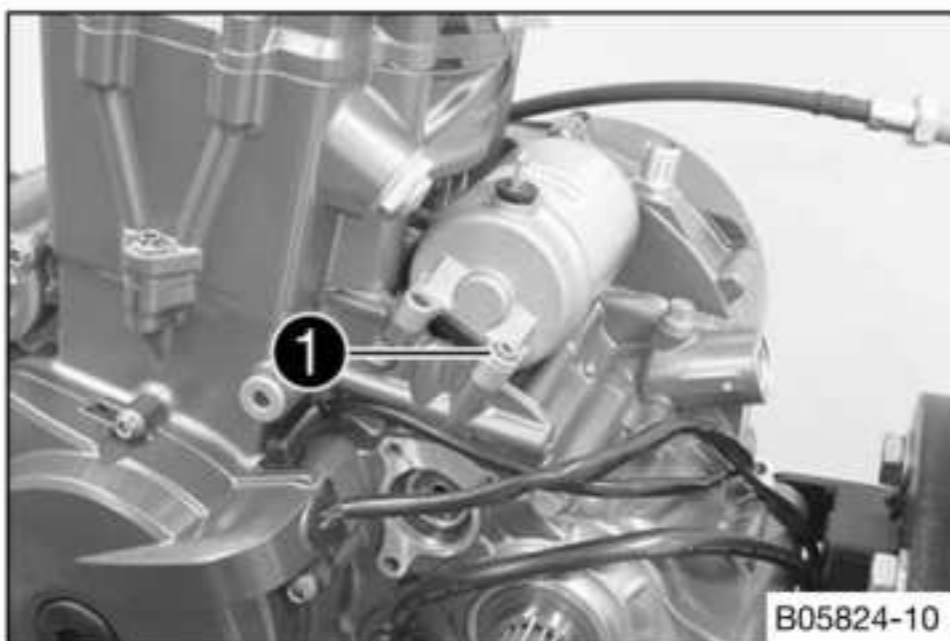
- Remove plug ③ with oil screen ④ and the O-rings.
- Completely drain the engine oil.

18.3.4 Removing the clutch push rod



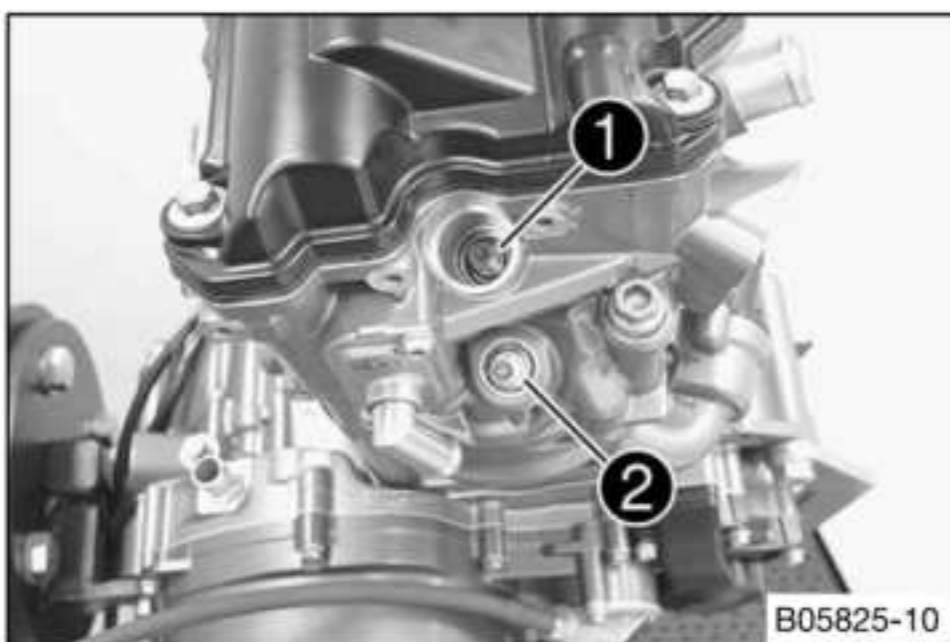
- Remove clutch push rod **1**.

18.3.5 Removing the starter motor



- Remove screw **1**.
- Take off the starter motor.

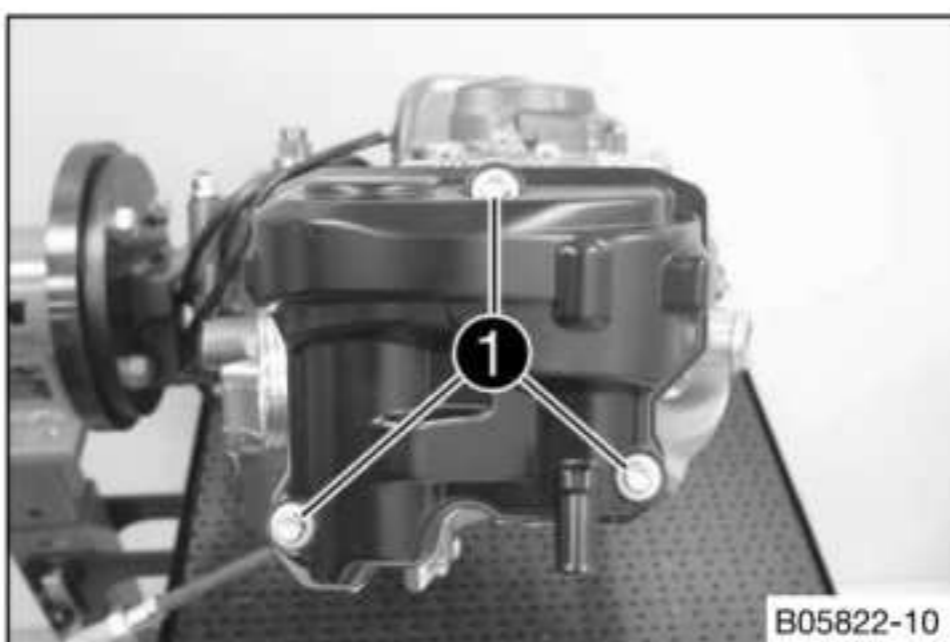
18.3.6 Removing the spark plugs



- Remove spark plugs **1** and **2**.

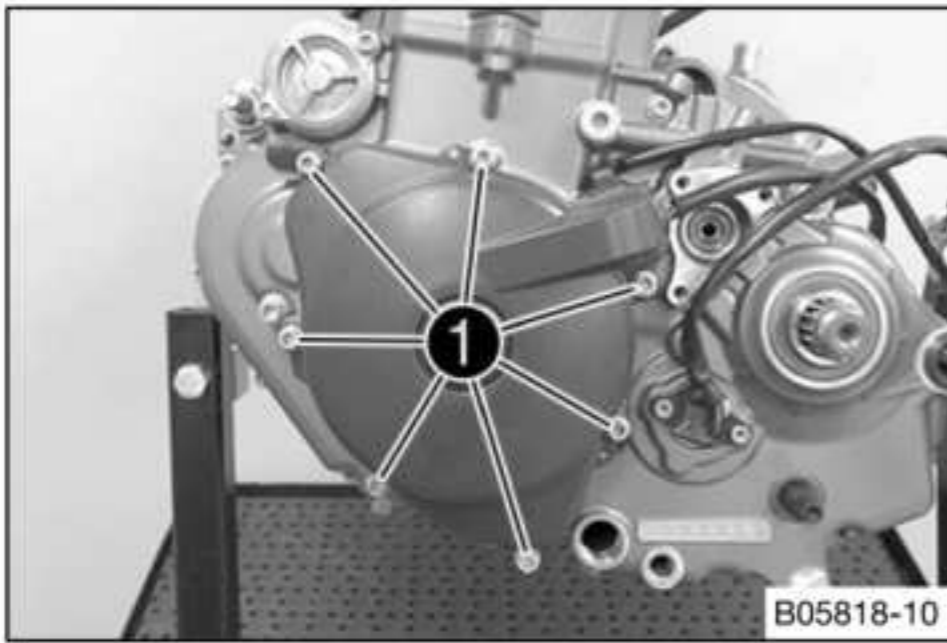
Spark plug wrench (75029172000) (📖 p. 391)

18.3.7 Removing the valve cover

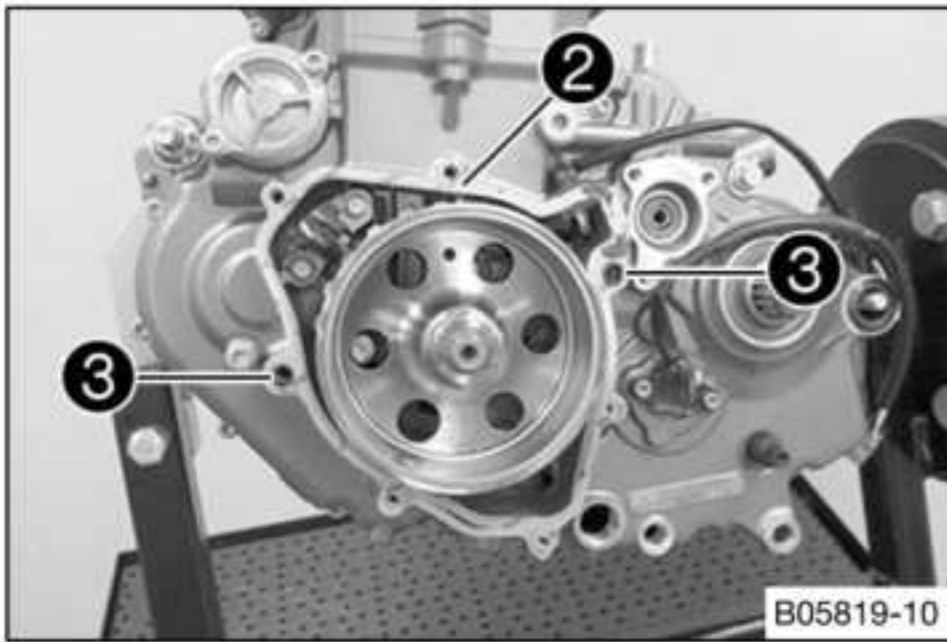


- Remove screws **1**.
- Take off the valve cover with the valve cover seal.

18.3.8 Removing the alternator cover

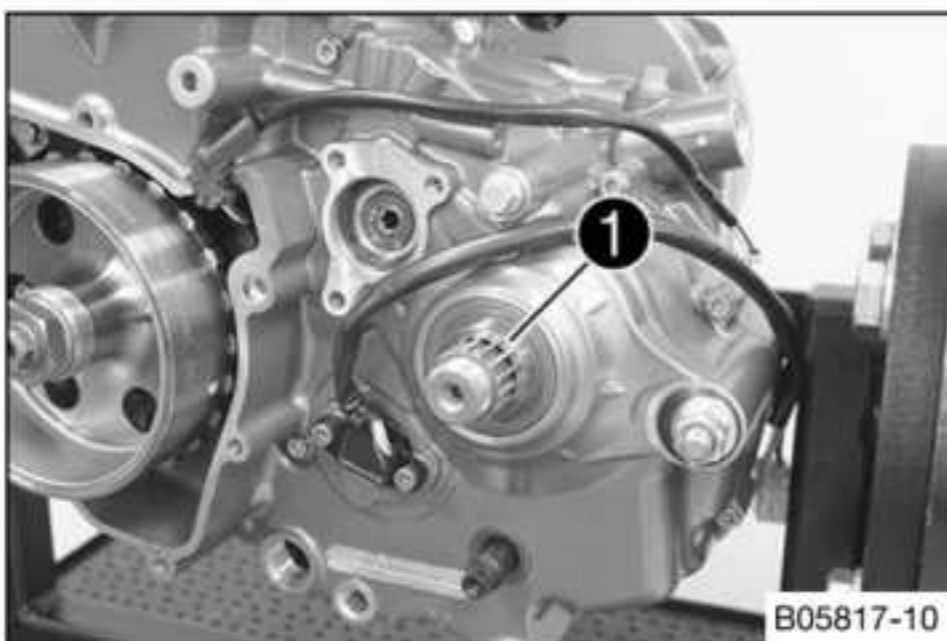


- Remove screws ①.
- Take off the alternator cover.



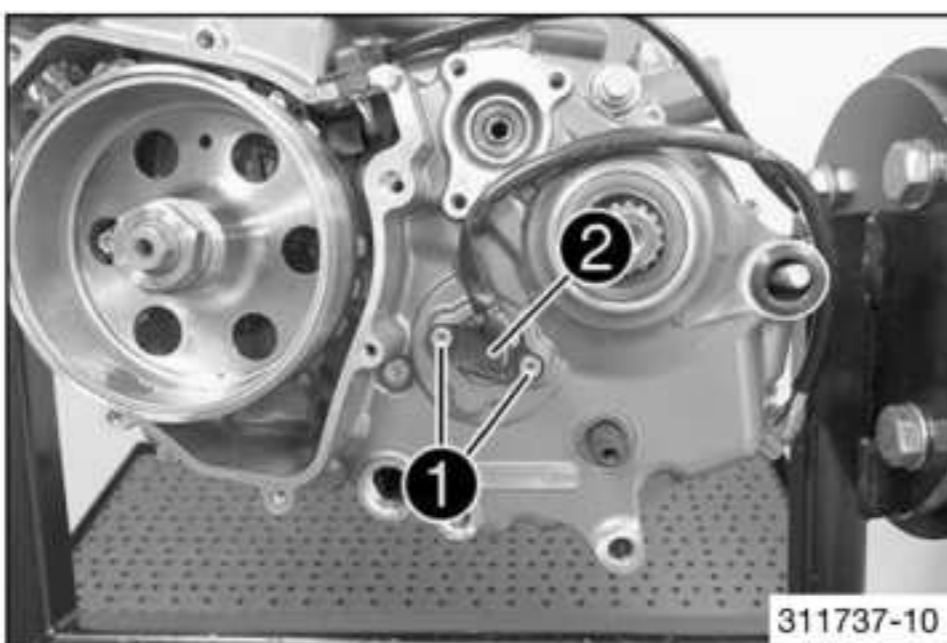
- Take off alternator cover gasket ② and remove dowels ③.

18.3.9 Removing the spacer



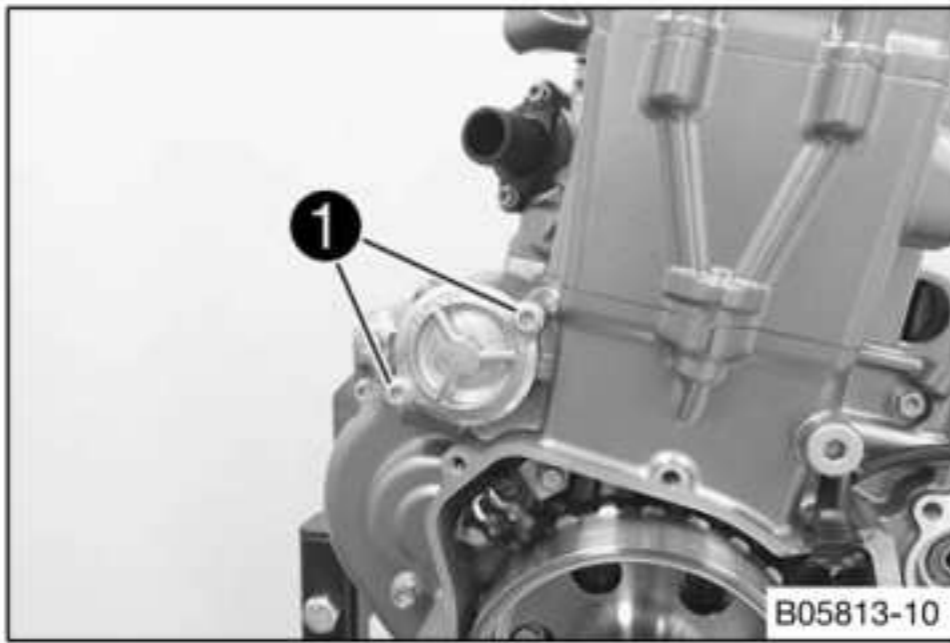
- Remove spacer ①.

18.3.10 Removing the gear position sensor

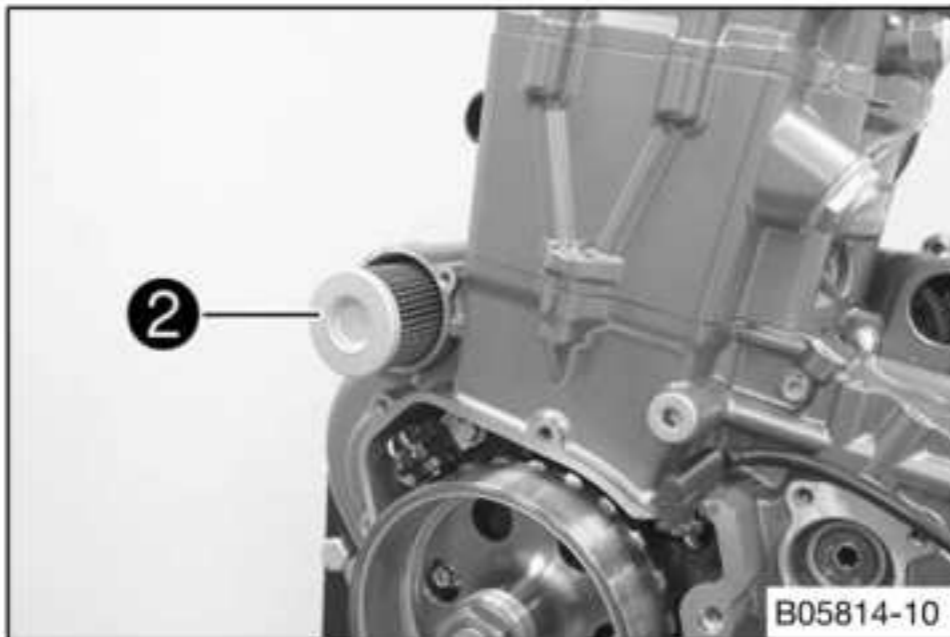


- Remove screws ①.
- Take off gear position sensor ②.

18.3.11 Removing the oil filter

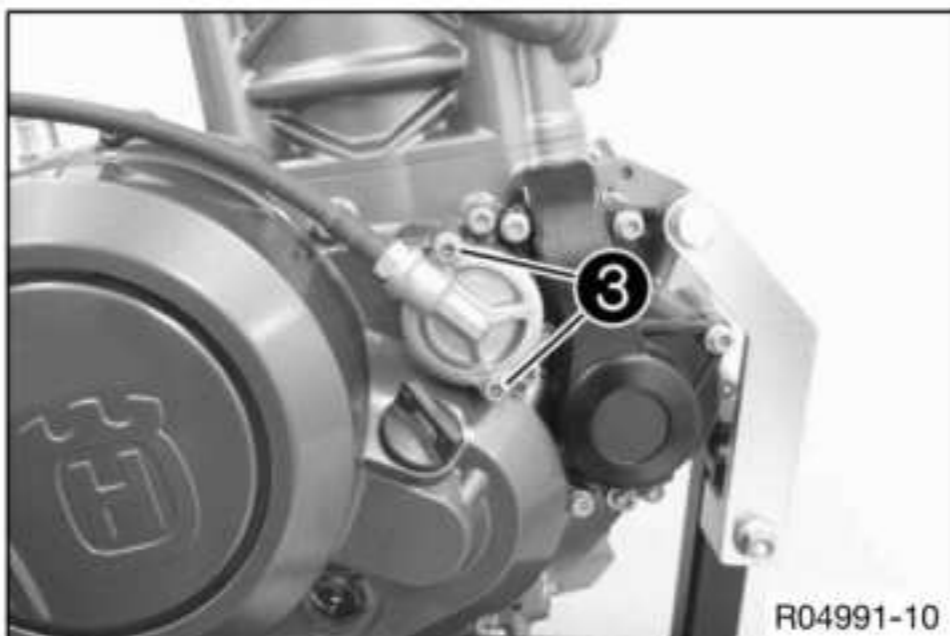


- Remove screws **1**.
- Remove the oil filter cover with the O-ring.

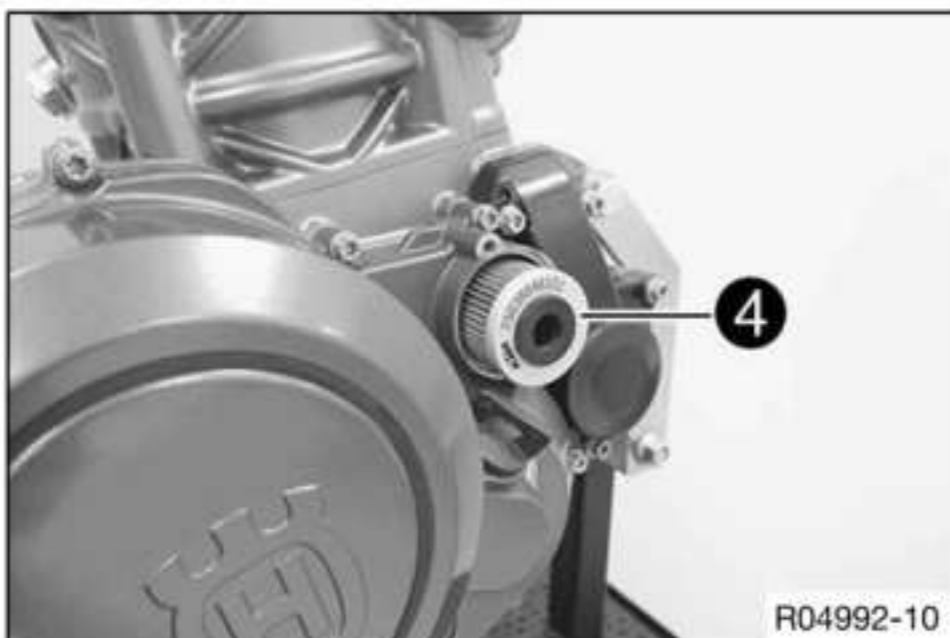


- Remove oil filter **2**.

Lock ring plier (51012011000) (📖 p. 382)



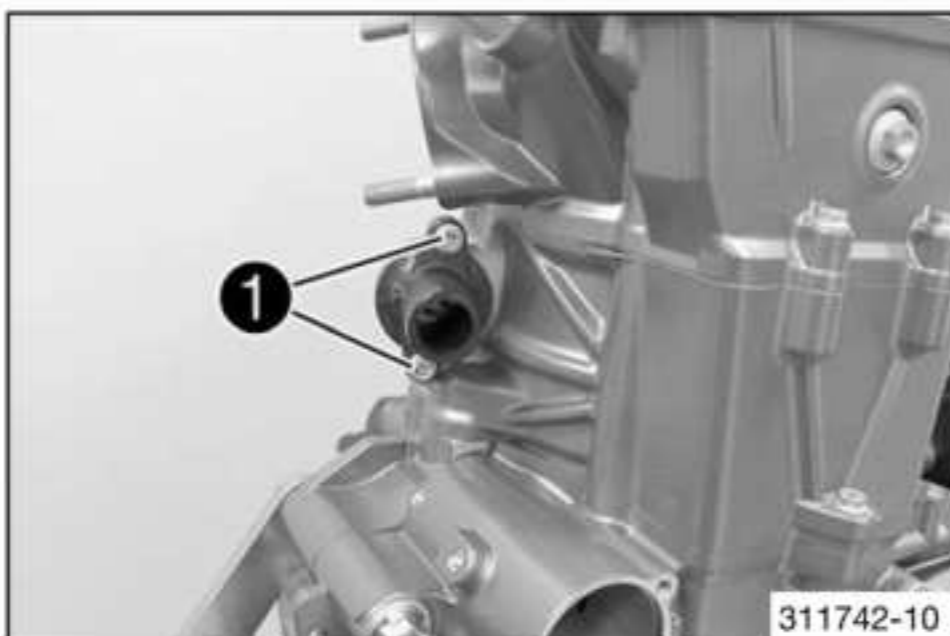
- Remove screws **3**.
- Remove the oil filter cover with the O-ring.



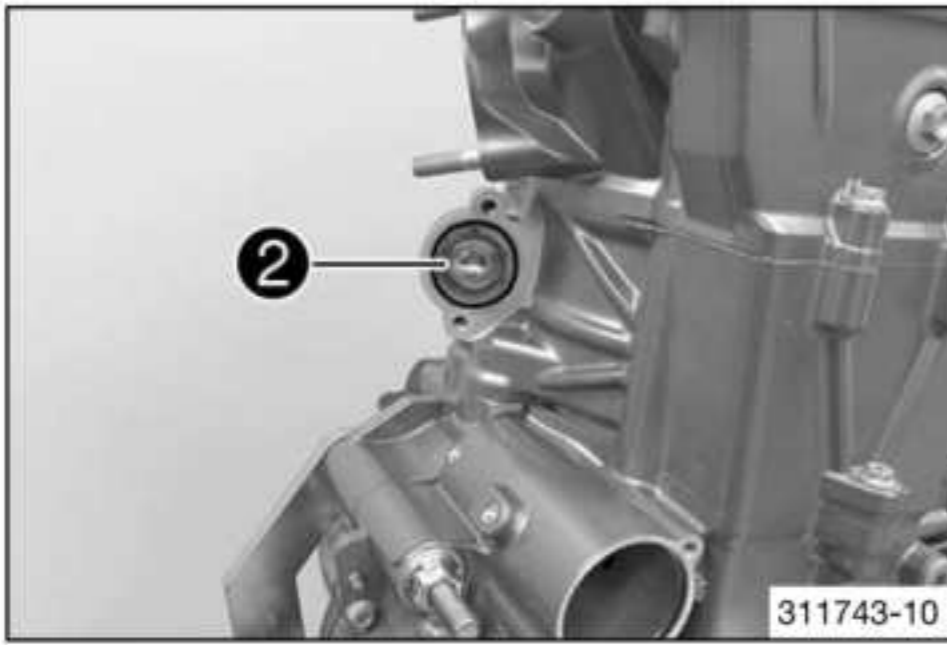
- Remove oil filter **4**.

Lock ring plier (51012011000) (📖 p. 382)

18.3.12 Removing the thermostat

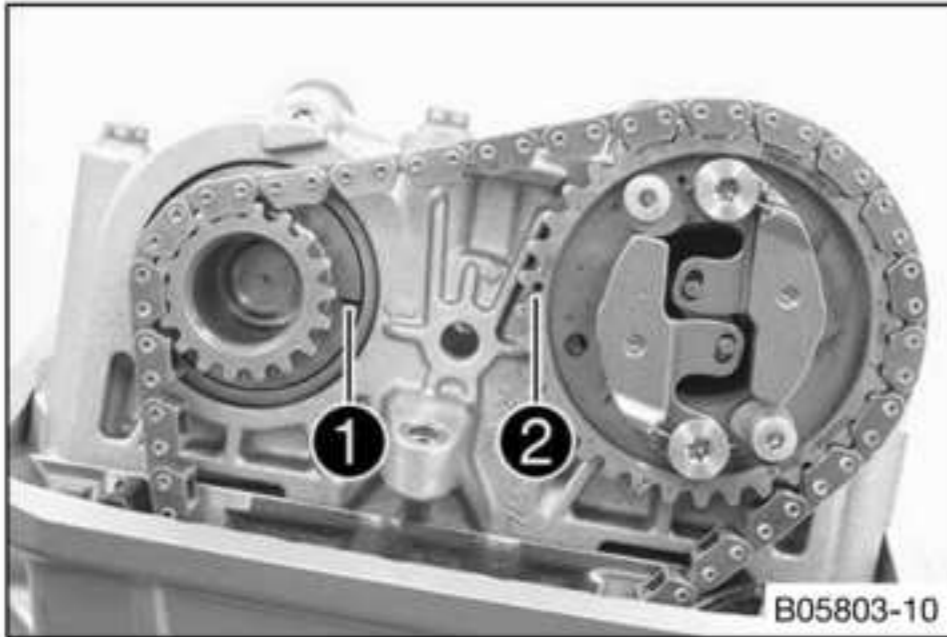


- Remove screws **1**.
- Take off the thermostat case.

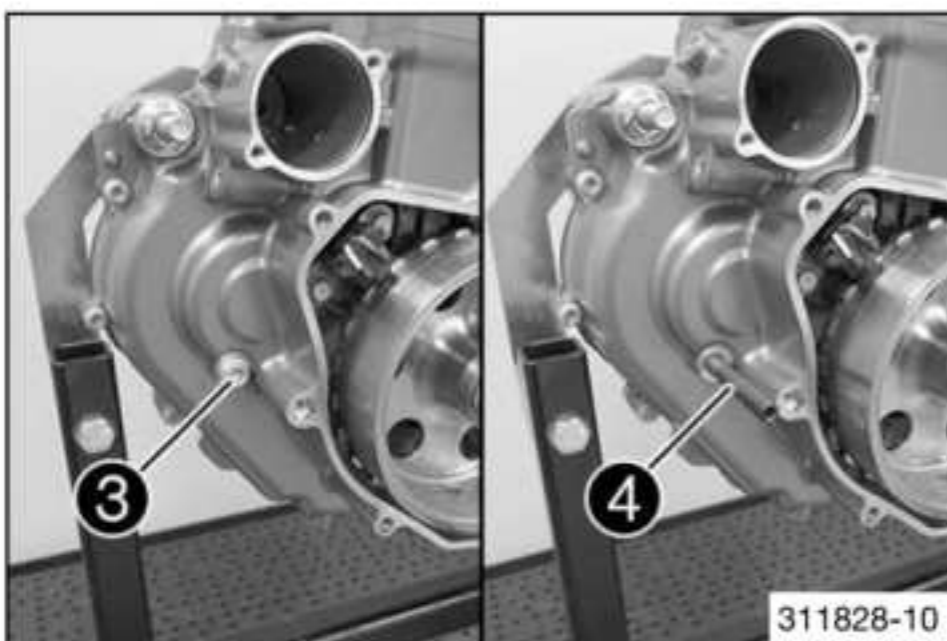


- Remove thermostat ②.

18.3.13 Positioning the engine at ignition top dead center



- Turn the crankshaft counterclockwise until markings ① of the balancer shaft and ② of the camshaft are flush with the marking of the camshaft bearing bridge.



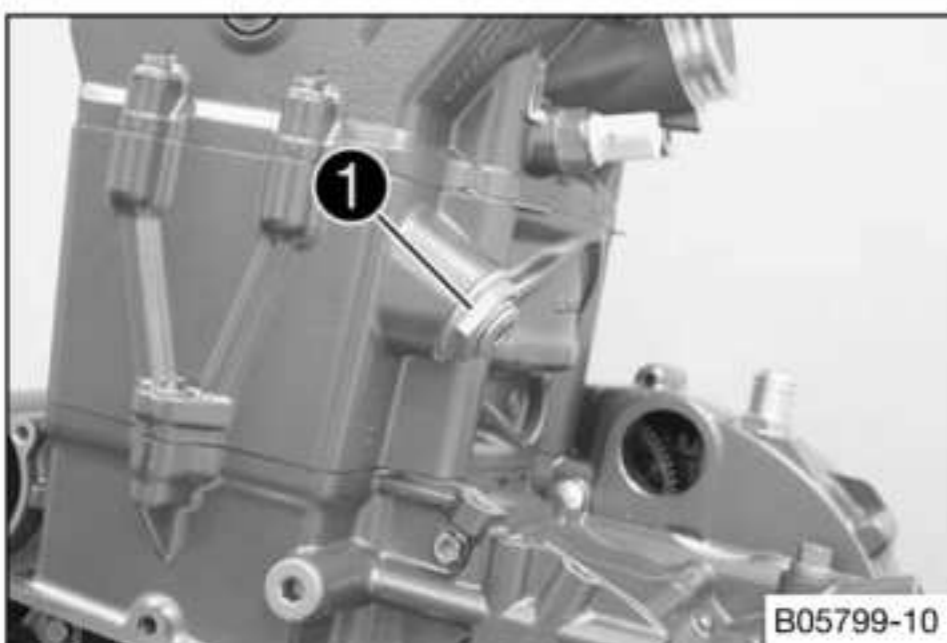
- Remove screw ③.

i Info
Look through the hole to check that the position hole of the balancer shaft is visible.

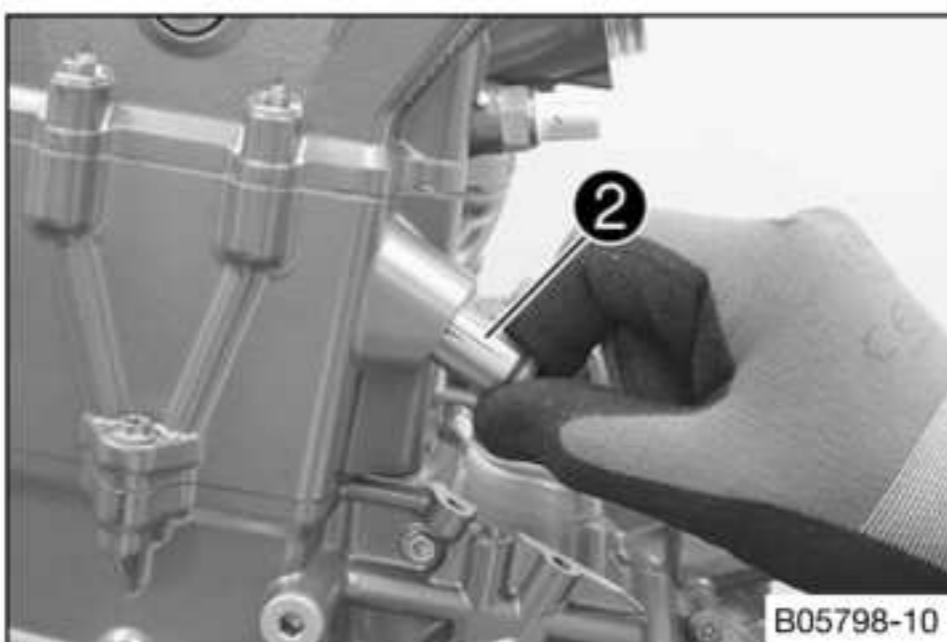
- Screw in special tool ④.

Locking screw (61229015000) (p. 386)

18.3.14 Removing the timing chain tensioner

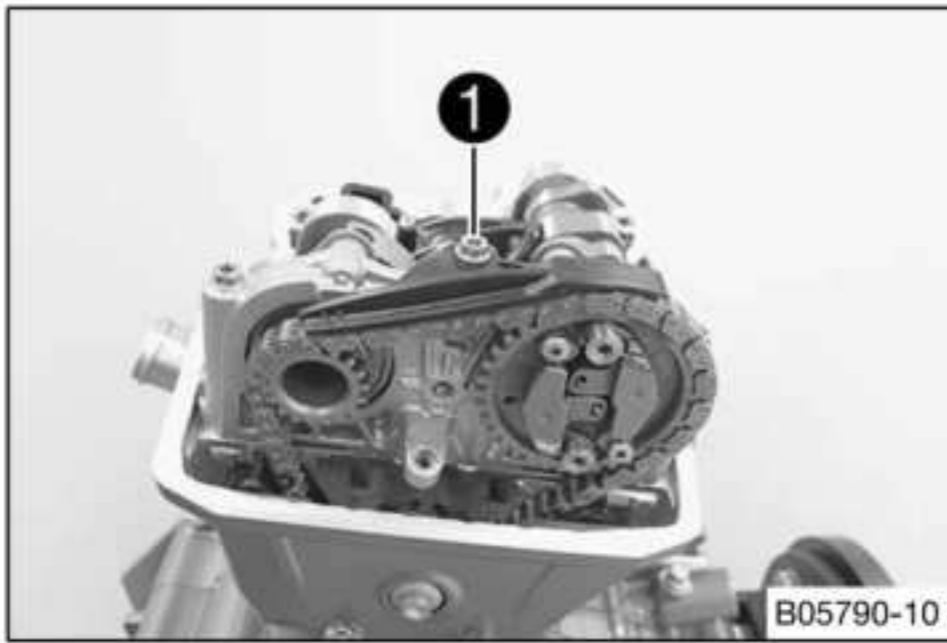


- Remove screw ① with the seal ring.

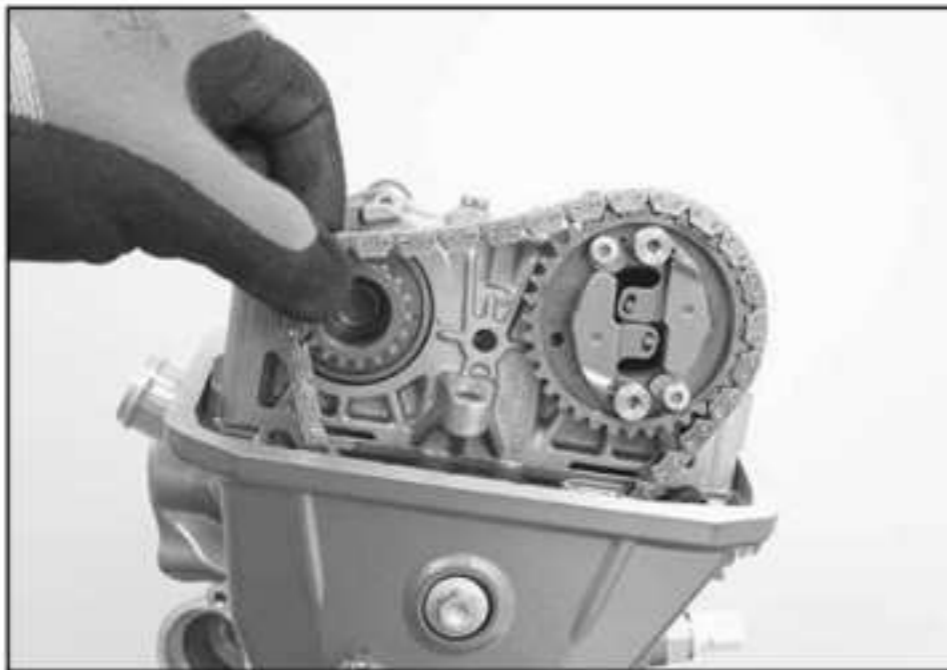


- Remove timing chain tensioner ②.

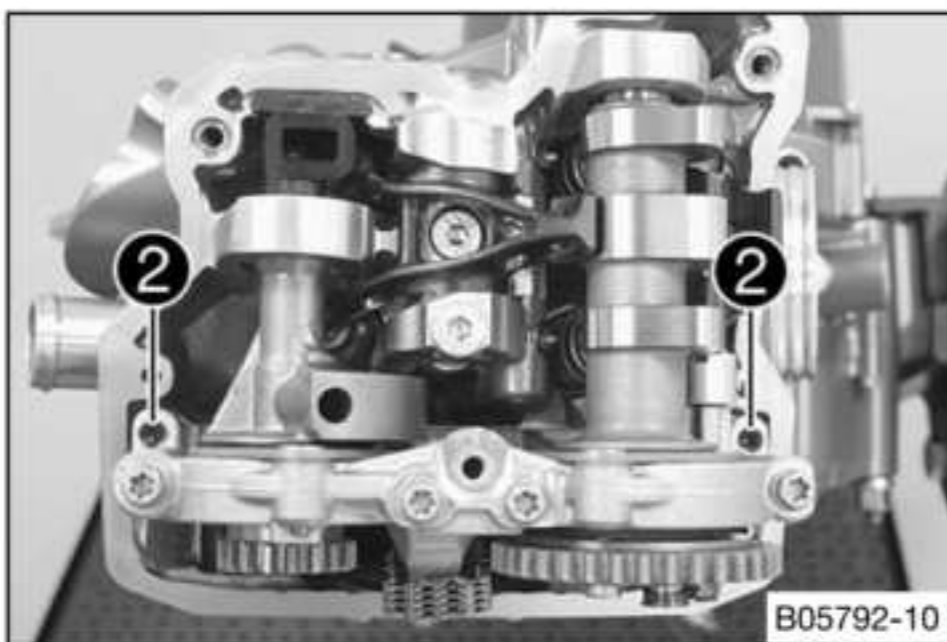
18.3.15 Removing the camshafts



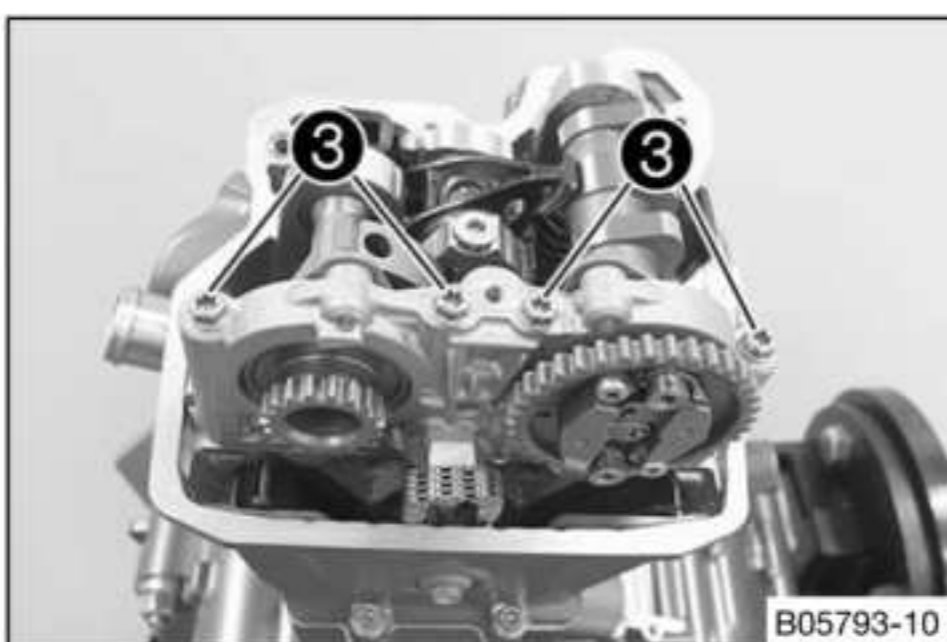
- Remove screw ①.
- Take off guide rail.



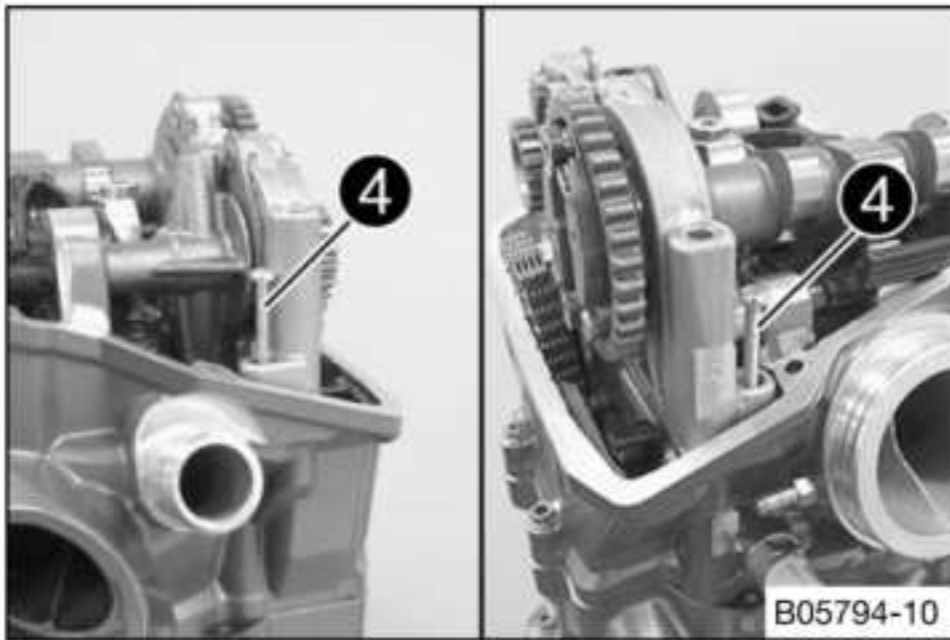
- Take off the timing chain from the balancer shaft and the camshaft.



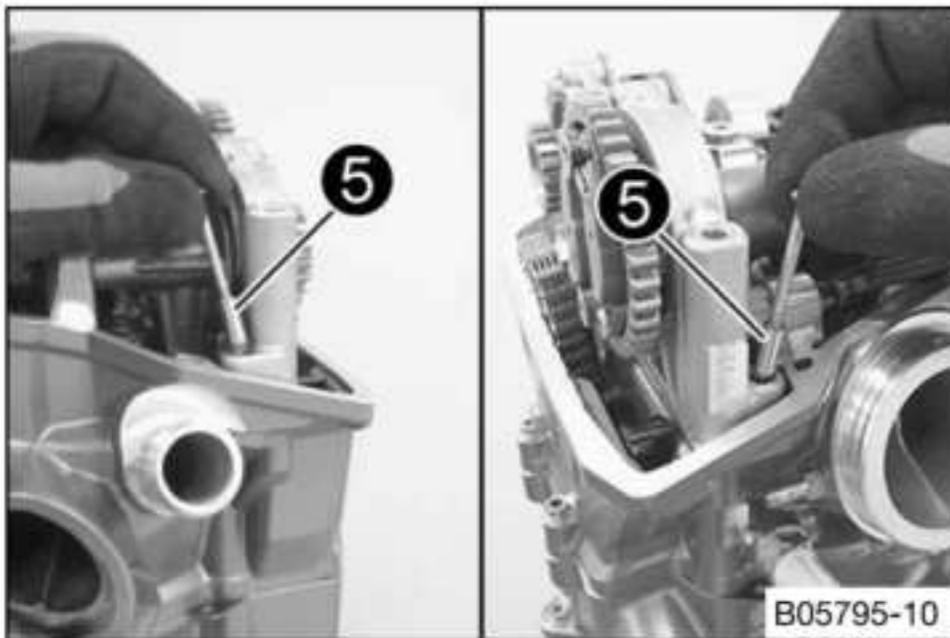
- Remove setscrews ②.



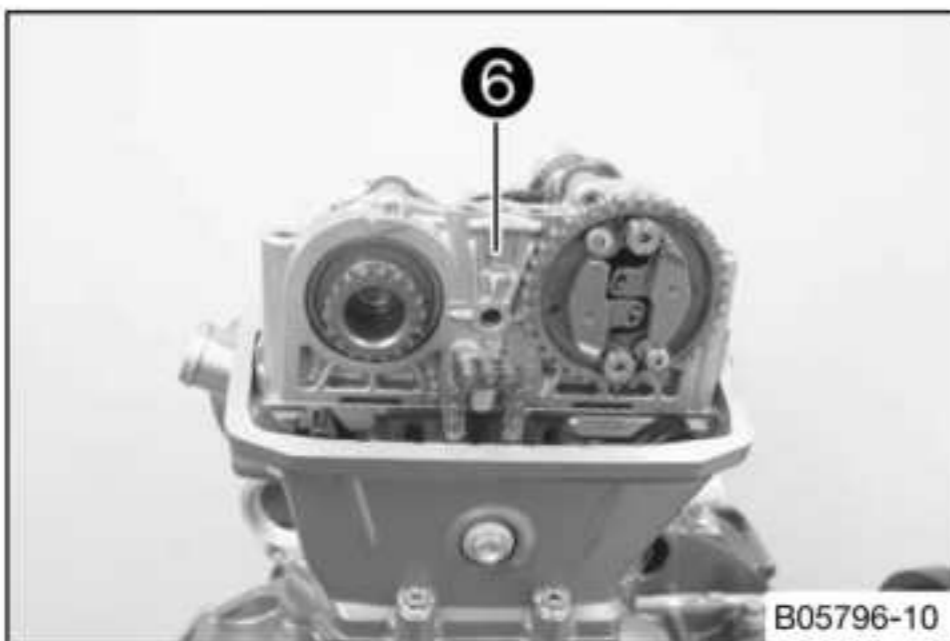
- Loosen and remove screws ③ from the outside to the inside.



- Mount appropriate M4 screws ④ in the dowel pins.

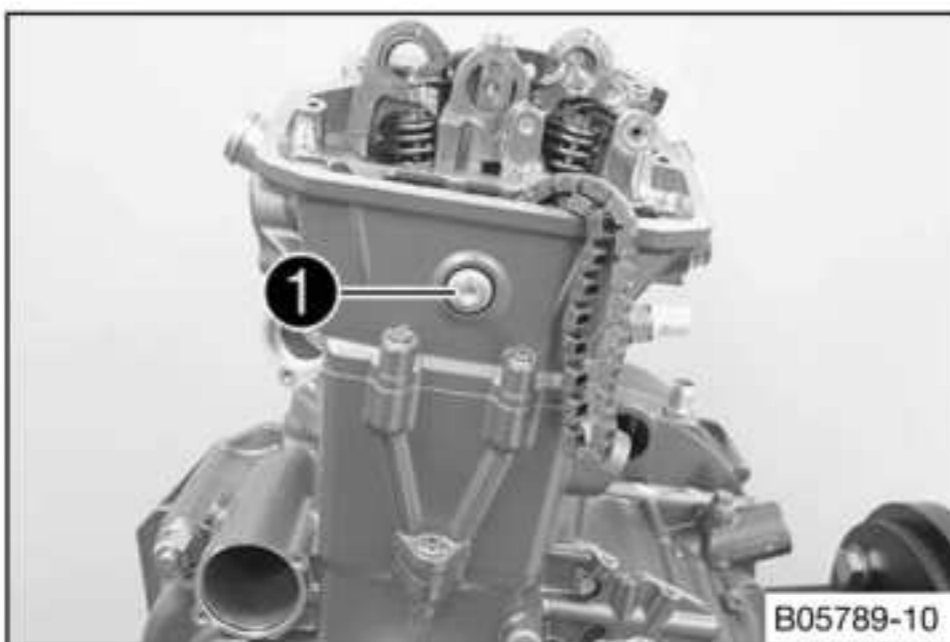


- Remove dowel pins ⑤.

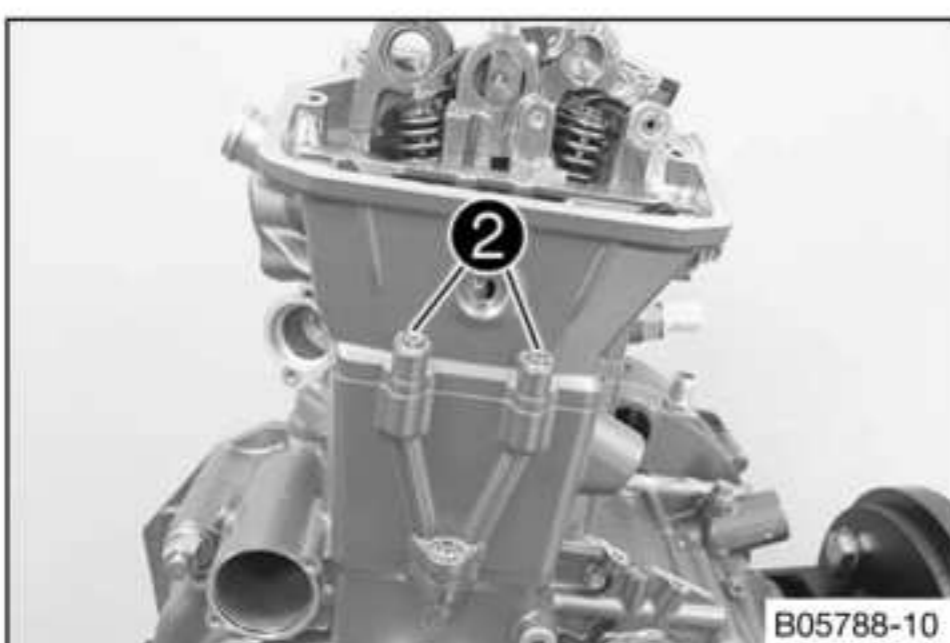


- Take off camshaft bearing bridge ⑥ with balancer shaft and camshaft.

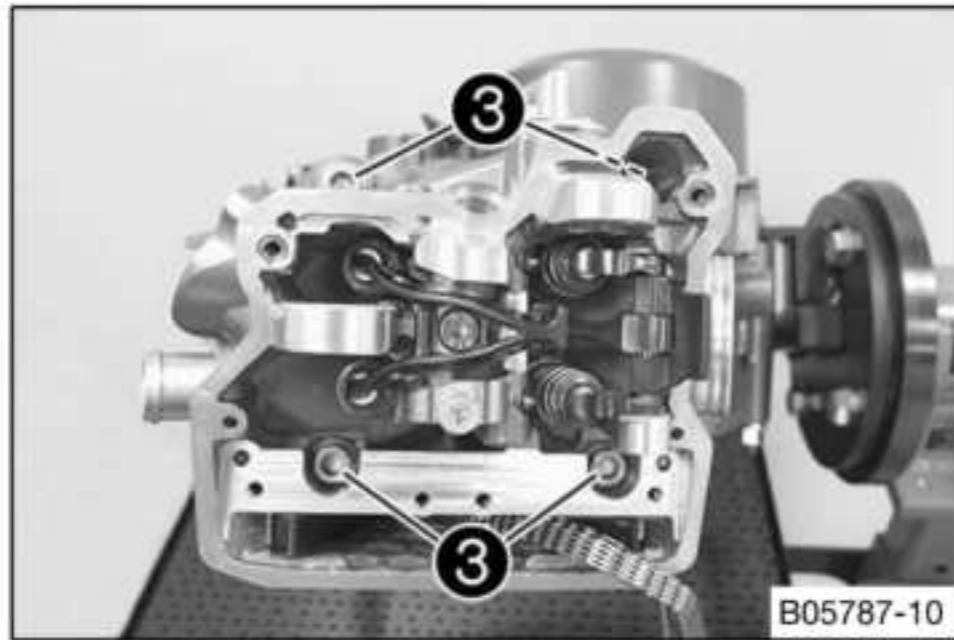
18.3.16 Removing the cylinder head



- Remove screw ① with the gasket.

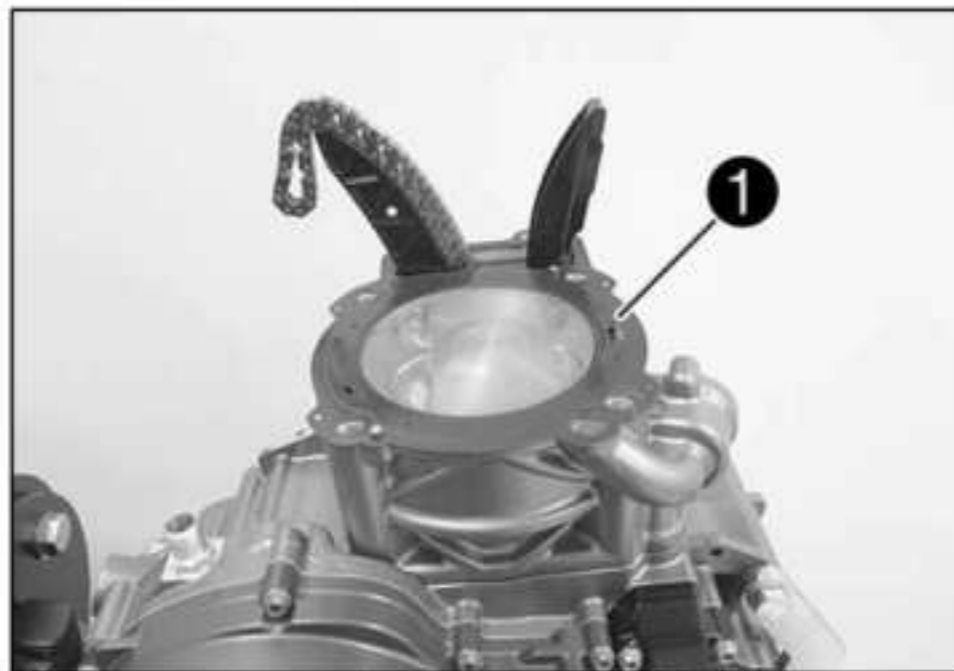


- Remove screws ②.



- Loosen screws ③ in a crisscross pattern and remove them.
- Remove the cylinder head.

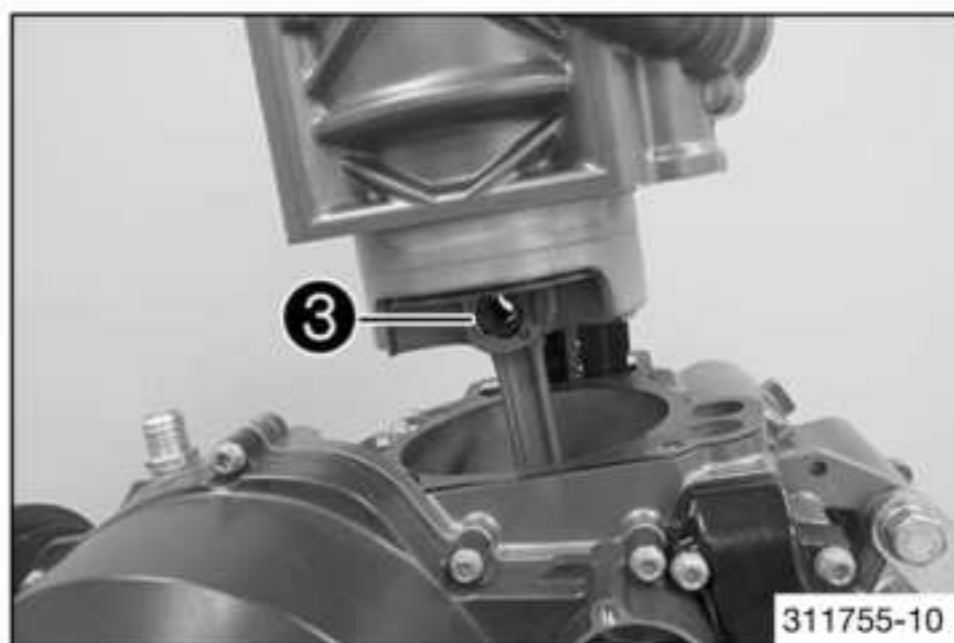
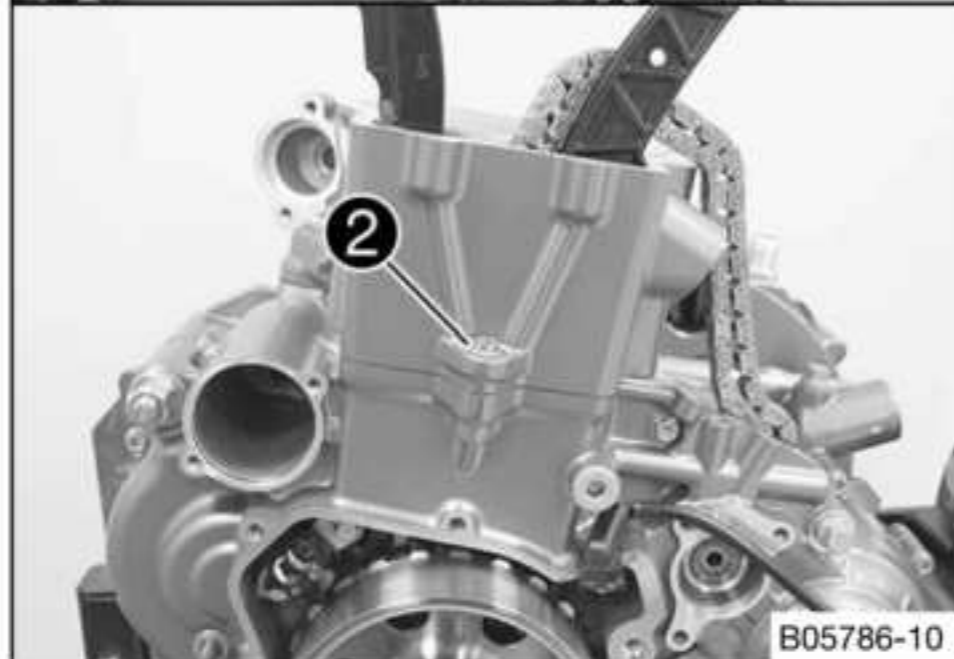
18.3.17 Removing the piston



- Take off cylinder head gasket ①.
- Remove screw ②.
- Push the cylinder upward.

i **Info**

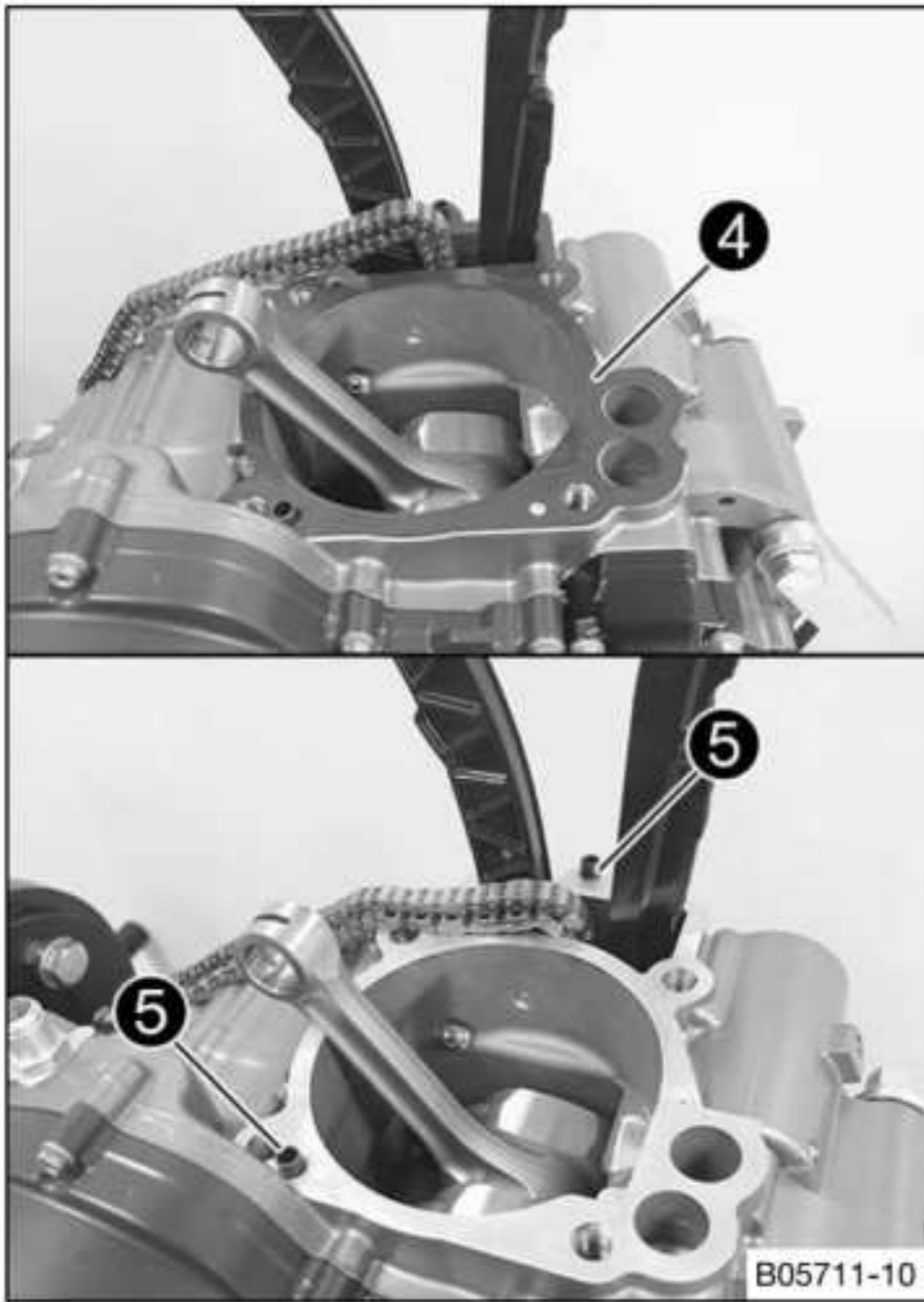
Only push the cylinder as far up as necessary to take the piston pin out.



- Remove piston ring lock ③.
- Remove the piston pin.
- Take off the cylinder and piston.
- Push the piston upward out of the cylinder.

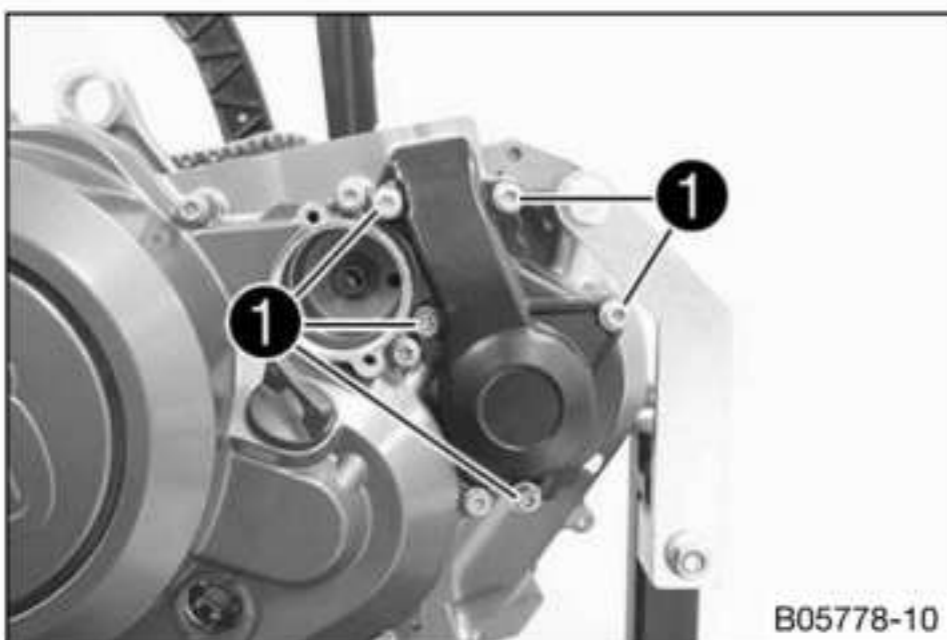
i **Info**

If no further work is to be performed on the cylinder and piston, the piston can remain in the cylinder.

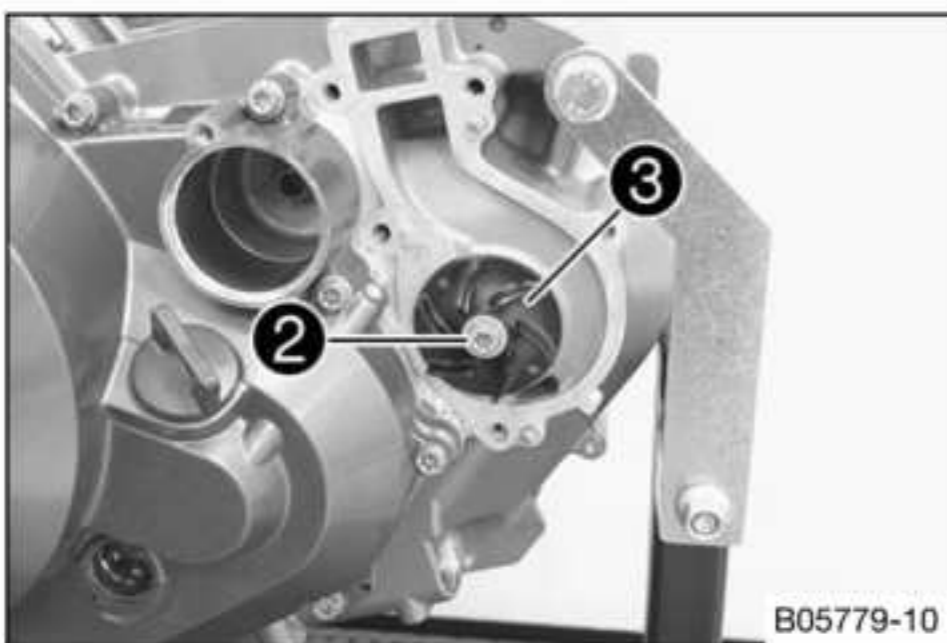


- Remove cylinder base gasket ④.
- Remove dowels ⑤.

18.3.18 Removing the water pump impeller

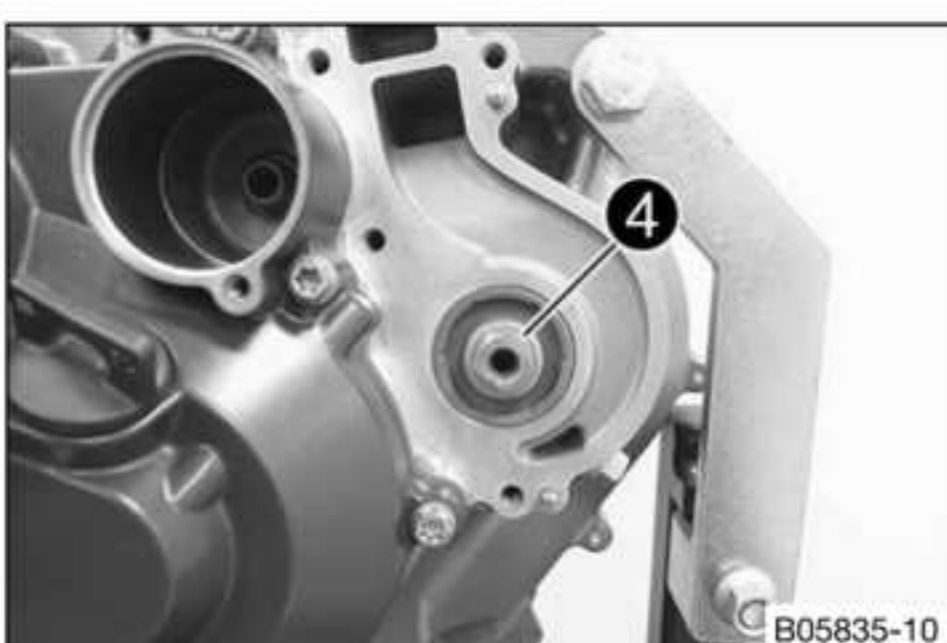


- Remove screws ①.
- Take off the water pump cover.



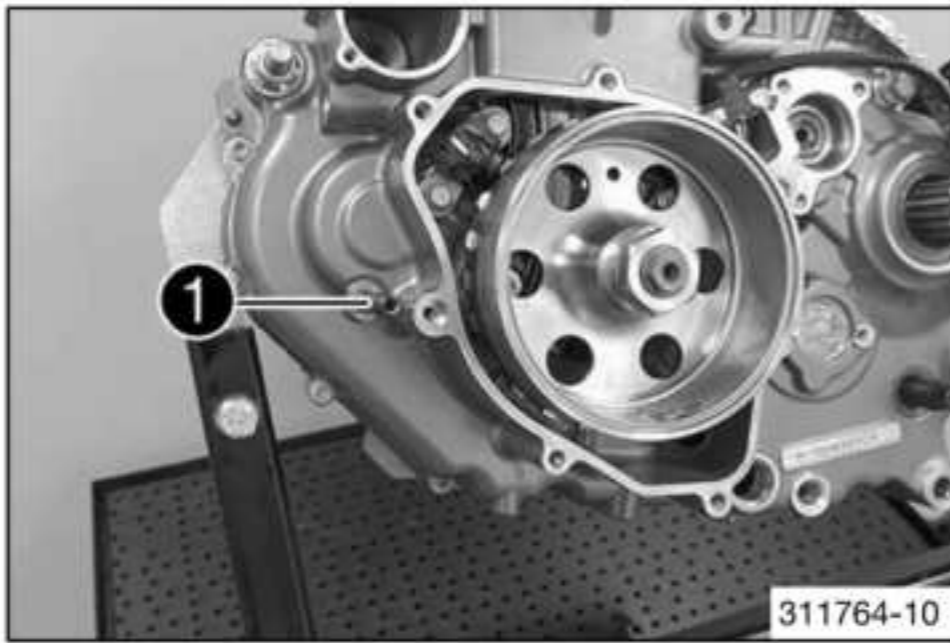
- Remove screw ②.
- Remove water pump impeller ③.
- Take off the water pump cover seal.

i Info
Ensure the locating pins remain in place.



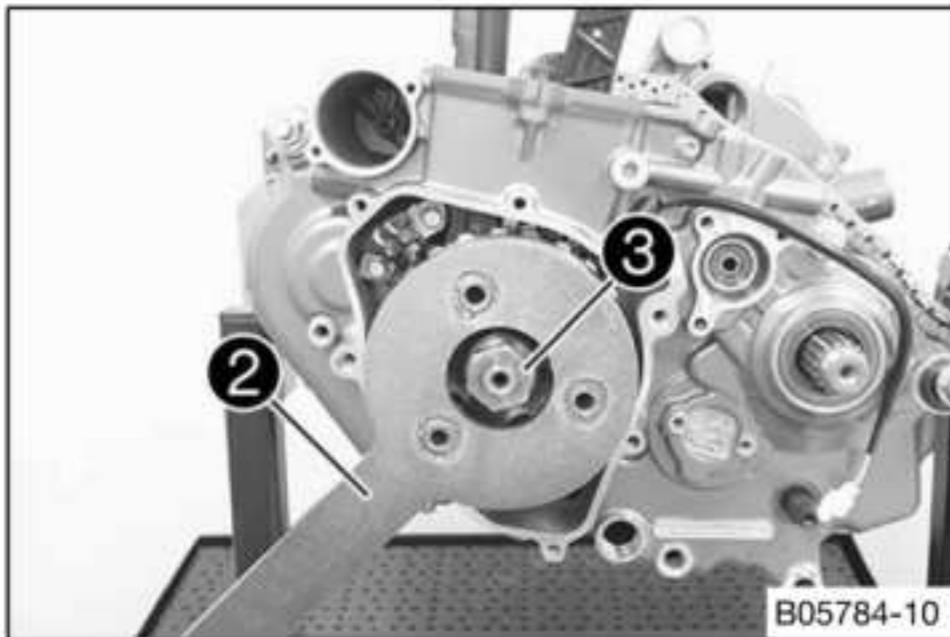
- Remove form washer ④.

18.3.19 Removing the rotor



- Remove special tool **1**.

Locking screw (61229015000) (📖 p. 386)



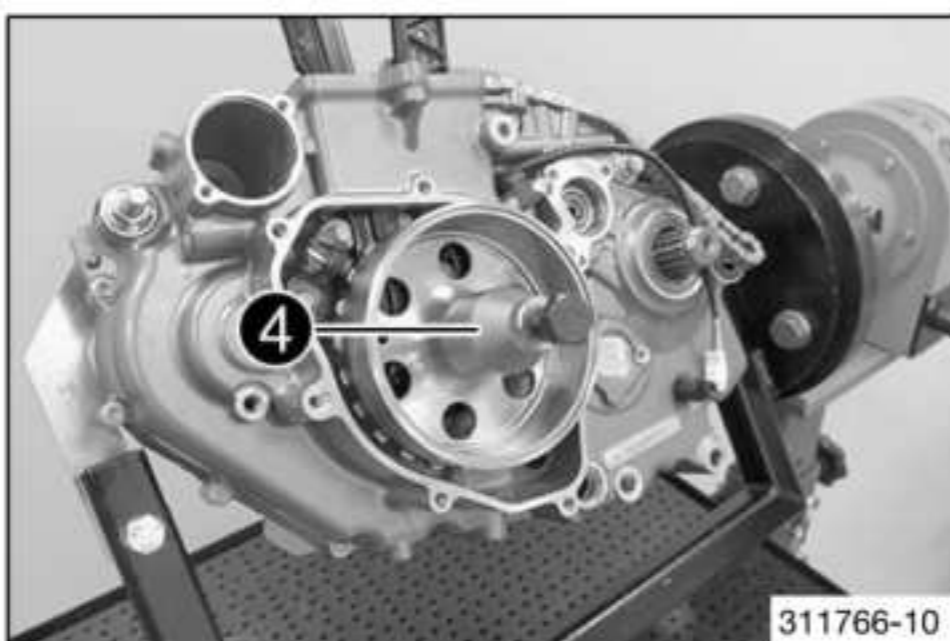
- Hold the rotor with special tool **2**.

Holding wrench (75029091000) (📖 p. 390)

i Info

Make sure that the crankshaft is not locked.

- Remove nut **3** and the locking edge washer.

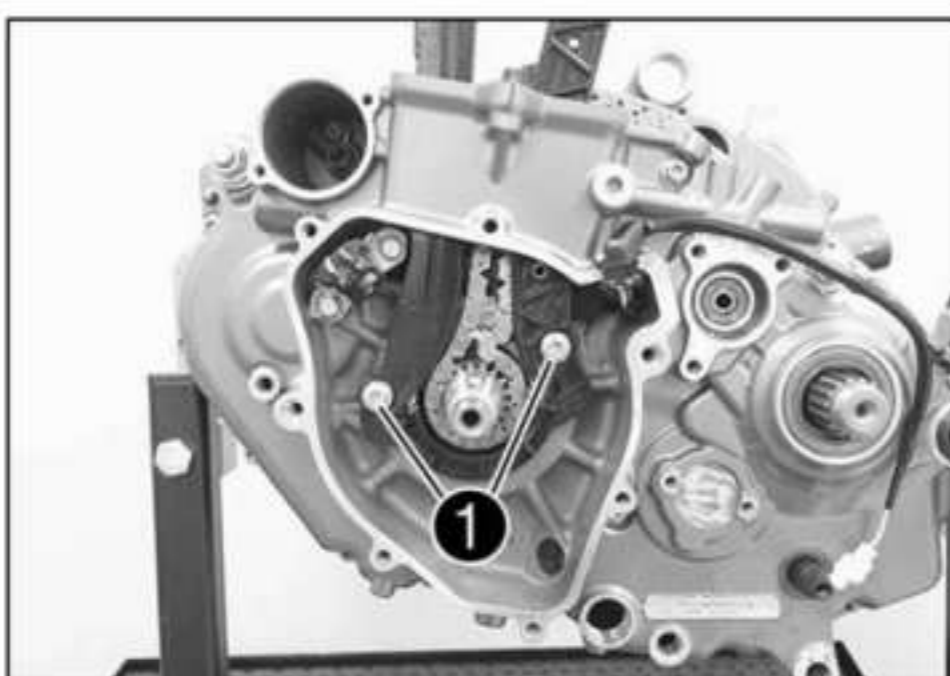


- Mount special tool **4** on the rotor.

Puller (58429009000) (📖 p. 382)

- Hold it tight using the special tool and pull off the rotor by turning the screw in.
- Remove the special tool.

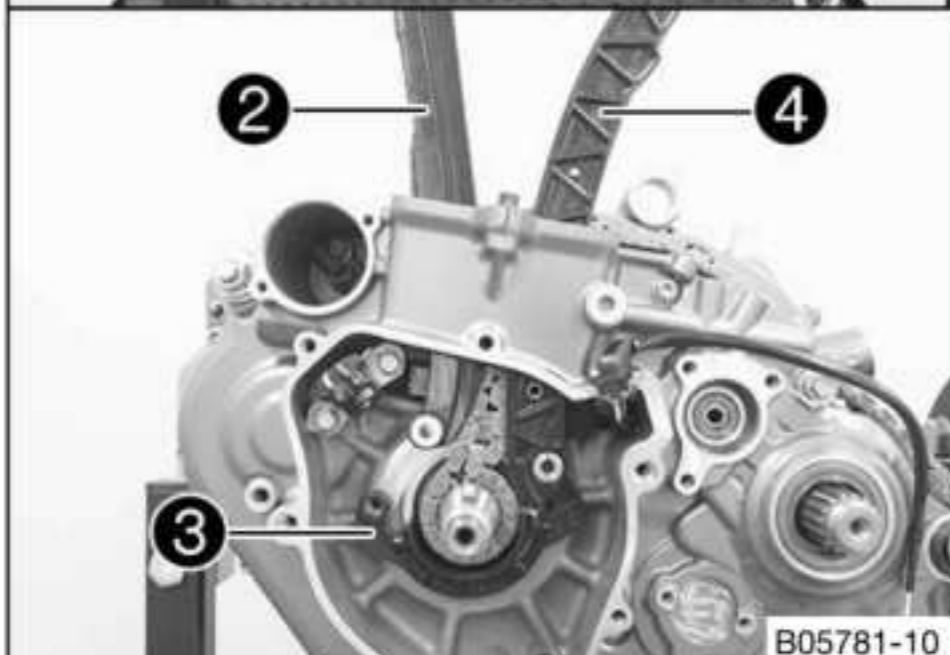
18.3.20 Removing the timing chain



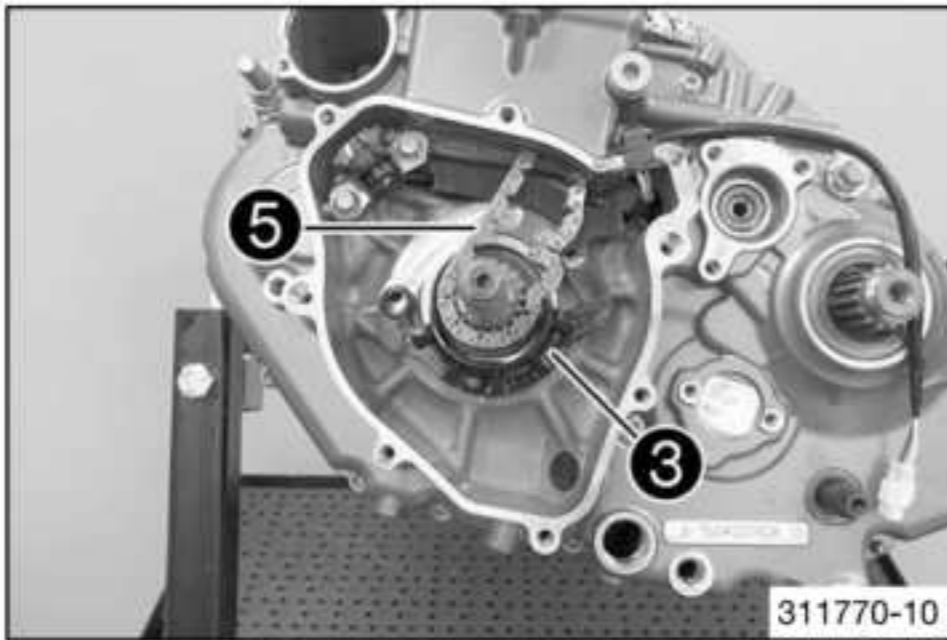
- Remove screws **1**.
- Pull timing chain guide rail **2** out of timing chain securing guide **3**.

i Info

The support bushing is plugged into the timing chain securing guide through the timing chain guide rail.



- Remove the timing chain guide rail upward out of the timing chain shaft.
- Hold the timing chain securing guide tight and pull the timing chain tensioning rail **4** out of the timing chain securing guide.
- Remove the timing chain tensioning rail upward out of the timing chain shaft.



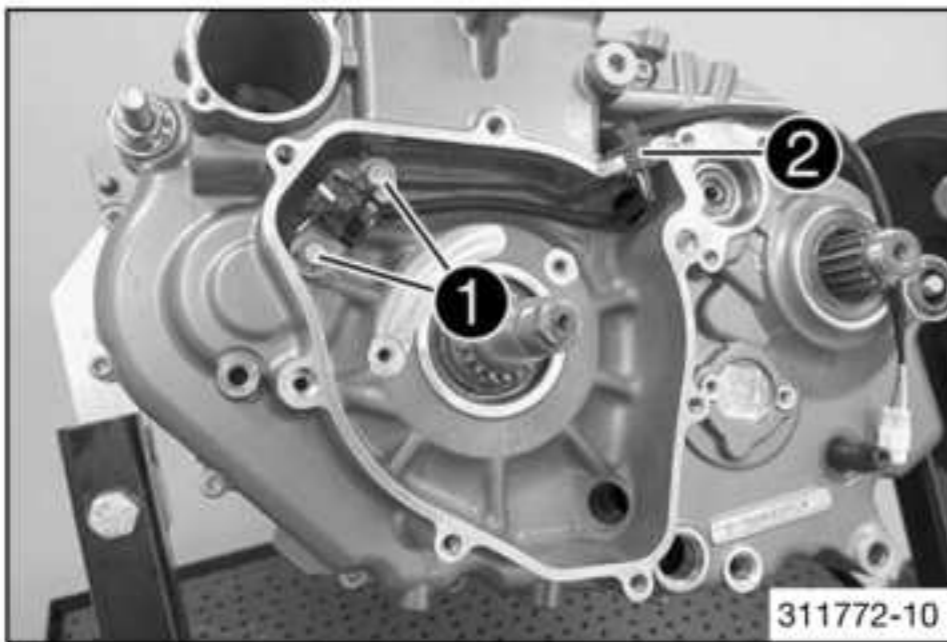
- Remove timing chain securing guide ③.
- Slip out timing chain ⑤.



Info

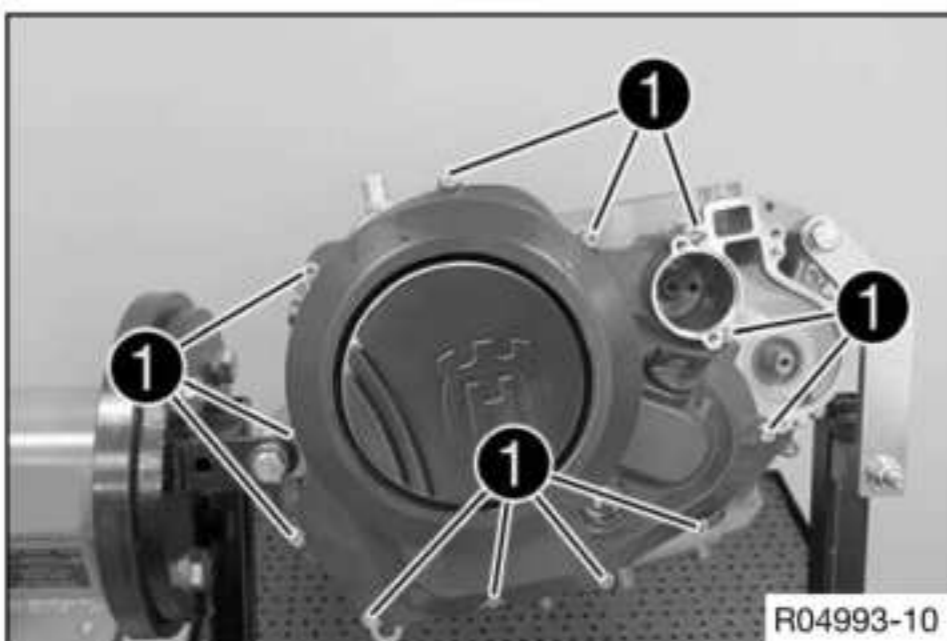
If the timing chain is to be reused, mark the direction of travel.

18.3.21 Removing the crankshaft speed sensor

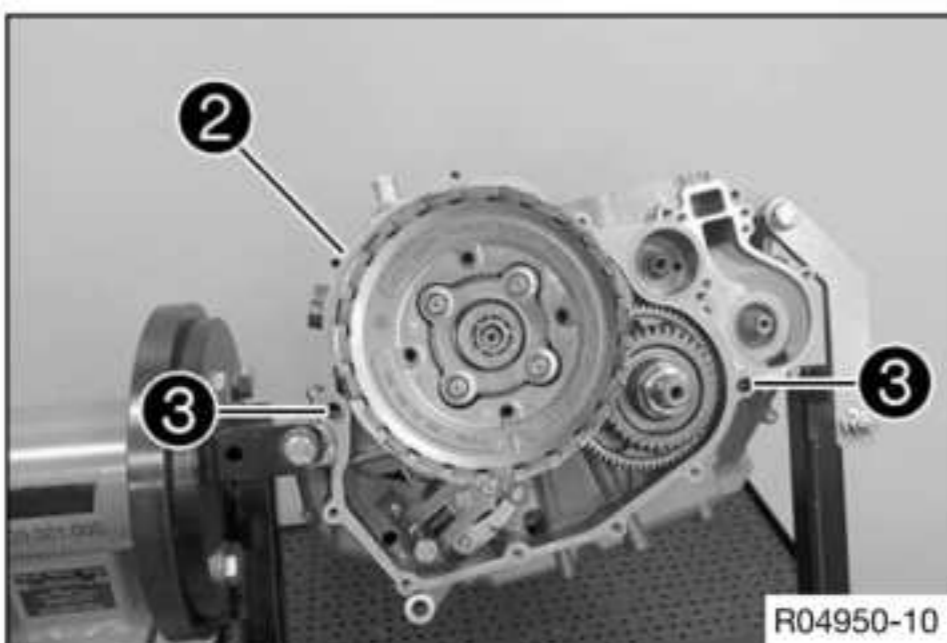


- Remove screws ①.
- Pull rubber grommet ② out of the engine case.
- Remove the crankshaft speed sensor.

18.3.22 Removing the clutch cover

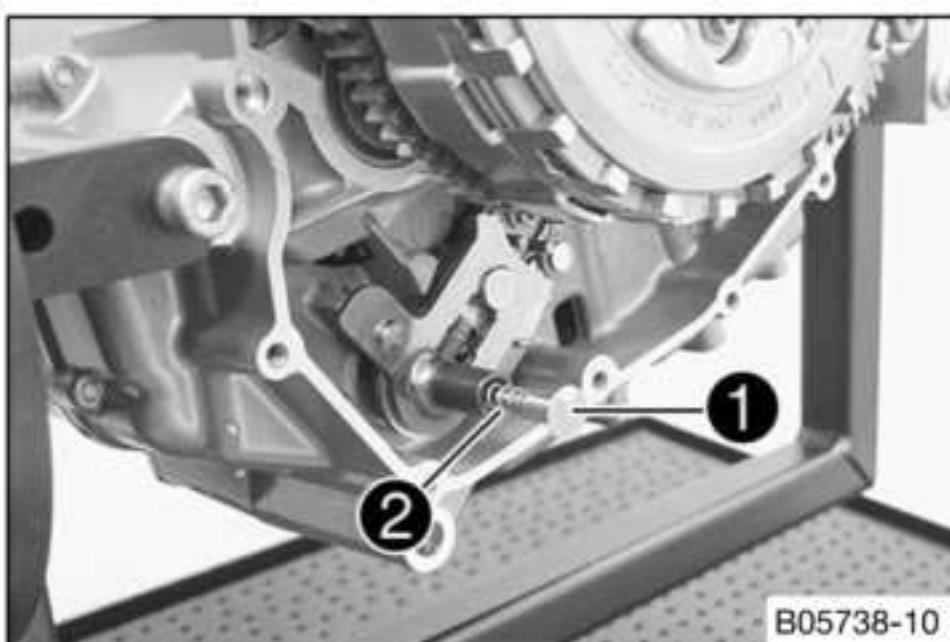


- Remove screws ①.
- Take off the clutch cover.



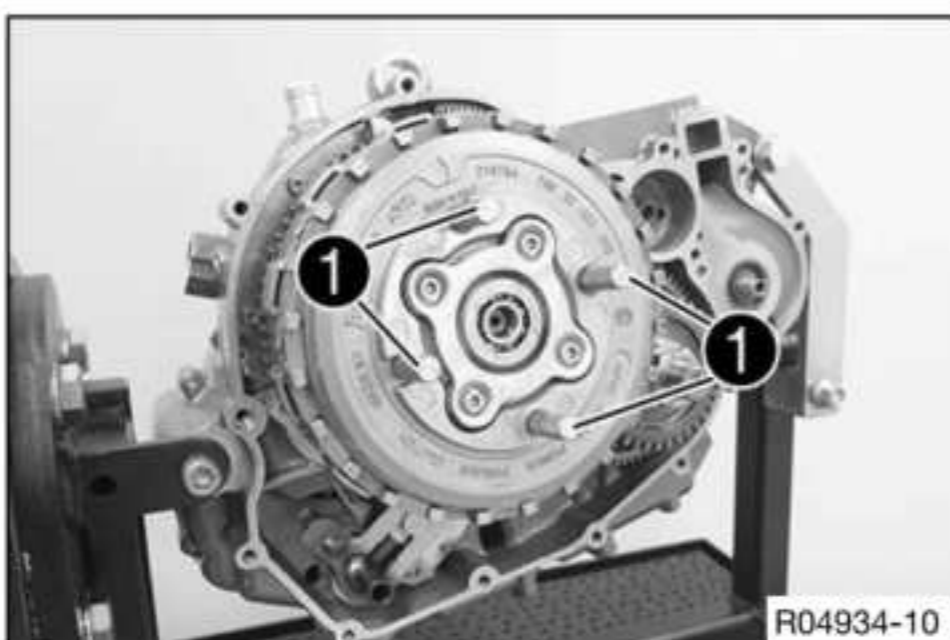
- Remove the clutch cover gasket ②.
- Take off dowels ③.

18.3.23 Removing the spacer and spring



- Remove spacer **1** and spring **2**.

18.3.24 Removing the clutch basket

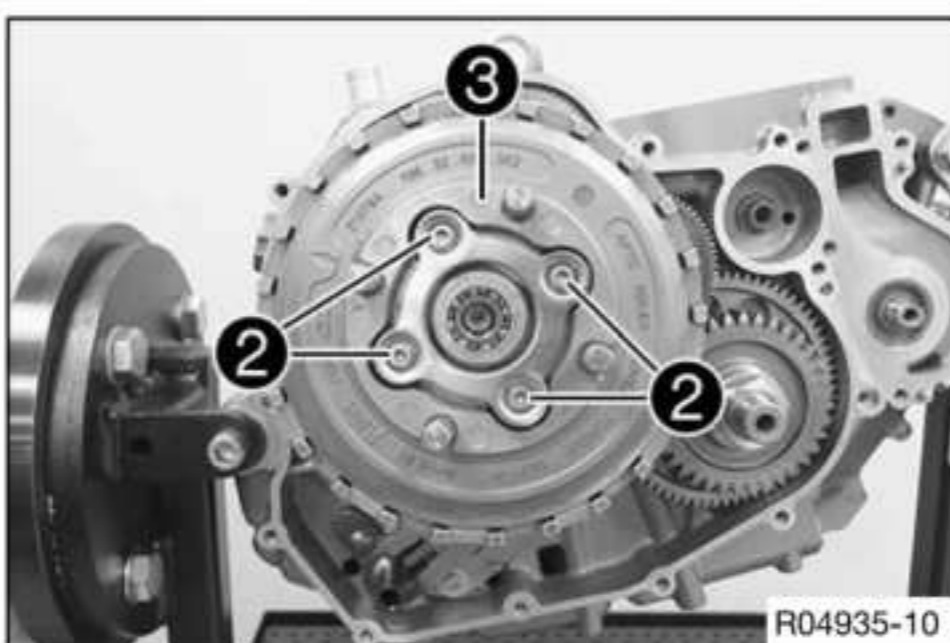


- Clamp the antihopping clutch with special tool **1**.

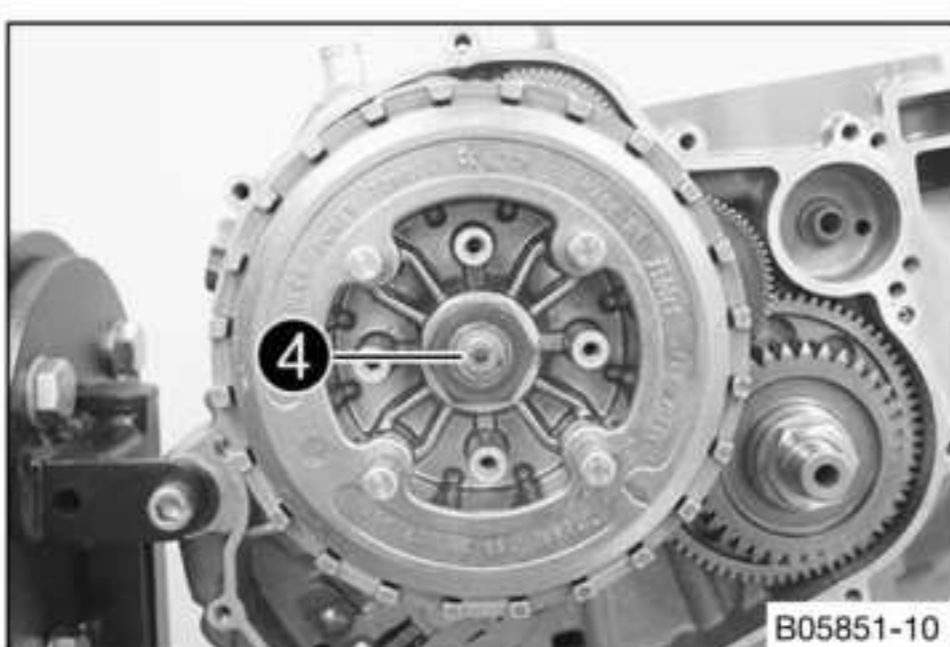
Assembly screws (75029033000) (p. 387)

i Info

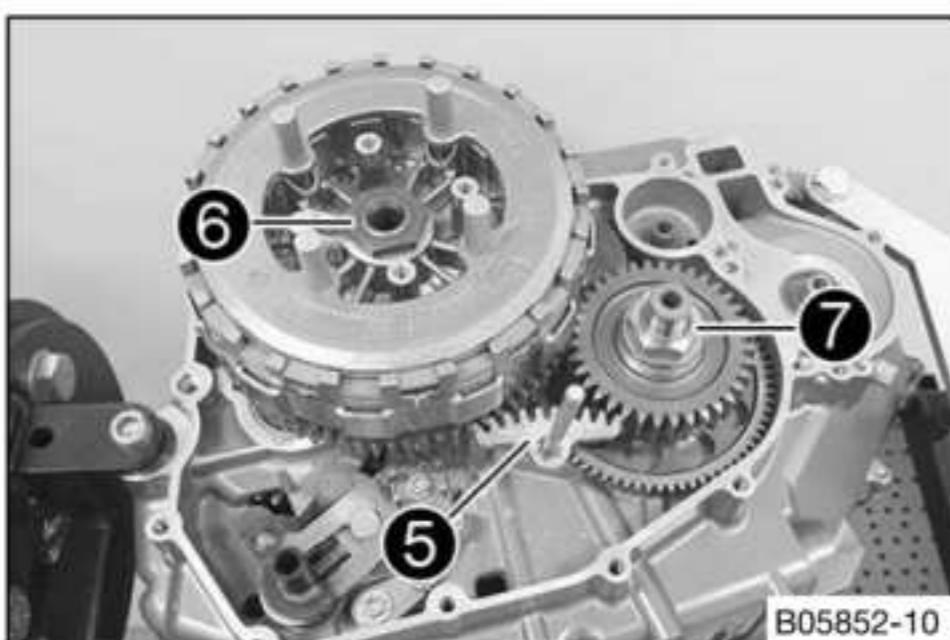
Tighten the special tool by hand only; do not use another tool.



- Loosen screws **2** in a crisscross pattern and remove them with the anticentrifugal ring and clutch springs.
- Remove clutch pressure cap **3**.



- Remove clutch throw-out **4**.



- Hold the clutch basket using special tool **5**.

Gear segment (75029081000) (p. 390)

i Info

Make sure that the crankshaft is not locked.

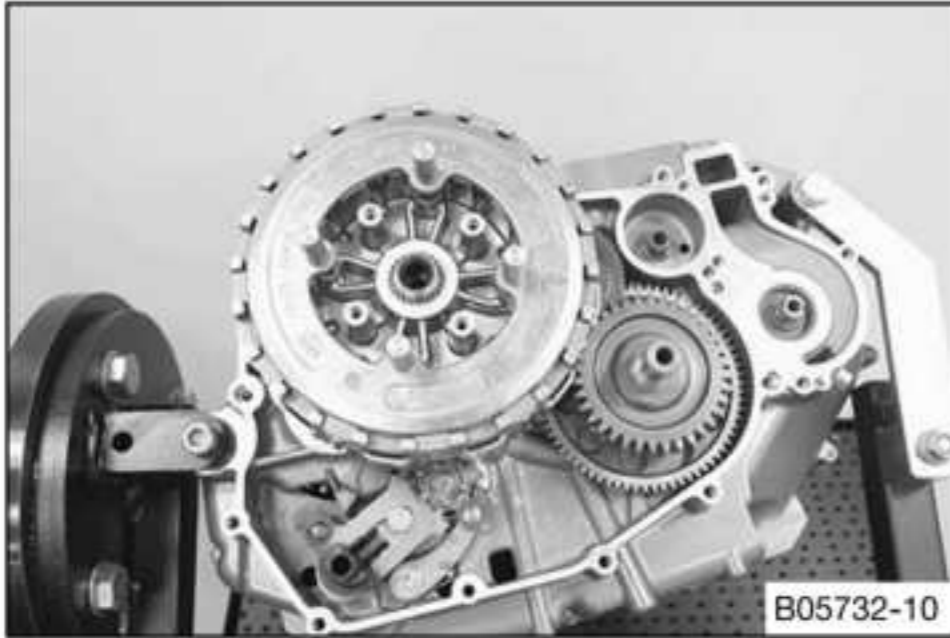
- Remove nut **6** with the washer.
- Remove nut **7**.

i Info
LH thread!

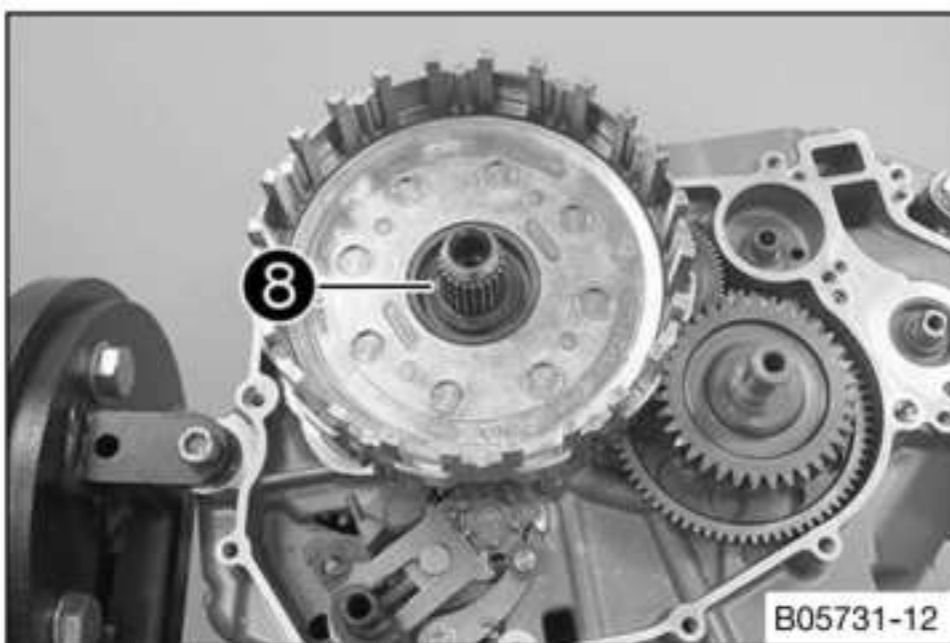
- Remove the special tool.

Gear segment (75029081000) (📖 p. 390)

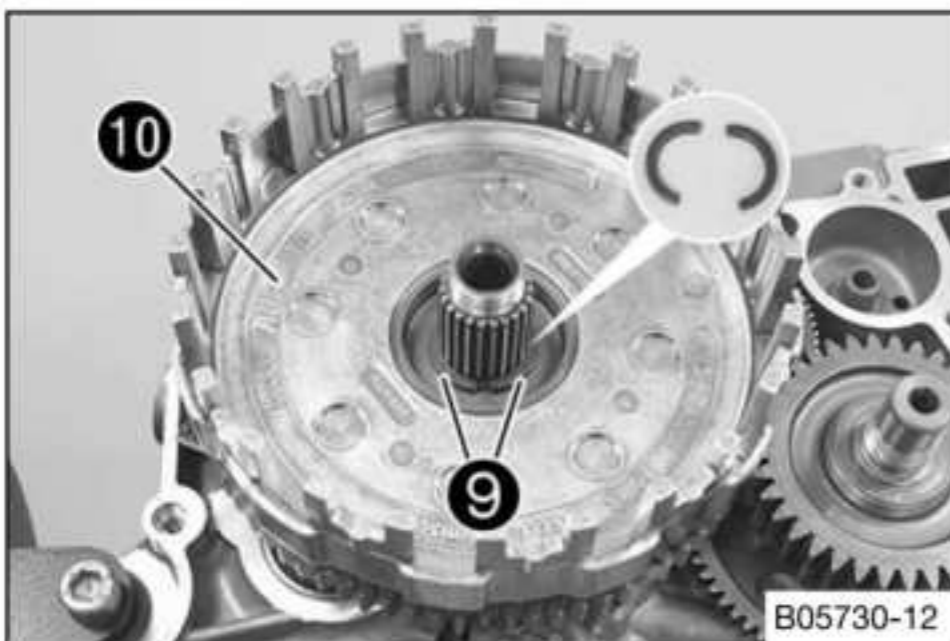
- Remove the antihopping clutch.



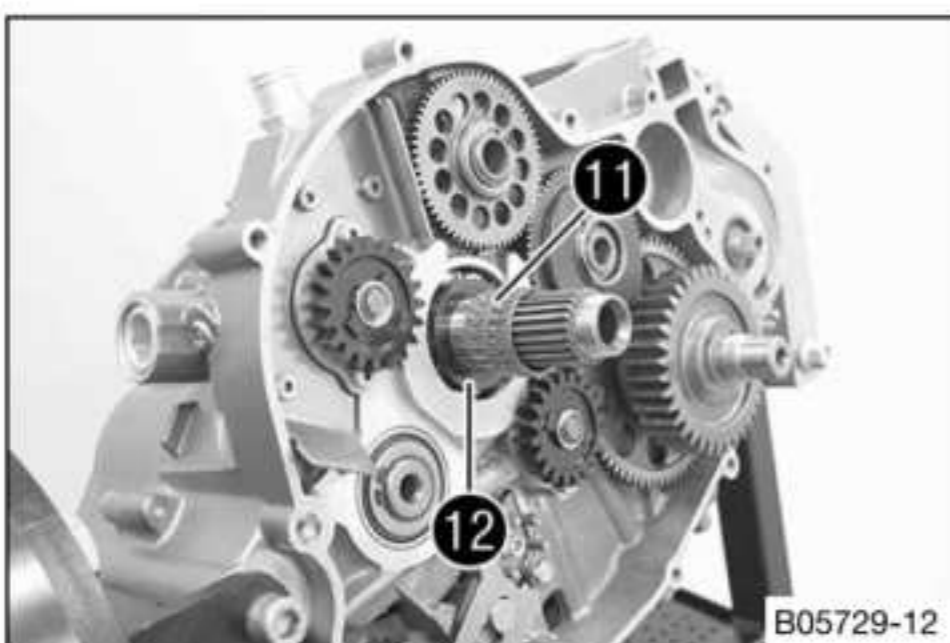
- Remove stepped washer **8**.



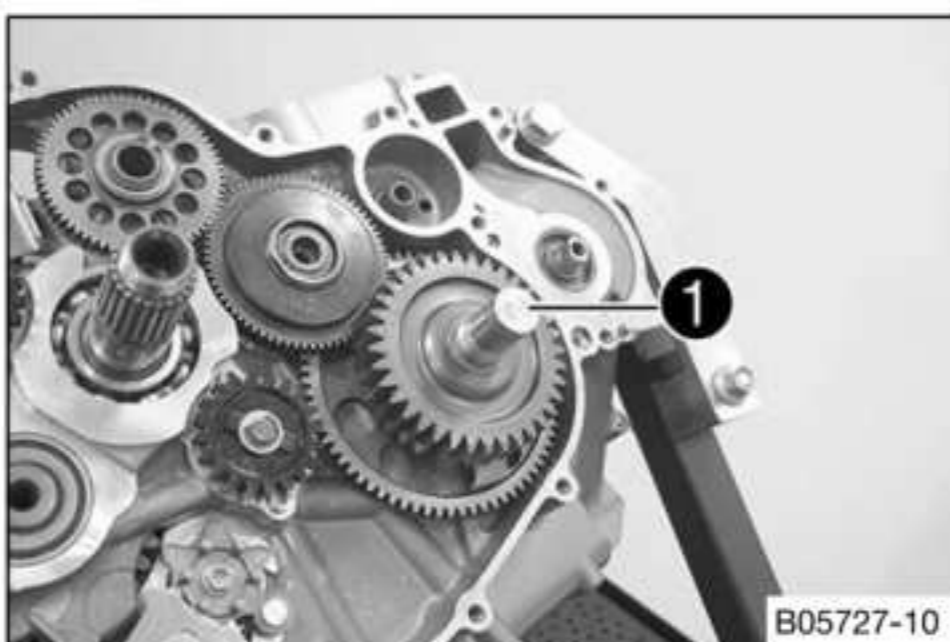
- Remove half washers **9**.
- Take off clutch basket **10**.



- Remove needle bearing **11** and supporting plate **12**.

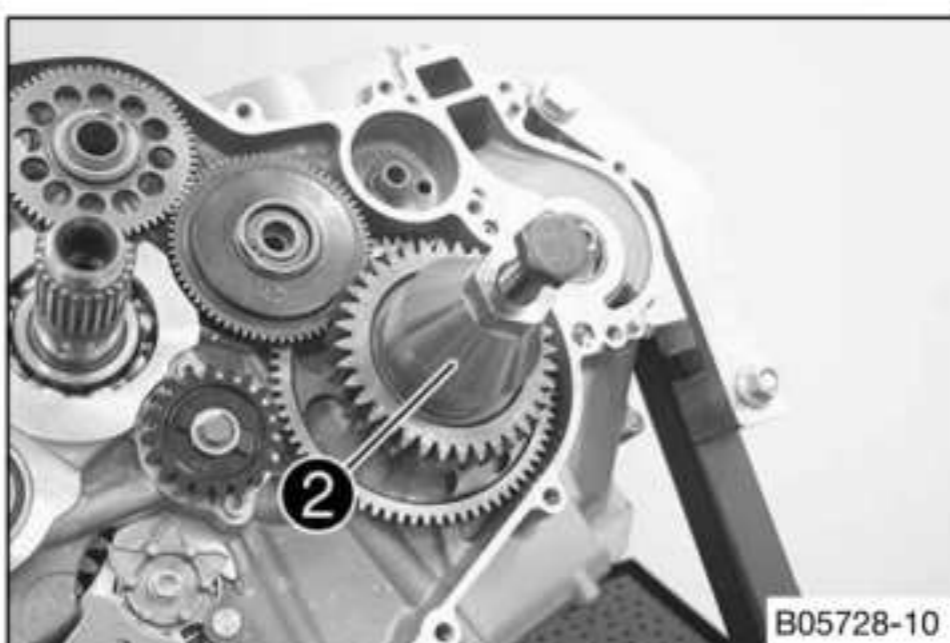


18.3.25 Removing the primary gear wheel



- Position special tool **1**.

Protection cap (75029090000) (📖 p. 390)

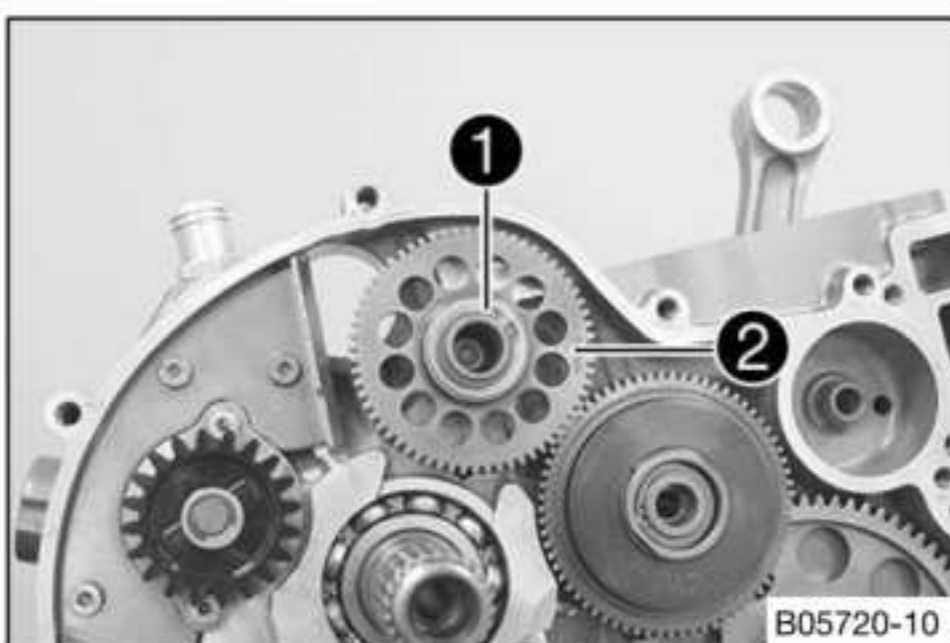


- Mount special tool **2**.

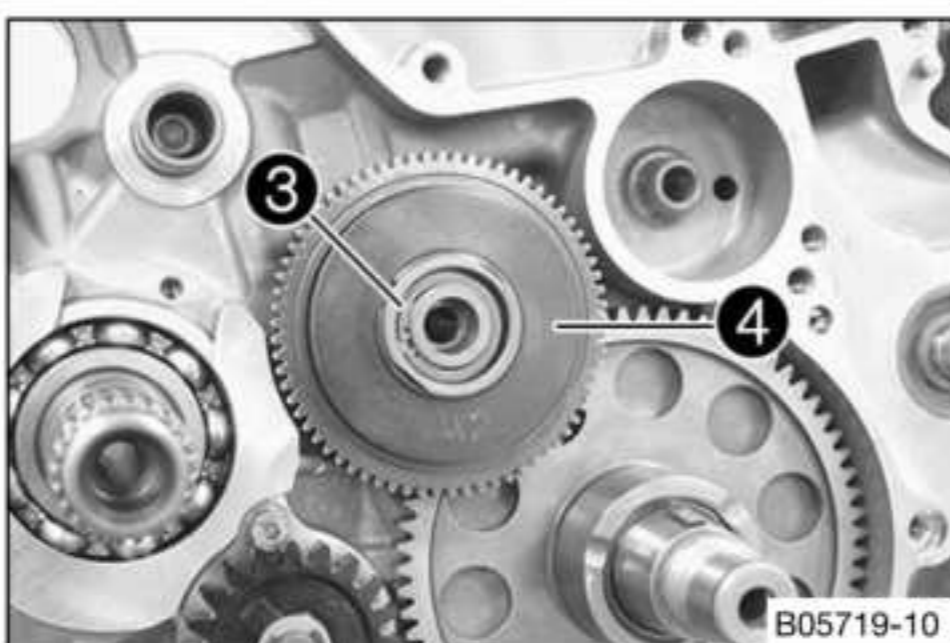
Puller (75029021000) (📖 p. 387)

- Hold the special tool firm and pull off the primary gear wheel by turning the screw in.
- Remove the special tools.

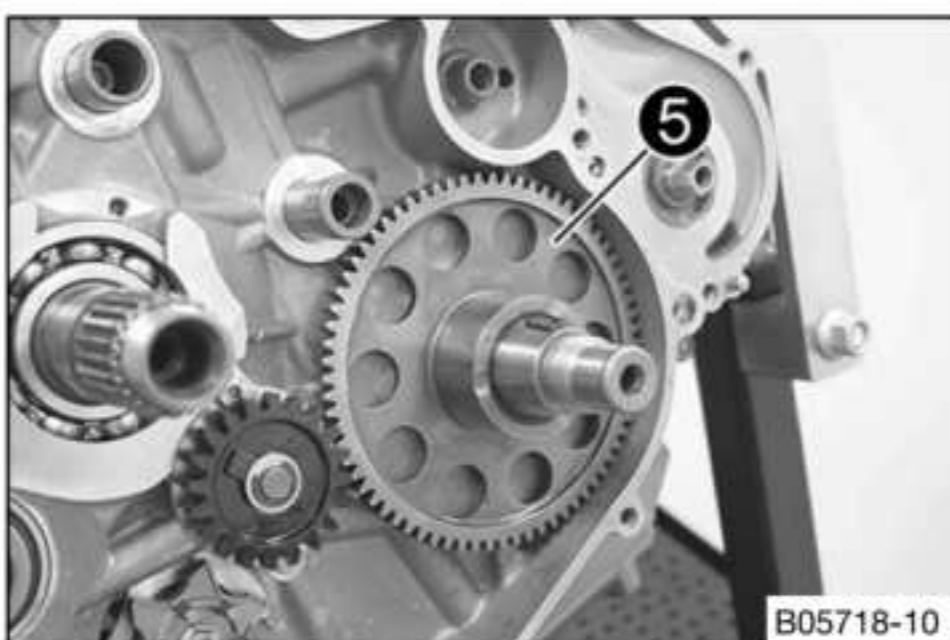
18.3.26 Removing the starter drive



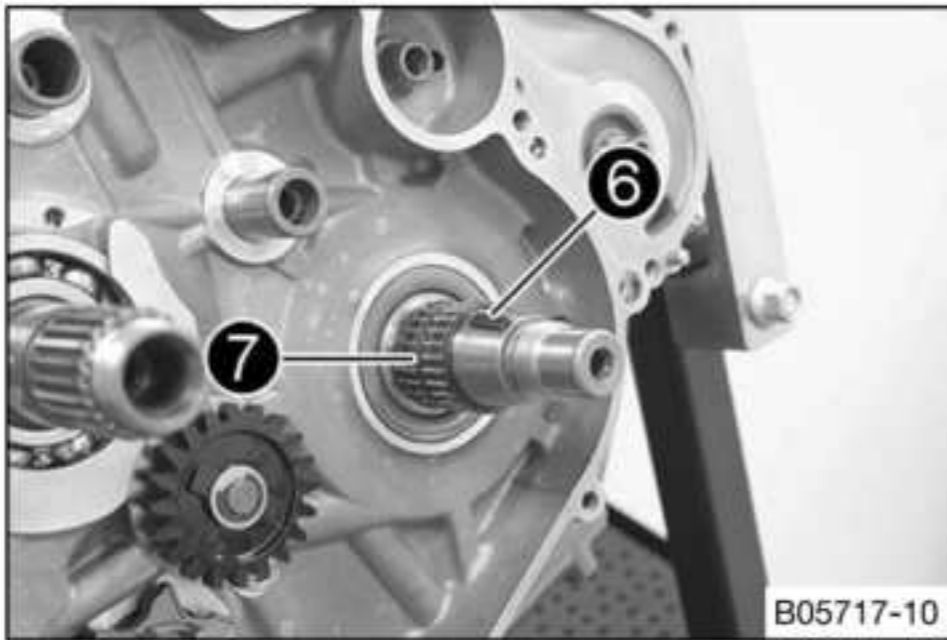
- Remove lock ring **1**.
- Take off the starter idler gear **2** with the washer.



- Remove lock ring **3**.
- Remove torque limiter **4** with the washers and needle bearing.

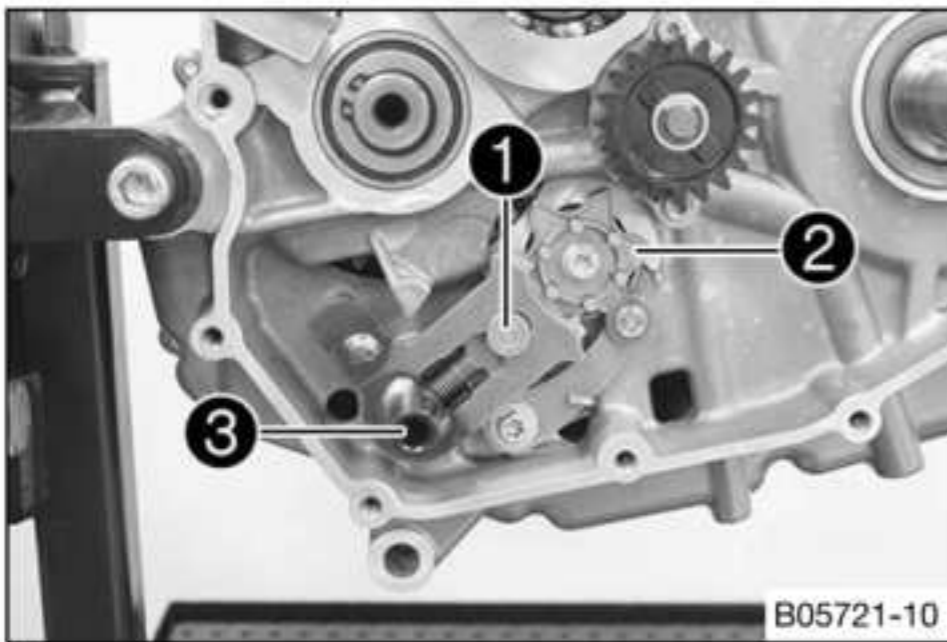


- Take off freewheel gear **5**.



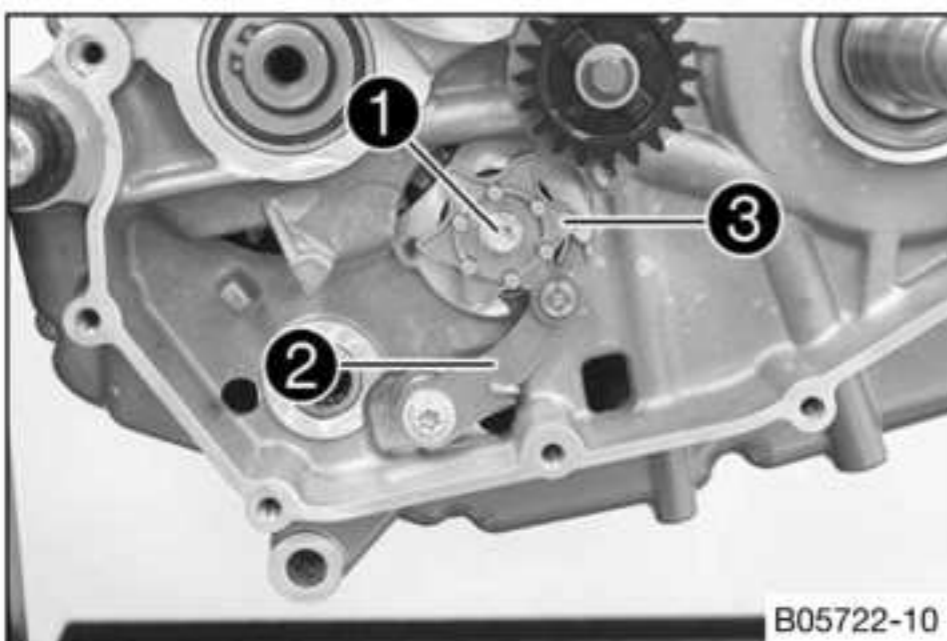
- Remove woodruff key **6** and both needle bearings **7**.

18.3.27 Removing the shift shaft



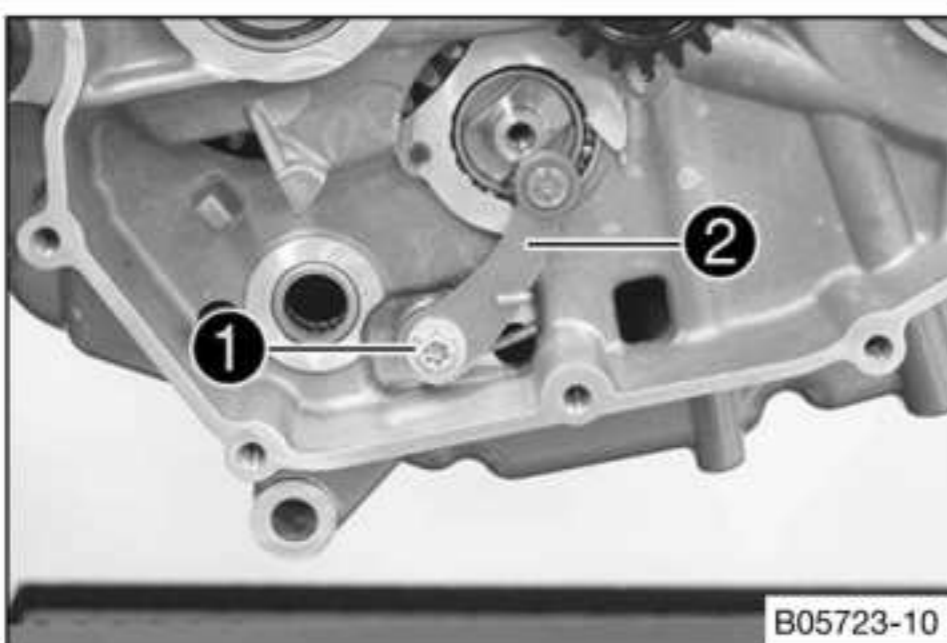
- Push sliding plate **1** away from shift drum locating unit **2**.
- Remove shift shaft **3** with washer.

18.3.28 Removing shift drum locating



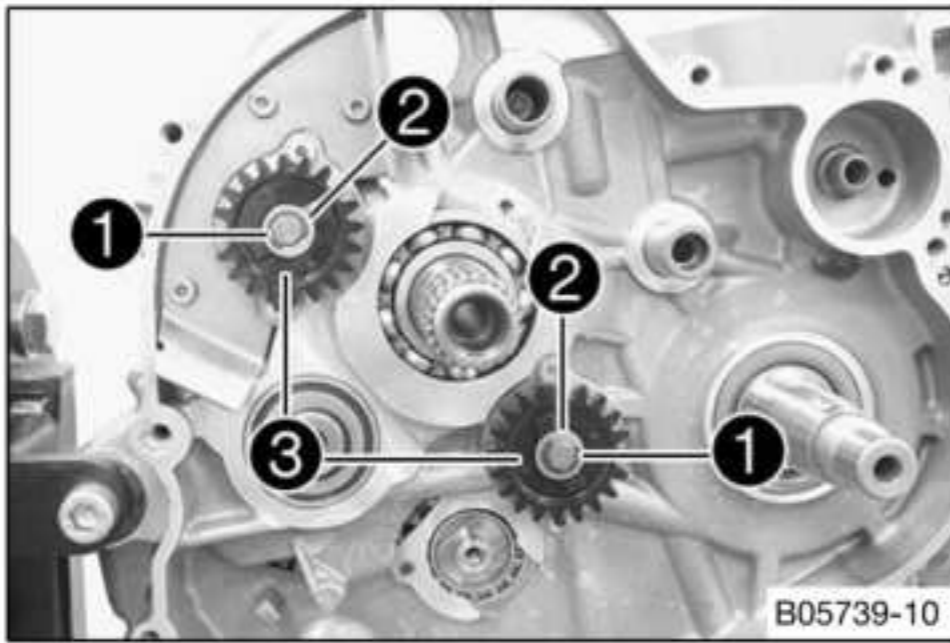
- Remove screw **1**.
- Press locking lever **2** away from shift drum locating **3** and take off the shift drum locating.
- Release the locking lever.

18.3.29 Removing locking lever

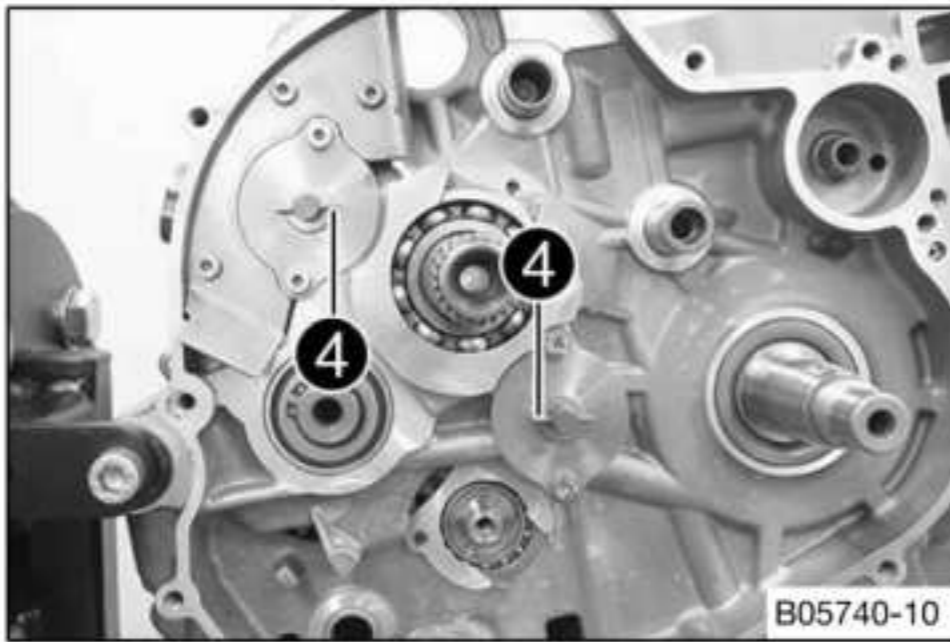


- Remove screw **1**.
- Take off locking lever **2** with the sleeve and spring.

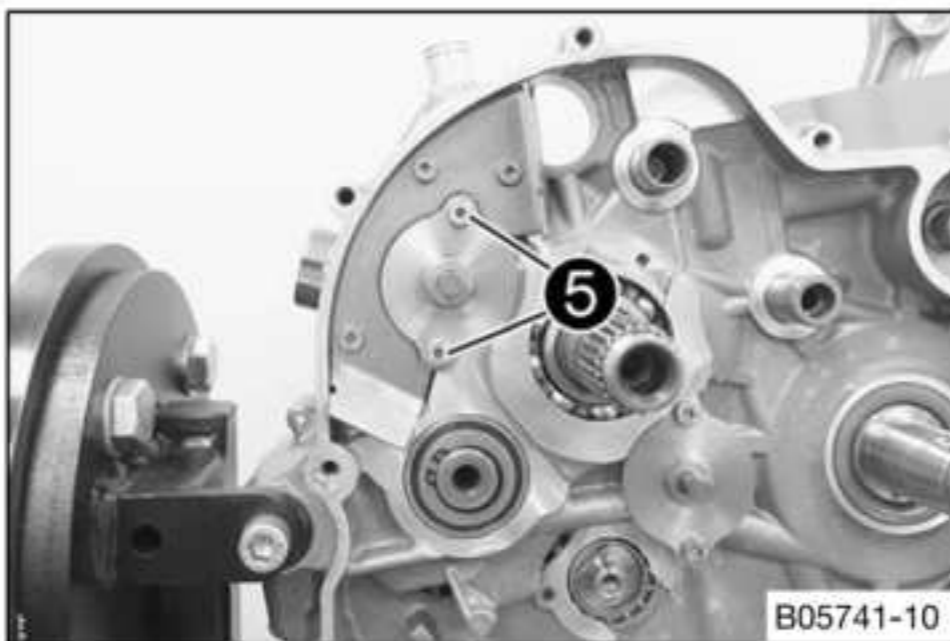
18.3.30 Removing the oil pumps



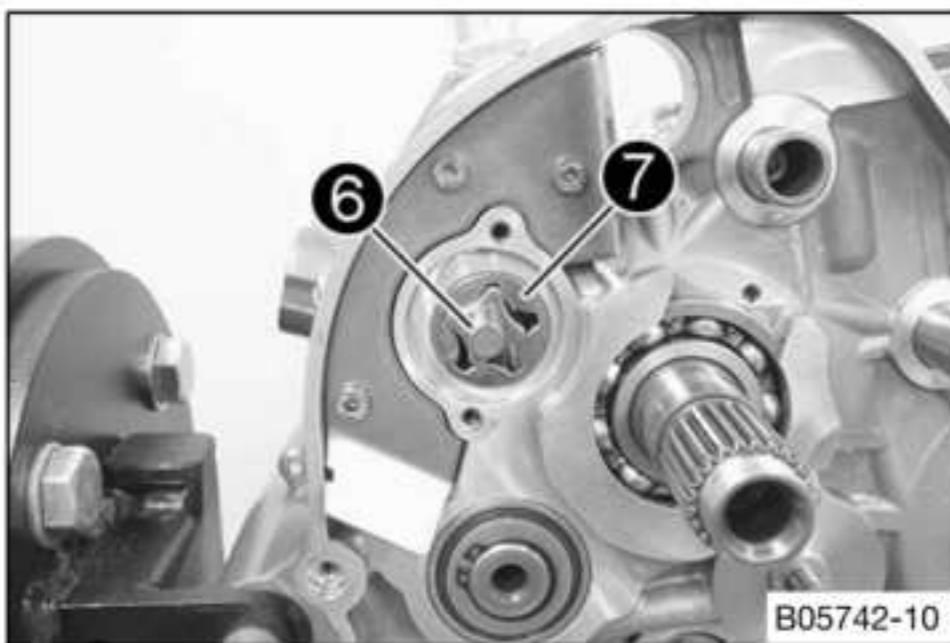
- Remove lock washers ① and normal washers ② from both oil pumps.
- Take off oil pump gear wheels ③.



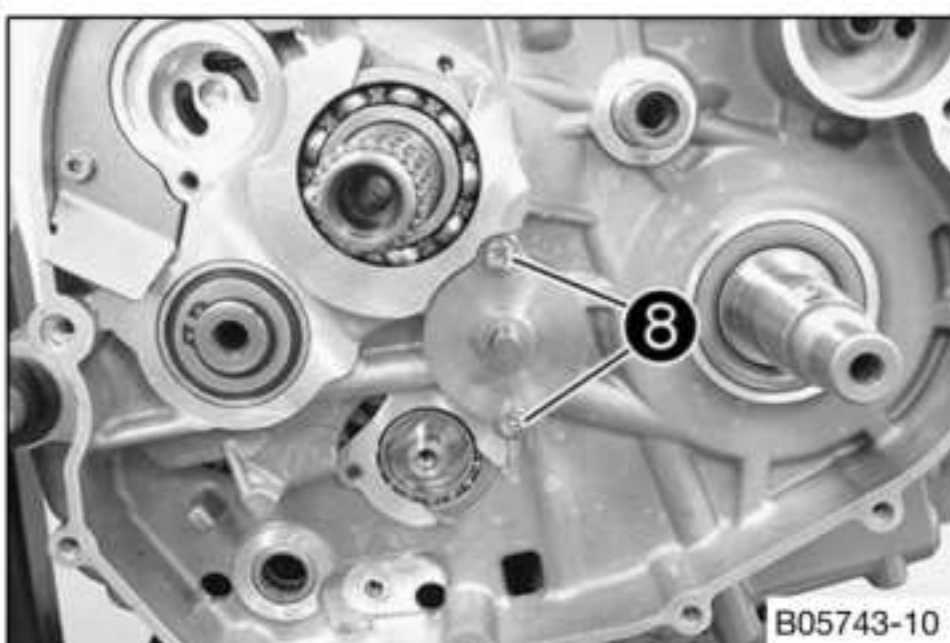
- Remove pins ④ and washers.



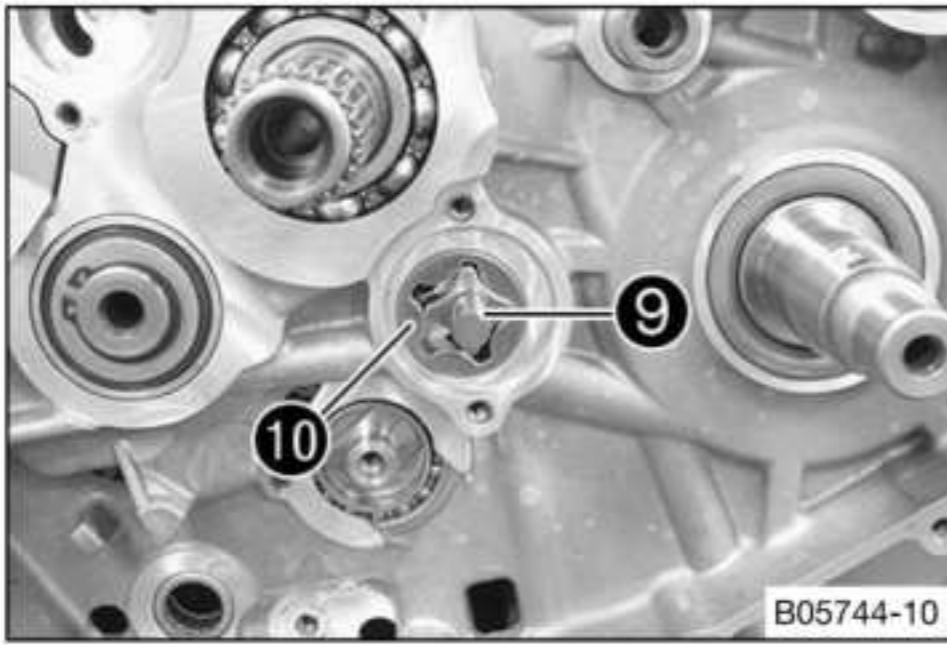
- Remove screws ⑤.
- Take off the oil pump cover.



- Remove oil pump shaft ⑥ with the internal rotor.
- Remove external rotor ⑦.

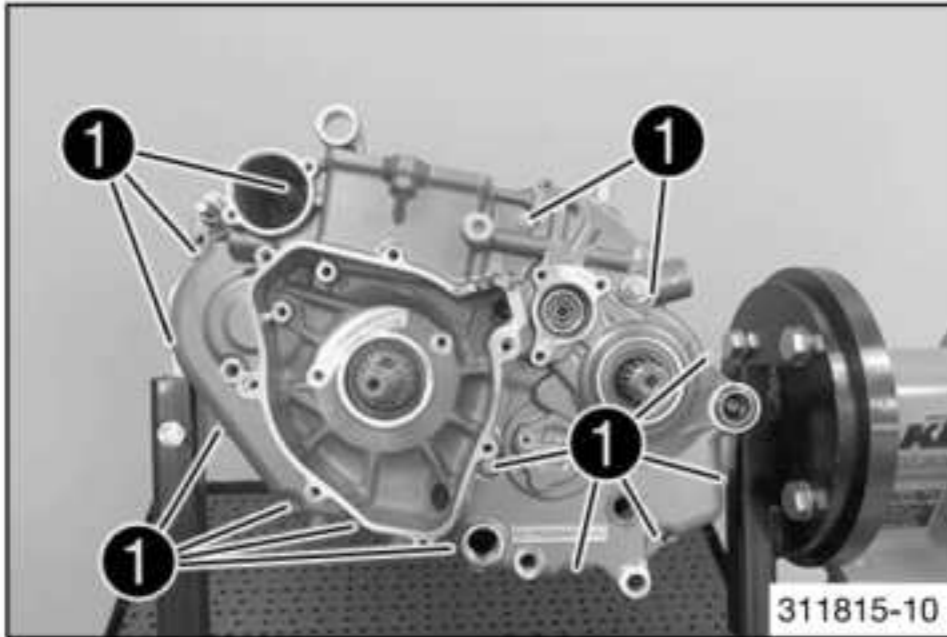


- Remove screws ⑧.
- Take off the oil pump cover.

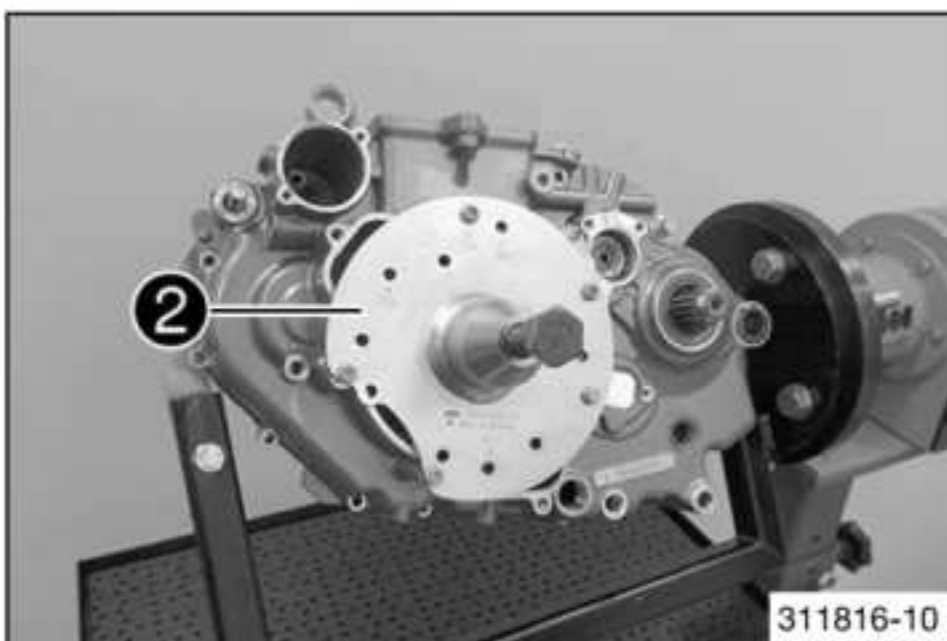


- Remove oil pump shaft ⑨ with the internal rotor.
- Remove external rotor ⑩.

18.3.31 Removing the left engine case



- Remove screws ①.
- Swing the left section of the engine case up and remove the nut or screw of the engine fixing arm.



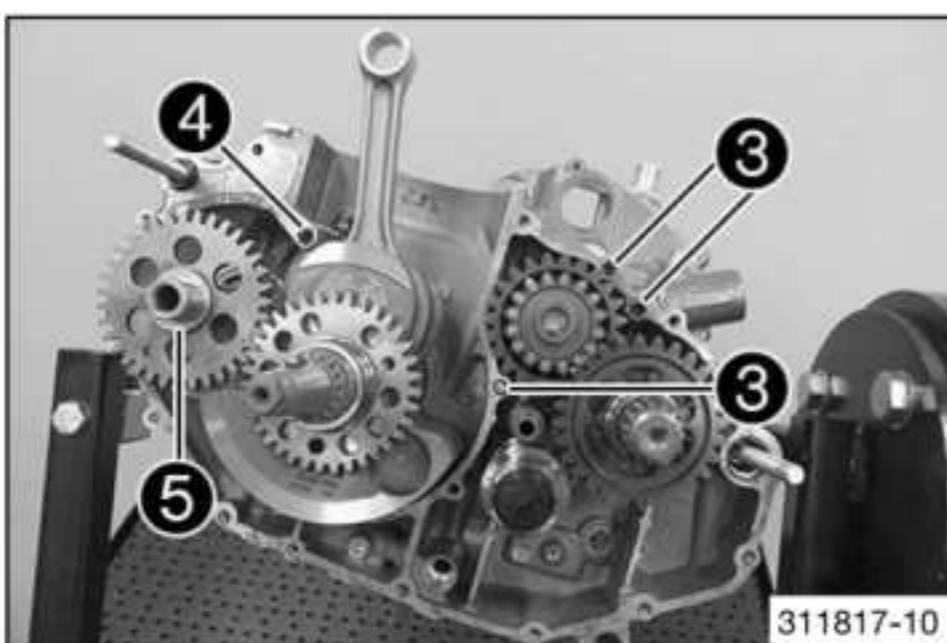
- Mount special tool ② with suitable screws.

Puller (75029048100) (📖 p. 389)

i Info
Use the drill hole with marking 750.

- Pull off the section of the engine case.

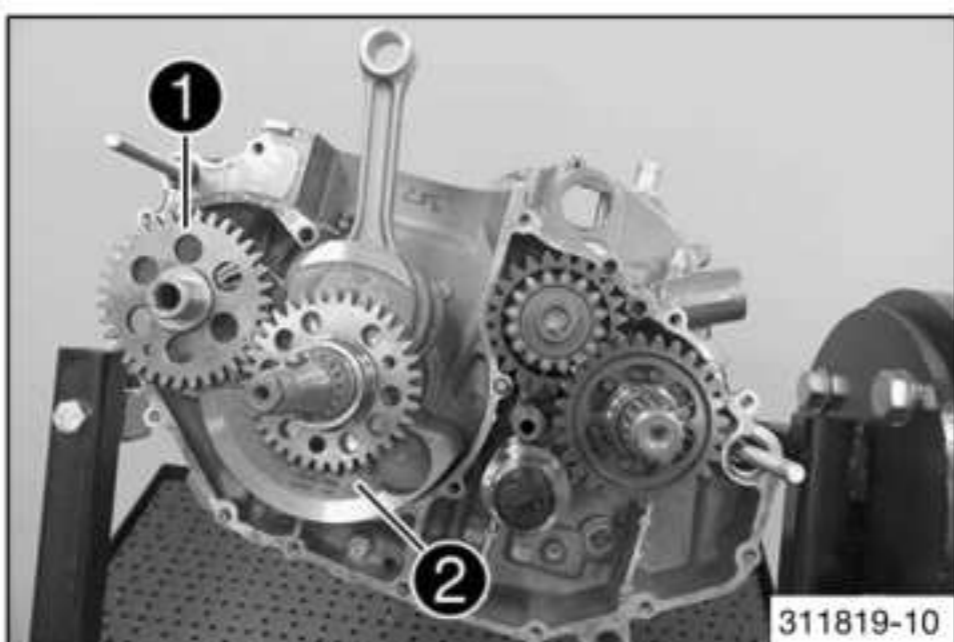
i Info
Do not tension the section of the engine case.



- Take off the left section of the engine case.
- Remove the special tool.
- Remove dowels ③.
- Remove O-ring ④.
- Remove washer ⑤.

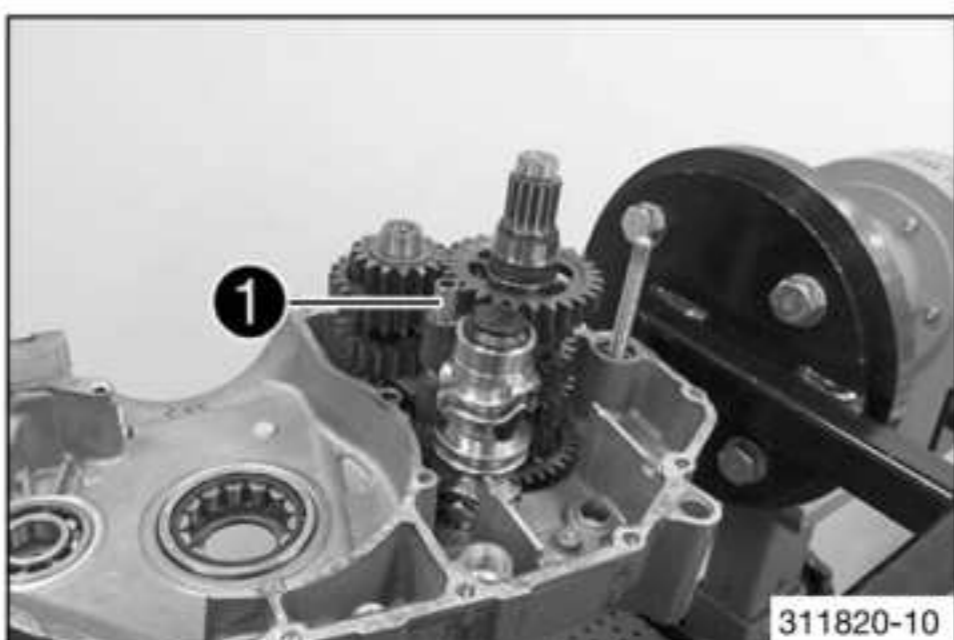
i Info
The washer of the balancer shaft usually sticks to the bearing.

18.3.32 Removing the crankshaft and balancer shaft

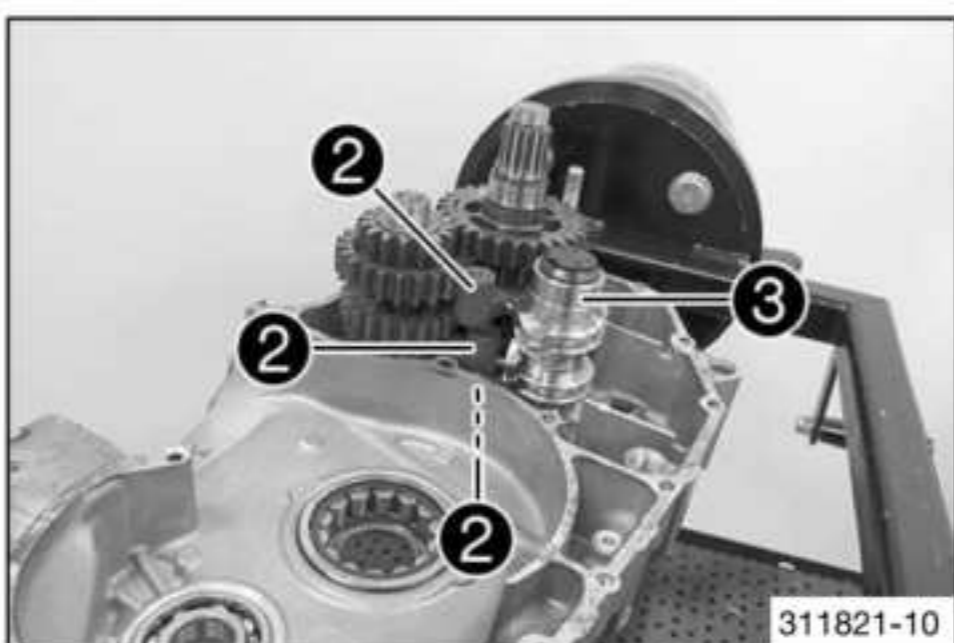


- Remove balancer shaft ① and crankshaft ②.

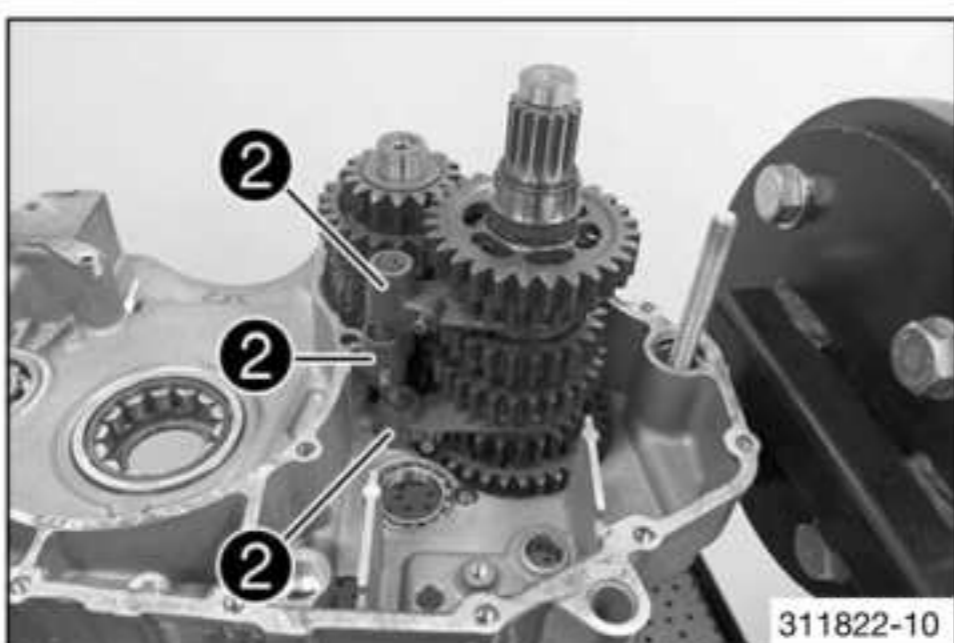
18.3.33 Removing the transmission shafts



- Remove shift rail ①.



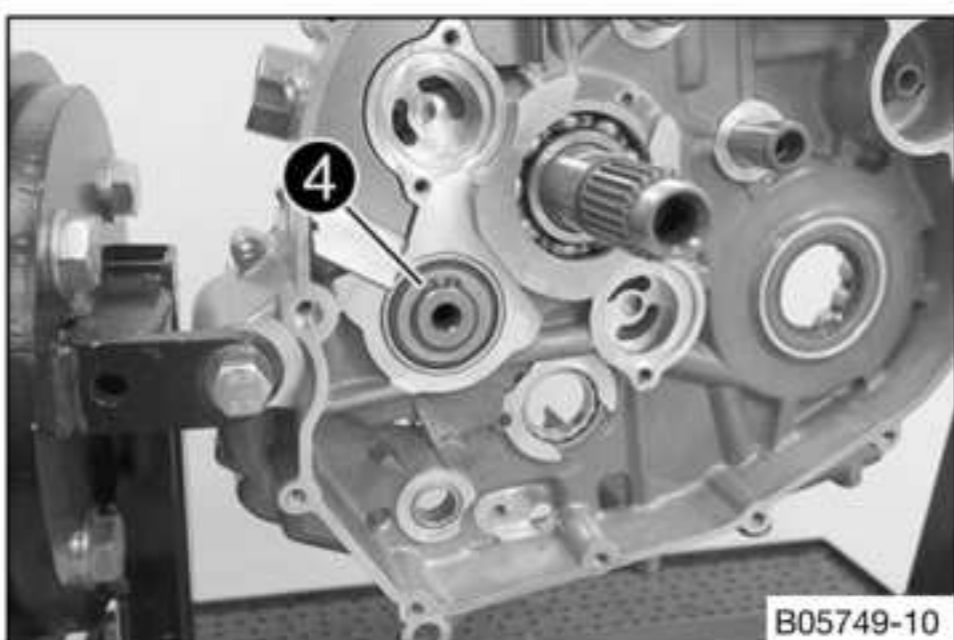
- Swing shift forks ② to one side.
- Remove shift drum ③.



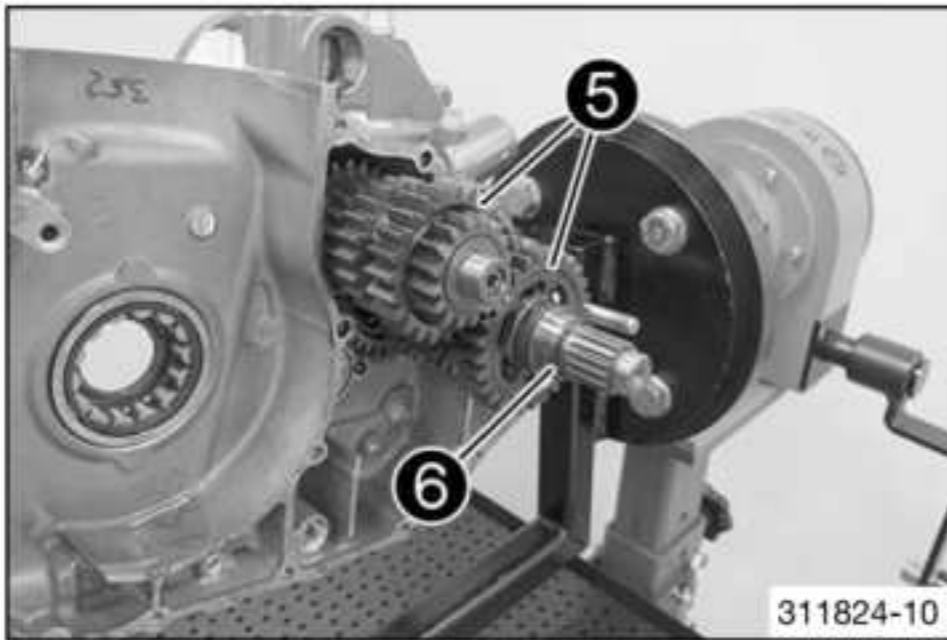
- Remove shift forks ②.

i Info

Ensure that the pins remain in place.



- Remove lock ring ④ and the stop disk.



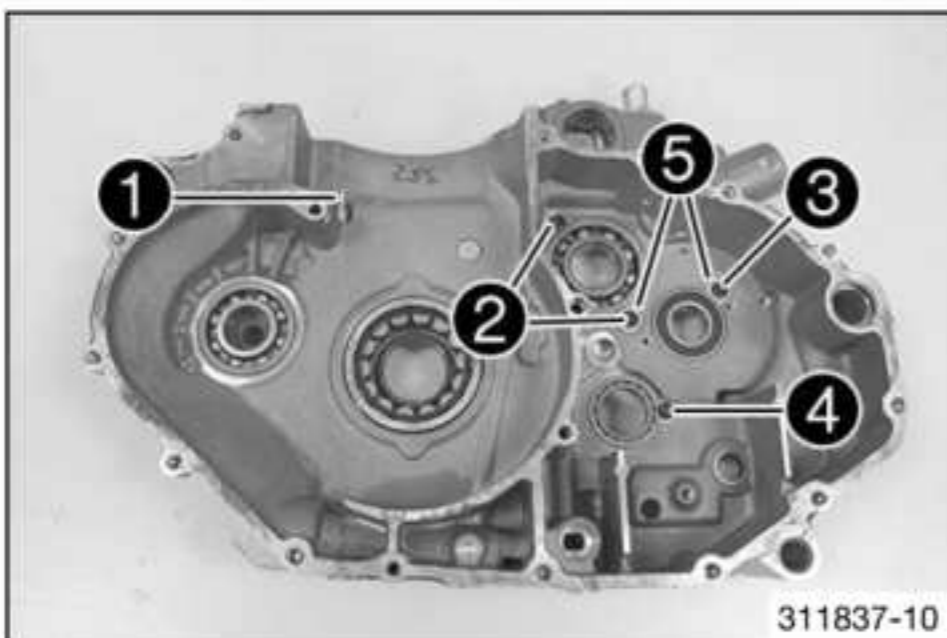
- Remove transmission shafts **5**.

i Info
The stop disk of the countershaft usually sticks to the bearing.

- Take off the O-ring of countershaft **6**.

18.4 Working on individual parts

18.4.1 Working on the right section of the engine case



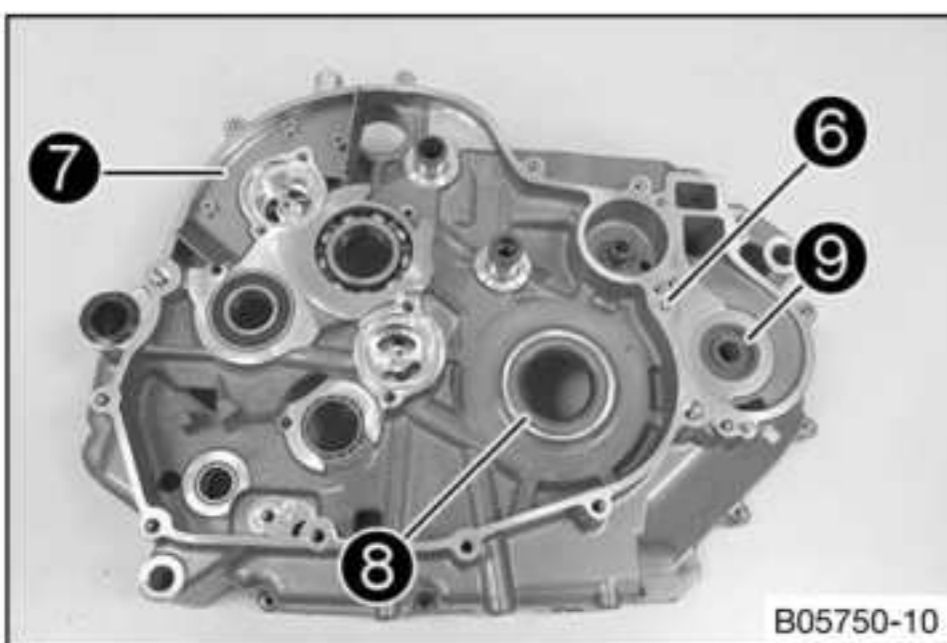
- Remove oil nozzle **1**.
- Remove bearing retainers **2** of the main shaft bearing, **3** of the countershaft bearing and **4** of the shift drum bearing.
- Remove washers **5**.
- Remove any remnants of sealing compound and clean the section of the engine case thoroughly.
- Pull the dowels out of the housing.
- Warm the section of the engine case in an oven.

Guideline

150 °C (302 °F)

- Knock the section of the engine case against a level wooden board. This will cause the bearings to drop out of the bearing seats.

i Info
Any bearings that remain in the section of the engine case must be removed using a suitable tool.

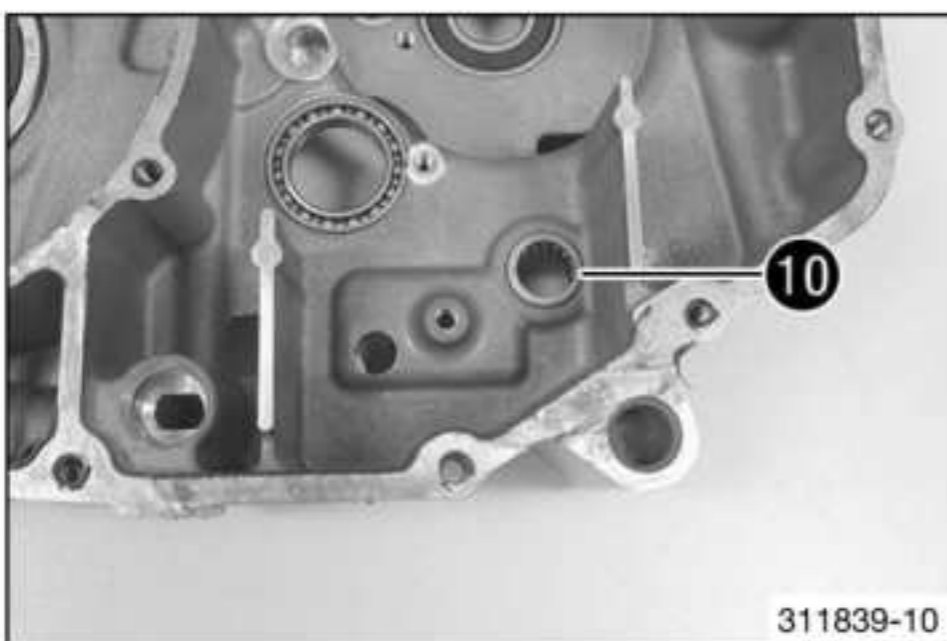


- Remove oil nozzle **6**.
- Remove screws and cover plate **7**.
- Press out shaft seal ring **8** of the crankshaft from the inside to the outside.
- Remove shaft seal ring **9** of the water pump.
- Warm the section of the engine case again.

Guideline

150 °C (302 °F)

- Insert the new cold bearings into the bearing seats of the hot section of the engine case and, if necessary, use a suitable press drift to push the bearings from the inside to the outside, all the way to the stop or until flush.



i Info

Shift shaft bearing 10 must be pressed in from the outside to the inside until it is flush. When pressing in, ensure that the section of the engine case lies flat in order prevent damage. Only press the bearings in using the outer bearing race; otherwise, the bearings will be damaged when they are pressed in.

- After the section of the engine case has cooled, check that the bearings are firmly seated.

i Info

If the bearings are not firmly seated after cooling, it is likely that they will rotate in the engine case when warm. In this case, the engine case must be renewed.

- Position all bearing retainers. Mount and tighten the screws.

Guideline

Locking screw for bearing	M5	6 Nm (4.4 lbf ft) Loctite®243™
---------------------------	----	--

- Press in new shaft seal ring 8 of the crankshaft from the outside to the inside with the open side facing in.

i Info

The shaft seal ring must be flush on the outside.

- Press in new shaft seal ring 9 of the water pump with the open side facing out so that it is flush.
- Mount and tighten oil nozzle 1.

Guideline

Oil jet, piston cooling	M6x0.75	4 Nm (3 lbf ft) Loctite®243™
-------------------------	---------	--

- Mount and tighten oil nozzle 6.

Guideline

Oil nozzle for conrod bearing lubrication	M4	2 Nm (1.5 lbf ft) Loctite®243™
---	----	--

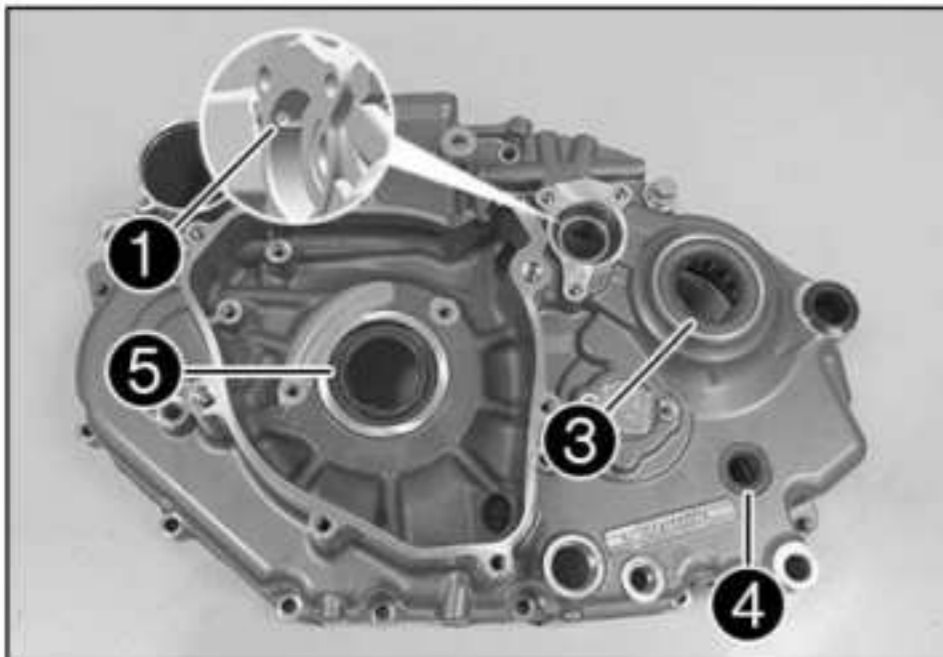
- Blow compressed air through all oil channels and check that they are clear.
- Position cover plate 7. Mount and tighten the screws.

Guideline

Screw, cover plate for oil return line	M5	6 Nm (4.4 lbf ft)
--	----	-------------------

- Reinstall the dowels.

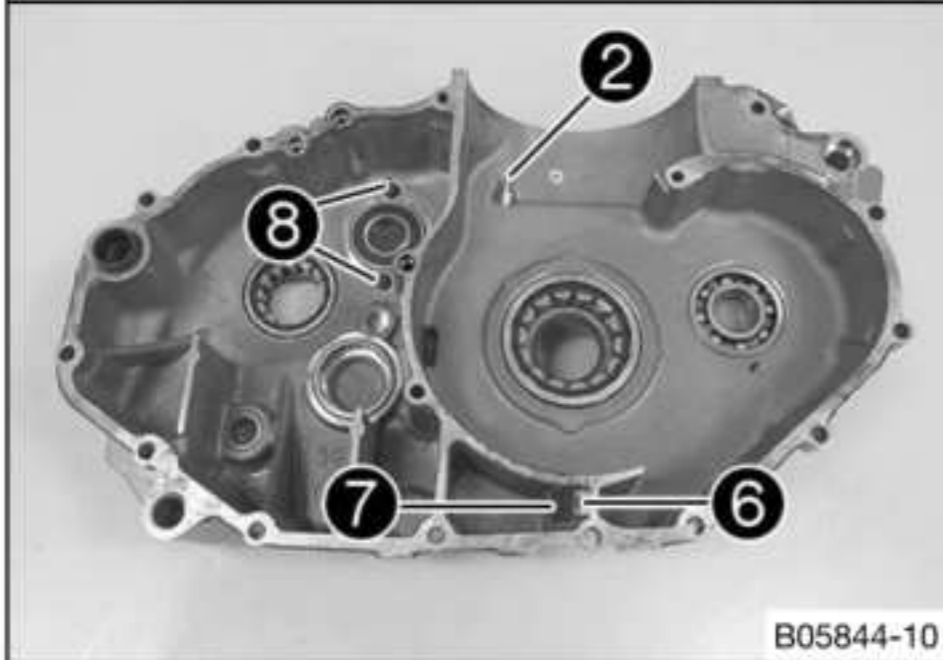
18.4.2 Working on the left section of the engine case



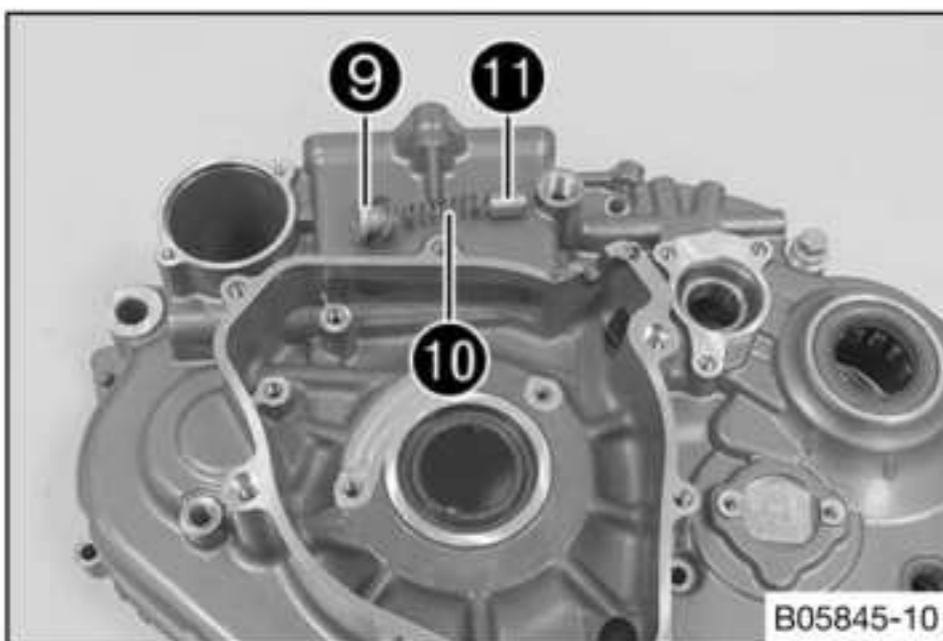
- Remove all dowels.
- Remove oil nozzle ①.
- Remove oil nozzle ②.
- Remove shaft seal rings ③ of the countershaft and ④ of the shift shaft.

**Info**

Shaft seal ring ⑤ of the crankshaft cannot be removed before the crankshaft bearing.



- Remove screws and membrane support plate ⑥ together with membrane ⑦.
- Remove screws ⑧ with the washer.



- Remove screw plug ⑨ and take pressure spring ⑩ with piston valve ⑪ out of the drill hole.
- Remove any remnants of sealing compound and clean the section of the engine case thoroughly.
- Warm the section of the engine case in an oven.

Guideline

150 °C (302 °F)

- Knock the section of the engine case against a level wooden board. This will cause the bearings to drop out of the bearing seats.

**Info**

Any bearings that remain in the section of the engine case must be removed using a suitable tool.

- Press out the crankshaft shaft seal ring from the outside toward the inside.
- Press in the new shaft seal ring of the crankshaft from the inside toward the outside, with the open side facing outward.

**Info**

The shaft seal ring must be flush on the outside.

- Warm the section of the engine case again.

Guideline

150 °C (302 °F)

- Insert the new cold bearings in the bearing seat of the heated section of the engine case; if necessary, use a suitable press drift to push them all the way in and make them flush.

i Info

When pressing in, ensure that the section of the engine case lies flat in order prevent damage. Only press the bearings in using the outer bearing race; otherwise, the bearings will be damaged when they are pressed in.

- After the section of the engine case has cooled, check that the bearings are firmly seated.

i Info

If the bearings are not firmly seated after cooling, it is likely that they will rotate in the engine case when warm. In this case, the engine case must be renewed.

- Mount and tighten screws **8** with the washers.

Guideline

Locking screw for bearing	M5	6 Nm (4.4 lbf ft) Loctite®243™
---------------------------	----	--

- Press in new shaft seal ring **3** of the countershaft and **4** of the shift shaft with the open side facing inward until it is flush.
- Mount and tighten oil nozzle **2**.

Guideline

Oil jet, piston cooling	M6x0.75	4 Nm (3 lbf ft) Loctite®243™
-------------------------	---------	--

- Mount and tighten oil nozzle **1**.

Guideline

Oil nozzle for clutch lubrication	M4x8	2 Nm (1.5 lbf ft)
-----------------------------------	------	-------------------

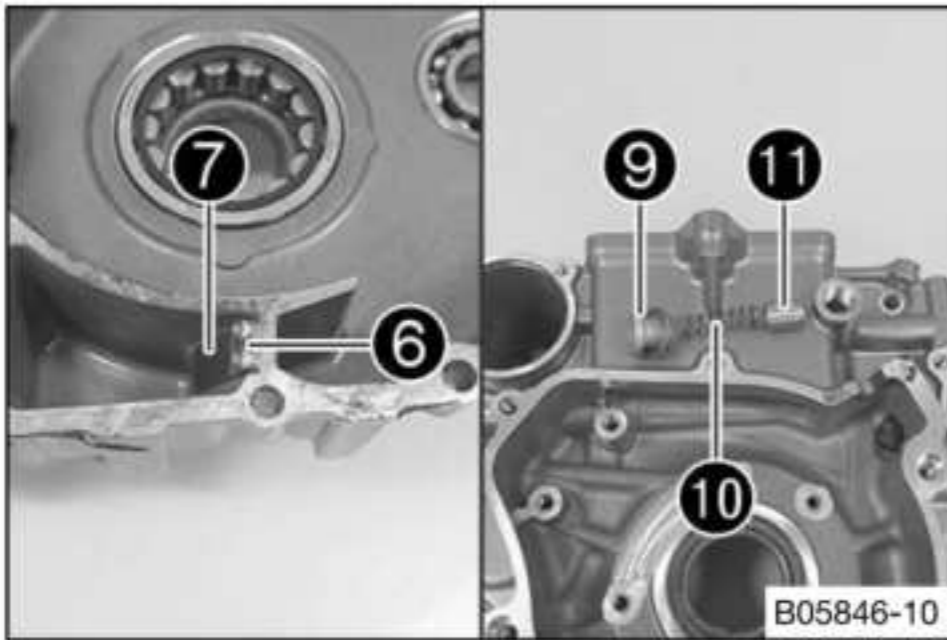
- Mount the dowels.
- Blow compressed air through all oil channels and check that they are clear.
- Measure the spring length of the oil pressure control valve.

Oil pressure regulator valve - minimum length spring	25.4 mm (1 in)
--	----------------

- » If the measured value does not meet specifications:
 - Change the spring.
- Check the piston valve for damage and wear.
 - » If there is damage or wear:
 - Replace the piston valve.



305602-10



- Lubricate piston valve ①① and mount it with pressure spring ①⑩. Mount and tighten screw plug ①⑨ with a new seal ring.

Guideline

Screw plug, oil pressure control valve	M12x1.5	20 Nm (14.8 lbf ft)
--	---------	---------------------

- Position membrane support plate ①⑥ with membrane ①⑦. Mount and tighten the screws.

Guideline

Screw, membrane fixation	M3	2 Nm (1.5 lbf ft) Loctite® 243™
--------------------------	----	---



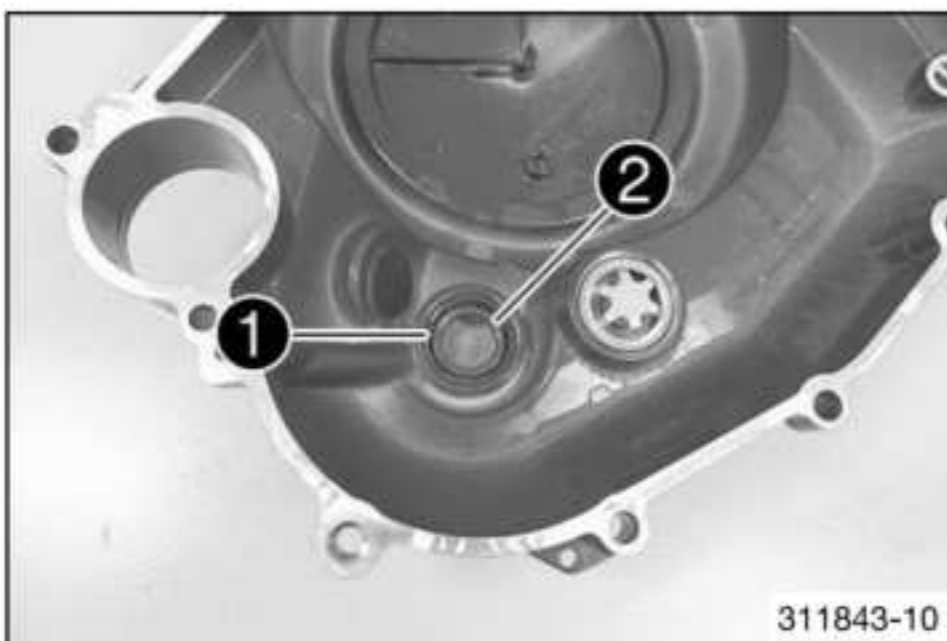
Info

The membrane support plate is curved and must point away from the membrane.

An incorrectly installed membrane support plate results in loss of performance and increased oil consumption or leaks.

Do not apply thread locker between the membrane and the membrane support plate since this would impair their function.

18.4.3 Working on the clutch cover



- Remove lock ring ①.
- Remove shaft seal ring ② of the crankshaft.
- Press in new shaft seal ring as far as possible.

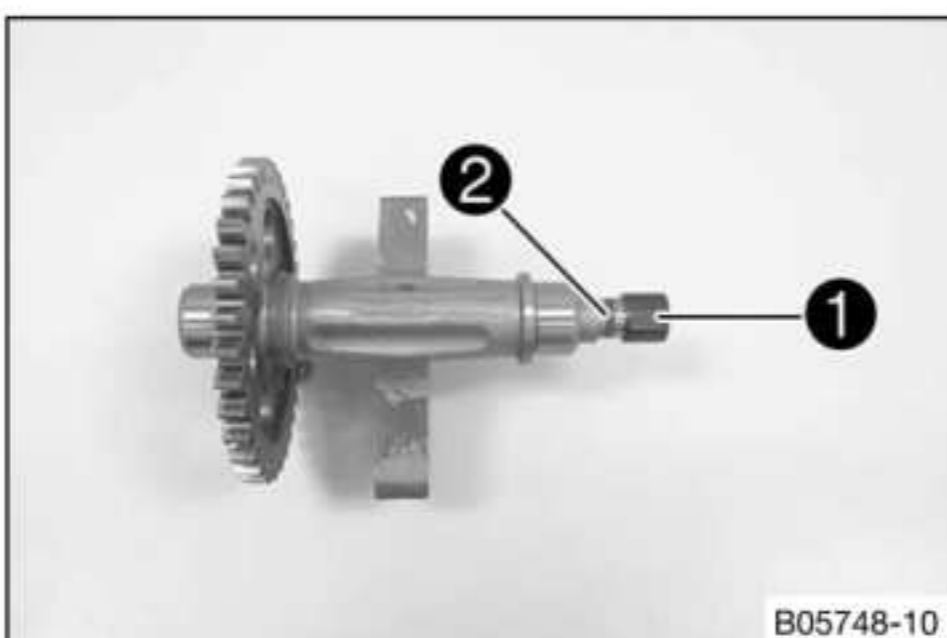


Info

Provide suitable support for the clutch cover while pressing in.

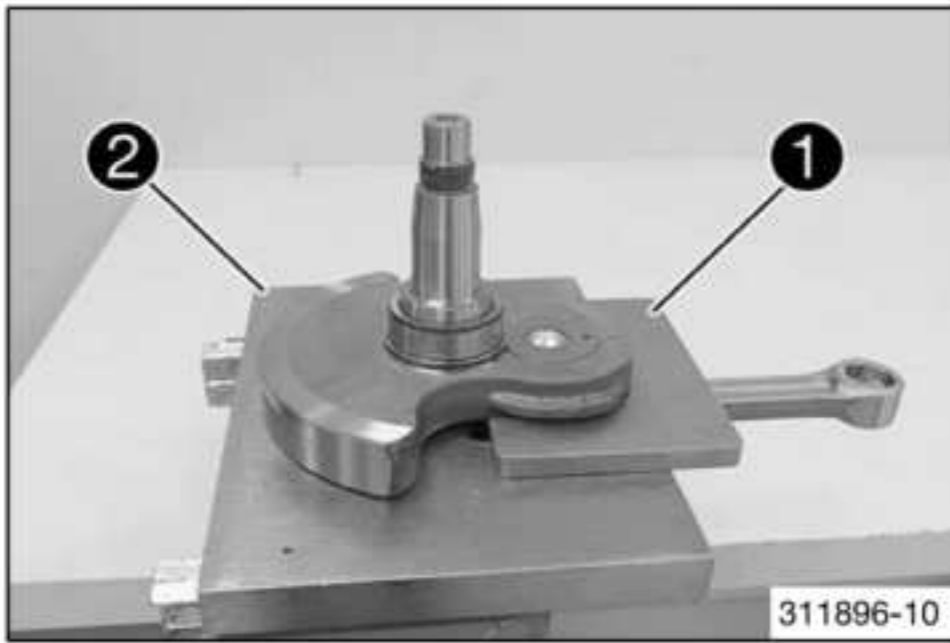
- Mount lock ring ①.
- Blow out the oil channel with compressed air and check that it is clear.

18.4.4 Working on the water pump impeller



- Remove bushing ①.
- Remove O-ring ②.
- Mount new O-ring ②.
- Mount the new bushing ①.

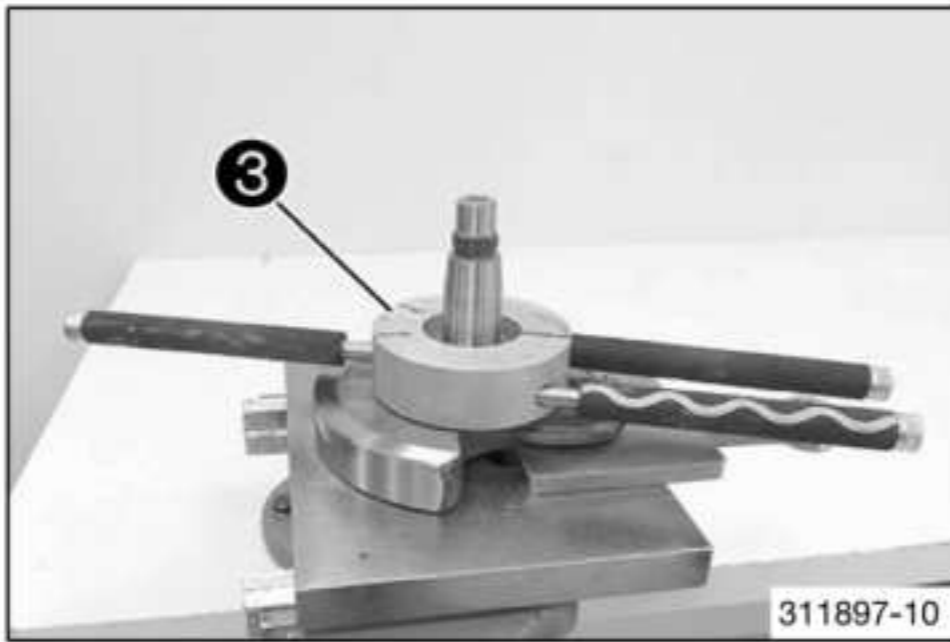
18.4.5 Removing the crankshaft bearing inner race



- Fix the crankshaft with special tool **1** and **2** secure in the vise.

Separator plate, upper part (75029047050) (📖 p. 388)

Separator plate, base (75029047051) (📖 p. 389)



- Warm up special tool **3**.

Guideline

150 °C (302 °F)

Puller (58429037043) (📖 p. 383)

- Push the heated special tool **3** on to the inner bearing race, press them firmly together, and pull them both off the crankshaft.
- Take off the compensating disk.
- Repeat these steps on the opposite side.

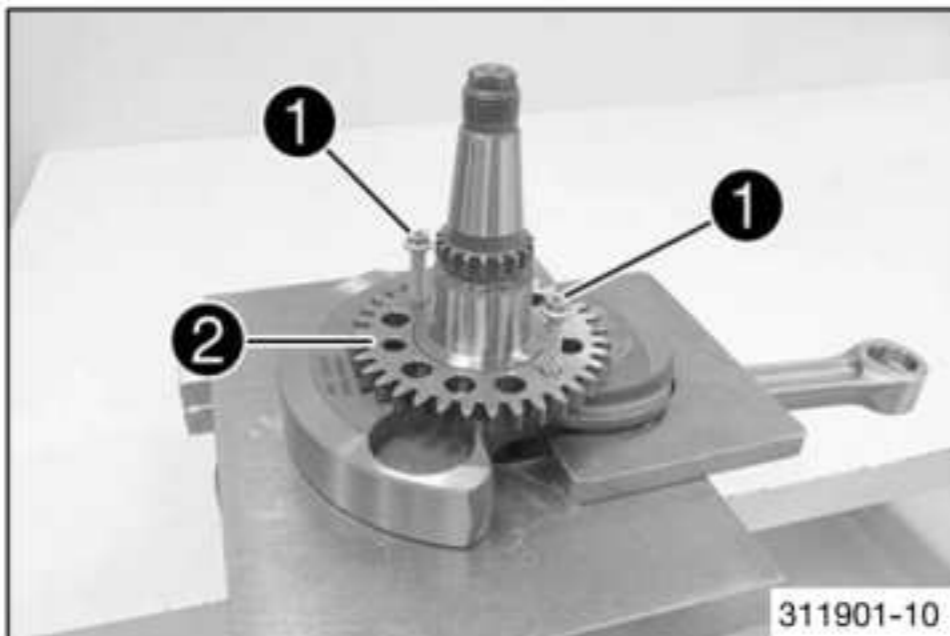
18.4.6 Removing the drive gear wheel of the balancer shaft

Preparatory work

- Remove the crankshaft bearing inner race. (📖 p. 208)

Main work

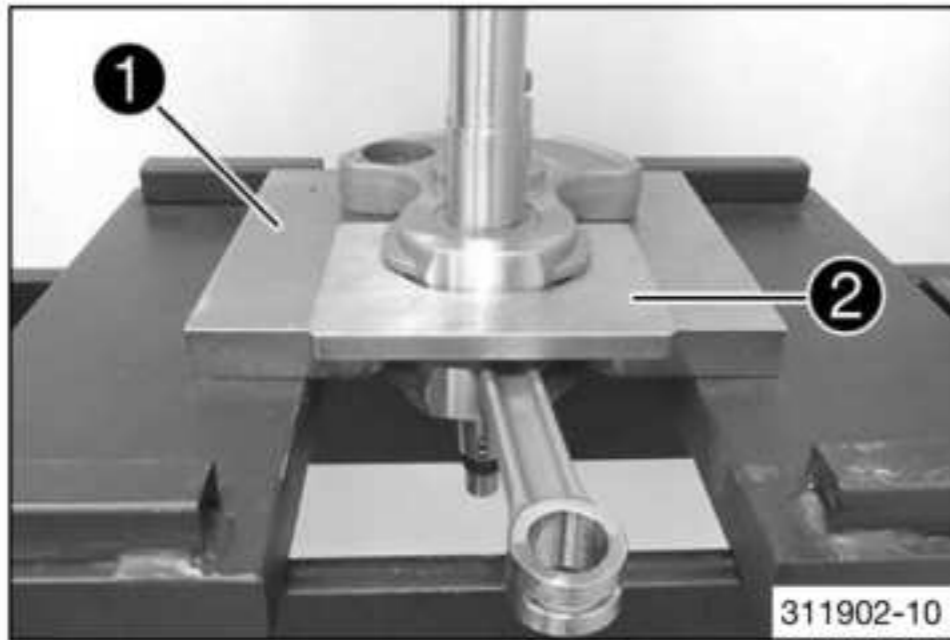
- Screw suitable M6 screws **1** into the thread. Tighten the two screws evenly to pull drive gear wheel **2** off the crankshaft.



18.4.7 Changing the connecting rod, conrod bearing, and crank pin

Preparatory work

- Remove the crankshaft bearing inner race. (📖 p. 208)
- Remove the drive gear wheel of the balancer shaft. (📖 p. 208)



Main work

- Position the crankshaft with special tool **1** in the press.

Separator plate, base (75029047051) (📖 p. 389)

- Position special tool **2** between the crankwebs.

Separator plate, upper part (75029047050) (📖 p. 388)

- Press the crank pin out of the upper crankweb with the push-out drift of the special tool.

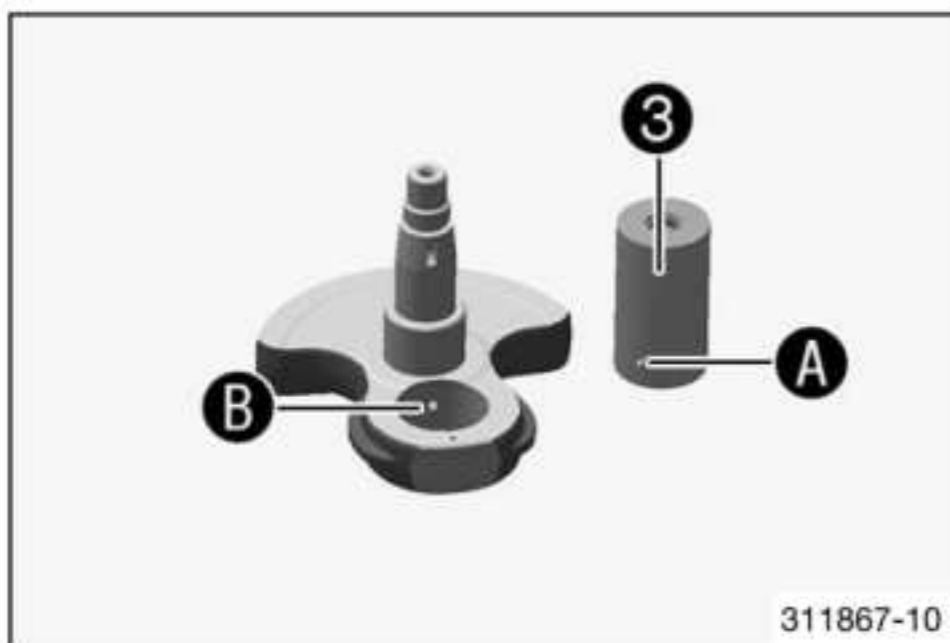
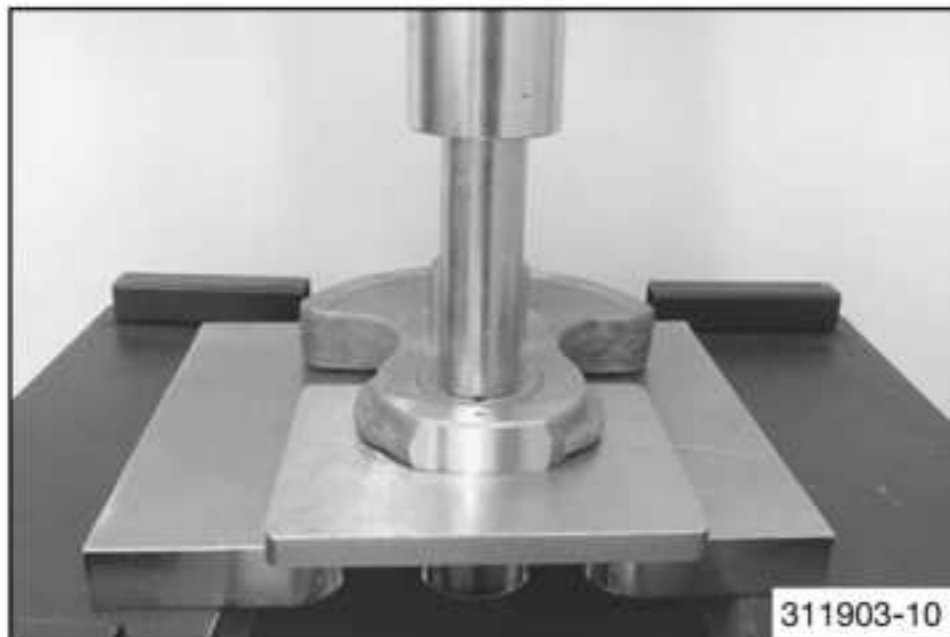
Crankshaft pressing tool (75029047000) (📖 p. 388)



Info

Hold the lower crankweb.

- Remove the connecting rod and bearing.
- Press the crank pin out of the crankweb.



- Press in new crank pin **3** all the way.

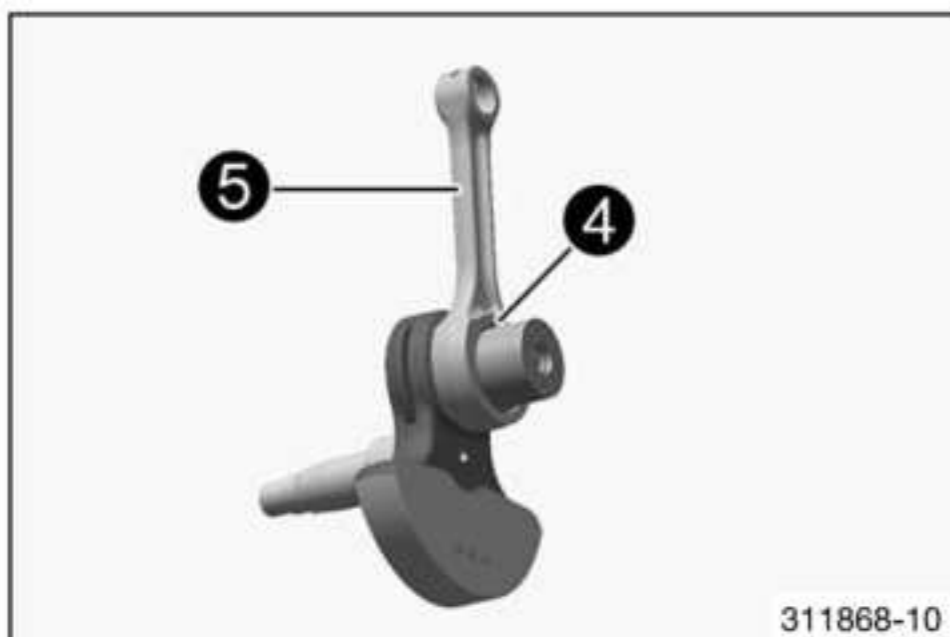


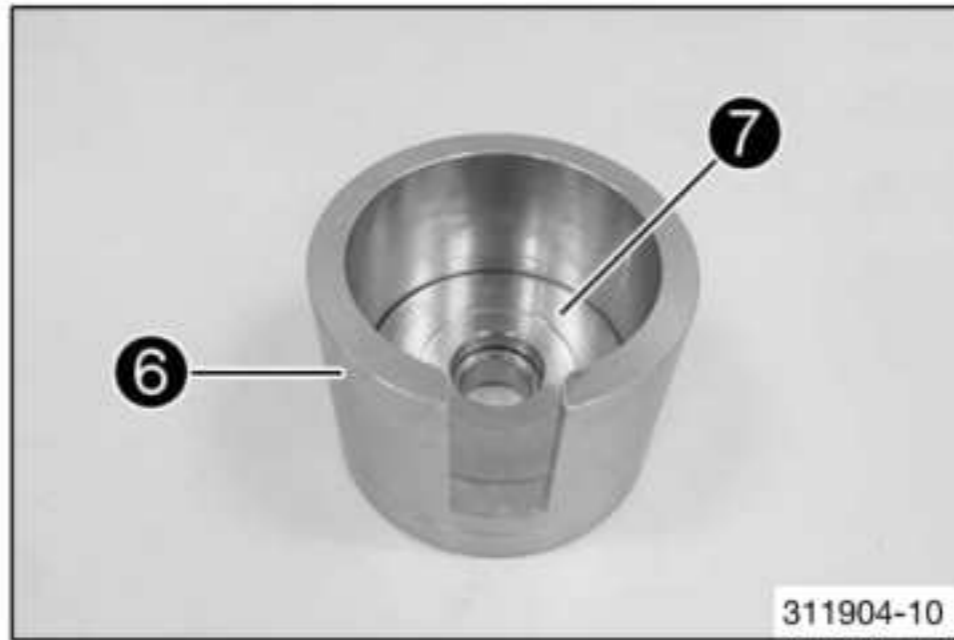
Info

The crank pin must be pressed in so that oil channel **A** is aligned with oil channel **B**.

If the oil channels are not correctly aligned, the conrod bearing will not be supplied with oil.

- Blow compressed air through the oil channel to check that it is clear.
- Thoroughly oil bearing **4**.
- Mount connecting rod **5**.





- Position special tool **6** on the press.

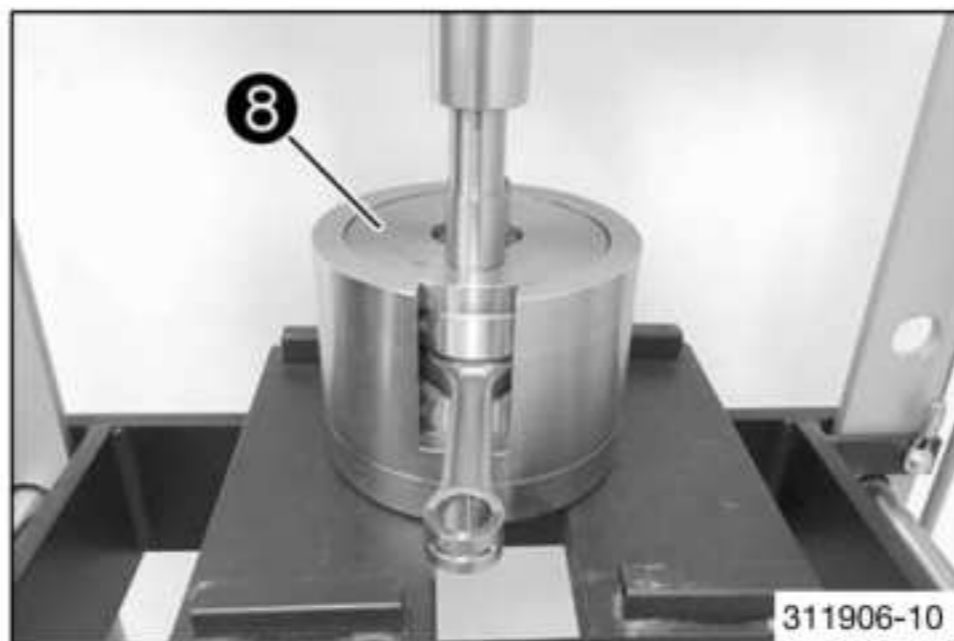
Crankshaft pressing tool (75029047000) (p. 388)

- Position special tool **7**.

Cover for crankshaft pressing tool (76629047003)
(p. 392)



- Insert the crankweb with the connecting rod and bearing. Position the second crankweb.



- Position special tool **8** with the heel pointing down.

Crankshaft pressing tool (75029047000) (p. 388)

- Press in the upper crankweb as far as possible.

i Info

The press mandrel must be positioned over the crank pin.

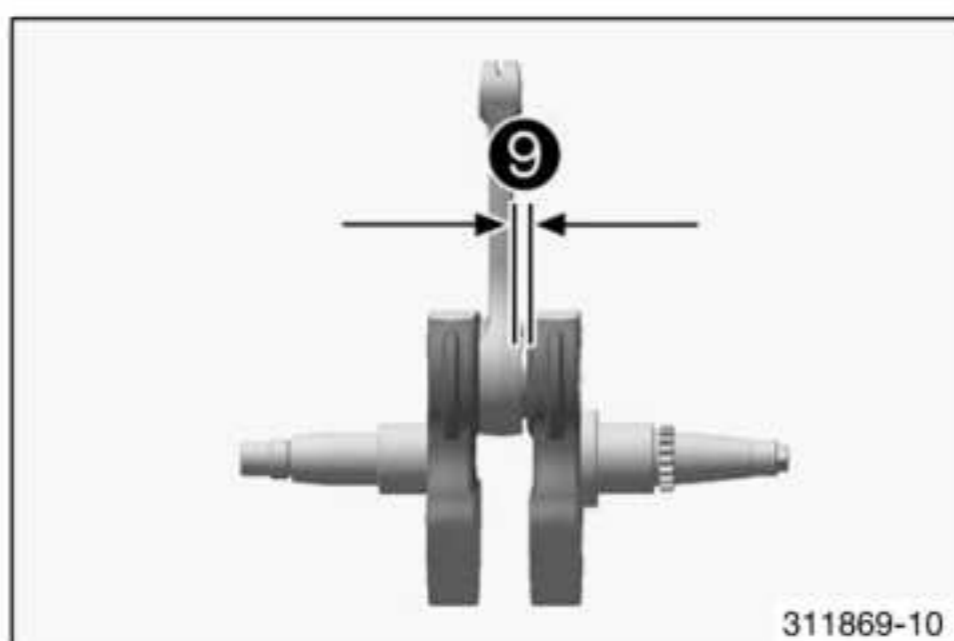
- Take the crankshaft out of the special tool and check that the connecting rod can move freely.

- Measure axial play **9** between the connecting rod and the crankwebs using the special tool.

Feeler gauge (59029041100) (p. 384)

Connecting rod - axial clearance of lower conrod bearing	0.30 ... 0.60 mm (0.0118 ... 0.0236 in)
--	---

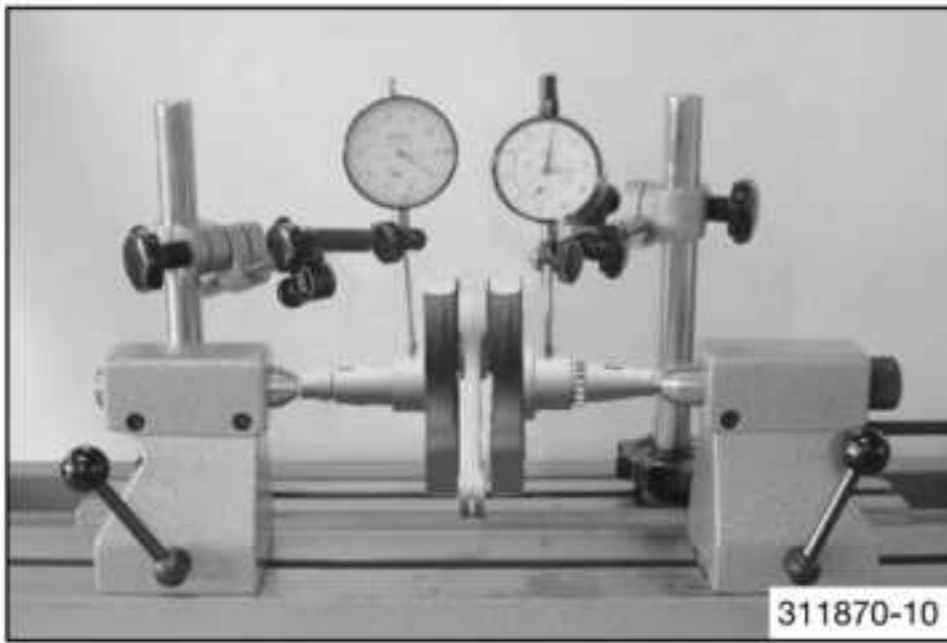
- » If the measured value is less than the specification:
 - Correct it so the dimension is equal to the specified value.



Finishing work

- Check the crankshaft run-out at the bearing pin. (p. 211)
- Install the drive gear wheel of the balancer shaft. (p. 211)
- Install the crankshaft bearing inner race. (p. 212)
- Measure the axial clearance of the crankshaft and the balancer shaft. (p. 212)

18.4.8 Checking crankshaft run-out at bearing pin

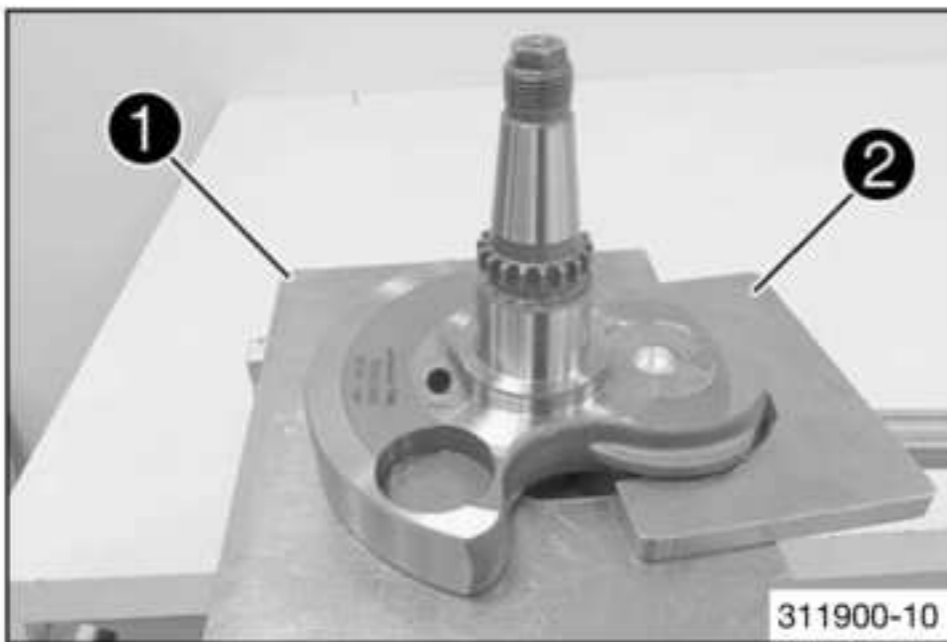


- Position the crankshaft on a roller block.
- Rotate the crankshaft slowly.
- Check the crankshaft run-out at both bearing pins.

Crankshaft run-out at bearing pin	≤ 0.10 mm (≤ 0.0039 in)
-----------------------------------	-------------------------

- » If the crankshaft run-out at the bearing pin is greater than the specified value:
 - Align the crankshaft.

18.4.9 Installing the drive gear wheel of the balancer shaft



Main work

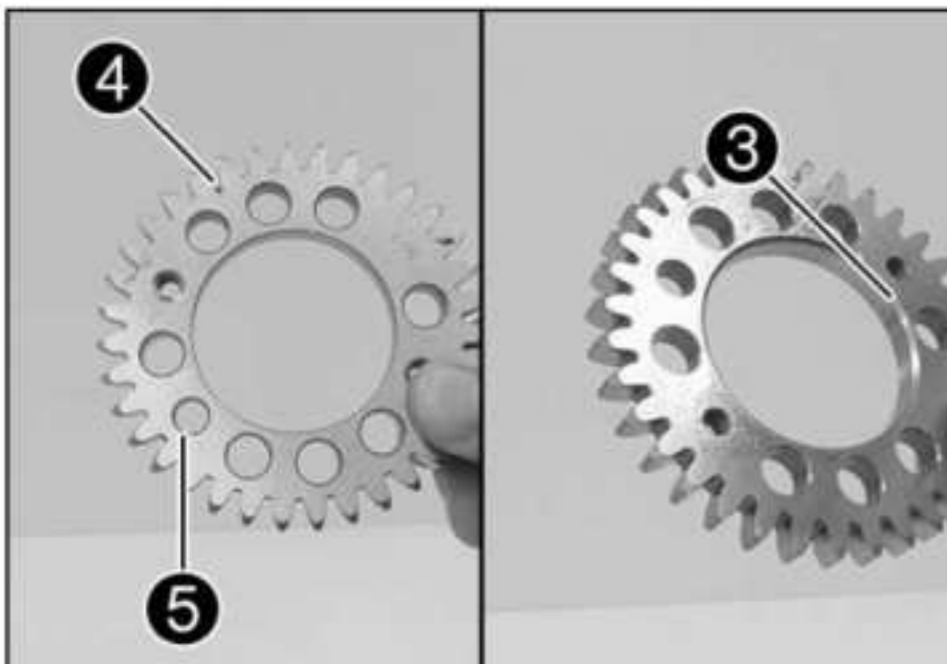
- Fix the crankshaft with special tool ① and ② secure in the vise.

Separator plate, upper part (75029047050) (p. 388)
Separator plate, base (75029047051) (p. 389)

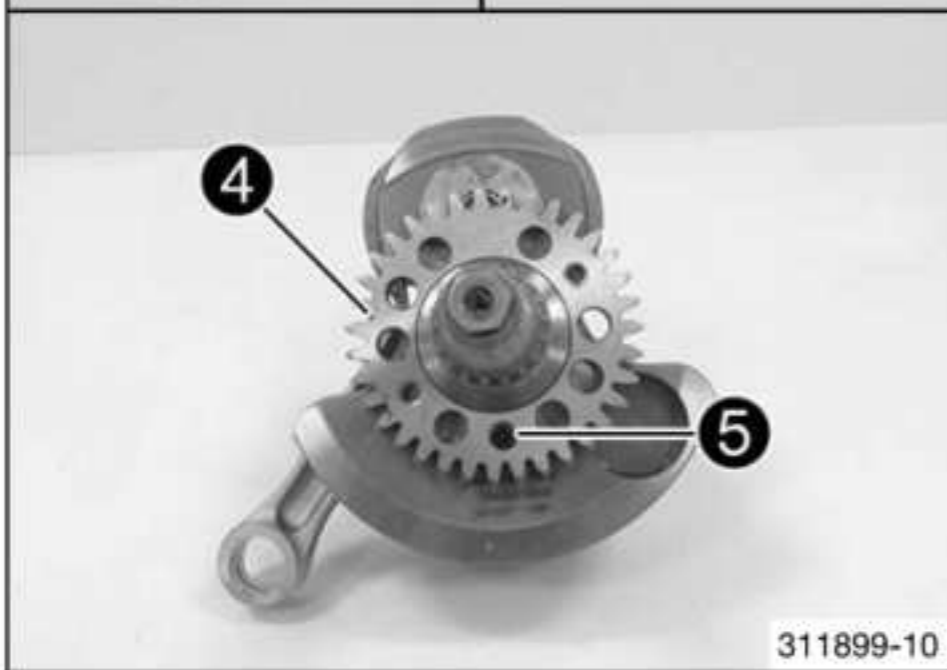
- Warm up the drive gear wheel.

Guideline

100 °C (212 °F)



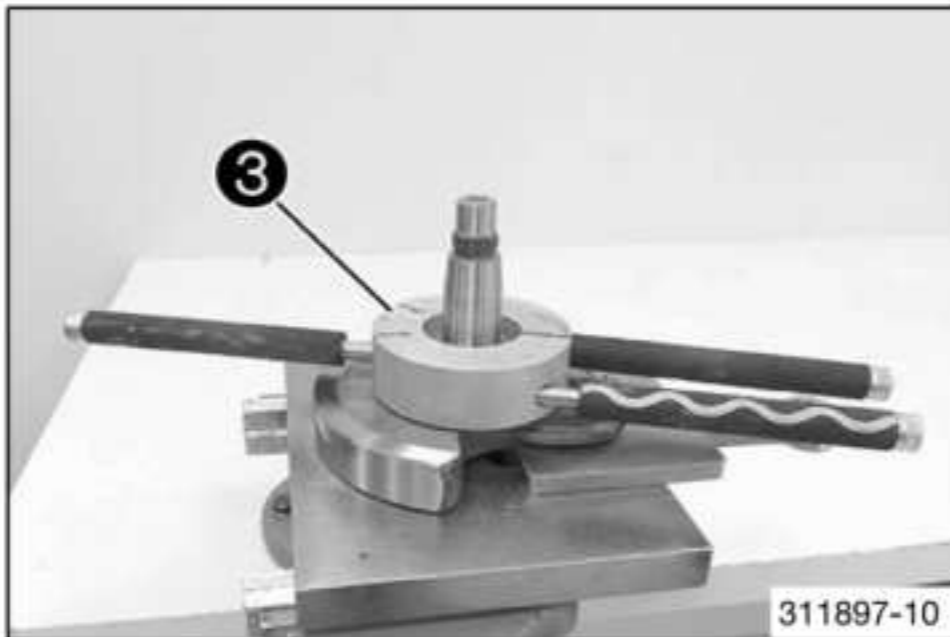
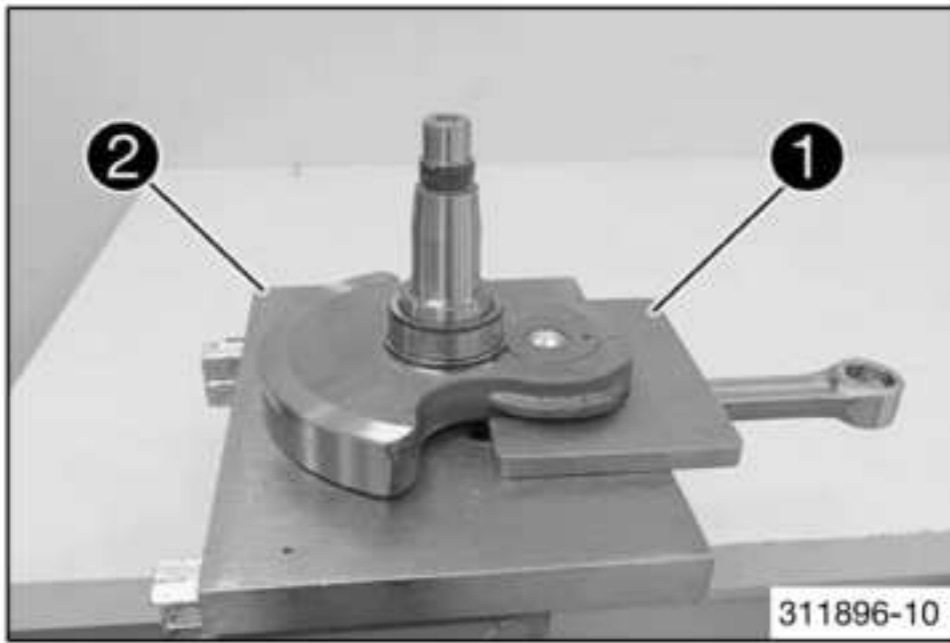
- Place the drive gear wheel on the crankshaft.
 - ✓ The dowel of the crankshaft must fit in drill hole ⑤.
 - ✓ The side of the drive gear wheel with punch mark ④ must be visible after assembly, and the side with bevel ③ must be in contact with the crankweb.



Finishing work

- Install the crankshaft bearing inner race. (p. 212)
- Measure the axial clearance of the crankshaft and the balancer shaft. (p. 212)

18.4.10 Installing the crankshaft bearing inner race



Main work

- Fix the crankshaft with special tool **1** and **2** secure in the vise.

Separator plate, upper part (75029047050) (📖 p. 388)
--

Separator plate, base (75029047051) (📖 p. 389)
--

- Position compensating disk.
- Warm-up the inner bearing race in special tool **3**.

Guideline

120 °C (248 °F)

- Mount the inner bearing race.
- Repeat these steps on the opposite side.
- Make sure that the new inner bearing race is installed flush.



Info

After changing the crankshaft bearing and the conrod bearing, measure the crankshaft axial play.

Finishing work

- Measure the axial clearance of the crankshaft and the balancer shaft. (📖 p. 212)

18.4.11 Measuring axial clearance of crankshaft and balancer shaft



- Insert the crankshaft and balancer shaft in the right section of the engine casing.



Info

Do not forget the dowels.

- Mount the left section of the engine case.
- Mount and tighten the screws.

Guideline

Screw, engine case	M6	10 Nm (7.4 lbf ft)
--------------------	----	--------------------

- Mount the dial gauge support on the engine case and measure and note down the crankshaft axial play.

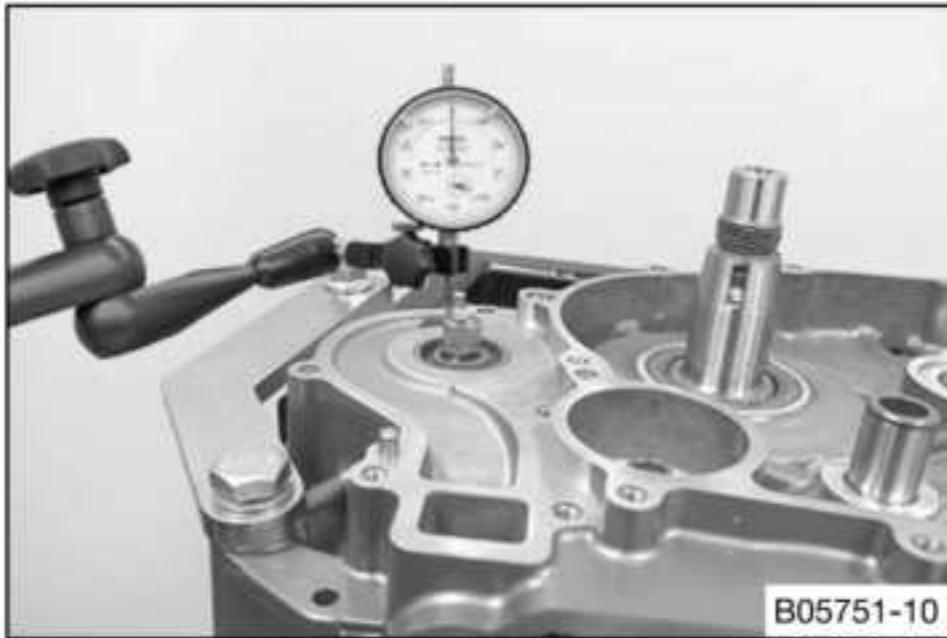
Guideline

Crankshaft - axial clearance	0.15 ... 0.25 mm (0.0059 ... 0.0098 in)
------------------------------	---

- » If the measured value does not meet specifications:
 - Remove the crankshaft.
 - Remove the crankshaft bearing inner race. (📖 p. 208)
 - Calculate the thickness of the compensating disks.
 - Add or remove compensating disks equally on both sides.

i Info

If the axial play is too small, remove compensating disks.
If the axial play is too large, add compensating disks.



- Install the crankshaft bearing inner race. (📖 p. 212)
- Mount the dial gauge support on the engine case and measure and note the axial play of the balancer shaft.

Guideline

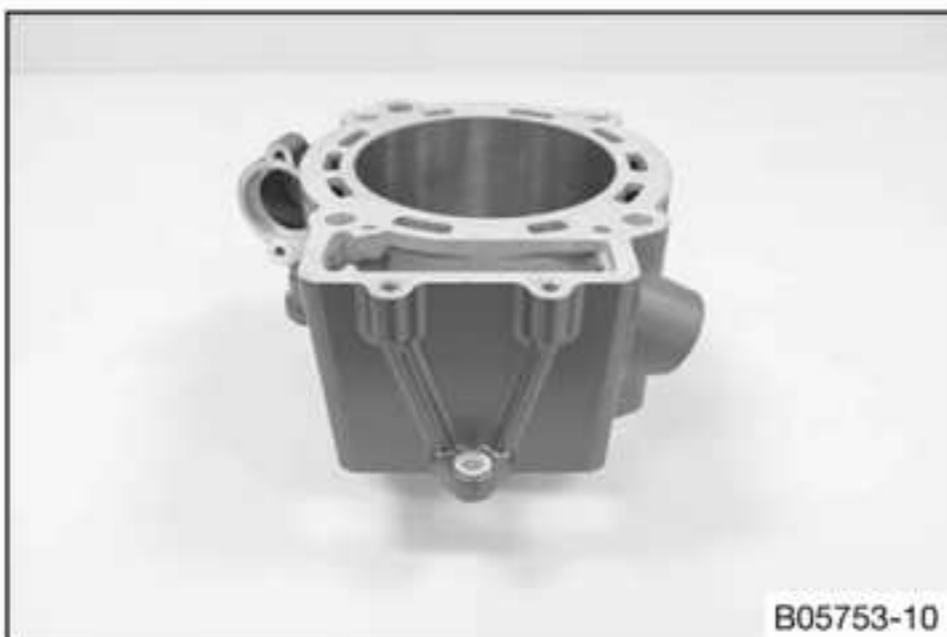
Balancer shaft axial clearance	0.15 ... 0.25 mm (0.0059 ... 0.0098 in)
--------------------------------	---

- » If the measured value does not meet specifications:
 - Remove the balancer shaft.
 - Calculate the thickness of the compensating disks.
 - Add compensating disks to the ignition side only.

i Info

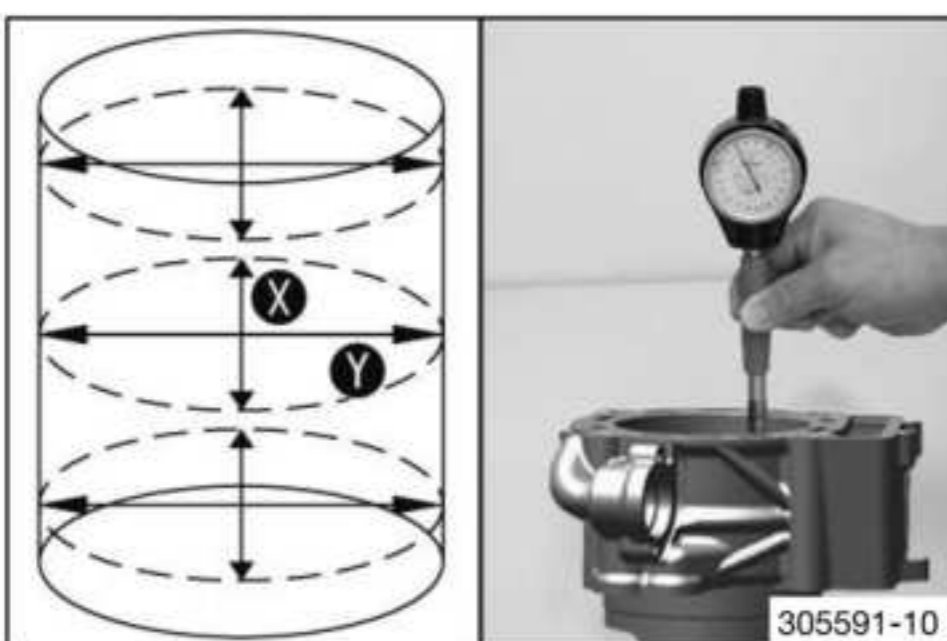
If the axial play is too small, remove compensating disks.
If the axial play is too large, add compensating disks.

18.4.12 Cylinder - Nikasil® coating

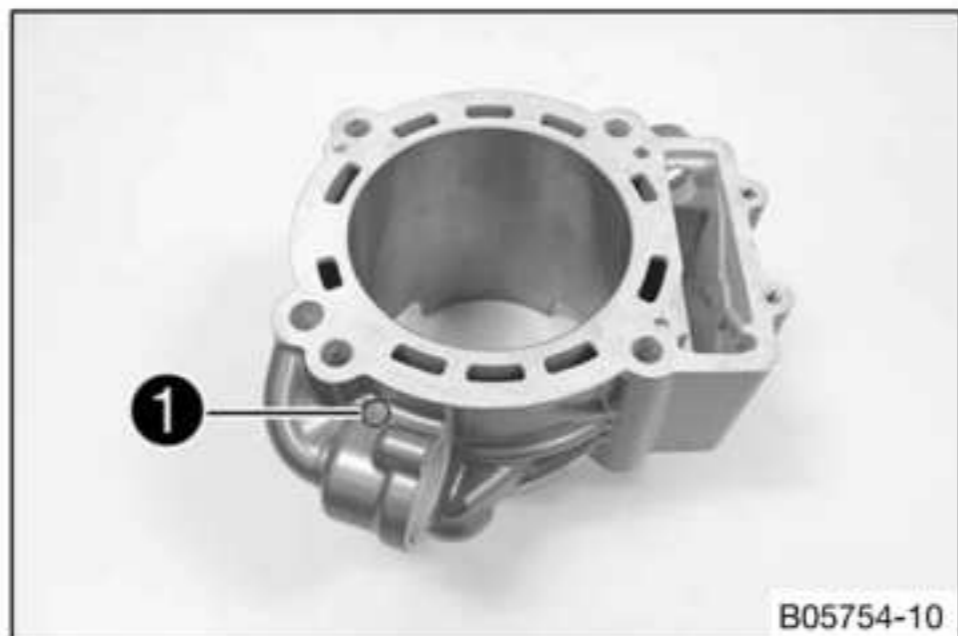


Nikasil® is a surface protection layer for a coating procedure developed by Mahle. The name is derived from the two materials used in this procedure - a layer of nickel into which is embedded the particularly hard silicone carbide. The most important advantages of the **Nikasil®** coating are very good heat conductivity, resulting in much improved performance, low wear, and a lightweight cylinder.

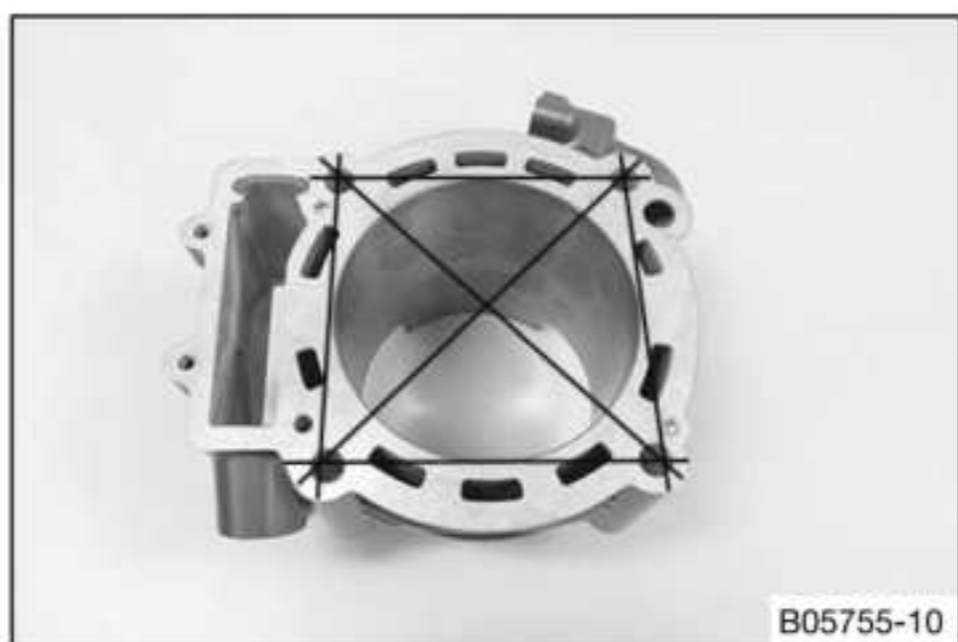
18.4.13 Checking/measuring the cylinder



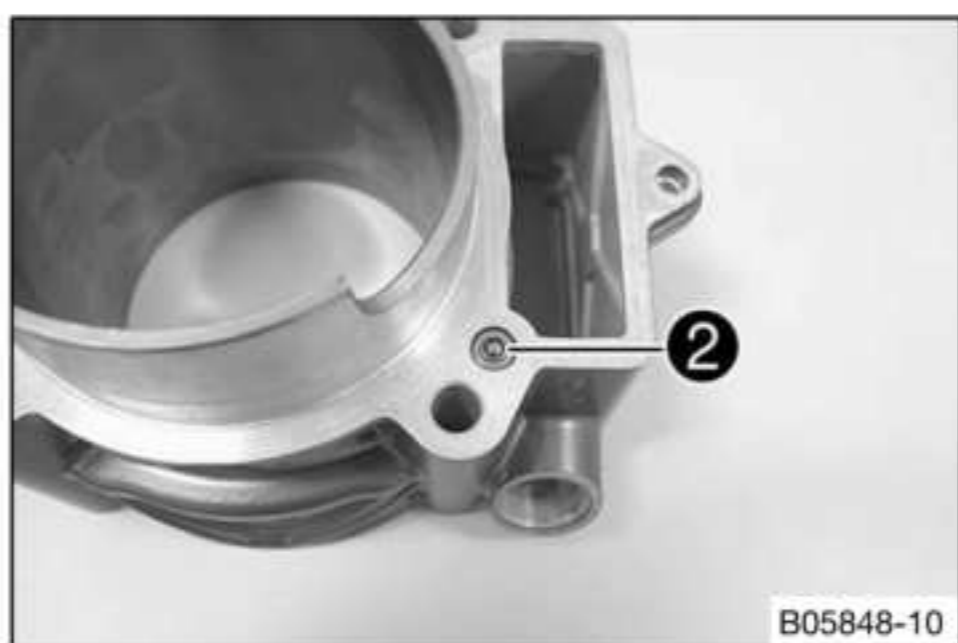
- Check the O-ring of the chain adjuster for damage and wear.
 - » If there is damage or wear:
 - Change the O-ring.
- Check the cylinder bearing surface for damage.
 - » If the cylinder bearing surface is damaged:
 - Change the cylinder and piston.
- Measure the bore diameter at several locations on the **X**-axis and **Y**-axis using a micrometer to identify oval wear.



B05754-10



B05755-10



B05848-10

Guideline

Cylinder - bore diameter	
Size I	105.000 ... 105.012 mm (4.13385 ... 4.13432 in)
Size II	105.013 ... 105.025 mm (4.13436 ... 4.13483 in)

- The cylinder size **1** is marked on the side of the cylinder.

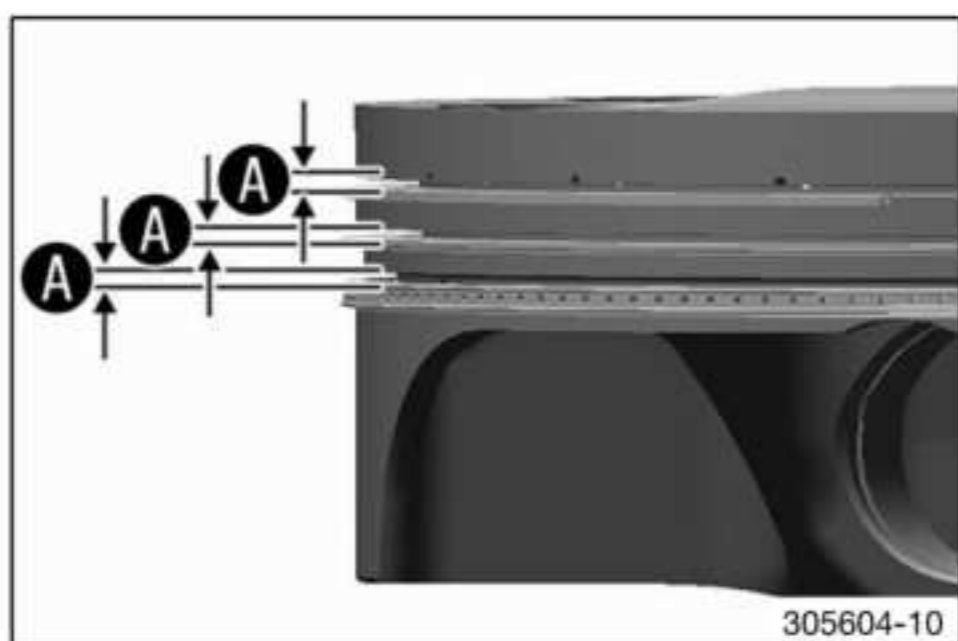
- Using a straightedge and the special tool, check the sealing surface of the cylinder head for distortion.

Feeler gauge (59029041100) (📖 p. 384)

Cylinder/cylinder head - sealing area distortion	≤ 0.10 mm (≤ 0.0039 in)
--	-------------------------

- » If the measured value does not meet specifications:
 - Change the cylinder.
- Check the check valve **2** for smooth operation and wear.
 - » If the check valve moves easily or if wear is apparent:
 - Change the cylinder.

18.4.14 Checking/measuring the piston



305604-10

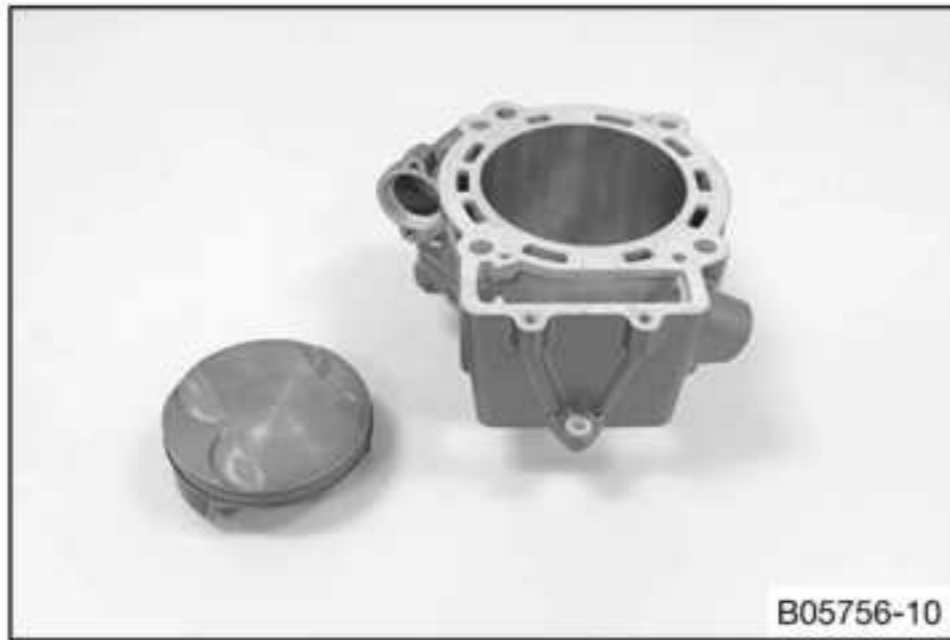
- Use the special tool to measure play **A** of the piston rings in the piston ring groove.

Guideline

Piston ring - groove clearance	≤ 0.08 mm (≤ 0.0031 in)
--------------------------------	-------------------------

Feeler gauge (59029041100) (📖 p. 384)

- » If play **A** is greater than the specified value:
 - Change the piston and piston rings.
 - Check/measure the cylinder. (📖 p. 213)



- Check the piston bearing surface for damage.
 - » If the piston bearing surface is damaged:
 - Change the piston and, if necessary, the cylinder.
- Check that the piston rings can move easily in the piston ring grooves.
 - » If the piston ring is stiff:
 - Clean the piston ring groove.

i Tip
Use an old piston ring to clean the piston ring groove.

- Check the piston rings for damage.
 - » If the piston ring is damaged:
 - Change the piston ring.

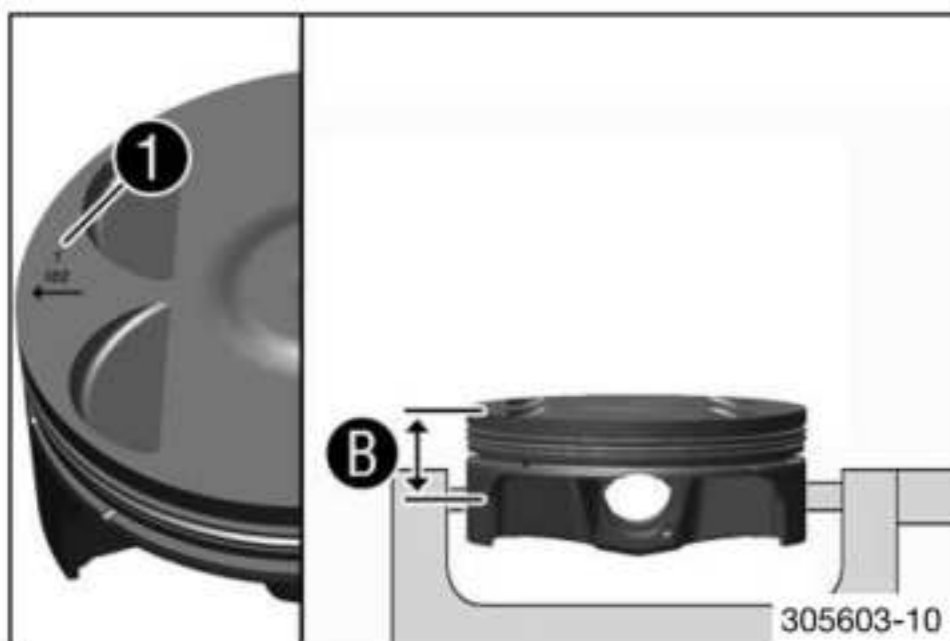
i Info
Mount the piston ring with the marking facing upward.

- Check the piston pin for discoloration or signs of wear.
 - » If the piston pin has strong discoloration/signs of wear:
 - Change the piston pin.
- Insert the piston pin into the connecting rod and check the bearing for play.
 - » If the piston pin bearing has too much play:
 - Change the connecting rod and the piston pin.

- Measure the piston at the piston skirt, at right angles to the piston pin, at a distance **B**.

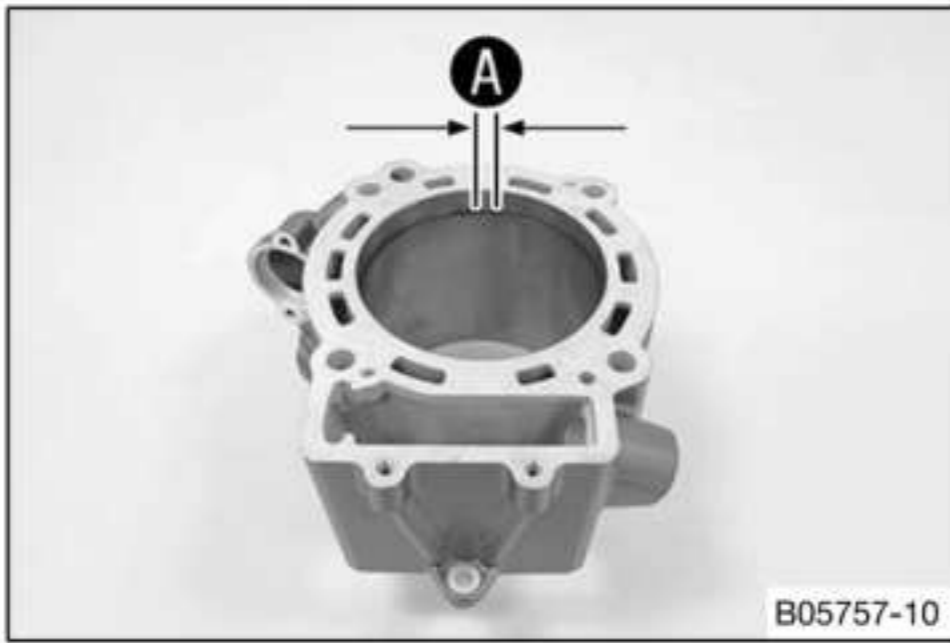
Guideline

Distance B	31.5 mm (1.24 in)
Piston - diameter	
Size I	104.955 ... 104.965 mm (4.13208 ... 4.13247 in)
Size II	104.965 ... 104.975 mm (4.13247 ... 4.13287 in)



i Info
Piston size **1** is marked on the piston head.

18.4.15 Checking the piston ring end gap



- Remove the piston ring from the piston.
- Place the piston ring in the cylinder and align with the piston.

Guideline

Below the upper edge of the cylinder	10 mm (0.39 in)
--------------------------------------	-----------------

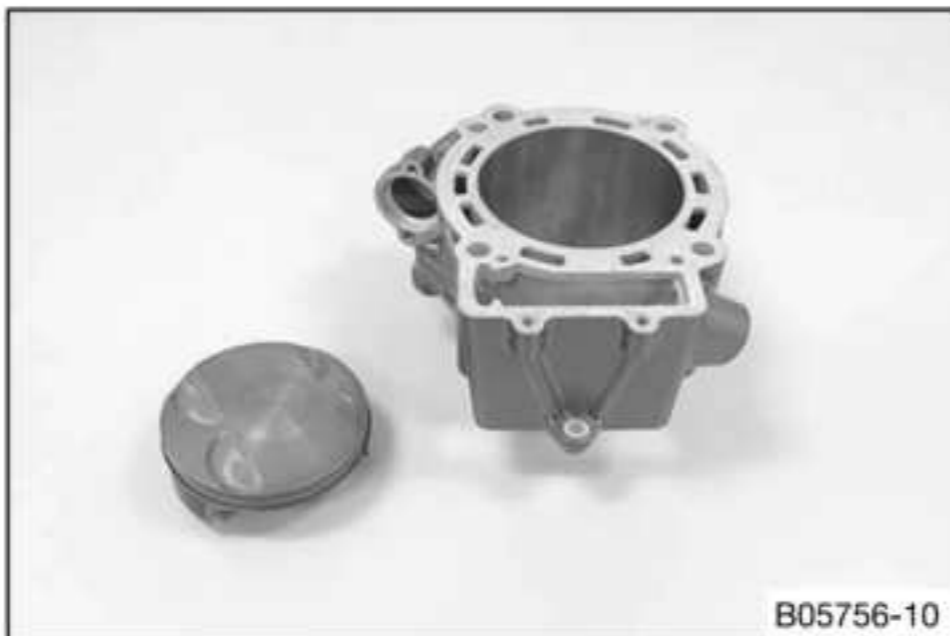
- Measure end gap **A** with a feeler gauge.

Guideline

Piston ring end gap	
Compression rings	≤ 0.80 mm (≤ 0.0315 in)
Oil scraper ring	≤ 1.00 mm (≤ 0.0394 in)

- » If the end gap is greater than the specified measurement:
 - Check/measure the cylinder. (📖 p. 213)
- » If cylinder wear lies within the specified tolerance:
 - Change the piston ring.
- Mount the piston ring with the marking facing toward the piston head.

18.4.16 Determining the piston/cylinder mounting clearance



- Check/measure the cylinder. (📖 p. 213)
- Check/measure the piston. (📖 p. 214)
- The smallest piston/cylinder mounting clearance is the result of the smallest cylinder bore diameter minus the largest piston diameter. The largest piston/cylinder mounting clearance is the result of the largest cylinder bore diameter minus the smallest piston diameter.

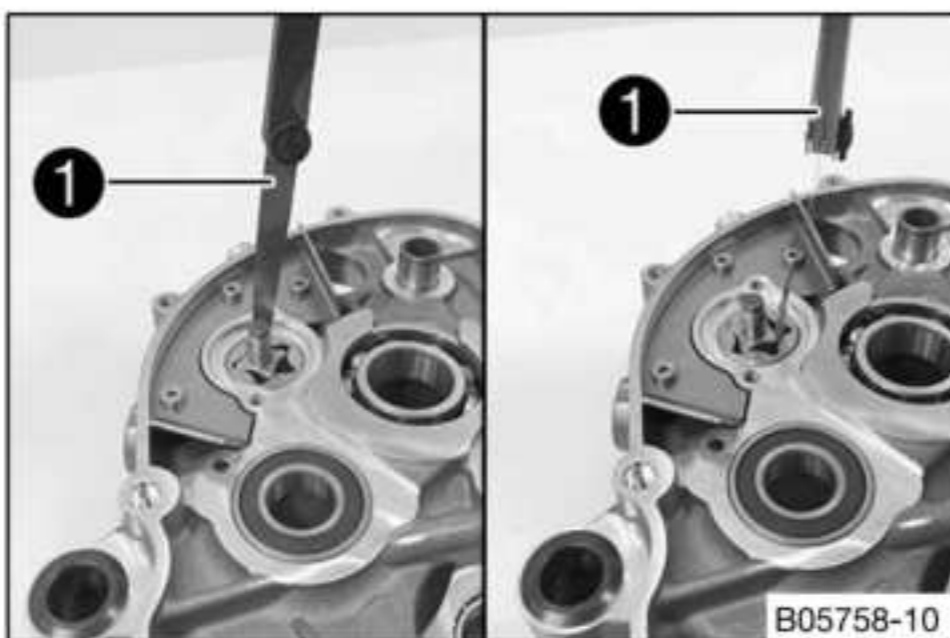
Guideline

Piston/cylinder - mounting clearance	
New condition	0.035 ... 0.060 mm (0.00138 ... 0.00236 in)
Wear limit	0.10 mm (0.0039 in)

18.4.17 Checking oil pumps for wear

i Info

The oil pump wear check shown here is on the suction pump but it applies to all oil pumps.

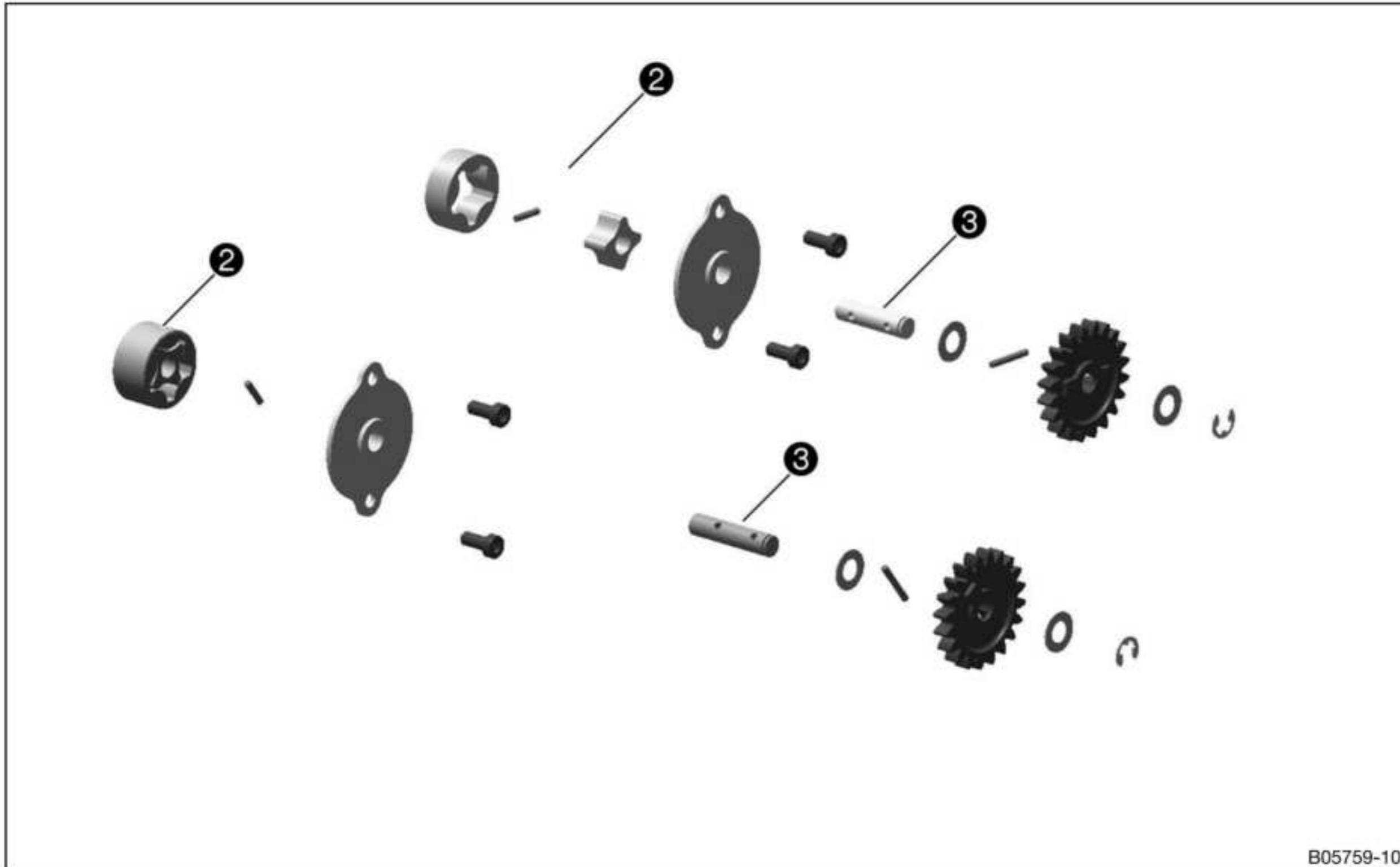


- Use a feeler gauge **1** to measure the play between the external rotor and the engine case as well as between the external rotor and the internal rotor.

Oil pump	
Clearance between external rotor and engine case	≤ 0.20 mm (≤ 0.0079 in)

Clearance between external rotor and internal rotor	≤ 0.20 mm (≤ 0.0079 in)
Axial clearance	0.04 ... 0.08 mm (0.0016 ... 0.0031 in)

- » If the measured value does not meet specifications:
 - Change the oil pump and, if necessary, the engine case.



- Check the internal rotor and external rotor of oil pumps **2** for damage and wear.
 - » If there is damage or wear:
 - Change the oil pumps.
- Check oil pump shafts **3** for damage and wear.
 - » If there is damage or wear:
 - Change the oil pump shaft.
- Check both oil pump covers for damage and wear.
 - » If there is damage or wear:
 - Change the oil pump cover.

18.4.18 Preparing timing chain tensioner for installation



- Fully compress the timing chain tensioner.

i Info

This requires considerable force since the oil has to be pressed out.

- Release the timing chain tensioner.
 - ✓ Without pressure, the timing chain tensioner expands fully.

- Place two compensating disks or similar aids next to the piston of the timing chain tensioner. This should ensure that when pushed down, the piston does not fully withdraw.

Guideline

Thickness of the compensating disks	2 ... 2.5 mm (0.08 ... 0.098 in)
-------------------------------------	----------------------------------

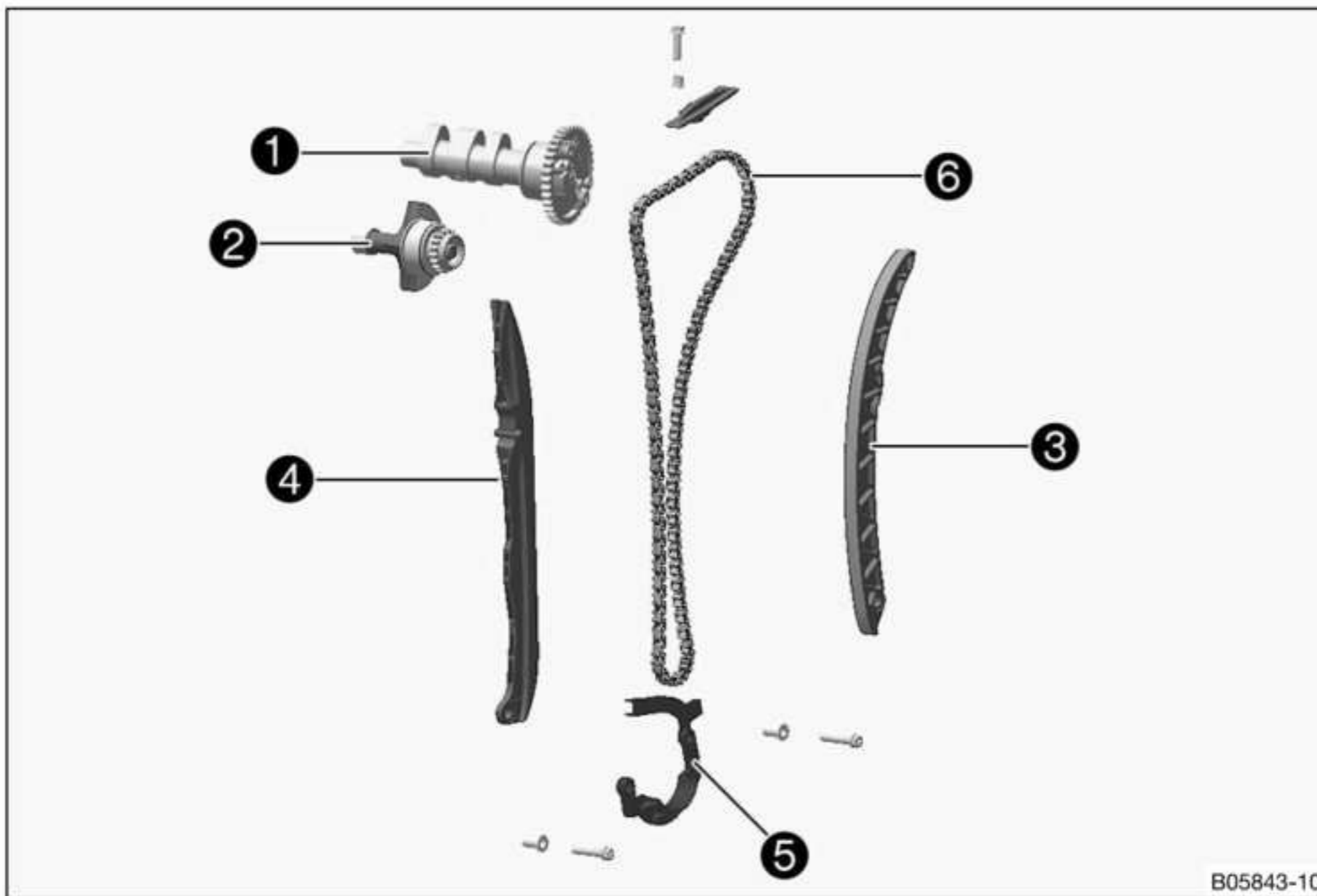
- Release the timing chain tensioner.
 - ✓ The latching system locks and the piston stops moving.

End position of piston after latching	3 mm (0.12 in)
---------------------------------------	----------------

i Info

This position is necessary for installation. If the timing chain tensioner is now pressed in once more (while it is installed) and then pulled out no more than halfway (preventing it from coming out fully), the latching system locks and the timing chain tensioner can no longer be compacted; this function is necessary to ensure sufficient tension of the timing chain, even at low oil pressure.

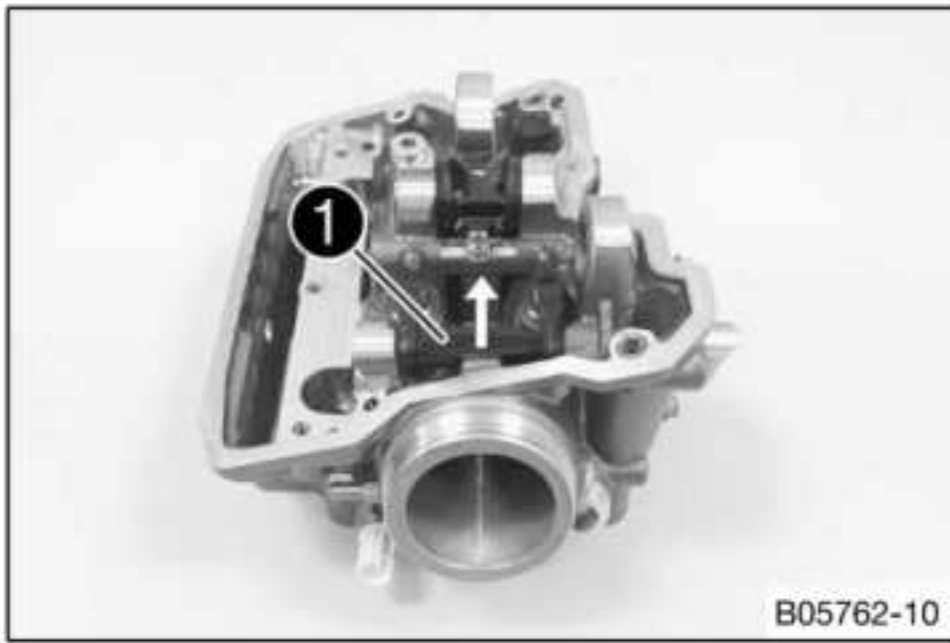
18.4.19 Checking the timing assembly



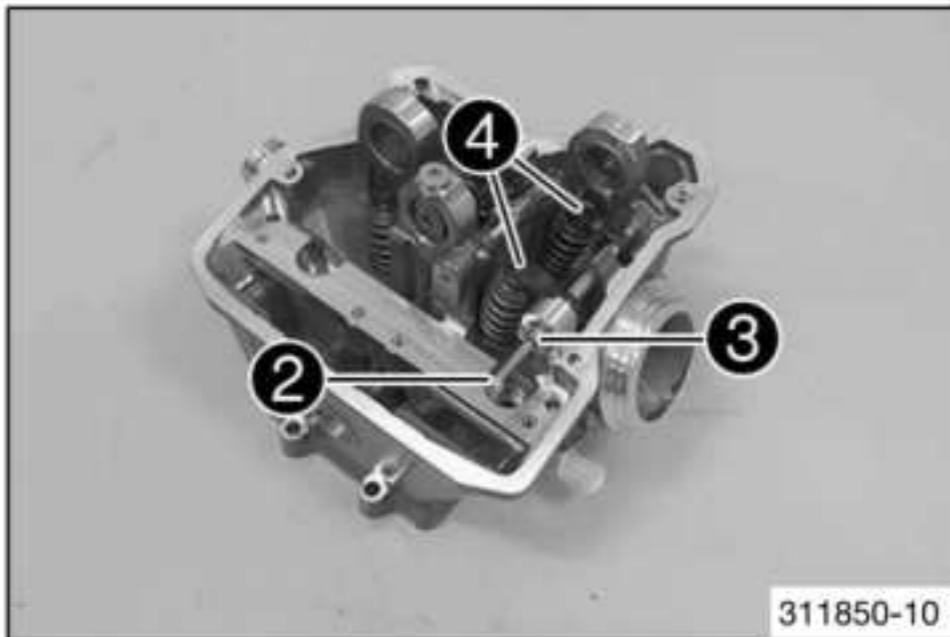
B05843-10

- Clean all parts well.
- Check camshaft **1** for damage and wear.
 - » If there is damage or wear:
 - Change the camshaft.
- Check balancer shaft **2** for damage and wear.
 - » If there is damage or wear:
 - Change the balancer shaft.
- Check timing chain tensioning rail **3** for damage and wear.
 - » If there is damage or wear:
 - Replace the timing chain tensioning rail.
- Check timing chain guide rail **4** for damage and wear.
 - » If there is damage or wear:
 - Replace the timing chain guide rail.
- Check timing chain securing guide **5** for damage and wear.
 - » If there is damage or wear:
 - Replace the timing chain securing guide.
- Check timing chain **6** for damage and wear.
 - » If there is damage or wear:
 - Change the timing chain.
- Check the timing chain links for smooth operation. Let the timing chain hang down freely.
 - » The chain links no longer align in a straight line:
 - Change the timing chain.

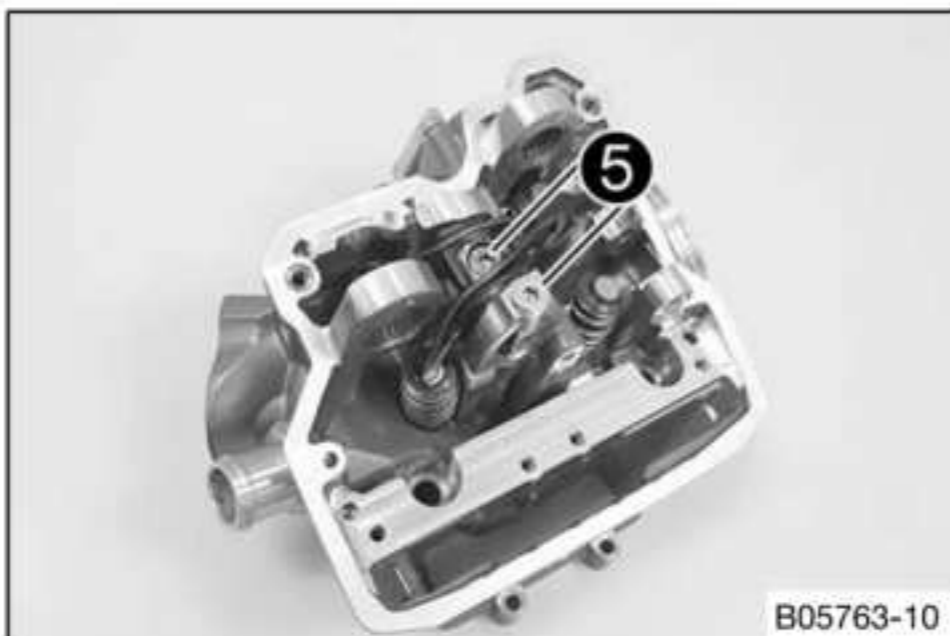
18.4.20 Demounting cam lever and rocker arm



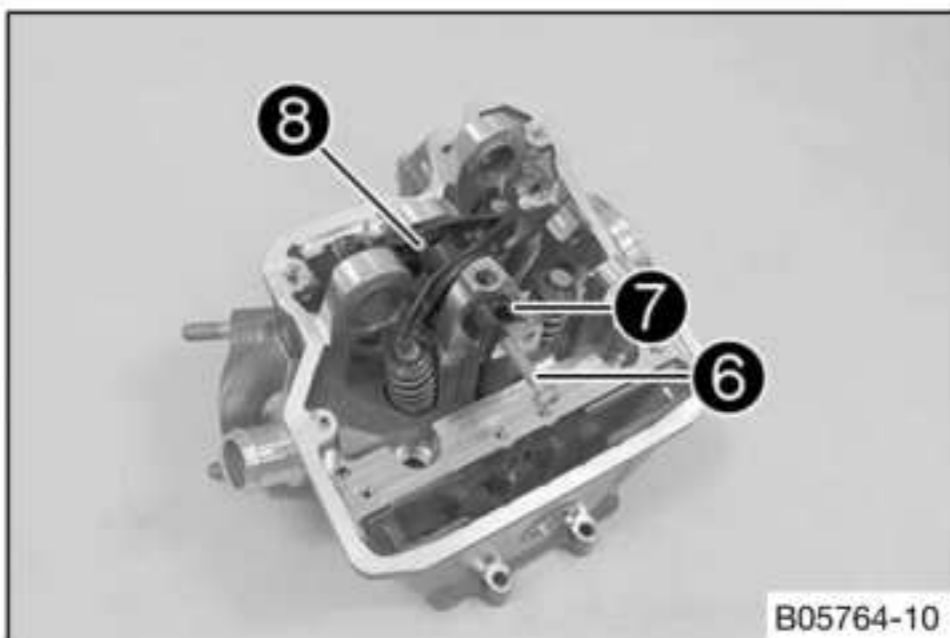
- Push cam lever clip **1** up and remove.



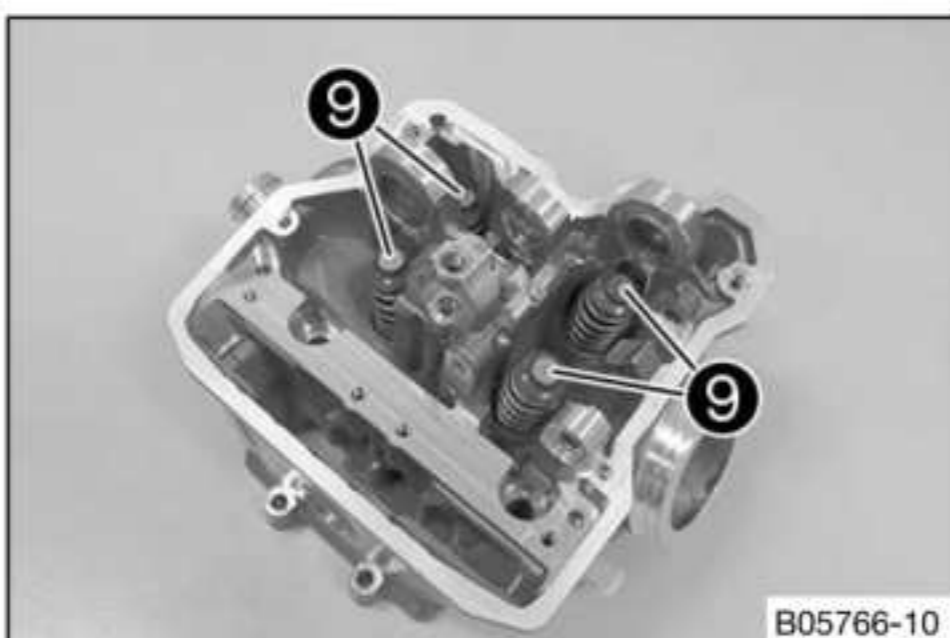
- Screw appropriate M4 screw **2** into cam lever shaft **3**..
Remove cam lever shaft.
- Take off cam lever **4**.



- Remove screws **5**.



- Screw a suitable M6 screw **6** into rocker arm shaft **7**.
Remove the rocker arm shaft.
- Take off rocker arm **8**.



- Take shims **9** out of the valve spring retainers and set them down corresponding to their installation position.

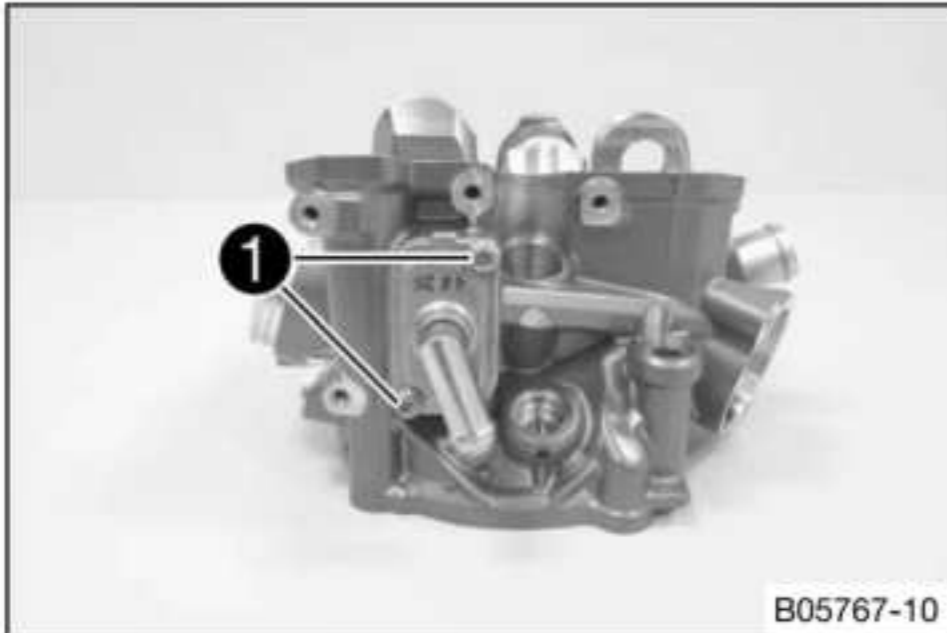
18.4.21 Changing camshaft bearing and balancer shaft bearing

Preparatory work

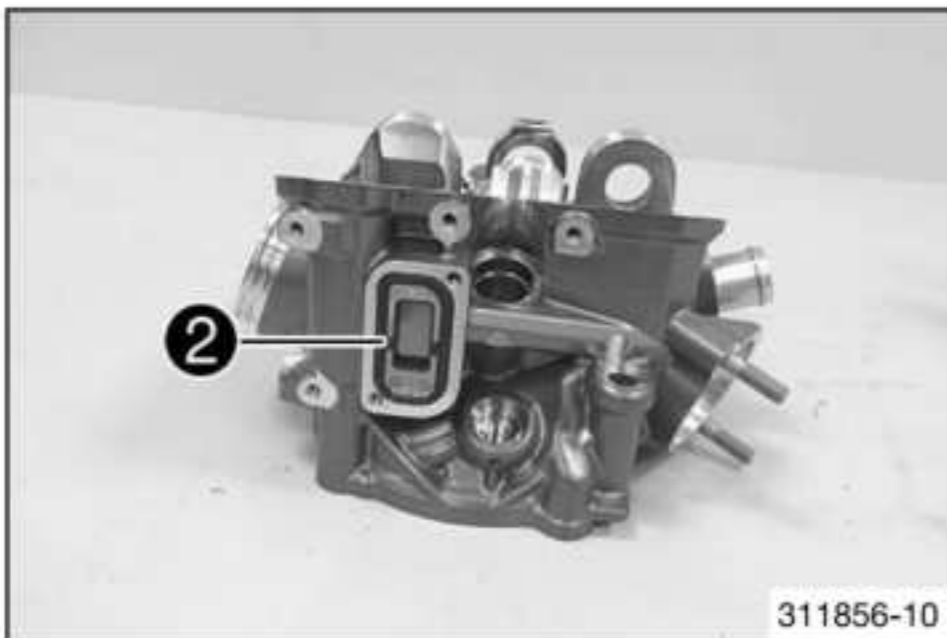
- Demount cam lever and rocker arm. (📖 p. 220)

Main work

- Remove screws ❶.
- Remove the cover.



- Remove SAS membrane ❷.



- Mount the cylinder head on the special tool.

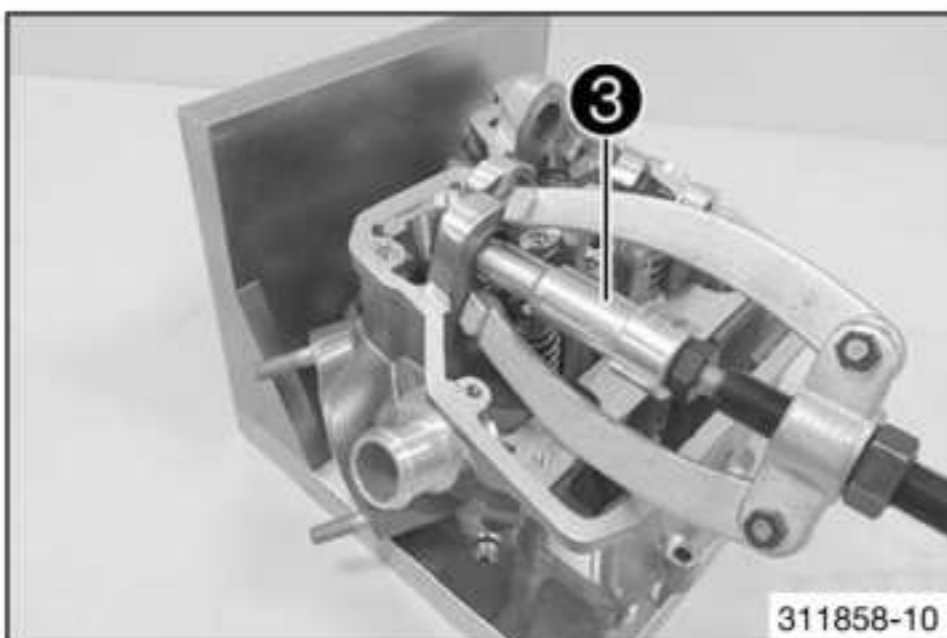
Clamping plate (75029050000) (📖 p. 389)



- Remove balancer shaft bearing using special tool ❸.

Internal bearing puller (15112018100) (📖 p. 382)
--

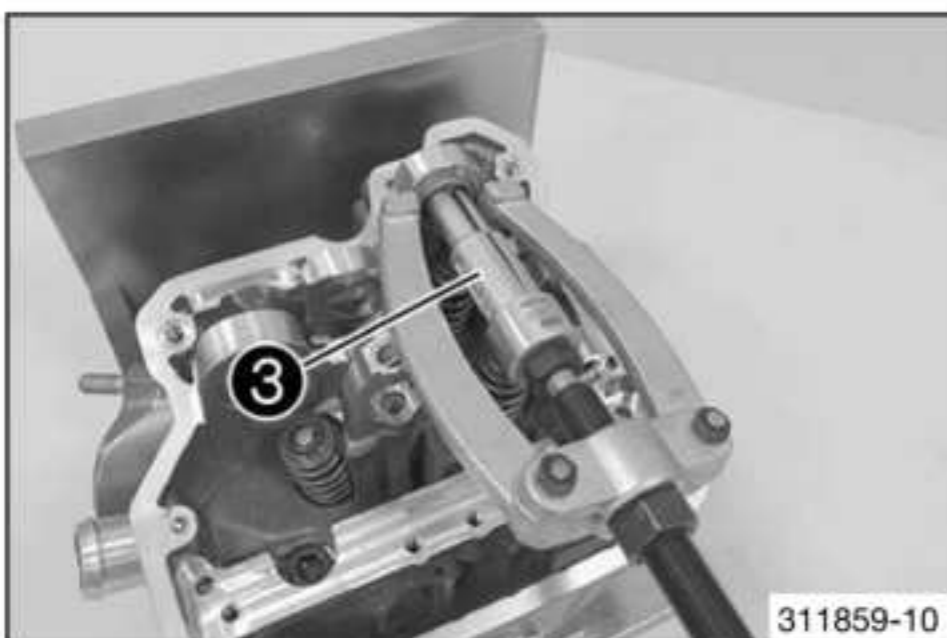
Bearing puller (15112017000) (📖 p. 381)

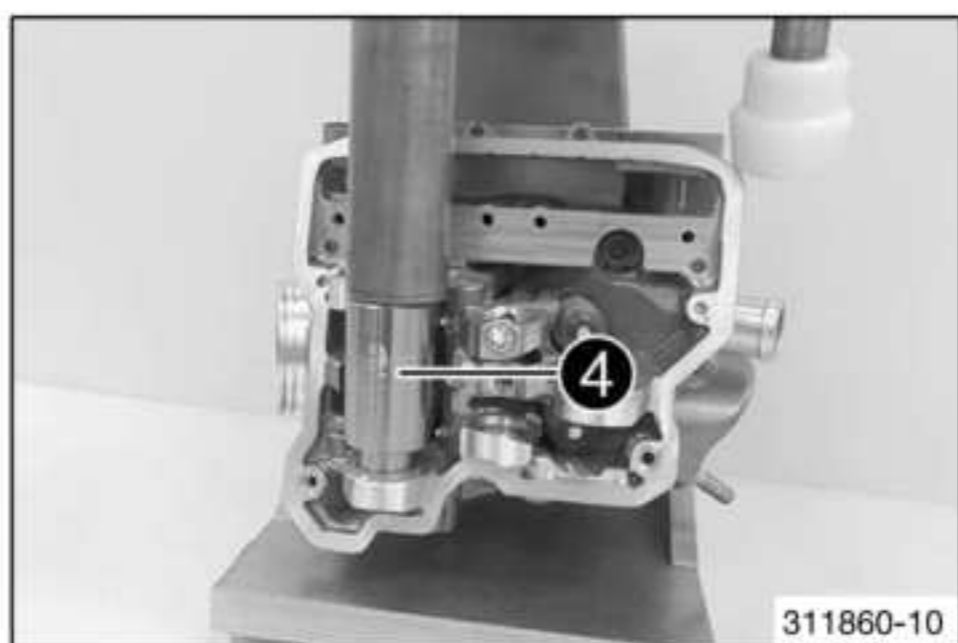


- Remove camshaft bearing using special tool ❸.

Internal bearing puller (15112018100) (📖 p. 382)
--

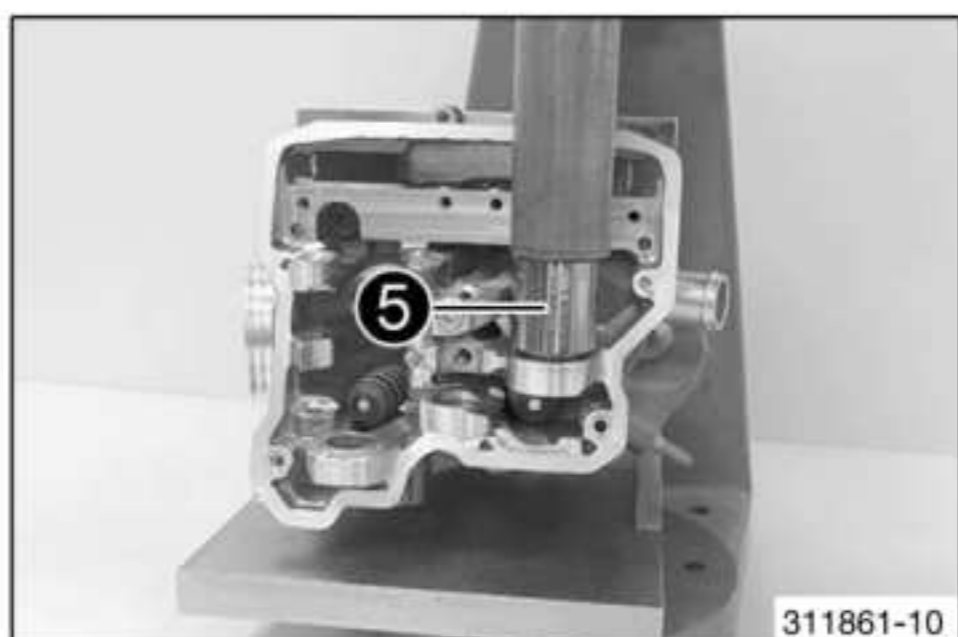
Bearing puller (15112017000) (📖 p. 381)





- Press the camshaft bearing in all the way using special tool ④.

Pressing tool (76629044030) (📖 p. 392)



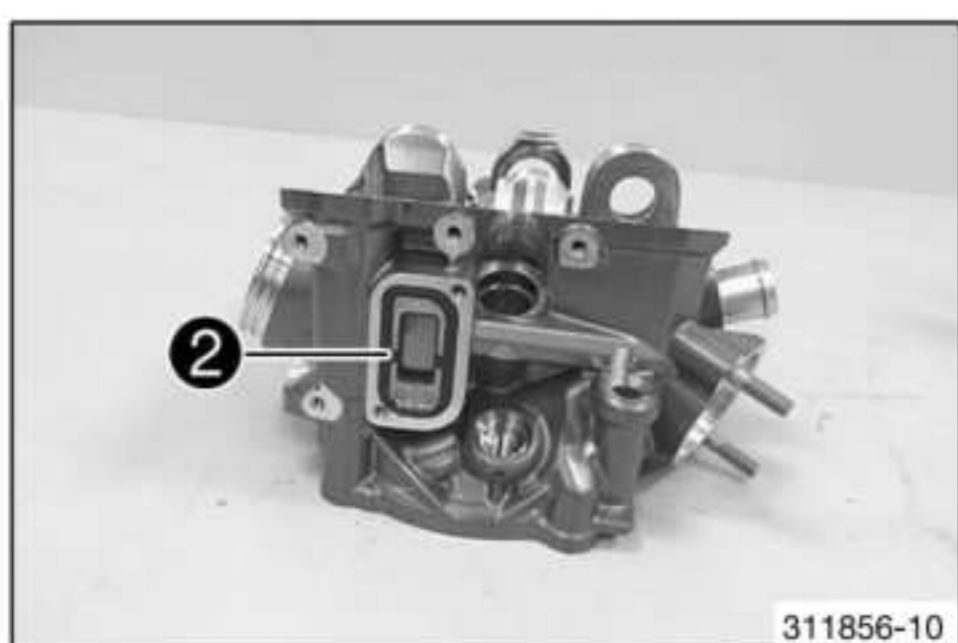
- Press the balancer shaft bearing in all the way using special tool ⑤.

Pressing tool (76629044020) (📖 p. 391)

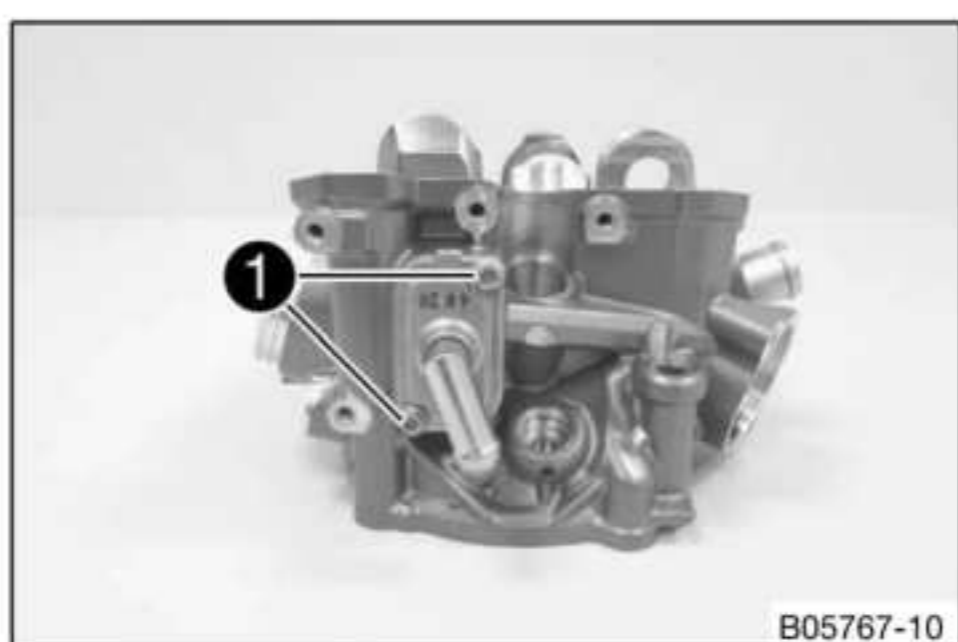


- Take off the cylinder head from the special tool.

Clamping plate (75029050000) (📖 p. 389)



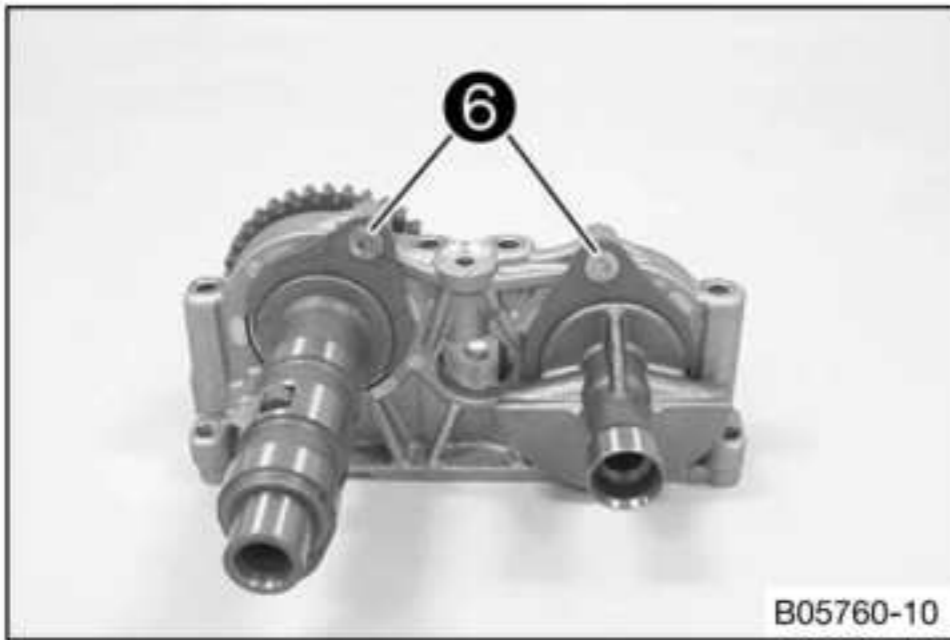
- Mount SAS membrane ②.



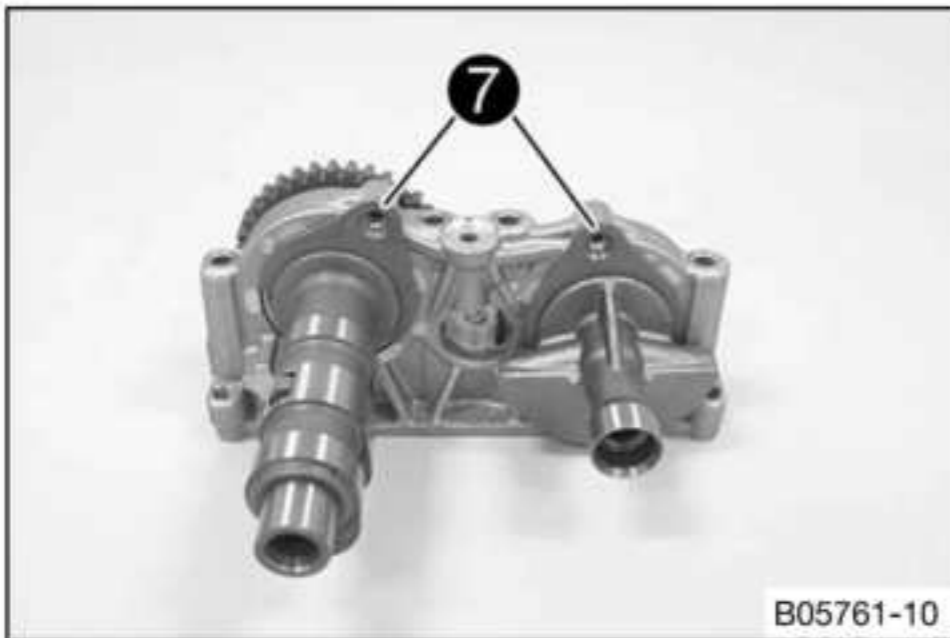
- Position the cover.
- Mount and tighten screws ①.

Guideline

Screws, secondary air system cover	M6x12	10 Nm (7.4 lbf ft) Loctite®243™
------------------------------------	-------	---



- Remove screws ⑥.



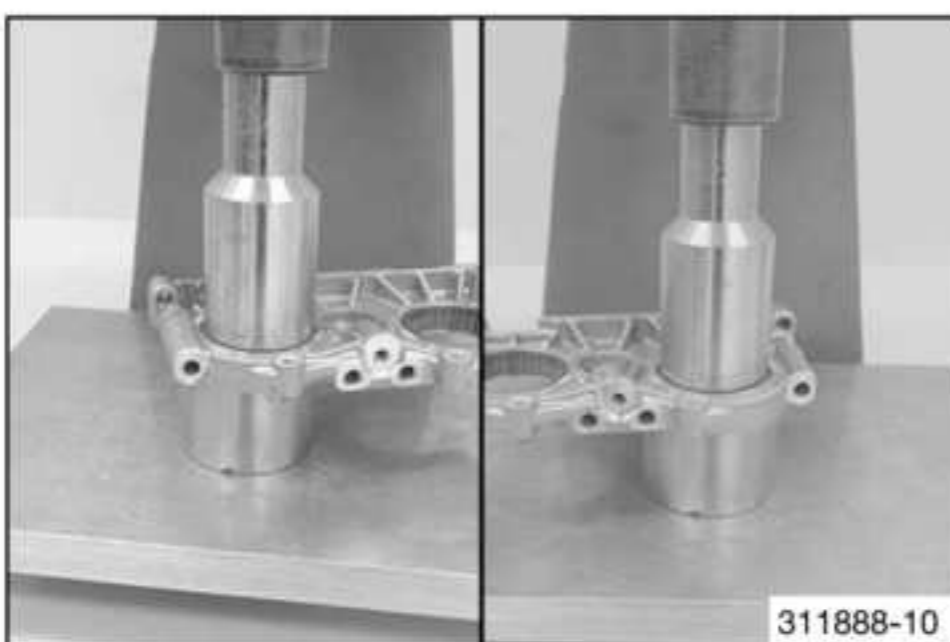
- Take off retaining bracket ⑦.



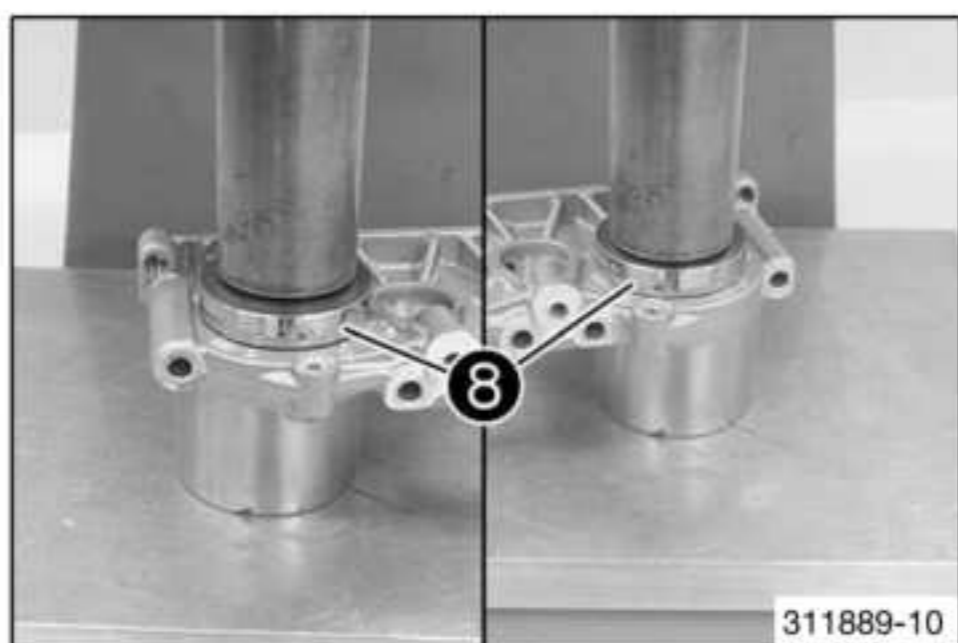
- Remove the camshaft.



- Remove balancer shaft.



- Press out camshaft bearing and balancer shaft bearing from the inside to the outside using the special tool.



- Press in camshaft bearing and the balancer shaft bearing all the way from the inside to the outside using special tool **8**.

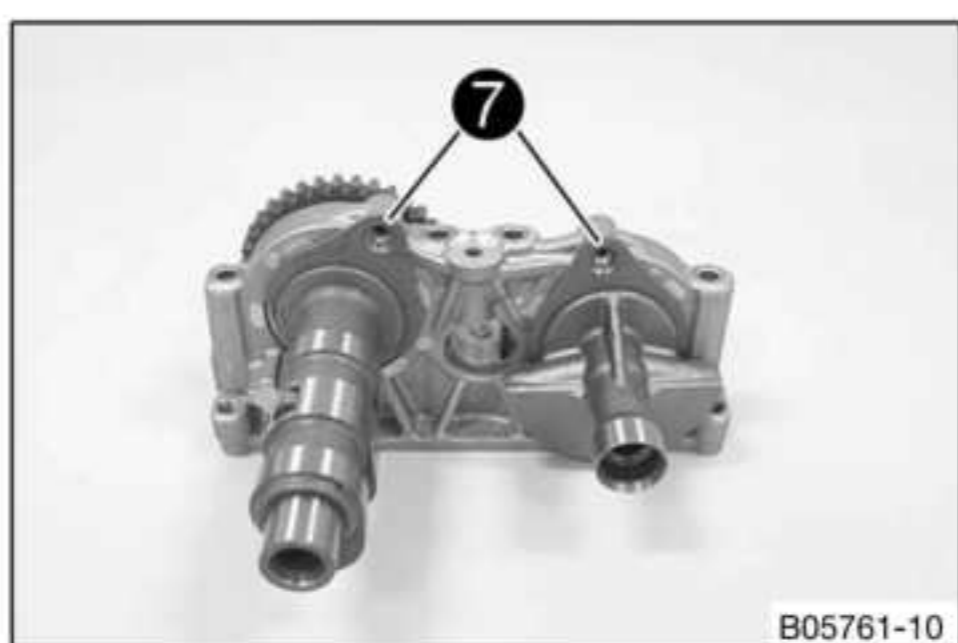
Pressing tool (76629044011) (📖 p. 391)



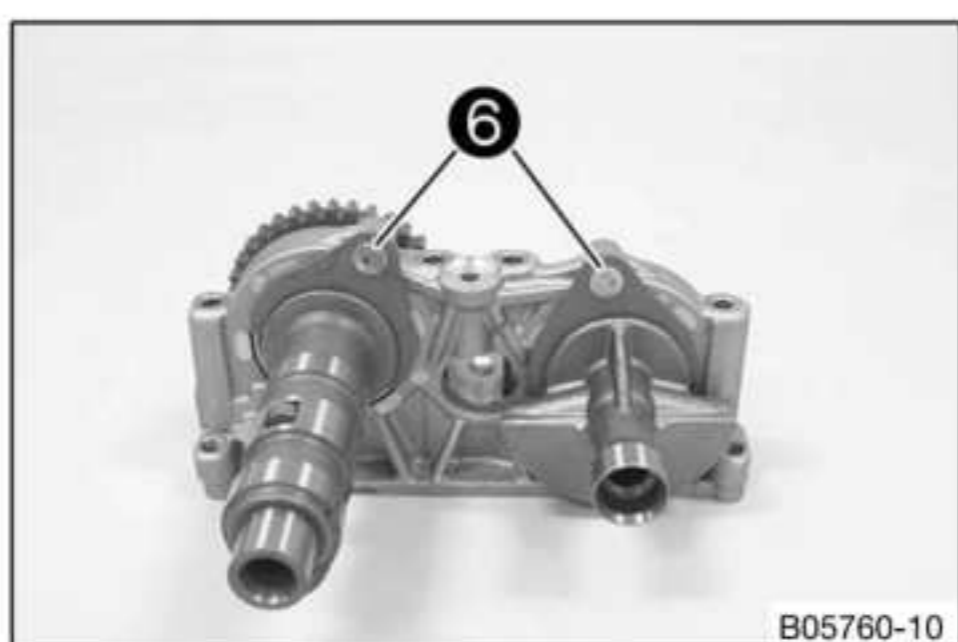
- Mount balancer shaft.



- Mount camshaft.



- Position retaining bracket **7**.



- Mount and tighten screws **6**.

Guideline

Screw, retaining bracket	M5	8 Nm (5.9 lbf ft) Loctite®243™
--------------------------	----	--

Finishing work

- Install cam lever and rocker arm. (📖 p. 228)

18.4.22 Removing the valves

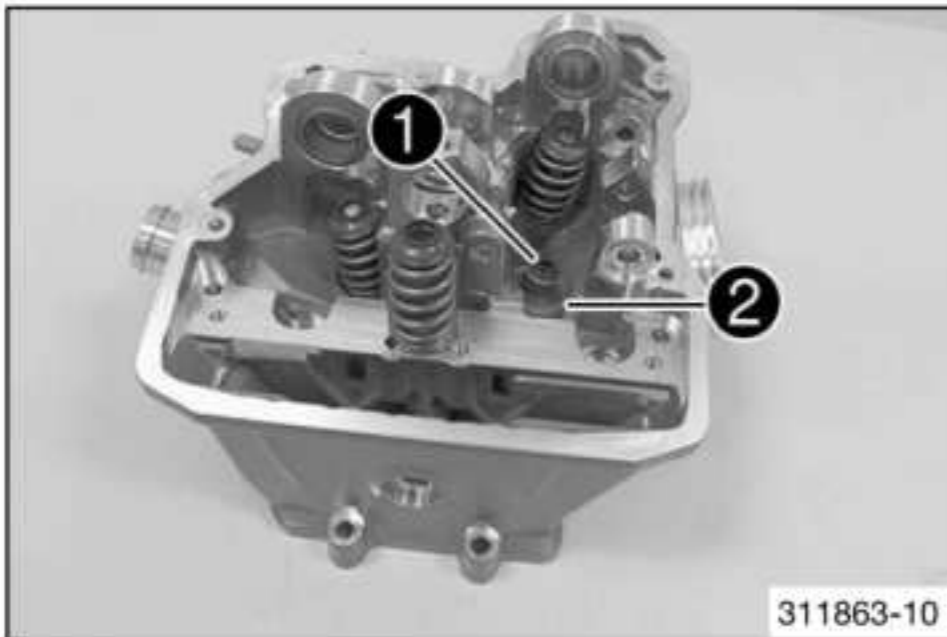


- Pre-tension the valve springs using the special tool.

Valve spring mounter (59029019000) (p. 384)

Insert for valve spring lever (79029060000) (p. 393)

- Remove the valve keys and release the tension on the valve springs.

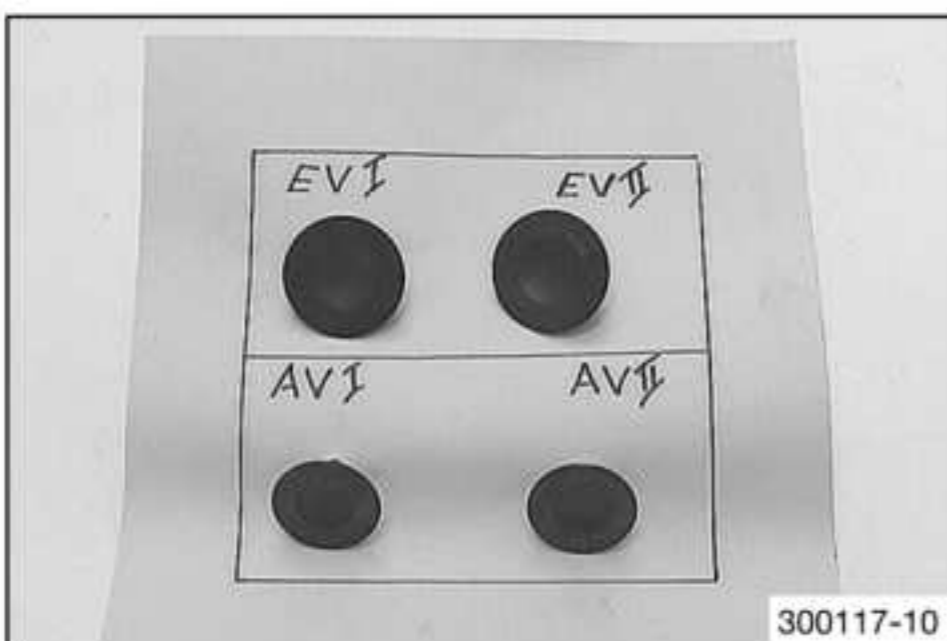


- Remove the valve spring retainer and valve springs.
- Mark the valve springs according to their normal built-in position.
- Pull the valve down out of the valve guide.

- Remove valve stem seal 1 with the special tool.

Valve stem seals plier (77229010000) (p. 392)

- Remove valve spring seat 2.



- Mark the valves corresponding to their installation position.

i Info
Place the valves in a carton corresponding to their installation position and label them.

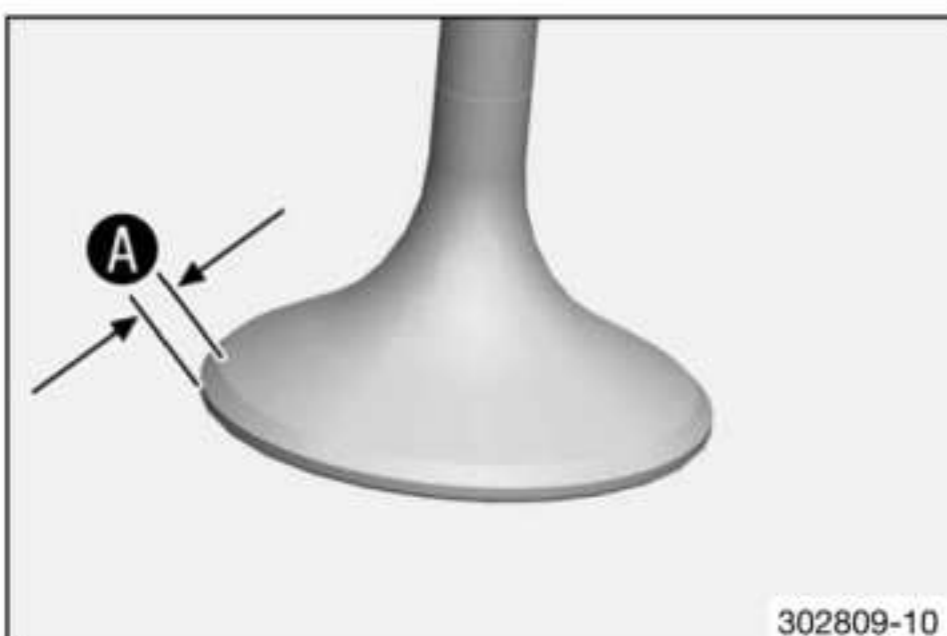
18.4.23 Checking the valves



- Check the run-out at the valve plate.

Valve - run-out	
On the valve plate	≤ 0.05 mm (≤ 0.002 in)

- » If the measured value does not equal the specified value:
 - Change the valve.



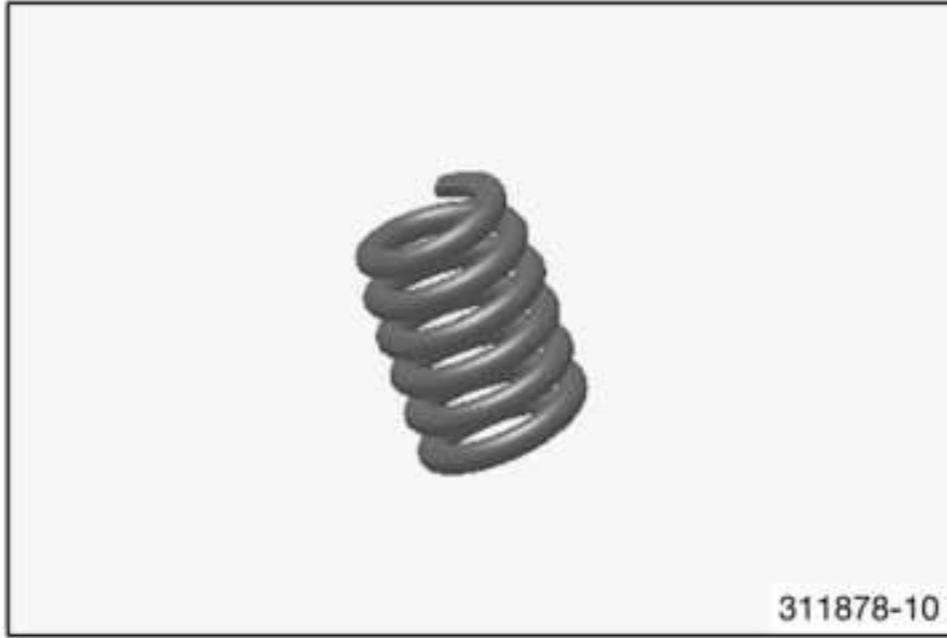
- Check sealing seat A on the valve.

Valve - sealing seat width	
Intake	1.60 mm (0.063 in)

Valve - sealing seat width	
Exhaust	2.00 mm (0.0787 in)

- » If the sealing area is not in the center of the valve seat or deviates from the specified value:
 - Machine the valve seat.

18.4.24 Checking valve springs

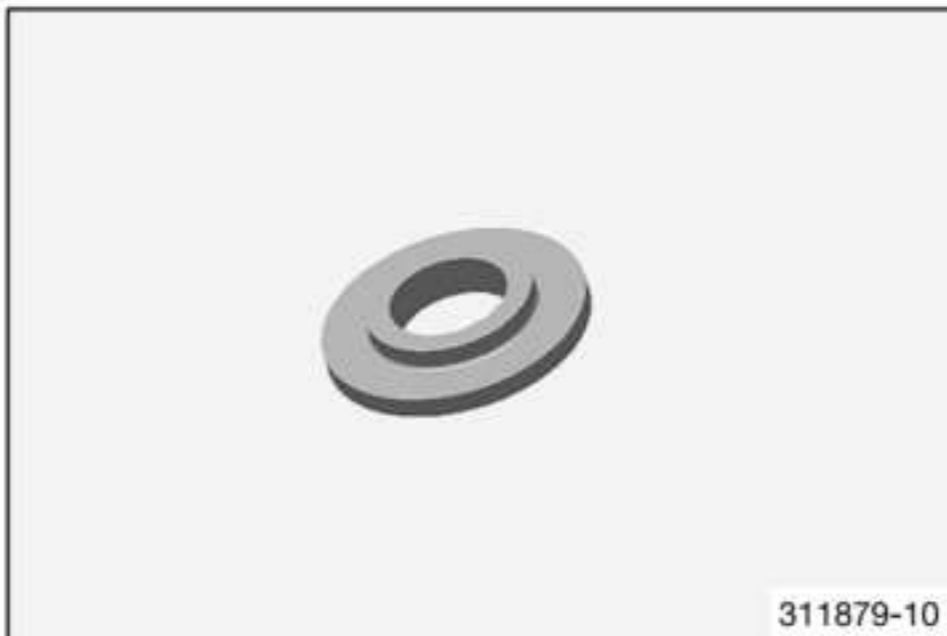


- Check the valve springs for fractures and wear (visual check).
 - » If the valve spring is fractured or worn:
 - Change the valve spring.
- Measure the valve spring lengths.

Valve spring	
Minimum length (without valve spring seat)	40.5 mm (1.594 in)

- » If the measured value does not equal the specified value:
 - Change the valve spring.

18.4.25 Checking valve spring retainer

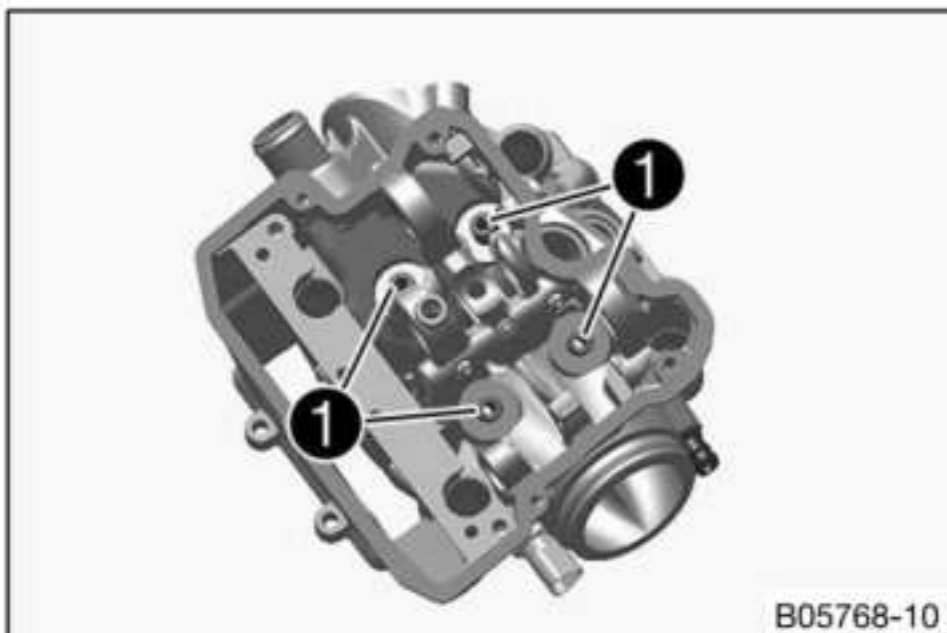


- Check the valve spring retainer for fractures and wear (visual check).
 - » If the valve spring retainer is fractured or worn:
 - Change the valve spring retainer.
- Measure the thickness of the valve spring retainer.

Valve spring cap - thickness	2.4 ... 2.5 mm (0.094 ... 0.098 in)
------------------------------	-------------------------------------

- » If the measured value does not equal the specified value:
 - Change the valve spring retainer.

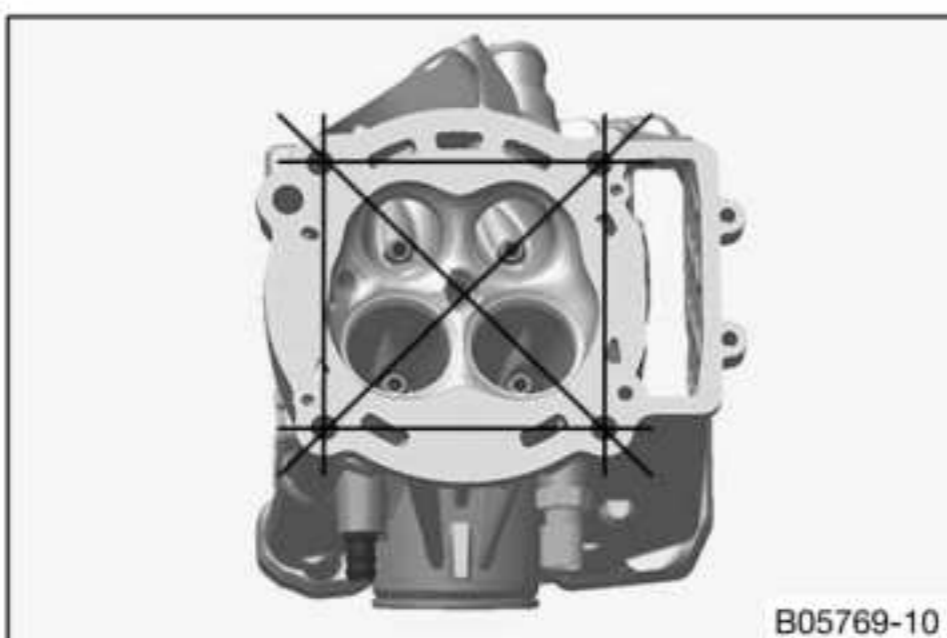
18.4.26 Checking the cylinder head



- Check valve guides **1** with the special tool.

Limit plug gauge (59029026006) (p. 384)

- » If the special tool is easy to insert into the valve guide:
 - Change the valve guide and valve.
- Check the sealing area of the spark plug thread and the valve seats for damage and cracking.
 - » If there is damage or cracking:
 - Change the cylinder head.

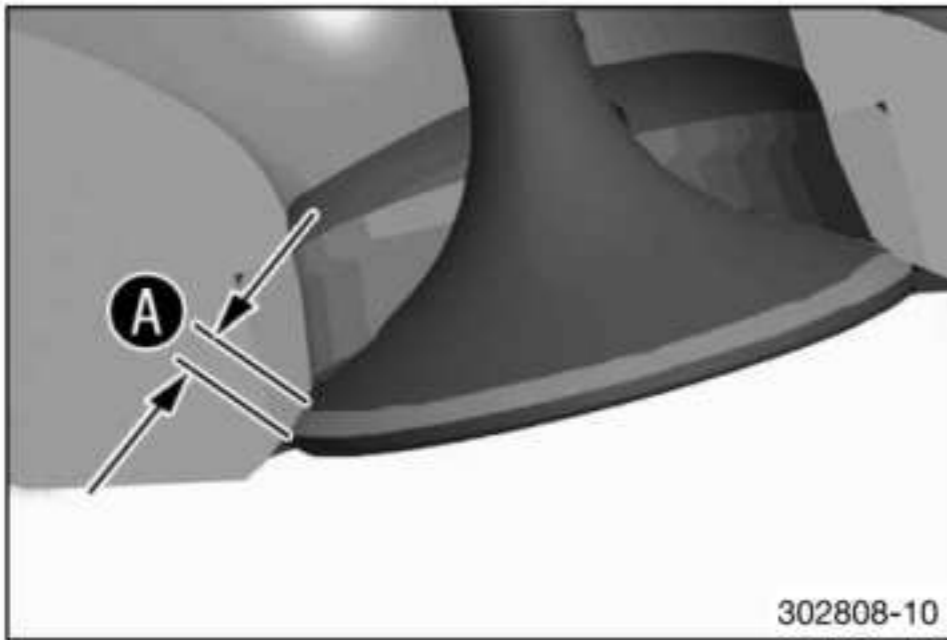


- Check the sealing area of the cylinder for distortion using a straight edge and the special tool.

Feeler gauge (59029041100) (p. 384)

Cylinder/cylinder head - sealing area distortion	≤ 0.10 mm (≤ 0.0039 in)
--	------------------------------------

- » If the measured value does not equal the specified value:
 - Change the cylinder head.



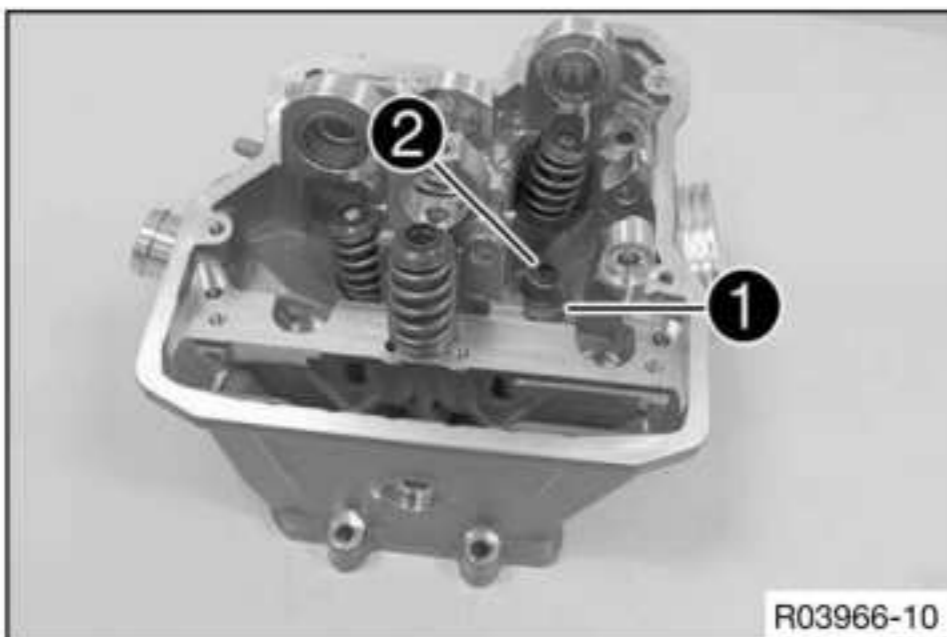
- Check sealing seat **A** of the valves.

Valve - sealing seat width	
Intake	1.60 mm (0.063 in)

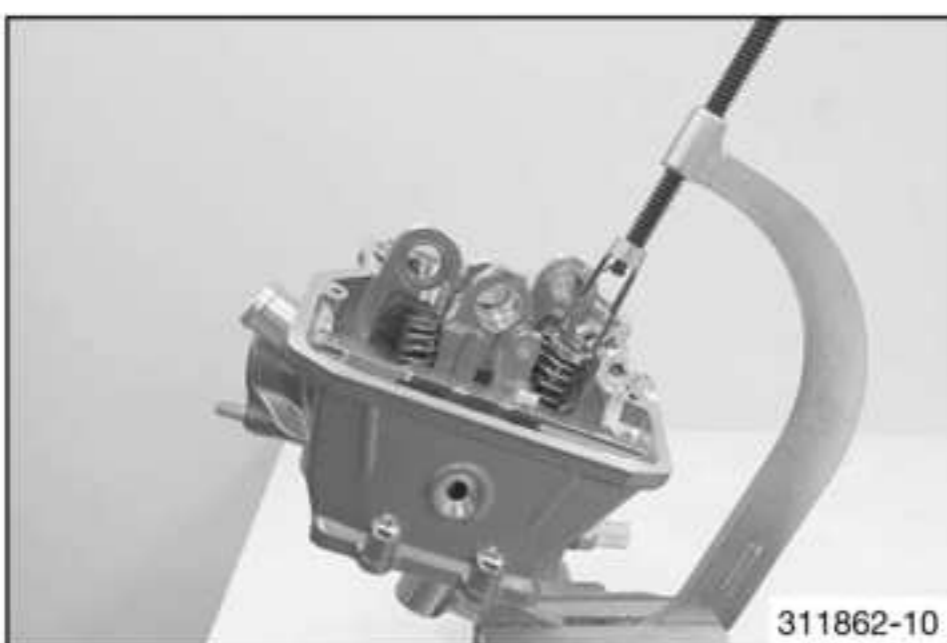
Valve - sealing seat width	
Exhaust	2.00 mm (0.0787 in)

- » If the measured value does not equal the specified value:
 - Machine the valve seat.
- Blow compressed air through all oil channels and check that they are clear.

18.4.27 Installing the valves

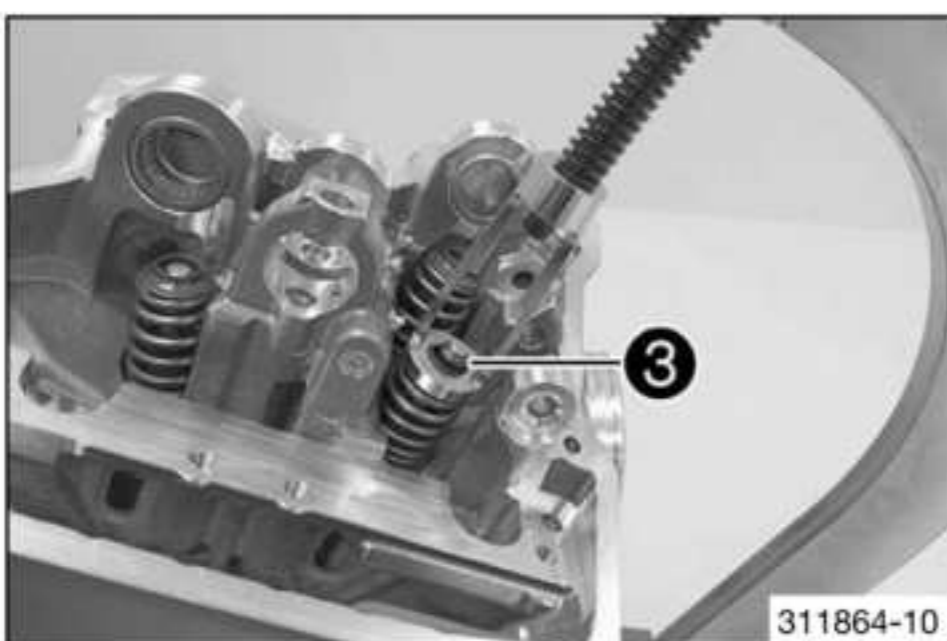


- Position valve spring seat **1**.
- Mount valve stem seal **2**.
- Mount the valve corresponding to its installation position.
- Mount the valve spring retainers.



- Tension the valve spring with a special tool.

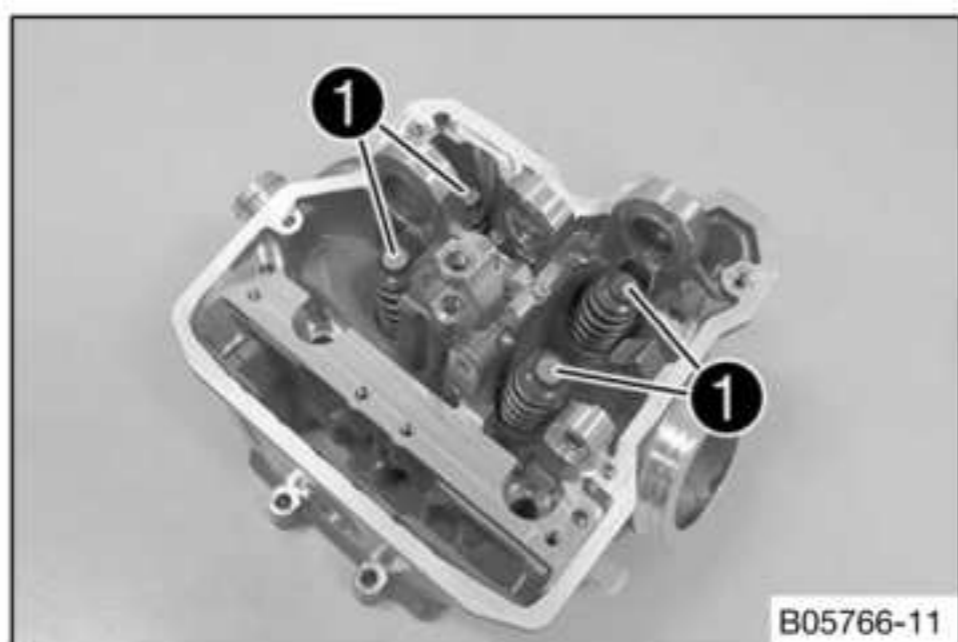
Valve spring mouter (59029019000) (📖 p. 384)
Insert for valve spring lever (79029060000) (📖 p. 393)



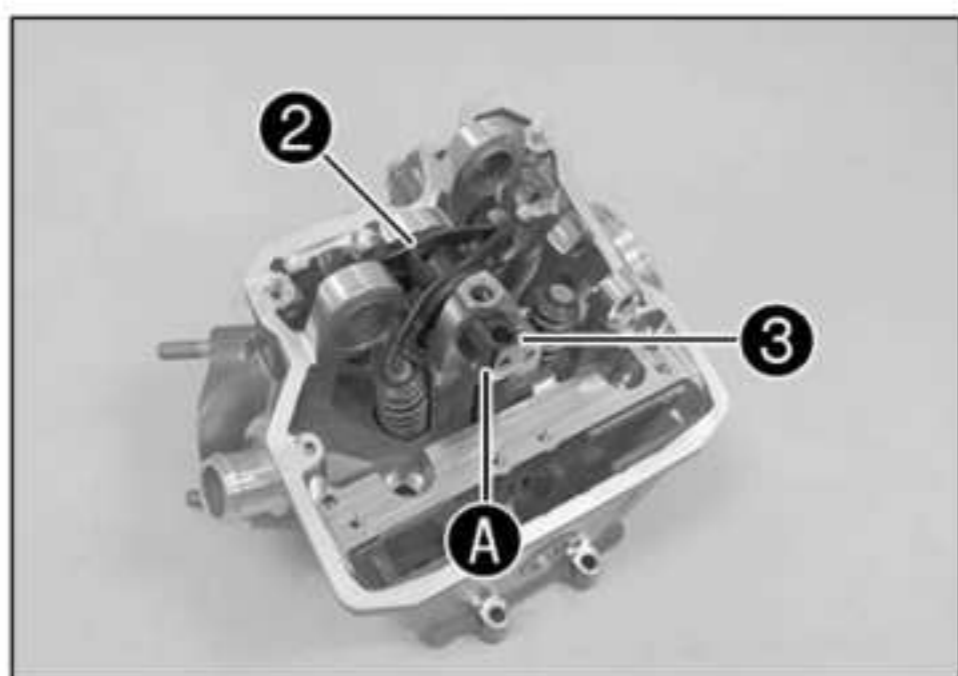
- Mount valve keys **3**.

i Info
 When mounting the valve keys, check that they are seated correctly; preferably, fix the valve keys to the valve with a little grease.

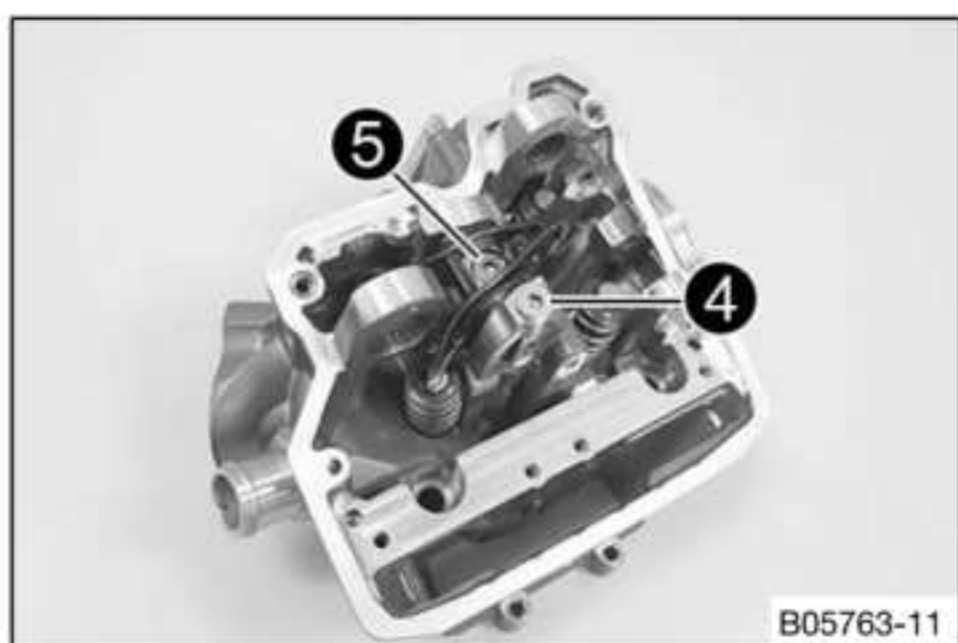
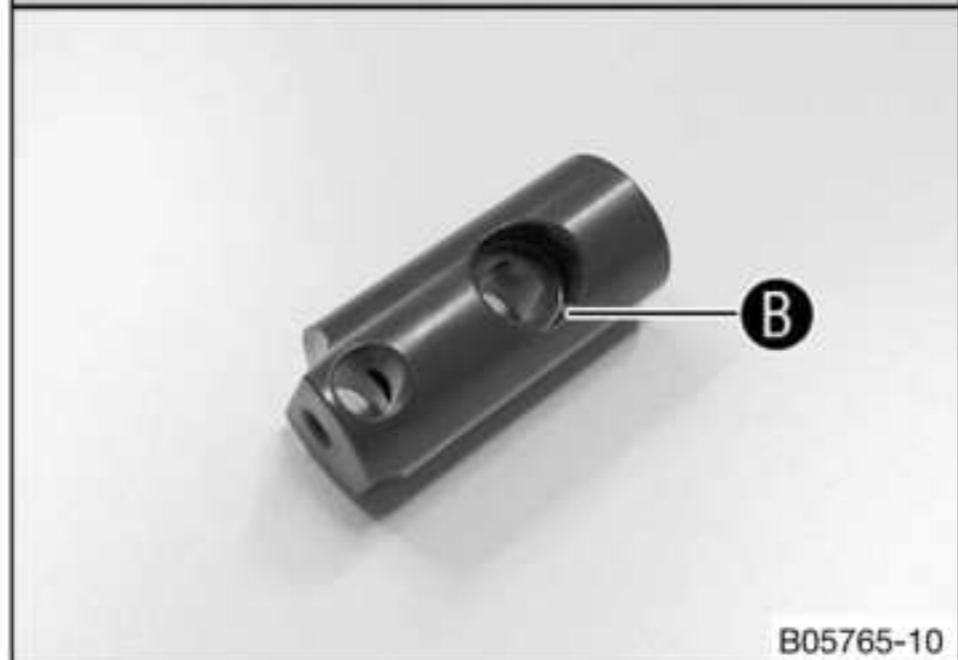
18.4.28 Installing cam lever and rocker arm



- Place shims **1** into the valve spring retainers according to their normal built-in position.



- Position rocker arm **2** and mount rocker arm shaft **3**.
 - ✓ Large recess **A** must face the exhaust side.
 - ✓ Dip **B** in the rocker arm shaft faces upward.



- Mount and tighten screw **4**.

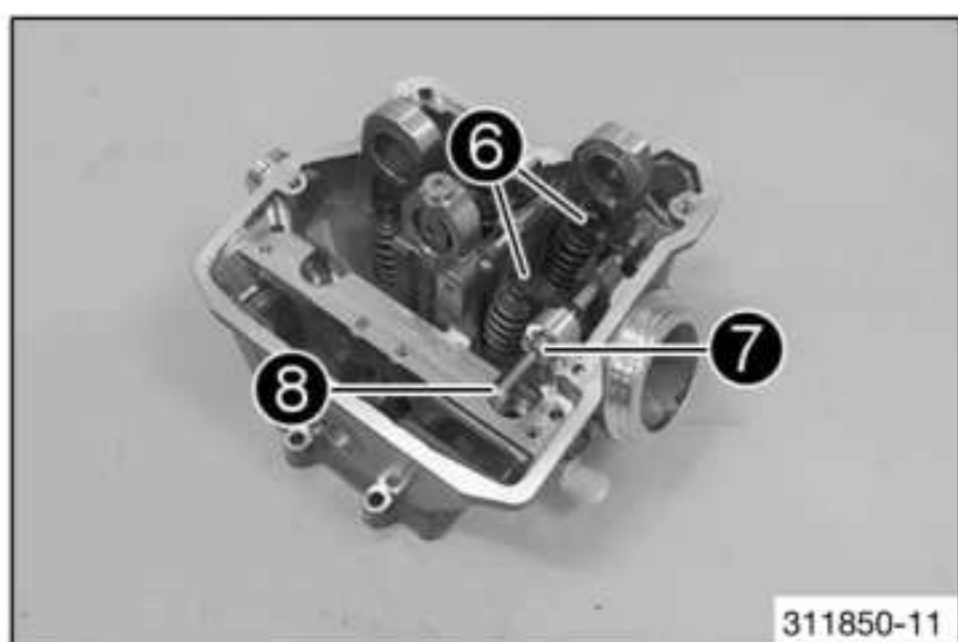
Guideline

Screw, rocker arm shaft	M8x55	15 Nm (11.1 lbf ft)
-------------------------	-------	---------------------

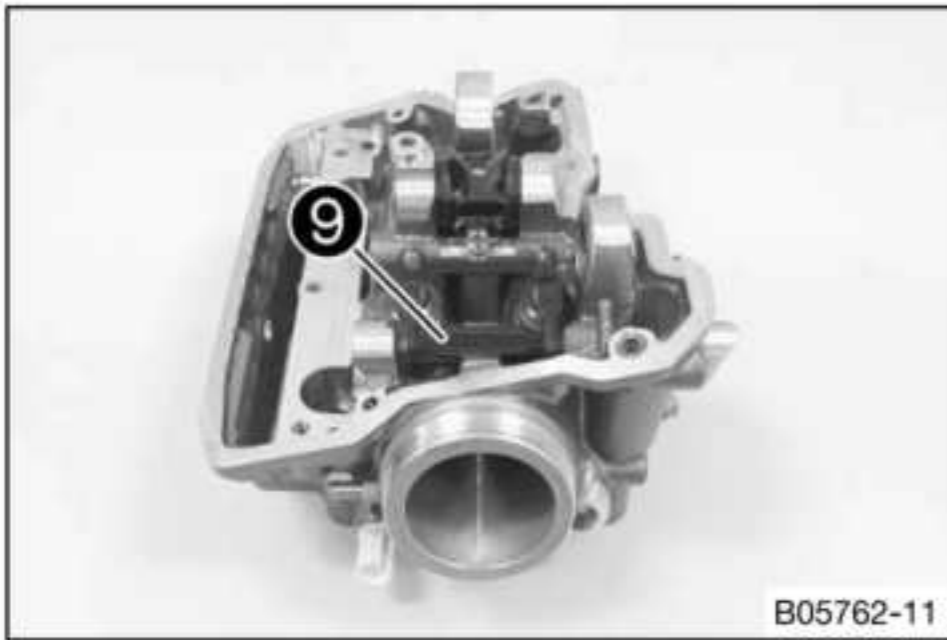
- Mount and tighten screw **5**.

Guideline

Screw, rocker arm shaft	M8x40	15 Nm (11.1 lbf ft)
-------------------------	-------	---------------------

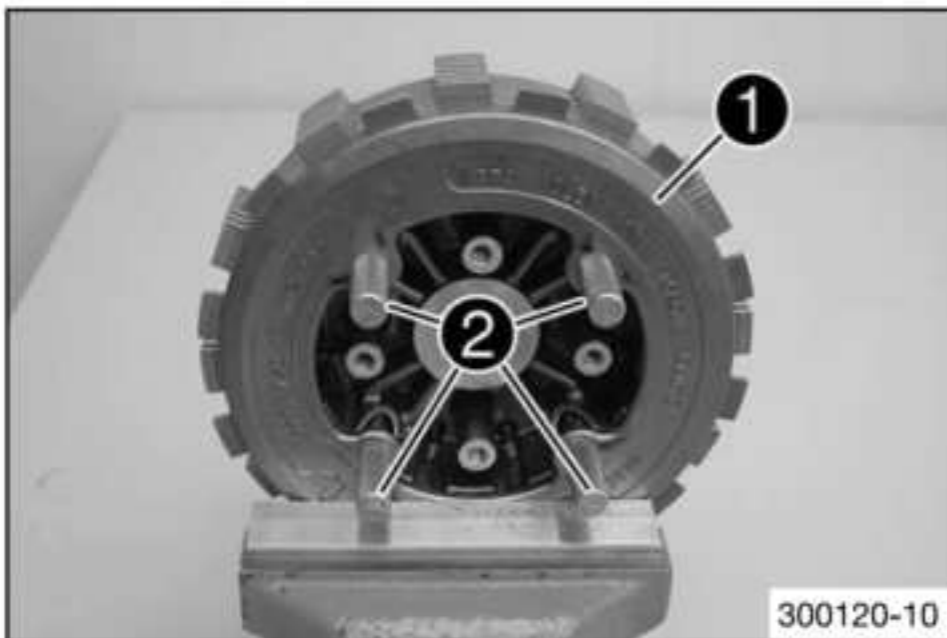


- Position cam lever **6** and mount cam lever shaft **7**.
- Remove screw **8**.



- Mount cam lever clip 9.

18.4.29 Disassembling the antihopping clutch

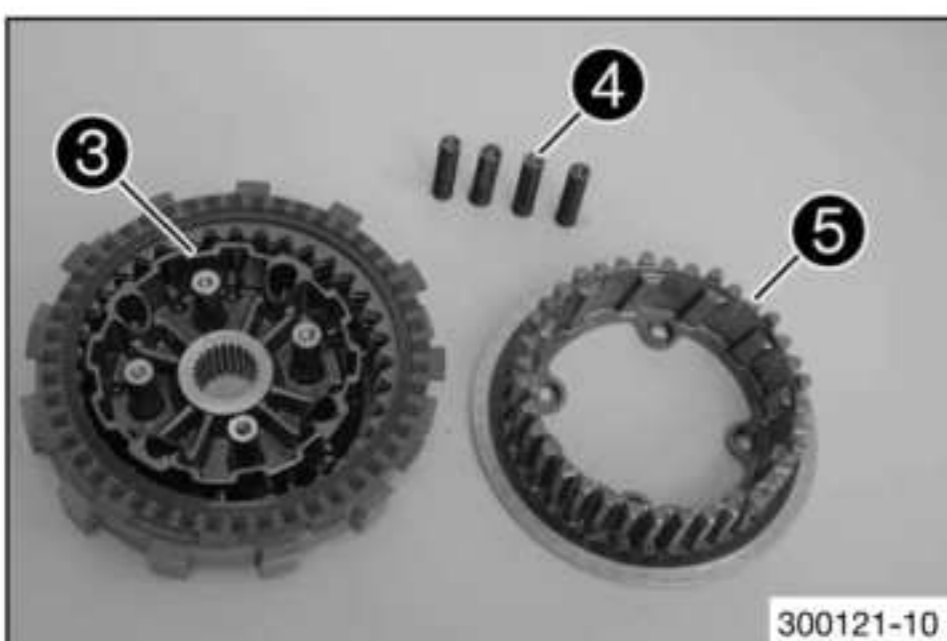


- Clamp clutch 1 into a vise.

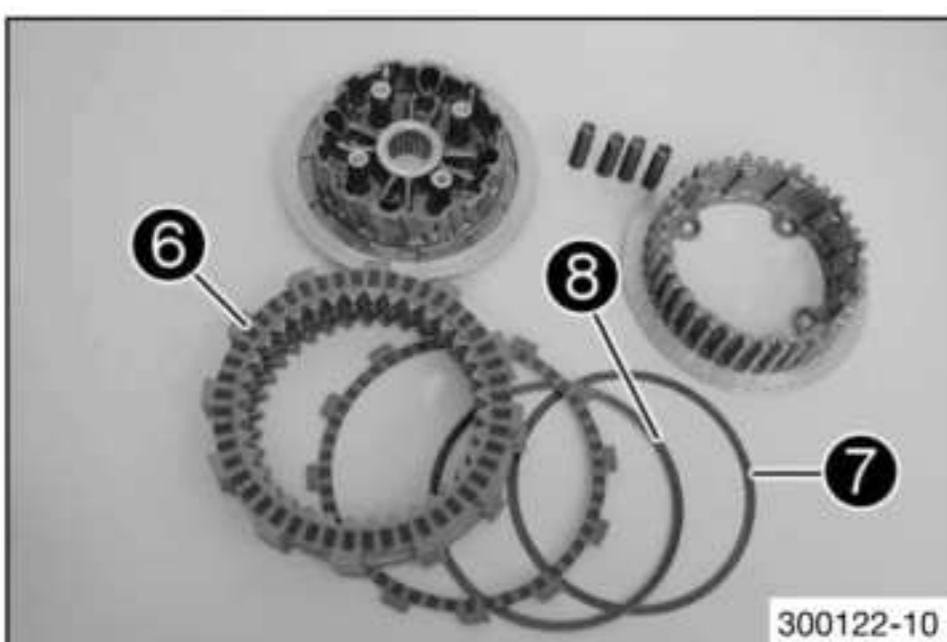
Guideline

Use soft jaws.

- Carefully loosen special tool 2 in steps and remove it.



- Take the clutch out of the vise and place it on a clean workbench with the outside inner clutch hub 5 facing downward.
- Remove inner clutch hub 3 and release springs 4 from the outer clutch hub 5.

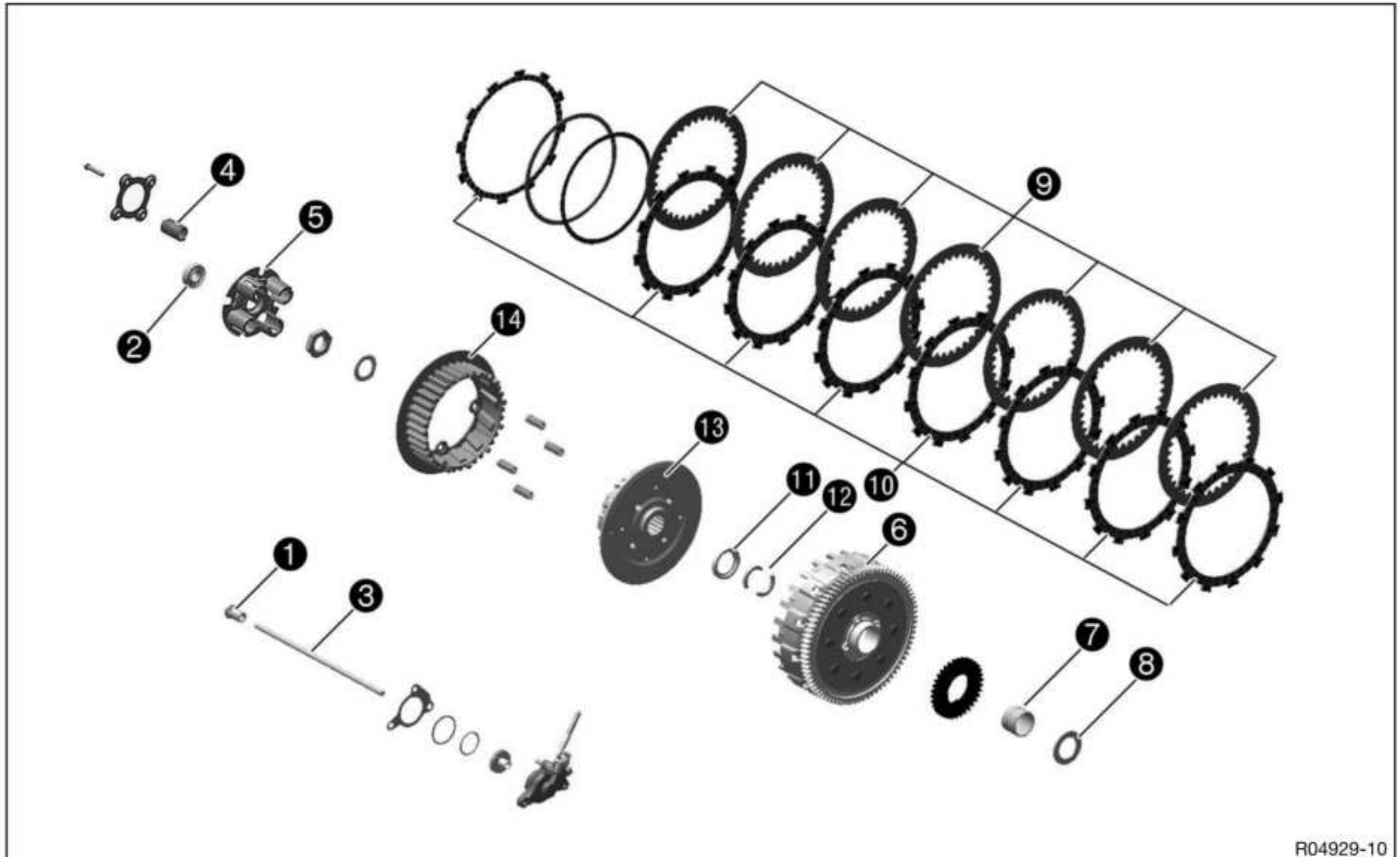


- Take off the clutch facing discs 6 from the inner clutch hub.
- Remove pretension ring 7 and support ring 8.
- Clean all parts well.
- Check the clutch. (📖 p. 229)

18.4.30 Checking the clutch

Preparatory work

- Disassemble the antihopping clutch. (📖 p. 229)



R04929-10

Main work

- Check clutch throw-out **1** for damage and wear.
 - » If there is damage or wear:
 - Change the clutch push rod.
- Check axial bearing **2** for damage and wear.
 - » If there is damage or wear:
 - Change the axial bearing.
- Place the clutch push rod **3** 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 **4**.

Clutch spring - length	31.5 ... 33.5 mm (1.24 ... 1.319 in)
------------------------	--------------------------------------

- » If the clutch spring length is shorter than specified:
 - Change all clutch springs.
- Check the contact surface of clutch pressure cap **5** 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 **6** for wear.

Clutch basket - contact surface of clutch facing discs	≤ 0.5 mm (≤ 0.02 in)
--	----------------------

- » If the thrust surface exhibits excessive wear:
 - Change the clutch facing discs and the clutch basket.
- Check needle bearing **7** and supporting plate **8** for damage and wear.
 - » If there is damage or wear:
 - Change the needle bearing and supporting plate.
- Check intermediate clutch discs **9** for damage and wear.

- » If the intermediate clutch discs are not level and are pitted:
 - Change all intermediate clutch discs.
- Check clutch facing discs 10 for discoloration and scoring.
 - » If there is discoloration or scoring:
 - Change all clutch facing discs.
- Check the thickness of clutch facing discs 10.

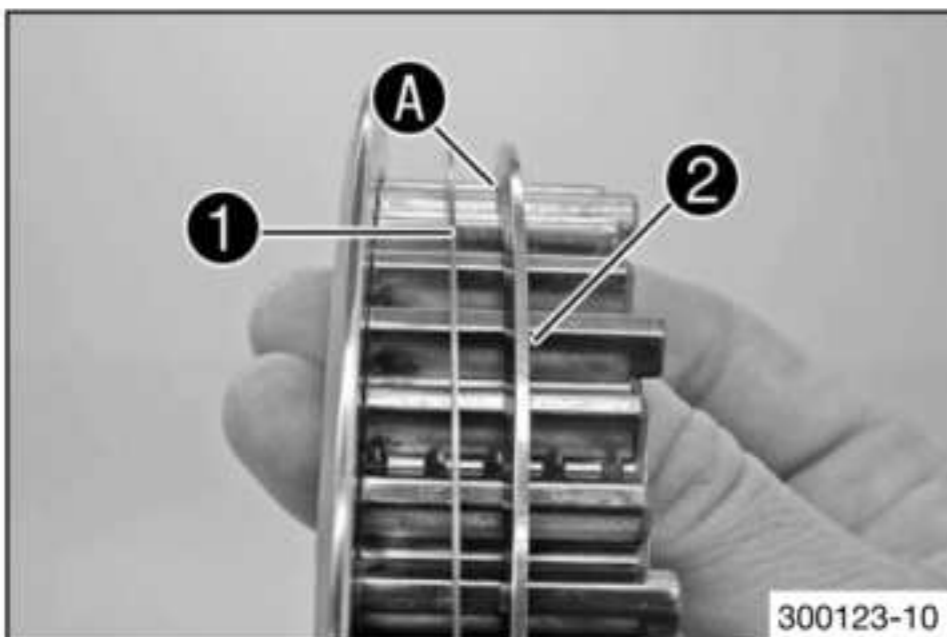
Clutch facing disc - thickness	≥ 2.5 mm (≥ 0.098 in)
--------------------------------	-----------------------

- » If the clutch facing disc does not meet specifications:
 - Change all clutch facing discs.
- Check stepped washer 11 for damage and wear.
 - » If there is damage or wear:
 - Change the stepped washer.
- Check half washers 12 for damage and wear.
 - » If there is damage or wear:
 - Change the half washers.
- Check inner clutch hub 13 for damage and wear.
 - » If there is damage or wear:
 - Change the inner clutch hub.
- Check outer clutch hub 14 for damage and wear.
 - » If there is damage or wear:
 - Change the outer clutch hub.

Finishing work

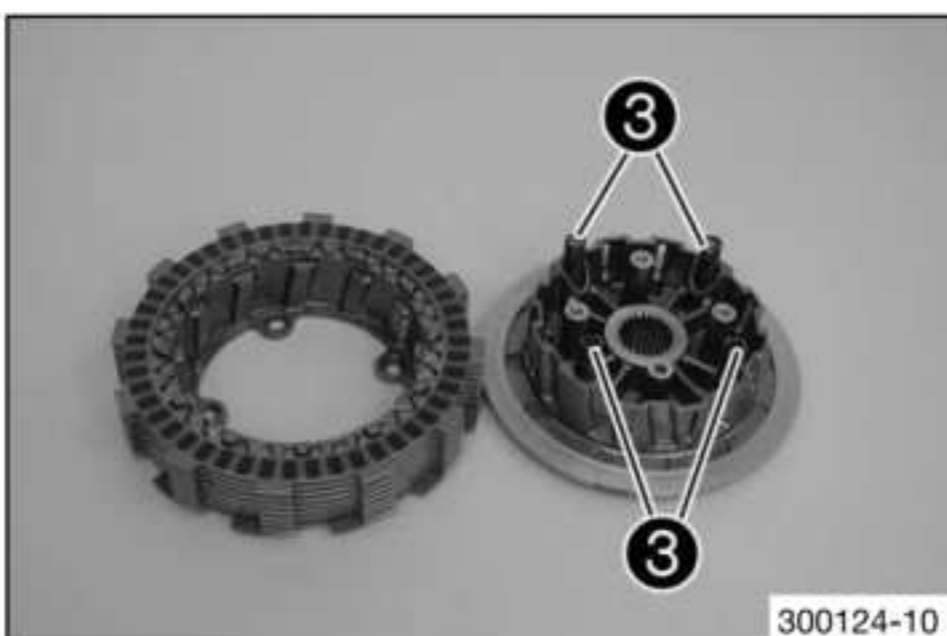
- Preassemble the antihopping clutch. (📖 p. 231)

18.4.31 Preassembling the antihopping clutch

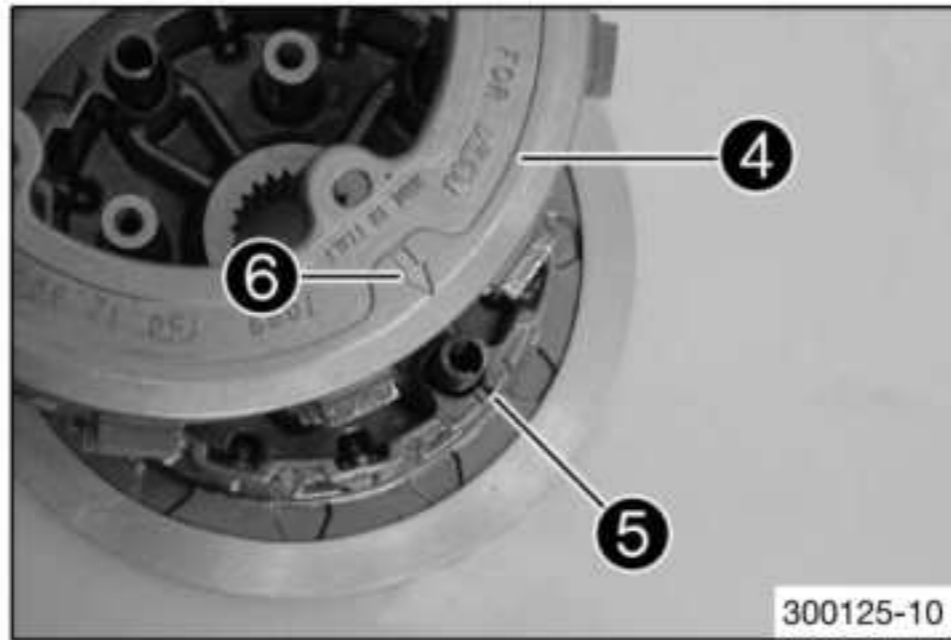


- Thoroughly oil the clutch facing discs.
- Push the support ring 1 and the pretension ring 2 on to the outer clutch hub.

i Info
The pretension ring must be installed so that it is flush with the inner edge A on the support ring.



- Position the trimmed clutch facing disc with the recess for the pretension ring on the outer clutch hub.
- Beginning with the coated intermediate clutch disc, position all further clutch facing discs and intermediate clutch discs alternately.
- Position the release springs 3.



- Push on the outer clutch hub **4** and pay attention to the markings.
- ✓ The arrow **6** of the outer clutch hub must point to the notch **5** of the inner clutch hub.
- Tightly press both inner clutch hubs together and have an assistant screw in the special tool.

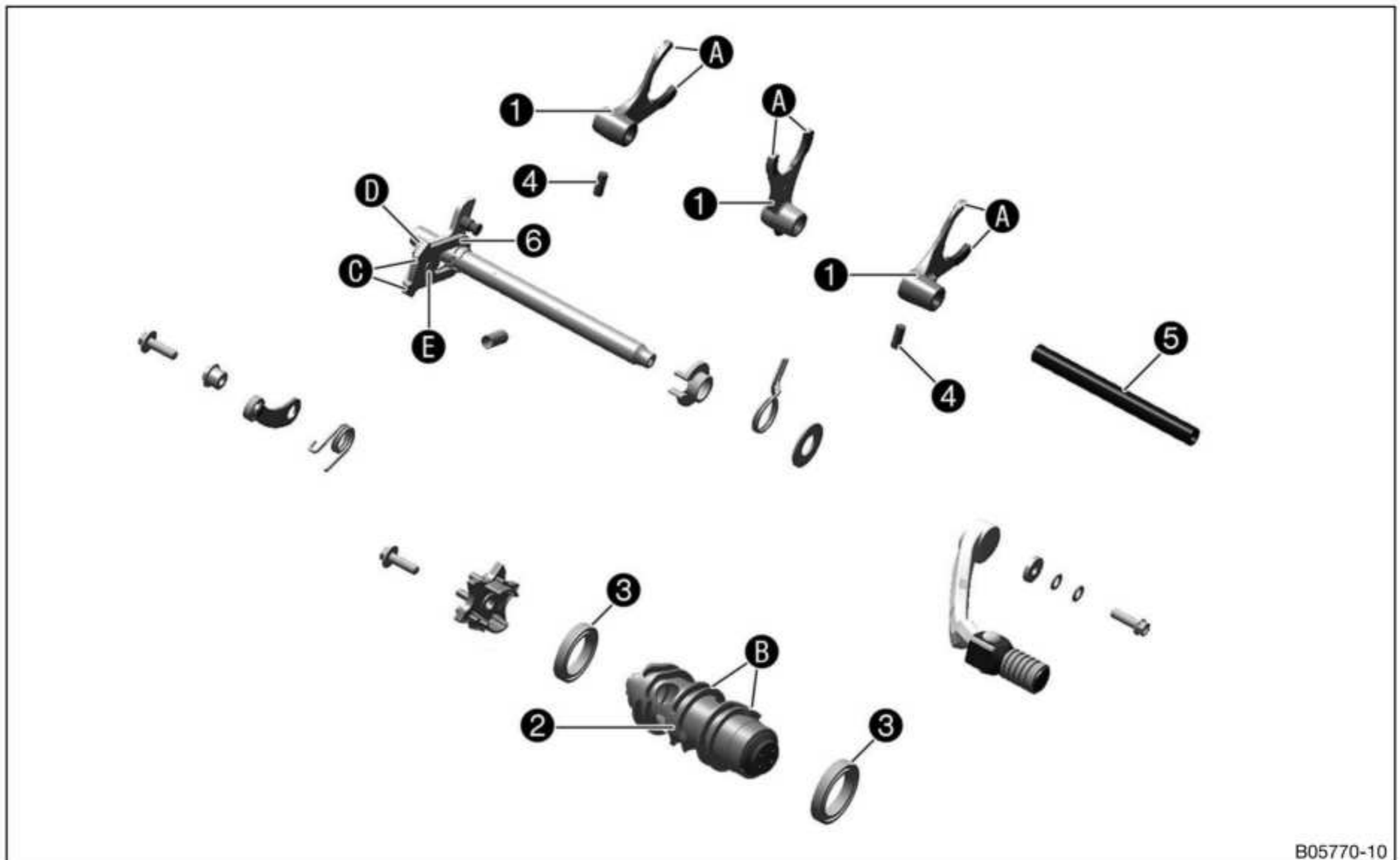
Assembly screws (75029033000) (p. 387)

i Info

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

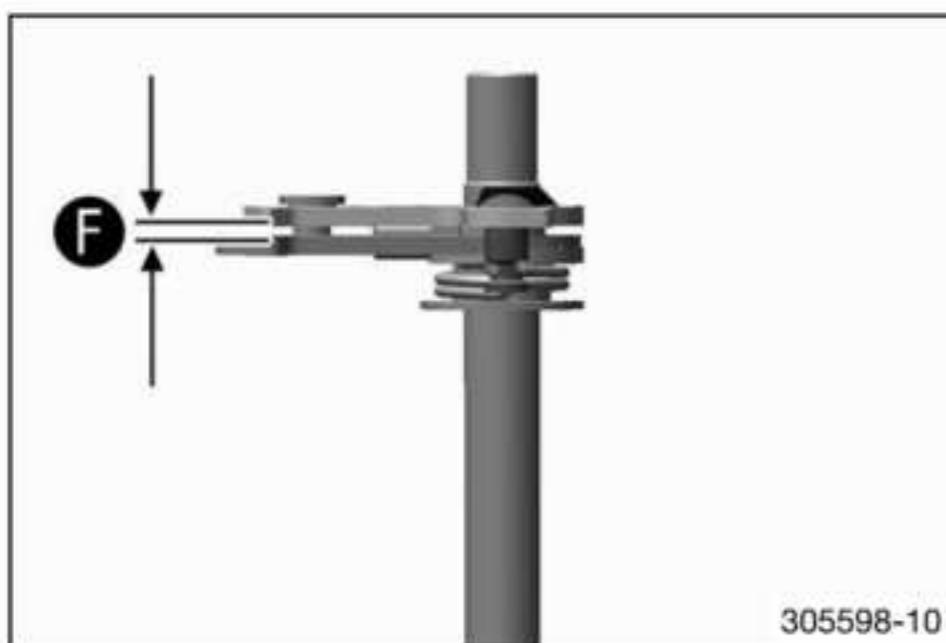
Only tighten the special tool to the point where the clutch facing discs cannot be shifted relative to each other; they will need to be aligned when they are mounted in the clutch basket.

18.4.32 Checking the shift mechanism



- Check shift forks **1** on plate **A** for damage and wear (visual check).
 - » If there is damage or wear:
 - Change the shift fork and gear wheel pair.
- Check shift grooves **B** of shift drum **2** for wear.
 - » If the shift groove is worn:
 - Change the shift drum.
- Check the seat of the shift drum in bearings **3**.
 - » If the shift drum is not seated correctly:
 - Change the shift drum and/or the bearing.
- Check bearing **3** for stiffness and wear.

- » If the bearings are stiff or are worn:
 - Change the bearings.
- Check needle bushing **4** for stiffness and wear.
 - » If the needle bushing does not move freely or is worn:
 - Change the needle bushing.
- Check shift rail **5** for run-out on a flat surface.
 - » If there is run-out:
 - Change the shift rail.
- Check the shift rails for scoring, wear and smooth operation in the shift forks.
 - » If there is scoring or corrosion, or if the shift fork is stiff:
 - Change the shift rail.
- Check sliding plate **6** in contact areas **C** for wear.
 - » If the sliding plate is worn:
 - Change the sliding plate.
- Check return surface **D** on the sliding plate for wear.
 - » If deep notches are present:
 - Change the sliding plate.
- Check guide pin **E** for looseness and wear.
 - » If the guide pin is loose and/or worn:
 - Change the sliding plate.
- Preassemble the shift shaft. (📖 p. 233)

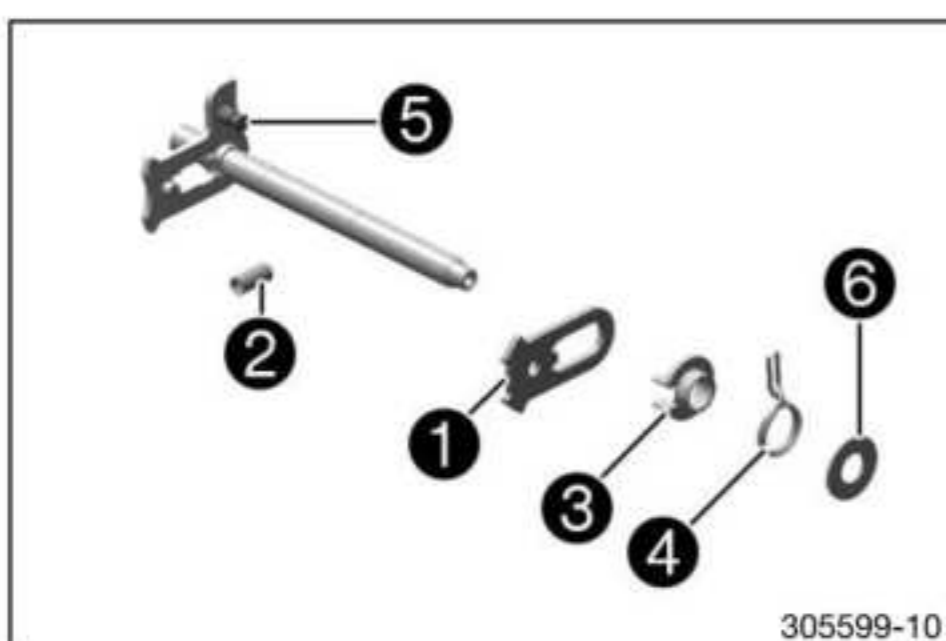


- Check clearance **F** between the sliding plate and the shift quadrant.

Shift shaft - play in sliding plate/shift quadrant	0.40 ... 0.80 mm (0.0157 ... 0.0315 in)
--	---

- » If the measured value does not meet specifications:
 - Change the sliding plate.

18.4.33 Preassembling the shift shaft



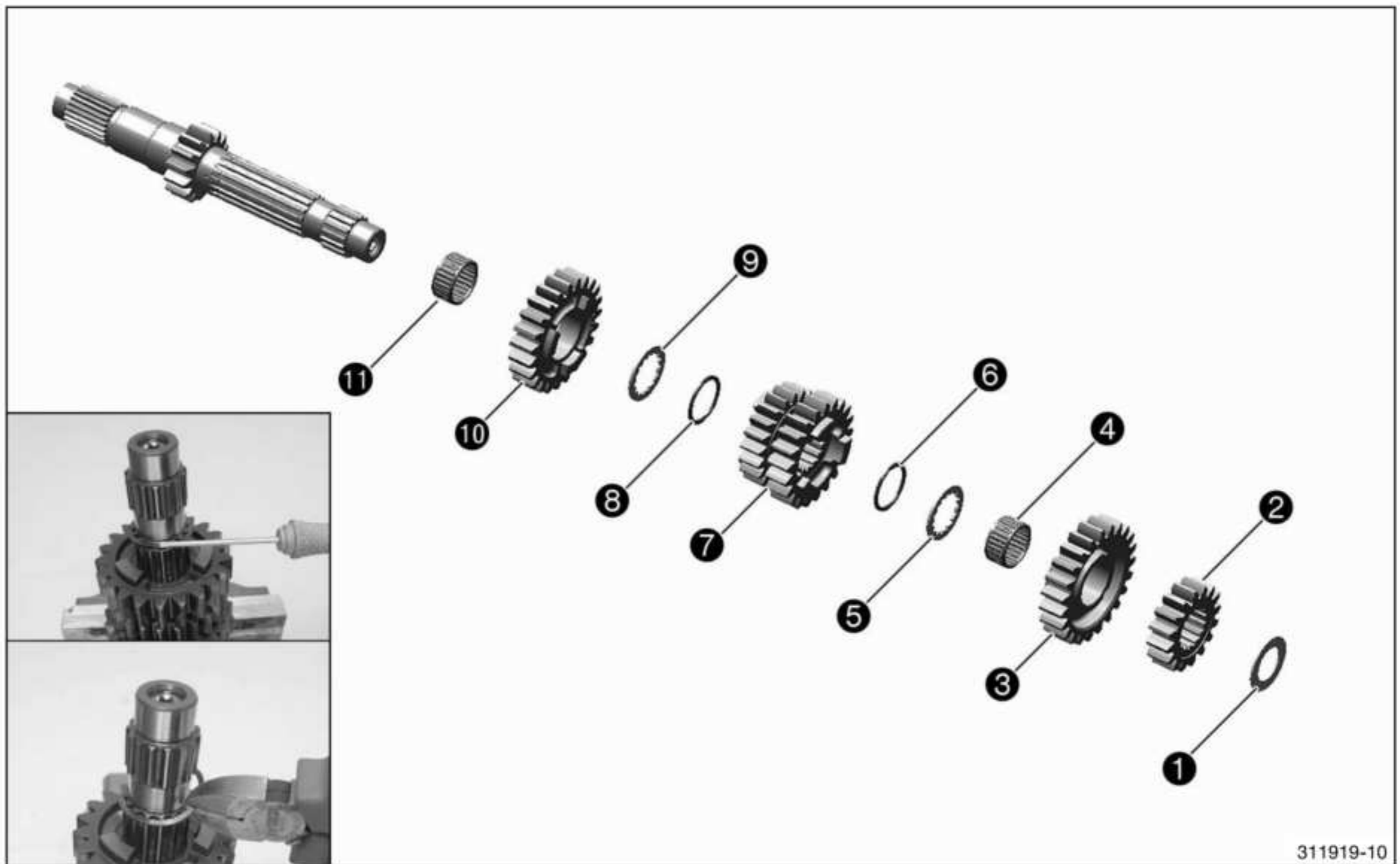
- Fix the short end of the shift shaft in a vise.

Guideline

Use soft jaws.

- Mount sliding plate **1** with the guide pin facing down and attach the guide pin to the shift quadrant.
- Mount pressure spring **2**.
- Push on spring guide **3**, push return spring **4** over the spring guide with the offset end facing upward and lift the offset end over abutment bolt **5**.
- Mount stop disk **6**.

18.4.34 Disassembling the main shaft



311919-10

- Secure the main shaft with the toothed end facing downward in the vise.

Guideline

Use soft jaws.

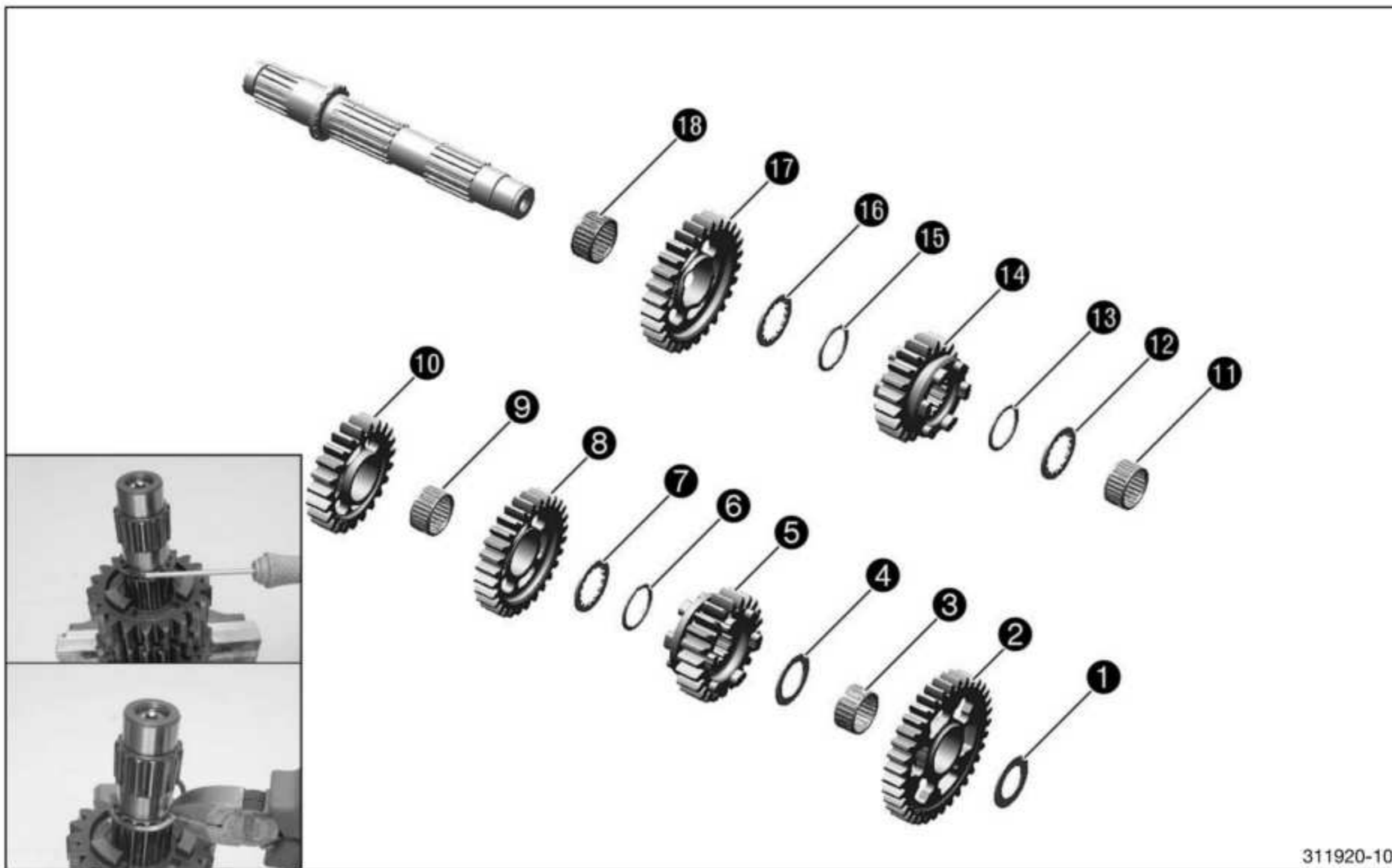
- Remove stop disk **1** and second-gear fixed gear **2**.
- Remove sixth-gear idler gear **3**.
- Remove needle bearing **4** and stop disk **5**.
- Remove lock ring **6**.

i Info

Open the lock ring with a screwdriver and twist it off the transmission shaft with pliers.

- Remove third/fourth-gear sliding gear **7**.
- Remove lock ring **8**.
- Remove stop disk **9** and fifth-gear idler gear **10**.
- Remove needle bearing **11**.

18.4.35 Disassembling the countershaft



311920-10

- Secure the countershaft in the bench vise with the toothed end facing downward.

Guideline

Use soft jaws.

- Remove stop disk **1** and first-gear idler gear **2**.
- Remove needle bearing **3** and stop disk **4**.
- Remove fifth-gear sliding gear **5** and lock ring **6**.



Info

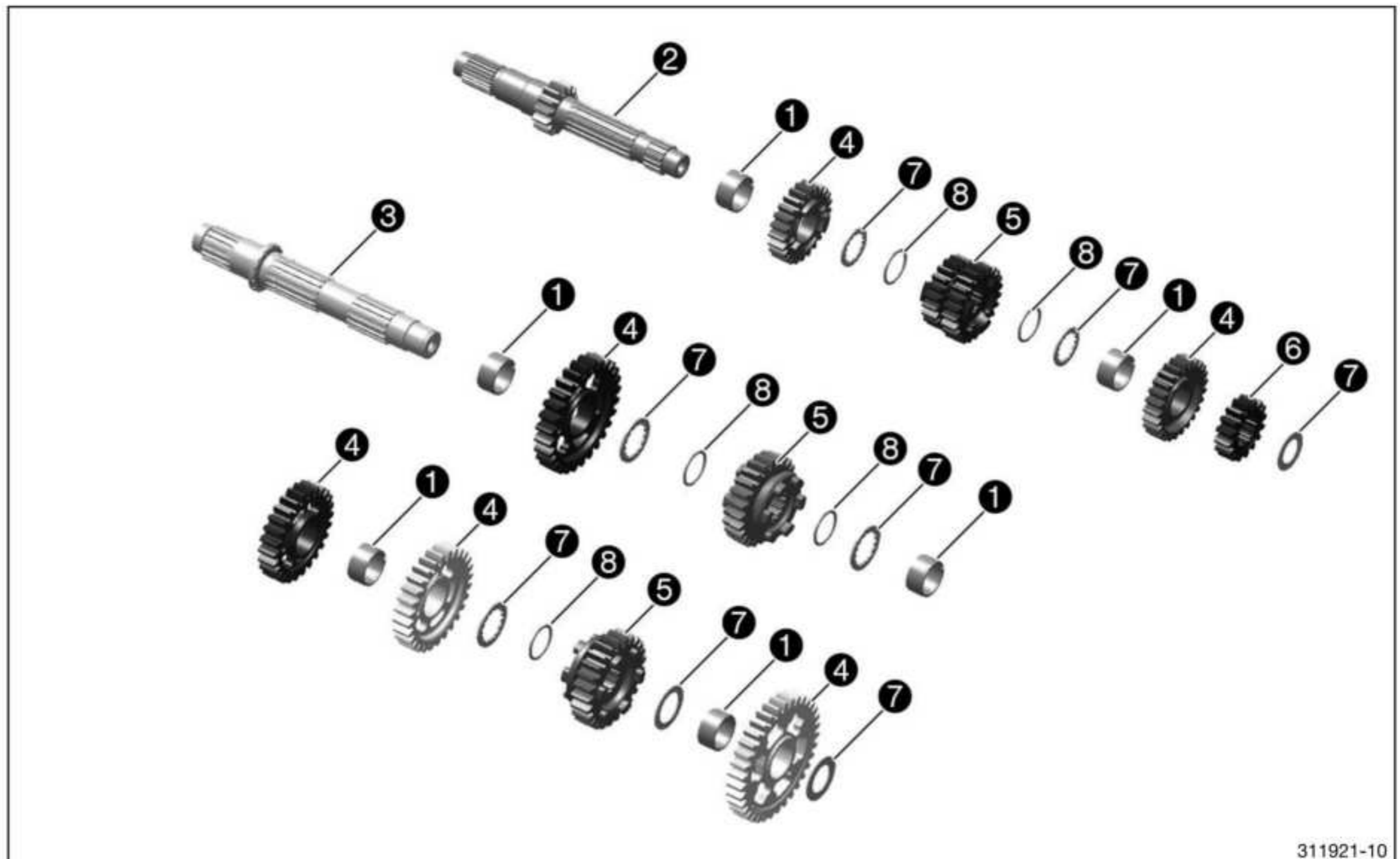
Open the lock ring with a screwdriver and twist it off the transmission shaft with pliers.

- Remove stop disk **7** and third-gear idler gear **8**.
- Remove needle bearing **9** and fourth-gear idler gear **10**.
- Remove needle bearing **11** and stop disk **12**.
- Remove lock ring **13** and sixth-gear sliding gear **14**.
- Remove lock ring **15** and stop disk **16**.
- Remove second-gear idler gear **17** and needle bearing **18**.

18.4.36 Checking the transmission

Condition

The transmission has been disassembled.



311921-10

- Check needle bearings **1** for damage and wear.
 - » If there is damage or wear:
 - Change the needle bearing.
- Check the pivot points of main shaft **2** and countershaft **3** for damage and wear.
 - » If there is damage or wear:
 - Change the main shaft and/or countershaft.
- Check the tooth profiles of main shaft **2** and countershaft **3** for damage and wear.
 - » If there is damage or wear:
 - Change the main shaft and/or countershaft.
- Check the pivot points of idler gears **4** for damage and wear.
 - » If there is damage or wear:
 - Change the gear wheel pair.
- Check the shift dogs of idler gears **4**, sliding gears **5**, and fixed gear **6** for damage and wear.
 - » If there is damage or wear:
 - Change the gear wheel pair.
- Check the tooth faces of idler gears **4**, sliding gears **5**, and fixed gear **6** for damage and wear.
 - » If there is damage or wear:
 - Change the gear wheel pair.
- Check the tooth profiles of sliding gears **5** for damage and wear.
 - » If there is damage or wear:
 - Change the gear wheel pair.
- Check sliding gears **5** for smooth operation in the profile of main shaft **2**.
 - » If the sliding gear does not move freely:
 - Change the sliding gear or the main shaft.
- Check sliding gears **5** for smooth operation in the profile of countershaft **3**.
 - » If the fixed gear does not move freely:
 - Change the sliding gear or the countershaft.

- Check stop disks **7** for damage and wear.
 - » If there is damage or wear:
 - Change the stop disks.
- Use new lock rings **8** with every repair.

18.4.37 Assembling the main shaft

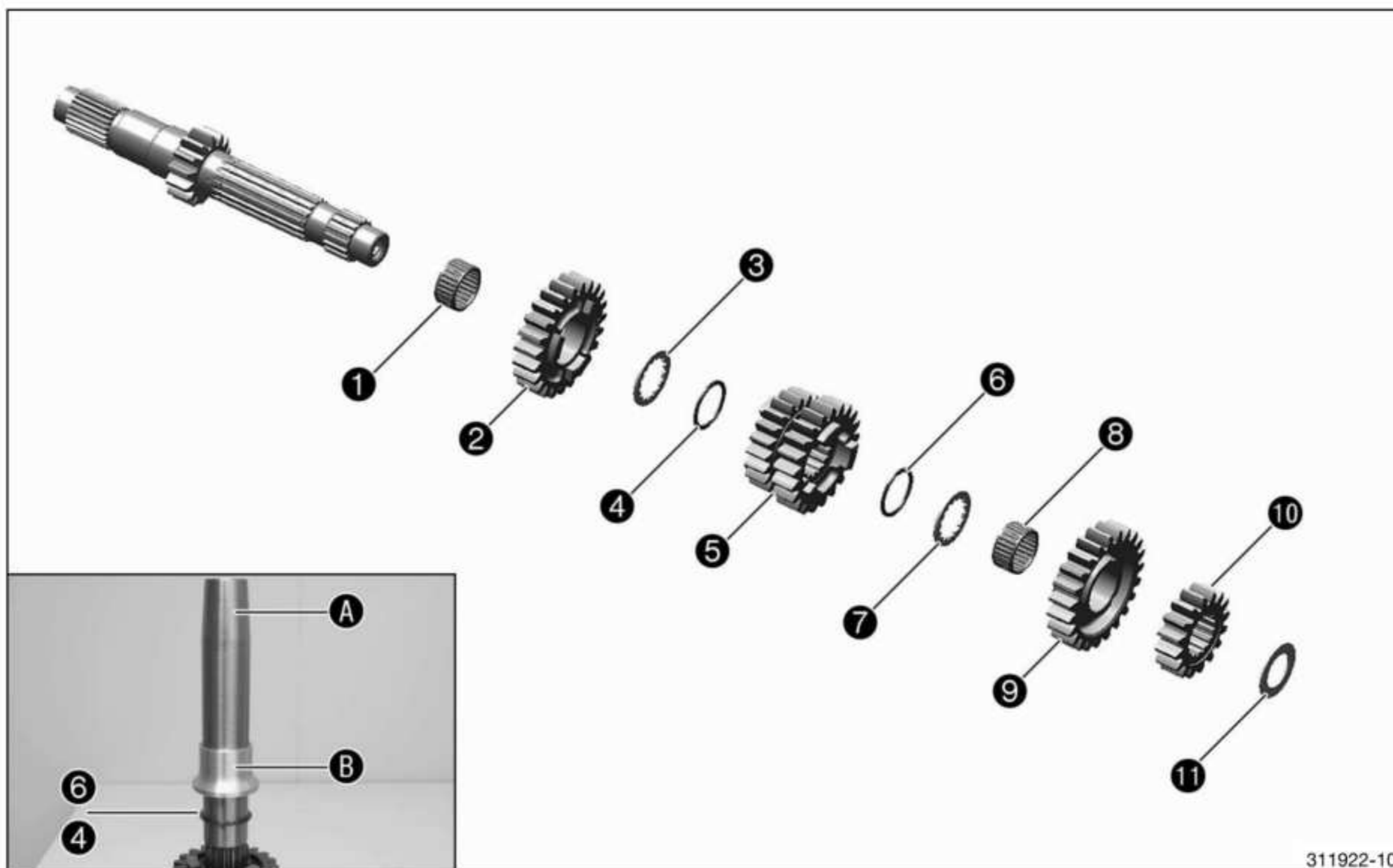


Info

Use new lock rings with every repair.

Preparatory work

- Lubricate all parts carefully before assembling.
- Check the transmission. (📖 p. 235)



311922-10

Main work

- Secure the main shaft in the vise with the gear teeth facing downward.

Guideline

Use soft jaws.

- Mount needle bearing **1**.
 - Push on fifth-gear idler gear **2** with the shift dogs facing upward.
 - Mount stop disk **3**.
 - Position special tool **A** on the transmission shaft.
- Mounting tool for lock ring (76629032000) (📖 p. 391)
- Position lock ring **4** on special tool **A** and push down with sleeve **B**.
 - ✓ The lock ring engages in the groove of the transmission shaft.
 - Push on third/fourth-gear sliding gear **5** with the small gear wheel facing downward.

- Position special tool **A** on the transmission shaft.

Mounting tool for lock ring (76629032000) (📖 p. 391)

- Position lock ring **6** on special tool **A** and push down with sleeve **B**.
✓ The lock ring engages in the groove of the transmission shaft.
- Attach stop disk **7** and needle bearing **8**.
- Push on sixth-gear idler gear **9** with the shift dogs facing downward.
- Push on second-gear fixed gear **10** with the collar facing downward and attach stop disk **11**.
- Finally, check all the gear wheels for smooth operation.

18.4.38 Assembling the countershaft

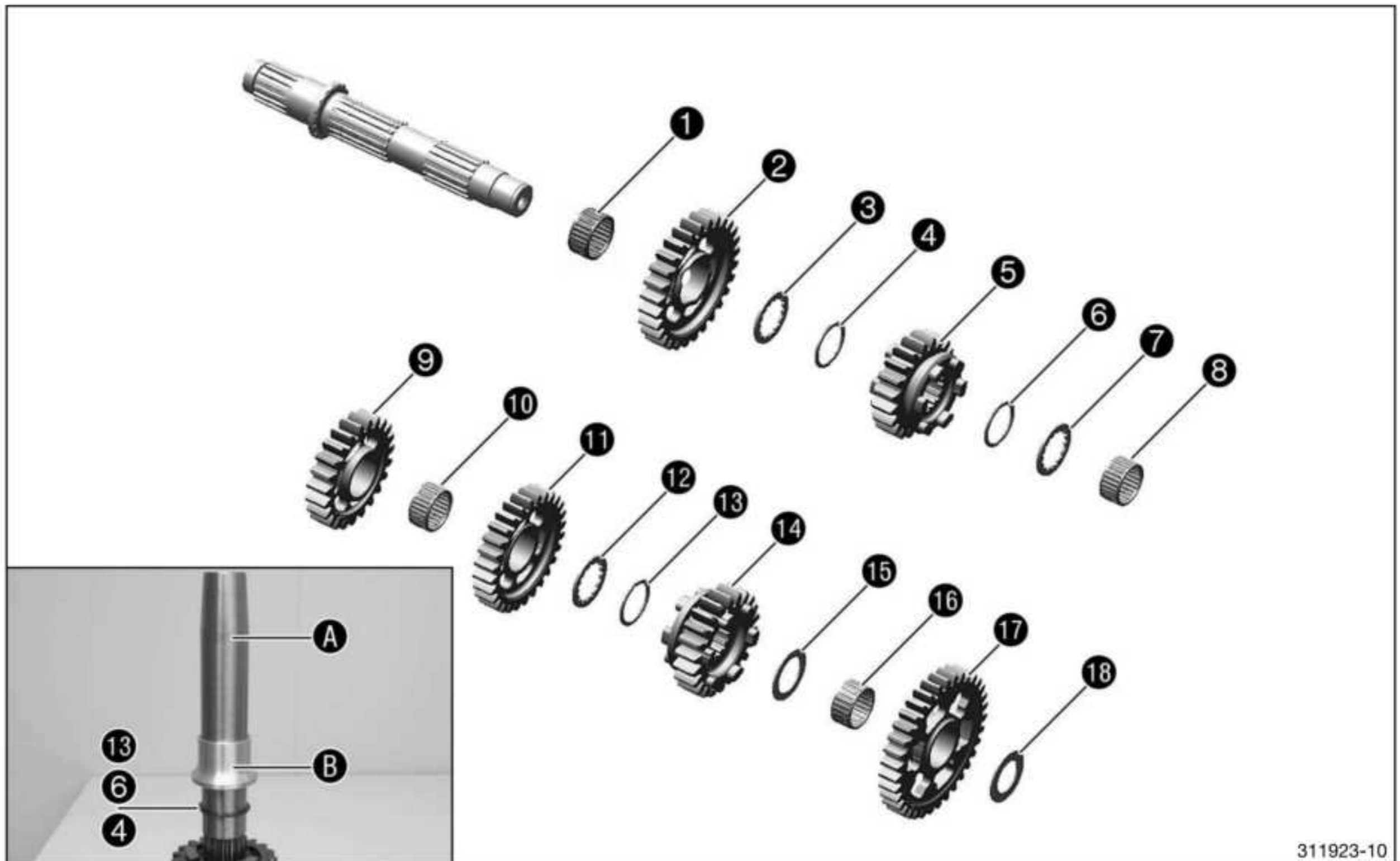


Info

Use new lock rings with every repair.

Preparatory work

- Lubricate all parts carefully before assembling.
- Check the transmission. (📖 p. 235)



311923-10

Main work

- Secure the countershaft in the bench vise with the toothed end facing downward.

Guideline

Use soft jaws.

- Mount needle bearing **1** and second-gear idler gear **2** onto the countershaft with the protruding collar facing downward.
- Mount stop disk **3**.
- Position special tool **A** on the transmission shaft.

Mounting tool for lock ring (76629032000) (📖 p. 391)

- Position lock ring ④ on special tool A and push down with sleeve B.
- ✓ The lock ring engages in the groove of the transmission shaft.
- Mount sixth-gear sliding gear ⑤ with the shift groove facing upward.
- Position special tool A on the transmission shaft.

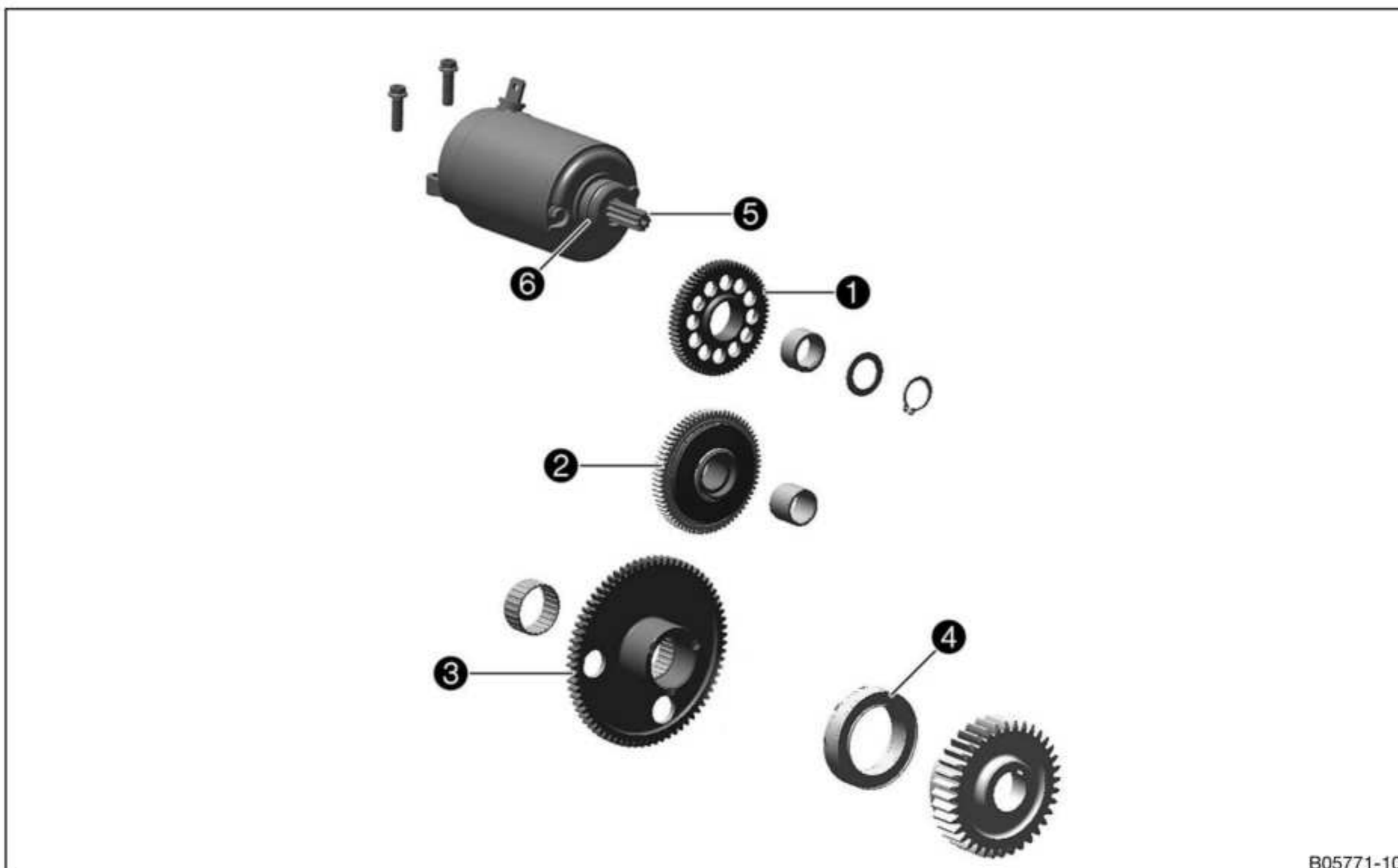
Mounting tool for lock ring (76629032000) (📖 p. 391)

- Position lock ring ⑥ on special tool A and push down with sleeve B.
- ✓ The lock ring engages in the groove of the transmission shaft.
- Mount stop disk ⑦.
- Mount needle bearing ⑧ and fourth-gear idler gear ⑨ with the collar facing upward.
- Mount needle bearing ⑩ and third-gear idler gear ⑪ with the collar facing downward.
- Mount stop disk ⑫.
- Position special tool A on the transmission shaft.

Mounting tool for lock ring (76629032000) (📖 p. 391)

- Position lock ring ⑬ on special tool A and push down with sleeve B.
- ✓ The lock ring engages in the groove of the transmission shaft.
- Mount fifth-gear sliding gear ⑭ with the shift groove facing downward and stop disk ⑮.
- Mount needle bearing ⑯, first-gear idler gear ⑰ with the recess facing downward and stop disk ⑱.
- Finally, check all the gear wheels for smooth operation.

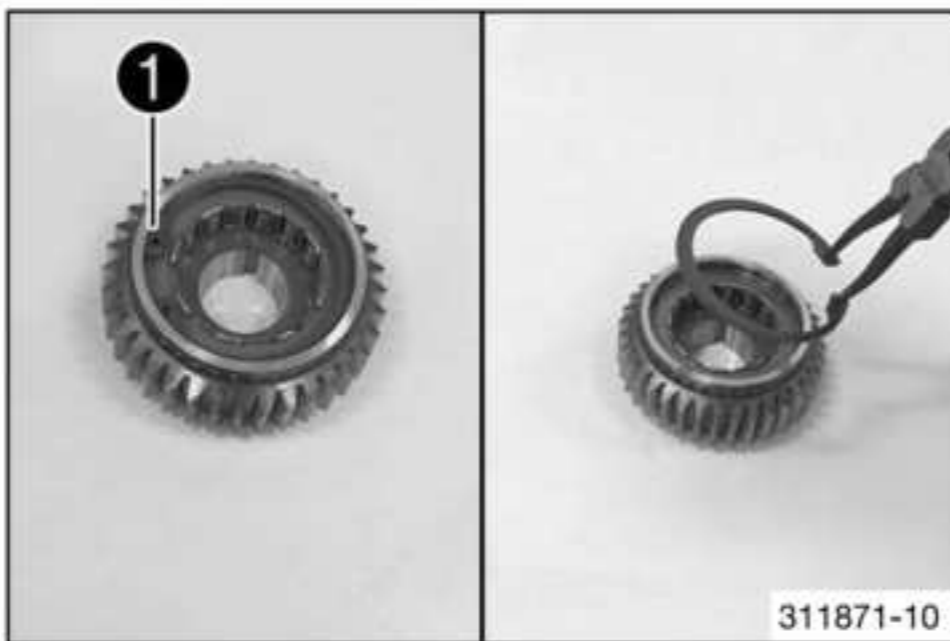
18.4.39 Checking the starter drive



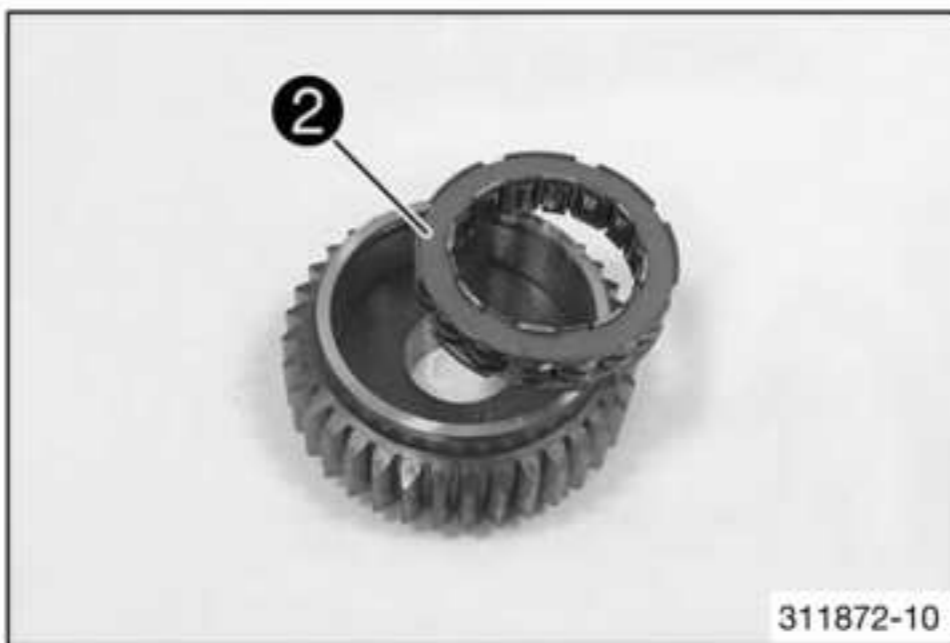
- Check the gear mesh and bearing of starter idler gear ① for damage and wear.
 - » If there is damage or wear:
 - Change the starter idler gear and/or needle bushing.
- Check the gear teeth and bearing of torque limiter ② for damage and wear.

- » If there is damage or wear:
 - Change the torque limiter and/or needle bearing.
- Check freewheel gear **3** and bearing when removed for damage and wear.
 - » If there is damage or wear:
 - Change the freewheel gear or bearing.
- Check freewheel **4** when removed for damage and wear.
 - » If there is damage or wear:
 - Change the freewheel.
- Check the gear teeth of starter motor **5** for damage and wear.
 - » If there is damage or wear:
 - Change the starter motor.
- Connect the negative cable of a 12-volt power supply to the housing of the starter motor. Connect the positive cable of the power supply briefly with the connector of the starter motor.
 - » If the starter motor does not turn when the circuit is closed:
 - Change the starter motor.
- Change O-ring **6** of the starter motor.

18.4.40 Removing the freewheel

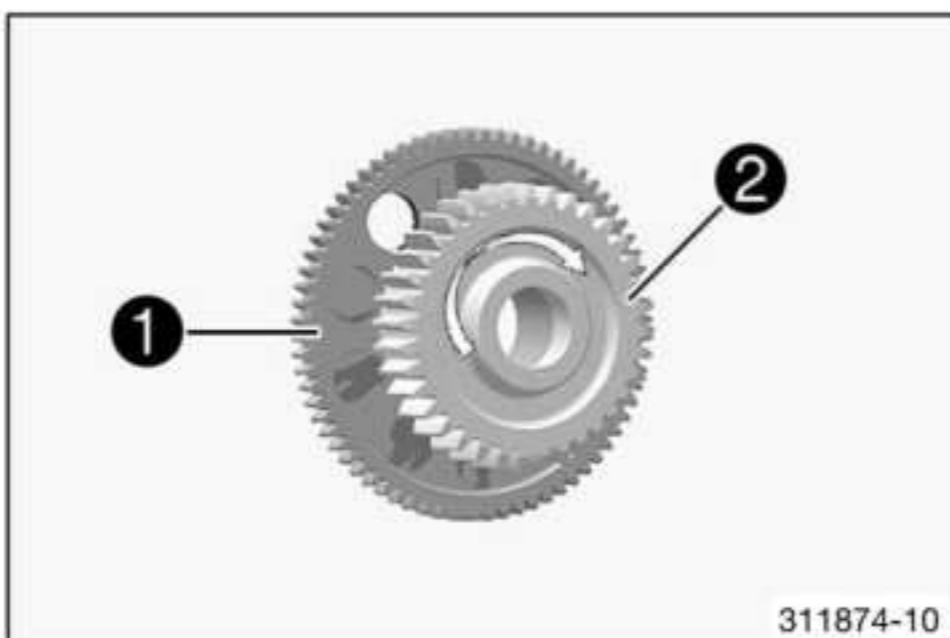


- Remove lock ring **1**.



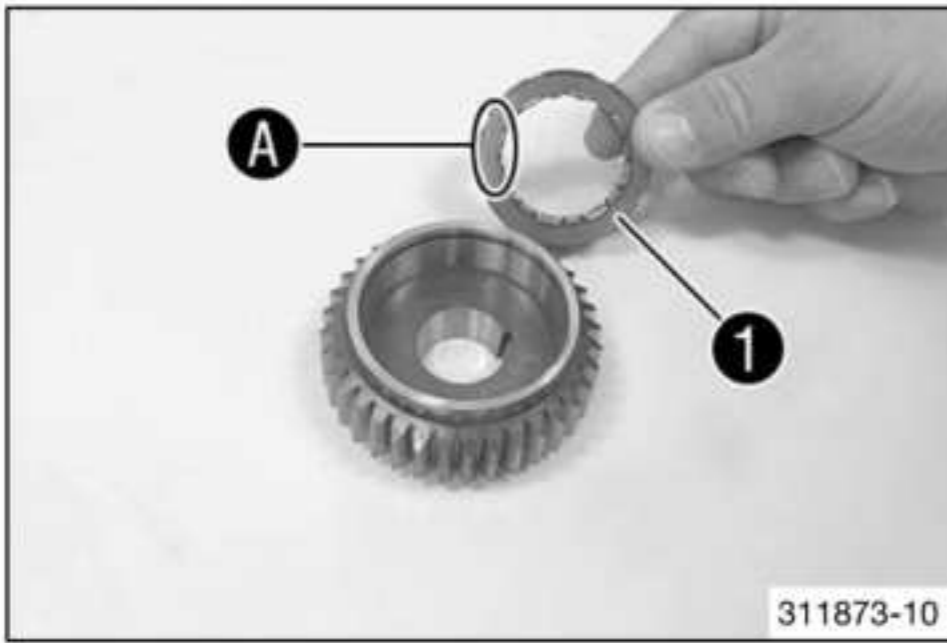
- Take freewheel **2** out of the primary gear wheel.

18.4.41 Checking the freewheel

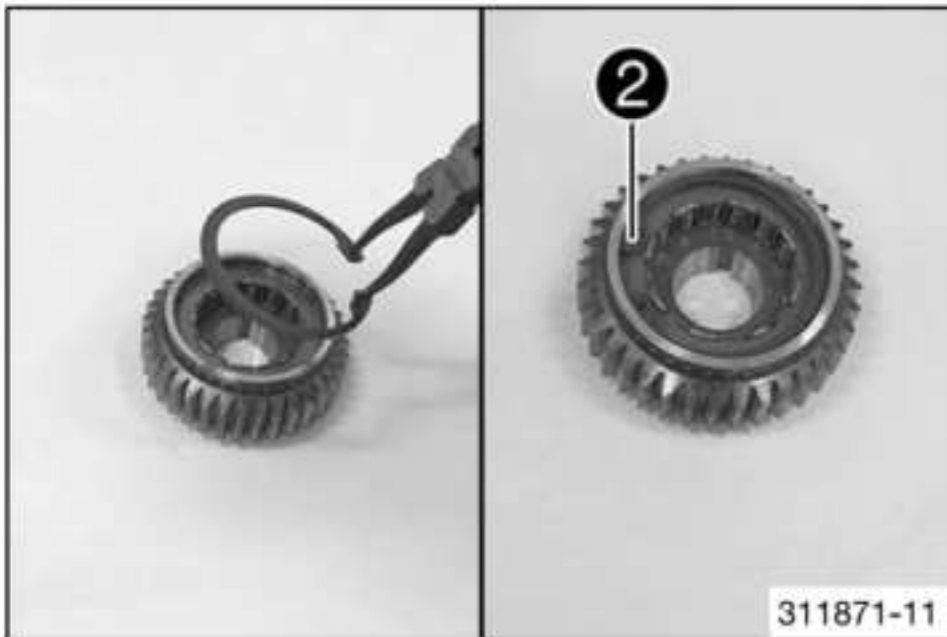


- Insert freewheel gear **1** into primary gear wheel **2**, turning the primary gear wheel clockwise; do not wedge!
- Check the locking action of freewheel gear **1**.
 - » The primary gear wheel cannot be turned clockwise or does not lock counterclockwise:
 - Remove the freewheel. (📖 p. 240)
 - Turn the freewheel 180°.
 - Install the freewheel. (📖 p. 241)

18.4.42 freewheel, installing



- Thoroughly oil all parts.
- Position freewheel ①.
- ✓ Marking A is not visible after assembly.

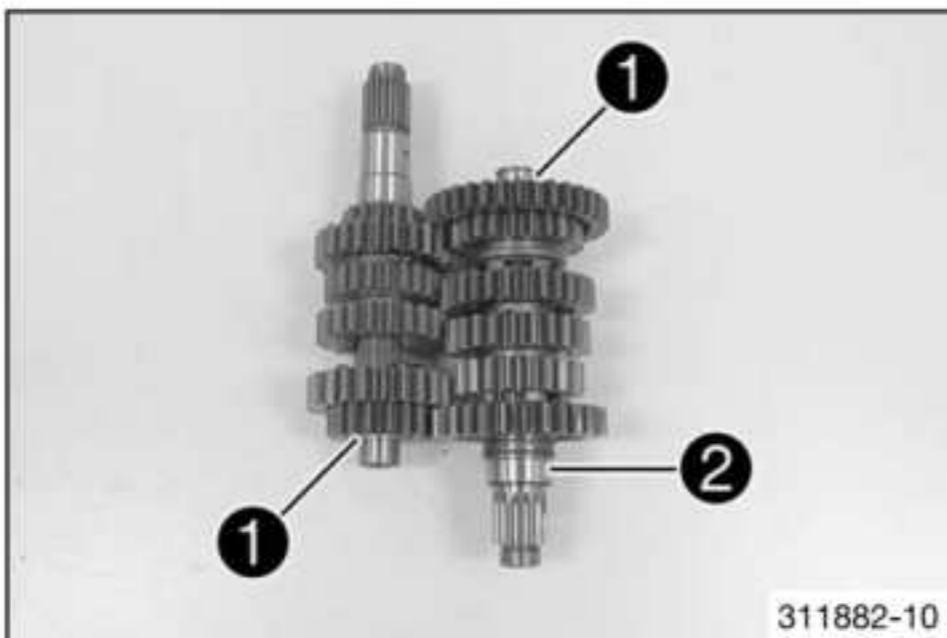


- Mount lock ring ②.

i Info
The lock ring must engage audibly.

18.5 Engine assembly

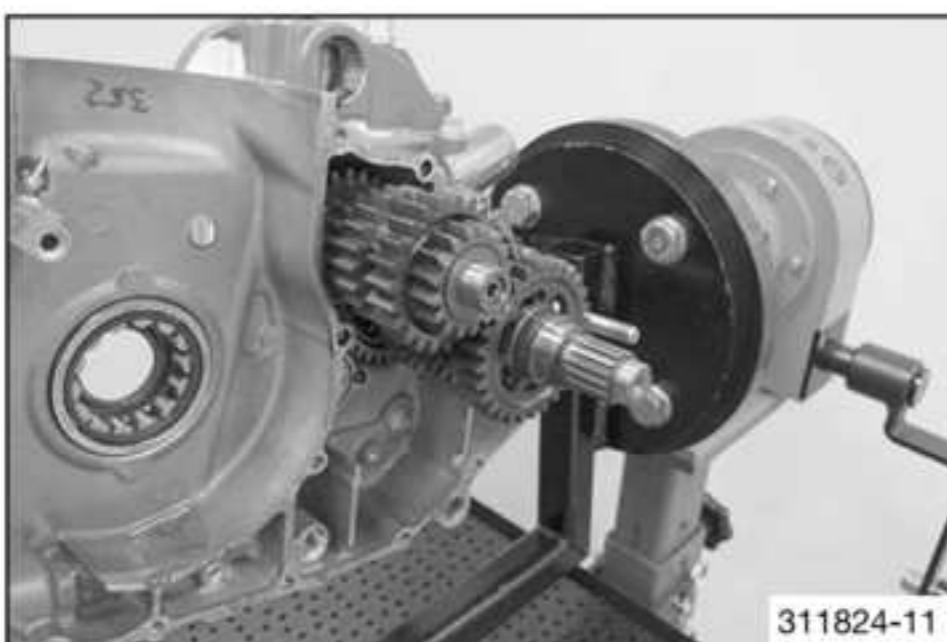
18.5.1 Installing the transmission shafts



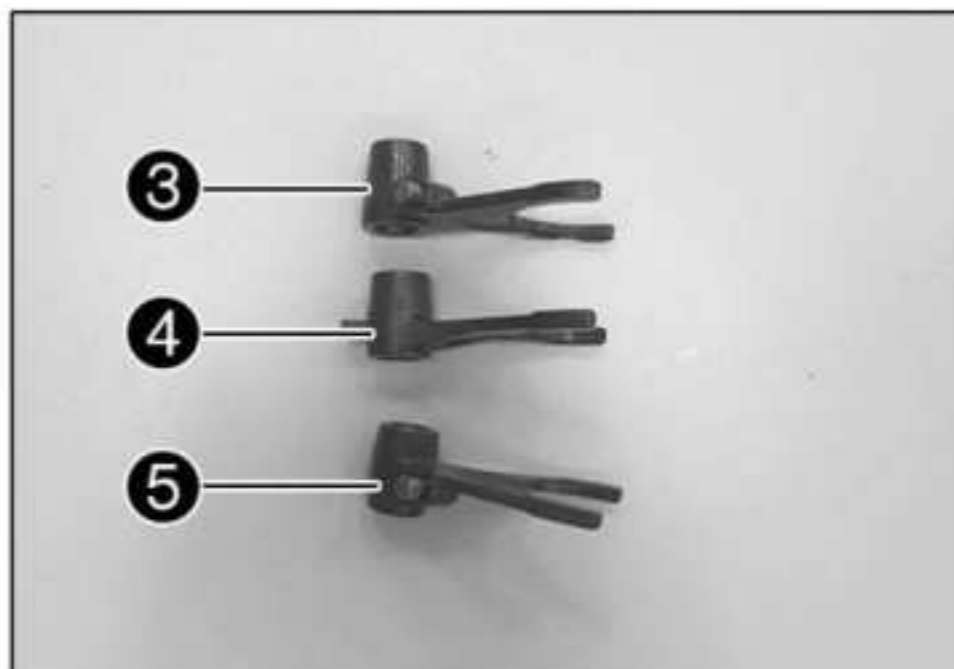
- Clamp the right section of the engine case.

Holder for engine motor stand (75012001070) (p. 387)
Fitting for work stand (75012001060) (p. 387)
Engine assembly stand (80329001000) (p. 393)

- Make sure that both stop disks ① are installed.
- Mount inner bearing race ② on the countershaft.



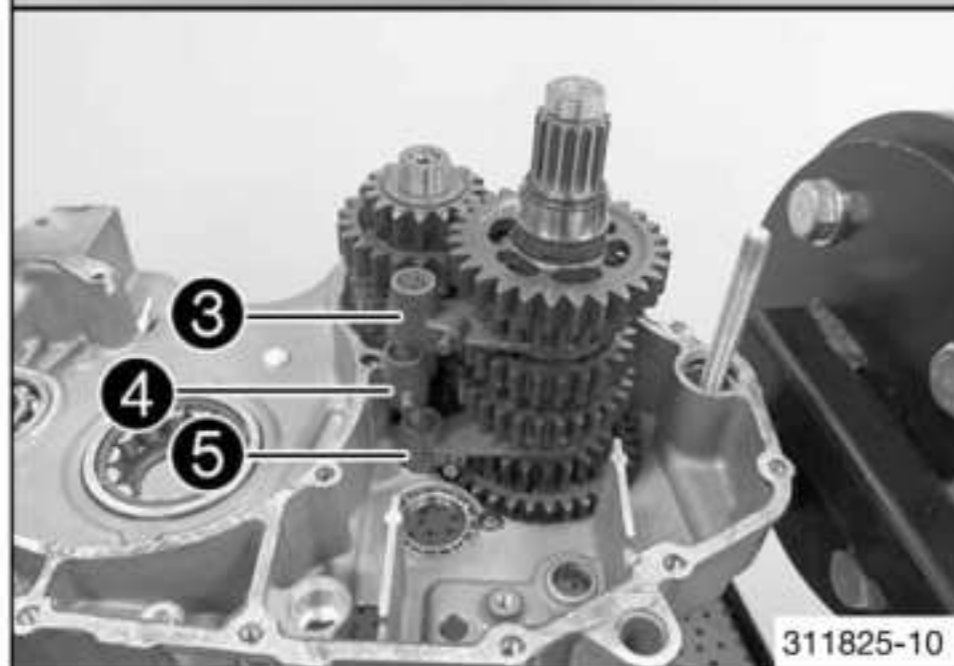
- Oil all bearings.
- Slide both transmission shafts together into the bearing seats.



- Mount upper shift fork ③, middle shift fork ④, and lower shift fork ⑤.

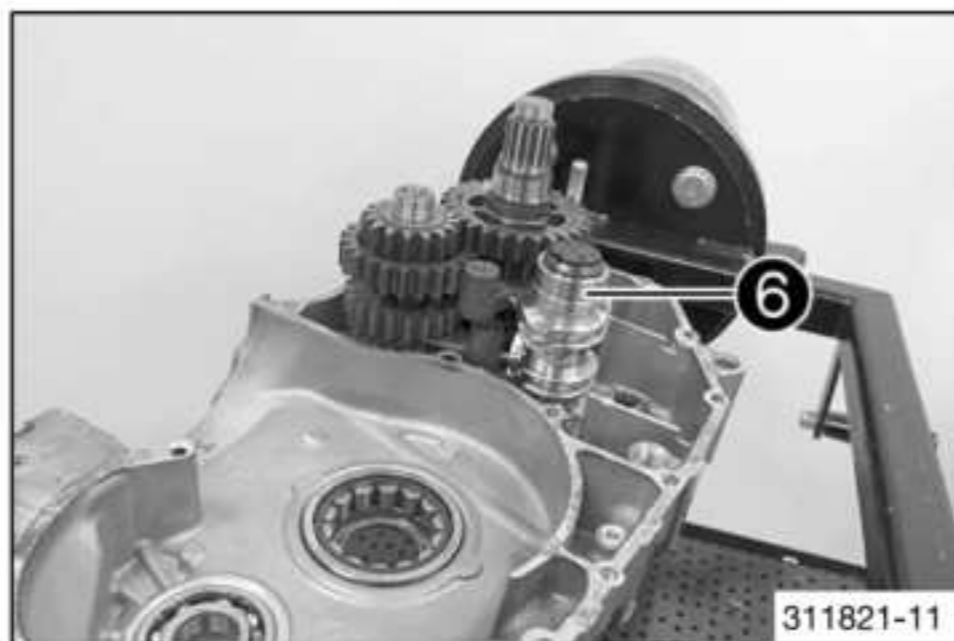
i Info

For easier assembly of middle shift fork ④, lift the sliding gear of the third/fourth gear.



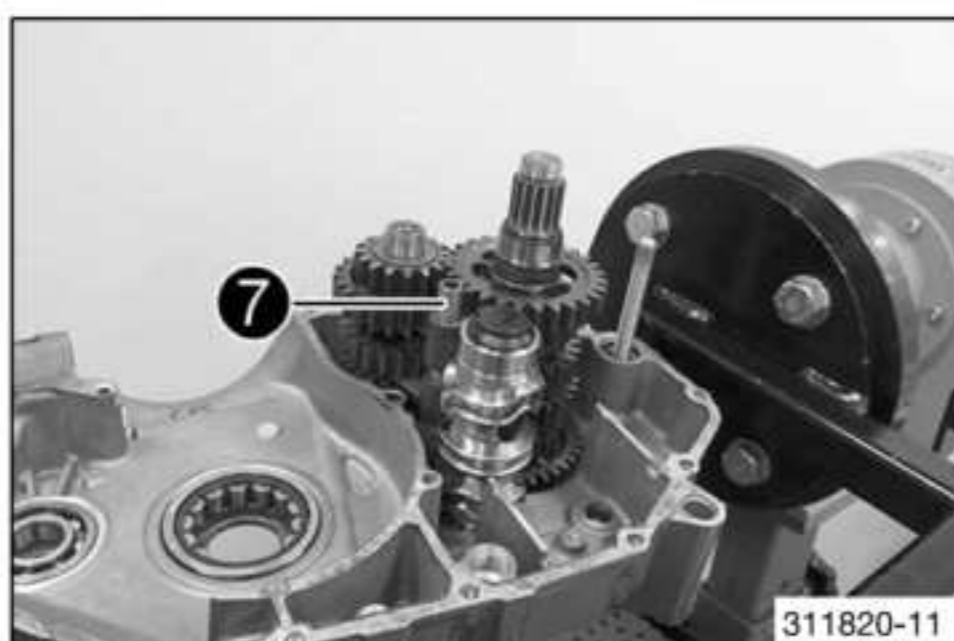
311825-10

- Mount shift drum ⑥.
- Hang the shift forks into the shift drum.



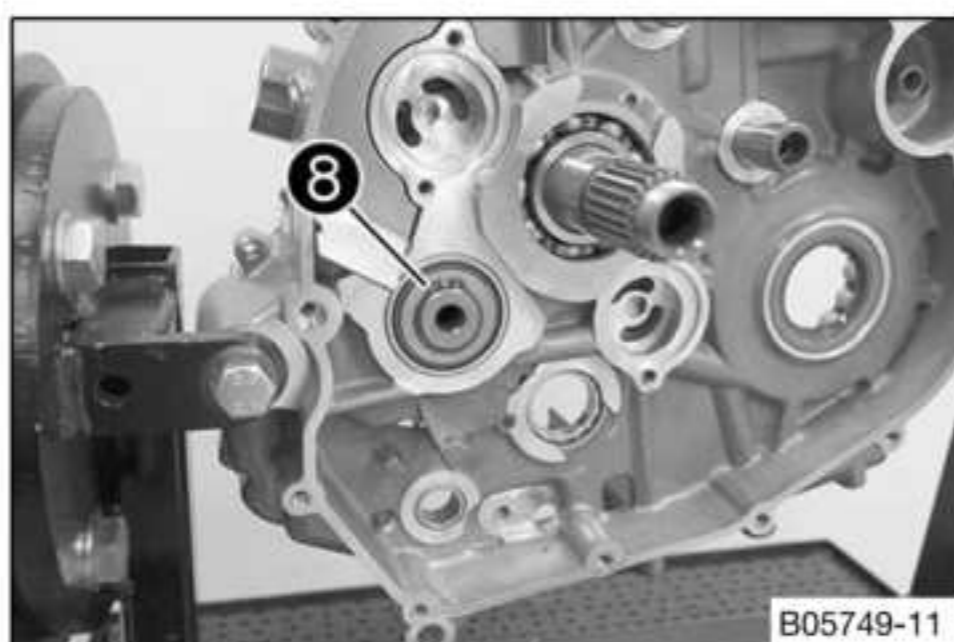
311821-11

- Mount shift rail ⑦.
- Check the transmission for smooth operation.



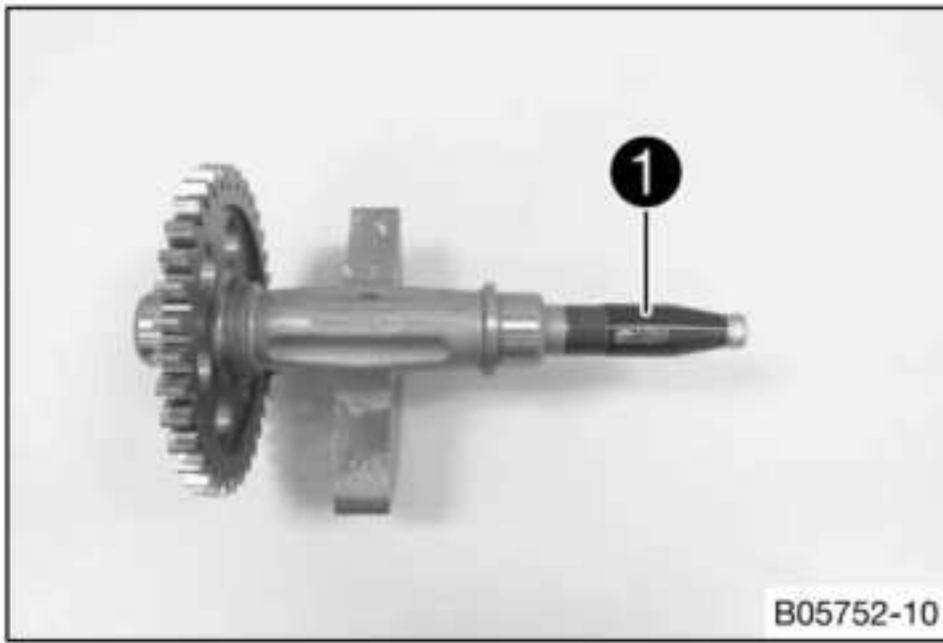
311820-11

- Mount the washer and lock ring ⑧.



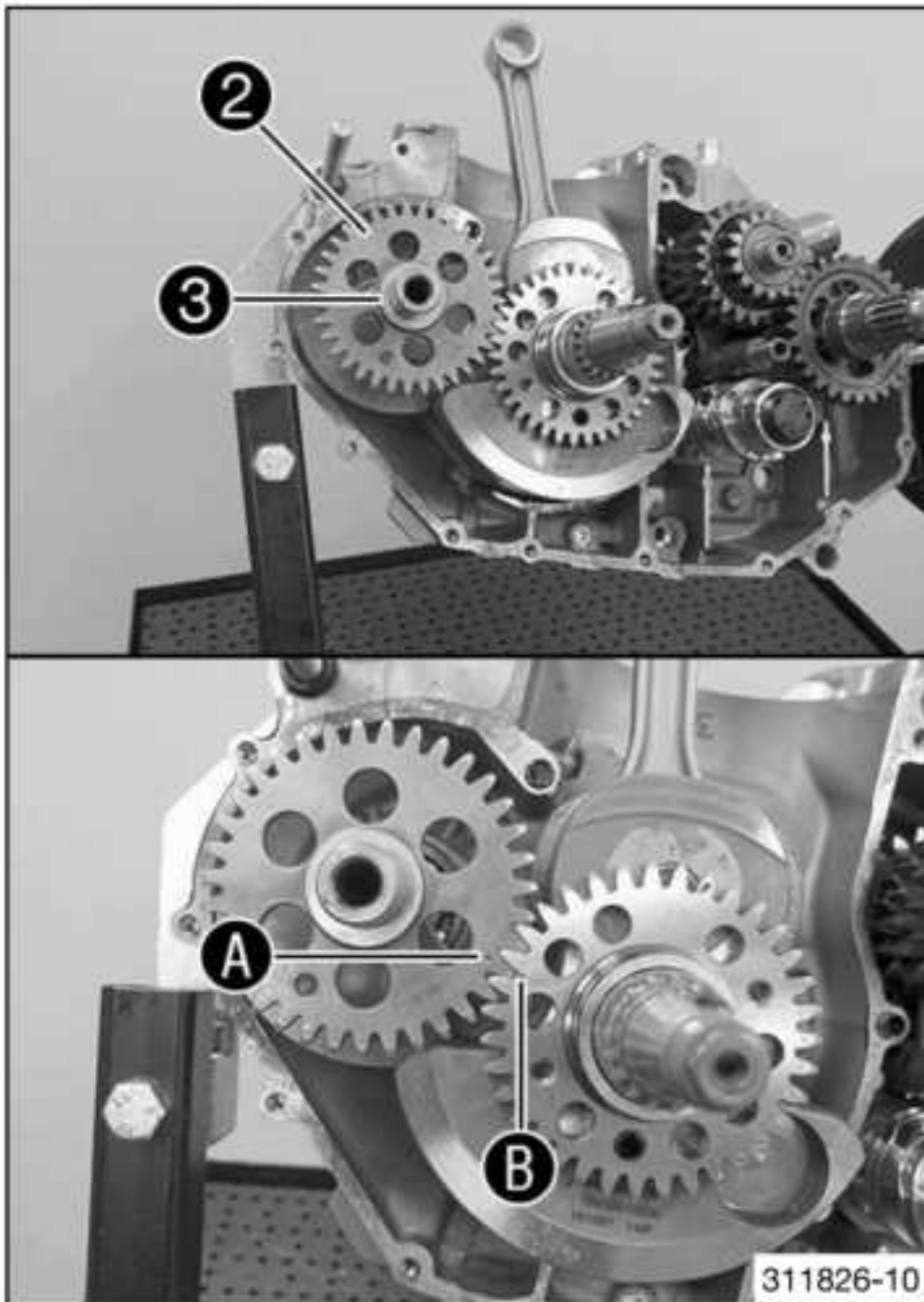
B05749-11

18.5.2 Installing crankshaft and balancer shaft



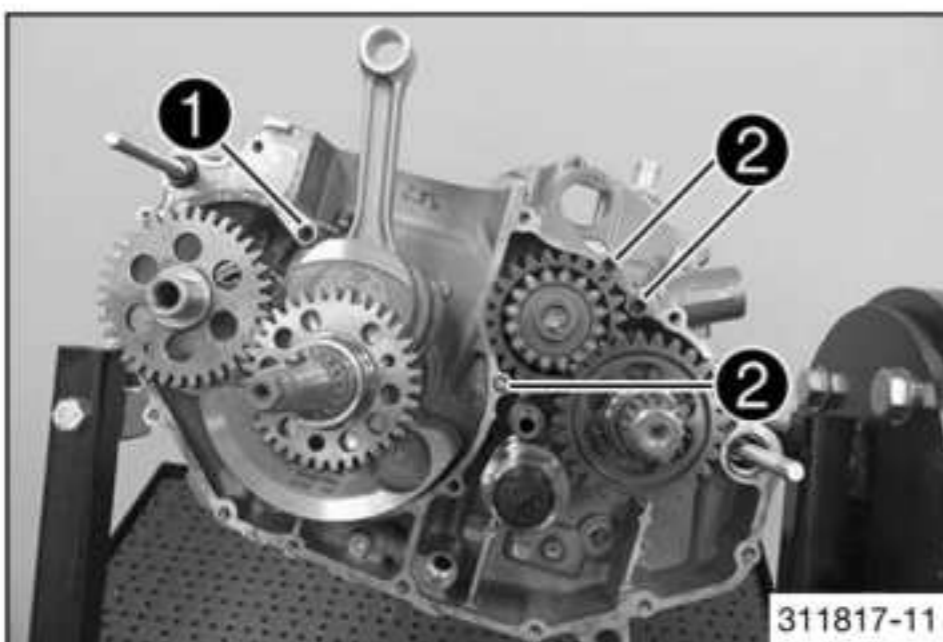
- Mount special tool **1** on the balancer shaft.

Protection cap (61229005100) (📖 p. 386)



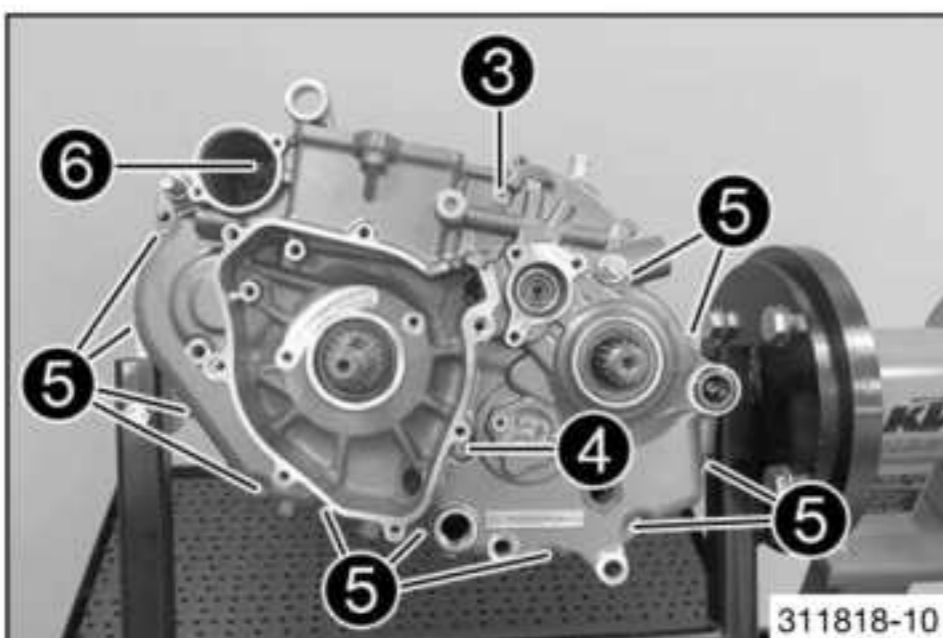
- Position the crankshaft.
- Grease the shaft seal rings of the balancer shaft.
- Push balancer shaft **2** into the bearing seat and remove the special tool.
- ✓ Align markings **A** and **B**.
- Mount stop disk **3**.

18.5.3 Installing the left engine case



- Mount O-ring **1**.
- Mount dowels **2**.
- Degrease the sealing surface. Apply sealing compound to the left section of the engine case.

Loctite® 5910



- Mount the left section of the engine case. If necessary, strike it lightly with a rubber mallet and turn the transmission shafts.



Info

Do not use the screws to pull the two sections of the engine case together.

- Take off special tool from the crankshaft.

Protecting sleeve (75029080000) (📖 p. 390)

- Mount screw **3** but do not tighten yet.

Guideline

Screw, engine case	M6x80	10 Nm (7.4 lbf ft)
--------------------	-------	--------------------

- Mount screw **4** but do not tighten yet.

Guideline

Screw, engine case	M6x70	10 Nm (7.4 lbf ft)
--------------------	-------	--------------------

- Mount screws **5** but do not tighten yet.

Guideline

Screw, engine case	M6x30	10 Nm (7.4 lbf ft)
--------------------	-------	--------------------

- Mount screw **6** with the washer but do not tighten yet.

Guideline

Screw, engine case	M6x25	10 Nm (7.4 lbf ft)
--------------------	-------	--------------------



Info

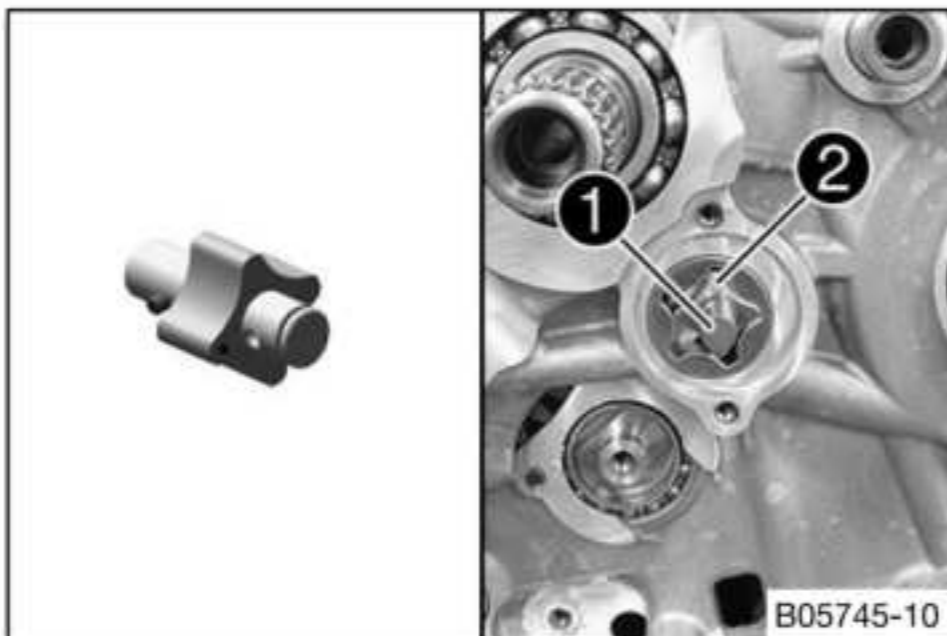
Mount the screw with a new copper washer.

- Tighten all screws in a crisscross pattern.

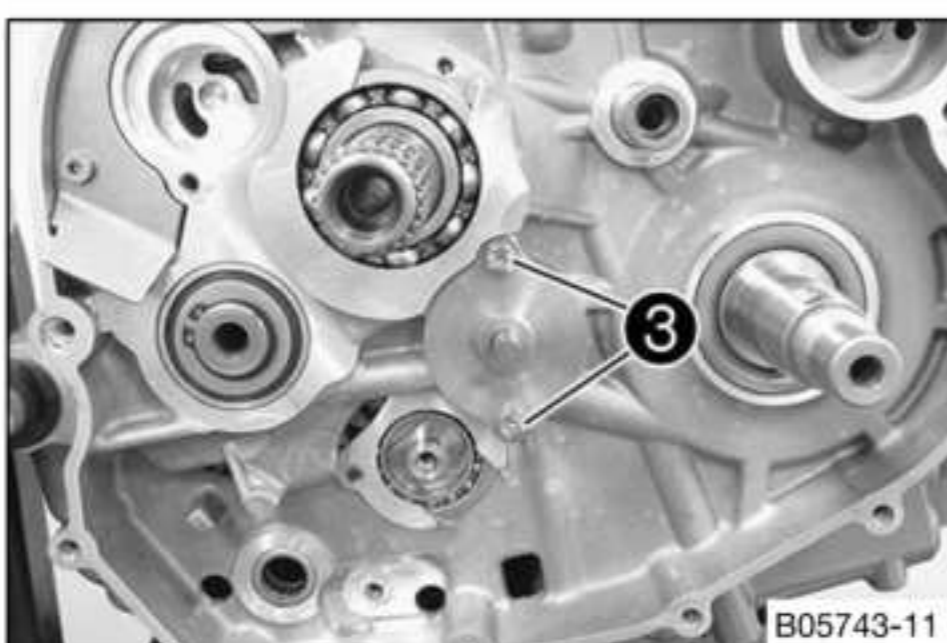
Guideline

Screw, engine case	M6	10 Nm (7.4 lbf ft)
--------------------	----	--------------------

18.5.4 Installing the oil pumps



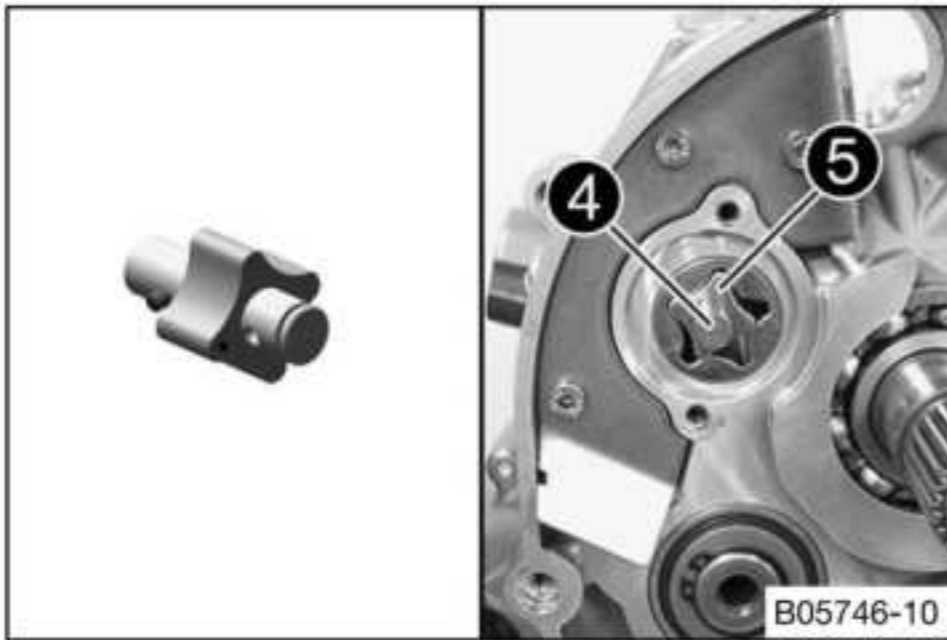
- Mount the pin and internal rotor on the oil pump shaft.
- Position the external rotor in the engine case with the bevel facing inward.
- Mount oil pump shaft **1** with internal rotor **2**.
- Oil the parts.



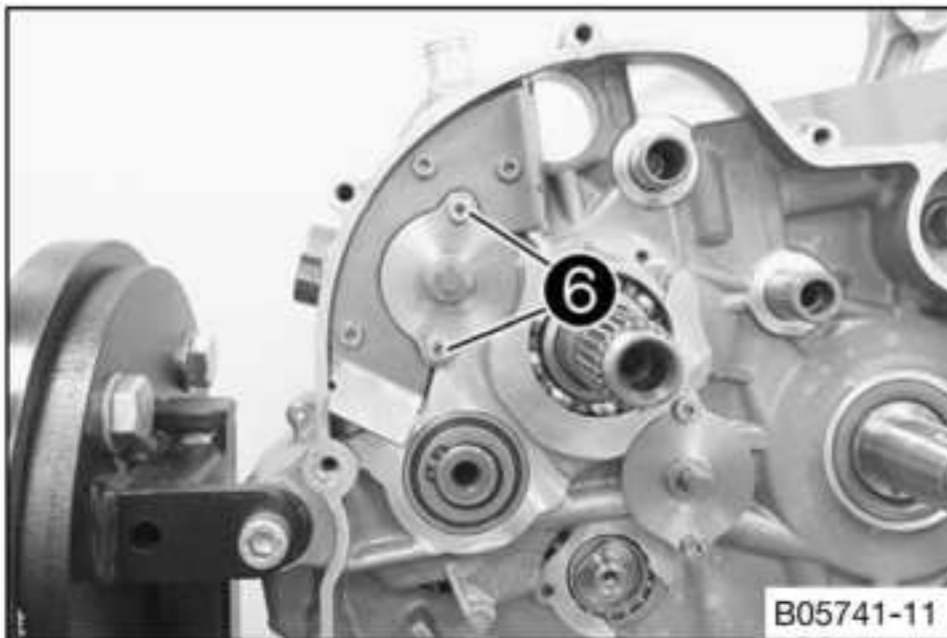
- Position the oil pump cover.
- Mount and tighten screws **3**.

Guideline

Screw, oil pump cover	M5	6 Nm (4.4 lbf ft) Loctite®243™
-----------------------	----	--



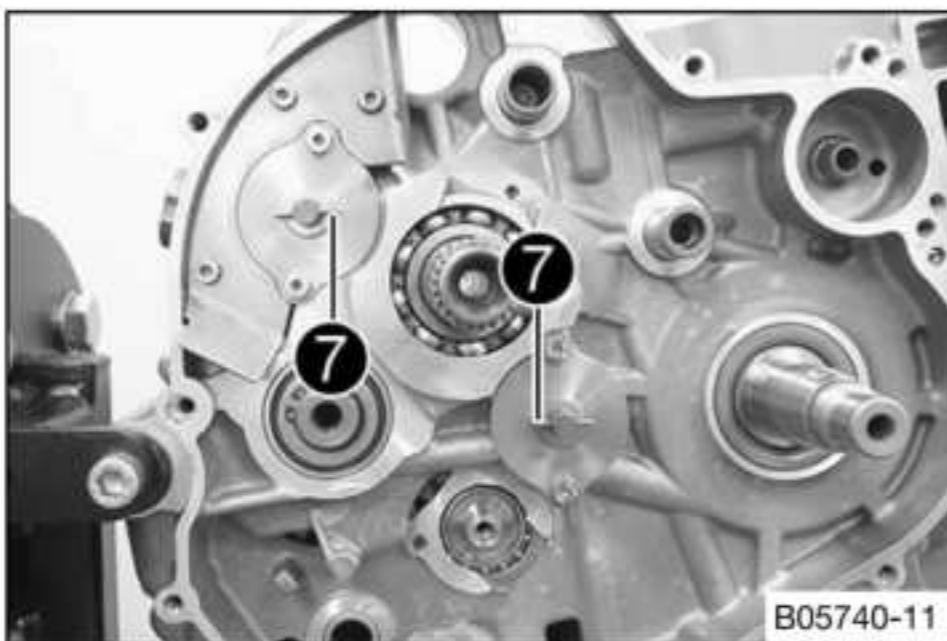
- Mount the pin and internal rotor on the oil pump shaft.
- Position the external rotor in the engine case with the bevel facing inward.
- Mount oil pump shaft ④ with internal rotor ⑤.
- Oil the parts.



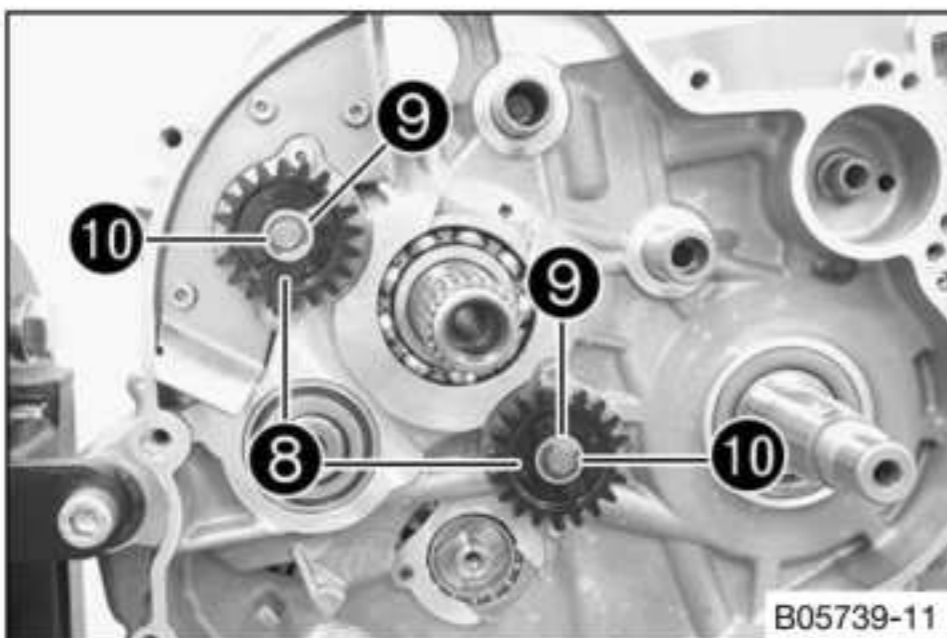
- Position the oil pump cover.
- Mount and tighten screws ⑥.

Guideline

Screw, oil pump cover	M5	6 Nm (4.4 lbf ft) Loctite®243™
-----------------------	----	--

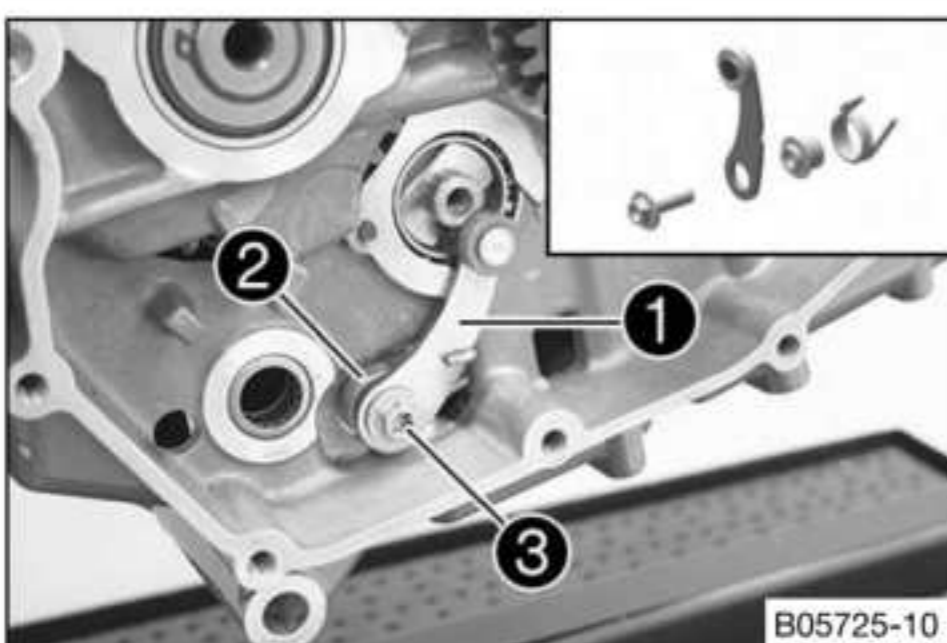


- Mount washers and pins ⑦.



- Mount oil pump gear wheels ⑧, washers ⑨ and lock washers ⑩.

18.5.5 Installing locking lever

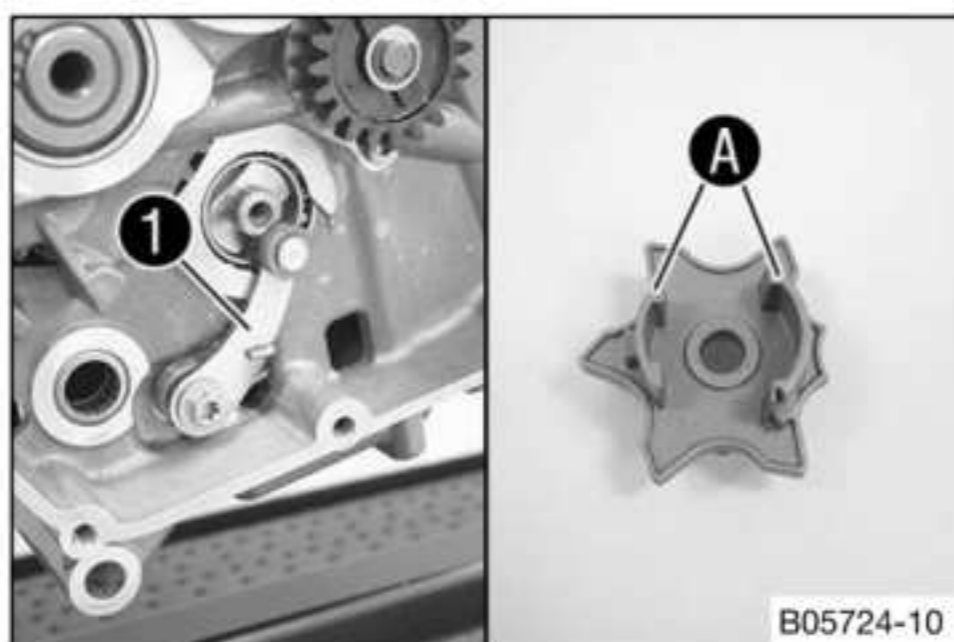


- Position locking lever ① with sleeve and spring ②.
- Mount and tighten screw ③.

Guideline

Screw, locking lever	M6	10 Nm (7.4 lbf ft) Loctite®243™
----------------------	----	---

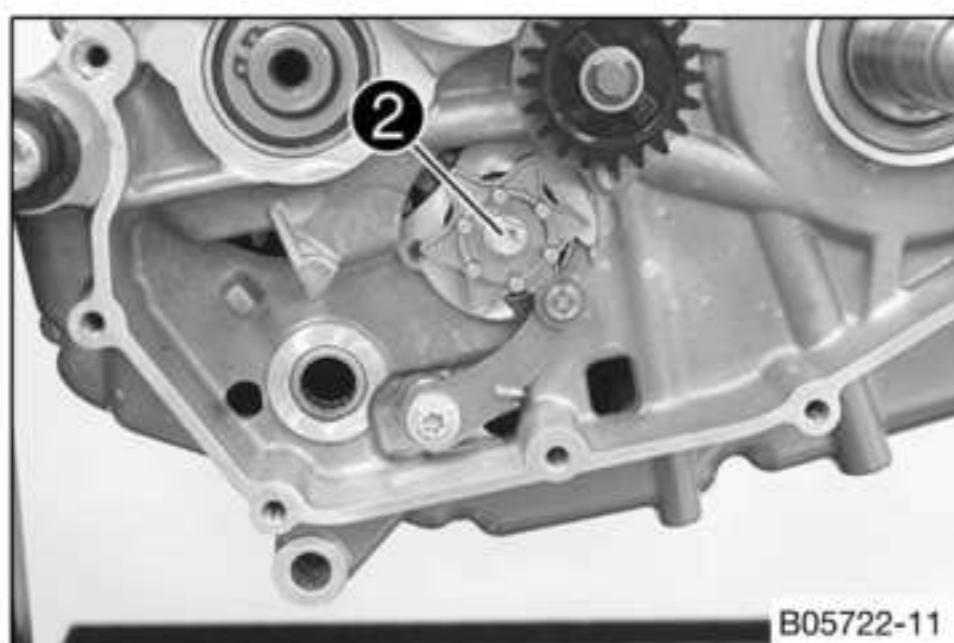
18.5.6 Installing shift drum locating



- Press locking lever **1** down and position shift drum locating.

i Info

The flat surfaces **A** of the shift drum locating are not symmetric.

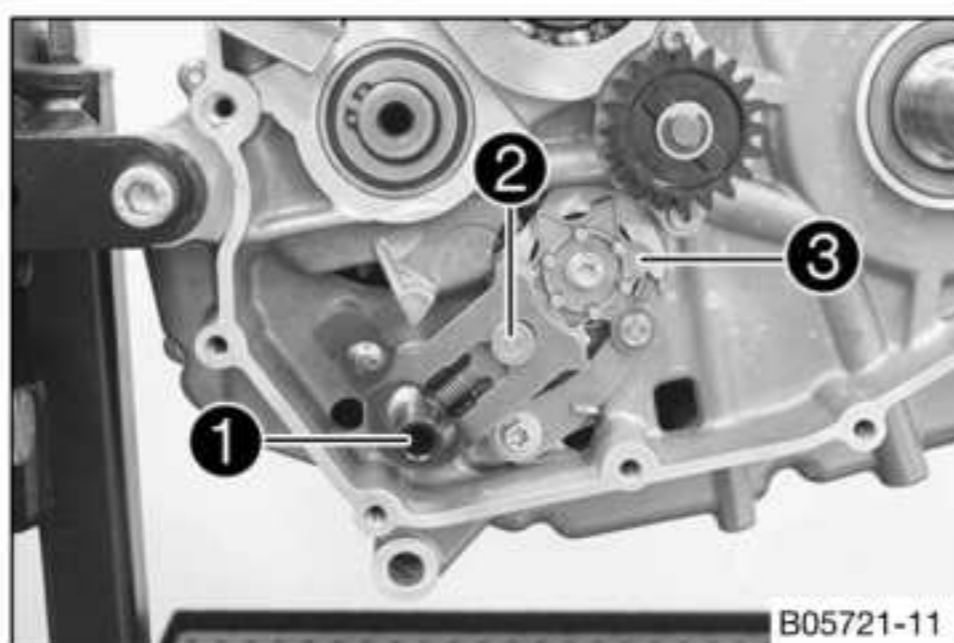


- Release the locking lever.
- Mount and tighten screw **2**.

Guideline

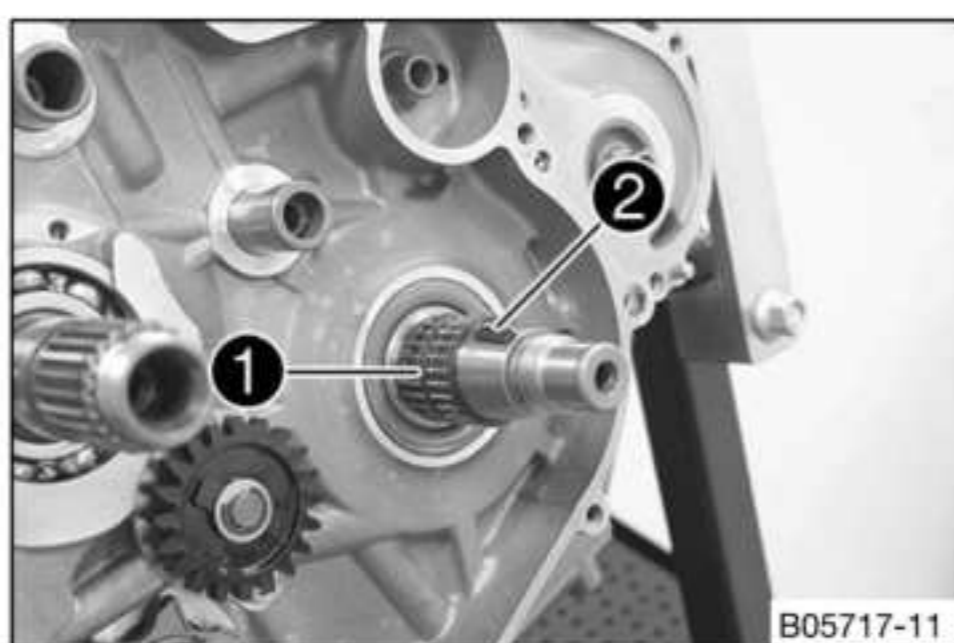
Screw, shift drum locating	M6	10 Nm (7.4 lbf ft) Loctite®243™
----------------------------	----	---

18.5.7 Installing shift shaft

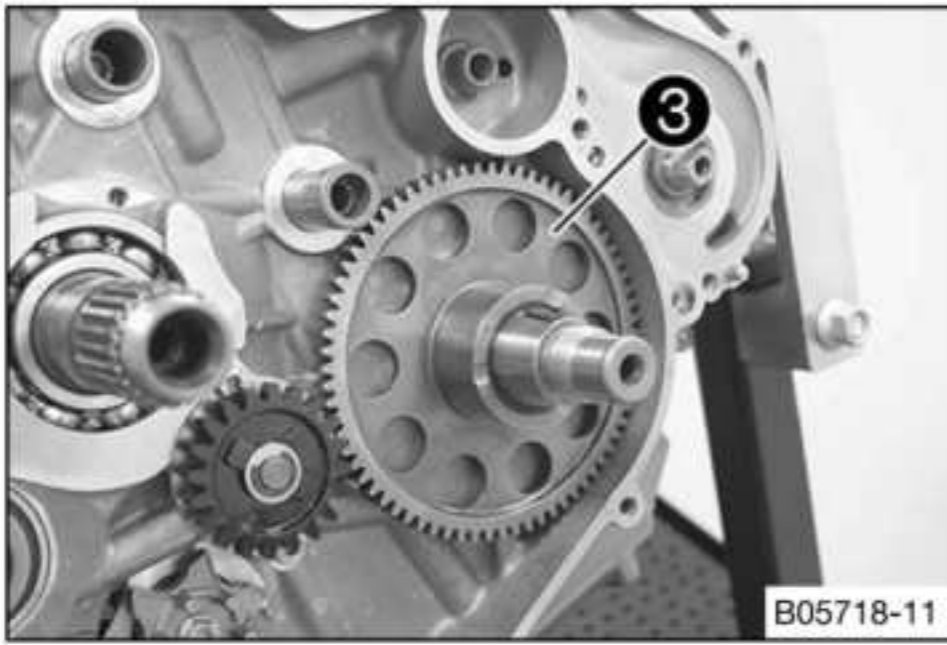


- Slide shift shaft **1** with the washer into the bearing seat.
- Push sliding plate **2** away from the shift drum locating **3**. Insert the shift shaft all the way.
- Let the sliding plate engage in the shift drum locating.
- Shift through the transmission.

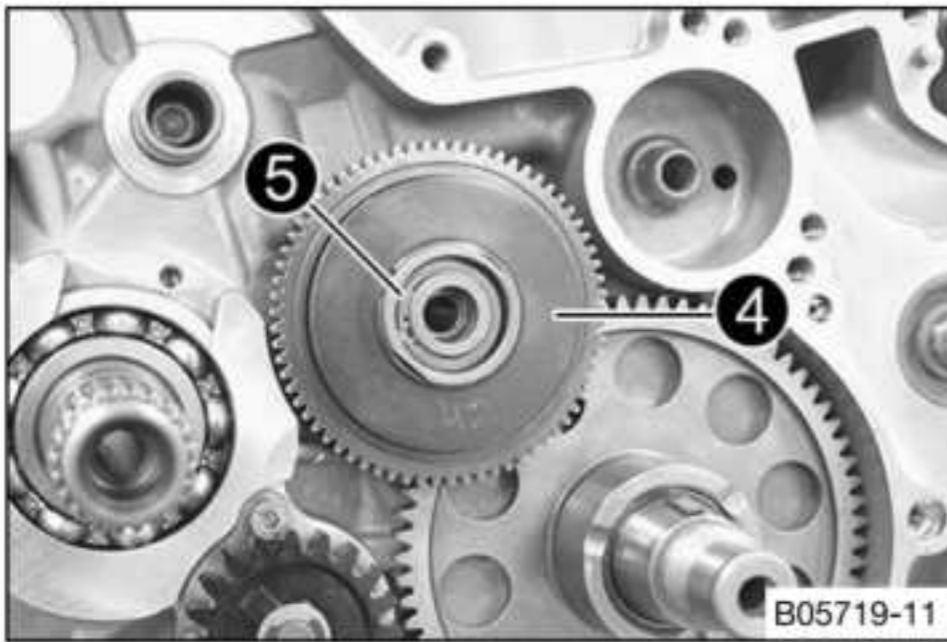
18.5.8 Installing the starter drive



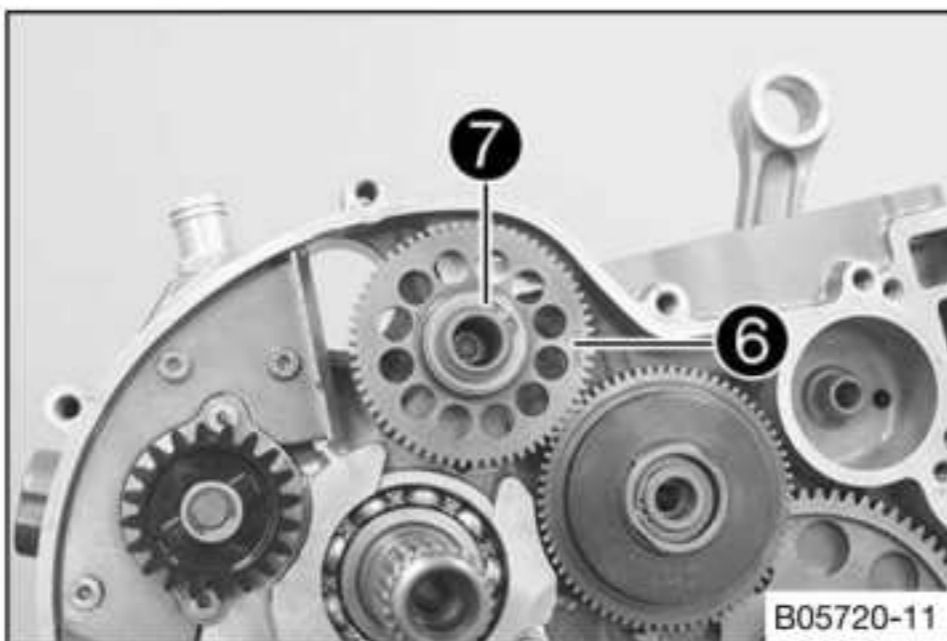
- Mount the two needle bearings **1** and the woodruff key **2**.



- Position freewheel gear ③.

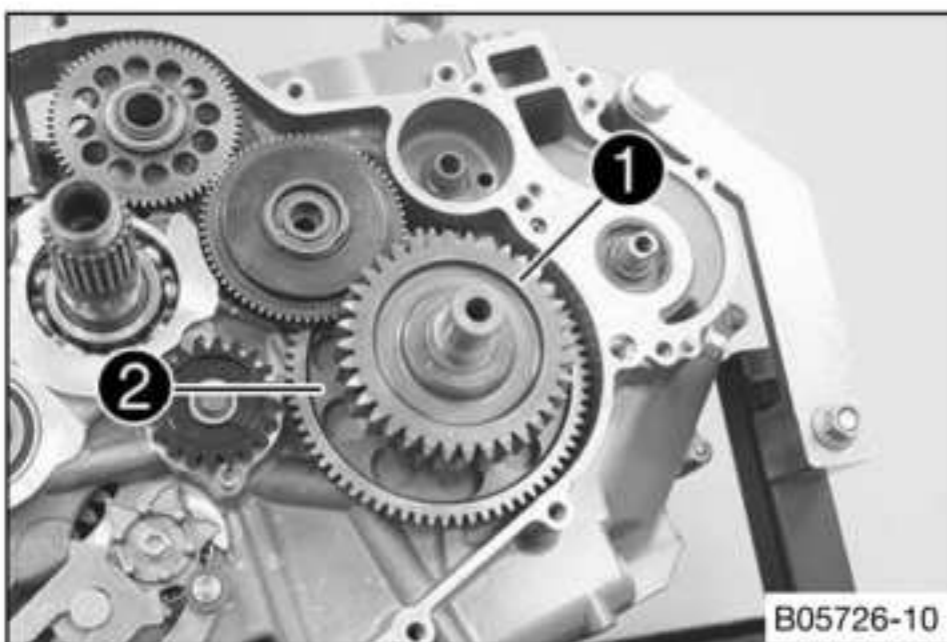


- Mount the needle bearing and torque limiter ④ with the washer.
- Mount lock ring ⑤.



- Mount the starter idler gear ⑥ with the washer.
- Mount lock ring ⑦.

18.5.9 Installing the primary gear wheel



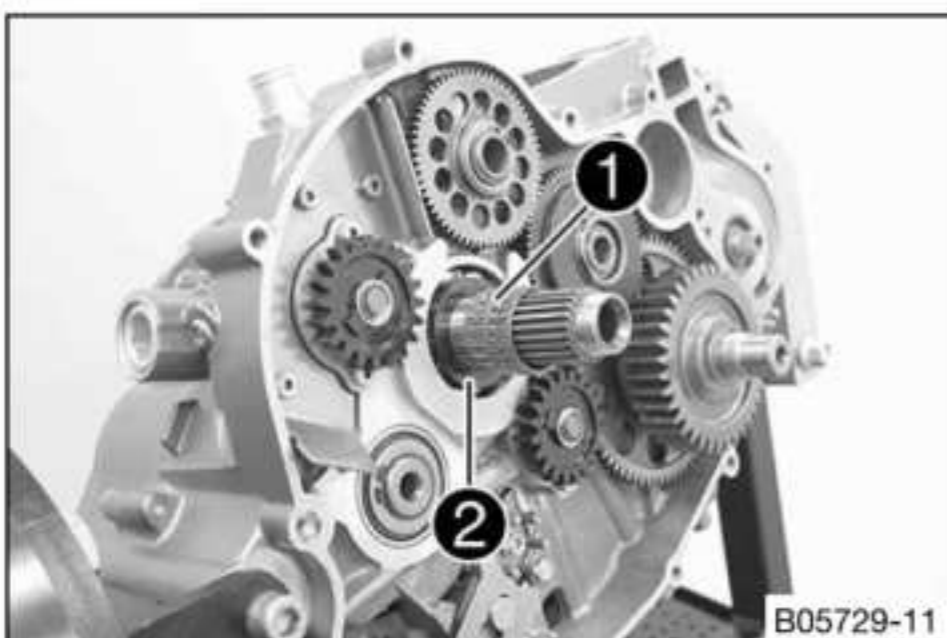
- Ensure that the woodruff key is seated properly.
- Mount primary gear wheel ①.



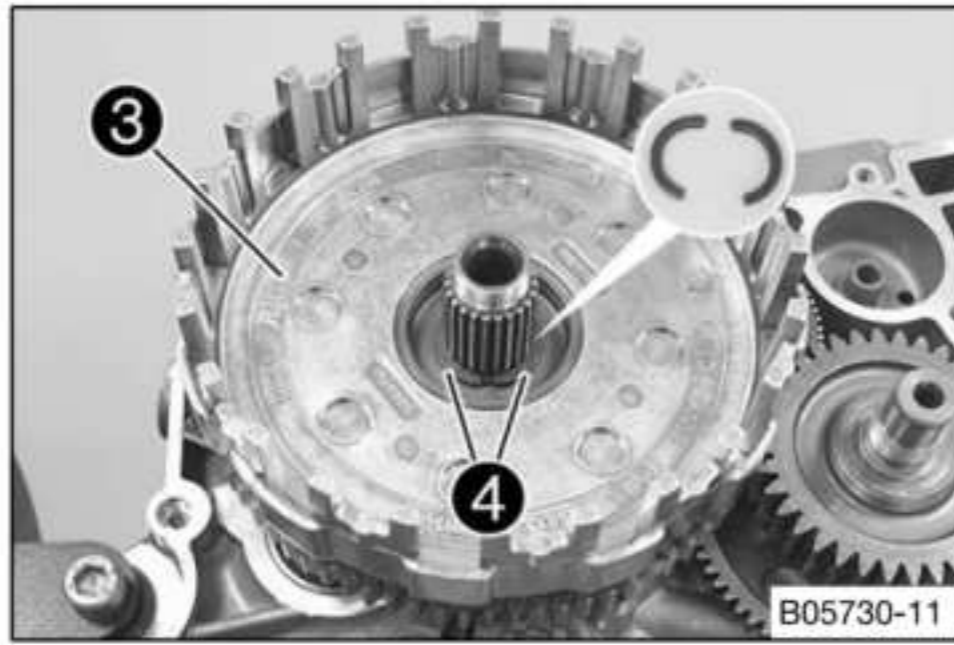
Info

Turn freewheel gear ② backwards and forwards to ease meshing.

18.5.10 Installing the clutch basket



- Mount supporting plate ① and needle bearing ②.



- Mount clutch basket **3**.



Info

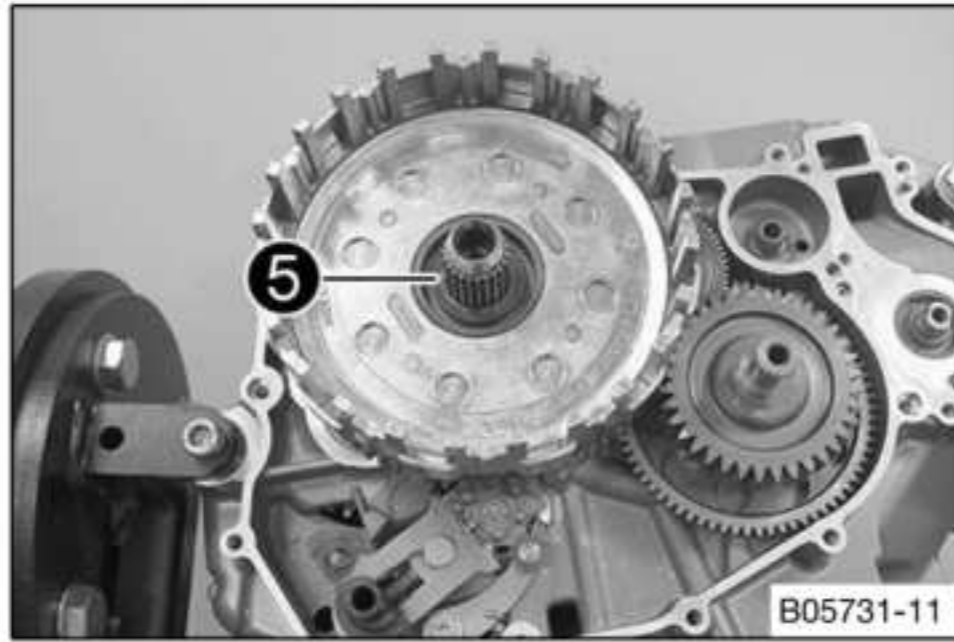
Turn the clutch basket and oil pump gear wheels backwards and forwards slightly to help them mesh more easily.

- Mount half washers **4** with the sharp edge facing outward.

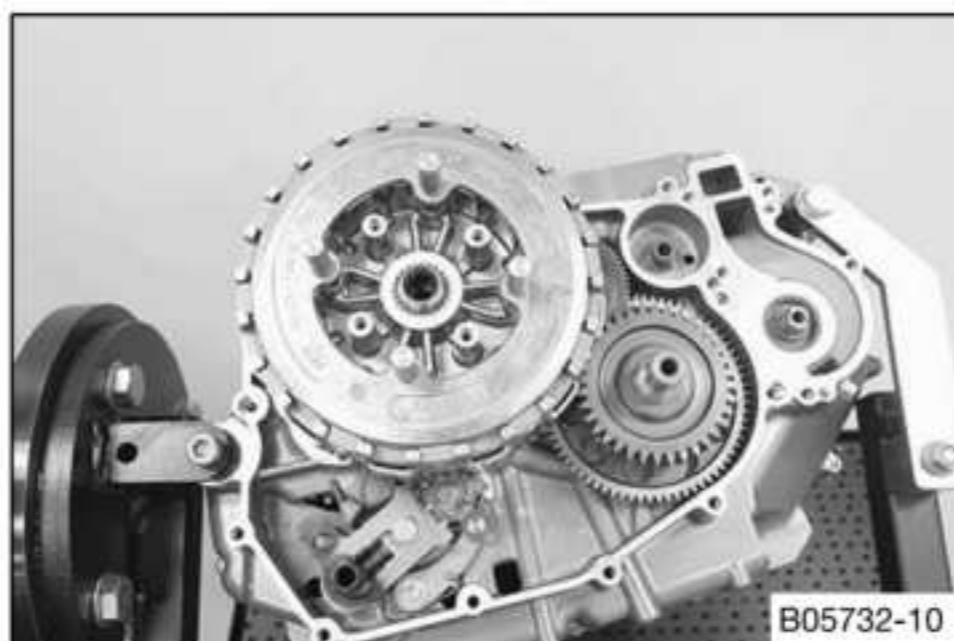


Info

Grease the half washers to ease assembly.



- Position stepped washer **5** with the recesses toward the half washers.

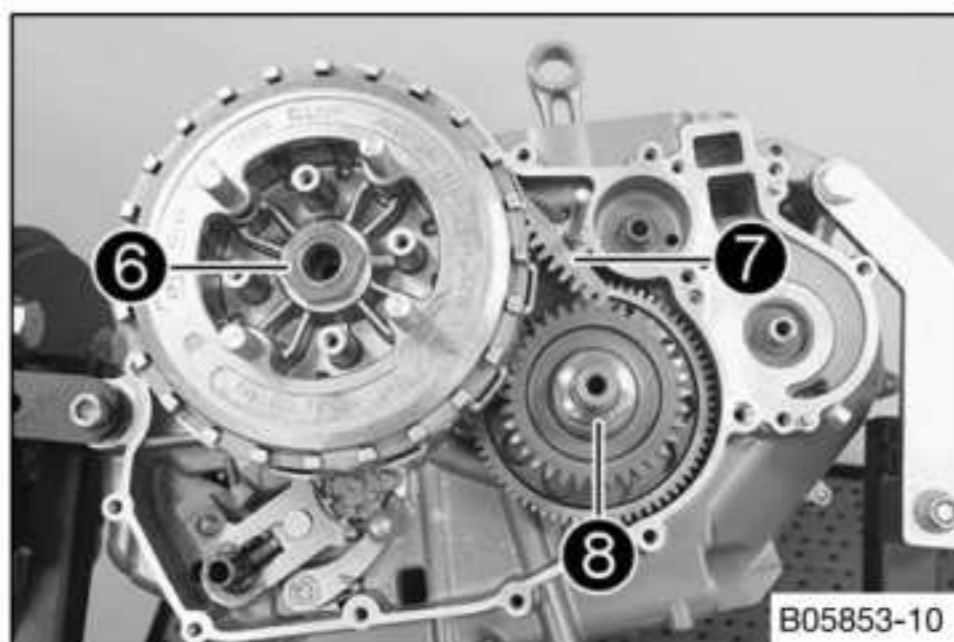


- Insert the antihopping clutch in the clutch basket.
✓ The uppermost clutch facing disc is offset by one tooth.



Info

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



- Mount nut **6** with the washer.
- Lock the clutch basket and primary gear wheel using special tool **7** and tighten the nut.

Guideline

Nut, inner clutch hub	M20x1.5	120 Nm (88.5 lbf ft) Loctite®243™
-----------------------	---------	---

Gear segment (75029081000) (📖 p. 390)		
---------------------------------------	--	--



Info

Make sure that the crankshaft is not locked.

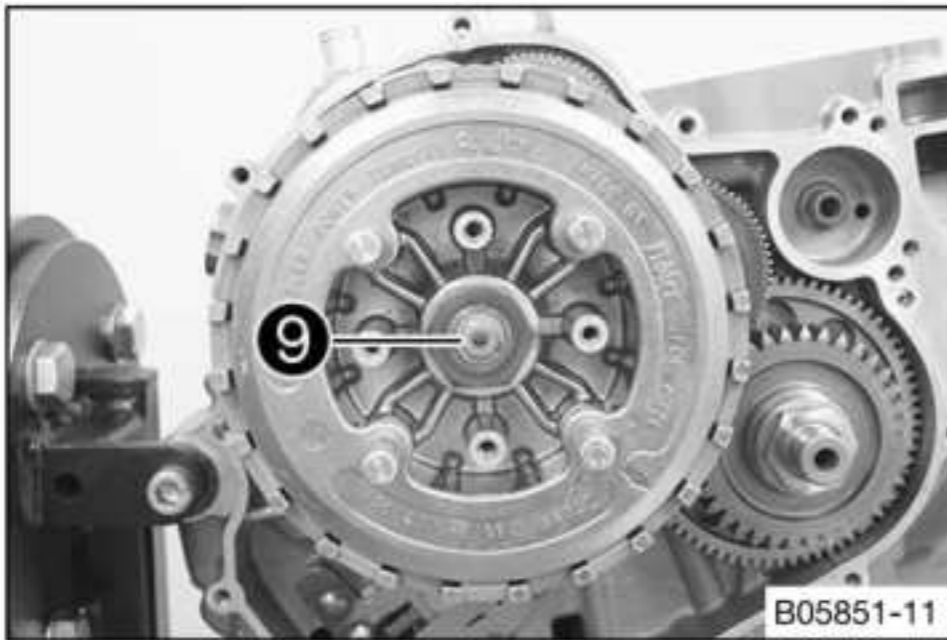
- Mount and tighten nut **8**.

Guideline

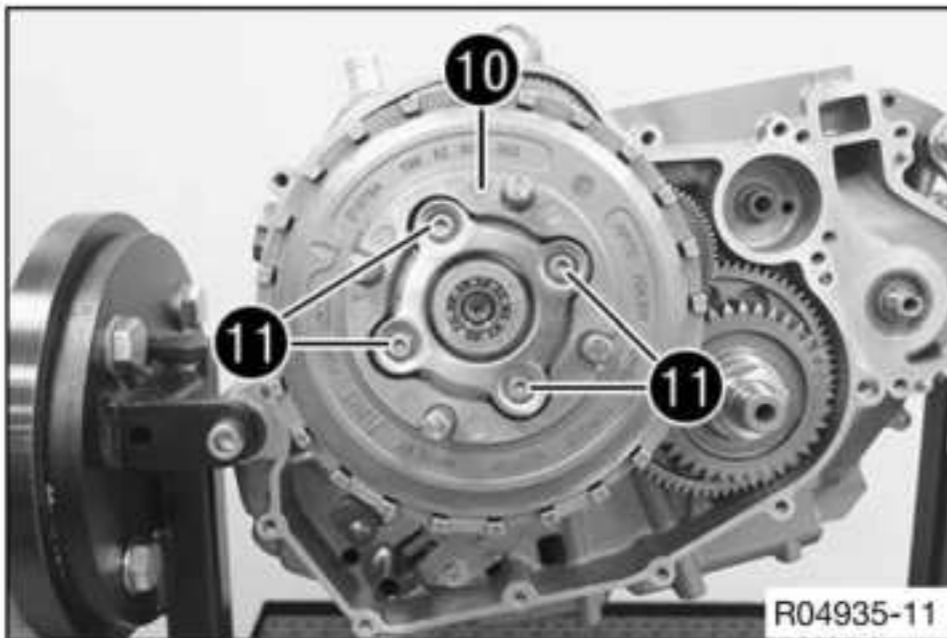
Nut, primary gear wheel	M20LHx1.5	90 Nm (66.4 lbf ft) Loctite®243™
-------------------------	-----------	--

- Remove the special tool.

Gear segment (75029081000) (📖 p. 390)		
---------------------------------------	--	--



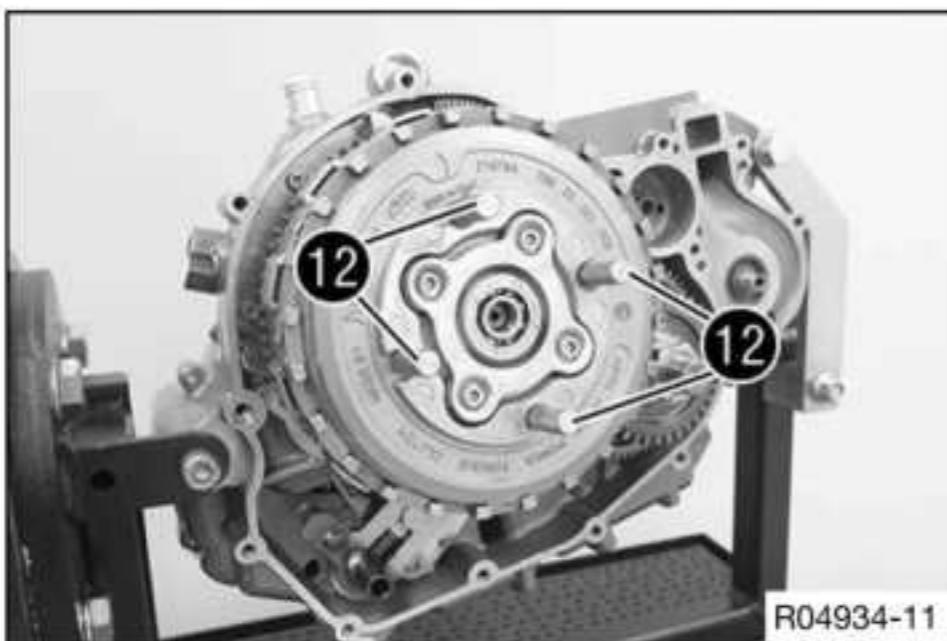
- Mount clutch throw-out **9**.



- Position clutch pressure cap **10**.
- Install and tighten screws **11** with the antacentrifugal ring and clutch springs.

Guideline

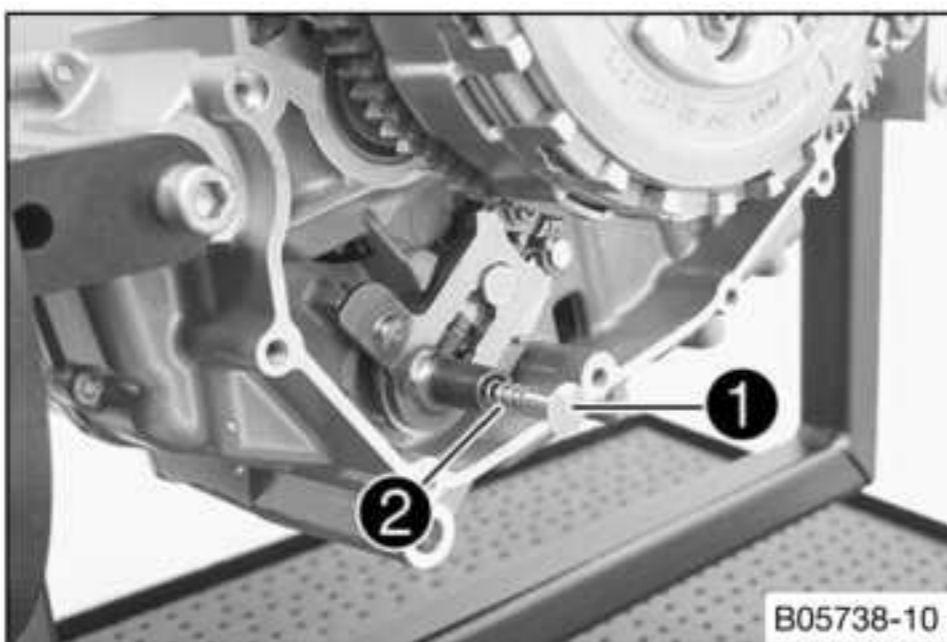
Screw, clutch spring	M5	8 Nm (5.9 lbf ft)
----------------------	----	-------------------



- Remove special tool **12**.

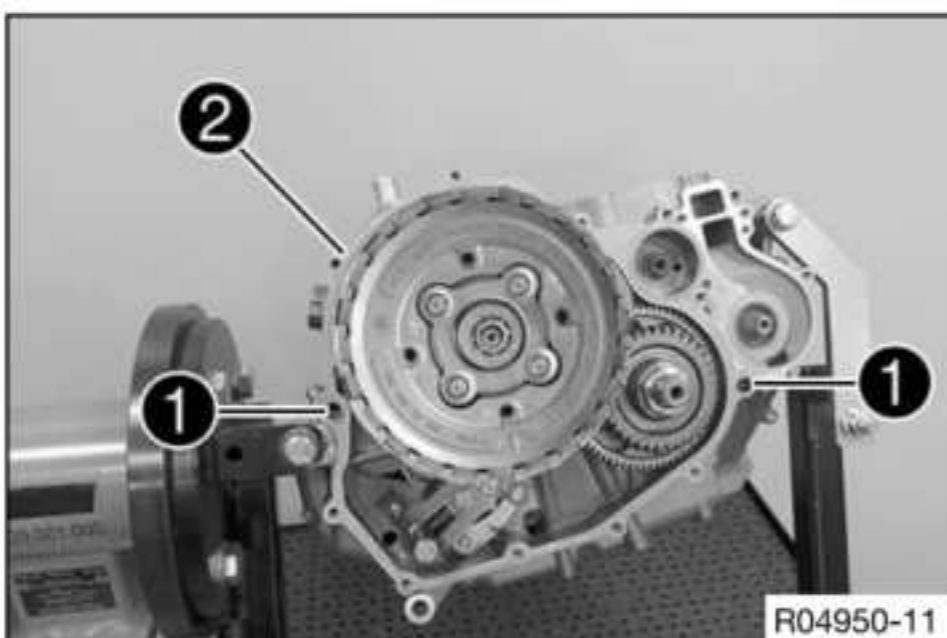
Assembly screws (75029033000) (p. 387)
--

18.5.11 Installing the spacer and spring

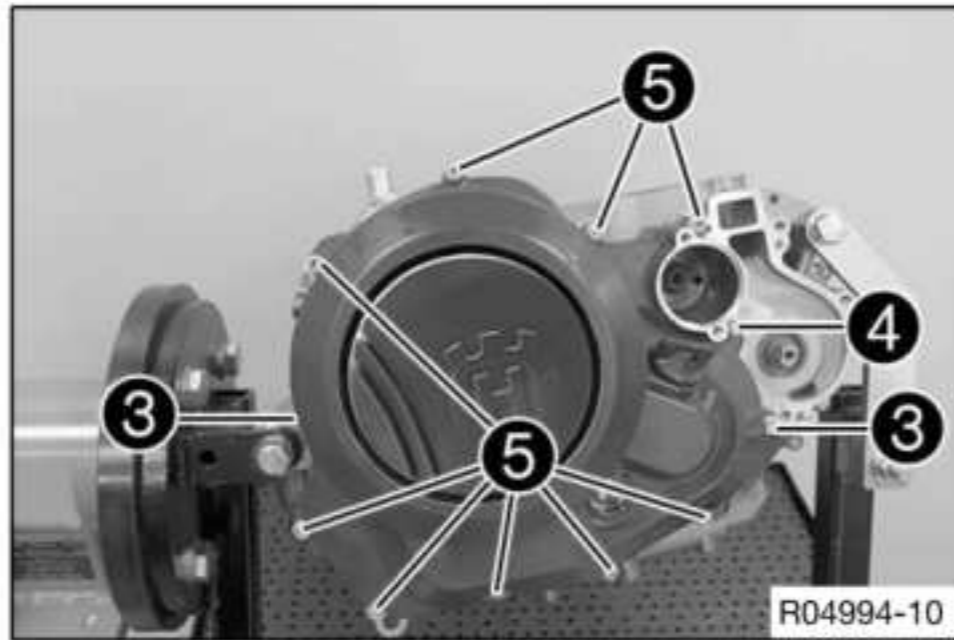


- Position spacer **1** and spring **2**.

18.5.12 Installing the clutch cover



- Mount dowels **1** and position the clutch cover gasket **2**.



- Position the clutch cover.
- Mount screws ③ but do not tighten yet.

Guideline

Screw, clutch cover	M6x30	10 Nm (7.4 lbf ft)
---------------------	-------	--------------------

- Mount screw ④ but do not tighten it yet.

Guideline

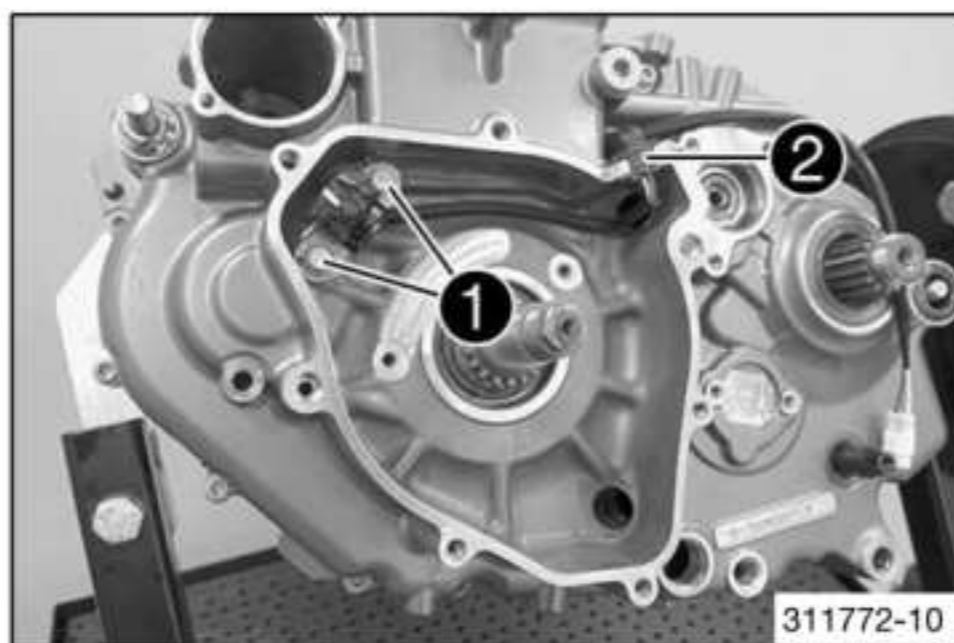
Screw, clutch cover	M6x35	10 Nm (7.4 lbf ft)
---------------------	-------	--------------------

- Mount screws ⑤ and tighten all screws in a crisscross pattern.

Guideline

Screw, clutch cover	M6x25	10 Nm (7.4 lbf ft)
---------------------	-------	--------------------

18.5.13 Installing the crankshaft speed sensor



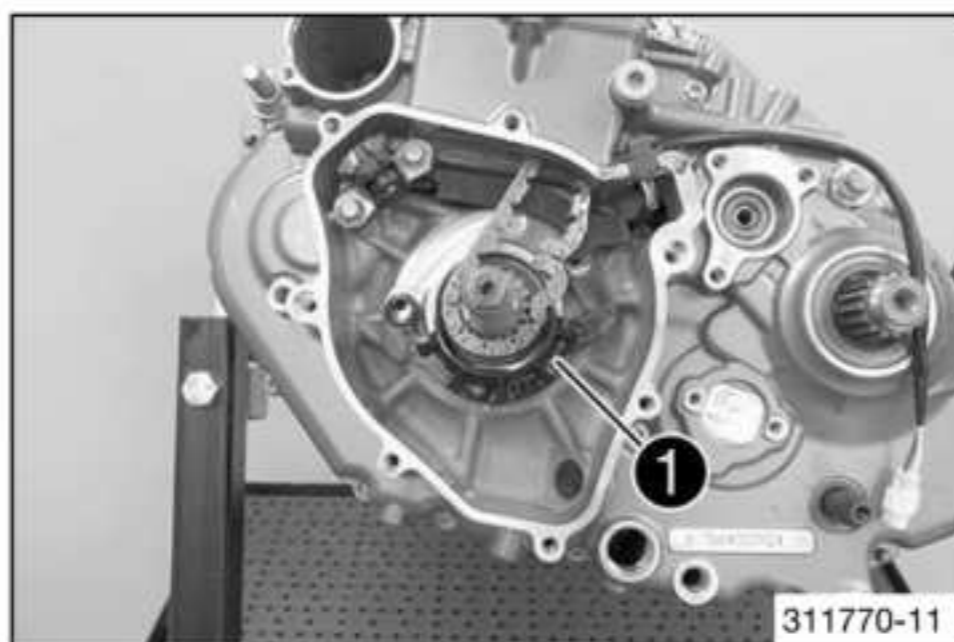
- Position the crankshaft speed sensor.
- Mount screws ① but do not tighten yet.

Guideline

Screw, crankshaft speed sensor	M6	10 Nm (7.4 lbf ft) Loctite® 243™
--------------------------------	----	--

- Position the cable and position rubber grommet ② in the engine case.

18.5.14 Installing the timing chain rails

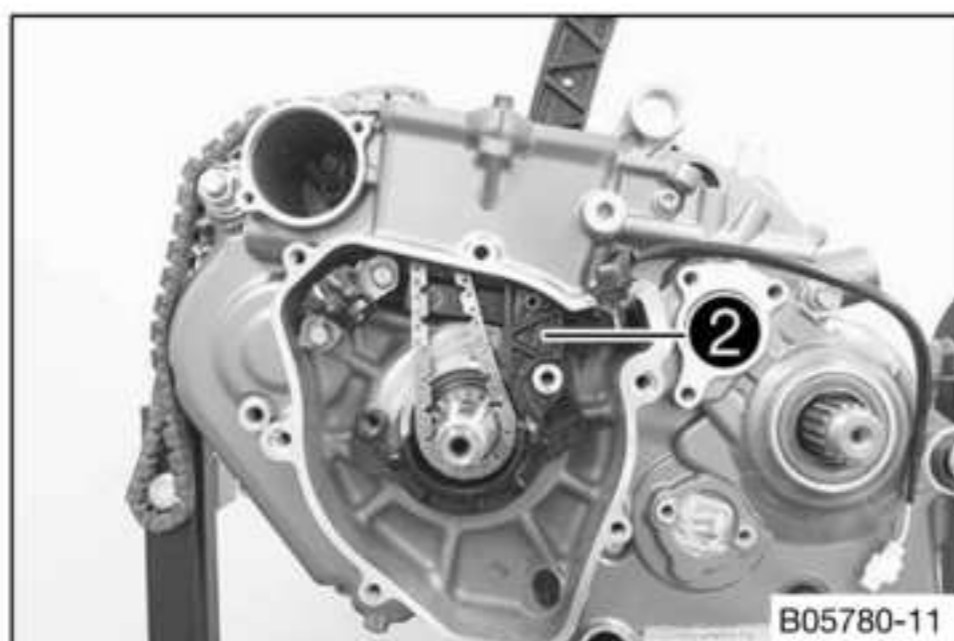


- Thread in the timing chain and place it over the timing chain sprocket.

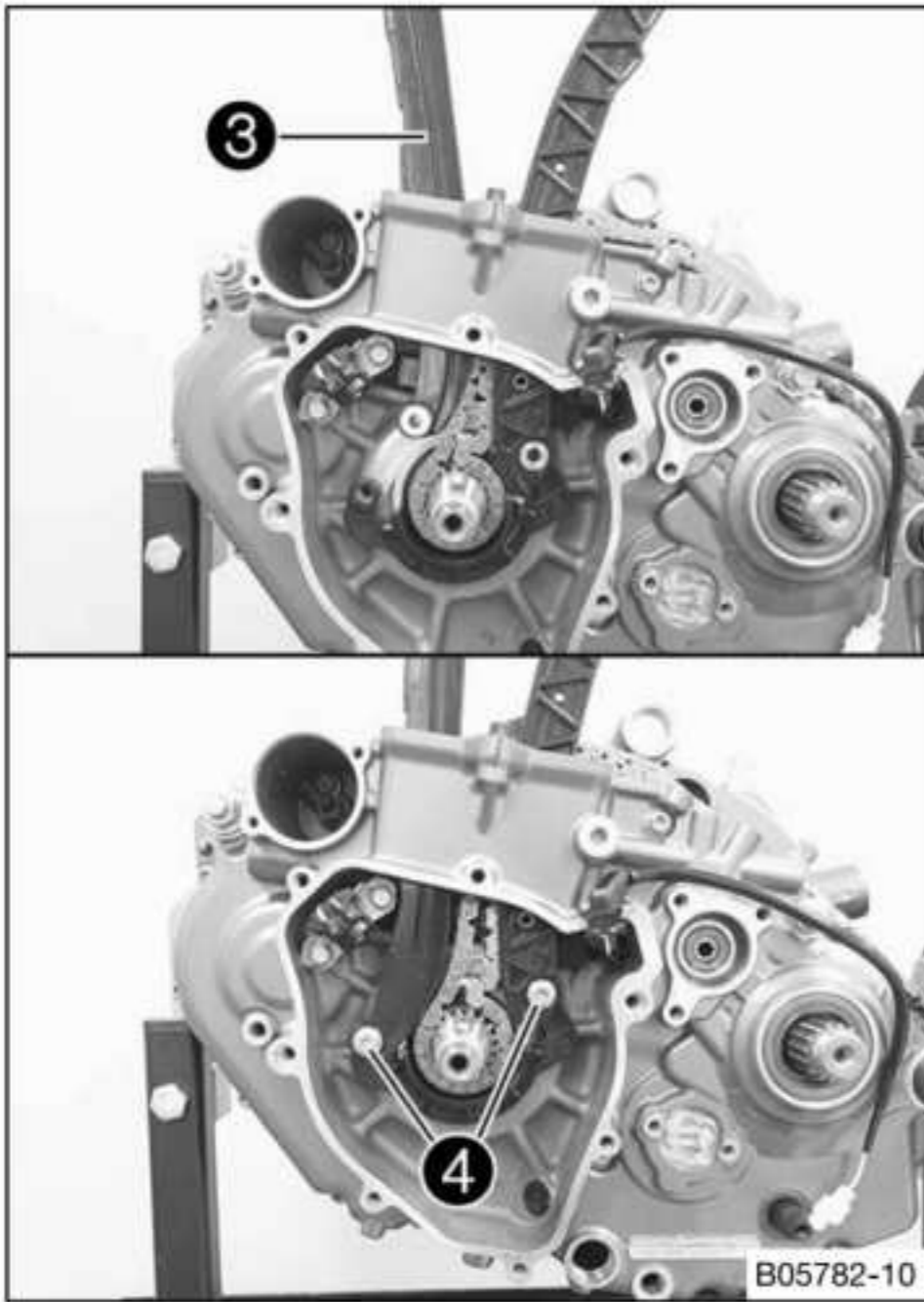
i Info

If the timing chain was used before, ensure it is running in the correct direction.

- Position timing chain securing guide ①.
- ✓ The crankshaft position sensor cable is routed in the cable duct of the timing chain securing guide.



- Position timing chain tensioning rail ② from above.
- Insert the support bushing into the timing chain securing guide.



- Position timing chain guide rail ③ from above.
- Insert the support bushing into the timing chain securing guide.
- Mount and tighten screws ④.

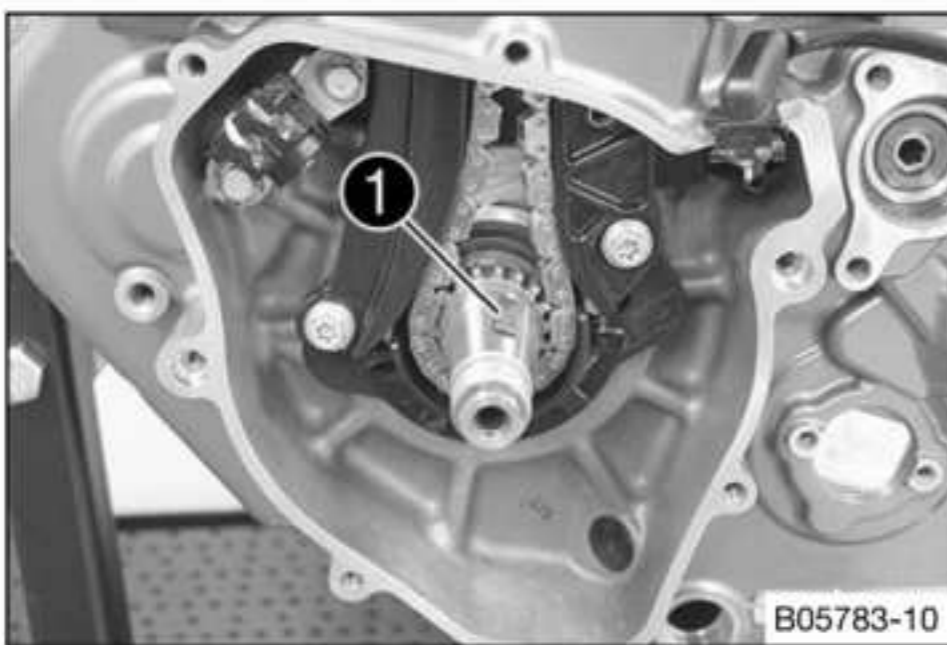
Guideline

Screw, timing chain guide rail	M6x30	10 Nm (7.4 lbf ft) Loctite®2701™
Screw, timing chain tensioning rail	M6x30	10 Nm (7.4 lbf ft) Loctite®2701™

i Info
Ensure that there is no thread locker on the collar of the screw; otherwise, the timing chain tensioning rail may block and break.

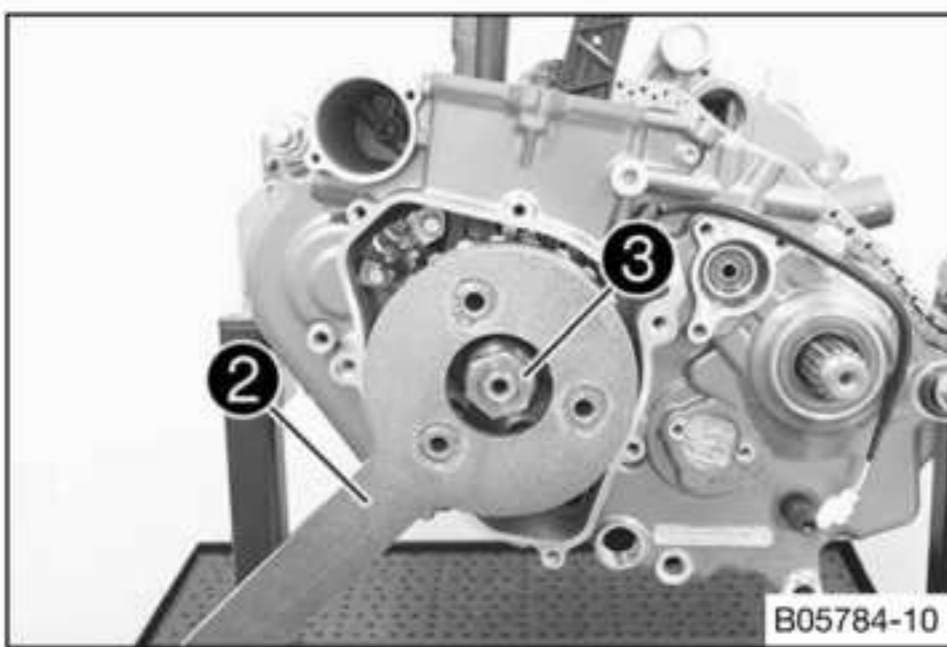
- Check both timing chain rails for freedom of movement.

18.5.15 Installing the rotor



- Ensure that woodruff key ① is seated properly.
- Degrease the cone of the crankshaft and rotor.
- Mount the rotor.

i Info
Make sure that the crankshaft is not blocked.



- Hold the rotor with special tool ②.

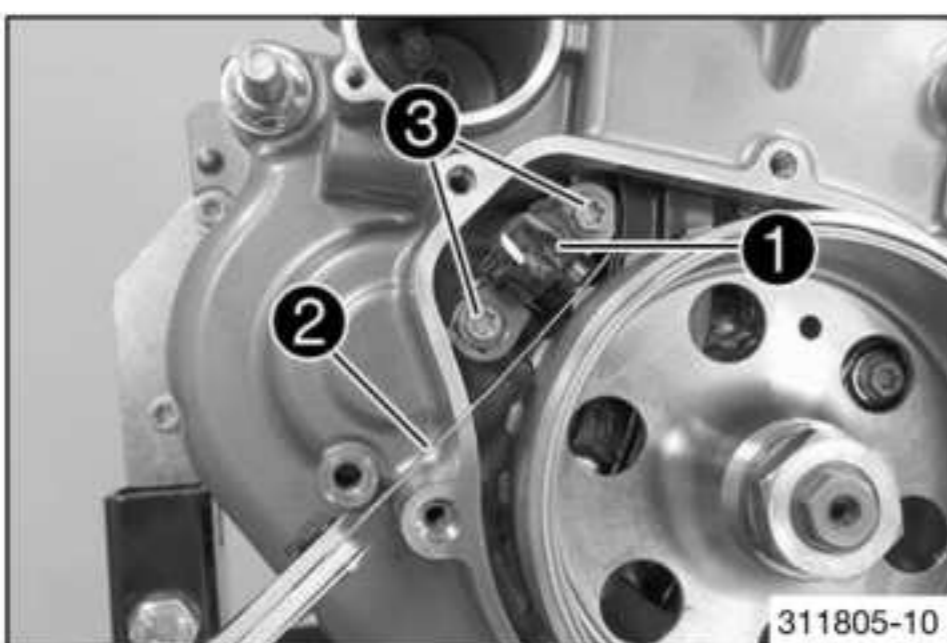
Holding wrench (75029091000) (p. 390)

- Mount and tighten nut ③ with the locking edge washer.

Guideline

Rotor nut	M18x1.5	100 Nm (73.8 lbf ft)
-----------	---------	----------------------

18.5.16 Adjusting the crankshaft speed sensor distance



- Adjust the distance between crankshaft speed sensor ① and the conductive element of the rotor using special tool ②.

Guideline

Crankshaft position sensor/rotor - distance	0.70 mm (0.0276 in)
---	---------------------

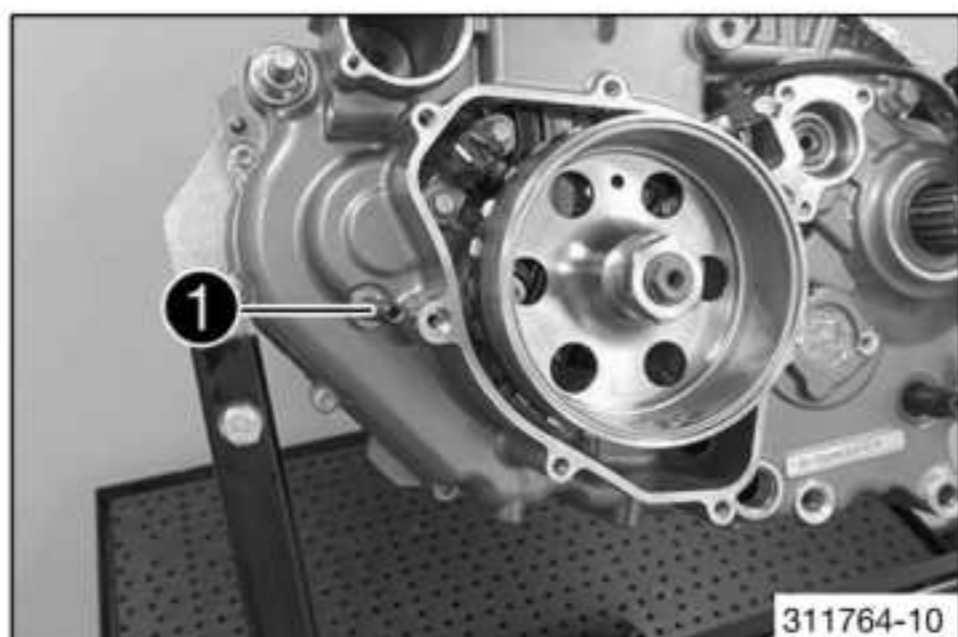
Feeler gauge (59029041100) (p. 384)

- Tighten screws ③.

Guideline

Screw, crankshaft speed sensor	M6	10 Nm (7.4 lbf ft) Loctite®243™
--------------------------------	----	---

18.5.17 Setting engine to top dead center



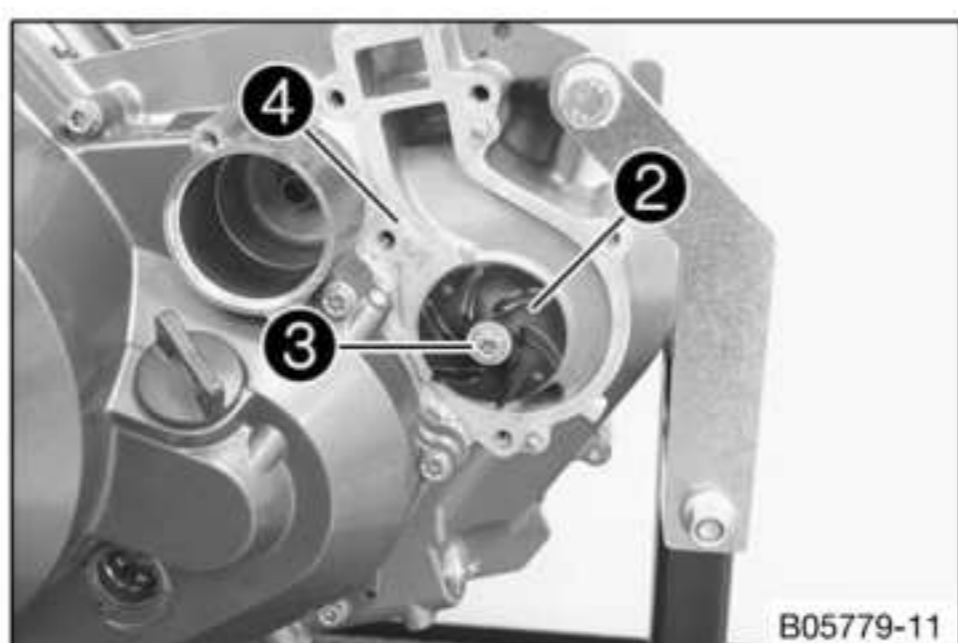
- Position crankshaft to TDC and lock with special tool ①.

Locking screw (61229015000) (📖 p. 386)

18.5.18 Mounting the water pump cover



- Mount form washer ①.

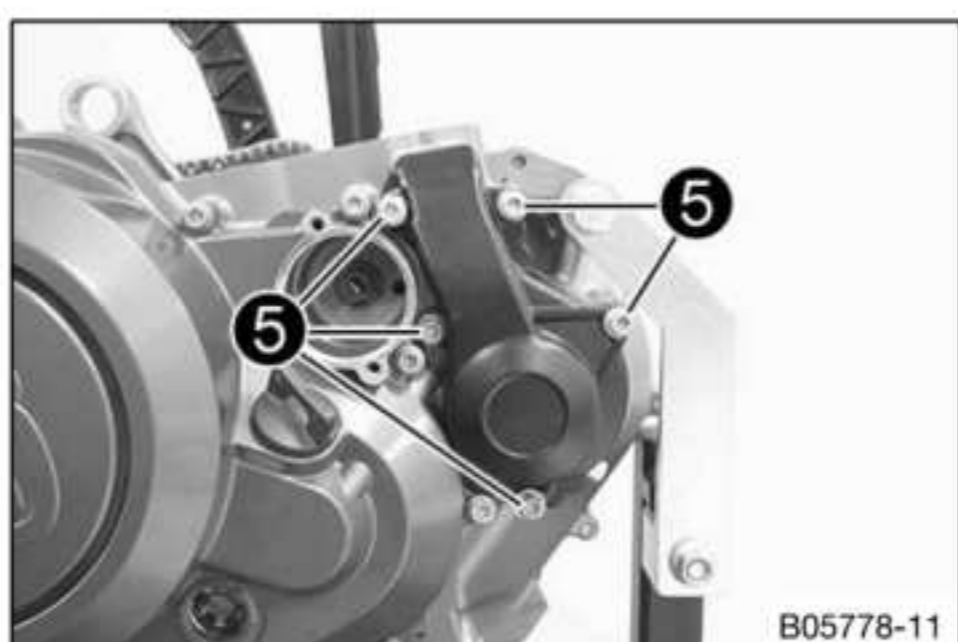


- Mount water pump impeller ②.
- Mount and tighten screw ③.

Guideline

Screw, water pump wheel	M6	10 Nm (7.4 lbf ft) Loctite®243™
-------------------------	----	---

- Lay on the water pump cover seal ④.



- Position the water pump cover.
- Mount and tighten screws ⑤.

Guideline

Screw, water pump cover	M6	10 Nm (7.4 lbf ft)
-------------------------	----	--------------------

18.5.19 Installing the piston



- Shift the gap of the piston rings by 120°.
- Place the oiled piston on the cylinder.
- Clamp the piston rings together using the special tool.

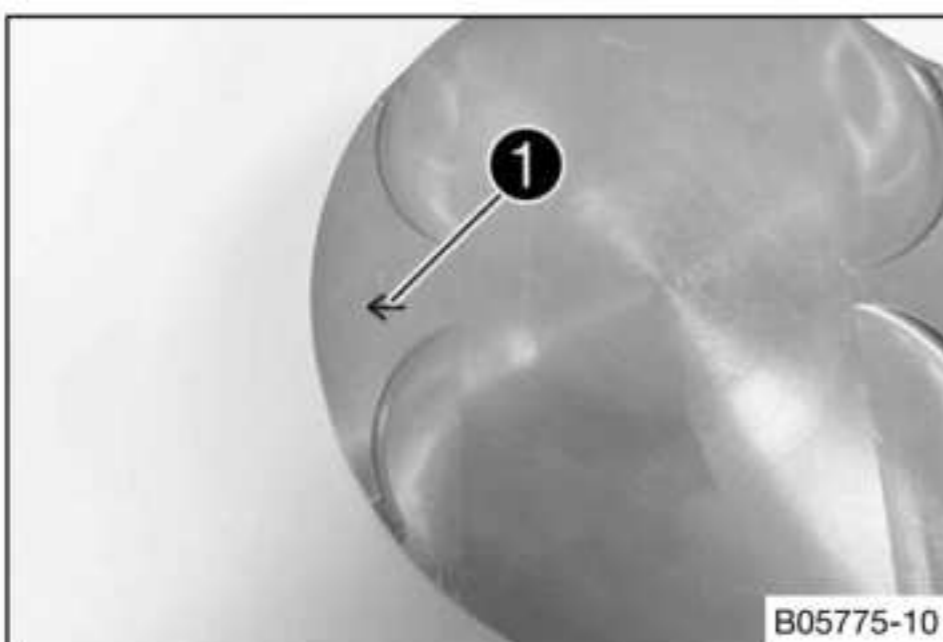
Piston ring compressor (60029015000) (📖 p. 384)



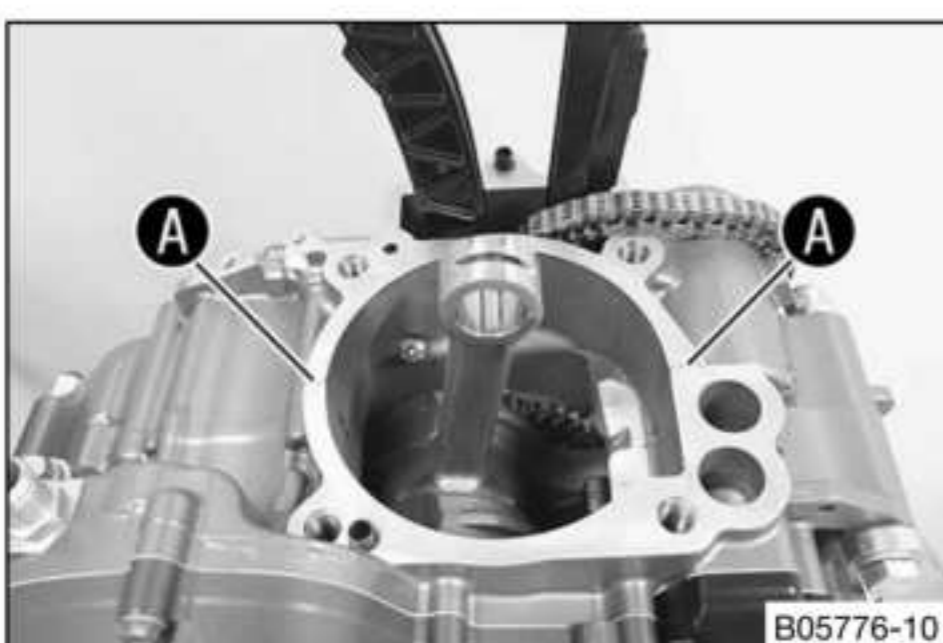
- Tap lightly on the piston ring compressor from the top with a plastic hammer so that it lies flush with the cylinder.
- ✓ The special tool must press the piston rings together properly and lie flush with the cylinder.



- Drive the piston into the cylinder by striking it carefully with the hammer handle.
- ✓ The piston rings should not catch or they will be damaged.

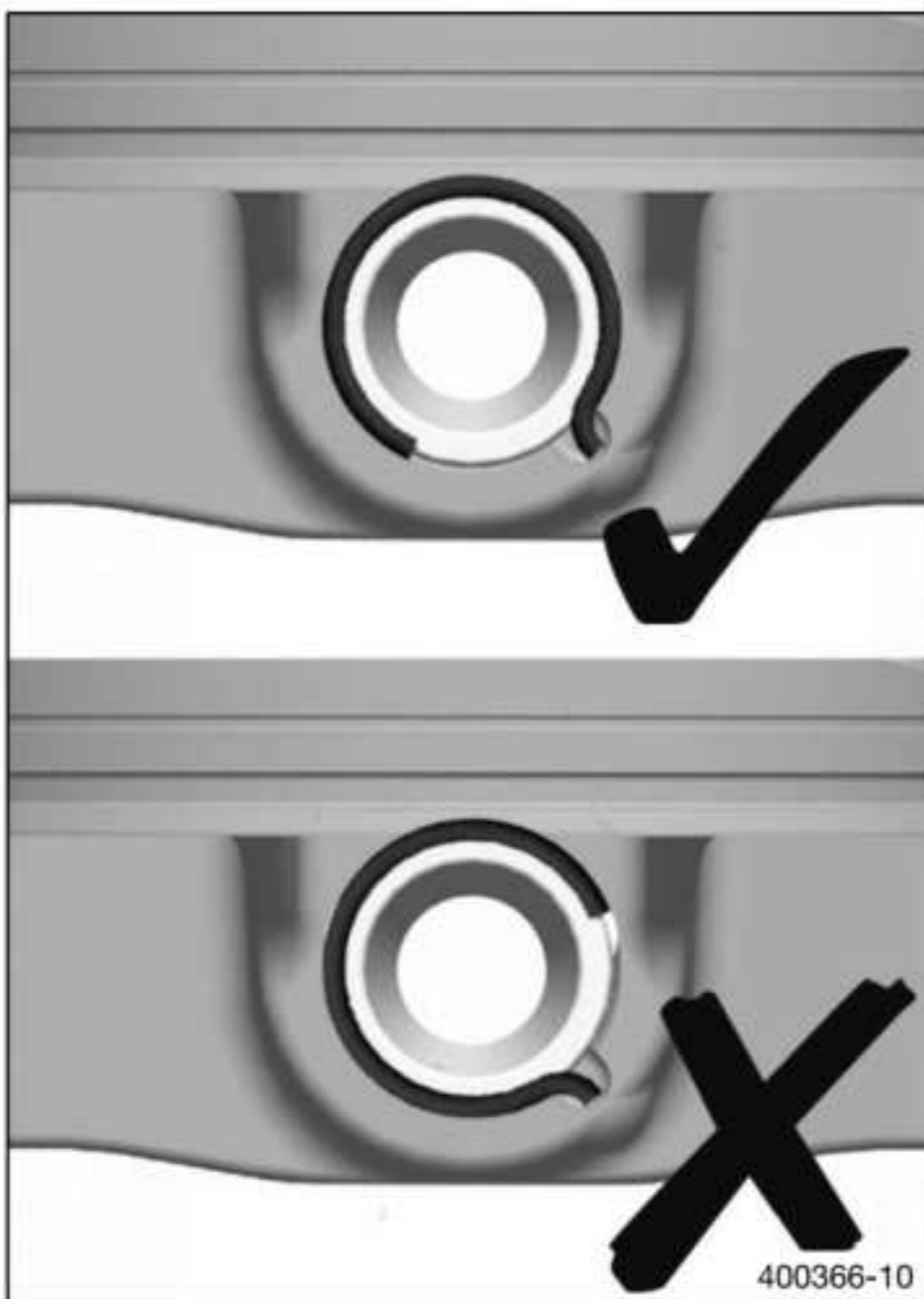
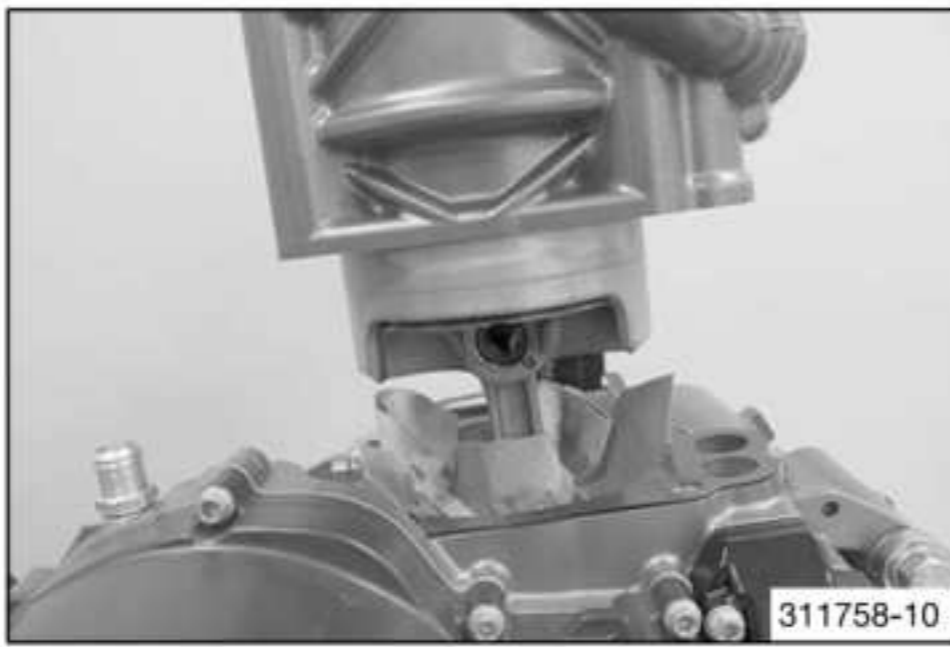
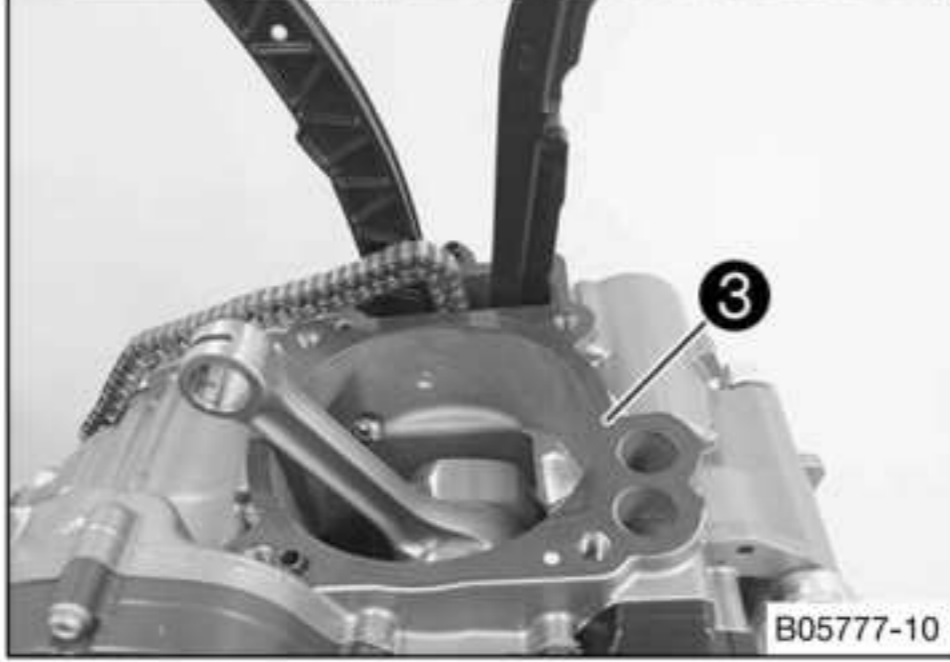
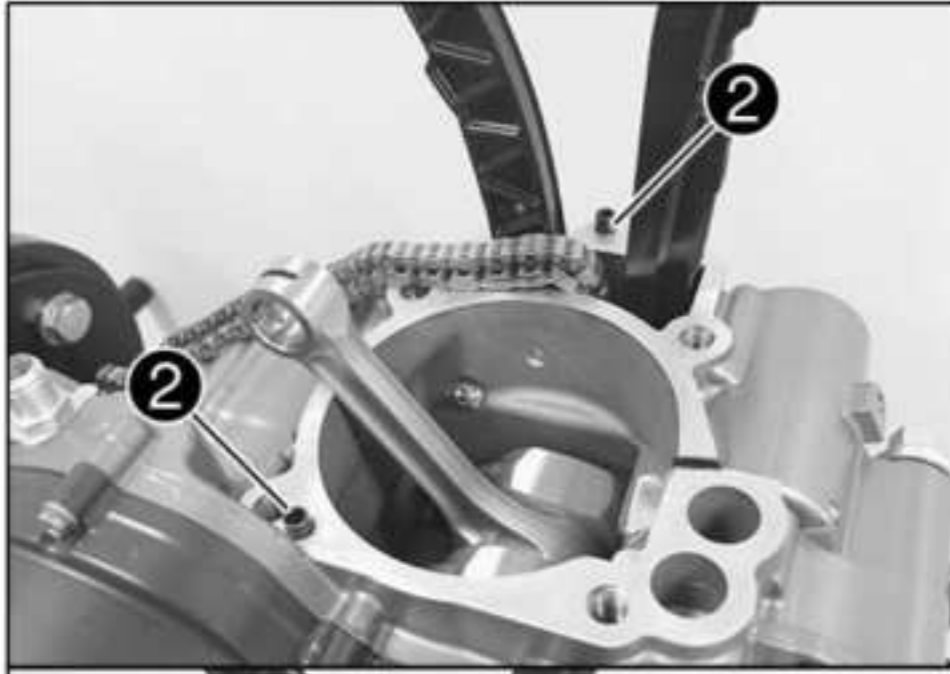


- Ensure that piston marking 1 faces the exhaust side.



- Thinly apply sealing compound to area A.

Loctite® 5910



- Mount dowels ② and position cylinder base gasket ③.

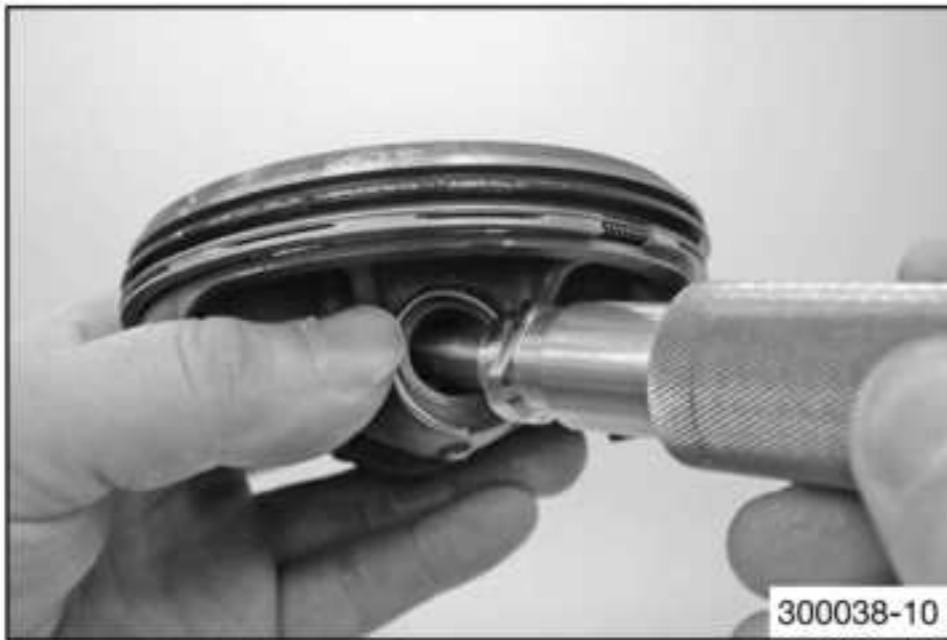
- Cover the engine case opening with a cloth. Thread the timing chain through the timing chain shaft. Mount the piston pin.



Info

For purposes of illustration, the following operations are shown on the removed piston.

- Position the piston ring lock.



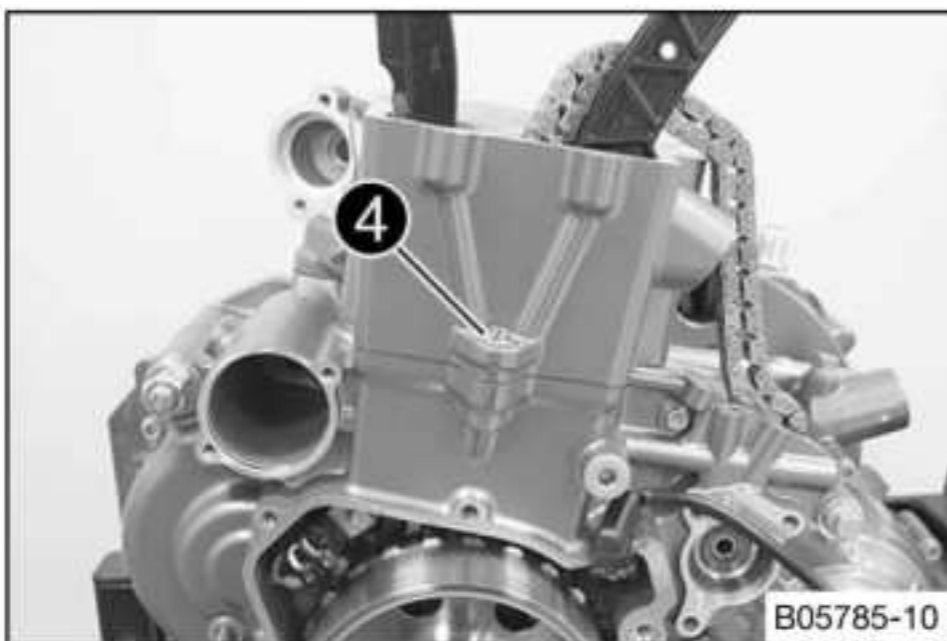
- Insert the special tool and press it with force towards the piston.
- Turn the special tool counterclockwise and, in doing so, press the piston ring lock into the groove.

Insertion for piston ring lock (75029035000) (📖 p. 388)

- Ensure that the piston ring lock is in the correct position on both sides.



- Remove the cloth.
- Keep the timing chain taut. Push the cylinder down carefully and engage the dowels.

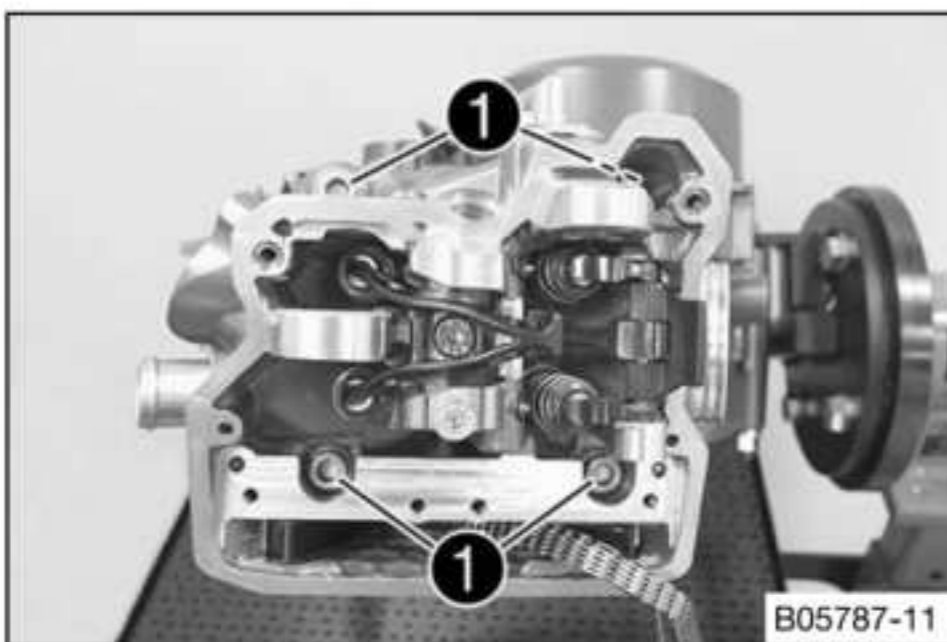


- Mount and tighten screw ④.

Guideline

Screw, timing chain shaft	M6	10 Nm (7.4 lbf ft) Loctite®243™
---------------------------	----	---

18.5.20 Installing the cylinder head



- Put on the cylinder head gasket.



Info

Make sure the grooved pins are seated correctly.

- Put the cylinder head in place.
- Mount and tighten screws ① with the washers.

Guideline

Screw, cylinder head	M10	<p>Tightening sequence: Tighten diagonally, beginning with the rear screw on the timing chain shaft.</p> <p>1st stage 15 Nm (11.1 lbf ft)</p> <p>2nd stage 30 Nm (22.1 lbf ft)</p> <p>3rd stage 45 Nm (33.2 lbf ft)</p> <p>4th stage 60 Nm (44.3 lbf ft)</p> <p>Lubricated with engine oil</p> <p>Loctite® 577™</p>
----------------------	-----	--

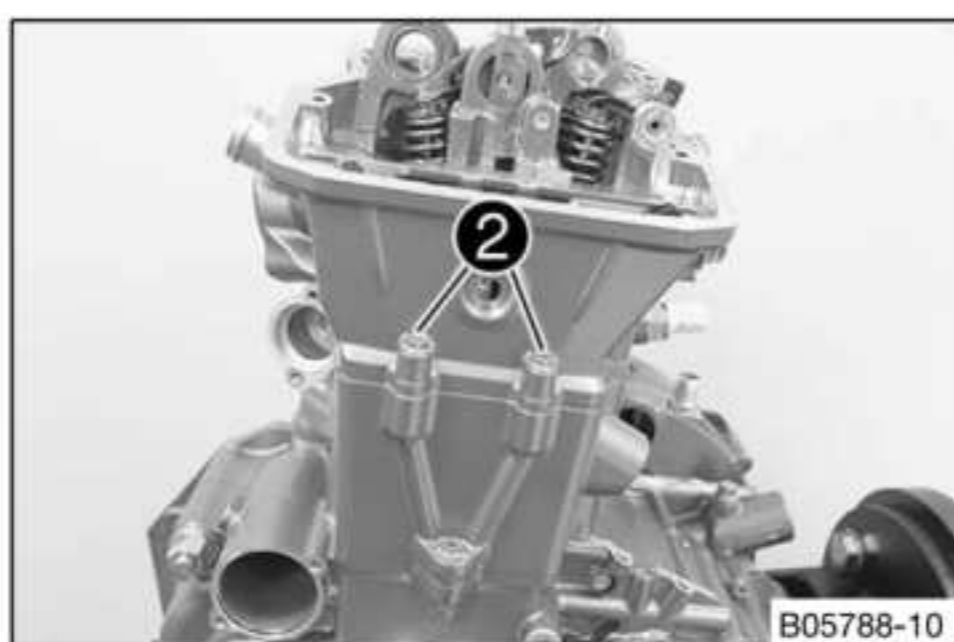
i Info

Always use new cylinder head screws.

- Mount and tighten screws **2**.

Guideline

Screw, cylinder head	M6	<p>10 Nm (7.4 lbf ft)</p> <p>Loctite® 243™</p>
----------------------	----	---



- Mount and tighten screw **3** with gasket.

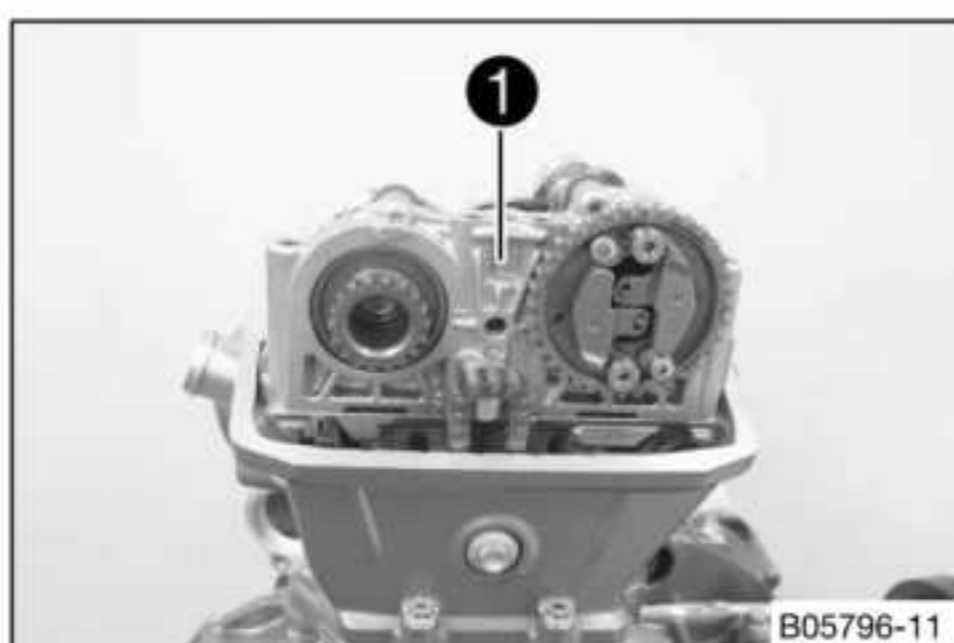
Guideline

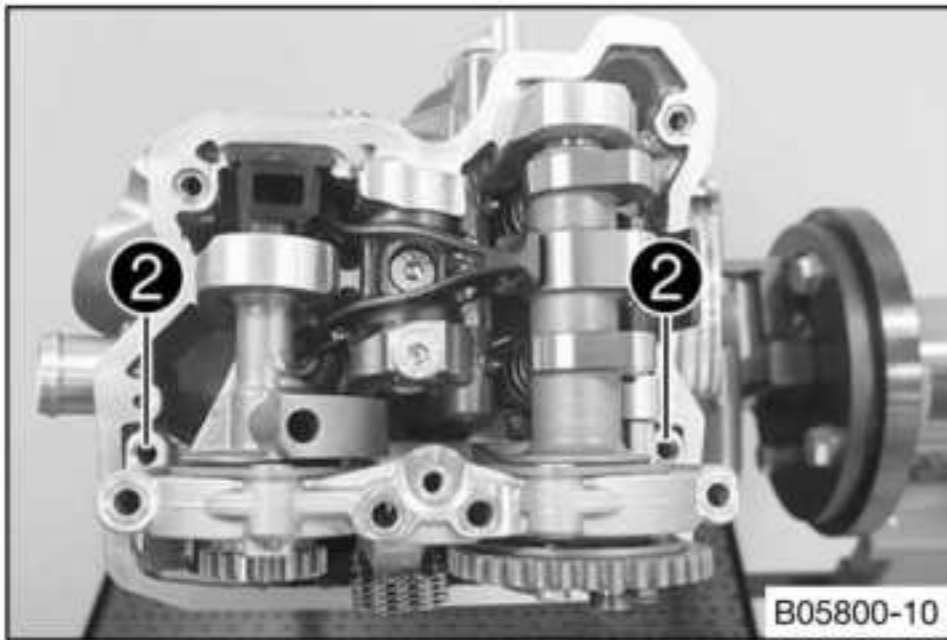
Screw, timing chain shaft	M6	<p>10 Nm (7.4 lbf ft)</p> <p>Loctite® 243™</p>
---------------------------	----	---



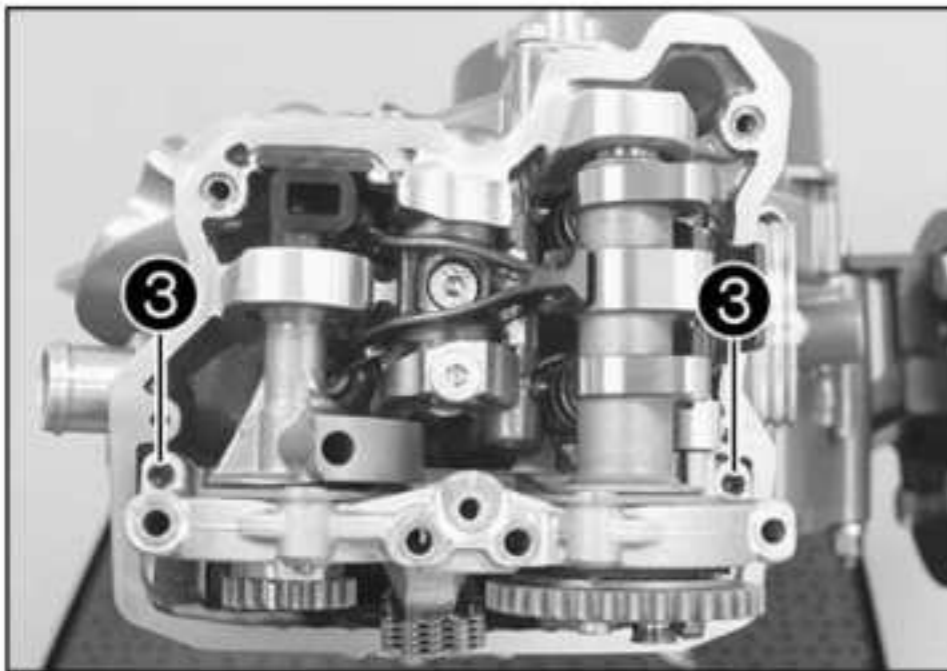
18.5.21 Installing the camshafts

- Mount camshaft bearing bridge **1** with balancer shaft and camshaft.
- ✓ Bleeder flange is positioned correctly in the balancer shaft.





- Mount dowel pins **2**.



- Mount the setscrews **3** but do not tighten yet.

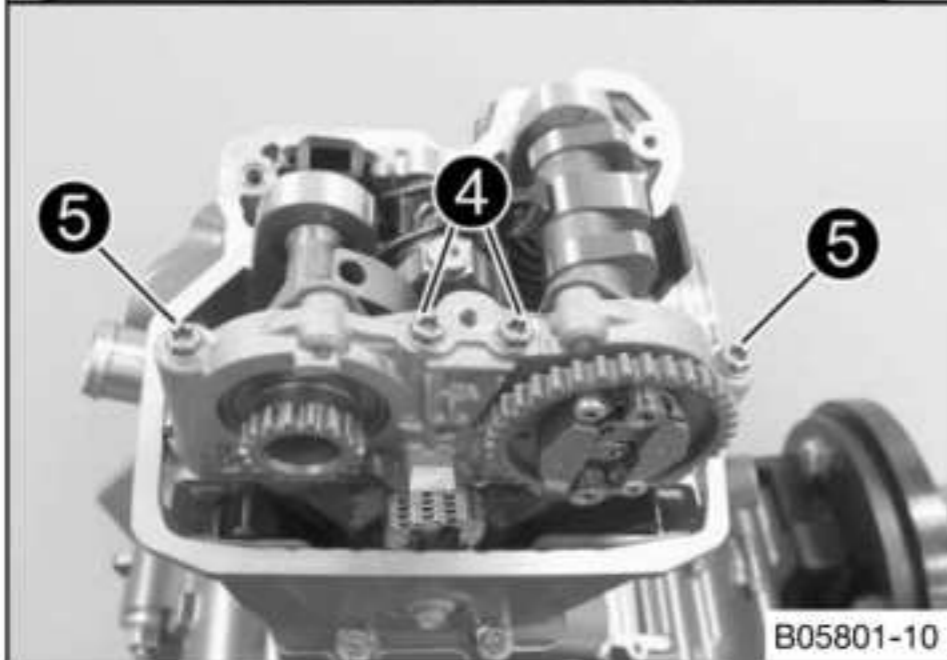
Guideline

Setscrew, camshaft bearing bridge	M8	6 Nm (4.4 lbf ft) Loctite®243™
-----------------------------------	----	--

- Mount screws **4** but do not tighten yet.

Guideline

Screw, camshaft bearing support	M6x90	10 Nm (7.4 lbf ft)
---------------------------------	-------	--------------------



- Mount screws **5** but do not tighten yet.

Guideline

Screw, camshaft bearing support	M6x80	10 Nm (7.4 lbf ft)
---------------------------------	-------	--------------------

- Tighten screws **4** and **5** from the inside to the outside.

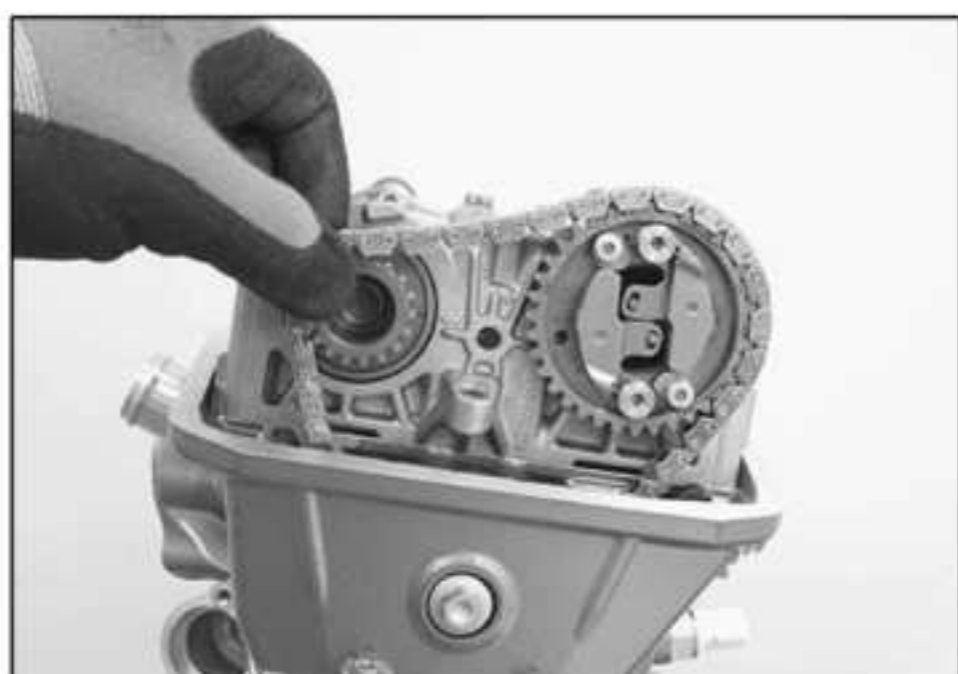
Guideline

Screw, camshaft bearing bridge	M6	10 Nm (7.4 lbf ft)
--------------------------------	----	--------------------

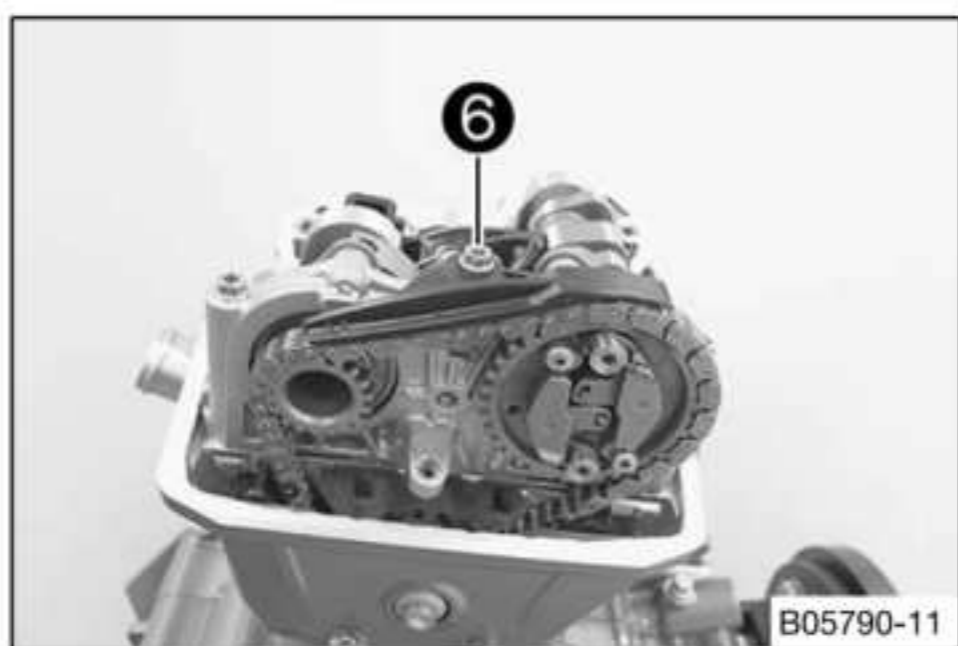
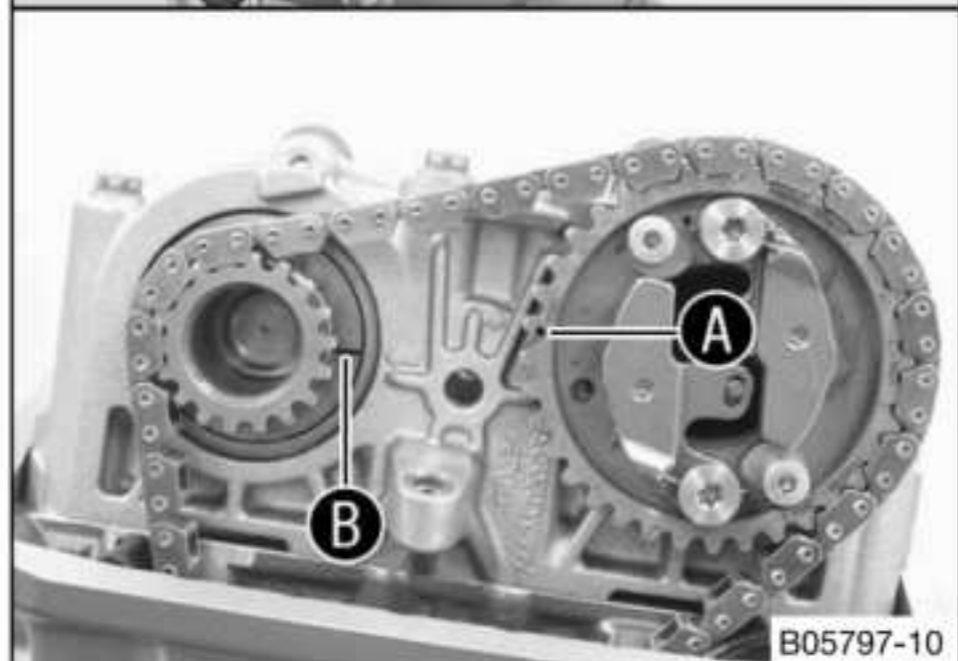
- Tighten the setscrews **3**.

Guideline

Setscrew, camshaft bearing bridge	M8	6 Nm (4.4 lbf ft) Loctite®243™
-----------------------------------	----	--



- Lay the timing chain over the camshaft.
 - ✓ The crankshaft is at top dead center.
 - ✓ Align marking **A** of the camshaft and the marking of the camshaft bearing bridge.
- Lay the timing chain over the balancer shaft.
 - ✓ The crankshaft is at top dead center.
 - ✓ Align marking **B** of the balancer shaft and the marking of the camshaft bearing bridge.

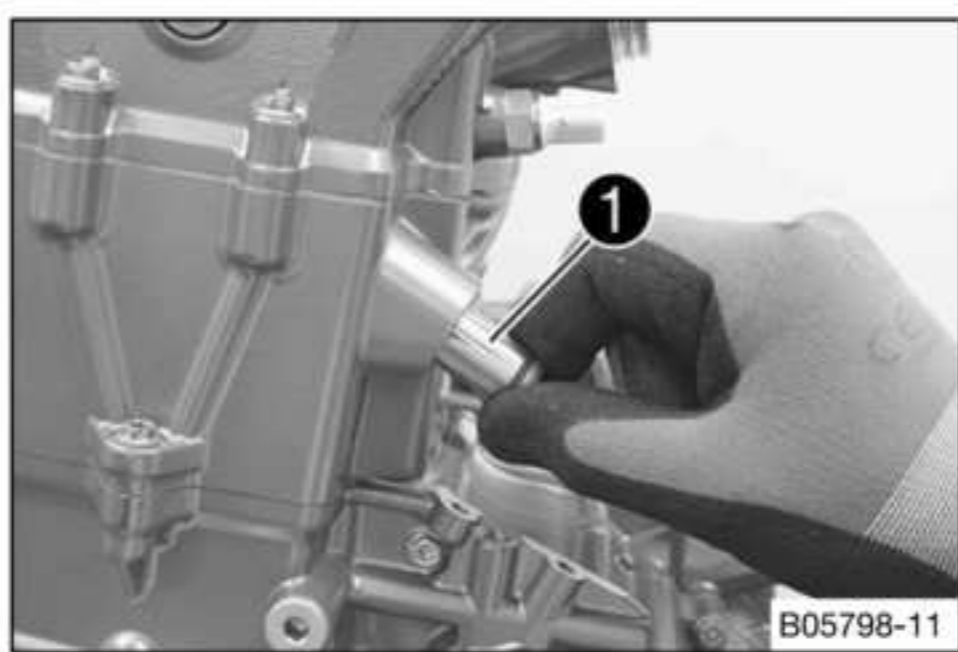


- Position guide rail.
- Mount and tighten screw **6**.

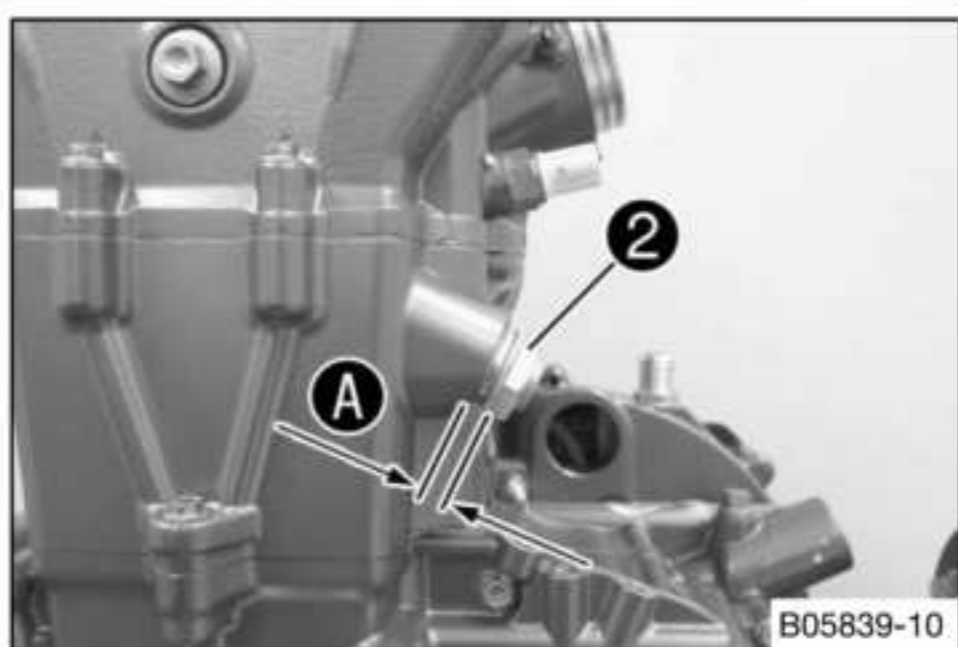
Guideline

Screw, guide rail	M6x20	10 Nm (7.4 lbf ft) Loctite®243™
-------------------	-------	---

18.5.22 Installing the timing chain tensioner



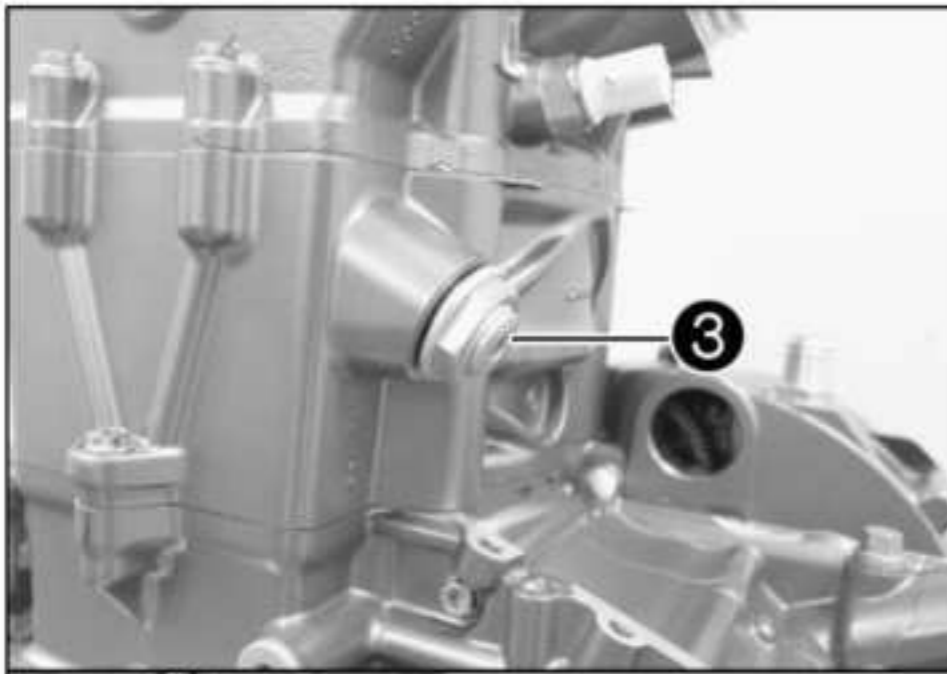
- Insert timing chain tensioner **1**.



- Mount screw plug **2** with new seal ring and screw in to distance **A**.

Guideline

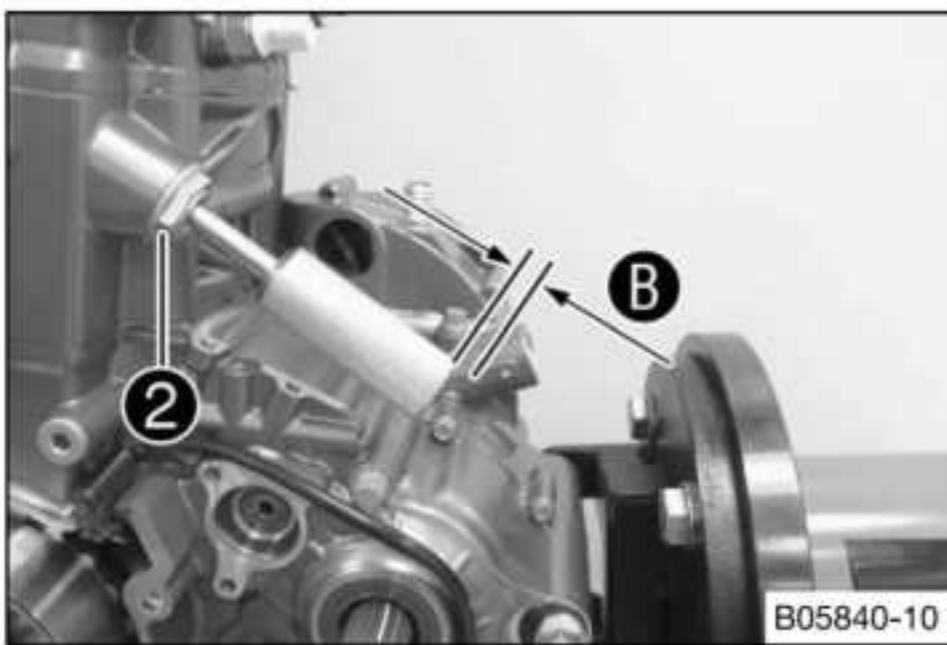
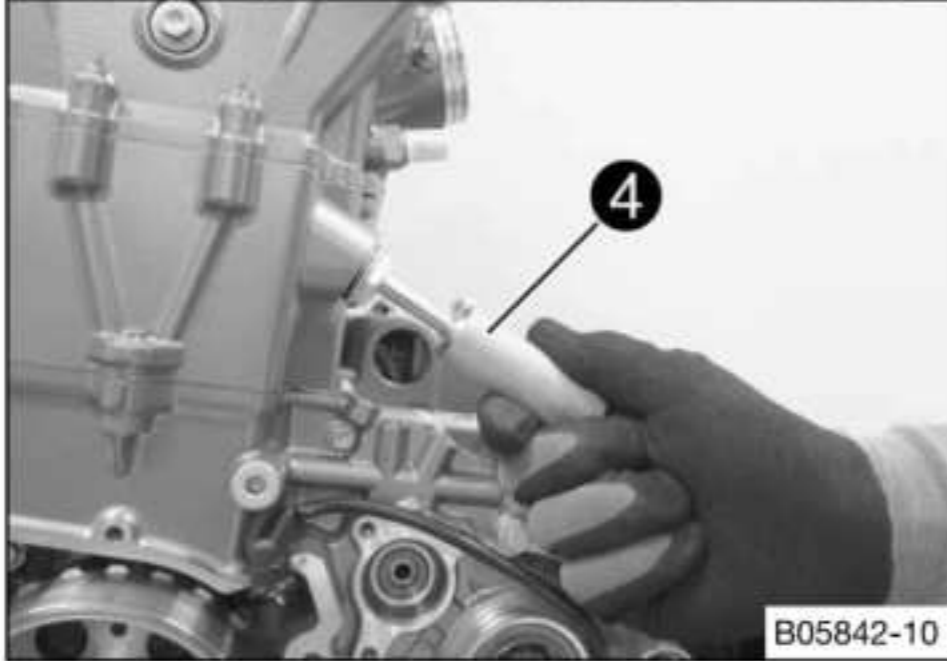
Distance A	2 mm (0.08 in)
-------------------	----------------



- Remove screw 3.
- Press the timing chain tensioner toward the timing chain using special tool 4.

Release device for timing chain tensioner (77329051000)
(p. 393)

✓ The timing chain tensioner unlocks.



- Tighten screw plug 2.

Guideline

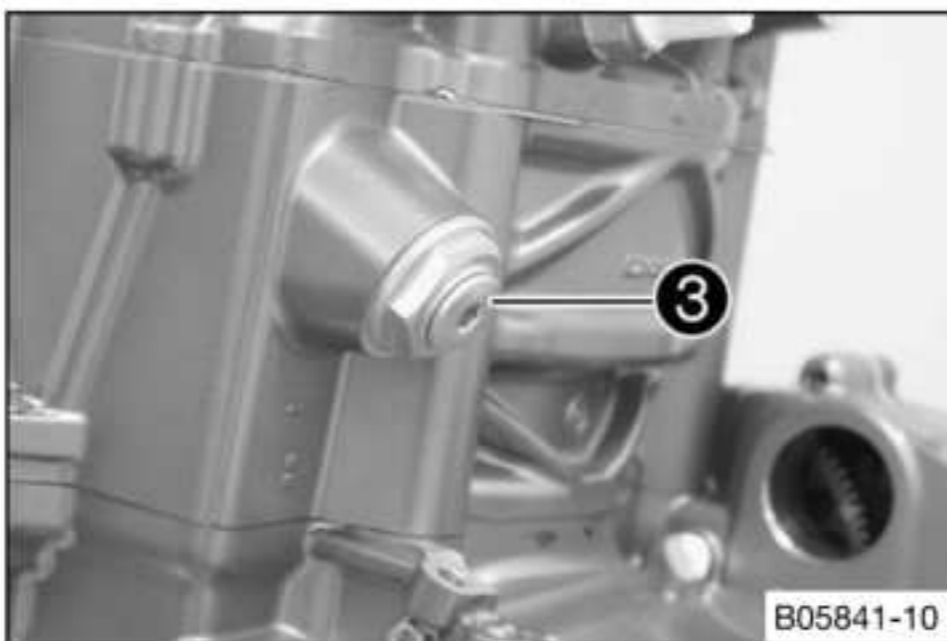
Plug, timing chain tensioner	M24x1.5	25 Nm (18.4 lbf ft)
------------------------------	---------	---------------------

- Press against the timing chain tensioner using the special tool and check the notch clearance B.

Guideline

Notch clearance B	≥ 0.5 mm (≥ 0.02 in)
-------------------	----------------------

Release device for timing chain tensioner (77329051000)
(p. 393)

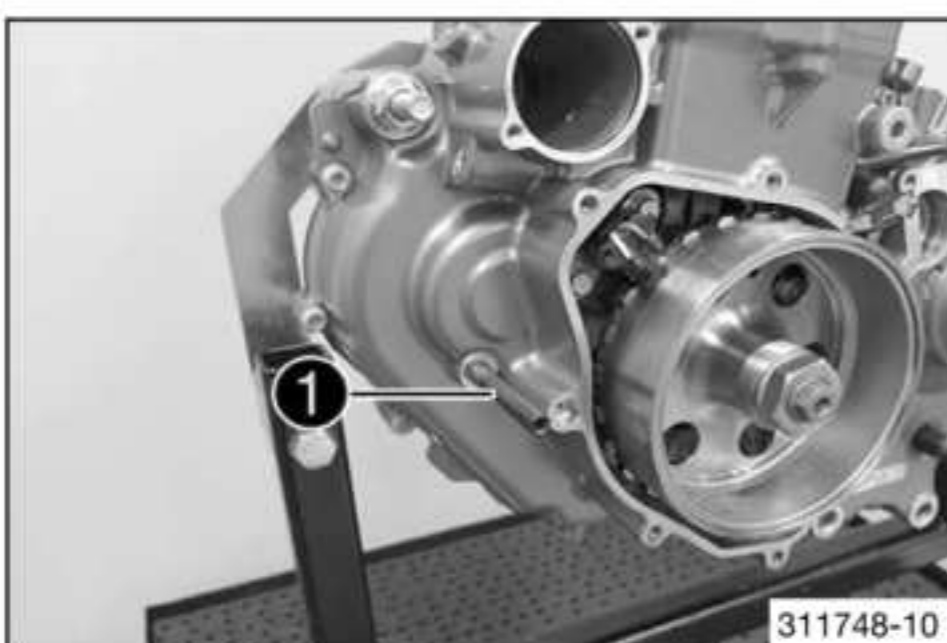


- Mount screw 3 with the O-ring and tighten.

Guideline

Screw, unlocking of timing chain tensioner	M10x1	10 Nm (7.4 lbf ft)
--	-------	--------------------

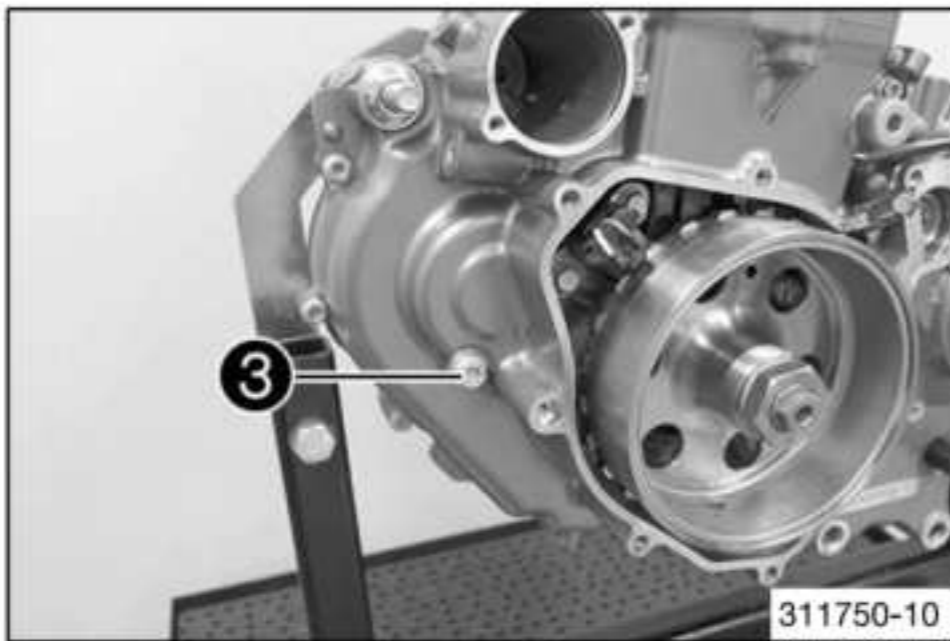
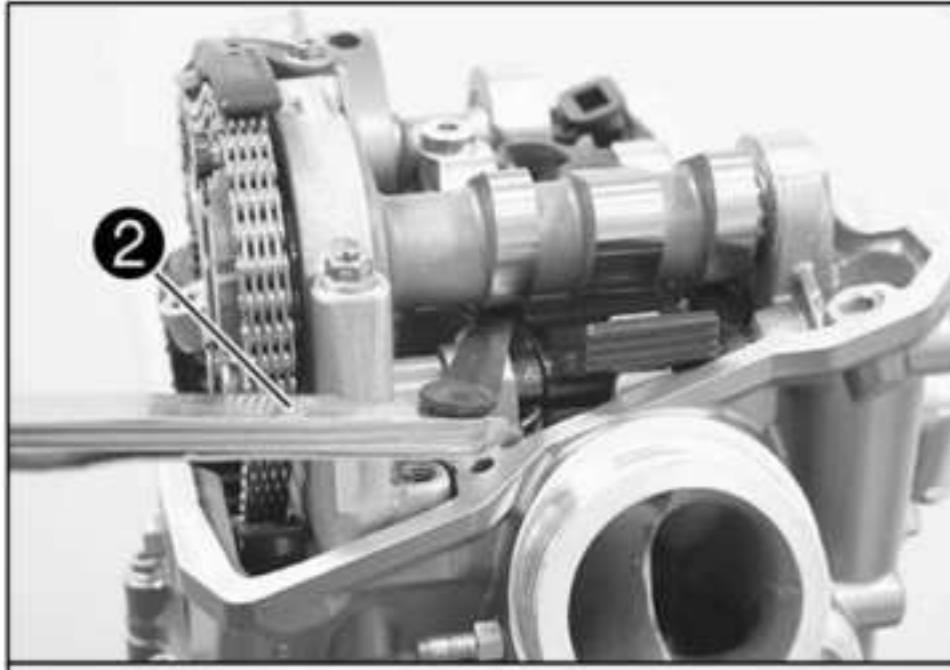
18.5.23 Checking the valve clearance



- Remove special tool 1.

Locking screw (61229015000) (p. 386)

- Crank the engine several times.
- Position the engine at ignition top dead center. (p. 189)



- Check the valve clearance at the intake valves between the camshaft and cam levers using the special tool **2**.

Guideline

Valve play, cold	
Intake at: 20 °C (68 °F)	0.10 ... 0.15 mm (0.0039 ... 0.0059 in)

Feeler gauge (59029041100) (📖 p. 384)

- » If the valve clearance does not meet specifications:
 - Adjust the valve clearance. (📖 p. 260)

- Check the valve clearance at the exhaust valves between valve and rocker arm using special tool **2**.

Guideline

Valve play, cold	
Exhaust at: 20 °C (68 °F)	0.22 ... 0.27 mm (0.0087 ... 0.0106 in)

Feeler gauge (59029041100) (📖 p. 384)

- » If the valve clearance does not meet specifications:
 - Adjust the valve clearance. (📖 p. 260)

- Remove the special tool.

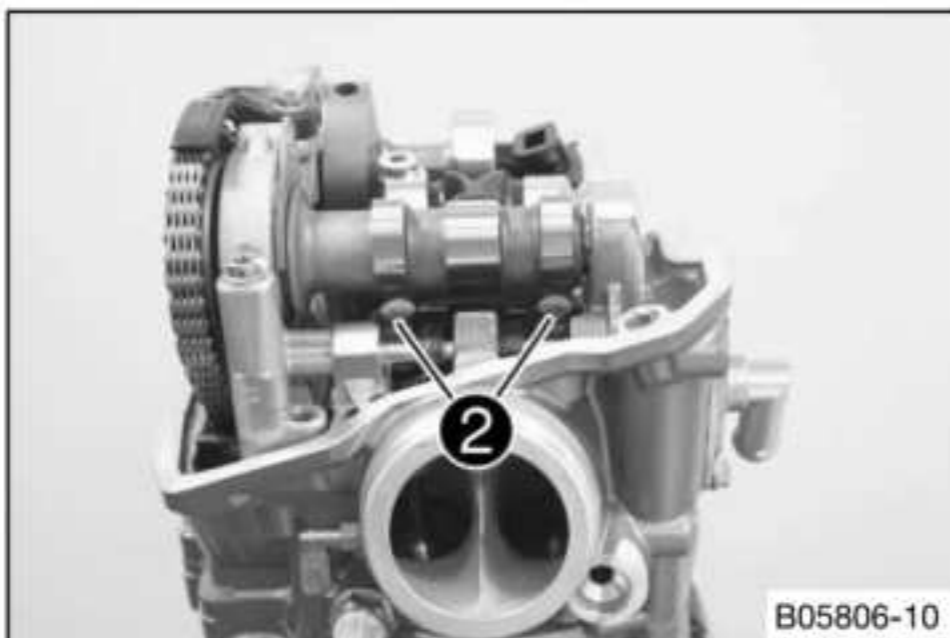
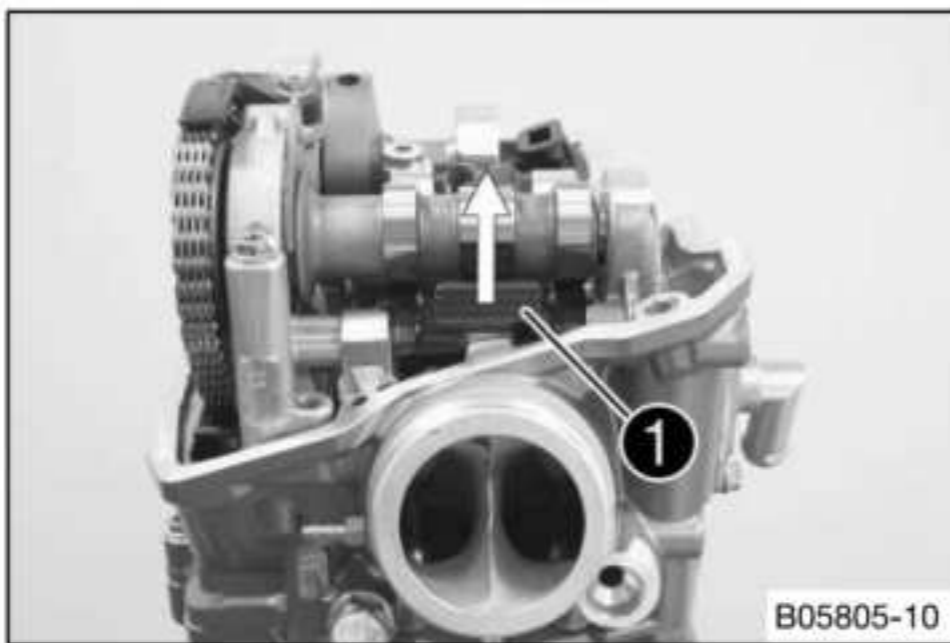
Locking screw (61229015000) (📖 p. 386)

- Mount and tighten screw **3** with the washer.

Guideline

Screw plug, locking screw	M8	15 Nm (11.1 lbf ft)
---------------------------	----	---------------------

18.5.24 Adjusting the valve clearance



- Push cam lever clip **1** up and remove.

- Push the cam lever aside.

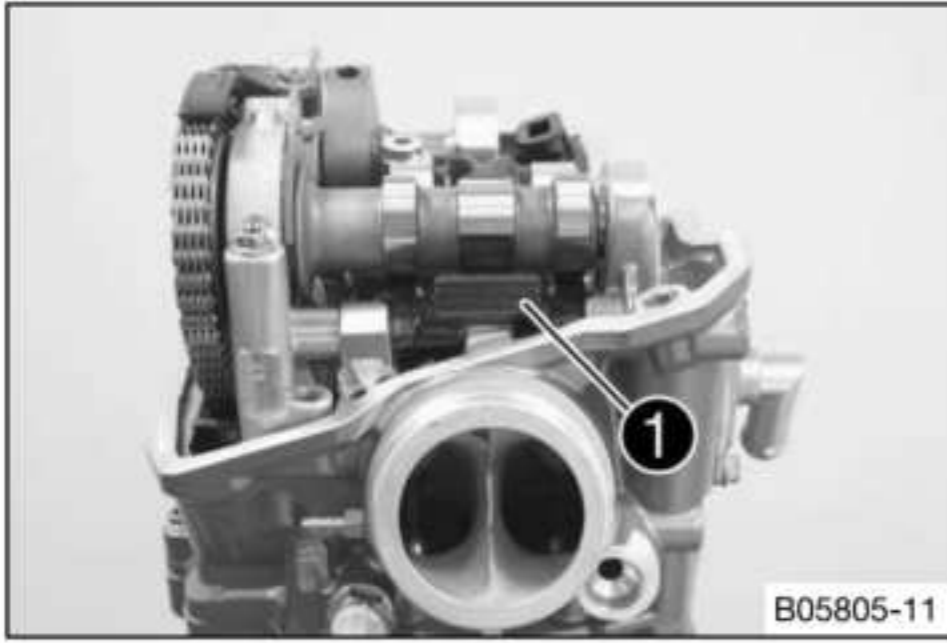


Info

Make sure that the crankshaft is at top dead center.

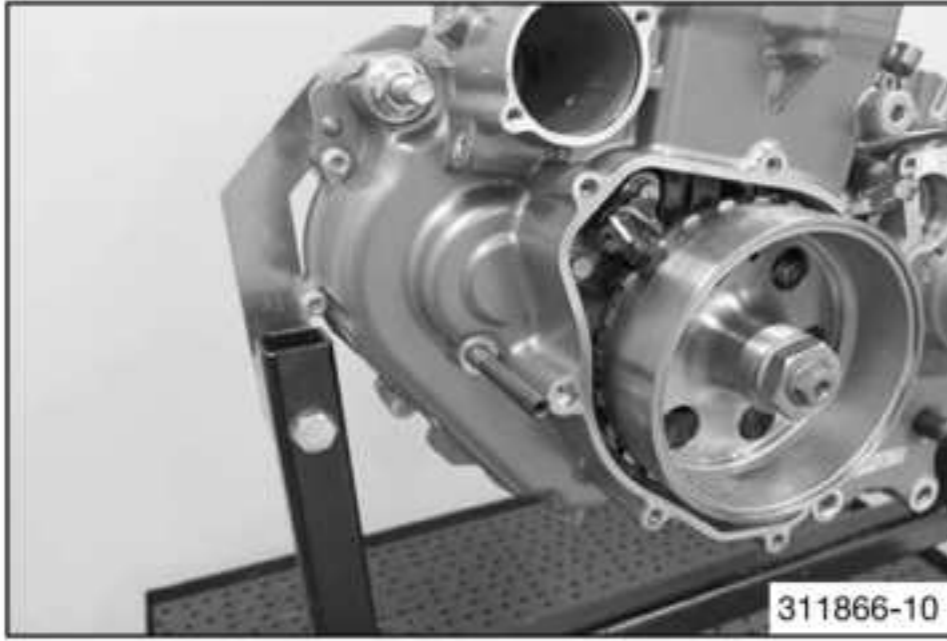
- Remove shims **2** and set them down according to the installation position.
- Correct the shims based on the results of the valve clearance check.
- Insert suitable shims.

- Position cam lever.
- Mount cam lever clip **1**.

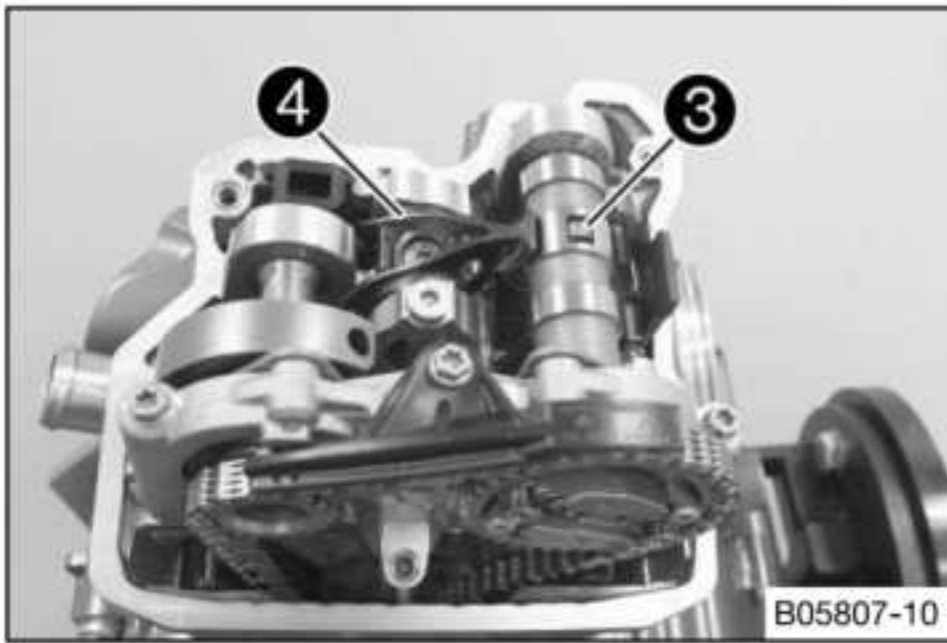


- Remove the special tool.

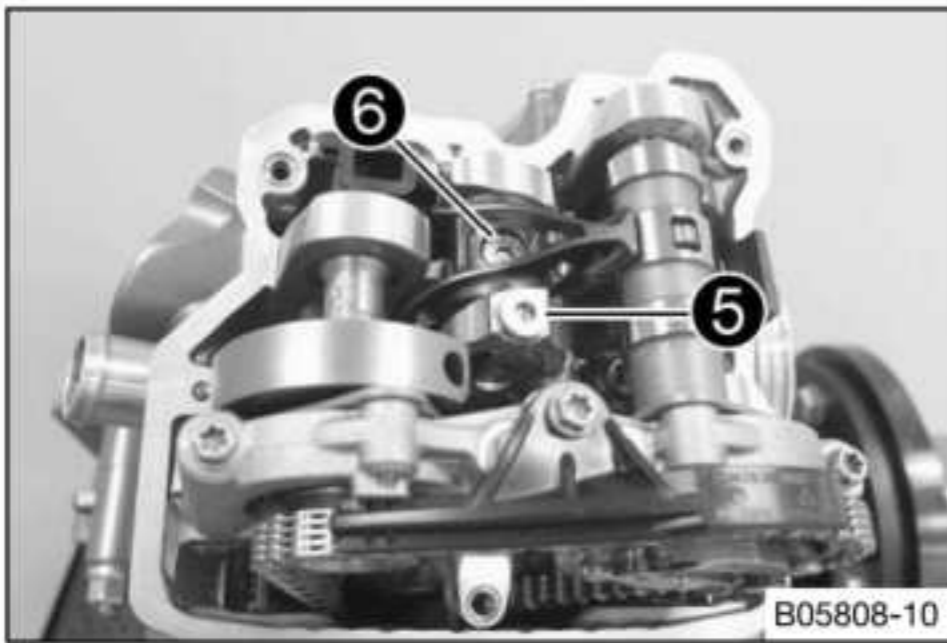
Locking screw (61229015000) (📖 p. 386)



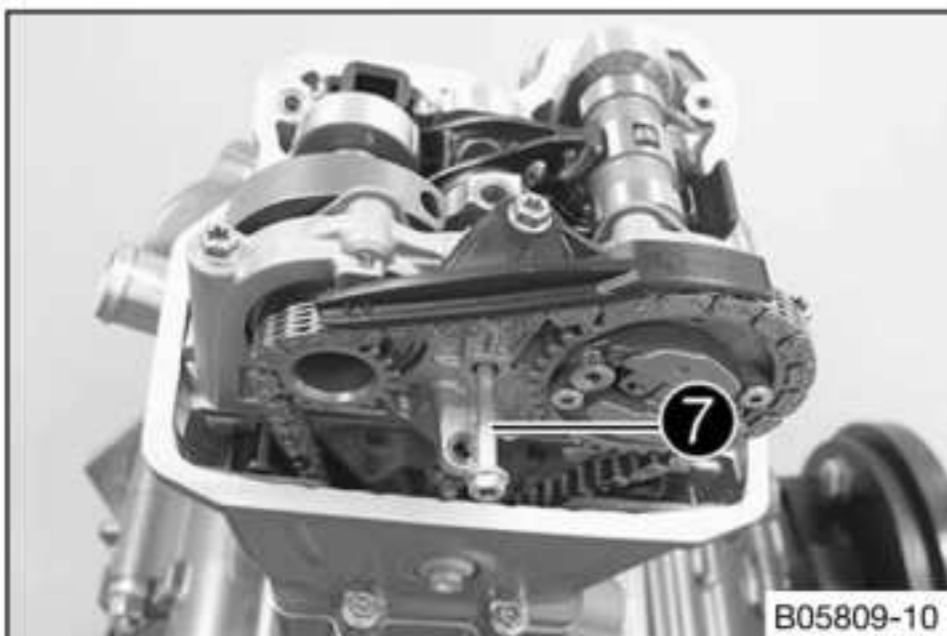
- Keep turning the crankshaft counterclockwise until autode-compressor cam **3** is visible in front of rocker arm **4** as shown.

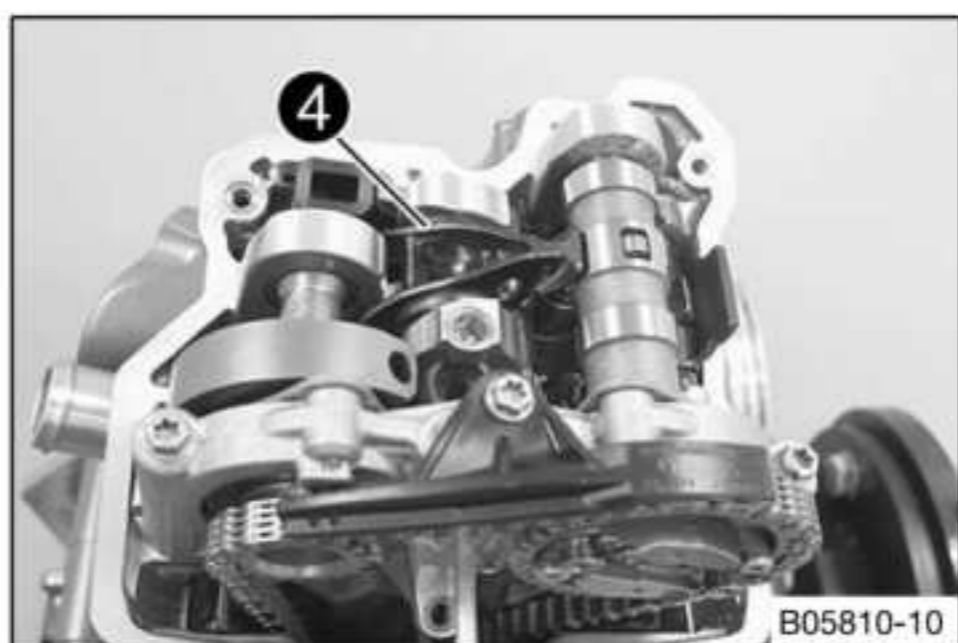


- Remove screws **5** and **6**.

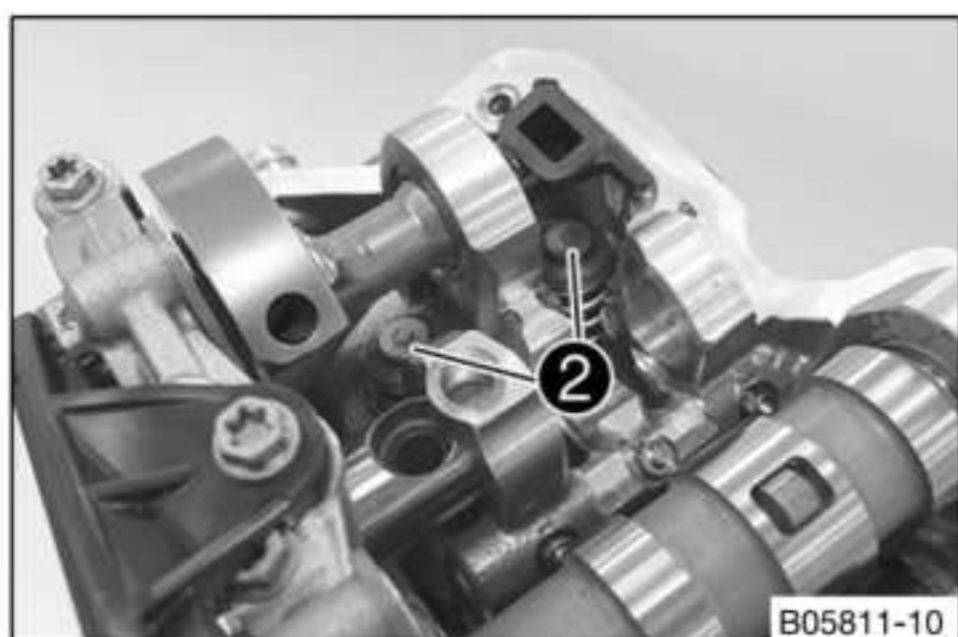


- Screw a suitable M6 screw **7** into the rocker arm shaft.
- Remove the rocker arm shaft.

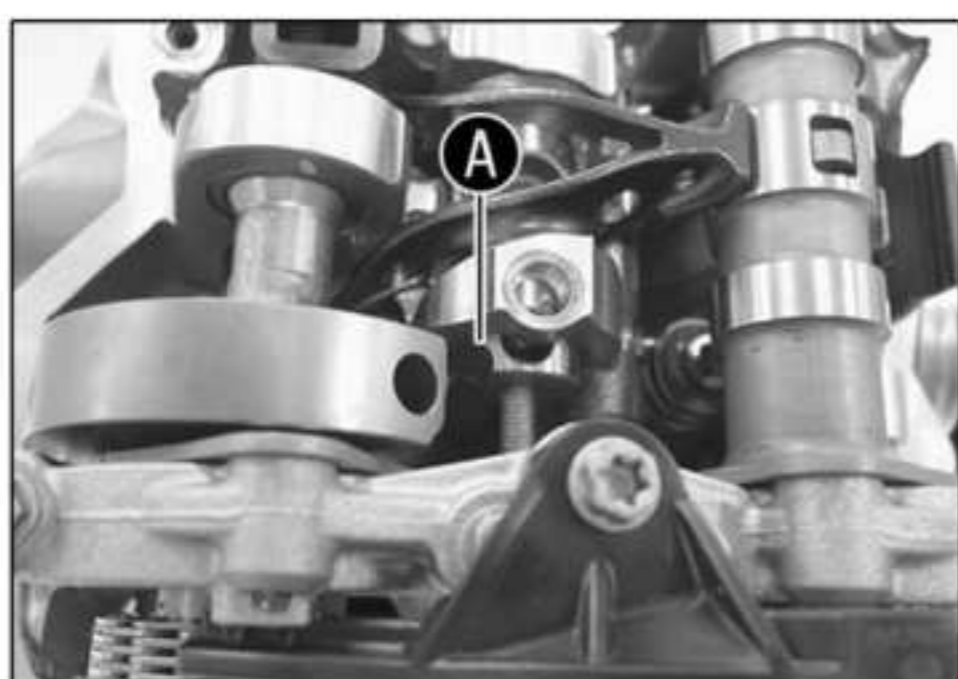




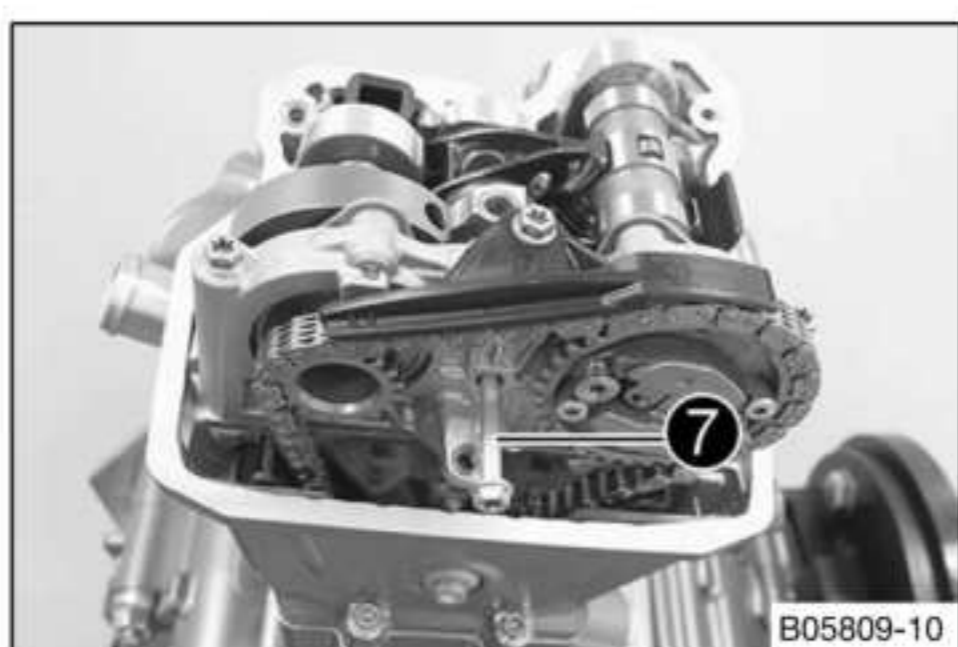
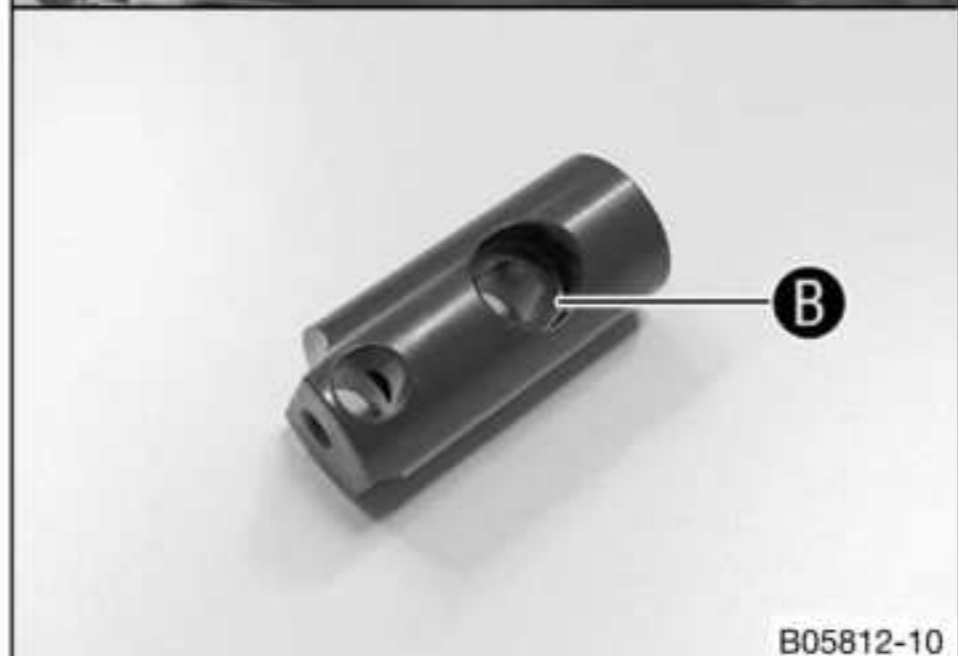
- Remove rocker arm ④.



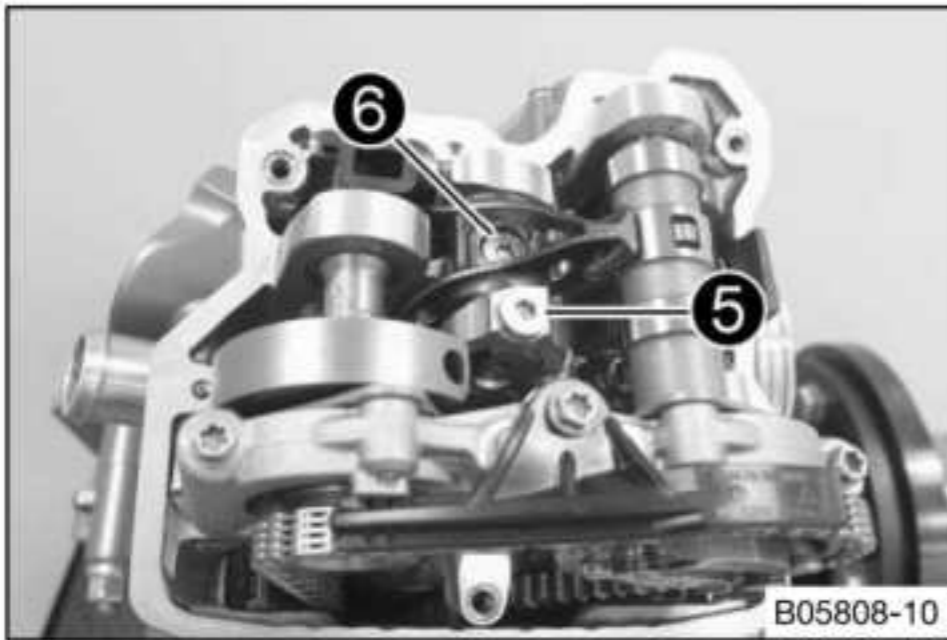
- Remove shims ② and set them down according to the installation position.
- Correct the shims based on the results of the valve clearance check.
- Insert suitable shims.



- Position the rocker arm and mount the rocker arm shaft.
 - ✓ The large recess ① must face the exhaust side.
 - ✓ Dip ② in the rocker arm shaft faces upward.



- Remove screw ⑦.



- Mount and tighten screw **5**.

Guideline

Screw, rocker arm shaft	M8x55	15 Nm (11.1 lbf ft)
-------------------------	-------	---------------------

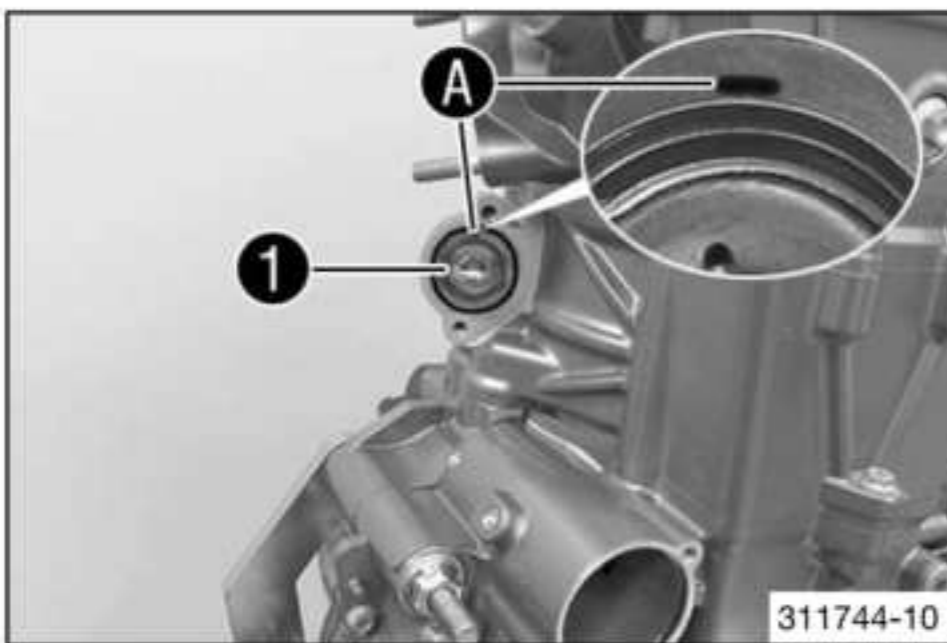
- Mount and tighten screw **6**.

Guideline

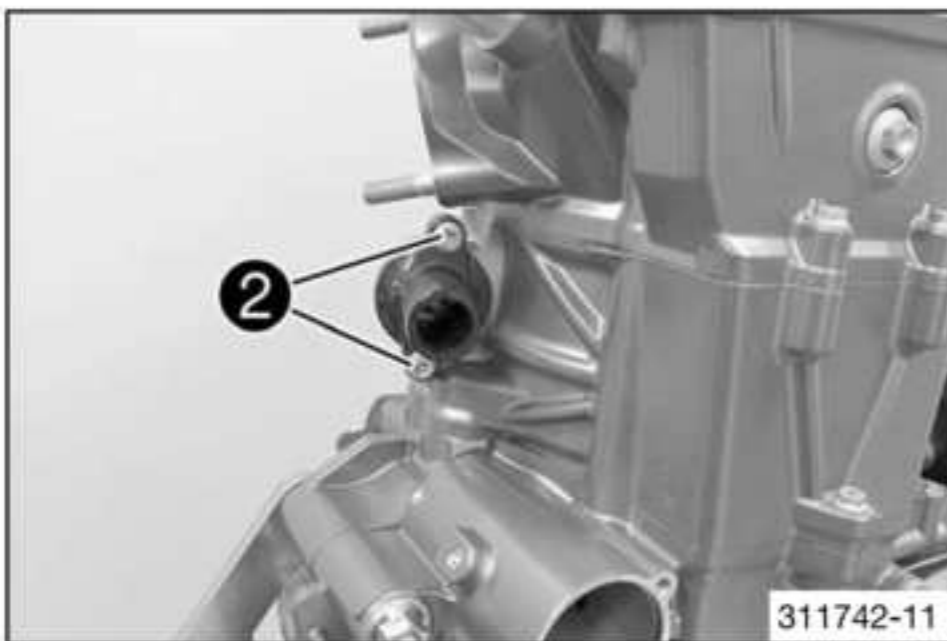
Screw, rocker arm shaft	M8x40	15 Nm (11.1 lbf ft)
-------------------------	-------	---------------------

- Check the valve clearance. (📖 p. 259)

18.5.25 Installing the thermostat



- Position thermostat **1** with the gasket.
✓ Drill hole **A** must face upward.

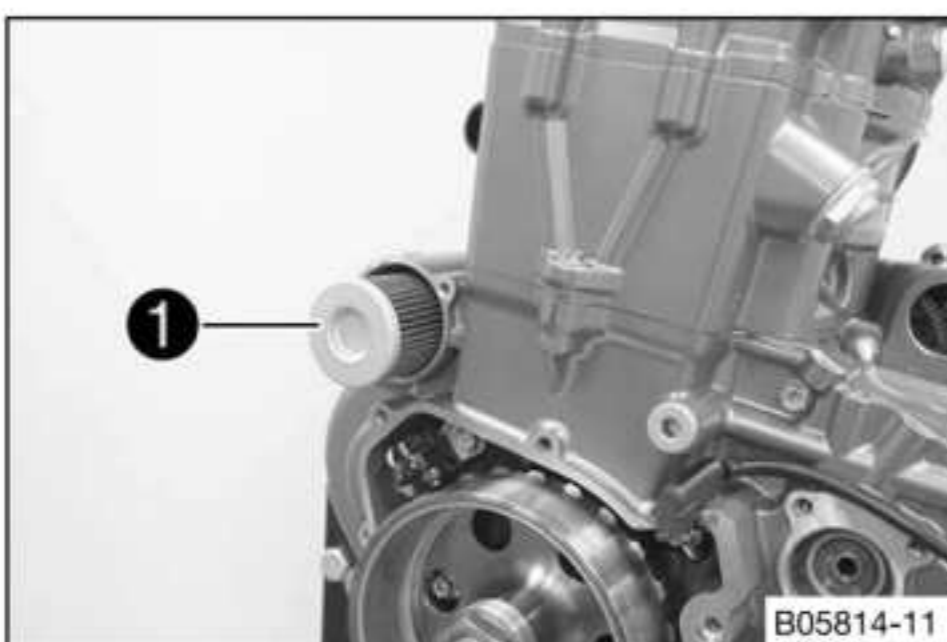


- Position the thermostat case.
- Mount and tighten screws **2**.

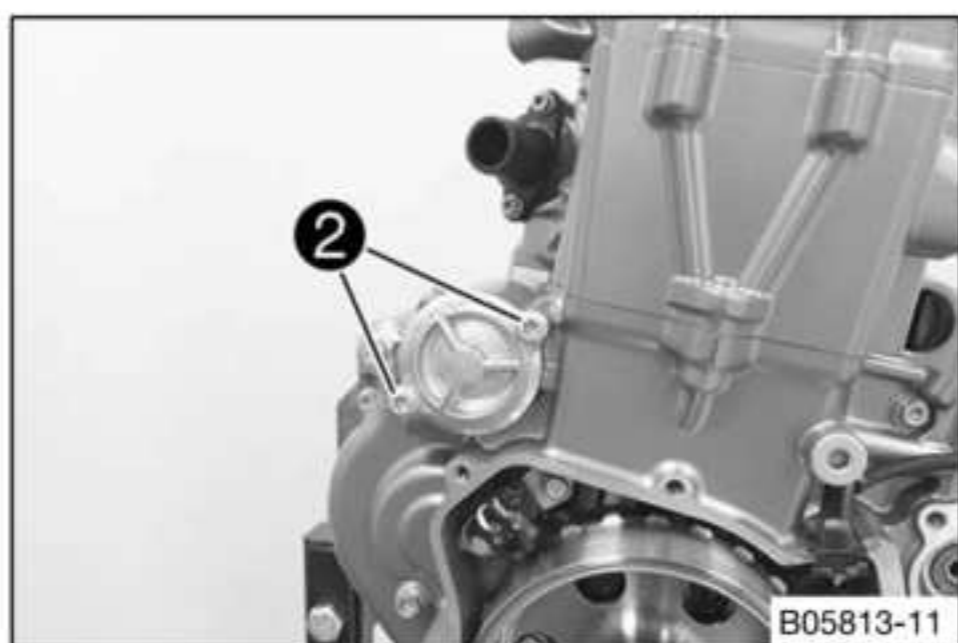
Guideline

Screw, thermostat housing	M6	10 Nm (7.4 lbf ft) Loctite®243™
---------------------------	----	---

18.5.26 Installing the oil filter



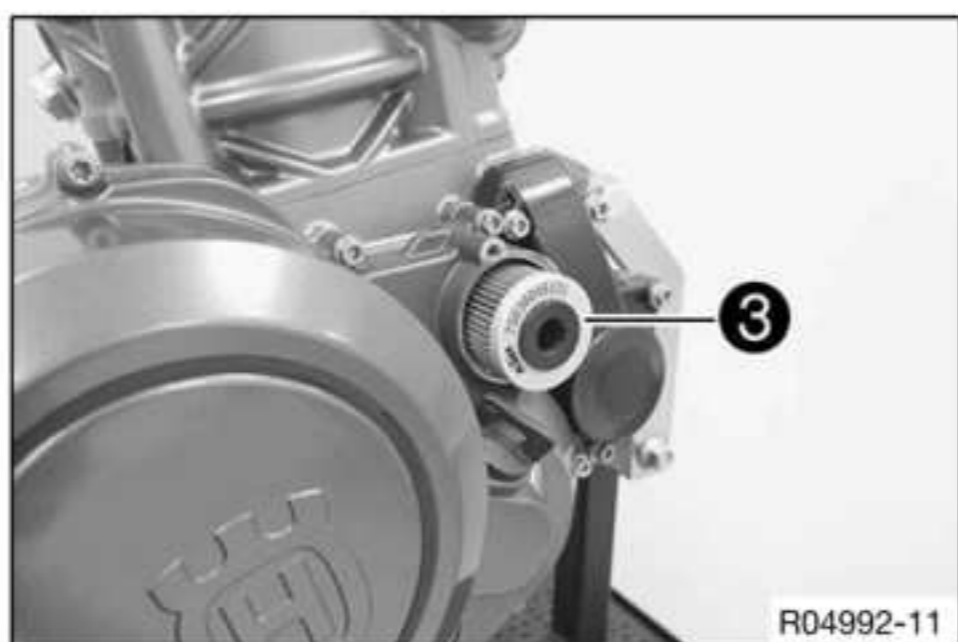
- Insert oil filter **1**.



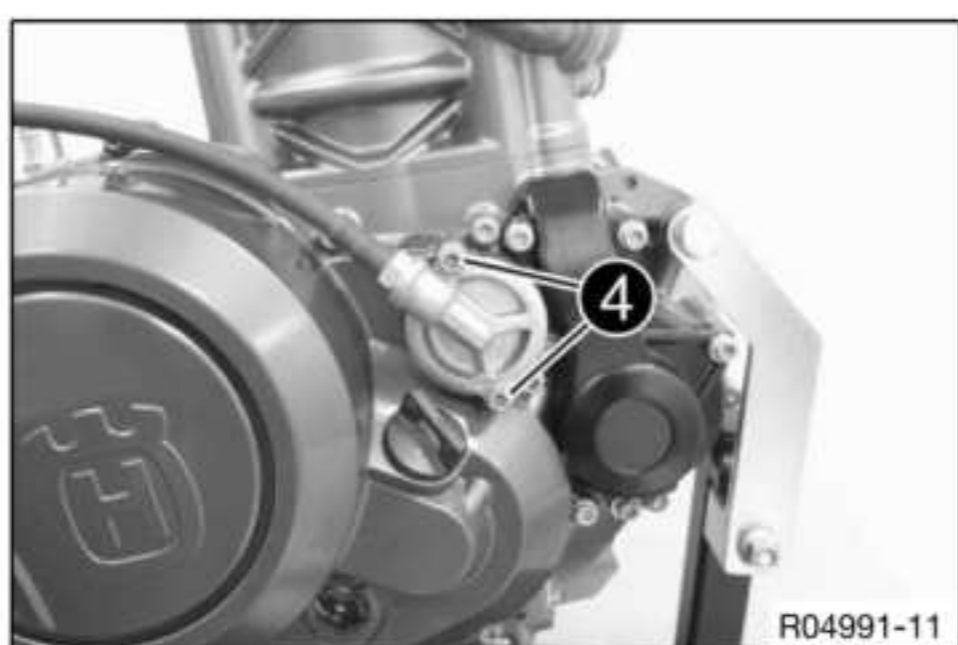
- Oil the O-ring of the oil filter cover and mount it with the oil filter cover.
- Mount and tighten screws **2**.

Guideline

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



- Insert oil filter **3**.

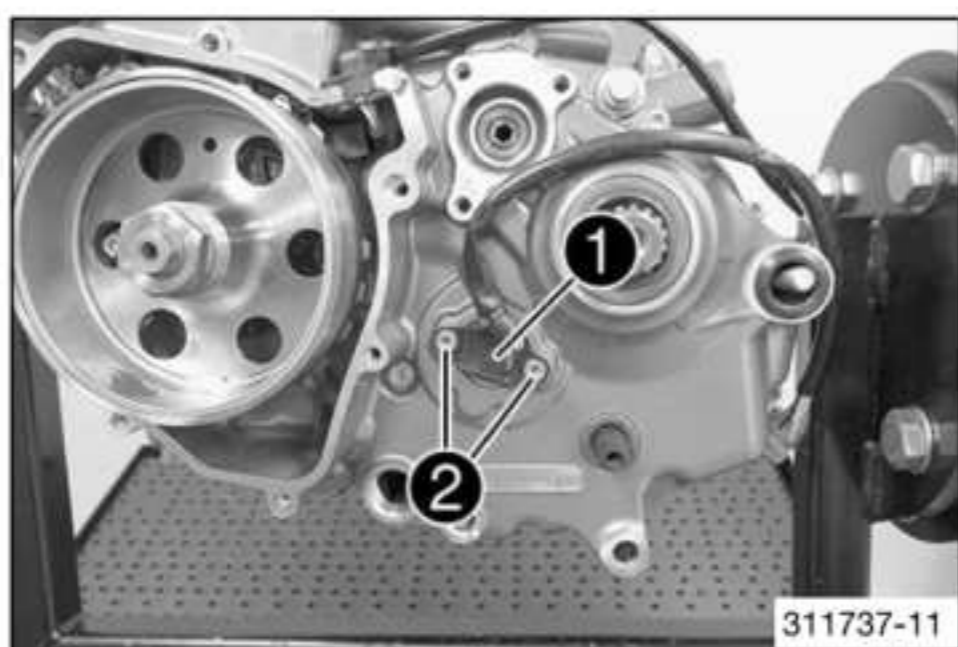


- Oil the O-ring of the oil filter cover and mount it with the oil filter cover.
- Mount and tighten screws **4**.

Guideline

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

18.5.27 Installing the gear position sensor

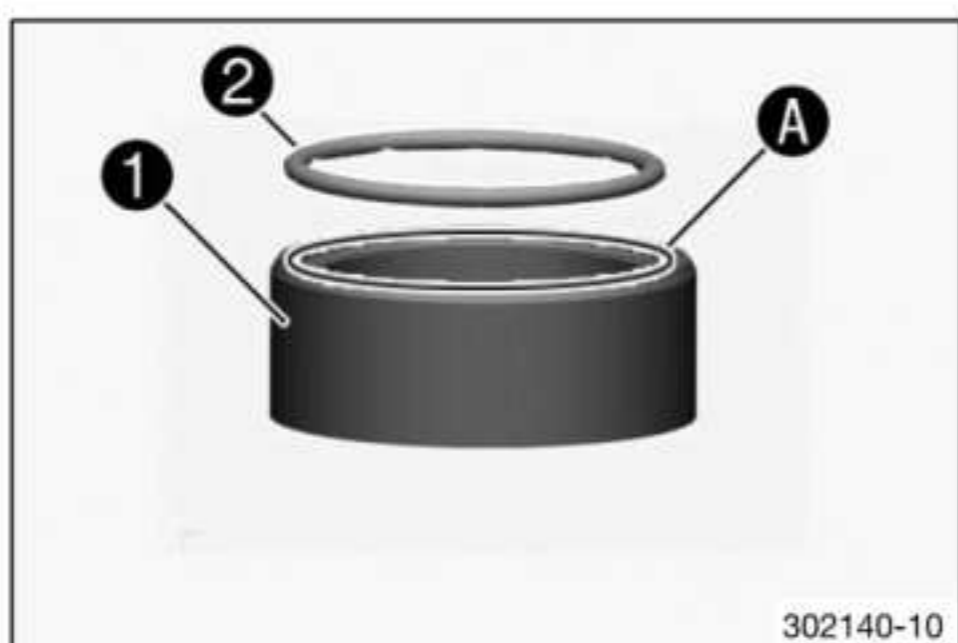


- Position gear position sensor **1**.
- Mount and tighten screws **2**.

Guideline

Screw, gear sensor	M5	5 Nm (3.7 lbf ft) Loctite®243™
--------------------	----	--

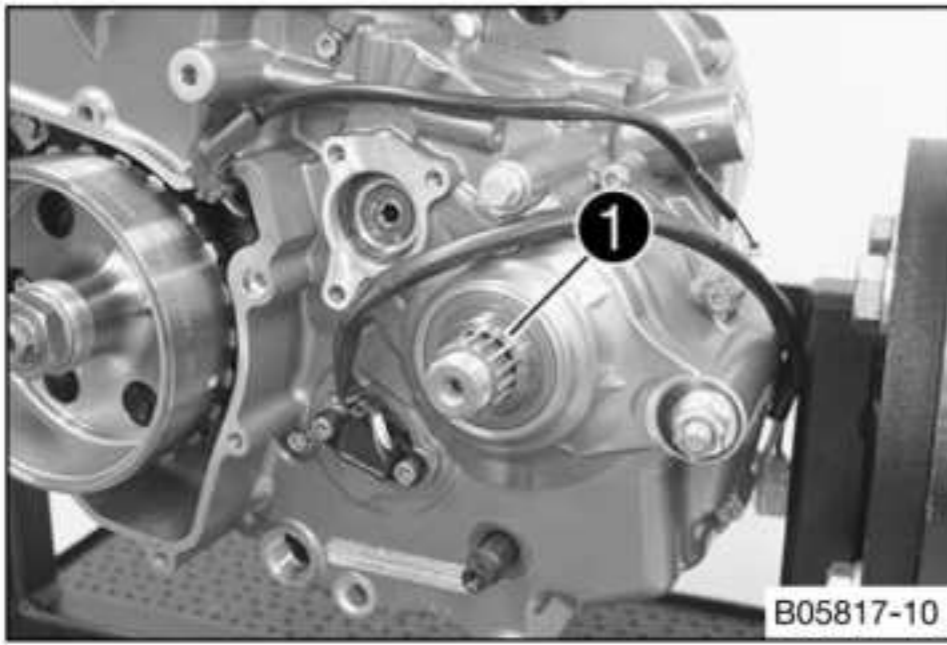
18.5.28 Installing the spacer



- Before mounting, grease spacer **1** in area **A** and O-ring **2**.

Long-life grease (📖 p. 378)

- Position the O-ring in the recess of the spacer.

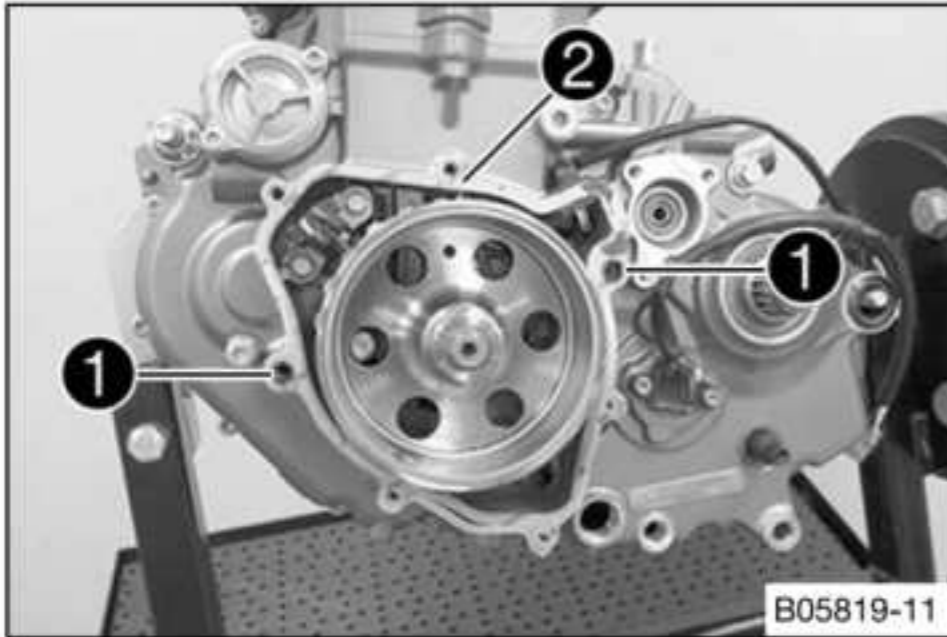


- Grease the shaft seal ring.

Long-life grease (p. 378)

- Push spacer **1** with the O-ring onto the countershaft with a twisting motion.
 - ✓ The recess with the O-ring faces inward.
 - ✓ The shaft seal ring rests against the spacer along its entire circumference.

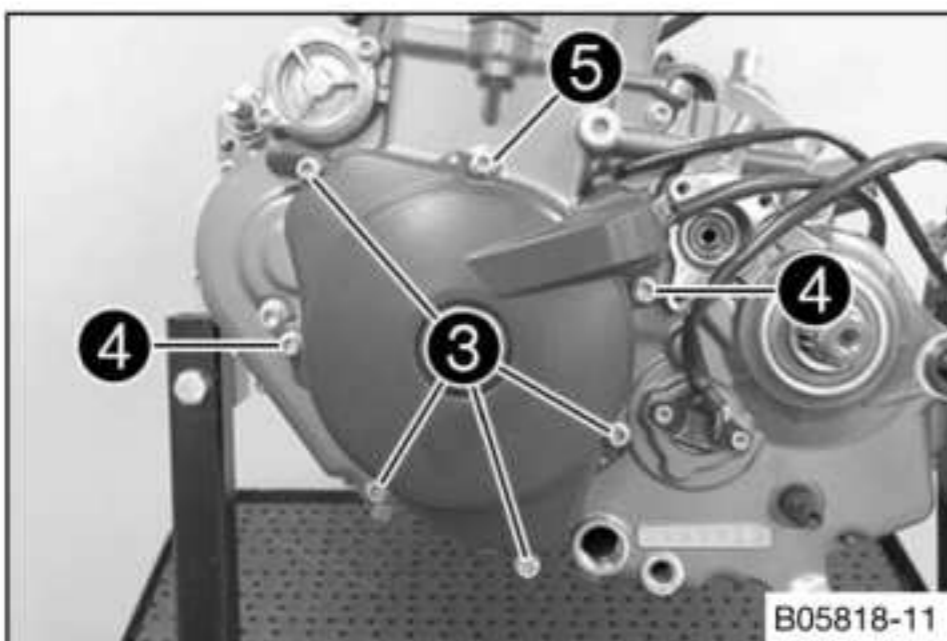
18.5.29 Installing the alternator cover



- Apply sealing compound lightly in the area of the rubber grommet.

Loctite® 5910

- Mount dowel **1** and position the alternator cover gasket **2**.



- Position the alternator cover.
- Mount and tighten screws **3**.

Guideline

Screw in alternator cover	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------

- Mount and tighten screws **4**.

Guideline

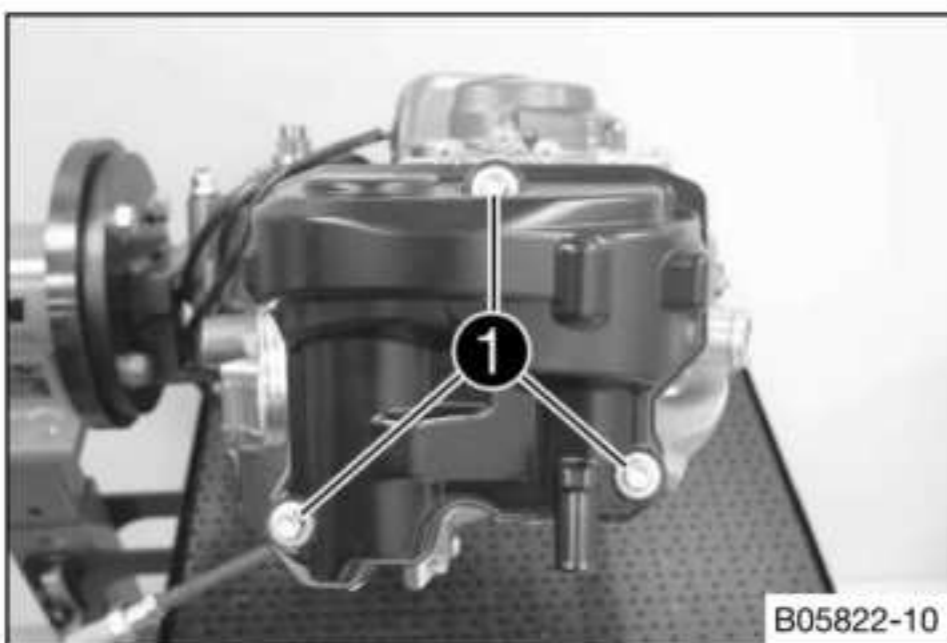
Screw, alternator cover	M6x30	10 Nm (7.4 lbf ft)
-------------------------	-------	--------------------

- Mount and tighten screw **5**.

Guideline

Screw, alternator cover (timing chain shaft through-hole)	M6	10 Nm (7.4 lbf ft) Loctite® 243™
---	----	-------------------------------------

18.5.30 Installing the valve cover

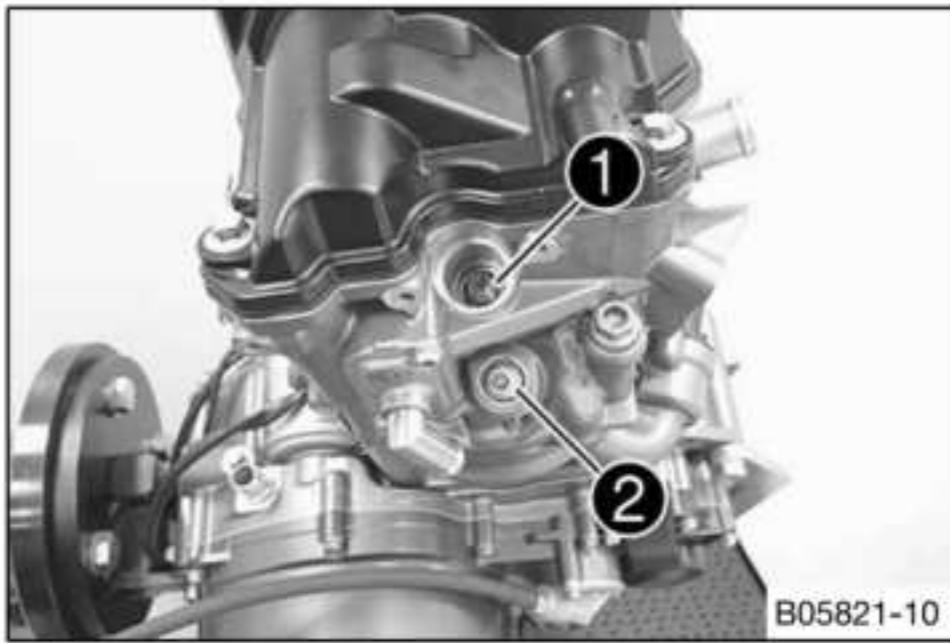


- Position the valve cover with the gasket.
- Mount and tighten screws **1**.

Guideline

Screw, valve cover	M6	10 Nm (7.4 lbf ft)
--------------------	----	--------------------

18.5.31 Installing the spark plugs



- Mount and tighten spark plug ① using the special tool.

Guideline

Spark plug inside	M12x1.25	18 Nm (13.3 lbf ft)
-------------------	----------	---------------------

Spark plug wrench (75029172000) (📖 p. 391)

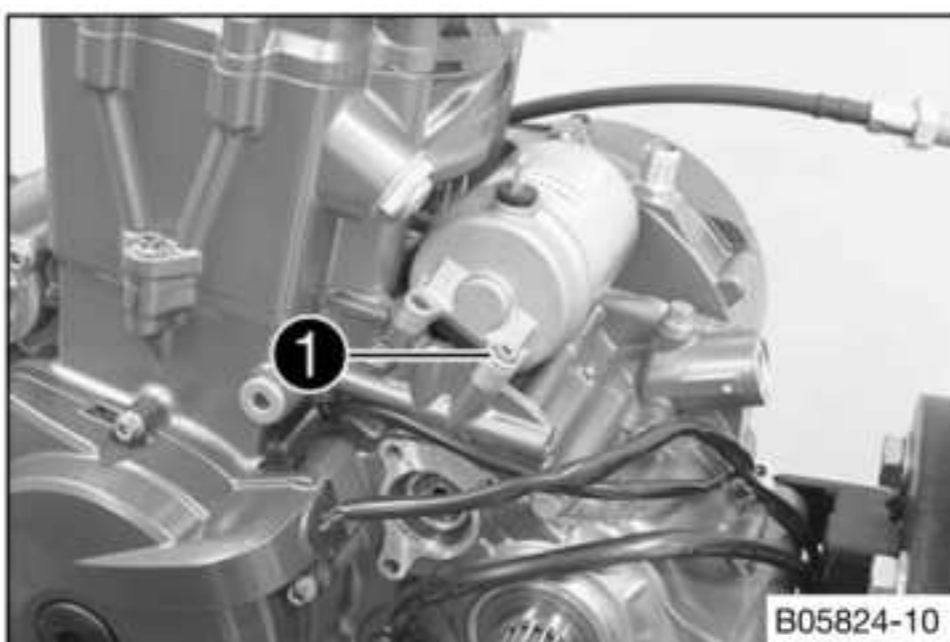
- Mount and tighten spark plug ② using the special tool.

Guideline

Spark plug outside	M10x1	11 Nm (8.1 lbf ft)
--------------------	-------	--------------------

Spark plug wrench (75029172000) (📖 p. 391)

18.5.32 Installing the starter motor



- Grease the O-ring and mount the starter motor.

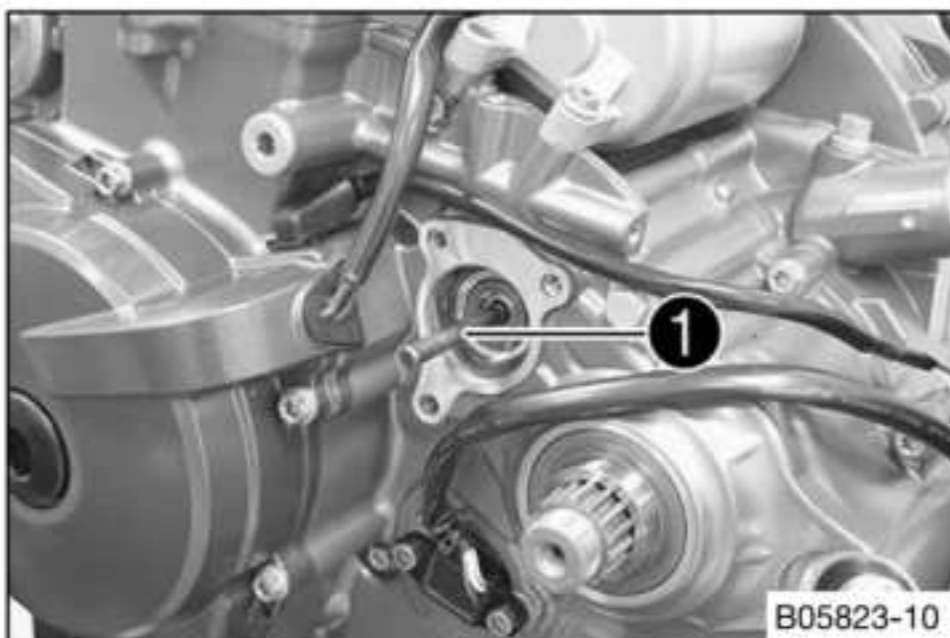
Long-life grease (📖 p. 378)

- Mount and tighten screw ①.

Guideline

Screw, starter motor	M6	10 Nm (7.4 lbf ft) Loctite®243™
----------------------	----	---

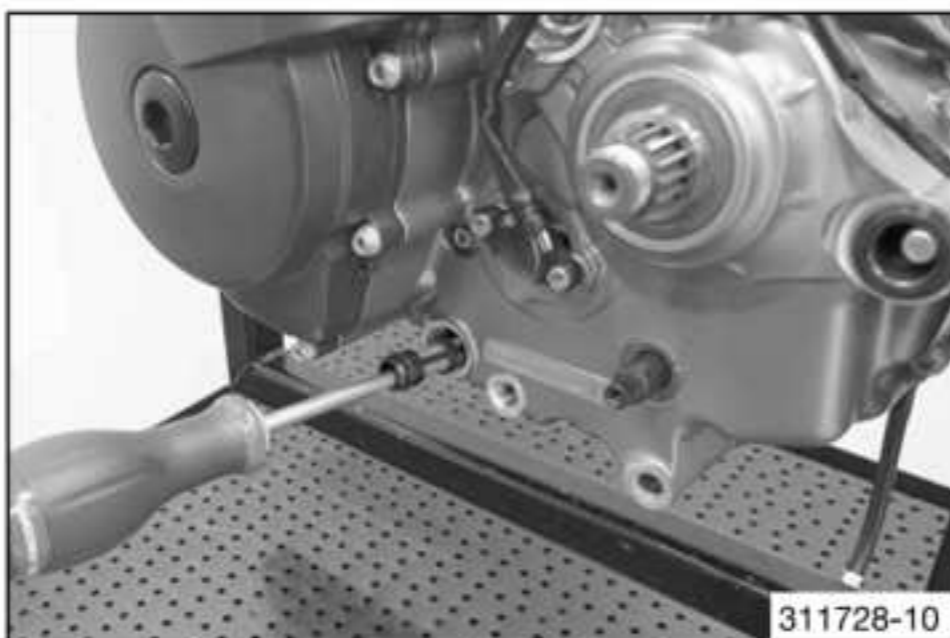
18.5.33 Installing the clutch push rod



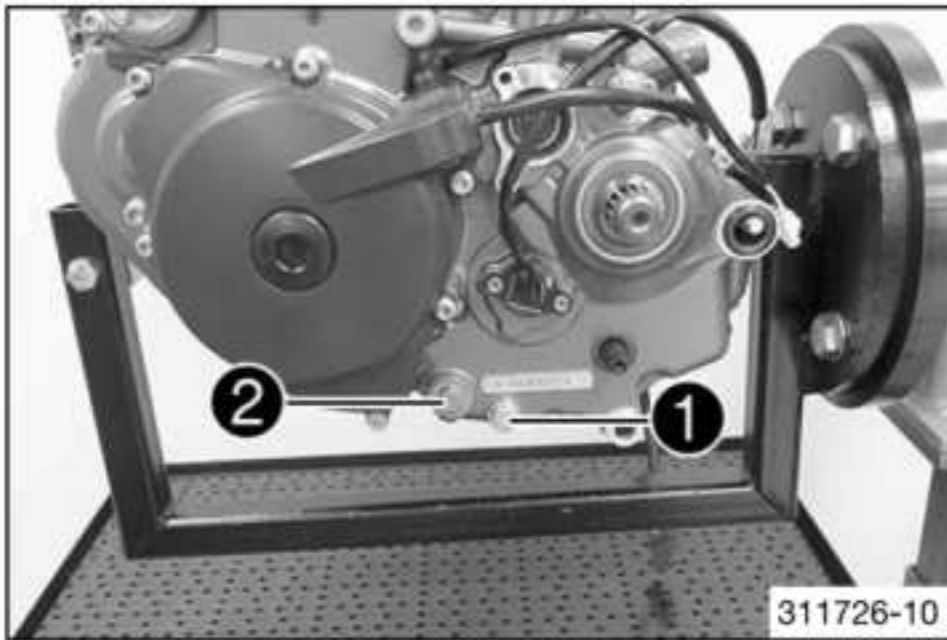
- Mount clutch push rod ①.

- ✓ The flattened side of the clutch push rod faces the clutch slave cylinder.

18.5.34 Installing oil screens



- Push the oil screen with O-rings on to a pin wrench. Push the pin wrench through the opening into the drill hole of the opposite engine case wall and push the oil screen as far as possible into the engine case.



- Mount the oil drain plug **1** with the magnet and a new seal ring and tighten it.

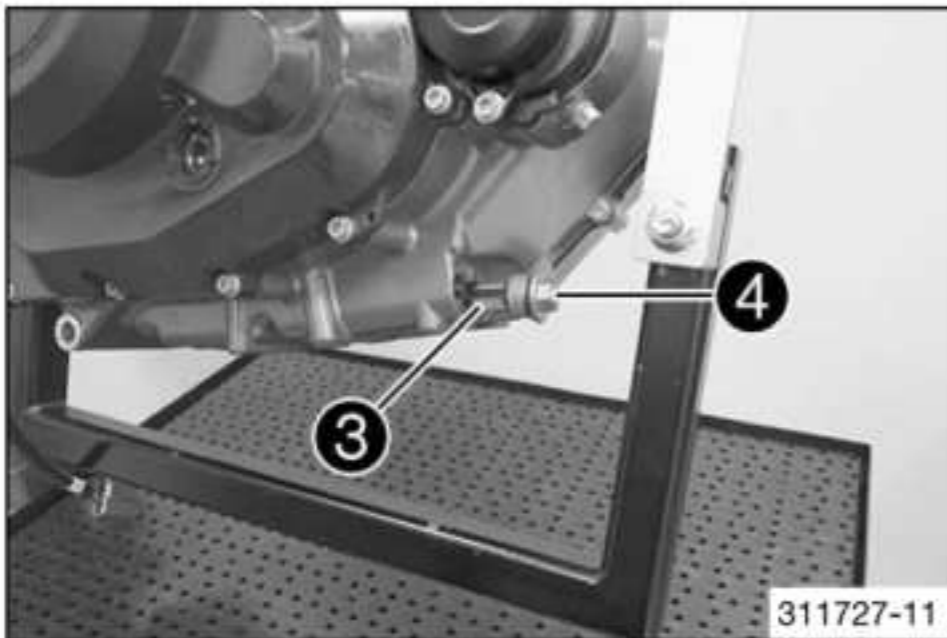
Guideline

Oil drain plug with magnet	M12x1.5	20 Nm (14.8 lbf ft)
----------------------------	---------	---------------------

- Mount and tighten screw plug **2** with the O-ring.

Guideline

Plug, oil screen	M20x1.5	15 Nm (11.1 lbf ft)
------------------	---------	---------------------



- Position the oil screen **3** with O-rings.
- Mount and tighten screw plug **4** with the O-ring.

Guideline

Plug, oil screen	M20x1.5	15 Nm (11.1 lbf ft)
------------------	---------	---------------------

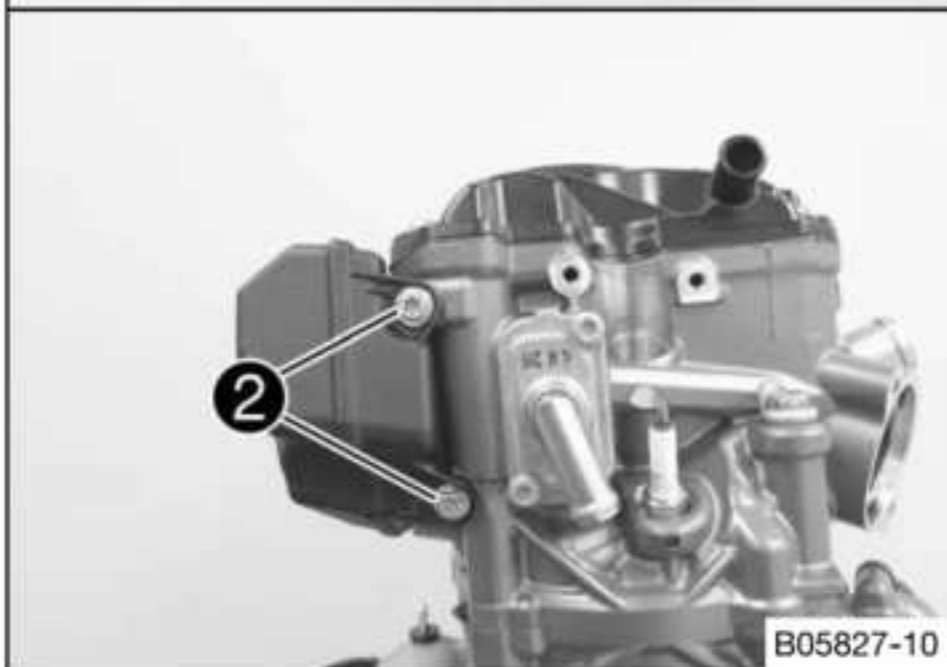
18.5.35 Installing the resonator



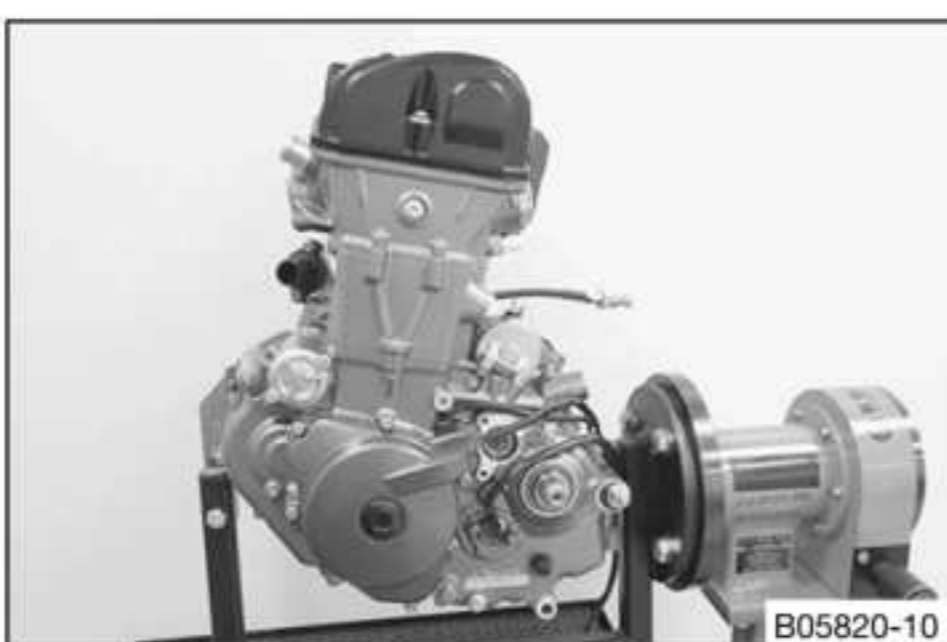
- Oil and mount both O-rings **1**.
- Position resonator on the cylinder head.
- Mount and tighten screws **2**.

Guideline

Screw, resonator	M6	10 Nm (7.4 lbf ft) Loctite®243™
------------------	----	---



18.5.36 Removing the engine from the engine assembly stand



- Remove the engine from the engine assembly stand.



Info

Have an assistant help you or use a motorized hoist.

19.1 Checking/correcting the fluid level of the hydraulic clutch



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.



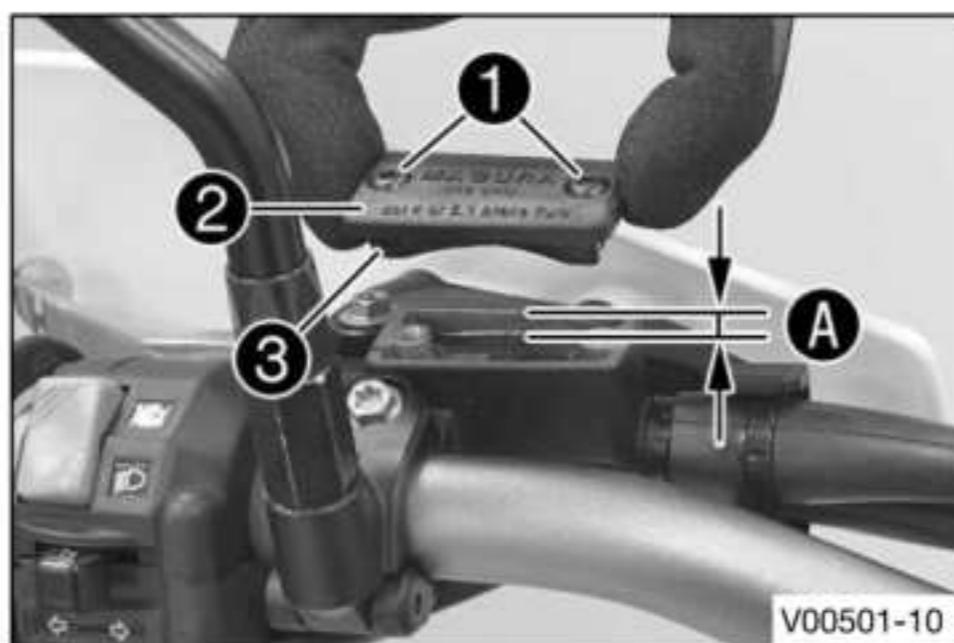
Info

The fluid level rises with increasing wear of the clutch facing discs.

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.
- Take off cover ② with membrane ③.
- Check the fluid level.

Fluid level A below container rim	4 mm (0.16 in)
--	----------------

» If the fluid level does not meet specifications:

- Correct the fluid level of the hydraulic clutch.

Brake fluid DOT 4 / DOT 5.1 (📖 p. 376)
--

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



Info

Clean up overflowed or spilled brake fluid immediately with water.

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.

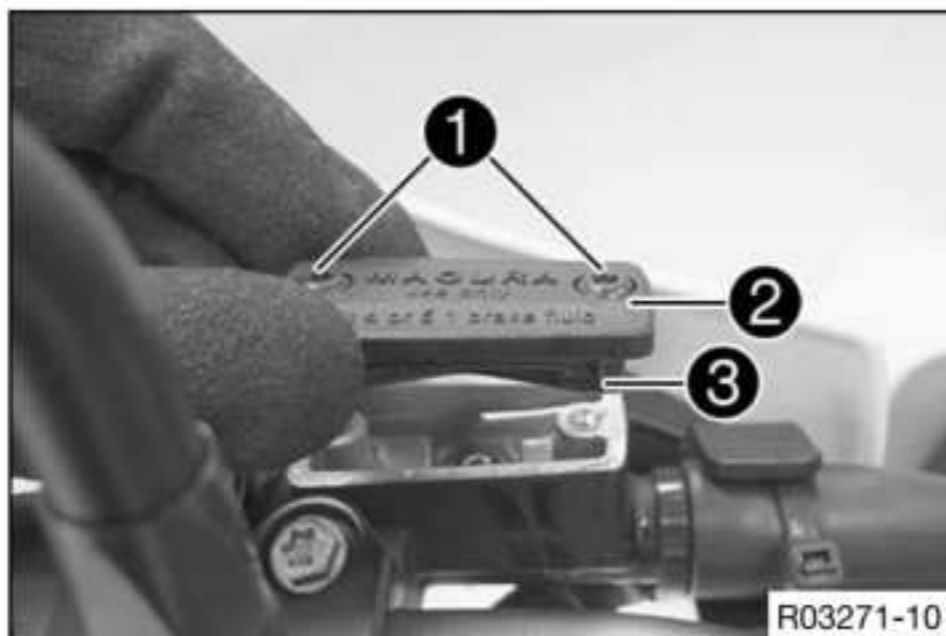


Info

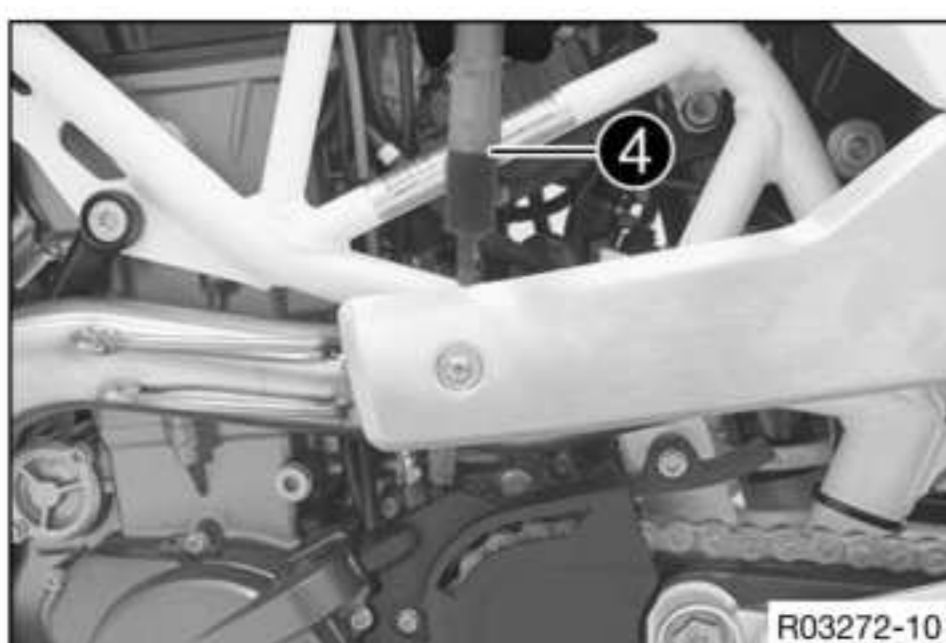
Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and clutch lines are not designed for DOT 5 brake fluid.

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.

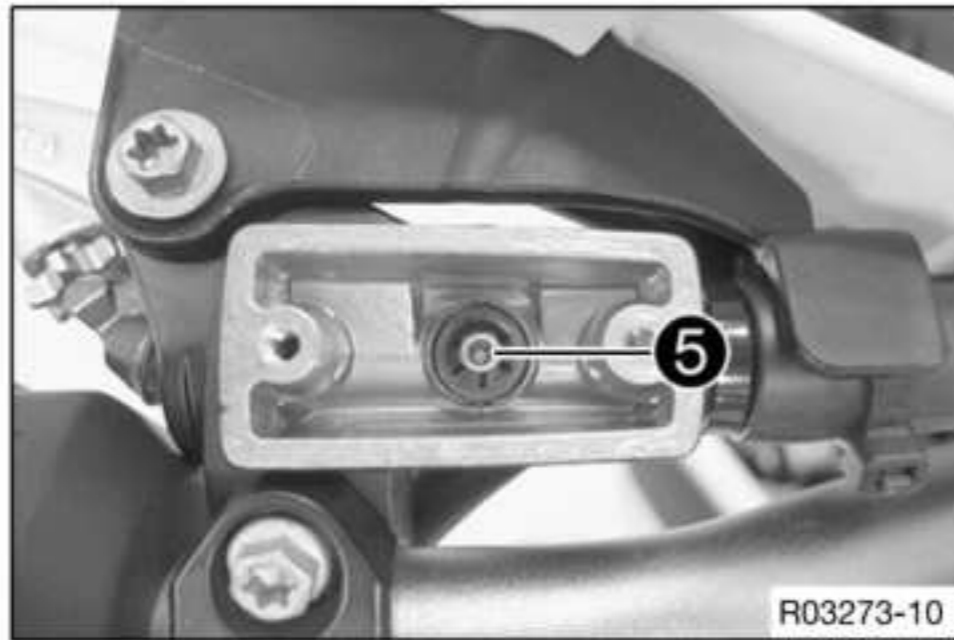


- Fill bleeding syringe ④ with the appropriate hydraulic fluid.

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.

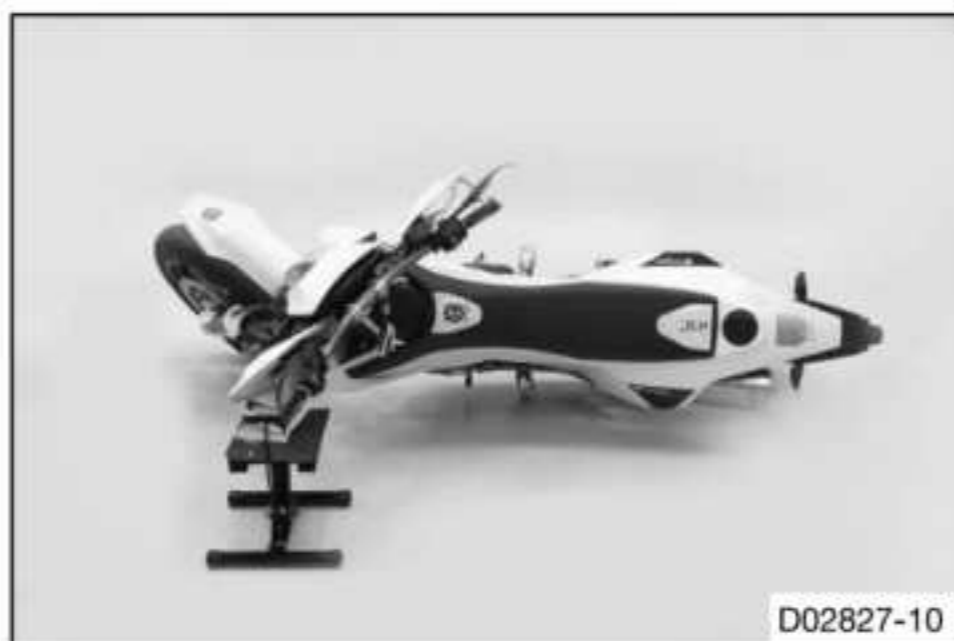
- Do not refuel the vehicle in the vicinity of open flames or lit cigarettes.
- Switch off the engine for refueling.
- Make sure that no fuel is spilled; particularly not on hot parts of the vehicle.
- If any fuel is spilled, wipe it off immediately.
- Observe the specifications for refueling.



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.



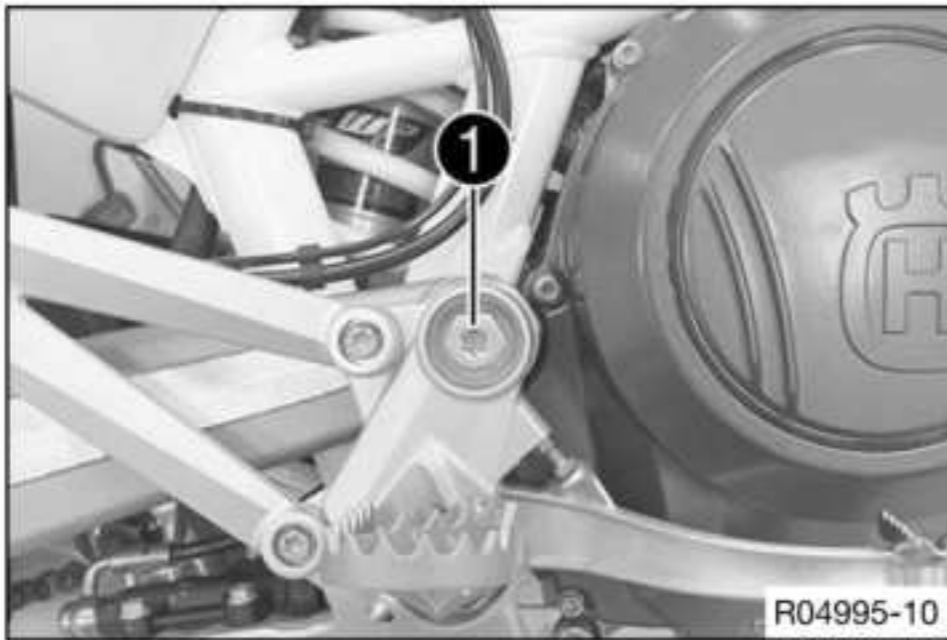
Main work

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

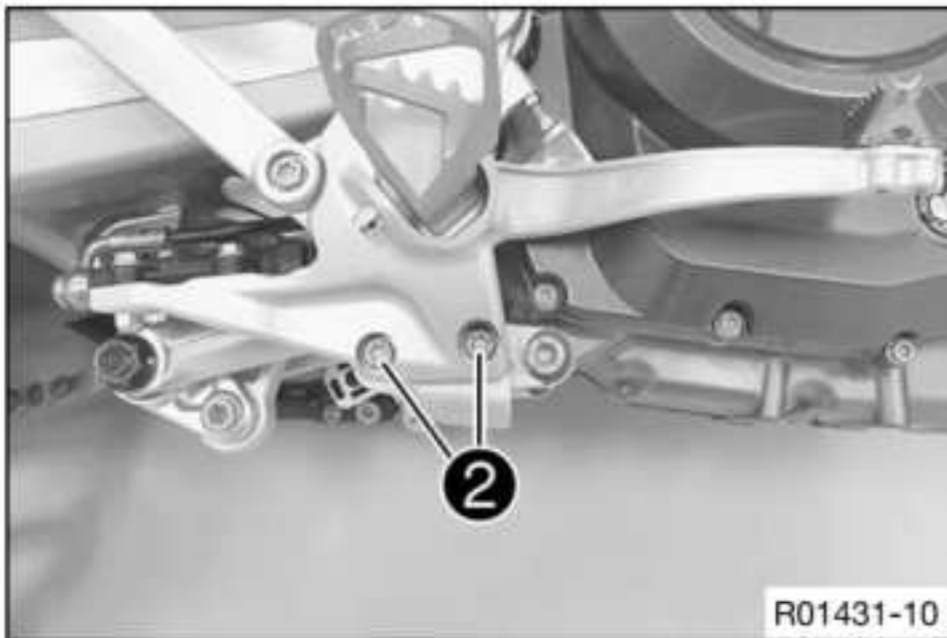


Info

Cover the components to protect them against damage. Remaining fuel may flow out of the fuel tank.

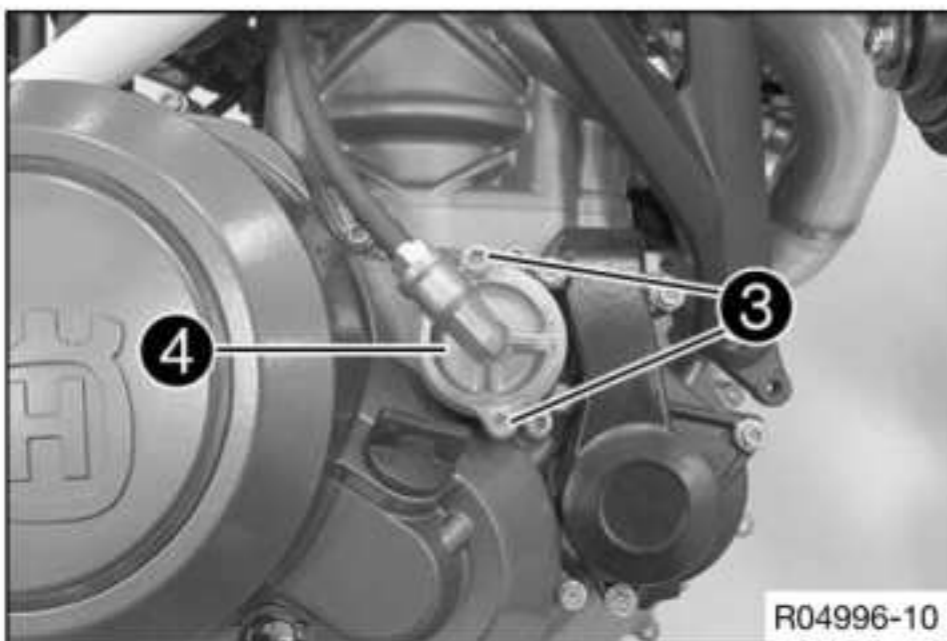


- Remove screw ①.

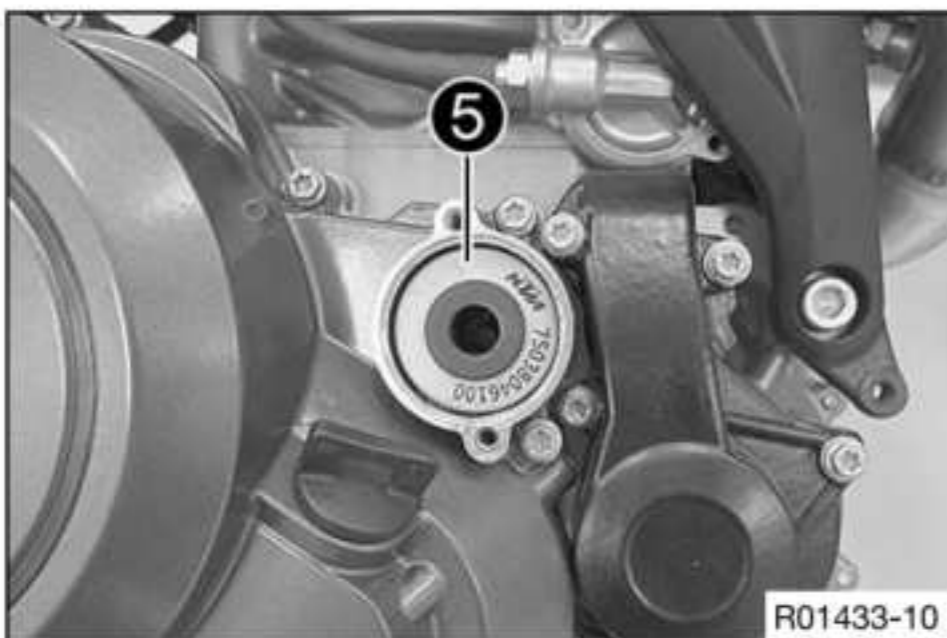


- Remove screws ②.
- Hang the footrest bracket to the side.

i Info
Cover the components to protect them against damage.

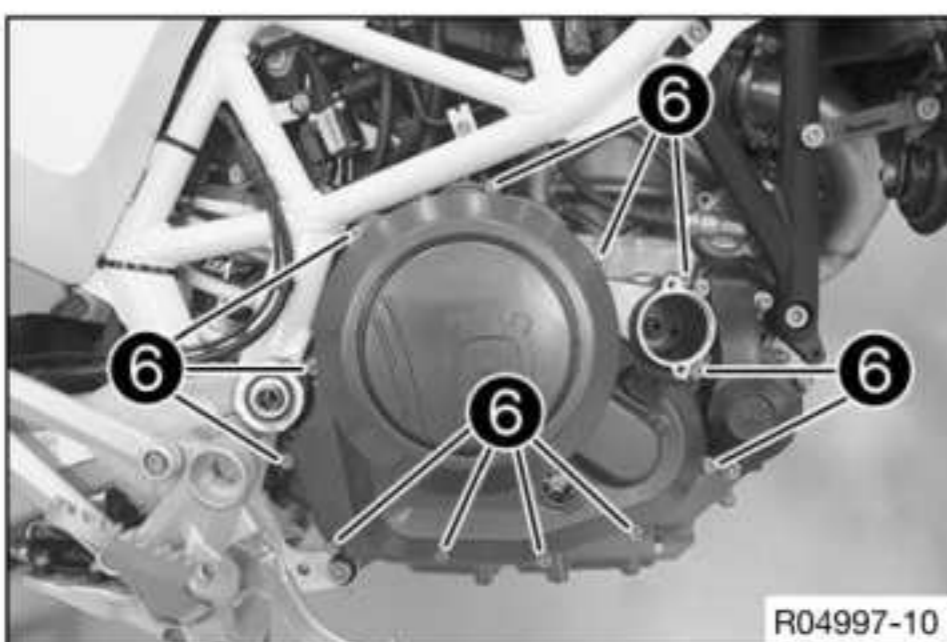


- Remove screws ③.
- Take off oil filter cover ④ with O-ring and hang to the side.

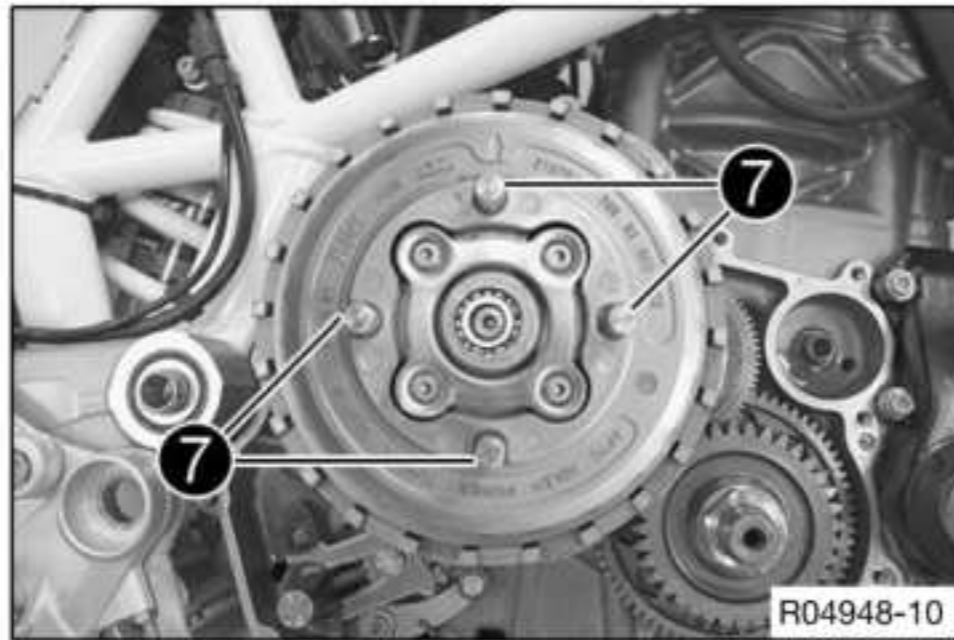


- Pull oil filter ⑤ out of the oil filter housing.

Lock ring plier (51012011000) (📖 p. 382)



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



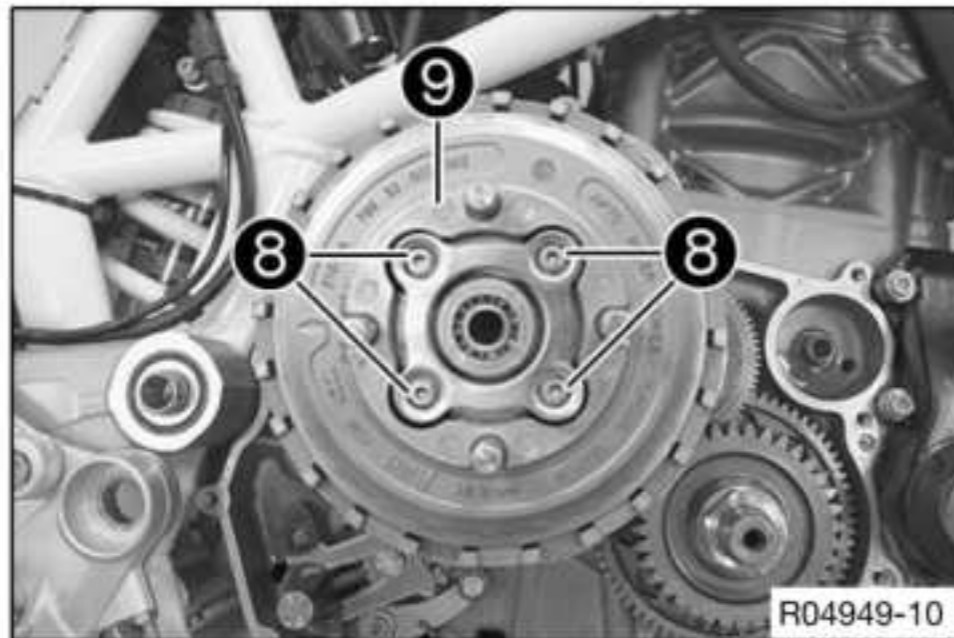
- Clamp the antihopping clutch with special tool 7.

Assembly screws (75029033000) (p. 387)

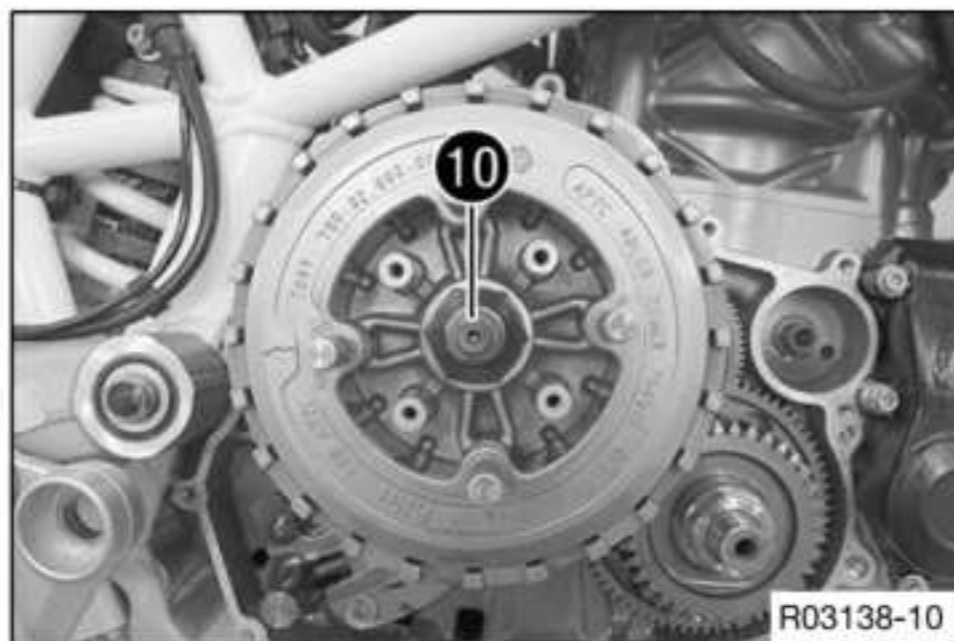


Info

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



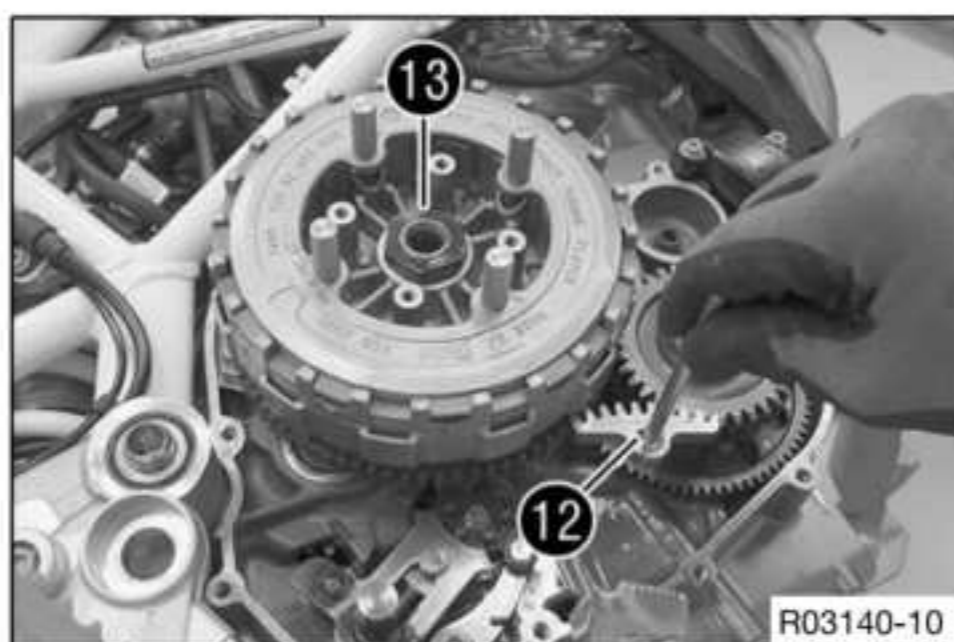
- Loosen screws 8 in a crisscross pattern and remove them with the anticentrifugal ring and clutch springs.
- Remove clutch pressure cap 9.



- Remove clutch throw-out 10.



- Remove clutch push rod 11.



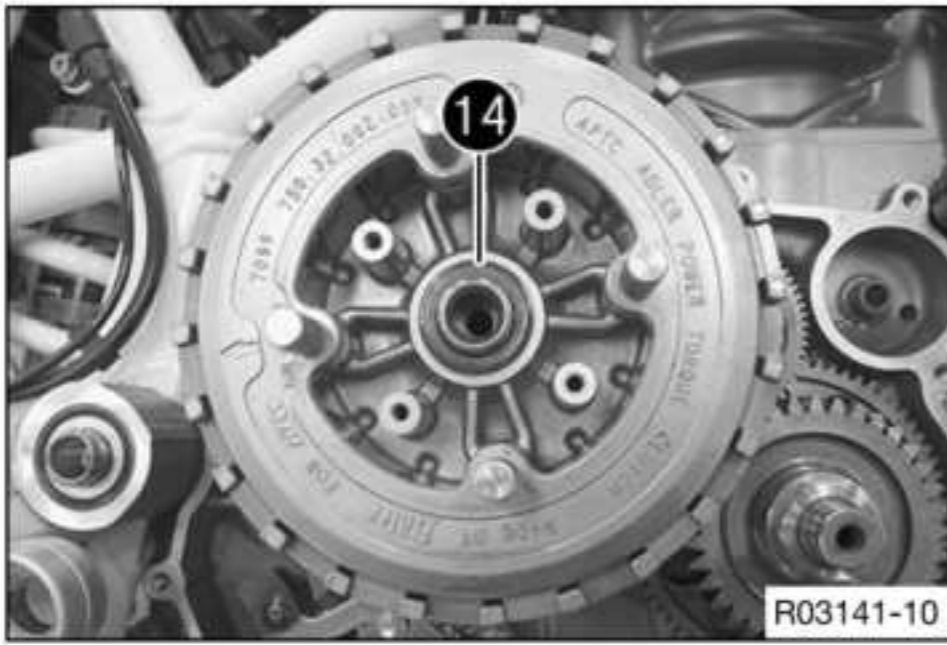
- Hold the clutch basket using special tool 12.

Gear segment (75029081000) (p. 390)

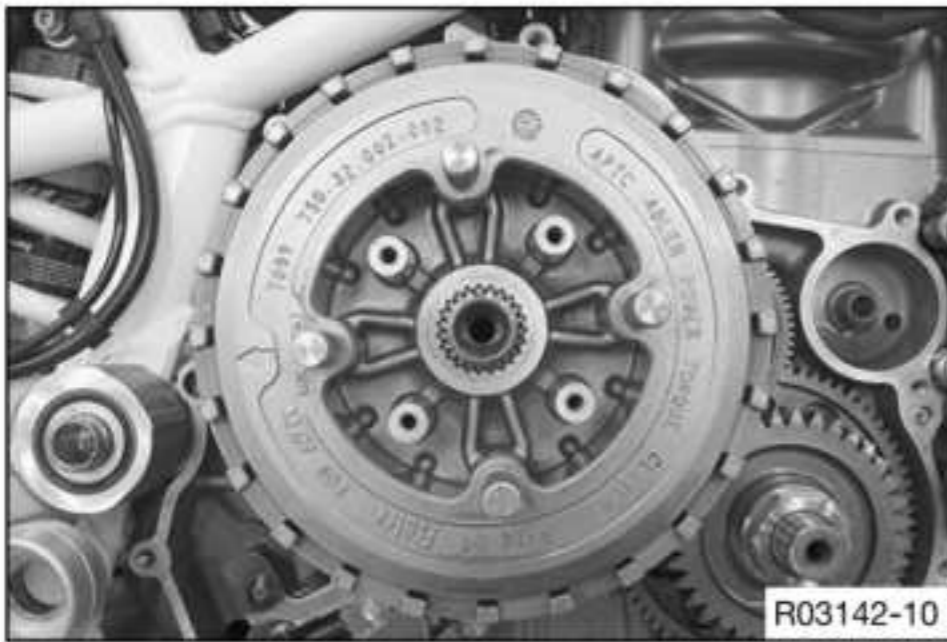
- Remove nut 13.

- Remove the special tool.

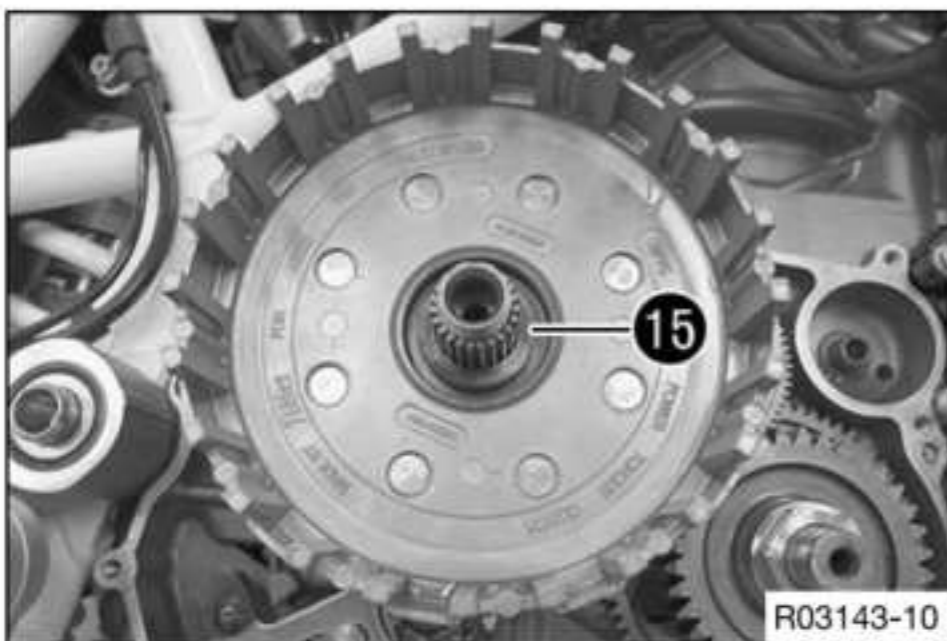
Gear segment (75029081000) (p. 390)



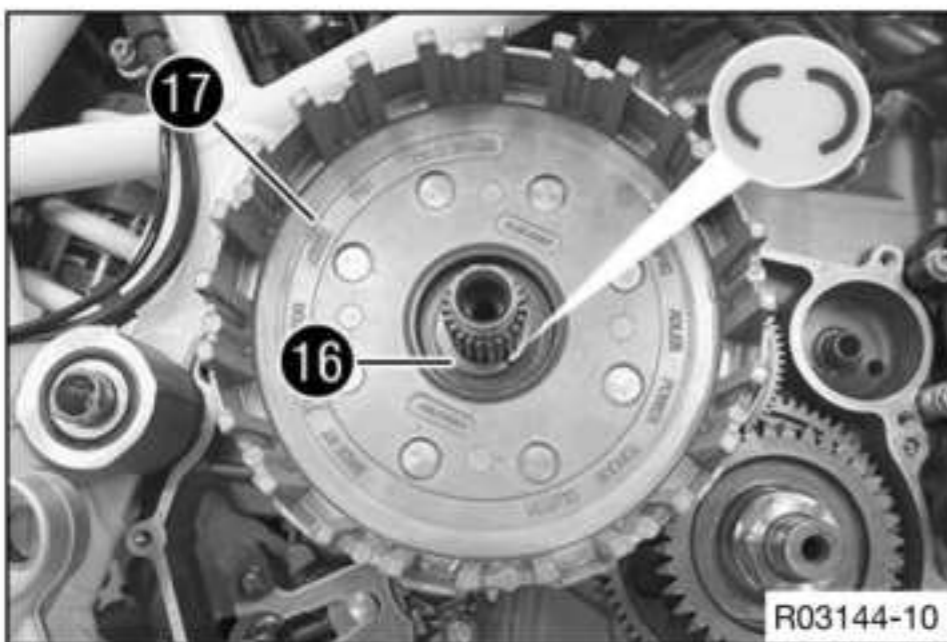
- Remove washer 14.



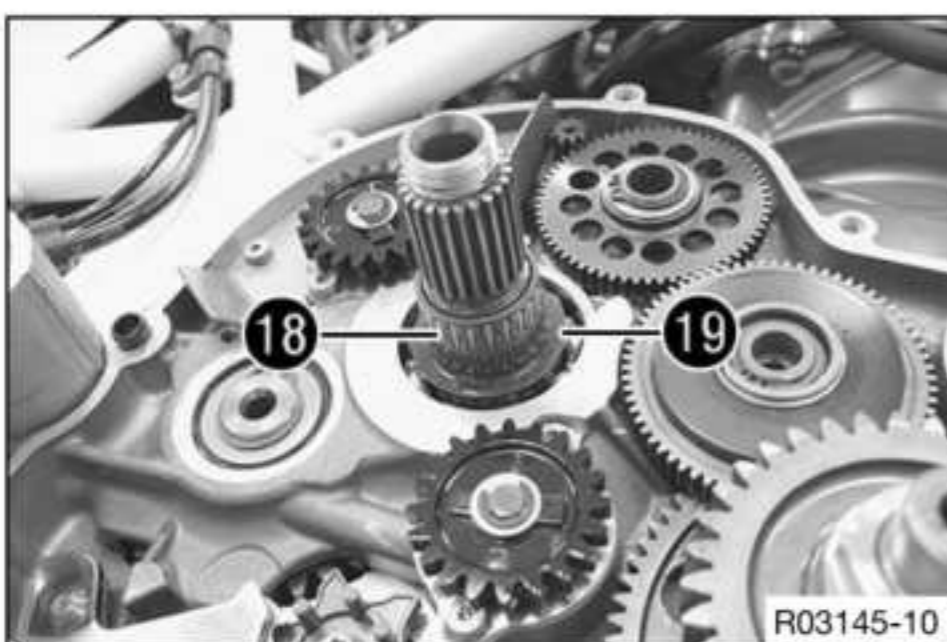
- Remove the antihopping clutch.



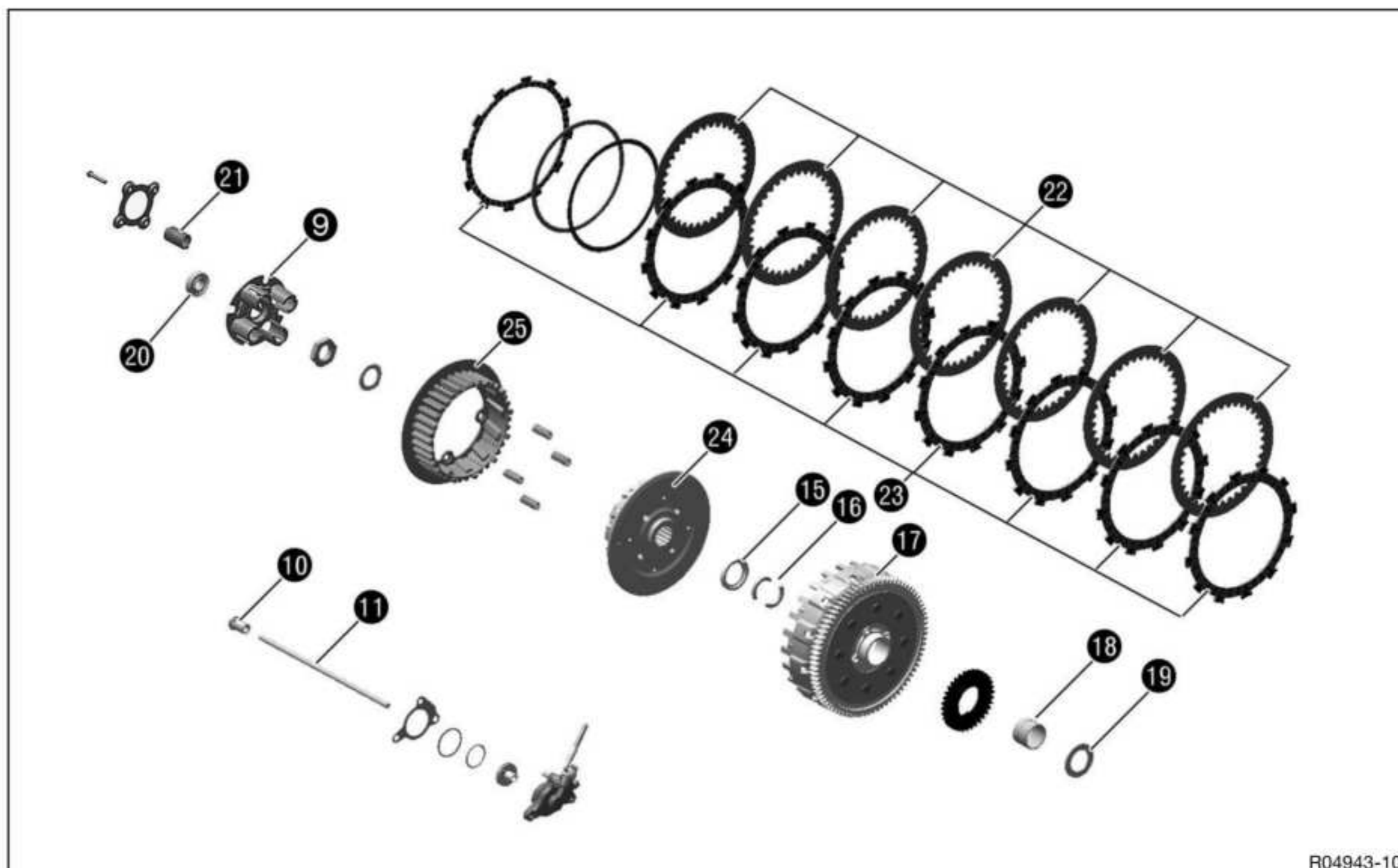
- Remove stepped washer 15.



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



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



R04943-10

- 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)
------------------------	--------------------------------------

- » 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.

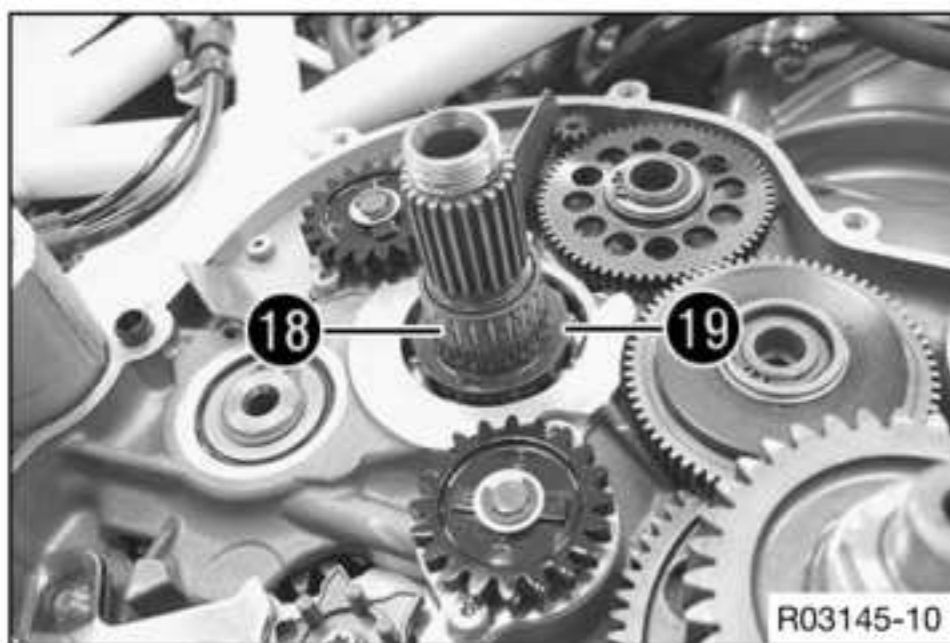
Clutch basket - contact surface of clutch facing discs	≤ 0.5 mm (≤ 0.02 in)
--	---------------------------------

- » 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.

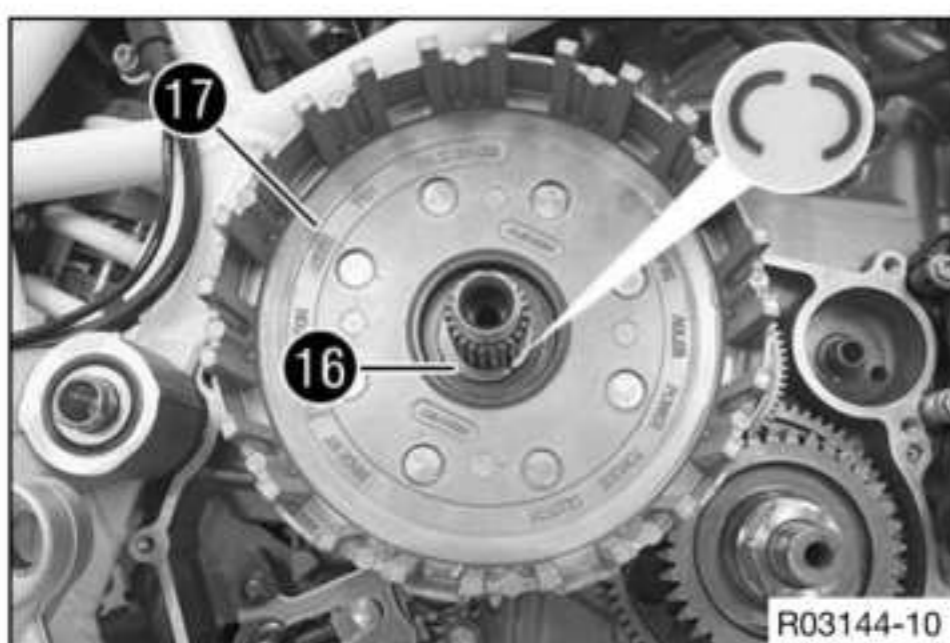
- Check clutch facing discs **23** for discoloration and scoring.
 - » If there is discoloration or scoring:
 - Change all clutch facing discs.
- Check the thickness of clutch facing discs **23**.

Clutch facing disc - thickness	≥ 2.5 mm (≥ 0.098 in)
--------------------------------	-----------------------

- » 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**.

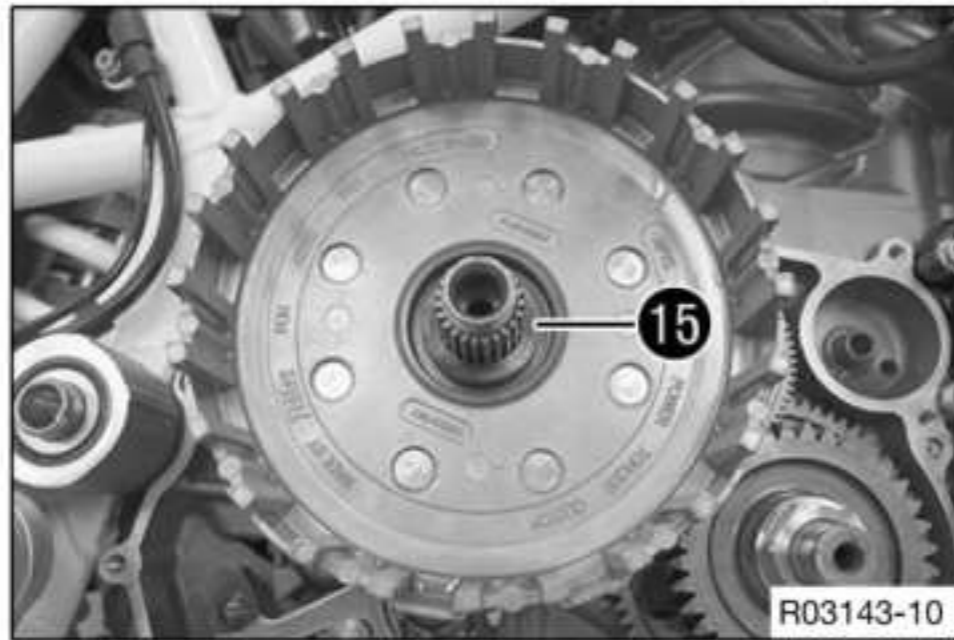


- Mount clutch basket **17**.

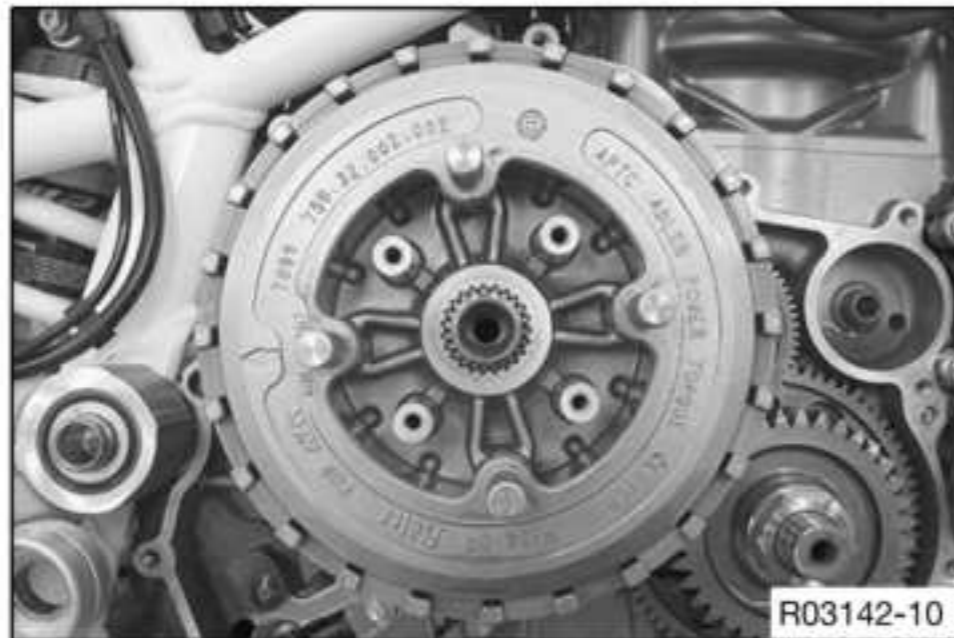
i Info
Turn the clutch basket and oil pump gear wheels backwards and forwards slightly to help them mesh more easily.

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

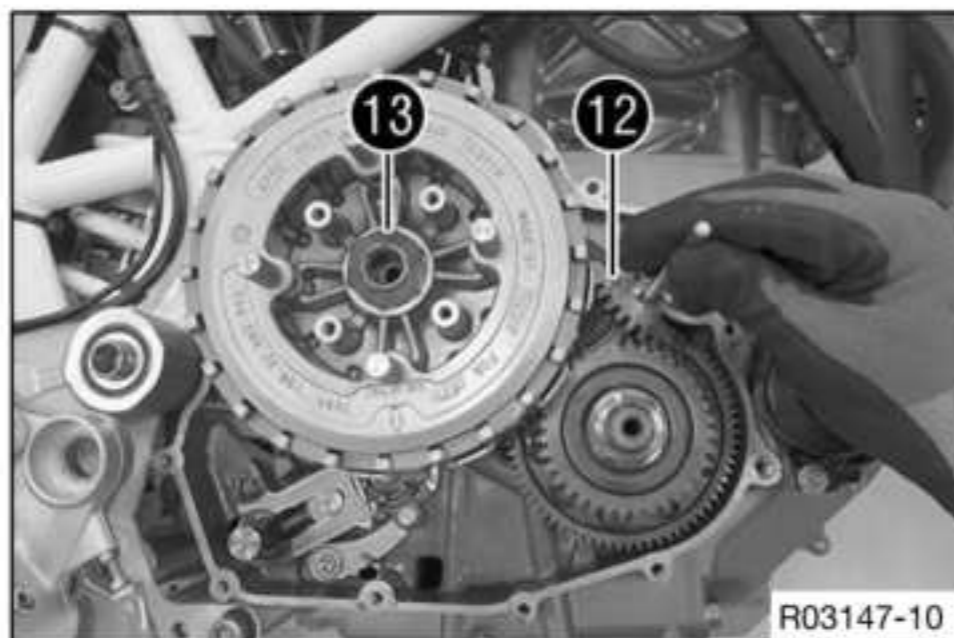


Info

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™
-----------------------	---------	---

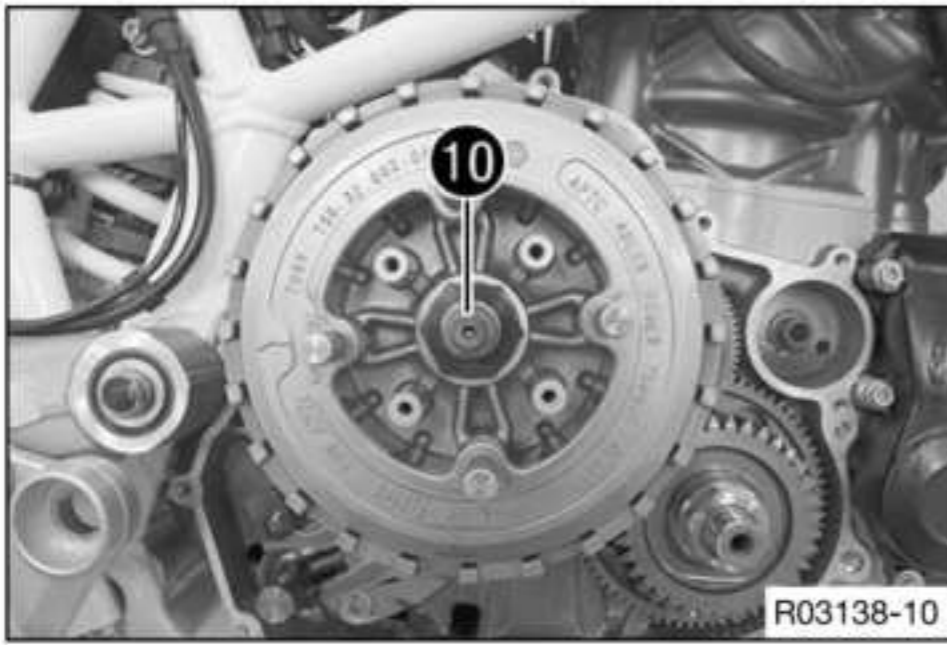
Gear segment (75029081000) (📖 p. 390)

- Remove the special tool.

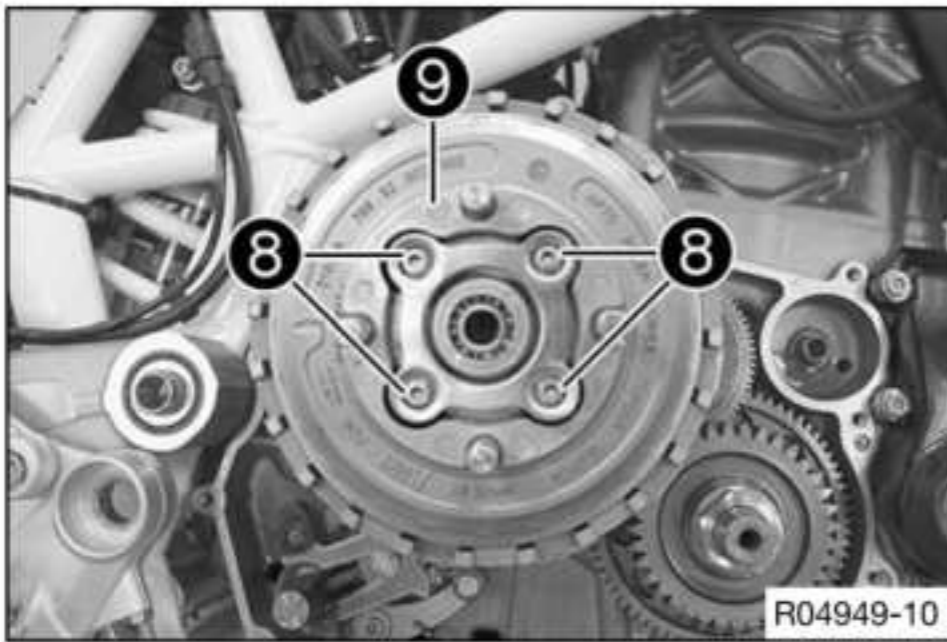
Gear segment (75029081000) (📖 p. 390)



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



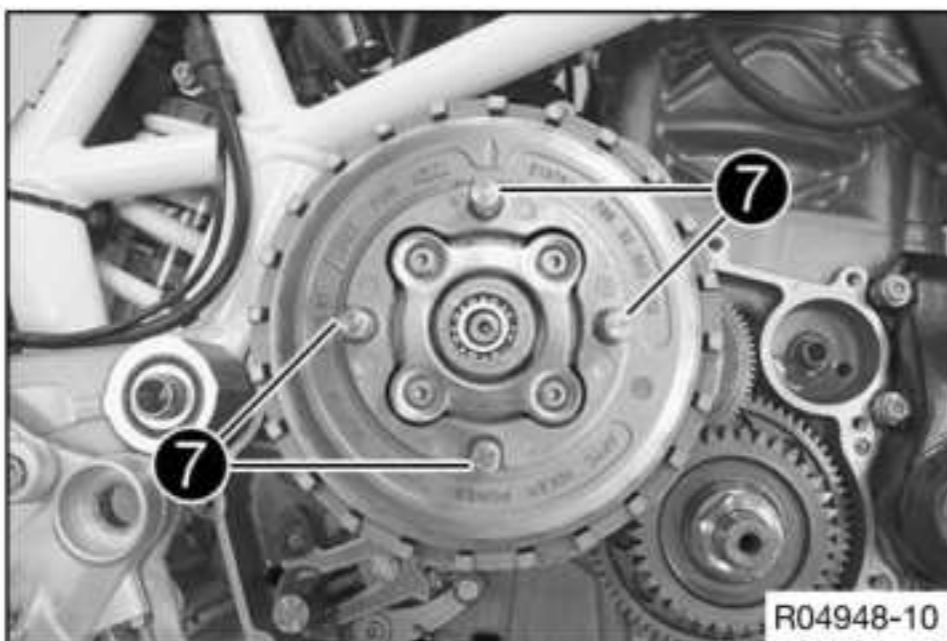
- Mount clutch throw-out **10**.



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

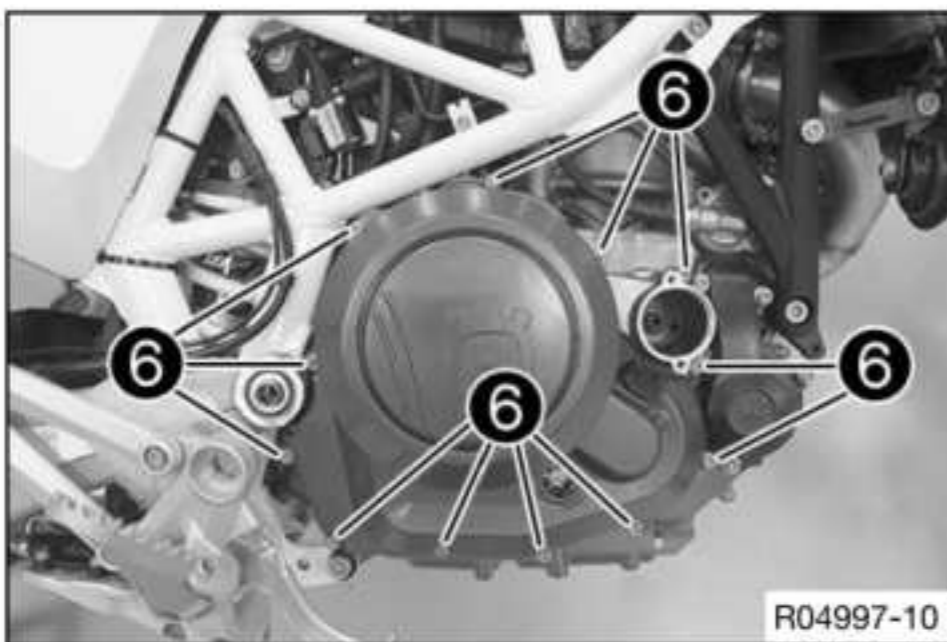
Guideline

Screw, clutch spring	M5	8 Nm (5.9 lbf ft)
----------------------	----	-------------------



- Remove special tool **7**.

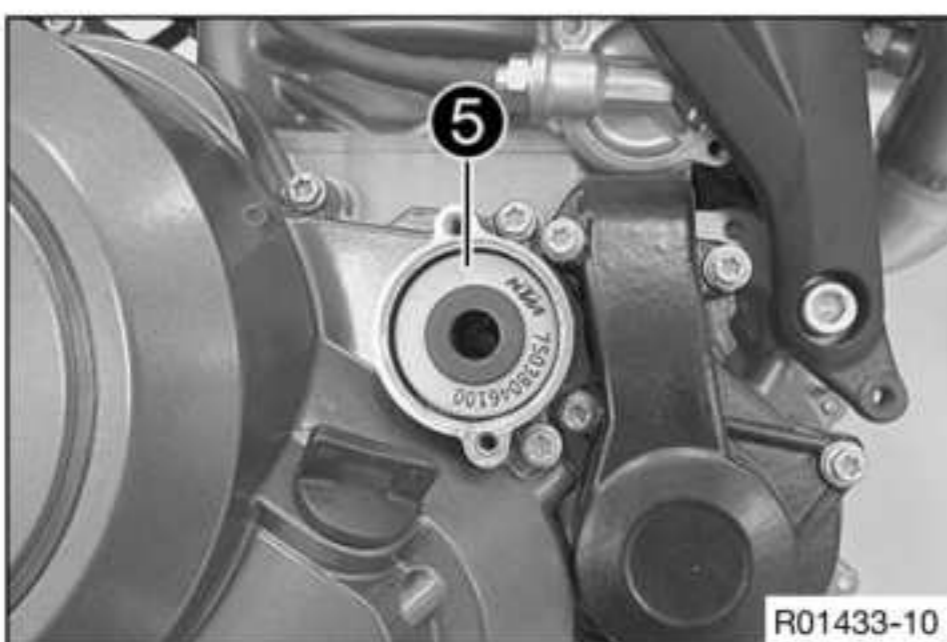
Assembly screws (75029033000) (📖 p. 387)
--



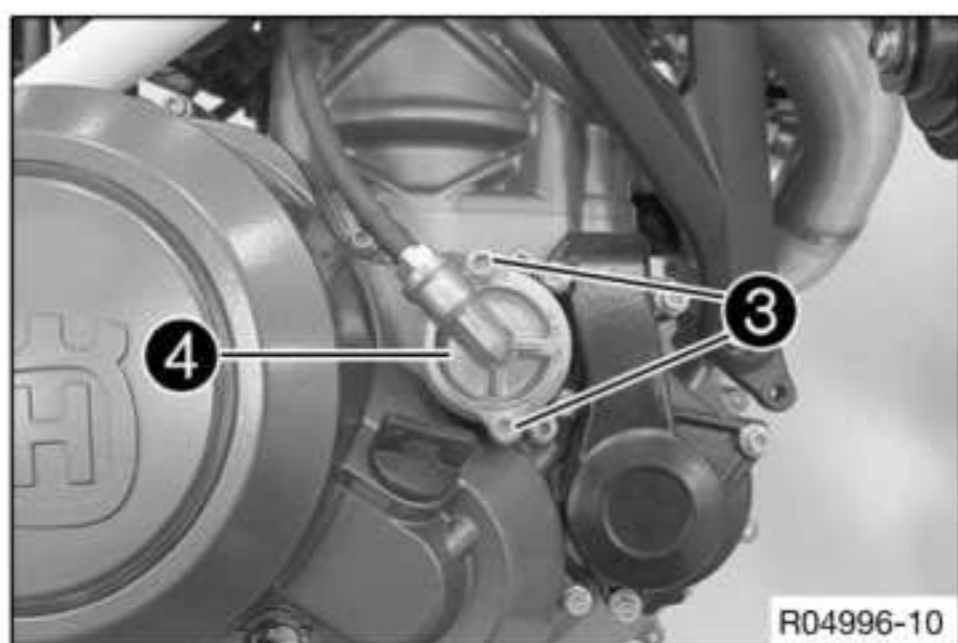
- Position clutch cover with the new gasket.
- Mount screws **6** and tighten in a crisscross pattern.

Guideline

Screw, clutch cover	M6	10 Nm (7.4 lbf ft)
---------------------	----	--------------------



- Insert oil filter **5**.

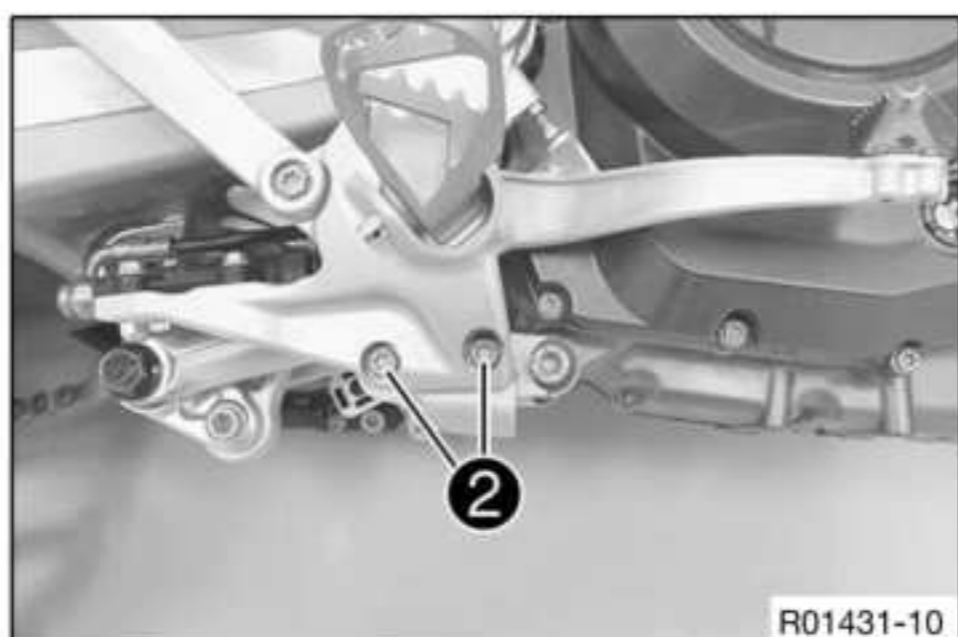


R04996-10

- 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)
-------------------------	----	-------------------



R01431-10

- Position the footrest bracket.
- Mount and tighten screws ②.

Guideline

Screw, front footrest bracket	M8	25 Nm (18.4 lbf ft) Loctite®243™
-------------------------------	----	--



R04995-10

- Mount and tighten screw ①.

Guideline

Screw, swingarm pivot	M12	80 Nm (59 lbf ft)
-----------------------	-----	-------------------



D02828-10

- Place vehicle in upright position and lean on the side stand.

Finishing work

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

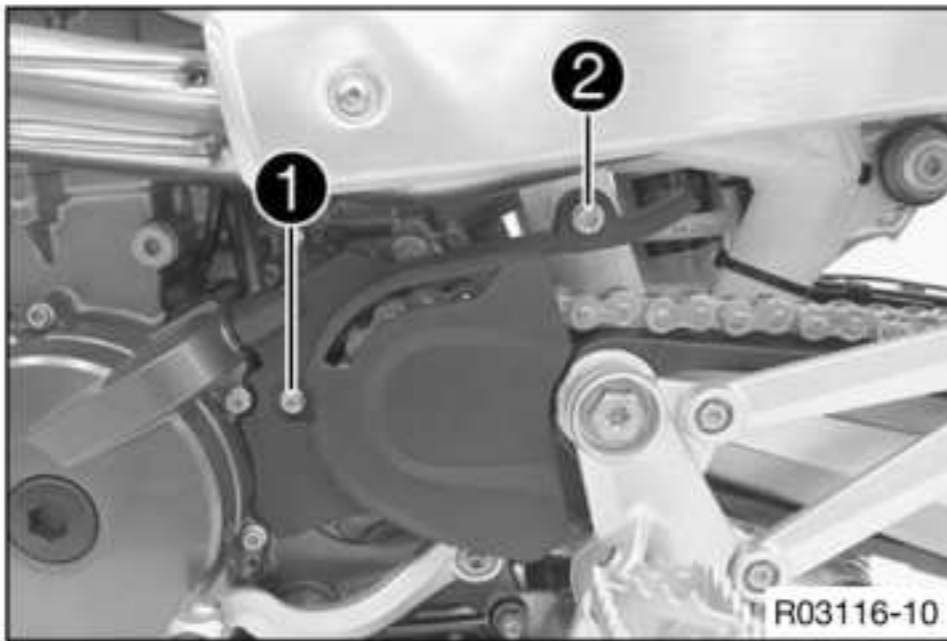
20.1 Changing the gear position sensor

Preparatory work

- Raise the motorcycle with the work stand. (📖 p. 14)

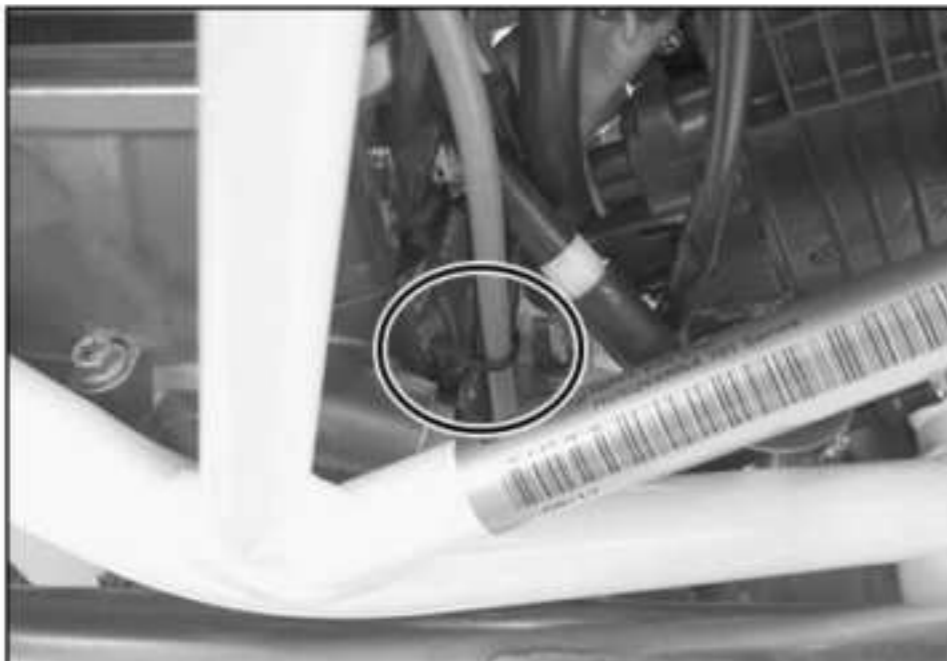
Main work

- Remove screws ① and ②.
- Take off the engine sprocket cover.



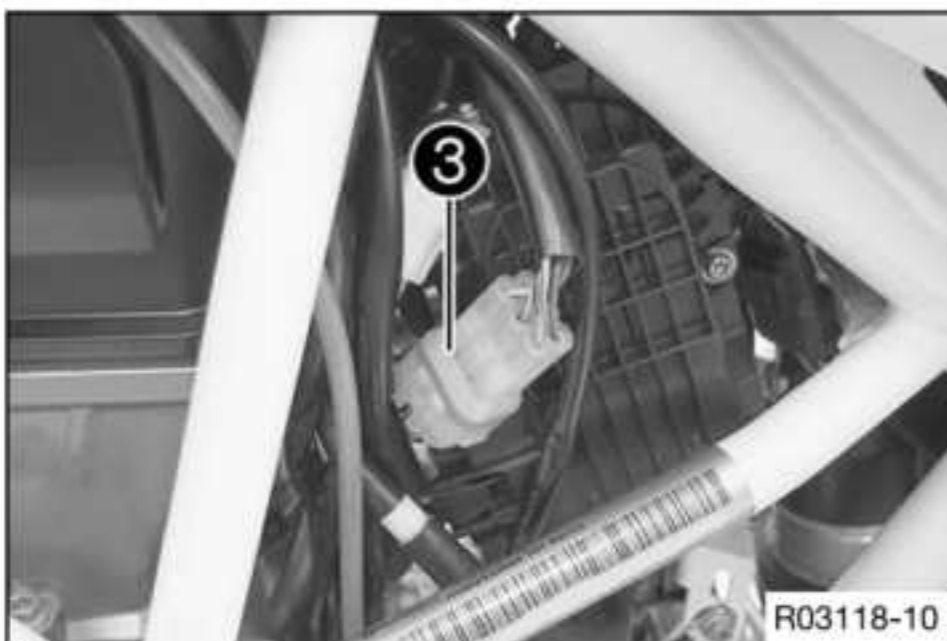
R03116-10

- Remove the cable ties.



R03117-10

- Disconnect plug-in connector ③.
- Expose the cable.

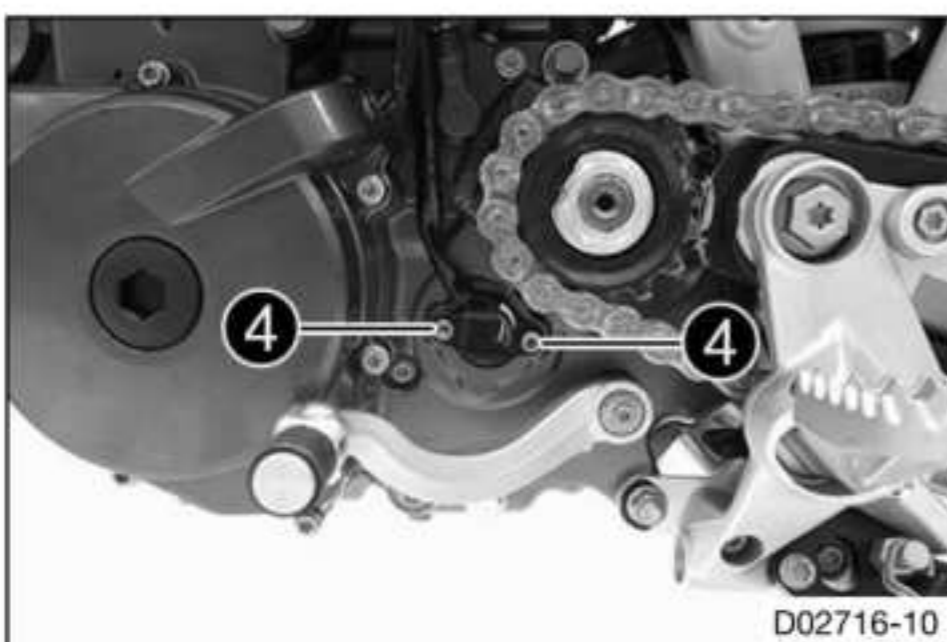


R03118-10

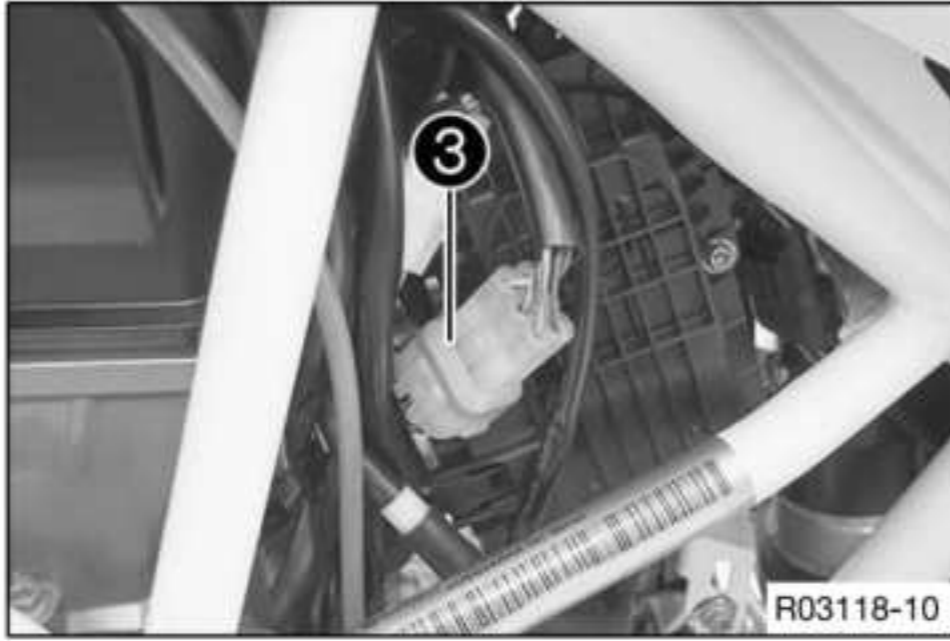
- Remove screws ④.
- Take off the gear position sensor.
- Position the new gear position sensor.
- Mount and tighten screws ④.

Guideline

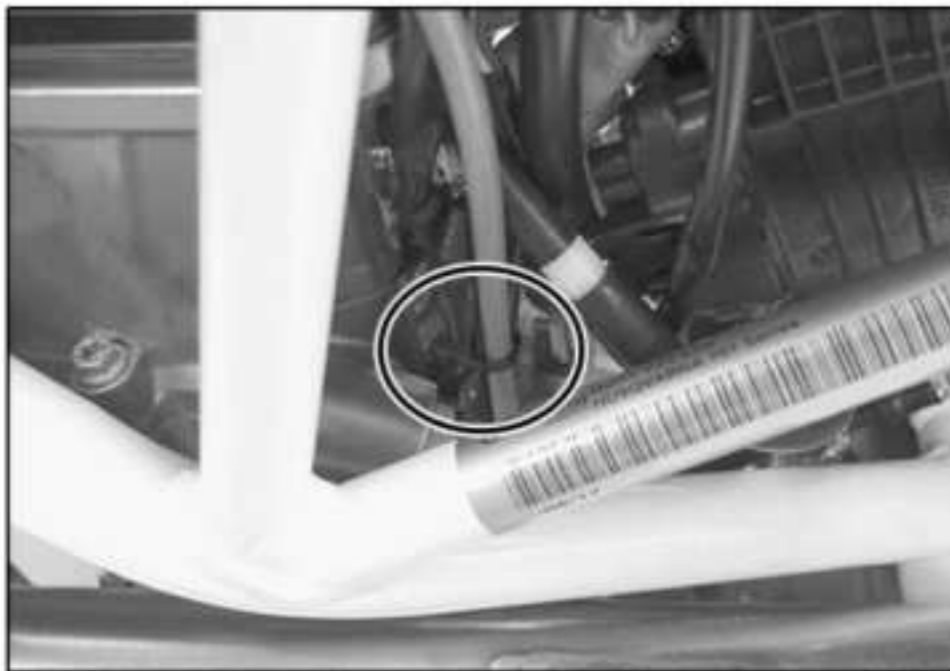
Screw, gear sensor	M5	5 Nm (3.7 lbf ft) Loctite®243™
--------------------	----	--



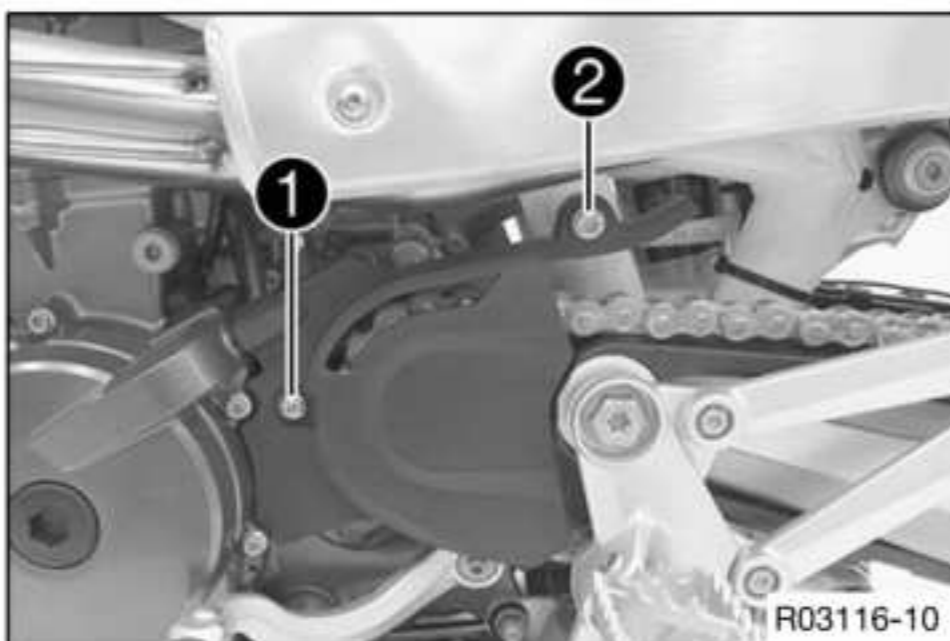
D02716-10



- Route the cables without tension.
- Join plug-in connector **3**.



- Secure the cable with the cable ties.



- Position the engine sprocket cover.
- Mount and tighten screw **1**.

Guideline

Screw, clutch slave cylinder	M6x40	10 Nm (7.4 lbf ft) Loctite®243™
------------------------------	-------	---

- Mount and tighten screw **2**.

Guideline

Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)
---------------------------	----	---------------------

Finishing work

- Program the gear position sensor. (📖 p. 281)
- Remove the motorcycle from the work stand. (📖 p. 15)

20.2 Programming the gear position sensor

Condition

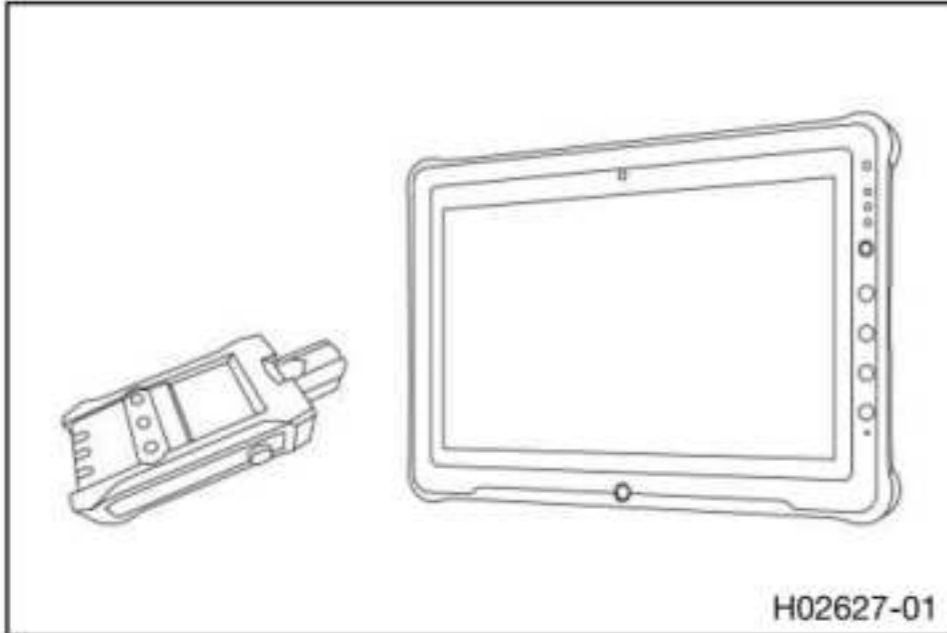
The diagnostics tool is connected and running.

Preliminary work

- Reset the engine electronics control unit. (📖 p. 311)

Main work

- Execute "**Engine electronics**" > "**Functions**" > "**Program the gear position sensor**".
- Switch to the main menu.
- Switch the ignition off and on again.
 - ✓ The green idle indicator lamp **N** lights up.



21.1 Draining the coolant



Warning

Danger of scalding During motorcycle operation, the coolant gets very hot and is under pressure.

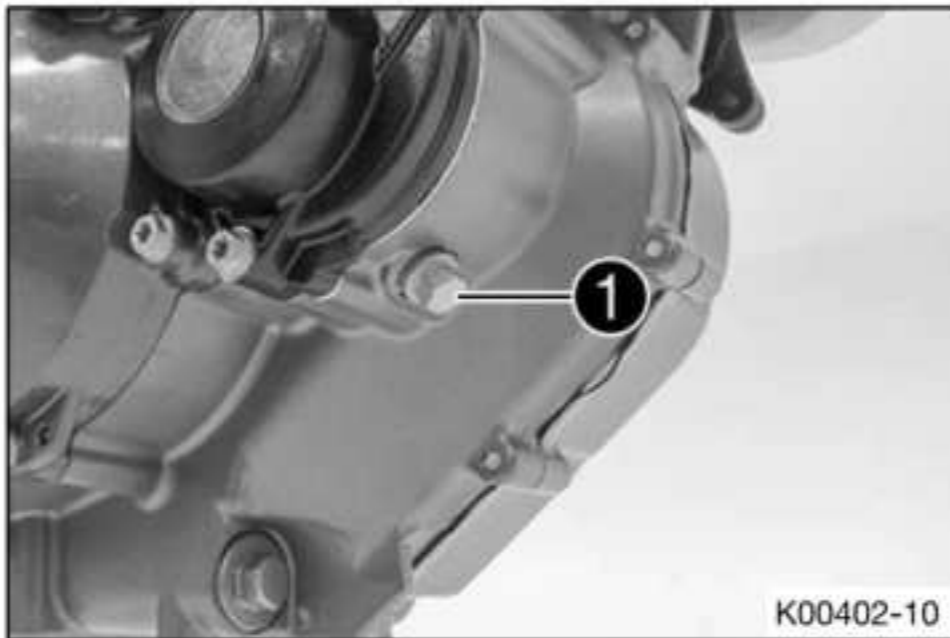
- Do not open the radiator, the radiator hoses or other cooling system components if the engine or the cooling system are at operating temperature.
- Allow the cooling system and the engine to cool down before you open the radiator, the radiator hoses or other components of the cooling system.
- In the event of scalding, rinse the area affected immediately with lukewarm water.



Warning

Danger of poisoning Coolant is toxic and a health hazard.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.



- Position the motorcycle upright.
- Place an appropriate container under the engine.
- Remove screw ① with the seal ring.
- Remove the radiator cap.
- Completely drain the coolant.
- Mount and tighten screw ① with a new seal ring.

Guideline

Screw plug, water pump drain hole	M10x1	15 Nm (11.1 lbf ft)
-----------------------------------	-------	---------------------

21.2 Filling/bleeding the cooling system



Warning

Danger of poisoning Coolant is toxic and a health hazard.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.



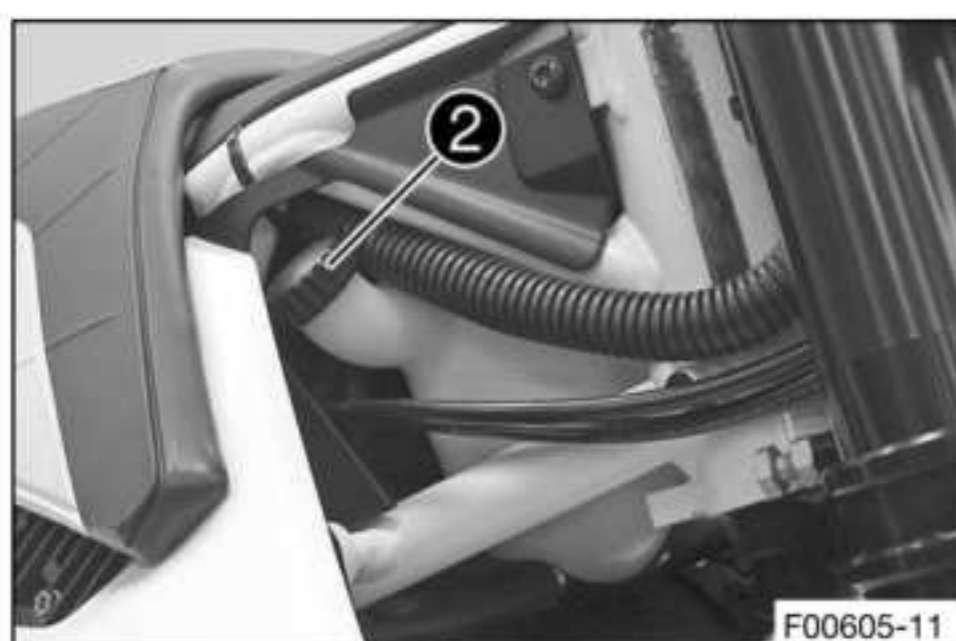
- Stand the motorcycle on its side stand on a horizontal surface.
- Remove radiator cap ❶.



- Refill with coolant.

Coolant	1.20 l (1.27 qt.)	Coolant (📖 p. 376)
---------	----------------------	--------------------

- Completely fill the radiator with coolant.
- Mount radiator cap ❶.



- Remove cover ❷ of the compensating tank.
- Add coolant up to a level between the two marks.
- Mount the cover of the compensating tank.



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.
- Stop the engine and allow it to cool down.
- Check the coolant level. (📖 p. 284)

21.3 Checking the antifreeze and coolant level



Warning

Danger of scalding During motorcycle operation, the coolant gets very hot and is under pressure.

- Do not open the radiator, the radiator hoses or other cooling system components if the engine or the cooling system are at operating temperature.
- Allow the cooling system and the engine to cool down before you open the radiator, the radiator hoses or other components of the cooling system.
- In the event of scalding, rinse the area affected immediately with lukewarm water.



Warning

Danger of poisoning Coolant is toxic and a health hazard.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.



Condition

The engine is cold.

- Stand the motorcycle on its side stand on a horizontal surface.
- Remove cover **1** of the compensating tank.
- Remove radiator cap **2**.
- Check the antifreeze in the coolant.

-25 ... -45 °C (-13 ... -49 °F)

- » If the antifreeze in the coolant does not match the specified value:
 - Correct the antifreeze in the coolant.

- Check the coolant level in the compensating tank.

The coolant level must be between the two markings.

- » If the coolant level does not match the specified value:
 - Correct the coolant level.

Coolant (📖 p. 376)

- Mount cover **1** of the compensating tank.
- Check the coolant level in the radiator.

The radiator must be filled completely.

- » If the coolant level does not match the specified value:
 - Check the coolant level and the reason for the loss.

- Mount radiator cap **2**.

21.4 Checking the coolant level



Warning

Danger of scalding During motorcycle operation, the coolant gets very hot and is under pressure.

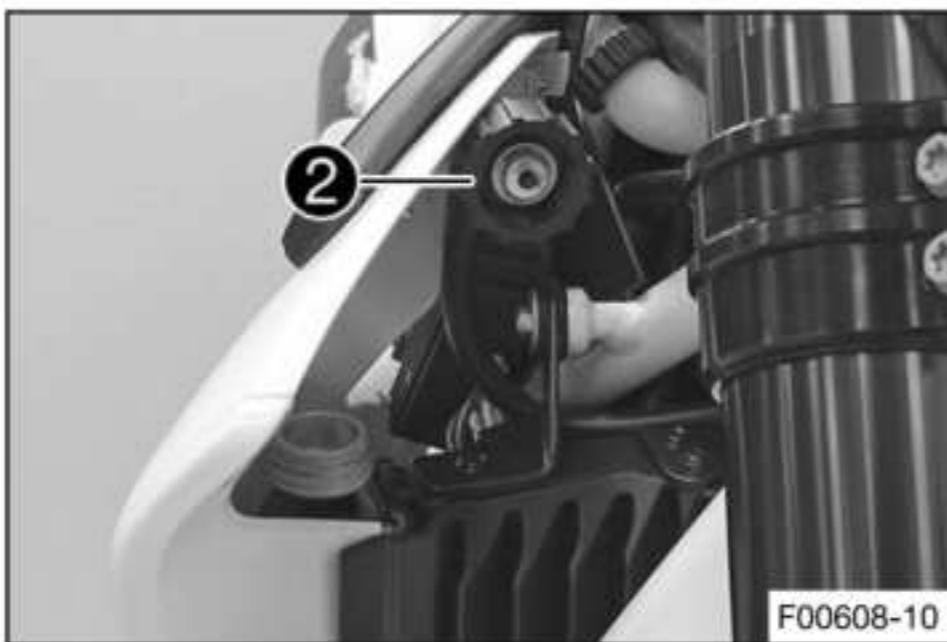
- Do not open the radiator, the radiator hoses or other cooling system components if the engine or the cooling system are at operating temperature.
- Allow the cooling system and the engine to cool down before you open the radiator, the radiator hoses or other components of the cooling system.
- In the event of scalding, rinse the area affected immediately with lukewarm water.



Warning

Danger of poisoning Coolant is toxic and a health hazard.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.



Condition

The engine is cold.

- Stand the motorcycle on its side stand on a horizontal surface.
- Check the coolant level in compensating tank **1**.

The coolant level must be between the two markings.

- » If the coolant level does not match the specified value:
 - Correct the coolant level.

Coolant (📖 p. 376)

- Remove radiator cap **2** and check the coolant level in the radiator.

The radiator must be filled completely.

- » If the coolant level does not match the specified value:
 - Check the coolant level and the reason for the loss.

Coolant (📖 p. 376)

- Mount the radiator cap.

21.5 Changing the coolant



Warning

Danger of scalding During motorcycle operation, the coolant gets very hot and is under pressure.

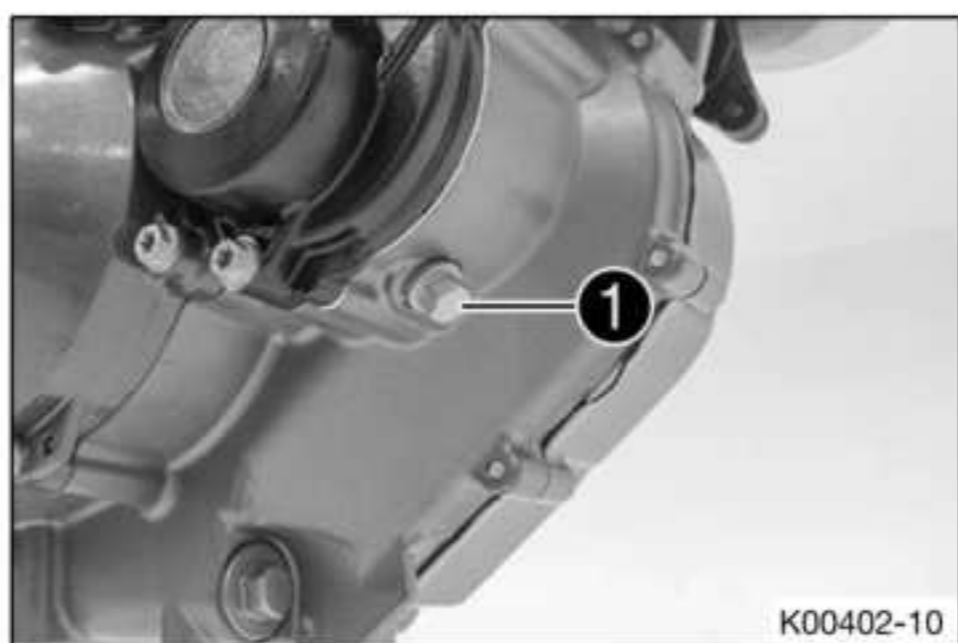
- Do not open the radiator, the radiator hoses or other cooling system components if the engine or the cooling system are at operating temperature.
- Allow the cooling system and the engine to cool down before you open the radiator, the radiator hoses or other components of the cooling system.
- In the event of scalding, rinse the area affected immediately with lukewarm water.



Warning

Danger of poisoning Coolant is toxic and a health hazard.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.

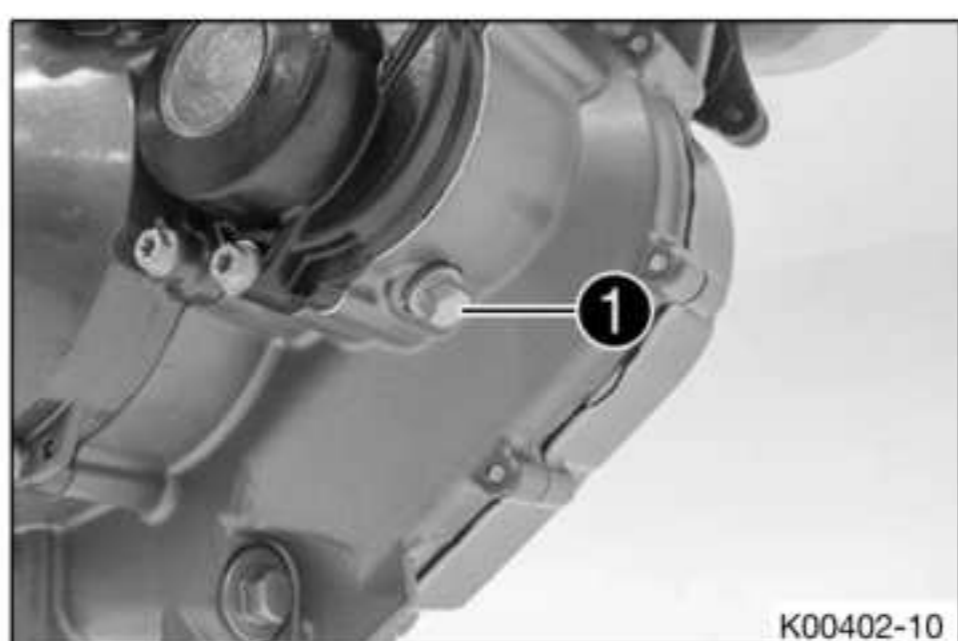


Main work

- Position the motorcycle upright.
- Place an appropriate container under the engine.
- Remove screw **1** with the seal ring.



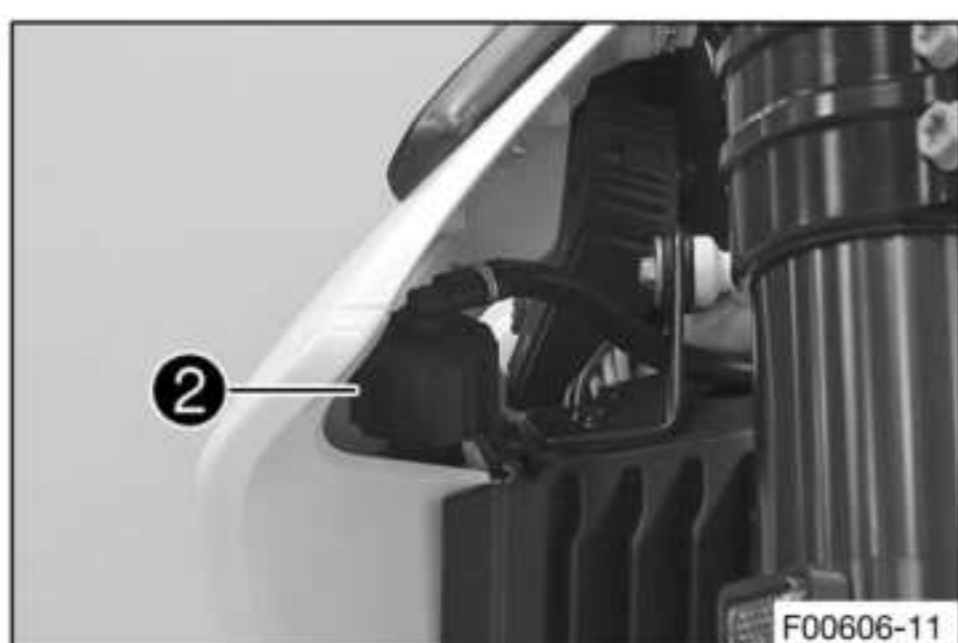
- Remove radiator cap **2**.
- Completely drain the coolant.



- Mount and tighten screw **1** with a new seal ring.

Guideline

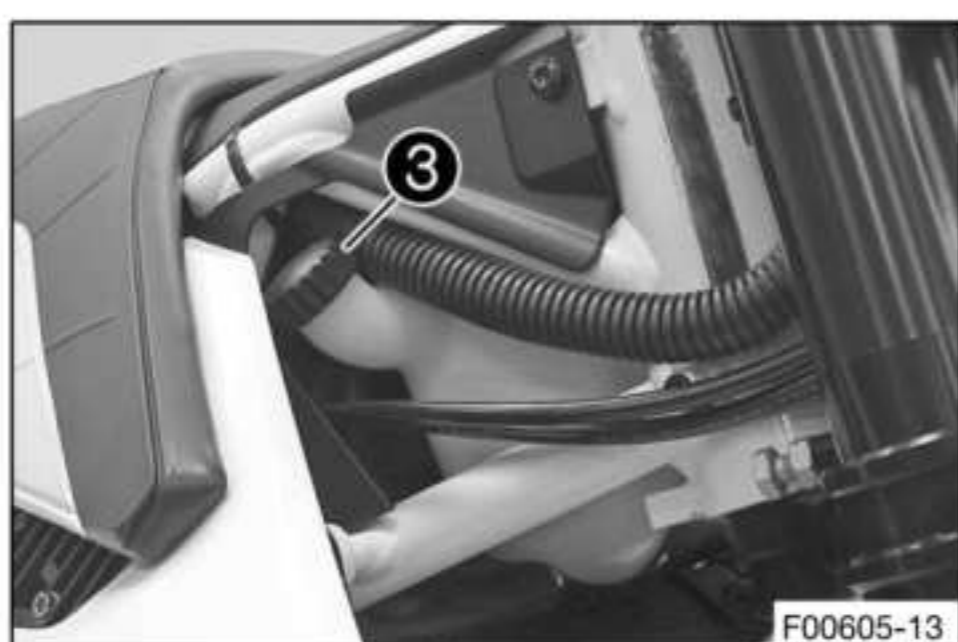
Screw plug, water pump drain hole	M10x1	15 Nm (11.1 lbf ft)
-----------------------------------	-------	---------------------



- Stand the motorcycle on its side stand on a horizontal surface.
- Refill with coolant.

Coolant	1.20 l (1.27 qt.)	Coolant (📖 p. 376)
---------	----------------------	--------------------

- Completely fill the radiator with coolant.
- Mount radiator cap **2**.



- Remove cover **3** of the compensating tank.
- Add coolant up to a level between the two marks.
- Mount cover **3** of the compensating tank.



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.

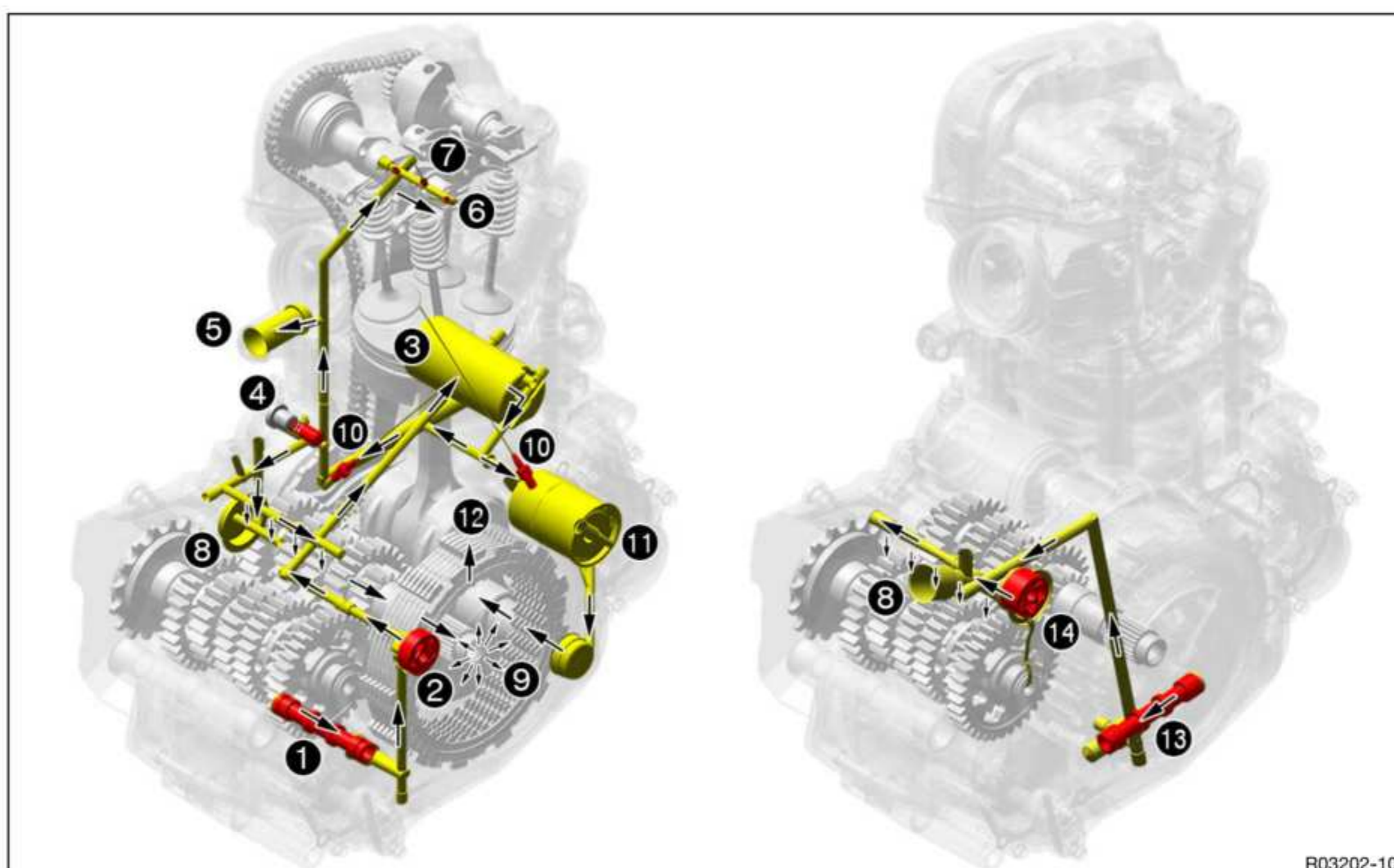
- Start the engine and let it warm up.
- Stop the engine and allow it to cool down.

Finishing work

- Check the coolant level. (📖 p. 284)



22.1 Oil circuit



R03202-10

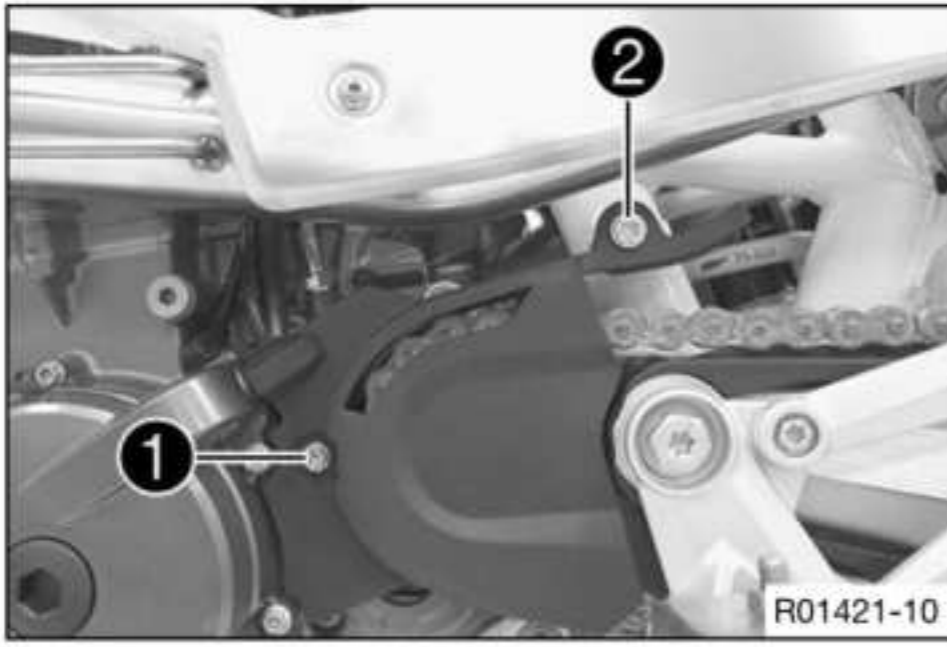
Oil circuit of force pump

- ① Oil screen
- ② Force pump
- ③ Oil filter
- ④ Oil pressure control valve
- ⑤ Timing chain tensioner
- ⑥ Rocker arm shaft
- ⑦ Oil nozzle for rocker arm and cam follower lubrication
- ⑧ Transmission
- ⑨ Clutch
- ⑩ Oil nozzles for piston cooling
- ⑪ Oil filter
- ⑫ Oil nozzle for conrod bearing lubrication

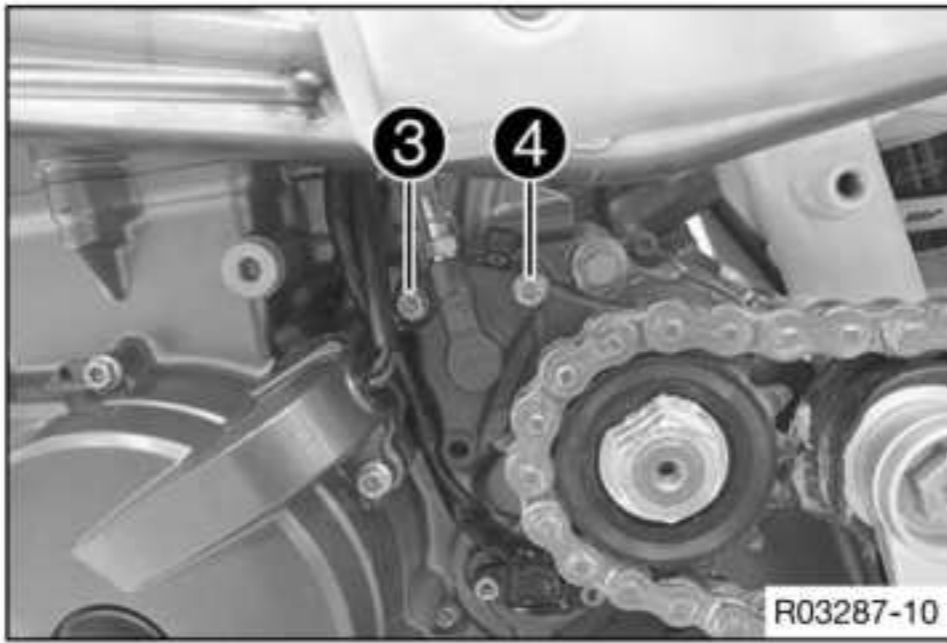
Oil circuit of suction pump

- ⑬ Oil screen
- ⑭ Suction pump
- ⑧ Transmission

22.2 Checking/cleaning the oil nozzle for clutch lubrication

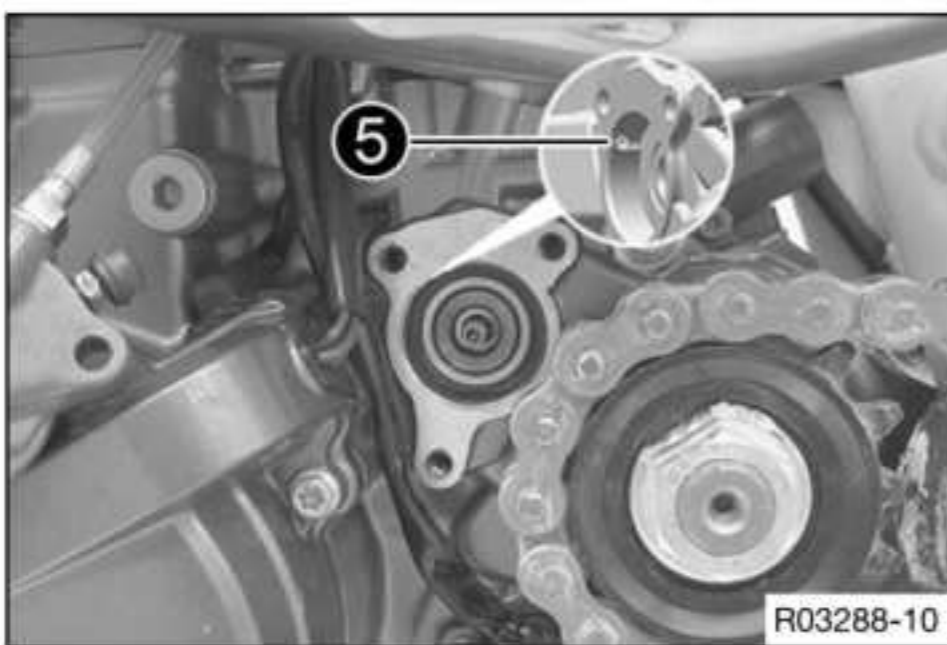


- Remove screw ①.
- Remove screw ②.
- Take off the engine sprocket cover.



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

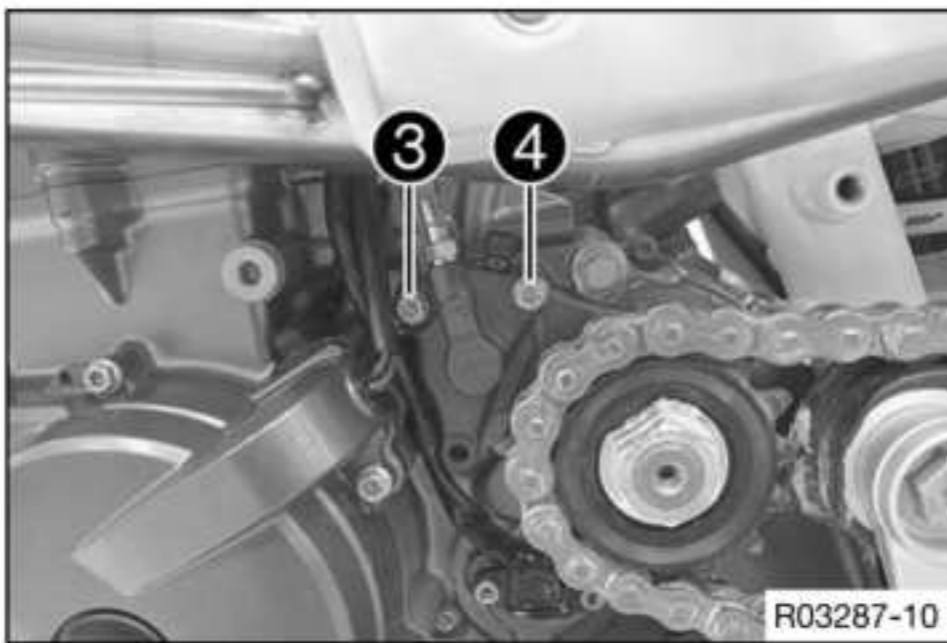
i Info
Do not kink the clutch line.
Do not activate the clutch lever while the slave cylinder of the clutch is removed.



- 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)
-----------------------------------	------	-------------------



- Position the clutch slave cylinder with the gasket.
- Mount and tighten screw ③.

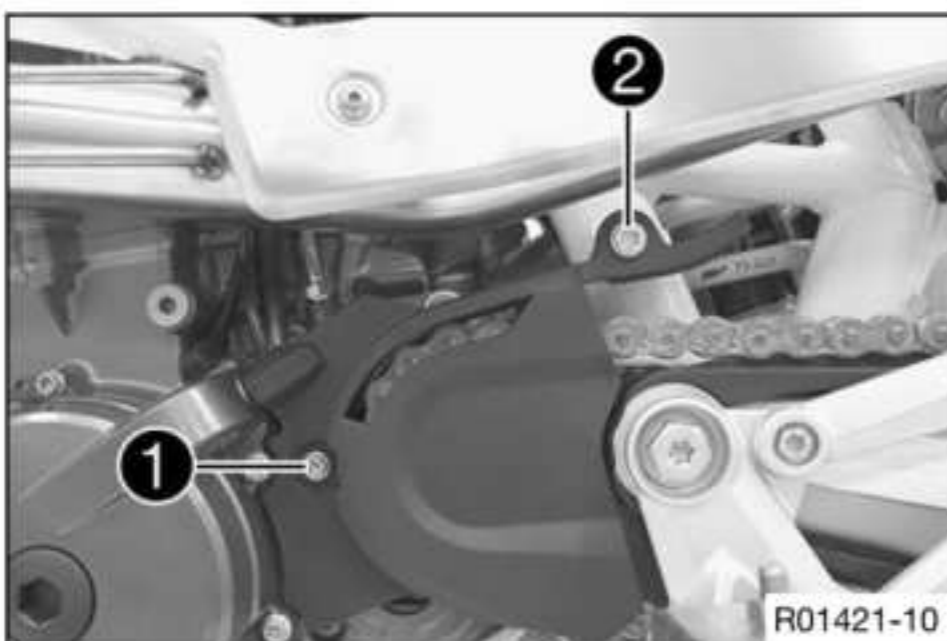
Guideline

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)
---------------------------	----	---------------------

- Mount and tighten screw ①.

Guideline

Screw, clutch slave cylinder	M6x40	10 Nm (7.4 lbf ft) Loctite®243™
------------------------------	-------	---

22.3 Checking the engine oil level

Condition

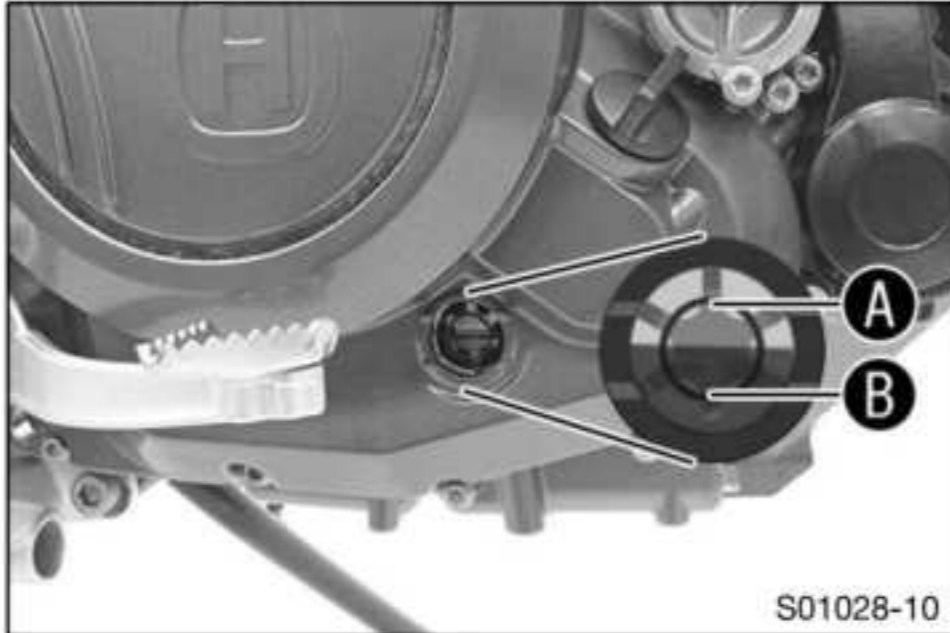
The engine is at operating temperature.

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.

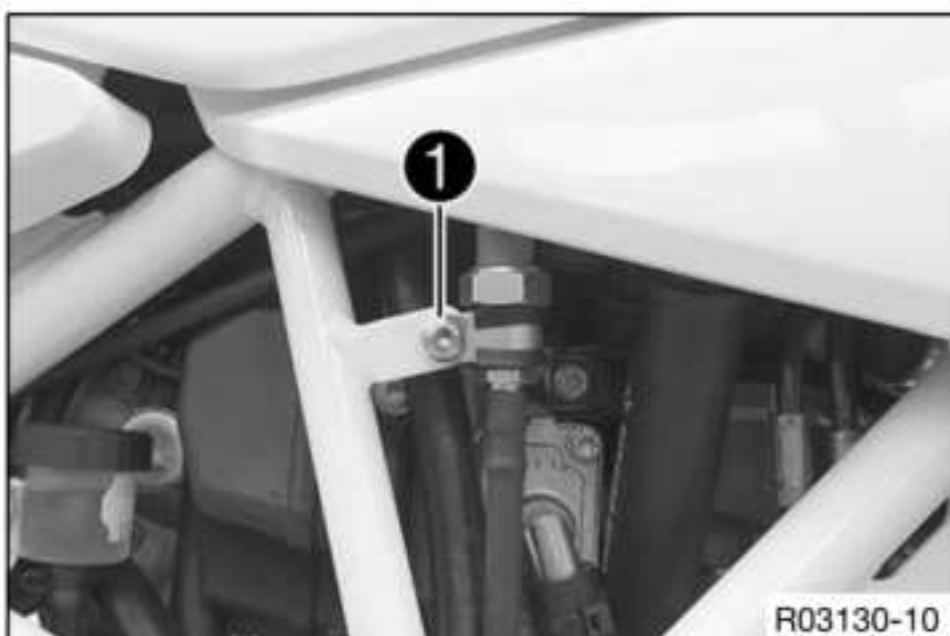
- Wear suitable protective clothing and safety gloves.
- In the event of scalding, rinse the area affected immediately with lukewarm water.



Note

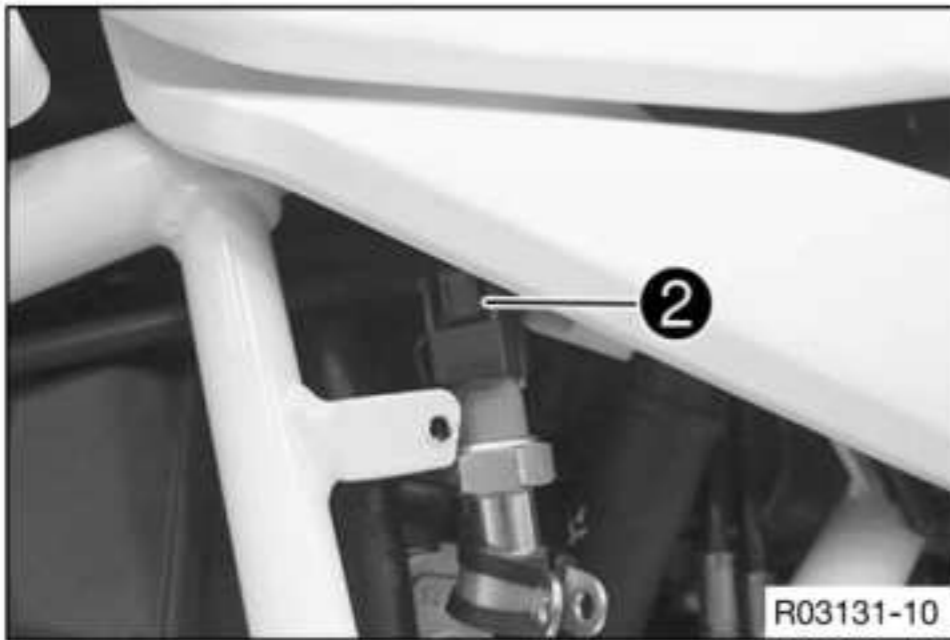
Environmental hazard Hazardous substances cause environmental damage.

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

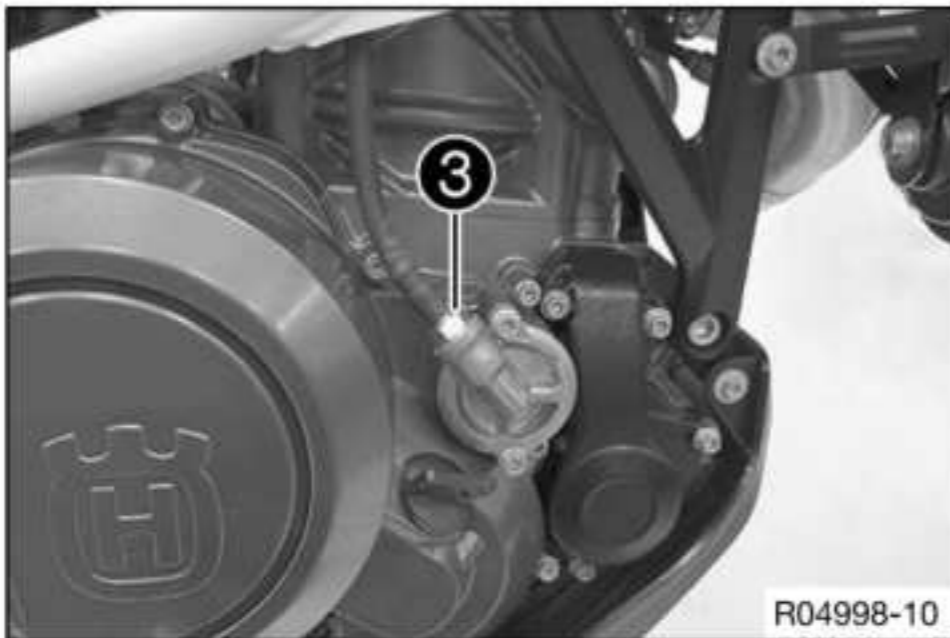


Main work

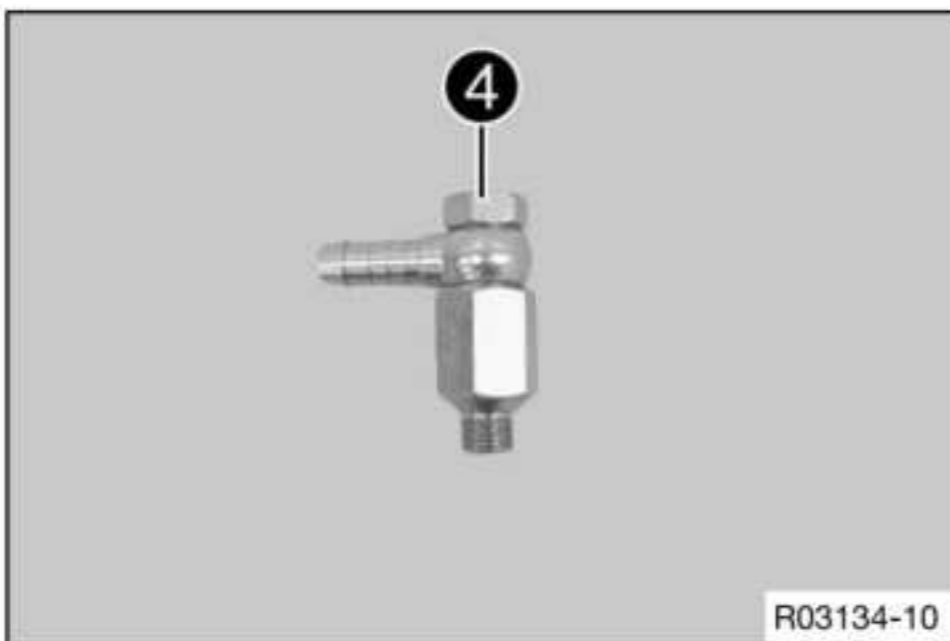
- Remove screw **1**.



- Unplug connector ②.

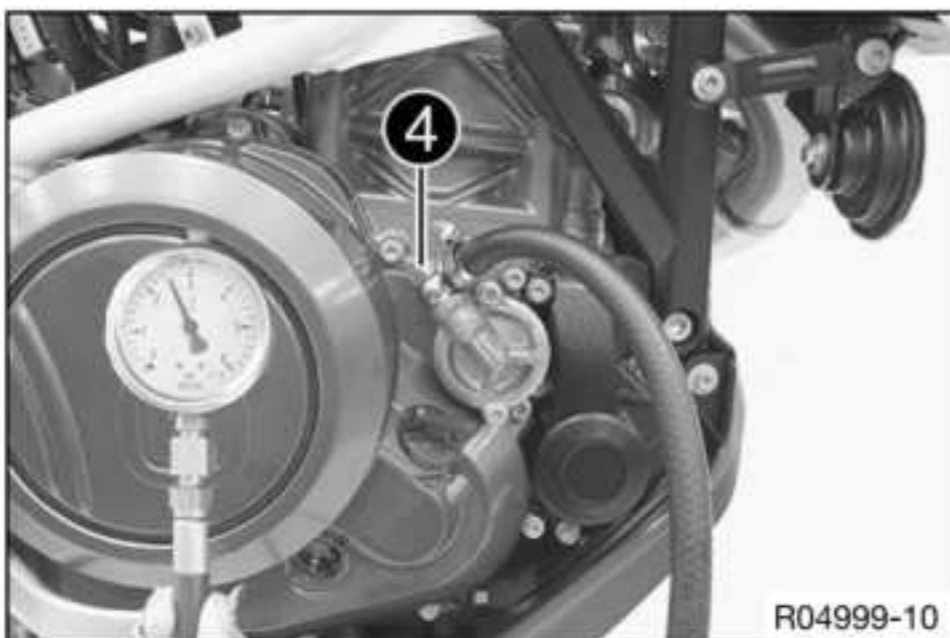


- Remove screw ③ with copper gasket.
- Slip out oil line at the top.



- 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)
------------	-------	-------------------

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.

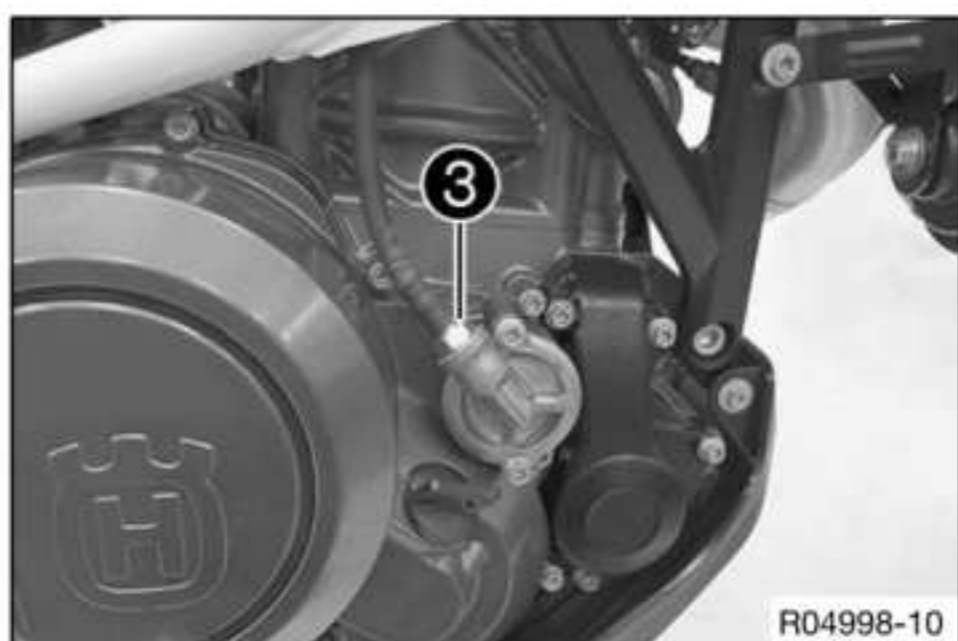
Oil pressure	
Coolant temperature: ≥ 70 °C (≥ 158 °F) Engine speed: Idle speed	≥ 0.8 bar (≥ 12 psi)
Coolant temperature: ≥ 70 °C (≥ 158 °F) Engine speed: 5,000 rpm	≥ 2.0 bar (≥ 29 psi)

- » 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.

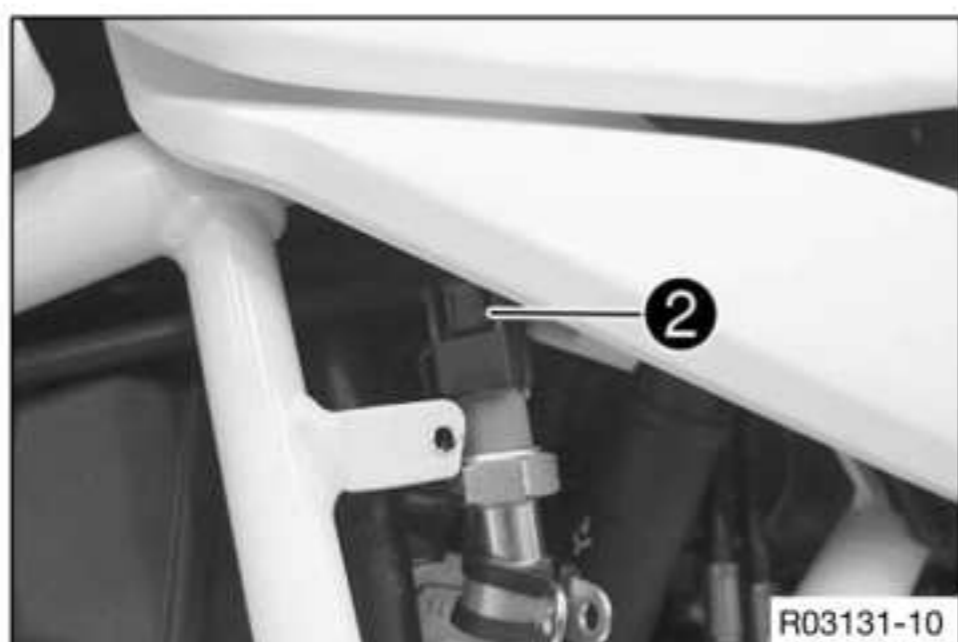
- Wear appropriate protective clothing and safety gloves. In case of burns, rinse immediately with lukewarm water.



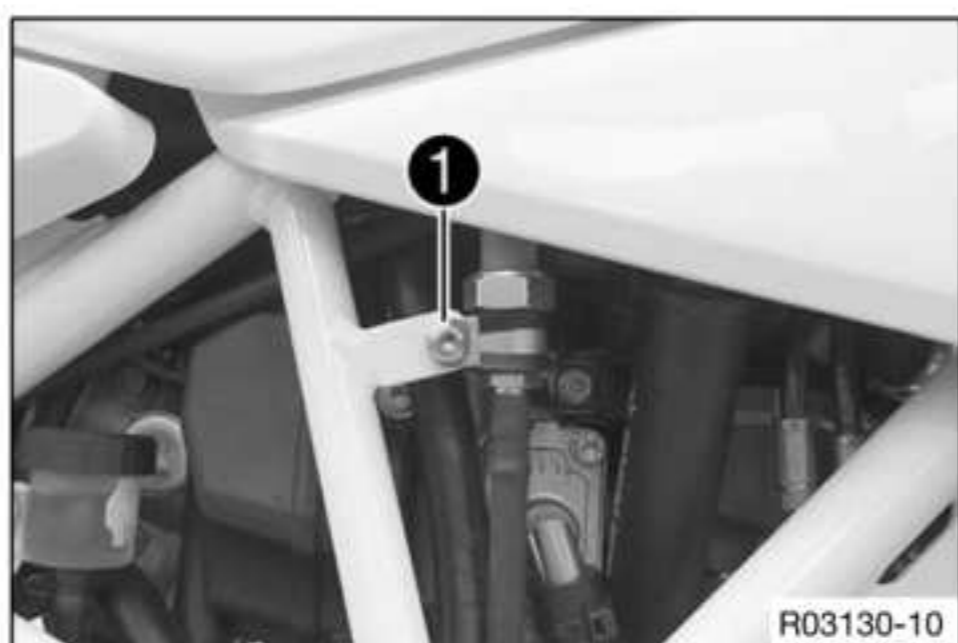
- Remove the special tools.
- Thread in oil line from the top and position.
- Tighten screw **3** with gasket.

Guideline

Screw, oil line	M10x1	10 Nm (7.4 lbf ft)
-----------------	-------	--------------------



- Plug in connector **2**.



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

Guideline

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

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.

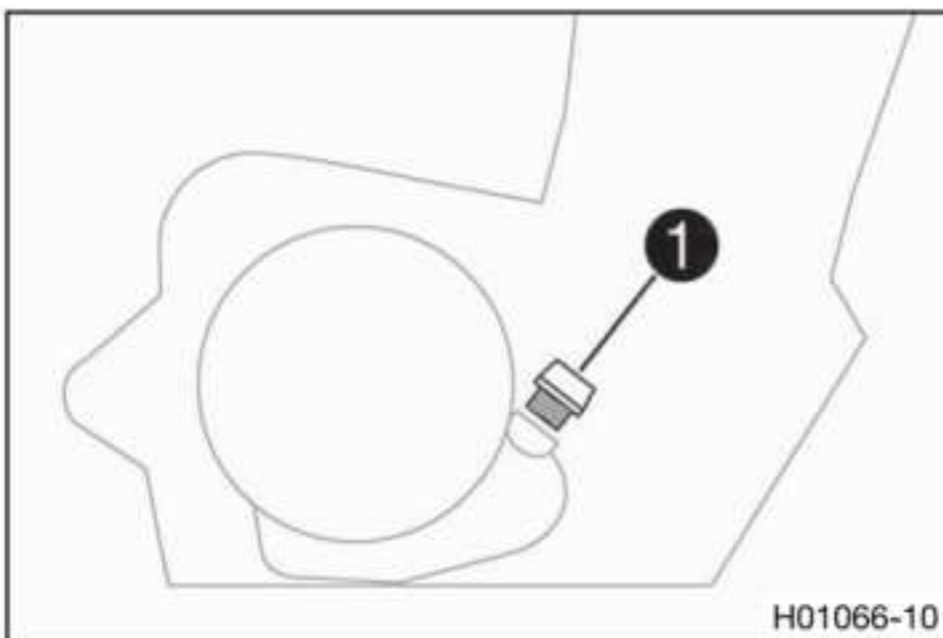
Note

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.

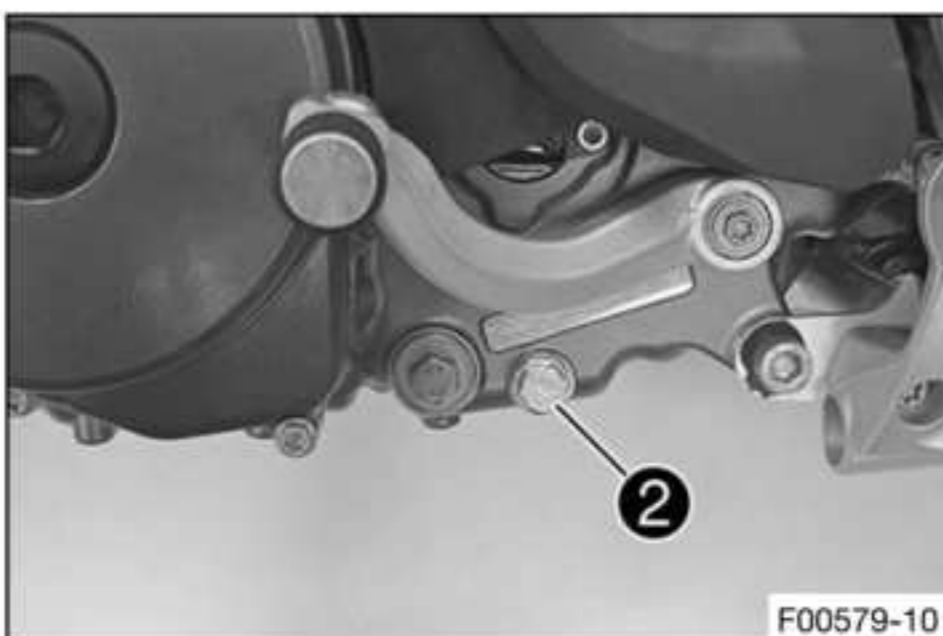
Info

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

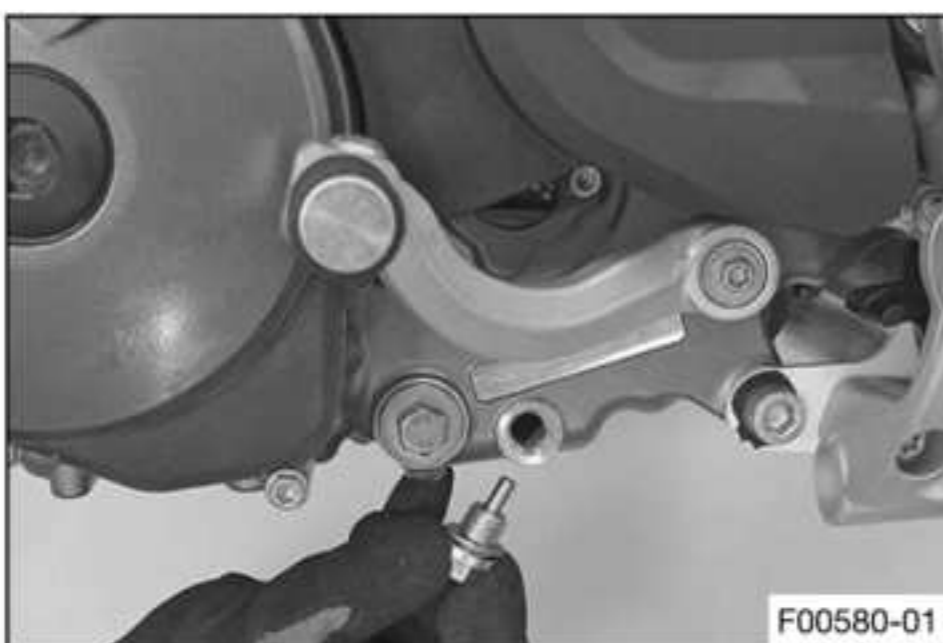


Main work

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



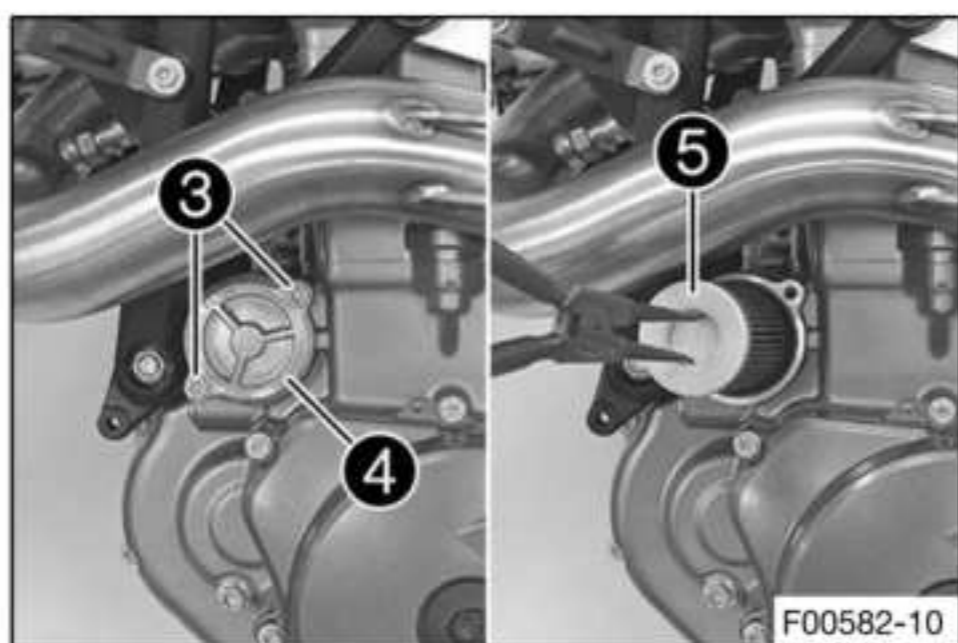
- Remove oil drain plug **2** with the magnet and seal ring.
- Completely drain the engine oil.



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

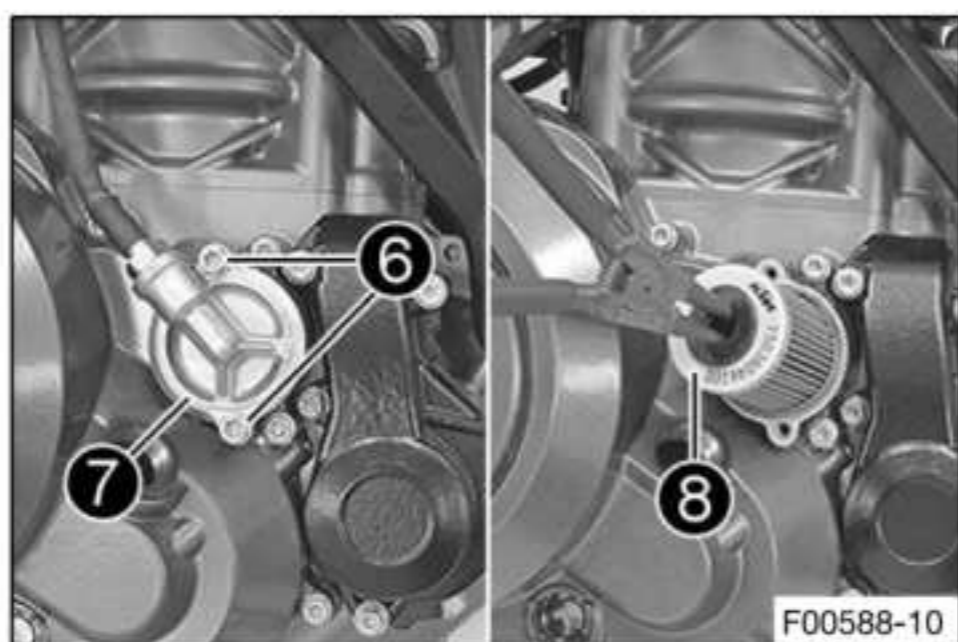
Guideline

Oil drain plug with magnet	M12x1.5	20 Nm (14.8 lbf ft)
----------------------------	---------	---------------------



- Remove screws **3**. Remove oil filter cover **4** with the O-ring.
- Pull oil filter **5** out of the oil filter housing.

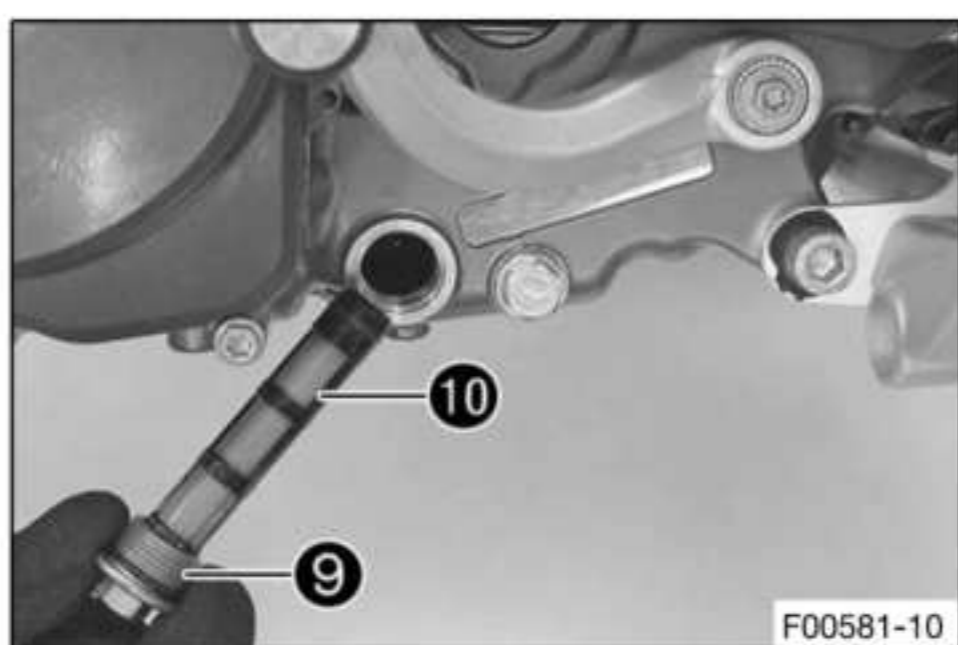
Lock ring plier (51012011000) (📖 p. 382)



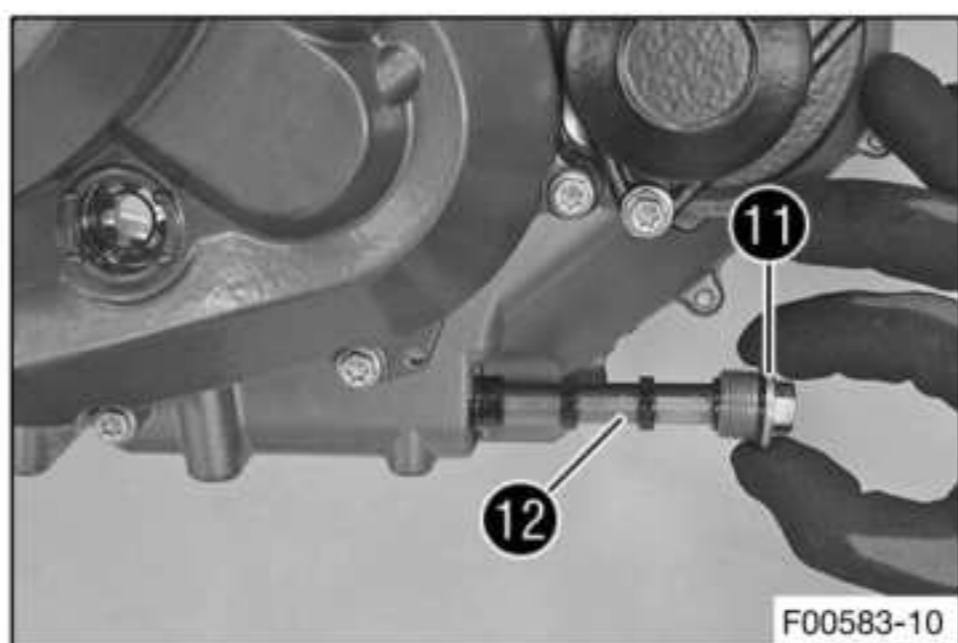
- Remove screws **6**. Remove oil filter cover **7** with the O-ring.
- Pull oil filter **8** out of the oil filter housing.

Lock ring plier (51012011000) (📖 p. 382)

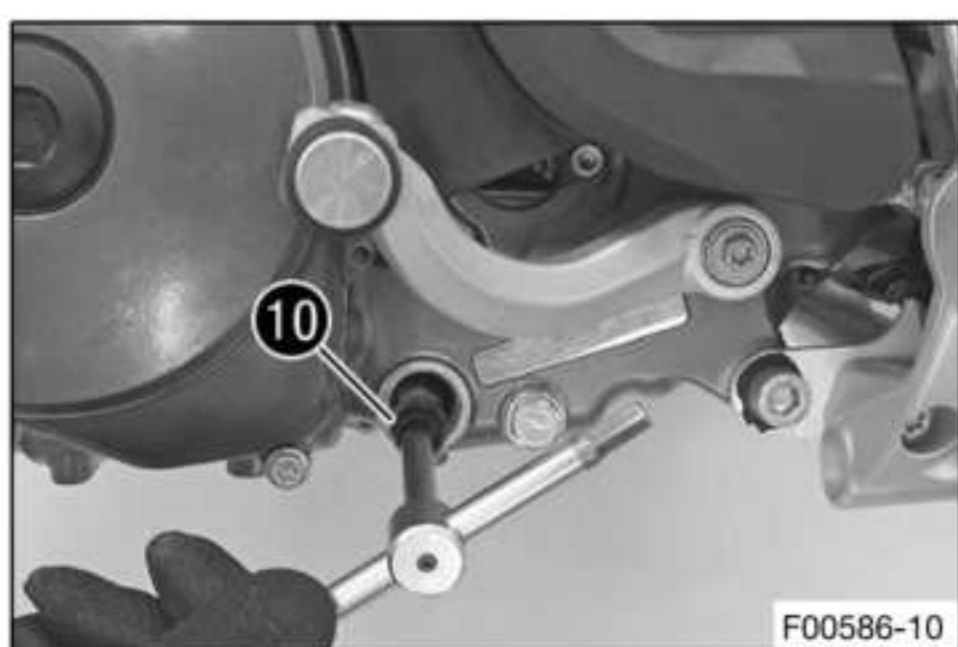
- Completely drain the engine oil.
- Thoroughly clean the parts and sealing surfaces.



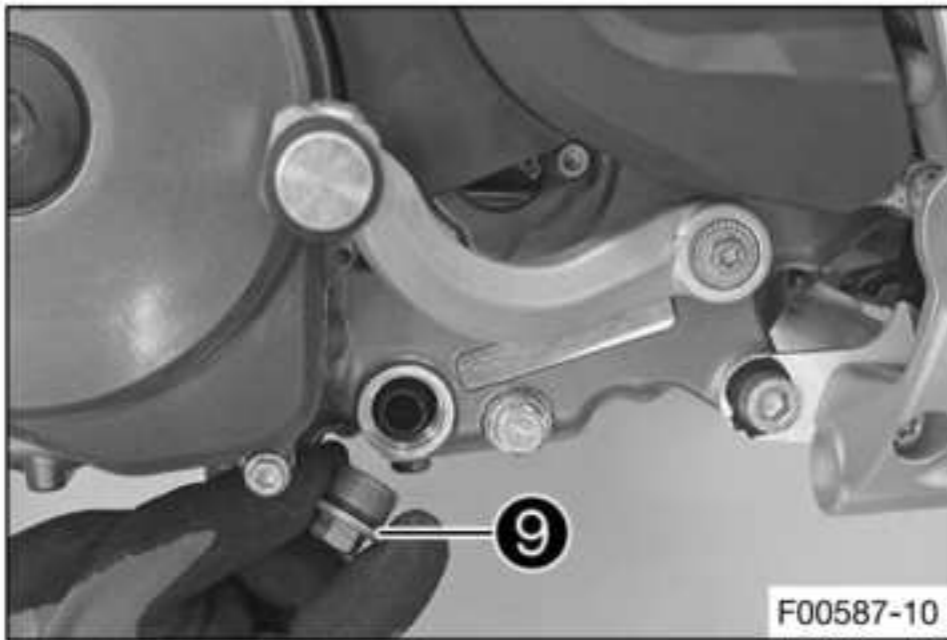
- Remove screw plug **9** with oil screen **10** and the O-rings.



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



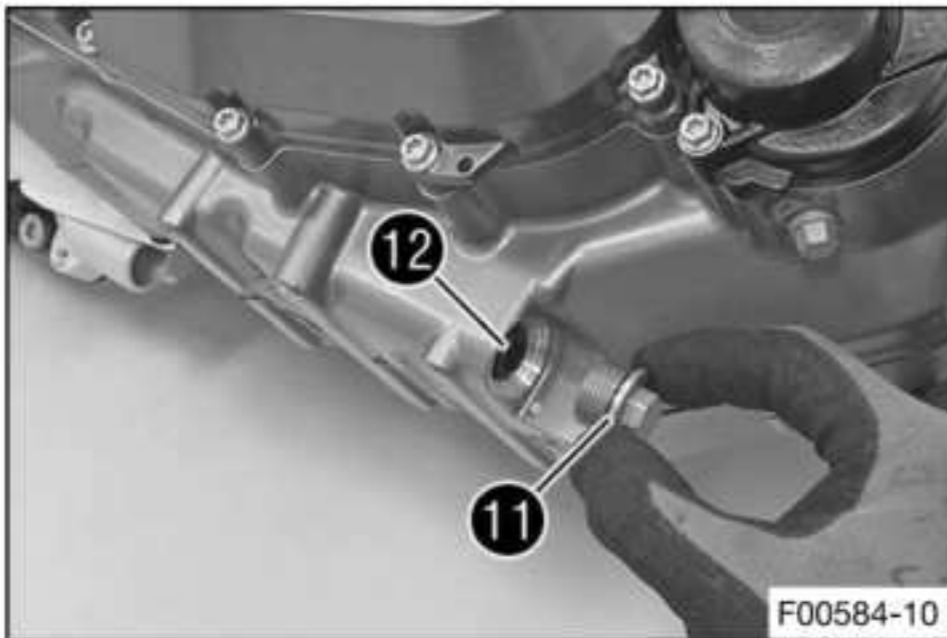
- Position oil screen **10** with the O-rings on a pin wrench.
- Position the pin wrench through the drill hole of the screw plug in the opposite section of the engine case.
- Push the oil screen all the way into the engine case.



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

Guideline

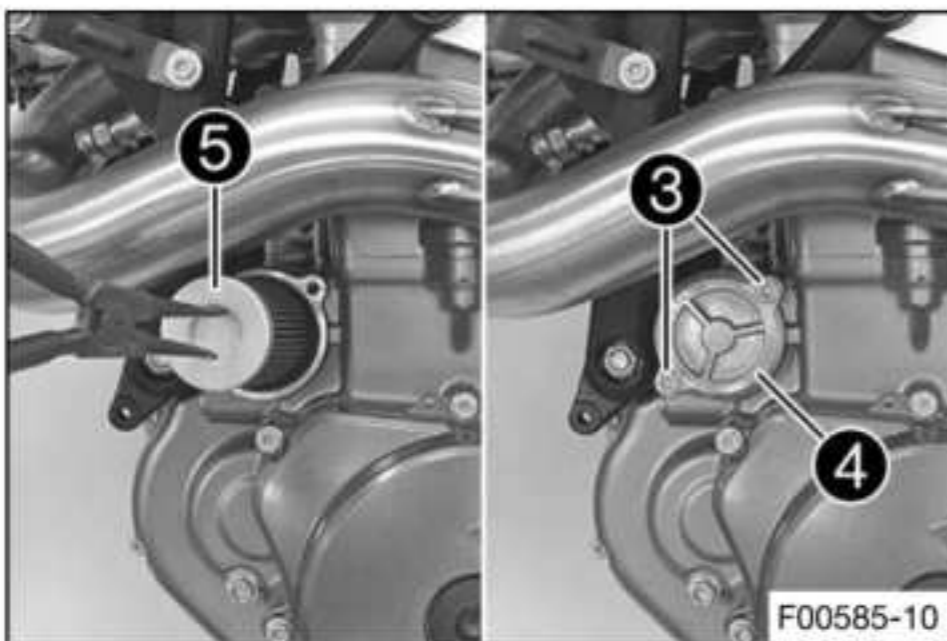
Plug, oil screen	M20x1.5	15 Nm (11.1 lbf ft)
------------------	---------	---------------------



- Position oil screen **12** with the O-rings.
- Mount and tighten screw plug **11** with the O-ring.

Guideline

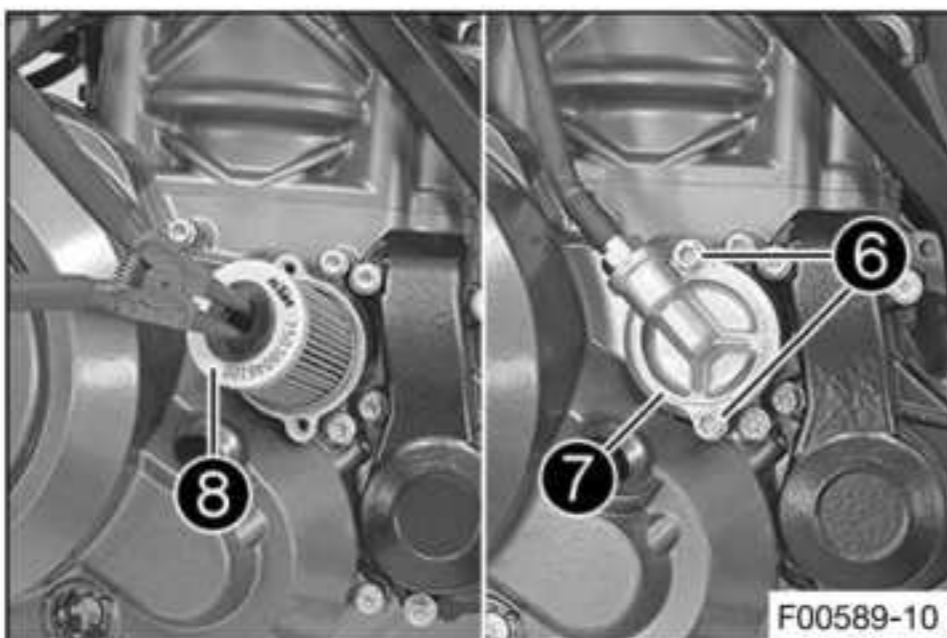
Plug, oil screen	M20x1.5	15 Nm (11.1 lbf ft)
------------------	---------	---------------------



- 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)
-------------------------	----	-------------------




- 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)
-------------------------	----	-------------------

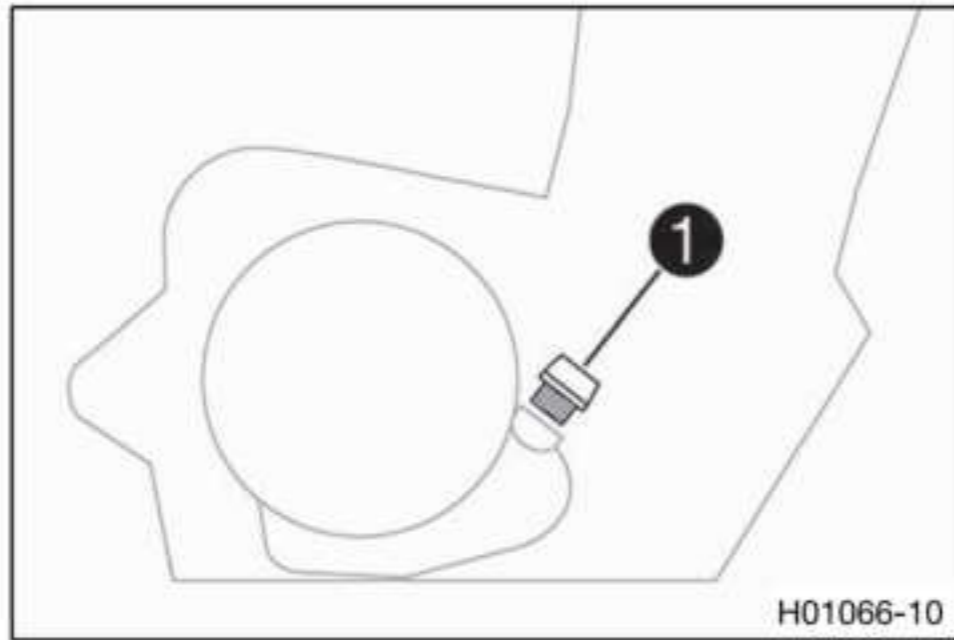
- Fill up with engine oil at the clutch cover.

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



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

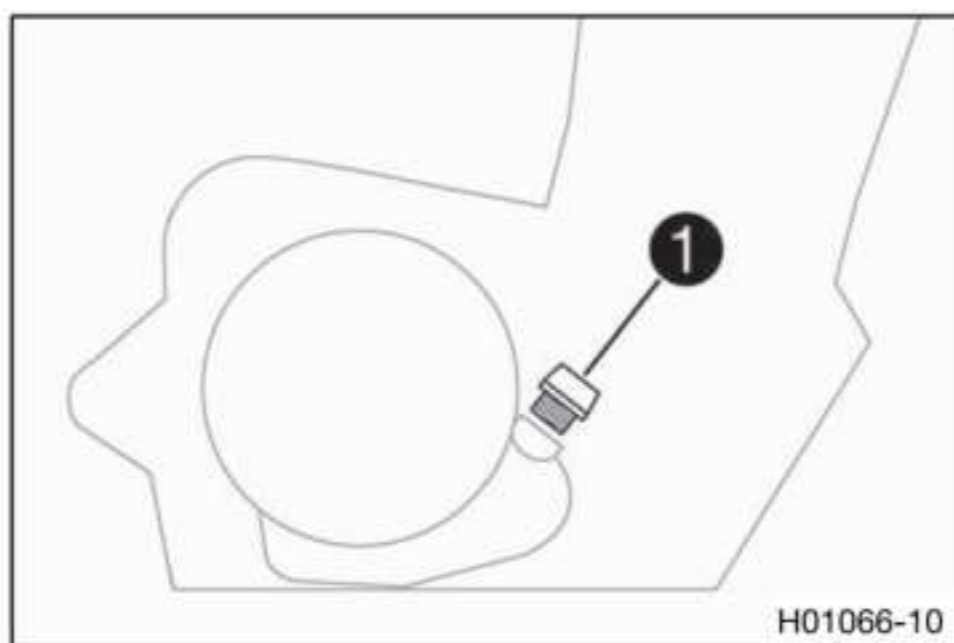
- Check the engine oil level. (📖 p. 290)

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

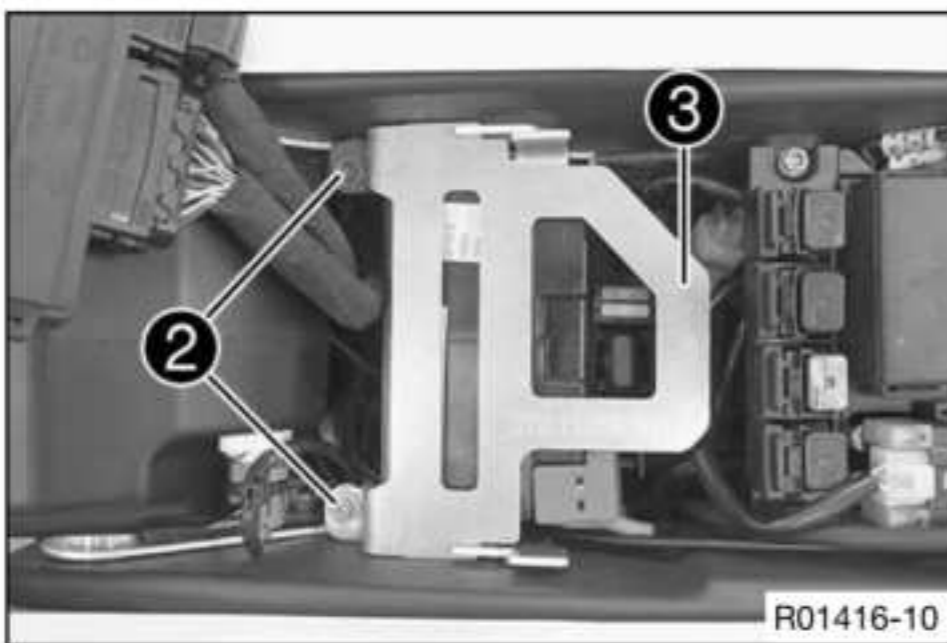
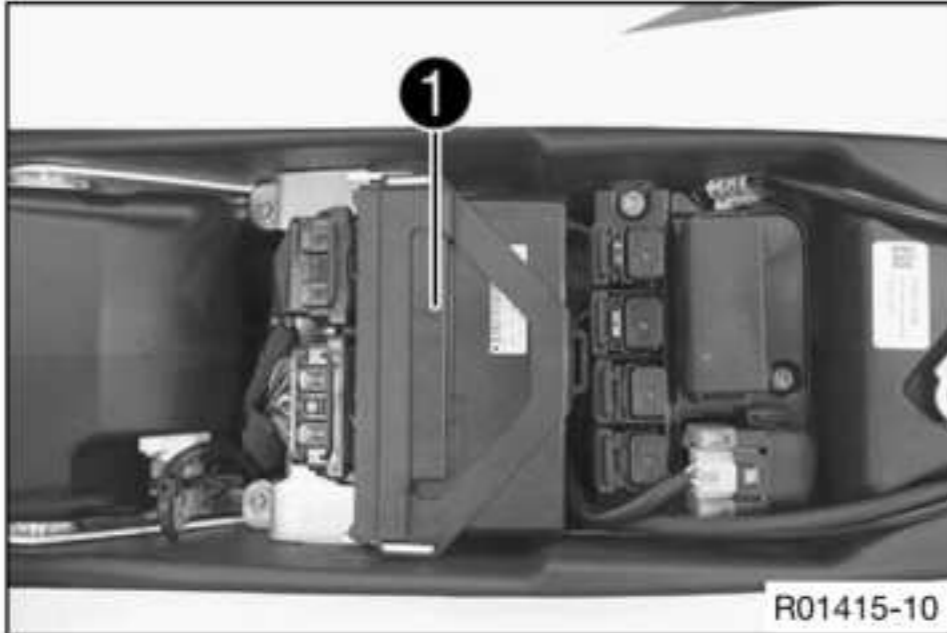
The stator is disconnected.

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.

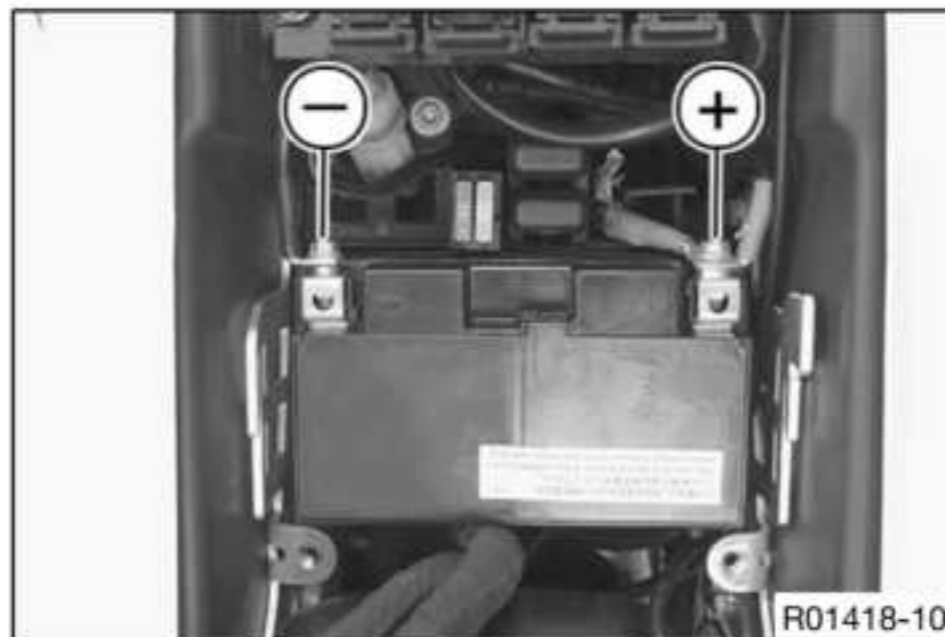
Stator winding measurement III - check resistance.

- 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.

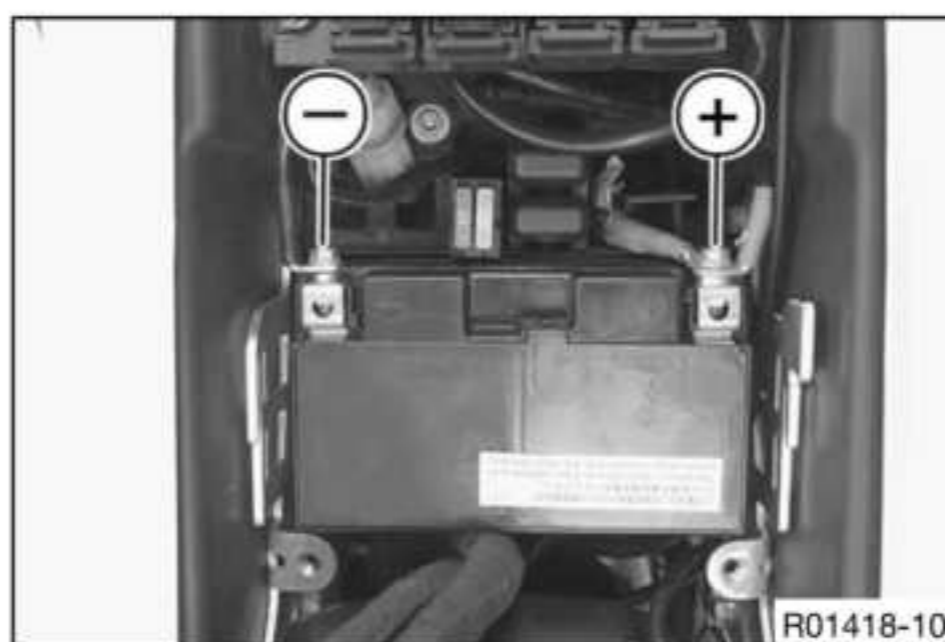
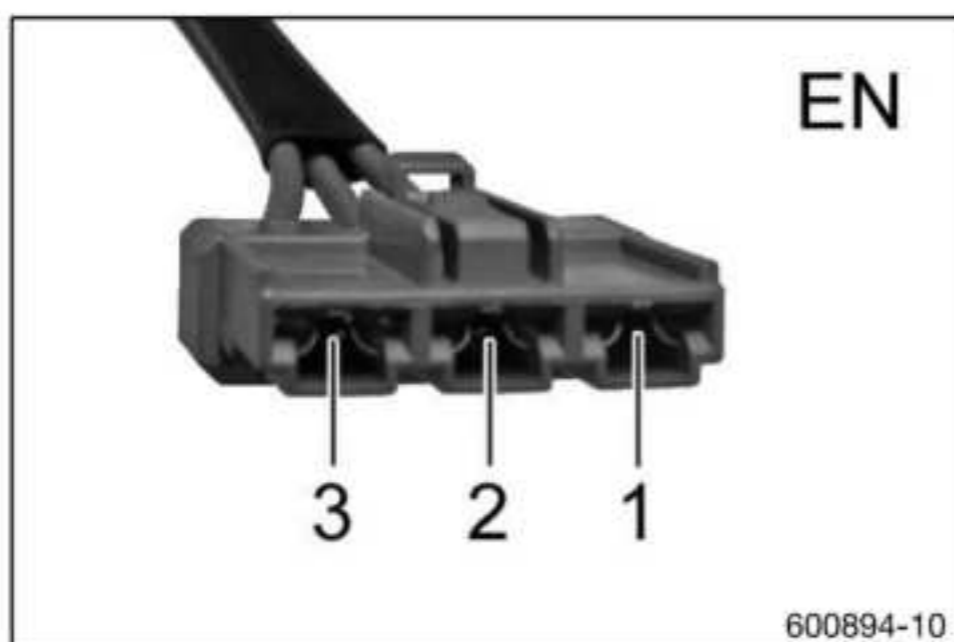


Stator winding I - check short circuit to ground (terminal 31).

- Ω 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.

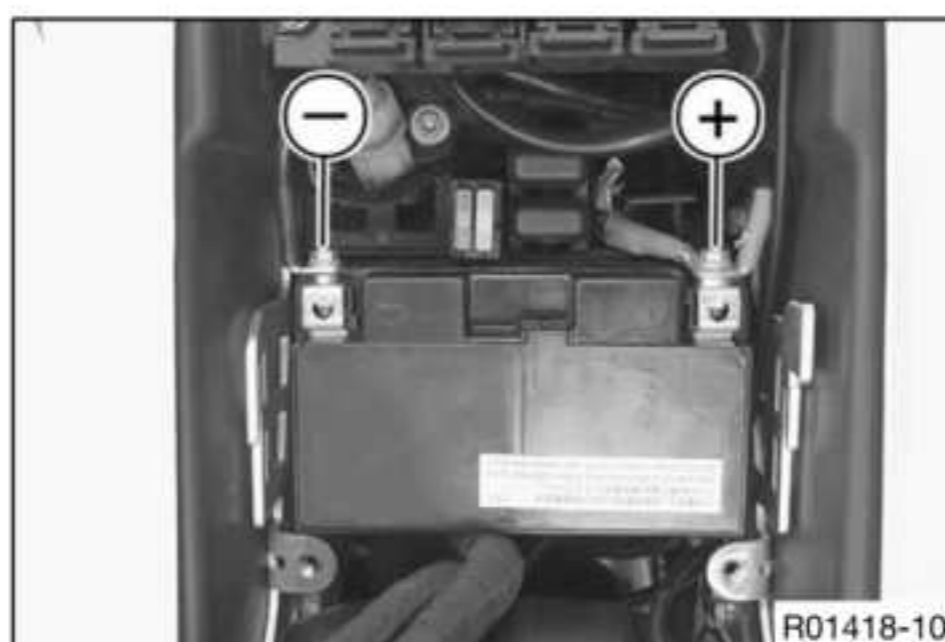
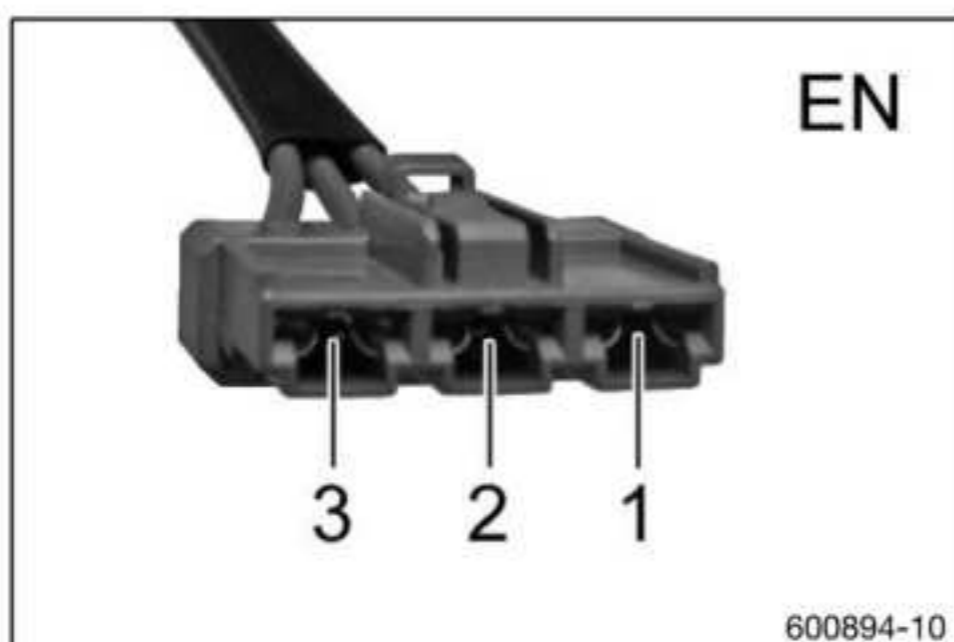


Stator winding II - check short circuit to ground (terminal 31).

- Ω 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.

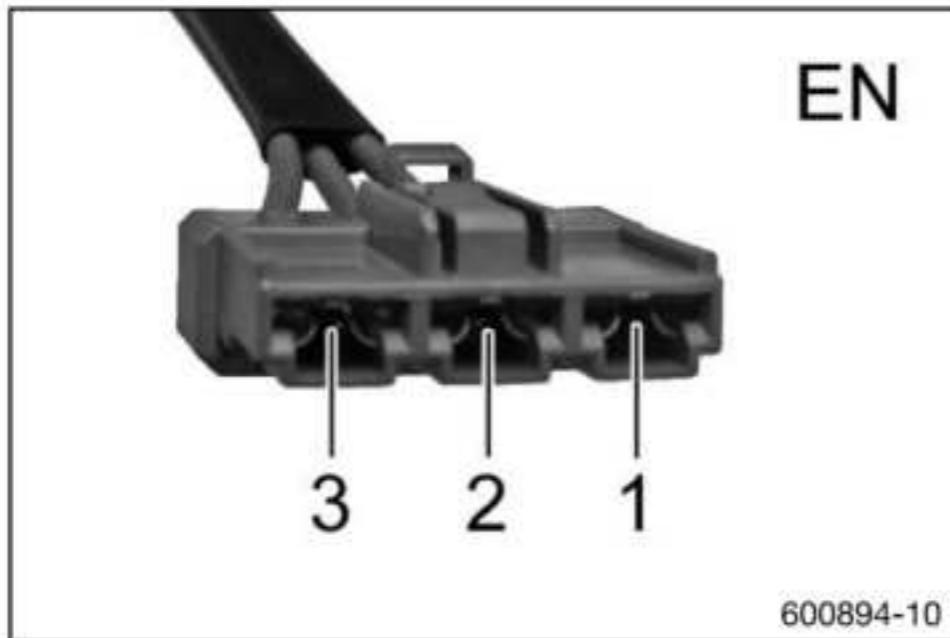


Stator winding III - check short circuit to ground (terminal 31).

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

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

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



Stator winding measurement I - check voltage.

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

i Info
The results of the measurements on the individual coils must not deviate significantly.

Alternator	
Alternating voltage stator winding at 4000 rpm: 20 °C (68 °F)	$\geq 50 \text{ V}$

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

Stator winding measurement II - check voltage.

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

i Info
The results of the measurements on the individual coils must not deviate significantly.

Alternator	
Alternating voltage stator winding at 4000 rpm: 20 °C (68 °F)	$\geq 50 \text{ V}$

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

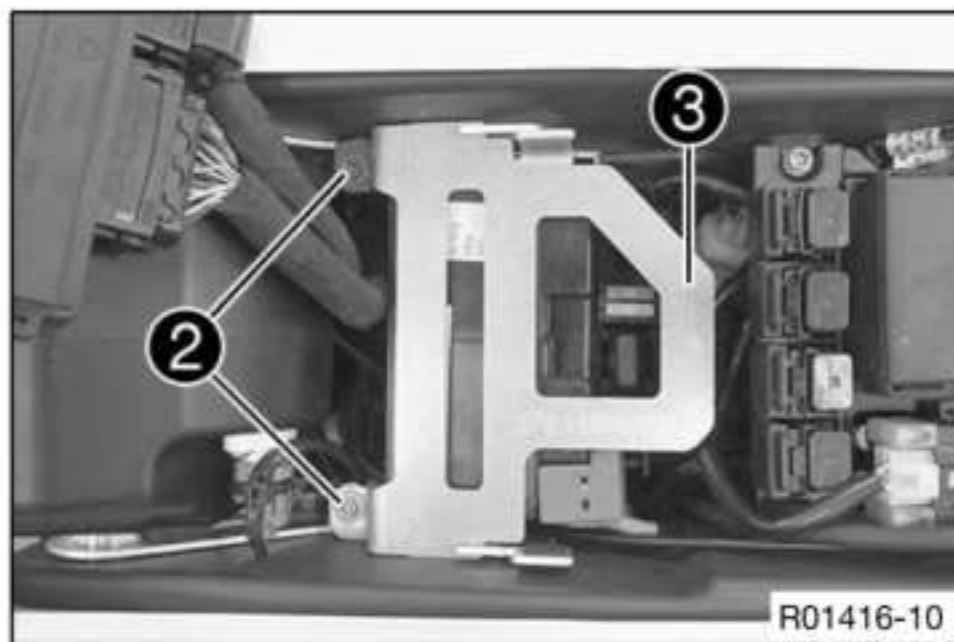
Stator winding measurement III - check voltage.

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

i Info
The results of the measurements on the individual coils must not deviate significantly.

Alternator	
Alternating voltage stator winding at 4000 rpm: 20 °C (68 °F)	$\geq 50 \text{ V}$

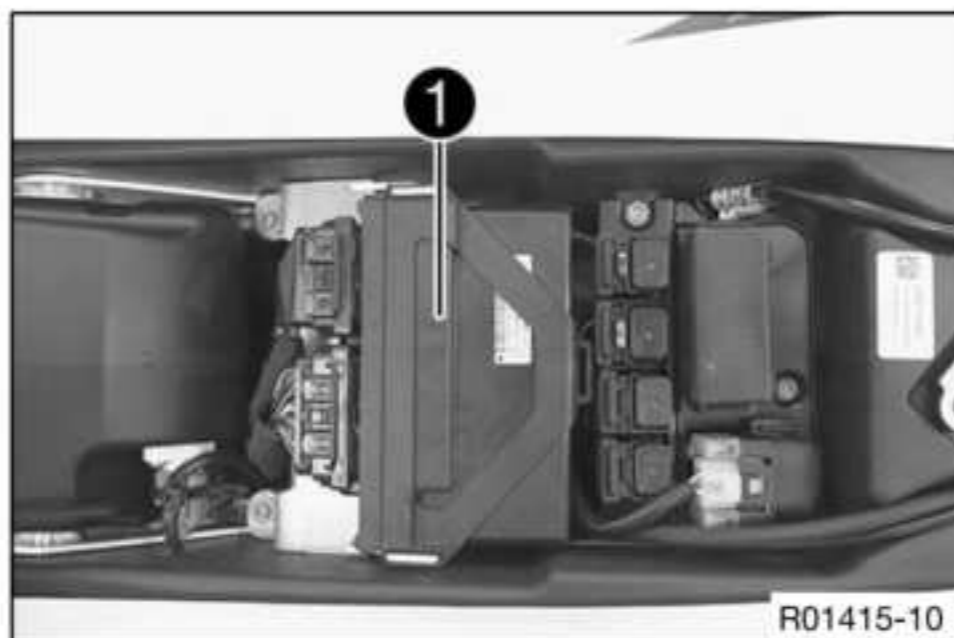
- » If the indicated value does not correspond to the setpoint value:
 - Change the stator.



- Mount the positive terminal cover.
- Position retaining bracket **3**.
- Mount and tighten screws **2**.

Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------



- Mount engine electronics control unit **1**.

Finishing work

- Mount the seat. (p. 93)

23.2 Ignition coil - checking the primary winding

Preparatory work

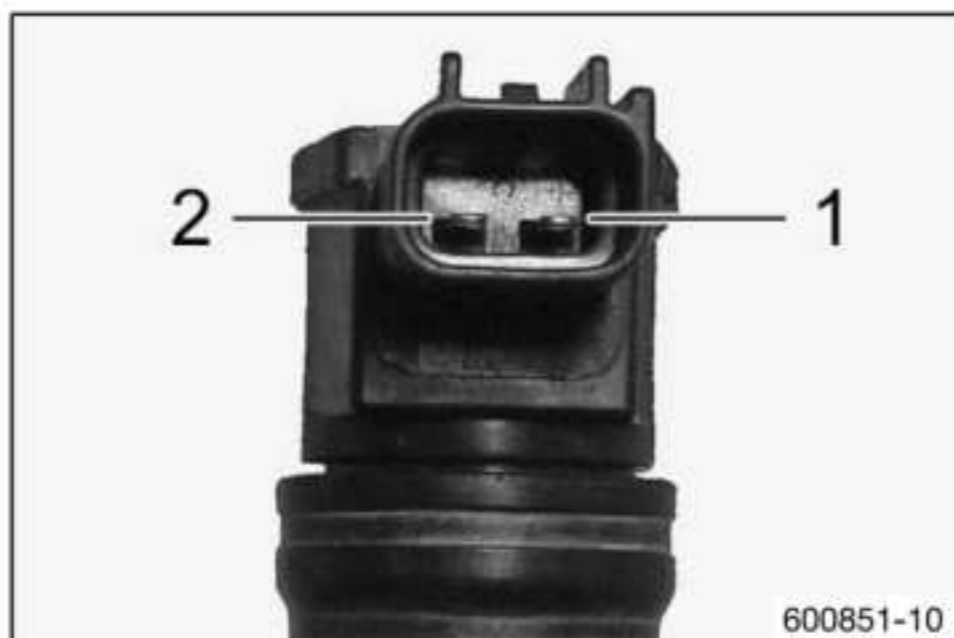
- Remove the seat. (p. 93)
- Take off the side cover. (p. 93)

Main work

- Disconnect ignition coil 1, cylinder 1.

Ignition coil, cylinder 1 - check the primary winding resistance.

- Ω Measure the resistance between the specified points.
Ignition coil pin **1** – Ignition coil pin **2**



Ignition coil	
Primary winding resistance at: 20 °C (68 °F)	1.105 ... 1.495 Ω

» If the displayed value does not correspond to nominal value:

- Change the ignition coil.

- Disconnect ignition coil 2, cylinder 1.

Ignition coil, cylinder 1 - check the primary winding resistance.

- Ω Measure the resistance between the specified points.
Ignition coil pin **1** – Ignition coil pin **2**

Ignition coil	
Primary winding resistance at: 20 °C (68 °F)	1.105 ... 1.495 Ω

» If the displayed value does not correspond to nominal value:

- Change the ignition coil.

Finishing work

- Mount the side cover. (📖 p. 94)
- Mount the seat. (📖 p. 93)



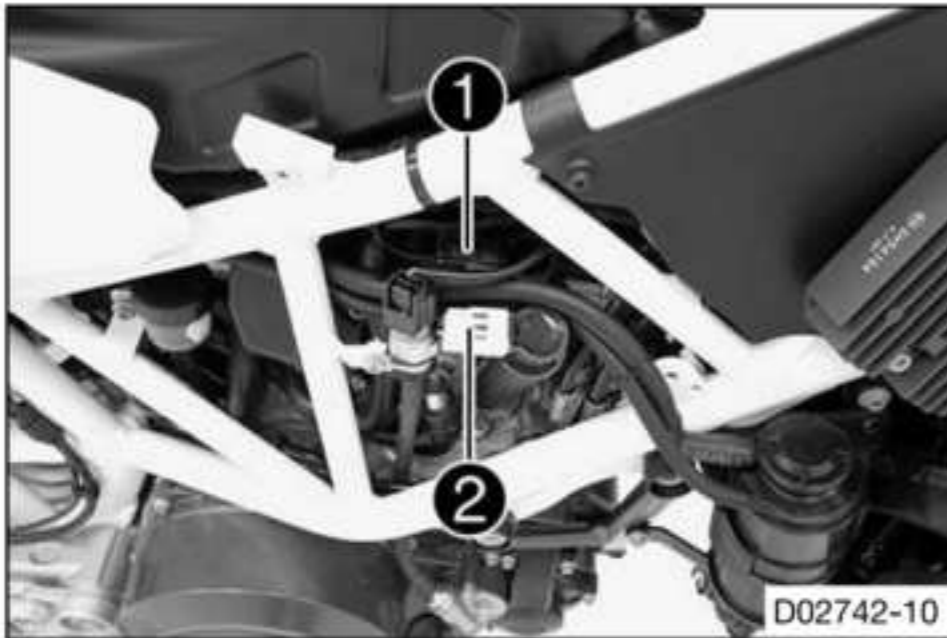
23.3 Changing the spark plugs

Preparatory work

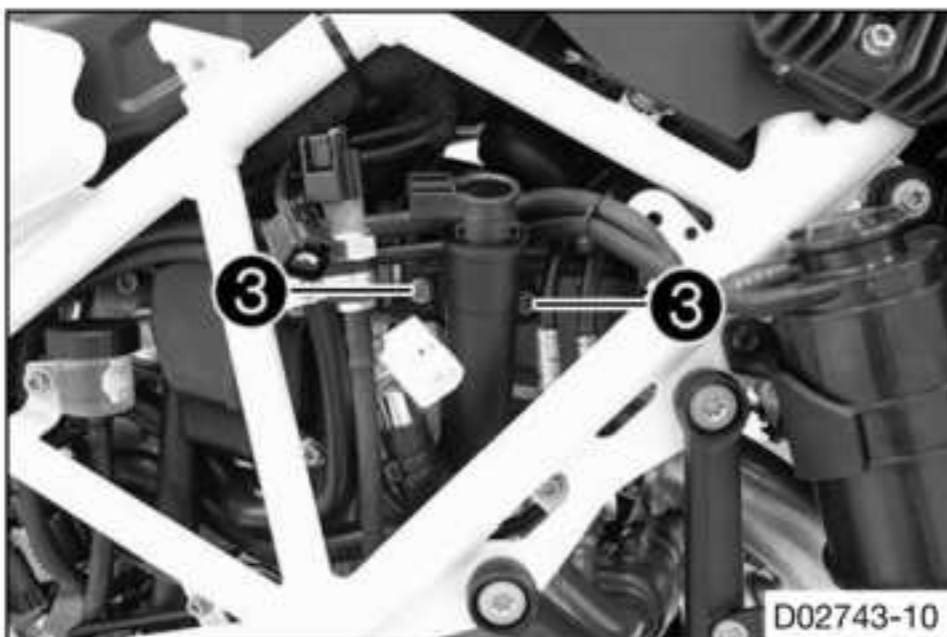
- Remove the seat. (📖 p. 93)
- Take off the side cover. (📖 p. 93)

Main work

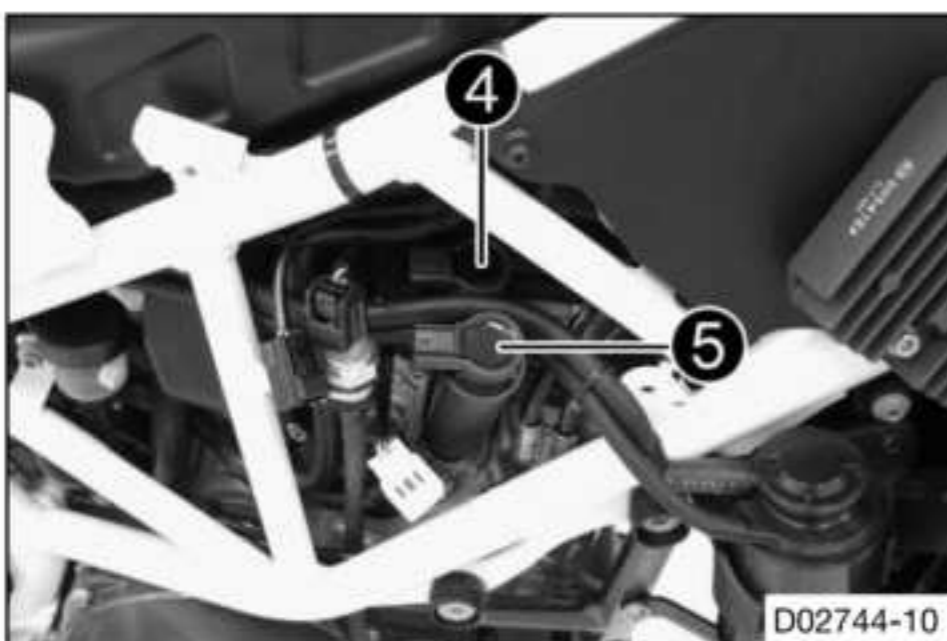
- Unplug connectors ① and ② of the ignition coils.



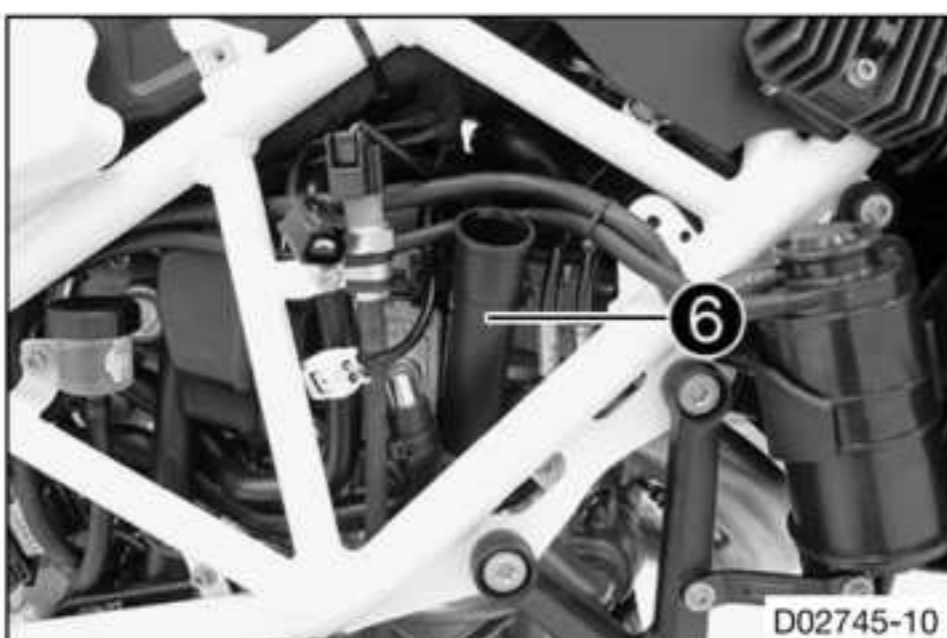
- Remove screws ③.



- Pull the spark plug shaft lightly to the side.
- Remove ignition coils ④ and ⑤.



- Remove spark plug shaft ⑥.





- Remove spark plugs **7** using the special tool.

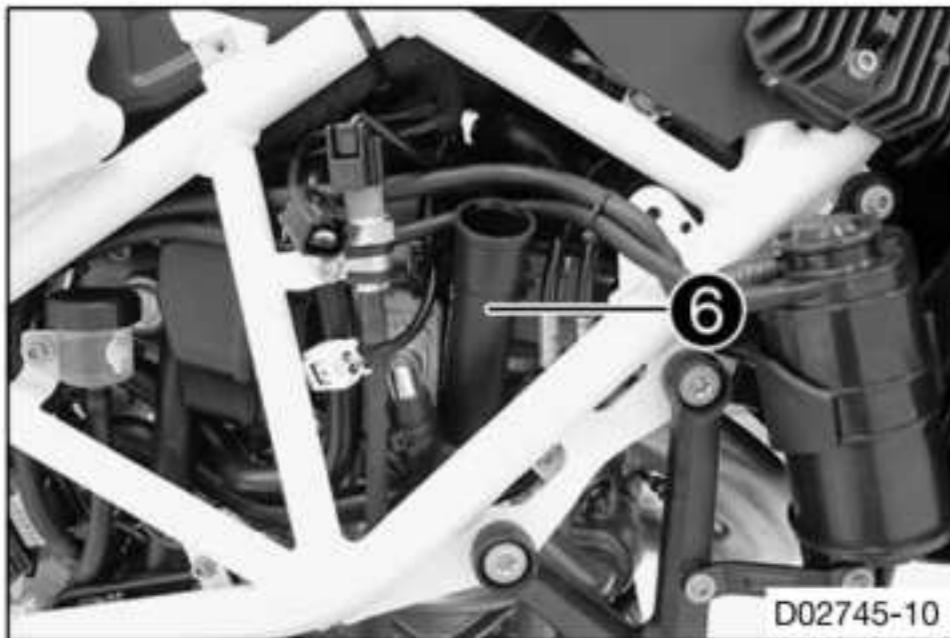
Spark plug wrench (75029172000) (📖 p. 391)

- Mount and tighten the new spark plugs using the special tool.

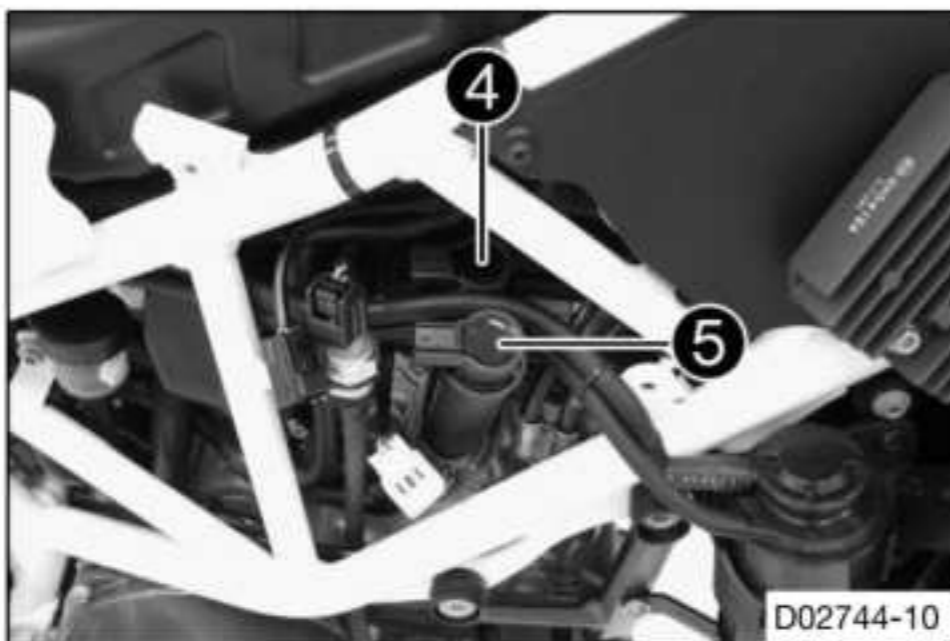
Guideline

Spark plug inside	M12x1.25	18 Nm (13.3 lbf ft)
Spark plug outside	M10x1	11 Nm (8.1 lbf ft)

Spark plug wrench (75029172000) (📖 p. 391)



- Position spark plug shaft **6**.



- Position ignition coils **4** and **5**.

i Info

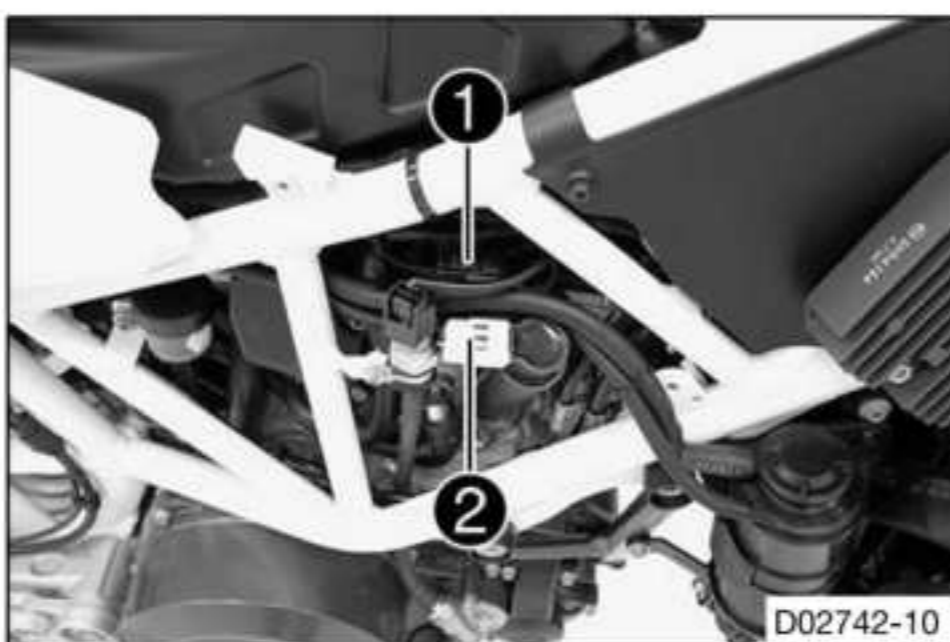
Ensure that the ignition coils are seated correctly.



- Mount and tighten screws **3**.

Guideline

Screw, ignition coil	M6	10 Nm (7.4 lbf ft)
----------------------	----	--------------------



- Plug in connectors **1** and **2** of the ignition coils.
- ✓ The cable with the white marking is connected to the outer ignition coil.

Finishing work

- Mount the side cover. (📖 p. 94)
- Mount the seat. (📖 p. 93)

24.1 Checking the valve clearance

Preparatory work

- Raise the motorcycle with the work stand. (📖 p. 14)
- Remove the seat. (📖 p. 93)
- Take off the side cover. (📖 p. 93)
- Remove the air filter box. (📖 p. 87)

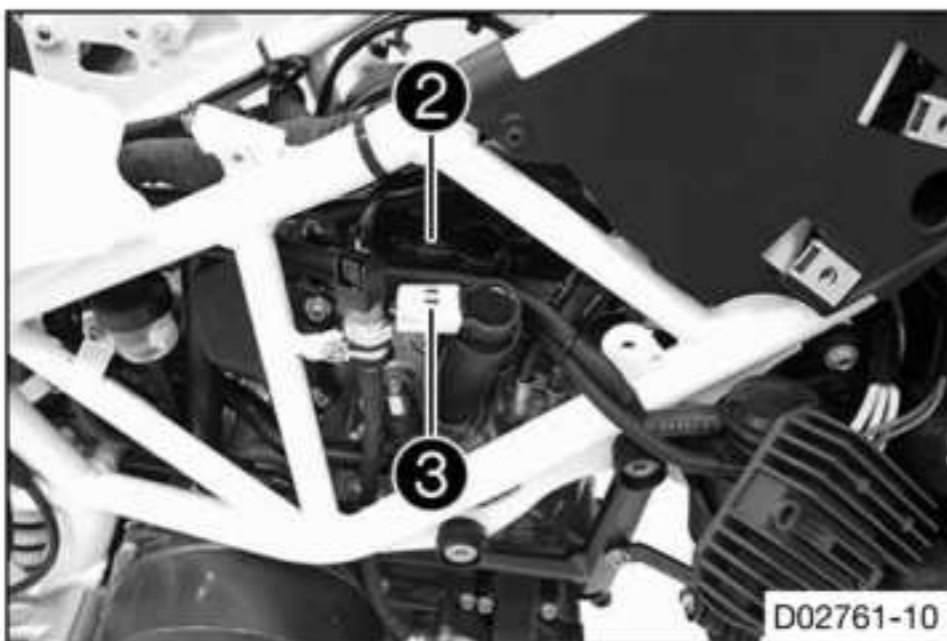


Main work

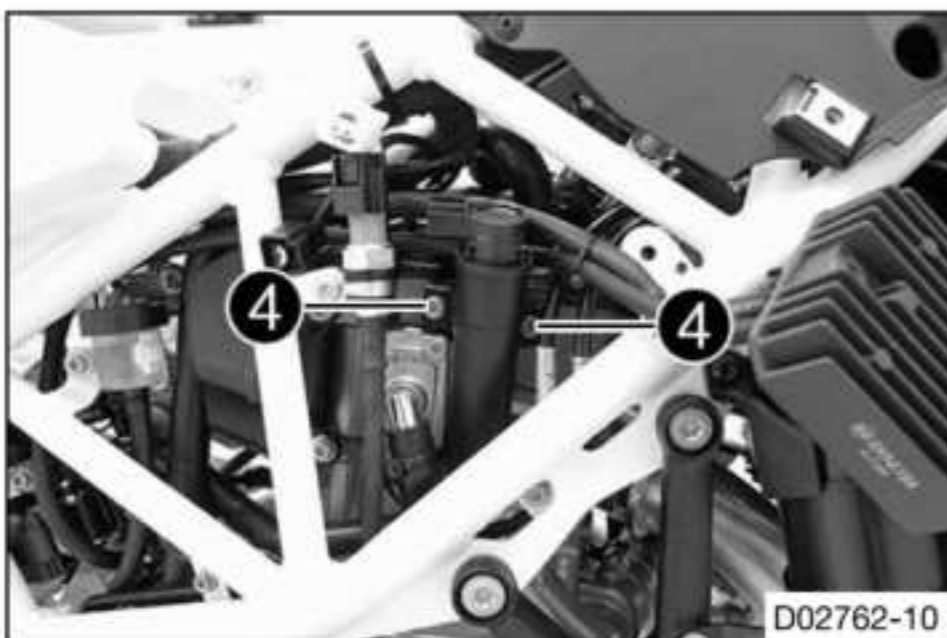
- Loosen the spring-loaded band-type clamp **1** using the special tool.

Spring band clamps plier (60029057100) (📖 p. 385)

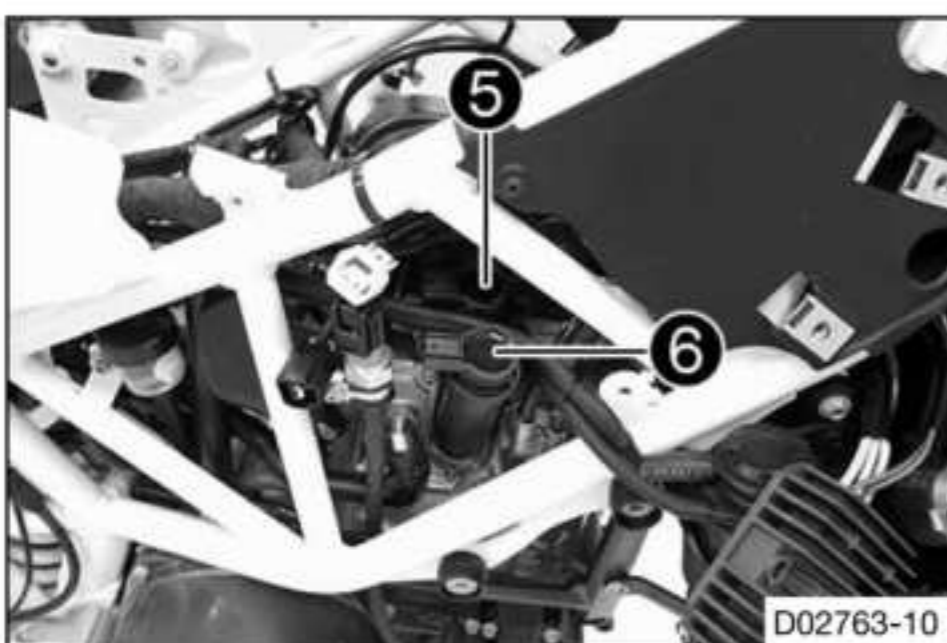
- Pull off the air release hose.



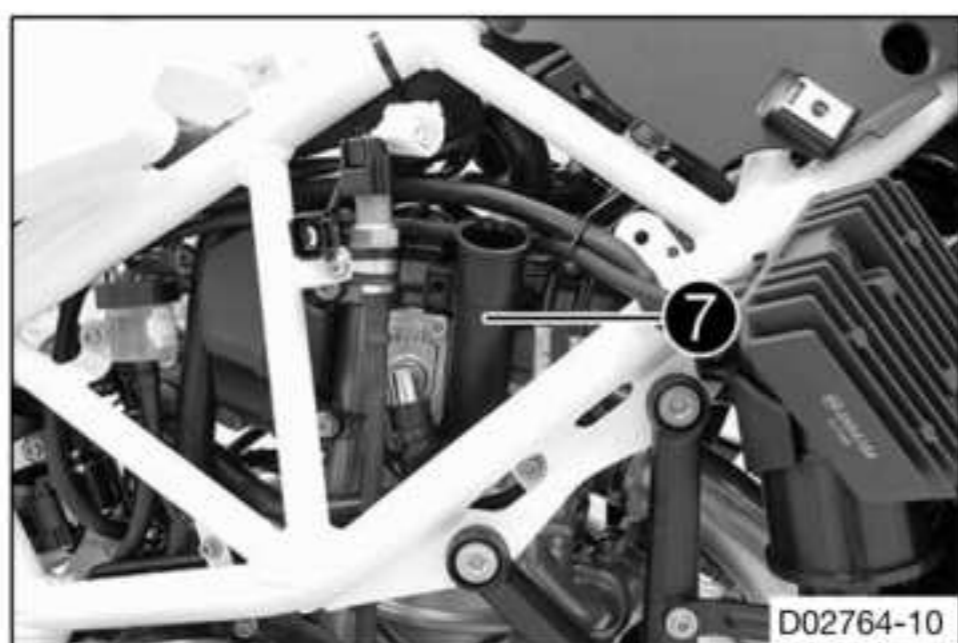
- Unplug connectors **2** and **3** of the ignition coils.



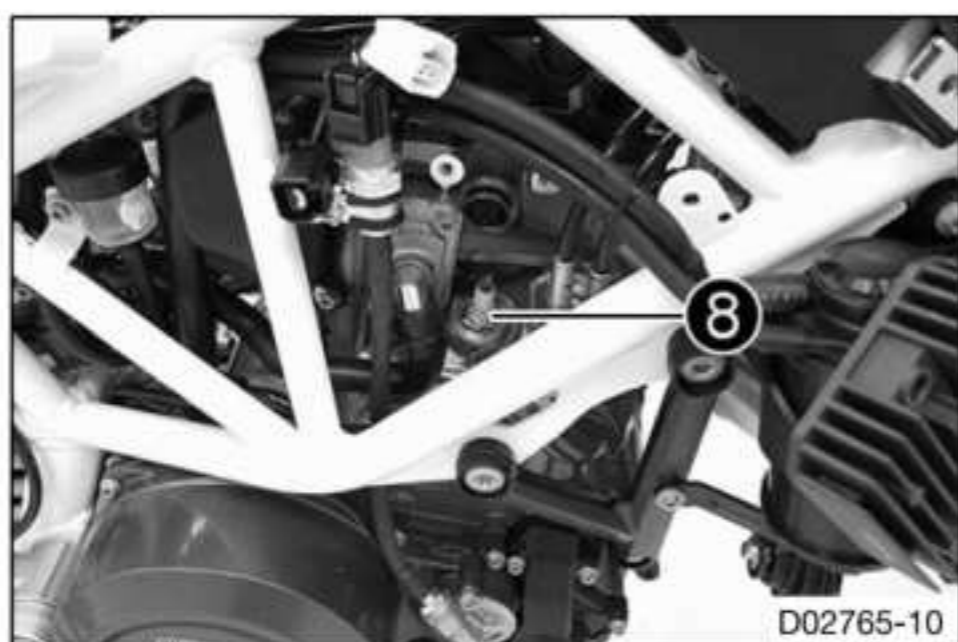
- Remove screws **4**.



- Pull the spark plug shaft lightly to the side.
- Remove ignition coils **5** and **6**.



- Remove spark plug shaft **7**.



- Remove spark plug **8** using the special tool.

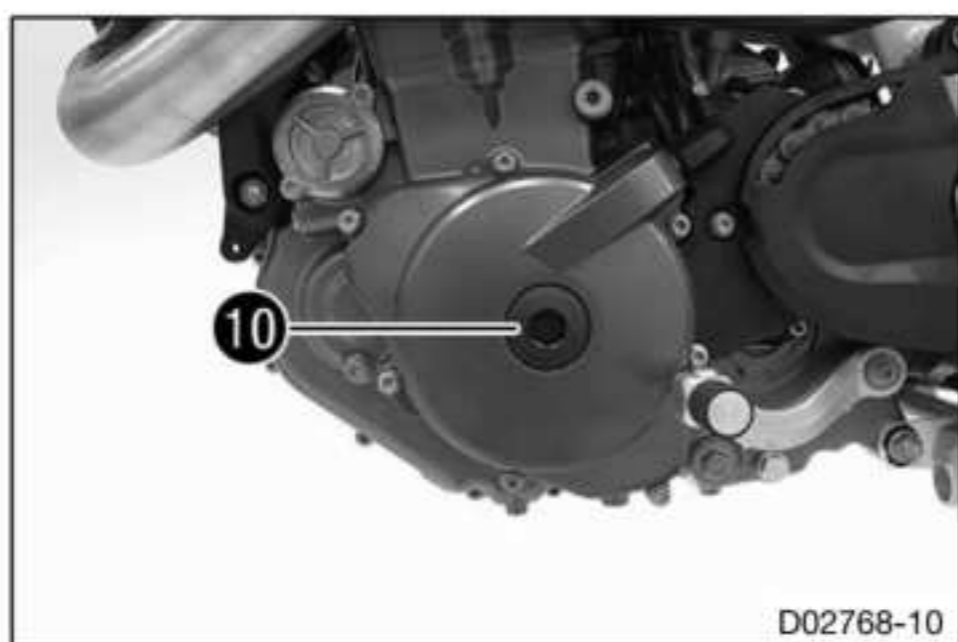
Spark plug wrench (75029172000) (📖 p. 391)



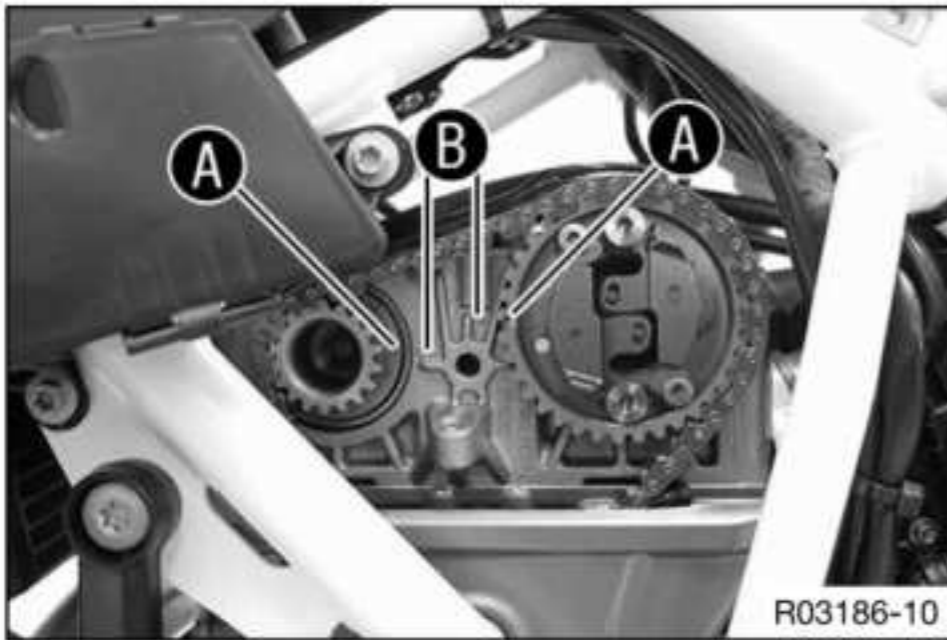
- Remove the cable ties.
- Pull off the bleeder hoses.



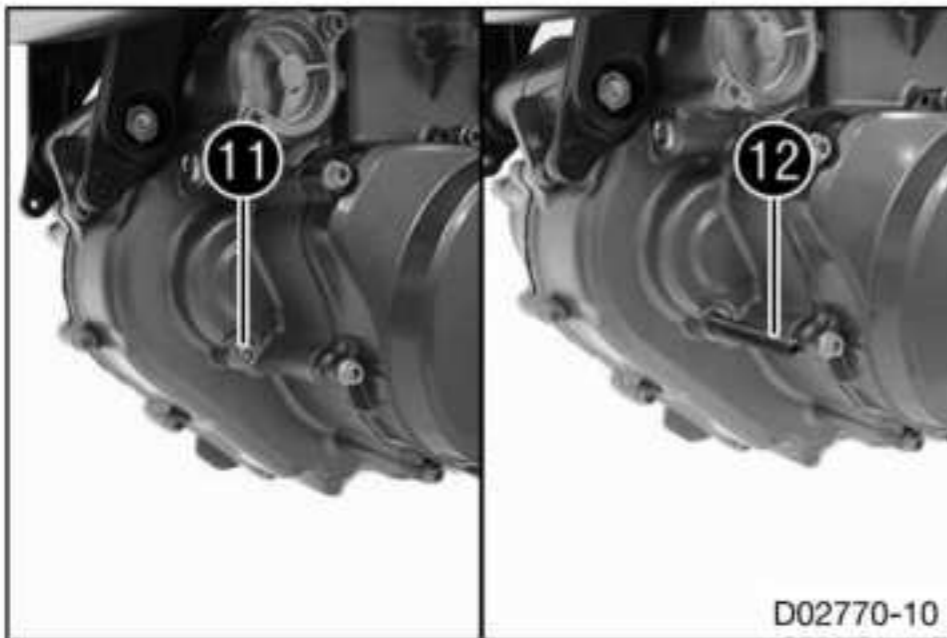
- Remove screws **9**.
- Remove the valve cover with the gasket.



- Remove screw **10** with the O-ring.



- Turn the crankshaft counterclockwise until markings **A** are flush with markings **B** of the cylinder head.



- Remove screw **11** with the washer.
- Look through the hole to check that the position hole of the crankshaft is visible.
- Mount special tool **12**.

Locking screw (77329010000) (📖 p. 393)



- Check the valve clearance at the intake valves between valve and cam lever using the special tool.

Guideline

Valve play, cold	
Intake at: 20 °C (68 °F)	0.10 ... 0.15 mm (0.0039 ... 0.0059 in)

Feeler gauge (59029041100) (📖 p. 384)

- » If the valve clearance does not meet specifications:
 - Adjust the valve clearance. (📖 p. 308)

- Check the valve clearance at the exhaust valves between valve and rocker arm using the special tool.

Guideline

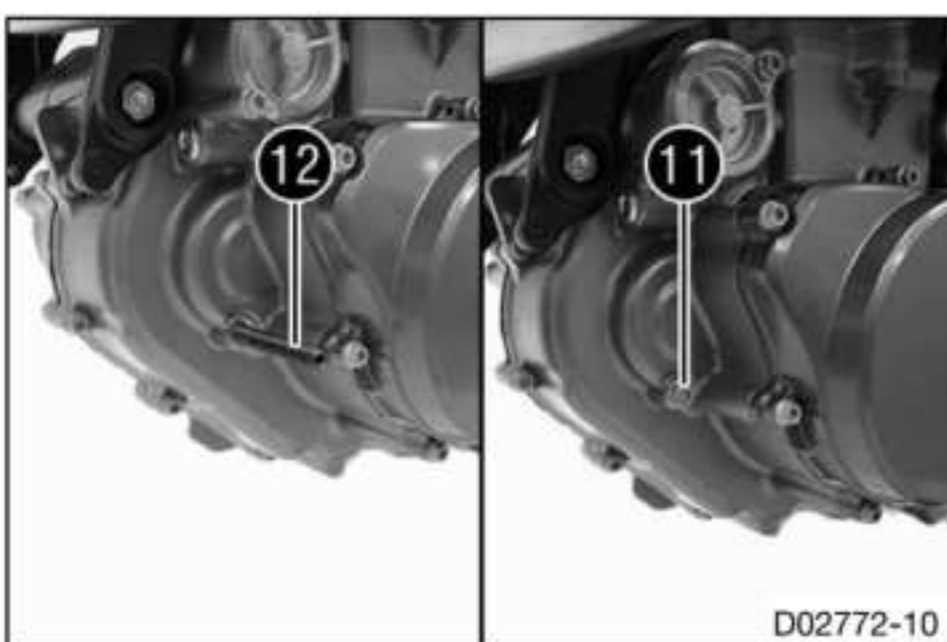
Valve play, cold	
Exhaust at: 20 °C (68 °F)	0.22 ... 0.27 mm (0.0087 ... 0.0106 in)

Feeler gauge (59029041100) (📖 p. 384)

- » If the valve clearance does not meet specifications:
 - Adjust the valve clearance. (📖 p. 308)

- Remove special tool **12**.

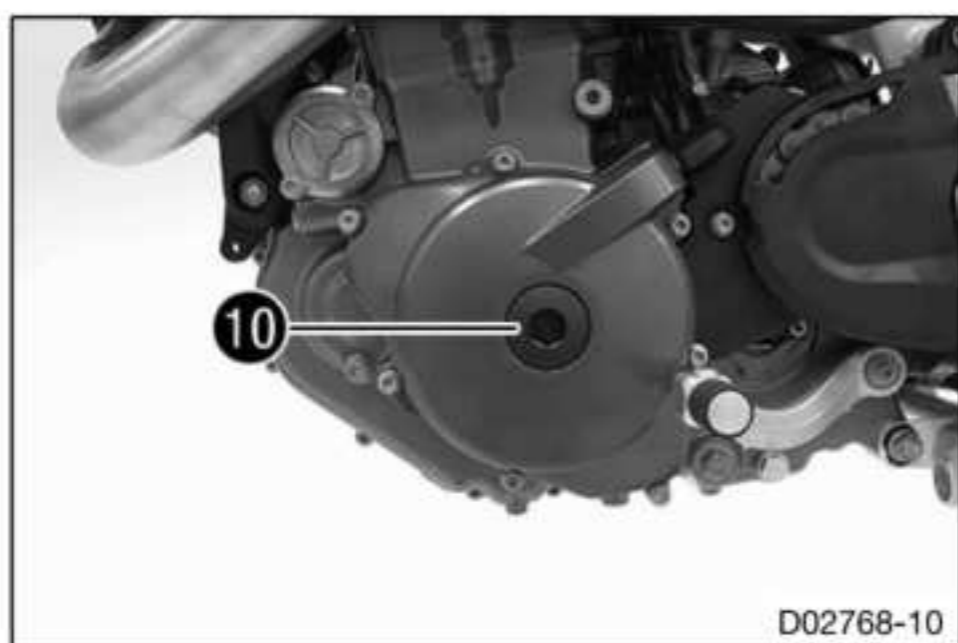
Locking screw (77329010000) (📖 p. 393)



- Crank the engine several times.
- Check the valve clearance and correct it if necessary.
- Mount and tighten screw **11** with the washer.

Guideline

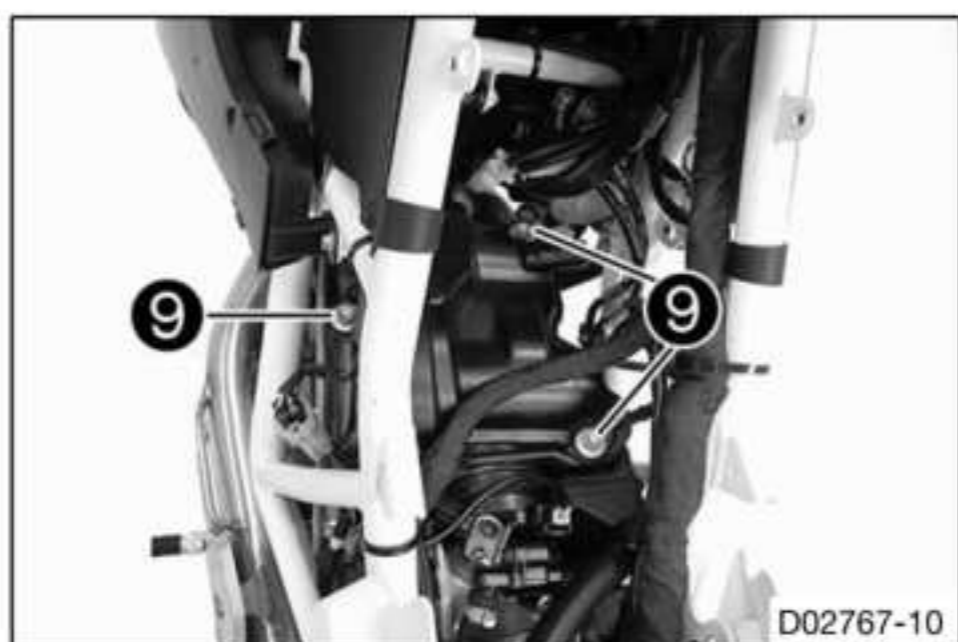
Screw plug, locking screw	M8	15 Nm (11.1 lbf ft)
---------------------------	----	---------------------



- Mount screw **10** with the O-ring and tighten.

Guideline

Screw in alternator cover	M24x1.5	8 Nm (5.9 lbf ft)
---------------------------	---------	-------------------



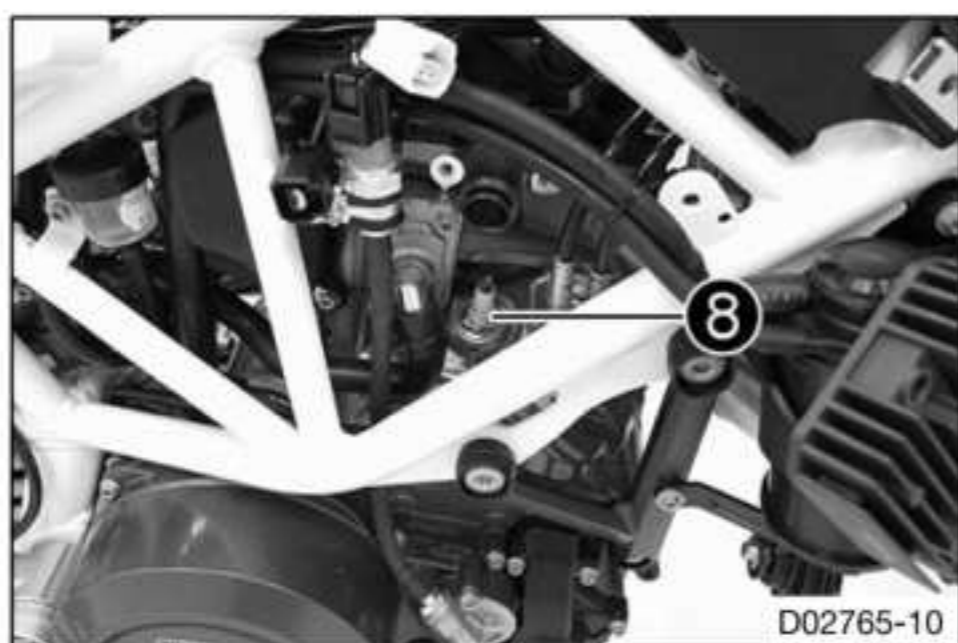
- Position the valve cover with the gasket. Mount and tighten screws **9**.

Guideline

Screw, valve cover	M6	10 Nm (7.4 lbf ft)
--------------------	----	--------------------



- Mount bleeder hoses and secure with cable ties.

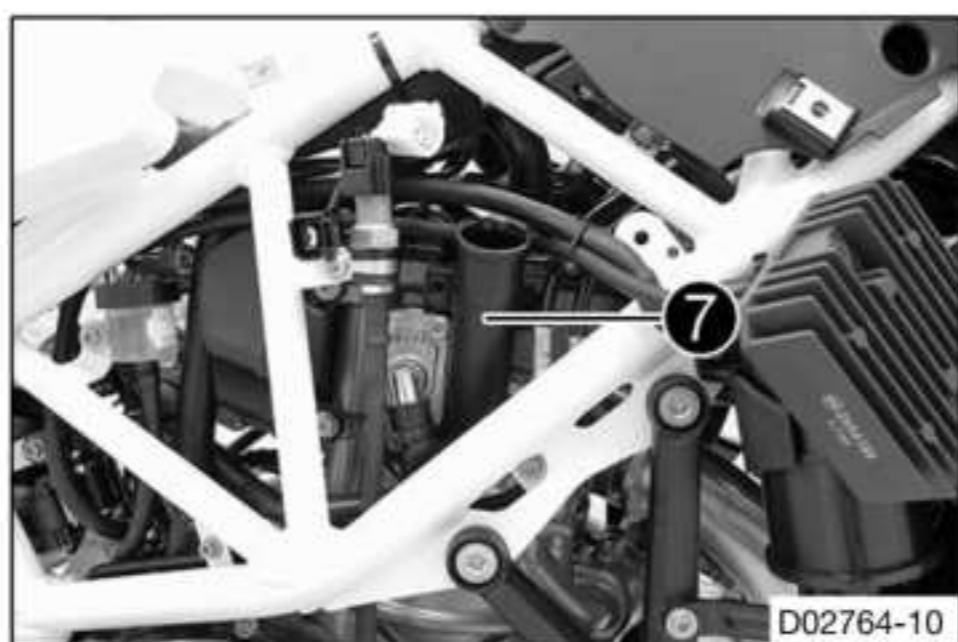


- Mount and tighten spark plug **8** using the special tool.

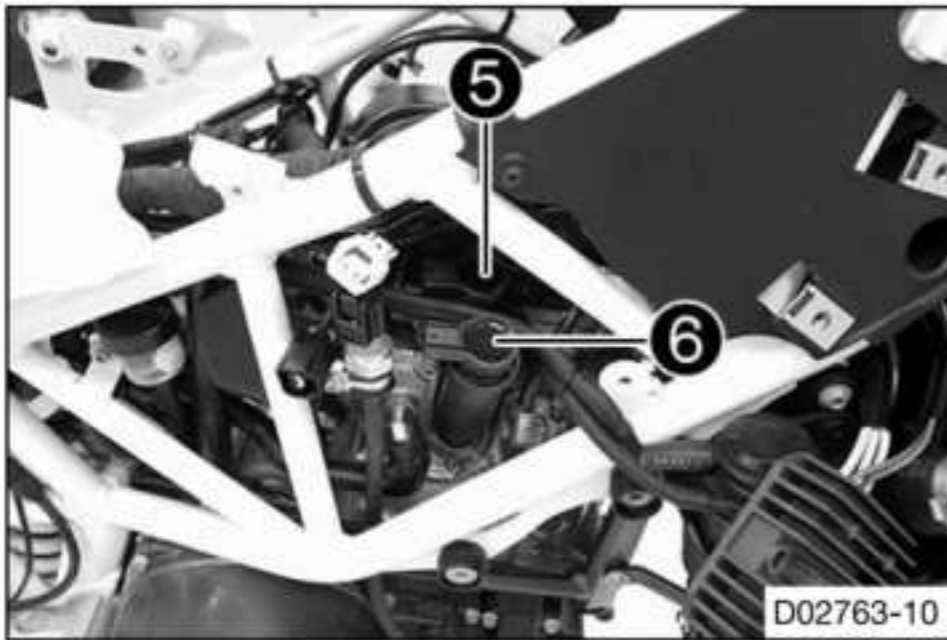
Guideline

Spark plug outside	M10x1	11 Nm (8.1 lbf ft)
--------------------	-------	--------------------

Spark plug wrench (75029172000) (英) p. 391		
--	--	--



- Position spark plug shaft **7**.

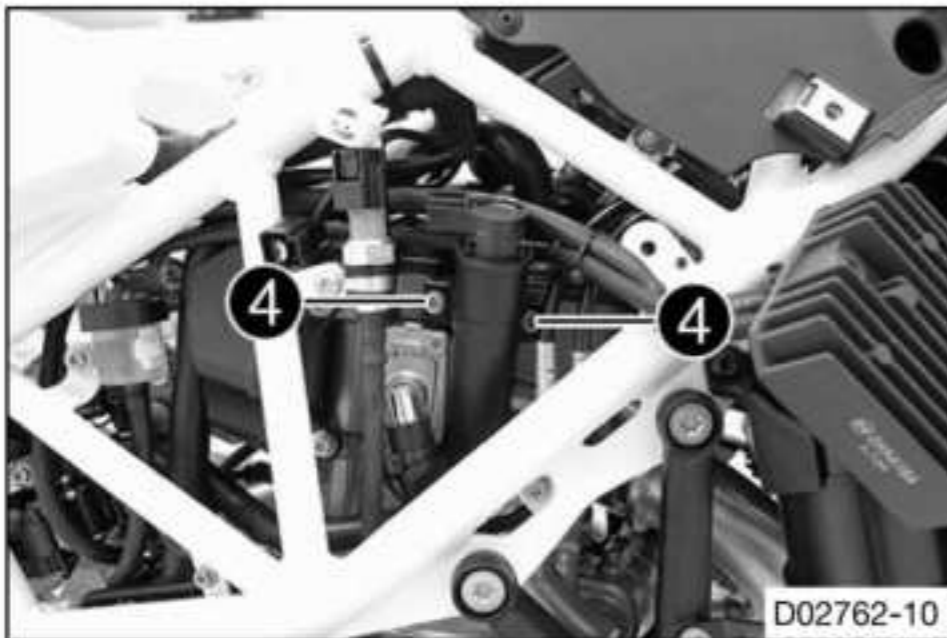


- Position ignition coils **5** and **6**.



Info

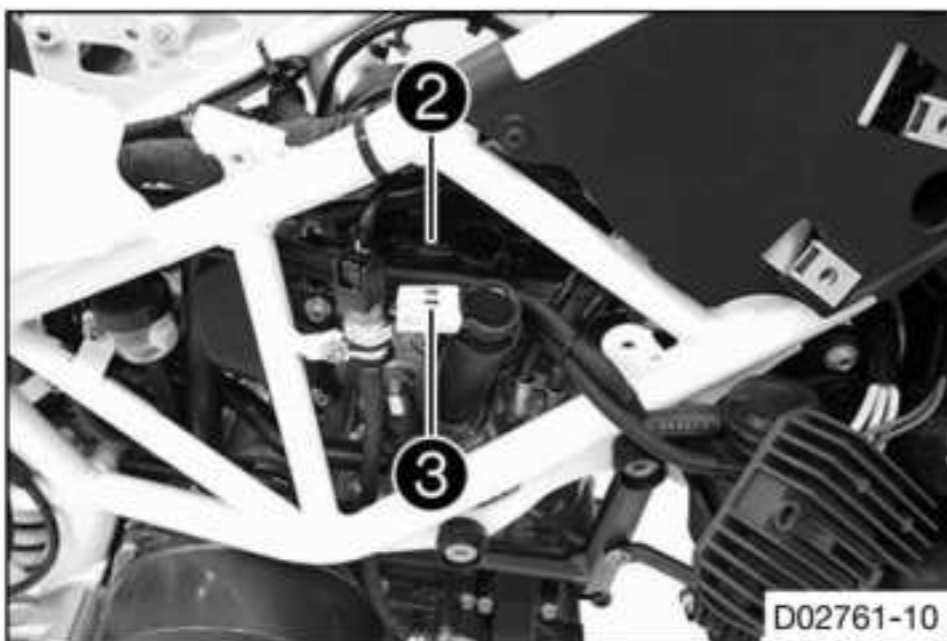
Ensure that the ignition coils are seated correctly.



- Mount and tighten screws **4**.

Guideline

Screw, ignition coil	M6	10 Nm (7.4 lbf ft)
----------------------	----	--------------------



- Plug in connectors **2** and **3** of the ignition coils.
- ✓ The cable with the white marking is connected to the outer ignition coil.



- Mount bleeder hose and position spring band clamp **1** using the auxiliary tool.

Spring band clamps plier (60029057100) (📖 p. 385)

Finishing work

- Install the air filter box. (📖 p. 89)
- Mount the side cover. (📖 p. 94)
- Mount the seat. (📖 p. 93)
- Remove the motorcycle from the work stand. (📖 p. 15)

24.2 Adjusting the valve clearance

Preparatory work

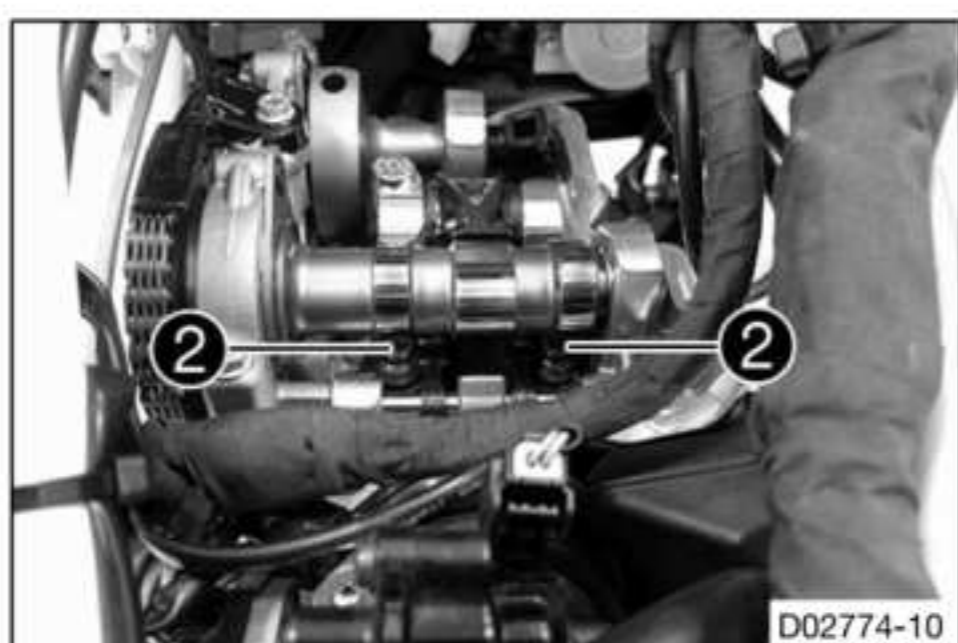
- Raise the motorcycle with the work stand. (p. 14)
- Remove the seat. (p. 93)
- Take off the side cover. (p. 93)
- Remove the air filter box. (p. 87)
- Check the valve clearance. (p. 303)

Intake valves

- Push cam lever clip **1** up and remove.



- Push the cam lever aside.
- Remove shims **2** and set them down according to the installation position.
- Correct the shims based on the results of the valve clearance check.
- Insert suitable shims.
- Position cam lever.



- Mount cam lever clip **1**.



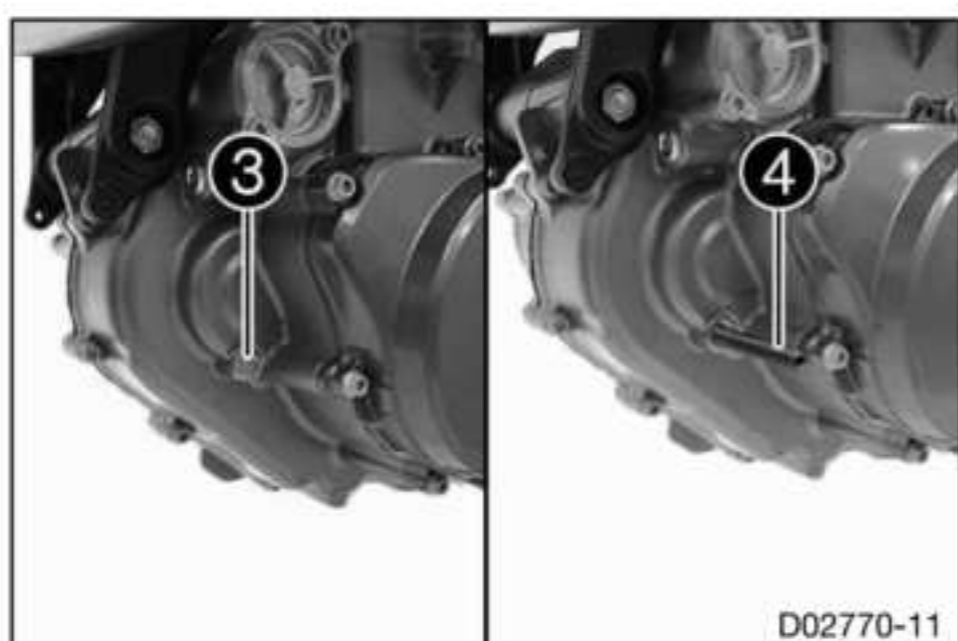
- Remove special tool **3**.

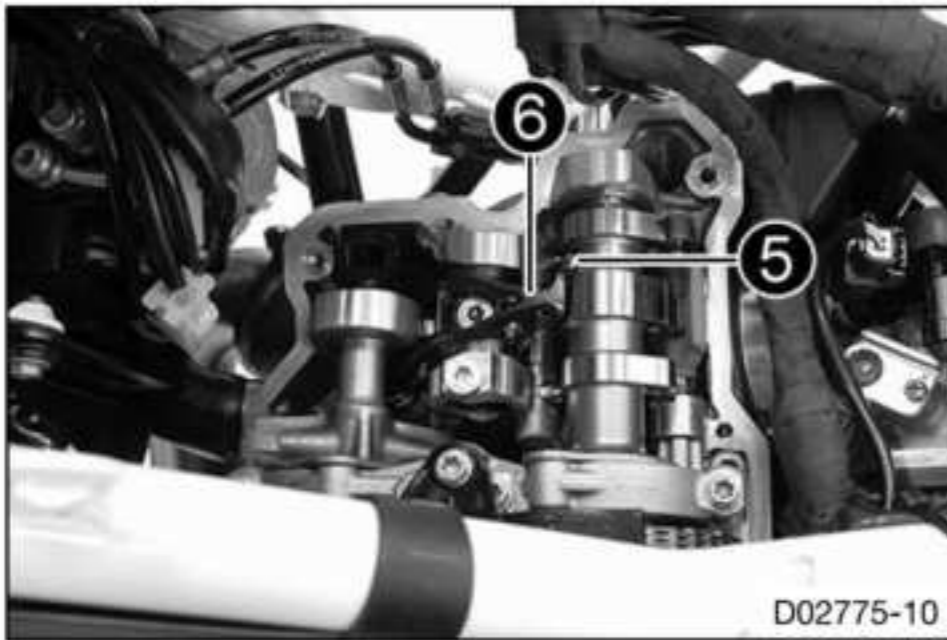
Locking screw (61229015000) (p. 386)

- Crank the engine several times.
- Mount and tighten screw **4** with the washer.

Guideline

Screw plug, locking screw	M8	15 Nm (11.1 lbf ft)
---------------------------	----	---------------------





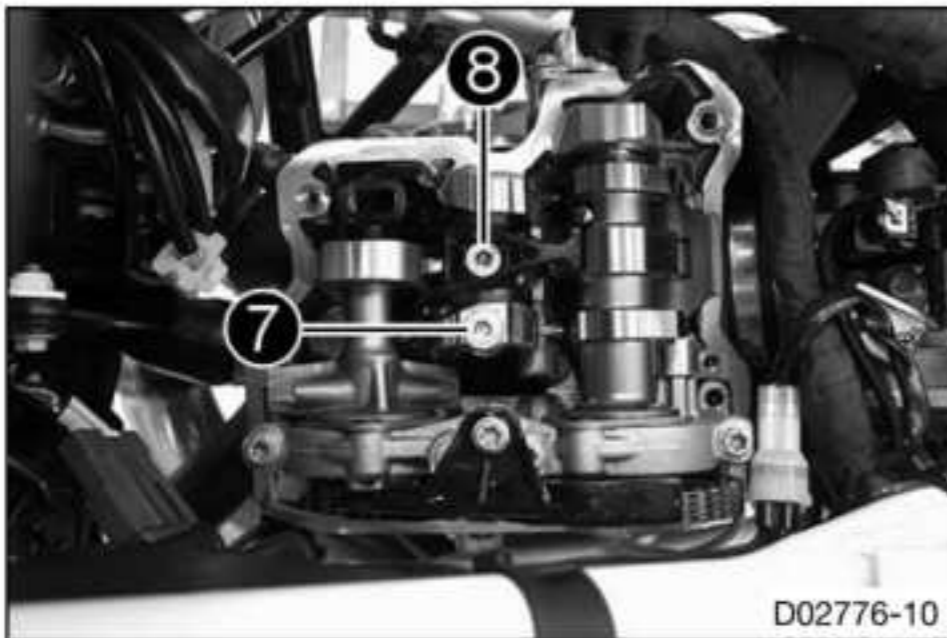
Exhaust valves

- Keep turning the crankshaft counterclockwise until autodecompressor cam **5** is visible next to rocker arm **6** as shown.



Info

The autodecompressor cam must be pushed slightly to the side.



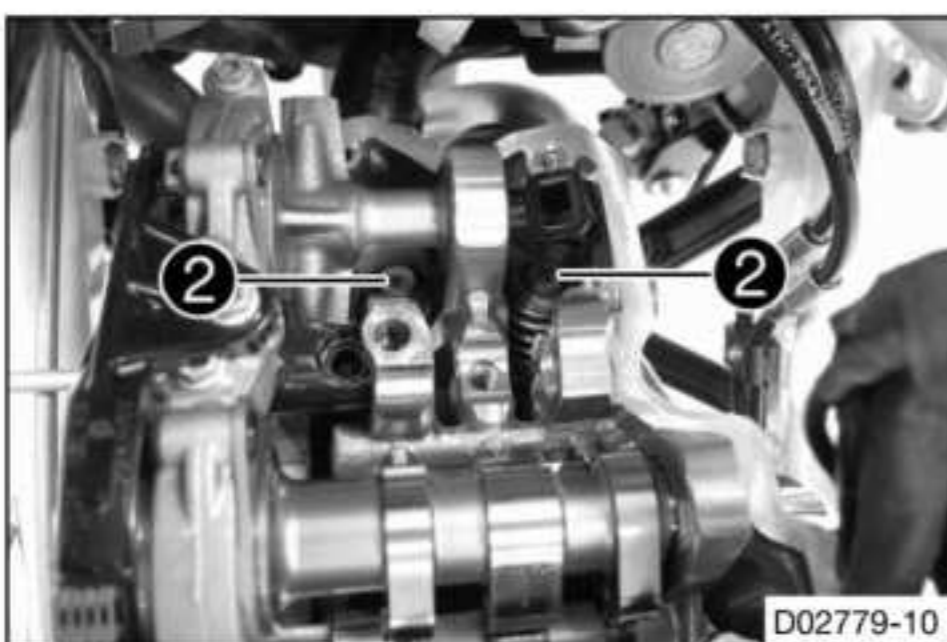
- Remove screws **7** and **8**.



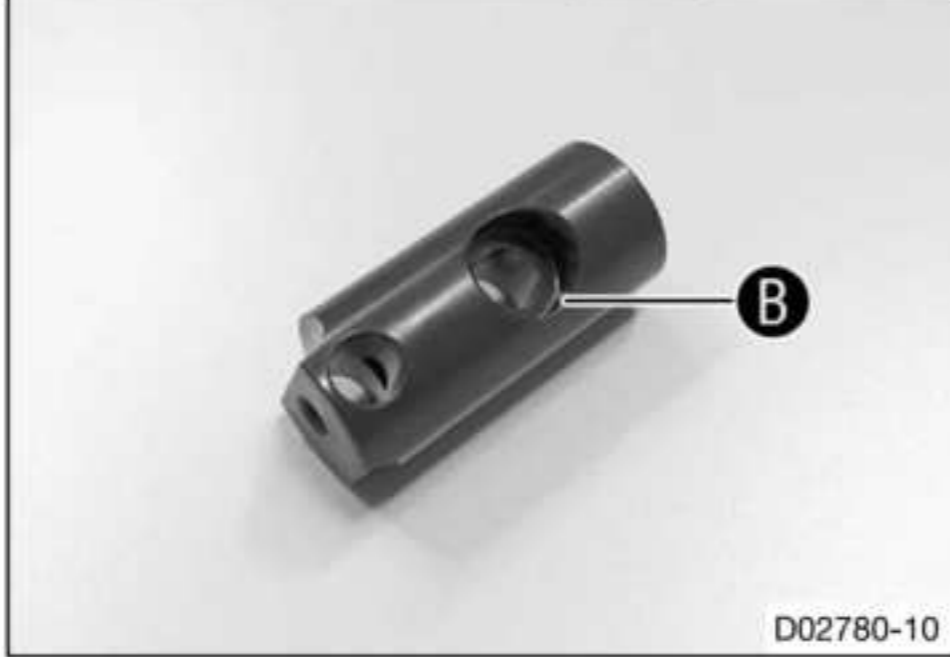
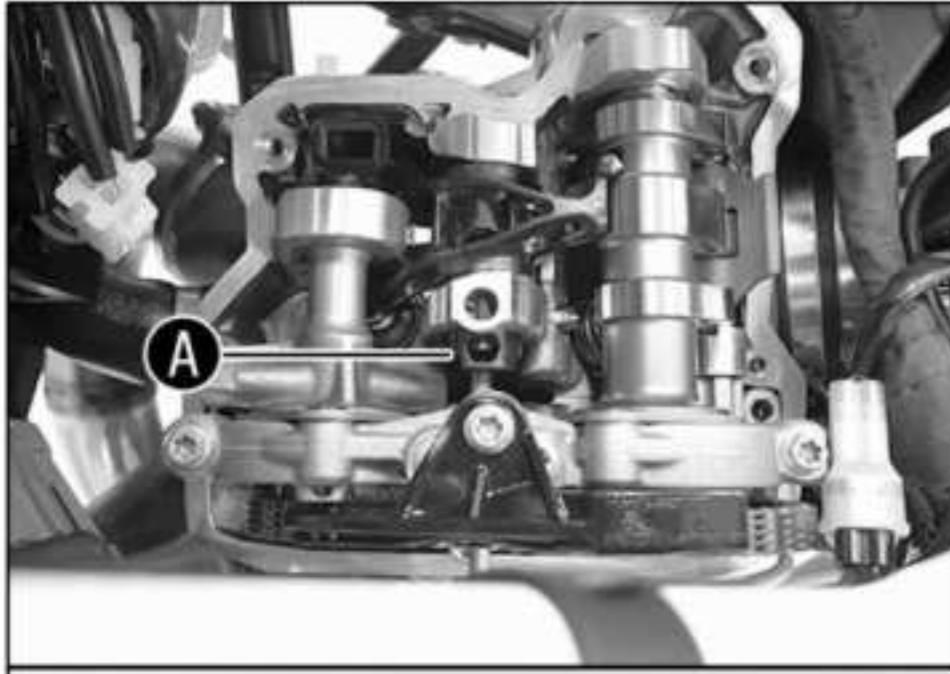
- Screw a suitable M6 screw **9** into the rocker arm shaft.
- Pull back rocker arm shaft.



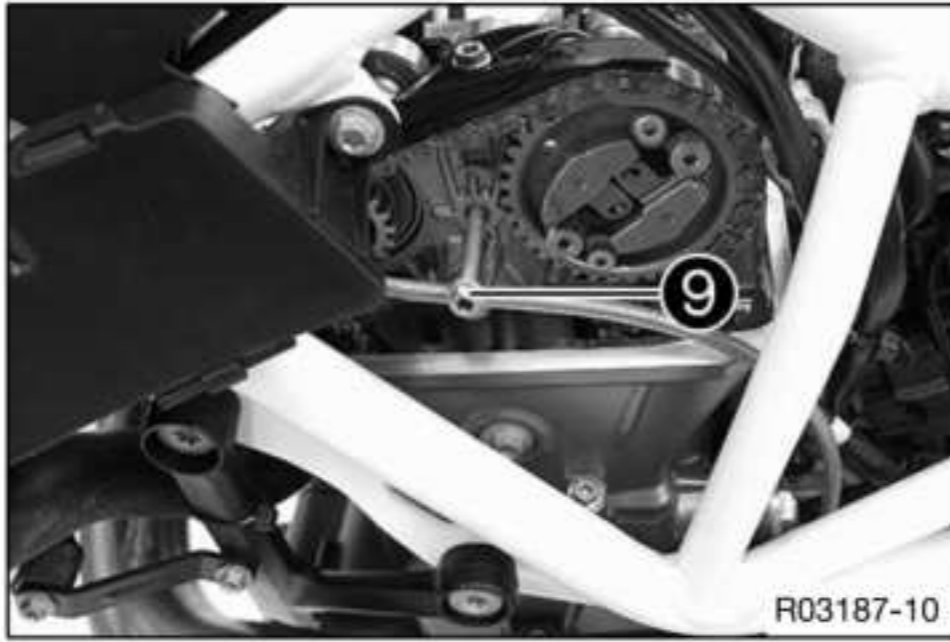
- Remove rocker arm **6**.



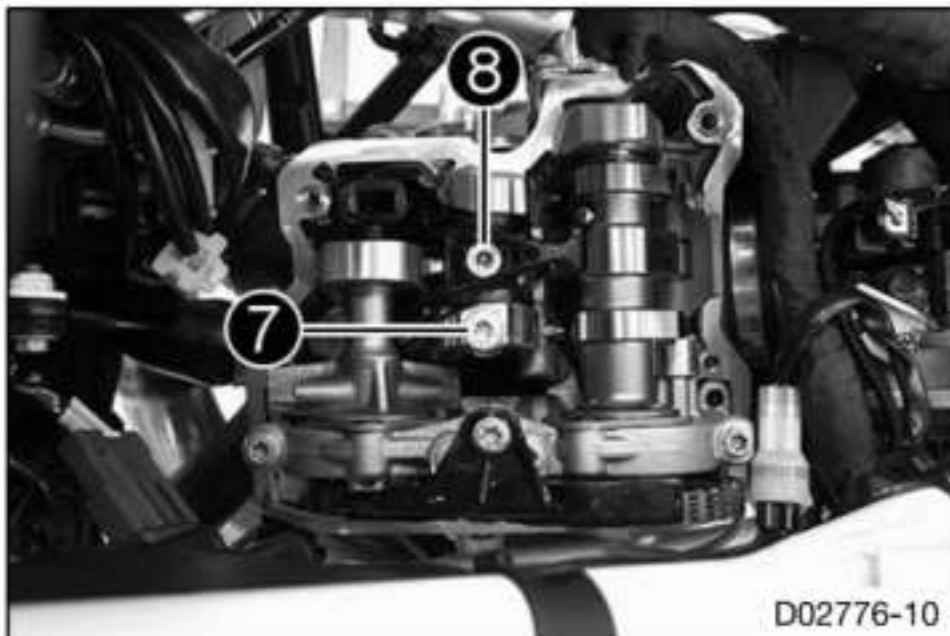
- Remove shims **2** and set them down according to the installation position.
- Correct the shims based on the results of the valve clearance check.
- Insert suitable shims.



D02780-10



R03187-10



D02776-10

- Position the rocker arm and mount the rocker arm shaft.
 - ✓ The large recess **A** must face the exhaust side.
 - ✓ Dip **B** in the rocker arm shaft faces upward.



Info

The autodecompressor cam must be pushed slightly to the side.

- Remove screw **9**.

- Mount and tighten screw **7**.

Guideline

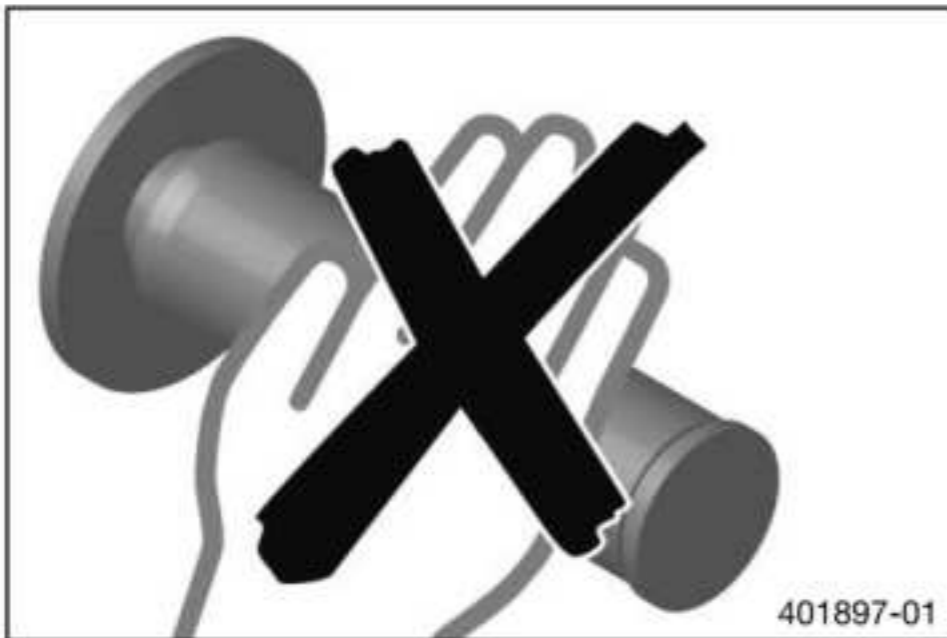
Screw, rocker arm shaft	M8x55	15 Nm (11.1 lbf ft)
-------------------------	-------	---------------------

- Mount and tighten screw **8**.

Guideline

Screw, rocker arm shaft	M8x40	15 Nm (11.1 lbf ft)
-------------------------	-------	---------------------

25.1 Performing the initialization run



Condition

The diagnostics tool is connected and running.

- Execute "**Engine electronics**" > "**Functions**" > "**Clear adaptation values**".
 - ✓ The adaptation values are deleted.
- Program the gear position sensor. (📖 p. 281)
- Switch off ignition.
- Disconnect the diagnostics tool.



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 without operating the throttle grip.

Guideline

Coolant temperature	< 25 °C (< 77 °F)
---------------------	-------------------

- Let the engine run at idle speed for at least 10 minutes (600 seconds).



Info

Do not operate the throttle grip during the initialization process.

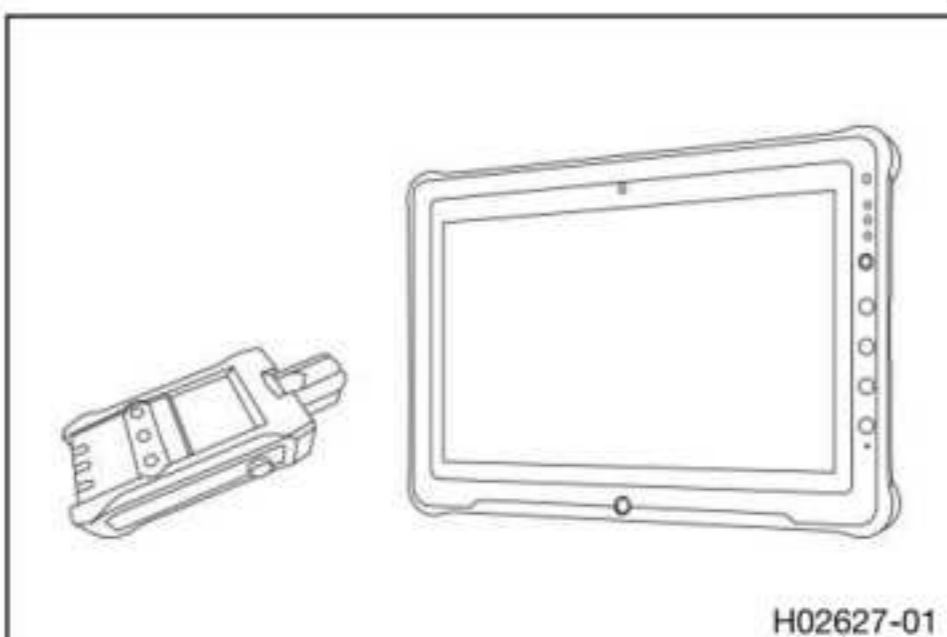
- Switch off the ignition after 10 minutes (600 seconds).



Info

If initialization is not completed or if the initialization process was interrupted, the entire process must be restarted.

25.2 Resetting the engine electronics control unit



Condition

The diagnostics tool is connected and running.

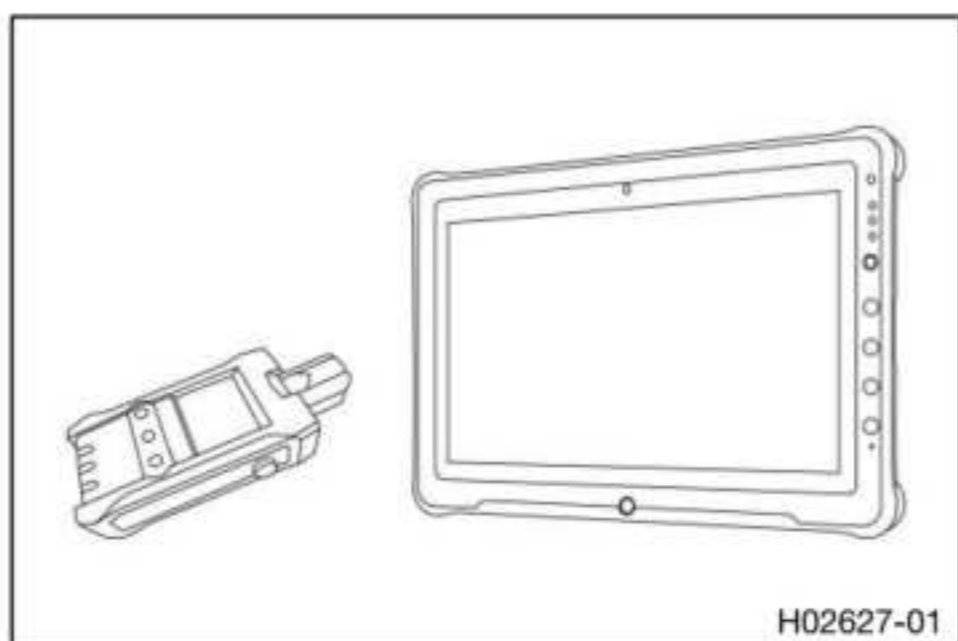
Main work

- Execute "**Engine electronics**" > "**Functions**" > "**Clear adaptation values**".
 - ✓ The adaptation values are deleted.

Final steps

- Program the gear position sensor. (📖 p. 281)

25.3 Checking the CO adjustment using the Husqvarna Motorcycles diagnostics tool



Condition

The diagnostics tool is connected and running.

- Select "**Engine electronics**" > "**Functions**" > "**CO adjustment when idling**".
- Confirm the warning using "**Next**".
- Check the position of the bar in the measurement range.
 - » The bar is positioned in the middle of the green area of the measurement range.
 - Quit the function using "**Cancel**".
 - » The bar is not positioned in the middle of the green area of the measurement range.
 - Using the + button or – button, position the bar in the middle of the measurement range.
 - Quit the function using "**Save**".
- Quit the process using "**Execute**".

26.1 Engine

Design	1-cylinder 4-stroke engine, water-cooled
Displacement	692.7 cm ³ (42.271 cu in)
Stroke	80 mm (3.15 in)
Bore	105 mm (4.13 in)
Compression ratio	12.7:1
Control	OHC, intake with cam levers, exhaust controlled by rocker arm, chain drive
Valve diameter, intake	42 mm (1.65 in)
Valve diameter, exhaust	34 mm (1.34 in)
Valve play, cold	
Intake at: 20 °C (68 °F)	0.10 ... 0.15 mm (0.0039 ... 0.0059 in)
Exhaust at: 20 °C (68 °F)	0.22 ... 0.27 mm (0.0087 ... 0.0106 in)
Crankshaft bearing	2 roller bearings
Conrod bearing	Slide bearing
Piston pin bearing	Piston pin with DLC coating
Pistons	Forged light alloy
Piston rings	1 compression ring, 1 lower compression ring, 1 oil ring with spring expander
Engine lubrication	Semi-dry sump lubrication system with two rotor pumps
Primary transmission	36:79
Clutch	APTC™ antihopping clutch in oil bath/hydraulically operated
Transmission	6-gear transmission, claw shifted
Transmission ratio	
1st gear	14:35
2nd gear	16:28
3rd gear	21:28
4th gear	21:23
5th gear	23:22
6th gear	23:20
Mixture preparation	Electronic fuel injection
Ignition	Contactless controlled fully electronic ignition with digital ignition adjustment
Alternator	12 V, 300 W
Spark plug	
Inside spark plug	NGK LKAR9BI-10
Outside spark plug	NGK LMAR7DI-10
Spark plug electrode gap	1.0 mm (0.039 in)
Cooling	Water cooling, permanent circulation of coolant by water pump
Idle speed	
Coolant temperature: ≥ 70 °C (≥ 158 °F)	1,600 ... 1,700 rpm
Starting aid	Starter motor, automatic decompression

26.2 Engine tolerance, wear limits

Camshafts - diameter, bearing pin	
Next to exhaust cam	≥ 39.95 mm (≥ 1.5728 in)
Next to inlet cam	≥ 17.96 mm (≥ 0.7071 in)
Valve spring	
Minimum length (without valve spring seat)	40.5 mm (1.594 in)
Valve spring cap - thickness	2.4 ... 2.5 mm (0.094 ... 0.098 in)
Valve - valve stem diameter	
Exhaust	≥ 5.93 mm (≥ 0.2335 in)
Intake	≥ 5.93 mm (≥ 0.2335 in)
Valve guide - diameter	
New condition	6.004 ... 6.016 mm (0.23638 ... 0.23685 in)
Wear limit	6.050 mm (0.23819 in)
Valve - sealing seat width	
Intake	1.60 mm (0.063 in)
Exhaust	2.00 mm (0.0787 in)
Valve - run-out	
On the valve plate	≤ 0.05 mm (≤ 0.002 in)
On the valve stem	≤ 0.05 mm (≤ 0.002 in)
Cylinder/cylinder head - sealing area distortion	≤ 0.10 mm (≤ 0.0039 in)
Cylinder - bore diameter	
Size I	105.000 ... 105.012 mm (4.13385 ... 4.13432 in)
Size II	105.013 ... 105.025 mm (4.13436 ... 4.13483 in)
Piston - diameter	
Size I	104.955 ... 104.965 mm (4.13208 ... 4.13247 in)
Size II	104.965 ... 104.975 mm (4.13247 ... 4.13287 in)
Piston/cylinder - mounting clearance	
New condition	0.035 ... 0.060 mm (0.00138 ... 0.00236 in)
Wear limit	0.10 mm (0.0039 in)
Piston ring - groove clearance	≤ 0.08 mm (≤ 0.0031 in)
Piston ring end gap	
Compression rings	≤ 0.80 mm (≤ 0.0315 in)
Oil scraper ring	≤ 1.00 mm (≤ 0.0394 in)
Piston - piston pin hole diameter	20.010 ... 20.020 mm (0.78779 ... 0.78819 in)
Piston pin - diameter	19.995 ... 20.004 mm (0.7872 ... 0.78756 in)
Connecting rod - axial clearance of lower conrod bearing	0.30 ... 0.60 mm (0.0118 ... 0.0236 in)
Connecting rod - radial clearance of lower conrod bearing	0.05 mm (0.002 in)
Crankshaft - axial clearance	0.15 ... 0.25 mm (0.0059 ... 0.0098 in)
Crankshaft run-out at bearing pin	≤ 0.10 mm (≤ 0.0039 in)
Balancer shaft axial clearance	0.15 ... 0.25 mm (0.0059 ... 0.0098 in)
Clutch facing disc - thickness	≥ 2.5 mm (≥ 0.098 in)
Intermediate disk - thickness	≥ 1.35 mm (≥ 0.0531 in)
Clutch spring - length	31.5 ... 33.5 mm (1.24 ... 1.319 in)

Oil pressure regulator valve - minimum length spring	25.4 mm (1 in)
Oil pump	
Clearance between external rotor and engine case	≤ 0.20 mm (≤ 0.0079 in)
Clearance between external rotor and internal rotor	≤ 0.20 mm (≤ 0.0079 in)
Axial clearance	0.04 ... 0.08 mm (0.0016 ... 0.0031 in)
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)
Main shaft axial clearance	0.10 ... 0.40 mm (0.0039 ... 0.0157 in)
Transmission shaft run-out	≤ 0.025 mm (≤ 0.00098 in)
Shift shaft - play in sliding plate/shift quadrant	0.40 ... 0.80 mm (0.0157 ... 0.0315 in)
Fuel pressure	
Under every load condition	3.3 ... 3.7 bar (48 ... 54 psi)

26.3 Engine tightening torques

Screw, membrane fixation	M3	2 Nm (1.5 lbf ft)	Loctite®243™
Hose clamp, intake flange	M4	2.5 Nm (1.84 lbf ft)	
Oil nozzle for clutch lubrication	M4x8	2 Nm (1.5 lbf ft)	
Oil nozzle for conrod bearing lubrication	M4	2 Nm (1.5 lbf ft)	Loctite®243™
Locking screw for bearing	M5	6 Nm (4.4 lbf ft)	Loctite®243™
Oil nozzle in cylinder head	M5	2 Nm (1.5 lbf ft)	Loctite®243™
Remaining screws, engine	M5	6 Nm (4.4 lbf ft)	
Screw, axial lock of camshaft	M5	6 Nm (4.4 lbf ft)	Loctite®243™
Screw, clutch spring	M5	8 Nm (5.9 lbf ft)	
Screw, cover plate for oil return line	M5	6 Nm (4.4 lbf ft)	
Screw, gear sensor	M5	5 Nm (3.7 lbf ft)	Loctite®243™
Screw, oil filter cover	M5	6 Nm (4.4 lbf ft)	
Screw, oil pump cover	M5	6 Nm (4.4 lbf ft)	Loctite®243™
Screw, oil pump cover, top	M5	6 Nm (4.4 lbf ft)	Loctite®243™
Remaining screws, engine	M6	10 Nm (7.4 lbf ft)	
Screw in alternator cover	M6	10 Nm (7.4 lbf ft)	
Screw, alternator cover	M6x30	10 Nm (7.4 lbf ft)	
Screw, alternator cover (timing chain shaft through-hole)	M6	10 Nm (7.4 lbf ft)	Loctite®243™

Screw, auto decompression	M6	3.5 Nm (2.58 lbf ft)	Loctite®243™
Screw, camshaft bearing support	M6x80	10 Nm (7.4 lbf ft)	
Screw, camshaft bearing support	M6x90	10 Nm (7.4 lbf ft)	
Screw, clutch cover	M6	10 Nm (7.4 lbf ft)	
Screw, clutch slave cylinder	M6x20	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, clutch slave cylinder	M6x20	10 Nm (7.4 lbf ft)	
Screw, crankshaft speed sensor	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, cylinder	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, cylinder head	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, engine case	M6	10 Nm (7.4 lbf ft)	
Screw, guide rail	M6x20	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, ignition coil	M6	10 Nm (7.4 lbf ft)	
Screw, locking lever	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, oil pump cover, bottom	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, resonator	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, shift drum locating	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, shift lever	M6	14 Nm (10.3 lbf ft)	Loctite®243™
Screw, starter motor	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, stator	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, thermostat housing	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, timing chain guide rail	M6x30	10 Nm (7.4 lbf ft)	Loctite®2701™
Screw, timing chain shaft	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, timing chain tensioning rail	M6x30	10 Nm (7.4 lbf ft)	Loctite®2701™
Screw, valve cover	M6	10 Nm (7.4 lbf ft)	
Screw, water pump cover	M6	10 Nm (7.4 lbf ft)	
Screw, water pump wheel	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screws, secondary air system cover	M6x12	10 Nm (7.4 lbf ft)	Loctite®243™
Intake channel vacuum connection	M6x0.75	2.5 Nm (1.84 lbf ft)	Loctite®243™
Oil jet, piston cooling	M6x0.75	4 Nm (3 lbf ft)	Loctite®243™

Screw plug, locking screw	M8	15 Nm (11.1 lbf ft)
Screw, rocker arm shaft	M8x40	15 Nm (11.1 lbf ft)
Screw, rocker arm shaft	M8x55	15 Nm (11.1 lbf ft)
Setscrew, camshaft bearing bridge	M8	6 Nm (4.4 lbf ft) Loctite® 243™
Stud, exhaust flange	M8	10 Nm (7.4 lbf ft) Loctite® 243™
Screw, cylinder head	M10	Tightening sequence: Tighten diagonally, beginning with the rear screw on the timing chain shaft. 1st stage 15 Nm (11.1 lbf ft) 2nd stage 30 Nm (22.1 lbf ft) 3rd stage 45 Nm (33.2 lbf ft) 4th stage 60 Nm (44.3 lbf ft) Lubricated with engine oil Loctite® 577™
Oil line for oil pressure sensor	M10x1	10 Nm (7.4 lbf ft)
Oil pressure sensor	M10x1	10 Nm (7.4 lbf ft)
Screw plug, oil channel	M10x1	15 Nm (11.1 lbf ft) Loctite® 243™
Screw plug, oil channel, for oil radiator	M10x1	15 Nm (11.1 lbf ft)
Screw plug, water pump drain hole	M10x1	15 Nm (11.1 lbf ft)
Screw, unlocking of timing chain tensioner	M10x1	10 Nm (7.4 lbf ft)
Spark plug outside	M10x1	11 Nm (8.1 lbf ft)
Spark plug inside	M12x1.25	18 Nm (13.3 lbf ft)
Coolant temperature sensor on the cylinder head	M12x1.5	12 Nm (8.9 lbf ft)
Oil drain plug with magnet	M12x1.5	20 Nm (14.8 lbf ft)
Screw plug, oil pressure control valve	M12x1.5	20 Nm (14.8 lbf ft)
Screw plug, oil channel	M14x1.5	15 Nm (11.1 lbf ft) Loctite® 243™
Engine case stud	M16x1.5	25 Nm (18.4 lbf ft) Loctite® 243™
Rotor nut	M18x1.5	100 Nm (73.8 lbf ft)
Nut, engine sprocket	M20x1.5	80 Nm (59 lbf ft) Loctite® 243™
Nut, inner clutch hub	M20x1.5	120 Nm (88.5 lbf ft) Loctite® 243™
Nut, primary gear wheel	M20LHx1.5	90 Nm (66.4 lbf ft) Loctite® 243™
Plug, oil screen	M20x1.5	15 Nm (11.1 lbf ft)
Plug, oil thermostat	M24x1.5	15 Nm (11.1 lbf ft)

Plug, timing chain tensioner	M24x1.5	25 Nm (18.4 lbf ft)
Screw in alternator cover	M24x1.5	8 Nm (5.9 lbf ft)

26.4 Capacities

26.4.1 Engine oil

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

26.4.2 Coolant

Coolant	1.20 l (1.27 qt.)	Coolant (📖 p. 376)
---------	-------------------	--------------------

26.4.3 Fuel

Total fuel tank capacity, approx.	13 l (3.4 US gal)	Super unleaded (ROZ 95/RON 95/PON 91) (📖 p. 377)
-----------------------------------	-------------------	--

Fuel reserve, approx.	2.5 l (2.6 qt.)
-----------------------	-----------------

26.5 Chassis

Frame	Lattice frame made of chrome molybdenum steel tubing, powder-coated	
Fork	WP Suspension 4860 ROTA SPLIT	
Shock absorber	WP Suspension 4618 with Pro-Lever bell crank	
Suspension travel		
front	215 mm (8.46 in)	
rear	250 mm (9.84 in)	
Brake system		
front	Disc brake with radially mounted four-piston brake caliper, floating brake disc	
rear	Disc brake with single-piston brake caliper, floating	
Brake discs - diameter		
front	320 mm (12.6 in)	
rear	240 mm (9.45 in)	
Brake discs - wear limit		
front	4.0 mm (0.157 in)	
rear	4.5 mm (0.177 in)	
Tire pressure when solo		
front	2.0 bar (29 psi)	
rear	2.0 bar (29 psi)	
Tire pressure with passenger / full payload		
front	2.0 bar (29 psi)	
rear	2.2 bar (32 psi)	
Secondary drive ratio	16:42	
Chain	5/8 x 1/4" X-ring	
Steering head angle	63°	
Wheelbase	1,485 ± 15 mm (58.46 ± 0.59 in)	

Seat height unloaded	915 mm (36.02 in)
Ground clearance unloaded	275 mm (10.83 in)
Weight without fuel, approx.	151 kg (333 lb.)
Maximum permissible front axle load	150 kg (331 lb.)
Maximum permissible rear axle load	200 kg (441 lb.)
Maximum permissible overall weight	350 kg (772 lb.)

26.6 Electrical system

12-V battery	YTZ10S	Battery voltage: 12 V Nominal capacity: 8.6 Ah Maintenance-free
Fuse	58011109130	30 A
Fuse	58011109125	25 A
Fuse	58011109115	15 A
Fuse	75011088010	10 A
Headlight	H4/socket P43t	12 V 60/55 W
Position light	W5W / socket W2.1x9.5d	12 V 5 W
Combination instrument lighting and indicator lamps	LED	
Turn signal (EU)	LED	
Turn signal (US)	RY10W/socket BAU15s	12 V 10 W
Brake/tail light	LED	
License plate lamp	LED	

26.7 Tires

Front tire	Rear tire
120/70 R 17 M/C 58H TL Continental ContiAttack SM	160/60 R 17 M/C 69H TL Continental ContiAttack SM
The tires specified represent one of the possible series production tires. Additional information is available in the Service section under: www.husqvarna-motorcycles.com	

26.8 Fork

Fork article number	14.15.8Q.12
Fork	WP Suspension 4860 ROTA SPLIT
Compression damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	10 clicks
Rebound damping	
Comfort	20 clicks

Standard	15 clicks	
Sport	10 clicks	
Full payload	10 clicks	
Spring length with preload spacer(s)	468 mm (18.43 in)	
Spring rate		
Medium (standard)	5.6 N/mm (32 lb/in)	
Air chamber length	110 \pm $\frac{20}{30}$ mm (4.33 \pm $\frac{0.79}{1.18}$ in)	
Fork length	895 mm (35.24 in)	
Fork oil per fork leg	640 ml (21.64 fl. oz.)	Fork oil (SAE 4) (48601166S1) (📖 p. 377)

26.9 Shock absorber

Shock absorber article number	15.15.7P.12	
Shock absorber	WP Suspension 4618 with Pro-Lever bell crank	
High-speed compression damping		
Comfort	2 turns	
Standard	1.5 turns	
Sport	1 turn	
Full payload	1 turn	
Low-speed compression damping		
Comfort	25 clicks	
Standard	15 clicks	
Sport	10 clicks	
Full payload	10 clicks	
Rebound damping		
Comfort	20 clicks	
Standard	15 clicks	
Sport	10 clicks	
Full payload	10 clicks	
Spring preload	21 mm (0.83 in)	
Spring rate		
Medium (standard)	75 N/mm (428 lb/in)	
Hard	80 N/mm (457 lb/in)	
Spring length	220 mm (8.66 in)	
Gas pressure	10 bar (145 psi)	
Static sag	25 mm (0.98 in)	
Riding sag	70 ... 75 mm (2.76 ... 2.95 in)	
Fitted length	395 mm (15.55 in)	
Shock absorber fluid	Shock absorber fluid (SAE 2.5) (50180751S1) (📖 p. 377)	

26.10 Chassis tightening torques

Screw, chain guard	EJOT PT® K50x18	2 Nm (1.5 lbf ft)	
Screw, combination instrument	EJOT PT® 50x12-Z	1 Nm (0.7 lbf ft)	
Screw, radiator shield	EJOT PT® K50x12	2 Nm (1.5 lbf ft)	
Screw, side stand switch	EJOT PT® K50x12	2 Nm (1.5 lbf ft)	
Fitting, side stand switch	M4	2 Nm (1.5 lbf ft)	
Spoke nipple, front wheel	M4.5	4 Nm (3 lbf ft)	
Spoke nipple, rear wheel	M4.5	4 Nm (3 lbf ft)	
Rear fairing screw, tail light	M5	2 Nm (1.5 lbf ft)	
Remaining nuts, chassis	M5	4 Nm (3 lbf ft)	
Remaining screws, chassis	M5	4 Nm (3 lbf ft)	
Screw, brake line holder on link fork	M5	4 Nm (3 lbf ft)	
Screw, cable on starter motor	M5	3 Nm (2.2 lbf ft)	
Screw, combination switch, left	M5	3.5 Nm (2.58 lbf ft)	
Screw, electrical holder	M5	3 Nm (2.2 lbf ft)	
Screw, exhaust heat shield	M5	8 Nm (5.9 lbf ft)	Loctite®243™
Screw, foot brake lever stub	M5	6 Nm (4.4 lbf ft)	Loctite®243™
Screw, fuel hose clamp on fuel tank	M5	5 Nm (3.7 lbf ft)	
Screw, fuel level sensor	M5	3 Nm (2.2 lbf ft)	
Screw, fuel pump	M5	4 Nm (3 lbf ft)	
Screw, fuel tank closure flange	M5	2.5 Nm (1.84 lbf ft)	
Screw, headlight mask	M5	5 Nm (3.7 lbf ft)	
Screw, pressure regulator	M5	4 Nm (3 lbf ft)	
Screw, radiator fan cover	M5	4 Nm (3 lbf ft)	
Screw, throttle grip	M5	3.5 Nm (2.58 lbf ft)	
Screw, trim	M5x12	3.5 Nm (2.58 lbf ft)	
Screw, trim	M5x17	3.5 Nm (2.58 lbf ft)	
Handle bar end screw	M6	12 Nm (8.9 lbf ft)	
Nut, valve	M6	4.5 Nm (3.32 lbf ft)	
Rear fairing screw, tail light	M6	2 Nm (1.5 lbf ft)	
Remaining nuts, chassis	M6	10 Nm (7.4 lbf ft)	
Remaining screws on fuel tank	M6	5 Nm (3.7 lbf ft)	
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)	
SAS valve screw on frame	M6	4 Nm (3 lbf ft)	
Screw connection, foot brake cylinder	M6	10 Nm (7.4 lbf ft)	
Screw, ABS control unit	M6	5 Nm (3.7 lbf ft)	
Screw, air filter box top	M6	2 Nm (1.5 lbf ft)	
Screw, air filter box, on frame	M6	6 Nm (4.4 lbf ft)	
Screw, ball joint of push rod on foot brake cylinder	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, battery terminal	M6	4.5 Nm (3.32 lbf ft)	

Screw, brake assembly	M6	5 Nm (3.7 lbf ft)	
Screw, brake fluid reservoir for rear brake	M6	5 Nm (3.7 lbf ft)	
Screw, brake line bracket	M6	6 Nm (4.4 lbf ft)	Loctite®243™
Screw, chain guard	M6	2 Nm (1.5 lbf ft)	Loctite®243™
Screw, chain guide	M6	8 Nm (5.9 lbf ft)	
Screw, chain sliding guard	M6	8 Nm (5.9 lbf ft)	Loctite®243™
Screw, clutch assembly	M6	5 Nm (3.7 lbf ft)	
Screw, front brake disc	M6	14 Nm (10.3 lbf ft)	Loctite®243™
Screw, ignition lock	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, license plate holder, bottom	M6	8 Nm (5.9 lbf ft)	
Screw, license plate holder, top	M6	8 Nm (5.9 lbf ft)	
Screw, lower radiator bracket	M6	8 Nm (5.9 lbf ft)	
Screw, magnetic holder on side stand	M6	6 Nm (4.4 lbf ft)	Loctite®243™
Screw, radiator bleeding	M6	8 Nm (5.9 lbf ft)	
Screw, radiator fan cover	M6	3.2 Nm (2.36 lbf ft)	
Screw, rear brake disc	M6	14 Nm (10.3 lbf ft)	Loctite®243™
Screw, seat lock	M6	5 Nm (3.7 lbf ft)	
Screw, upper radiator bracket	M6	10 Nm (7.4 lbf ft)	
Screw, voltage regulator	M6	8 Nm (5.9 lbf ft)	
Screw, wheel speed sensor	M6	6 Nm (4.4 lbf ft)	
Nut, manifold on cylinder head	M8	20 Nm (14.8 lbf ft)	Copper paste
Nut, rear sprocket screw	M8	35 Nm (25.8 lbf ft)	Loctite®2701™
Remaining nuts, chassis	M8	25 Nm (18.4 lbf ft)	
Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)	
Screw, bottom triple clamp	M8	12 Nm (8.9 lbf ft)	
Screw, chain sliding piece	M8	15 Nm (11.1 lbf ft)	
Screw, connection lever on frame	M8	30 Nm (22.1 lbf ft)	Loctite®243™
Screw, foot brake lever	M8	25 Nm (18.4 lbf ft)	Loctite®243™
Screw, fork stub	M8	15 Nm (11.1 lbf ft)	
Screw, front footrest bracket	M8	25 Nm (18.4 lbf ft)	Loctite®243™
Screw, fuel tank bracket	M8	15 Nm (11.1 lbf ft)	
Screw, fuel tank, bottom	M8	25 Nm (18.4 lbf ft)	Loctite®243™
Screw, fuel tank, top	M8	25 Nm (18.4 lbf ft)	Loctite®243™

Screw, grab handle	M8	10 Nm (7.4 lbf ft)	
Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)	
Screw, heel protector	M8x12	5 Nm (3.7 lbf ft)	Loctite®243™
Screw, main silencer clamp	M8	12 Nm (8.9 lbf ft)	Copper paste
Screw, main silencer holder	M8	25 Nm (18.4 lbf ft)	
Screw, main silencer holder on fuel tank	M8	25 Nm (18.4 lbf ft)	
Screw, rear footrest bracket	M8x16	25 Nm (18.4 lbf ft)	
Screw, side stand bracket	M8	25 Nm (18.4 lbf ft)	Loctite®243™
Screw, spring holder plate on side stand bracket	M8	25 Nm (18.4 lbf ft)	Loctite®243™
Screw, steering stem	M8	20 Nm (14.8 lbf ft)	Loctite®243™
Screw, top triple clamp	M8	17 Nm (12.5 lbf ft)	
Engine carrying screw	M10	45 Nm (33.2 lbf ft)	Loctite®243™
Remaining nuts, chassis	M10	45 Nm (33.2 lbf ft)	
Remaining screws, chassis	M10	45 Nm (33.2 lbf ft)	
Screw, bottom shock absorber	M10	45 Nm (33.2 lbf ft)	Loctite®243™
Screw, engine bearer on frame	M10	45 Nm (33.2 lbf ft)	
Screw, handlebar support	M10	45 Nm (33.2 lbf ft)	Loctite®243™
Screw, side stand	M10	35 Nm (25.8 lbf ft)	Loctite®243™
Screw, top shock absorber	M10	45 Nm (33.2 lbf ft)	Loctite®243™
Banjo bolt, brake line	M10x1	25 Nm (18.4 lbf ft)	
Screw, front brake caliper	M10x1.25	45 Nm (33.2 lbf ft)	Loctite®243™
Screw, swingarm pivot	M12	80 Nm (59 lbf ft)	
Lambda sensor	M12x1.25	25 Nm (18.4 lbf ft)	Copper paste
Nut, angle lever to link fork	M14x1.5	100 Nm (73.8 lbf ft)	
Nut, linkage lever to rocker arm	M14x1.5	100 Nm (73.8 lbf ft)	
Screw, radiator temperature sensor	M18	20 Nm (14.8 lbf ft)	
Screw, bottom steering head	M20x1.5	60 Nm (44.3 lbf ft)	Loctite®243™
Screw, top steering head	M20x1.5	12 Nm (8.9 lbf ft)	
Screw, front wheel spindle	M24x1.5	45 Nm (33.2 lbf ft)	
Nut, rear wheel spindle	M25x1.5	90 Nm (66.4 lbf ft)	

27.1 Cleaning the motorcycle

Note

Material damage Components become damaged or destroyed if a pressure cleaner is used incorrectly. The high pressure forces water into the electrical components, connectors, throttle cables, and bearings, etc. Pressure which is too high causes malfunctions and destroys components.

- Do not direct the water jet directly on to electrical components, connectors, throttle cables or bearings.
- Maintain a minimum distance between the nozzle of the pressure cleaner and the component.

Minimum clearance 60 cm (23.6 in)



Note

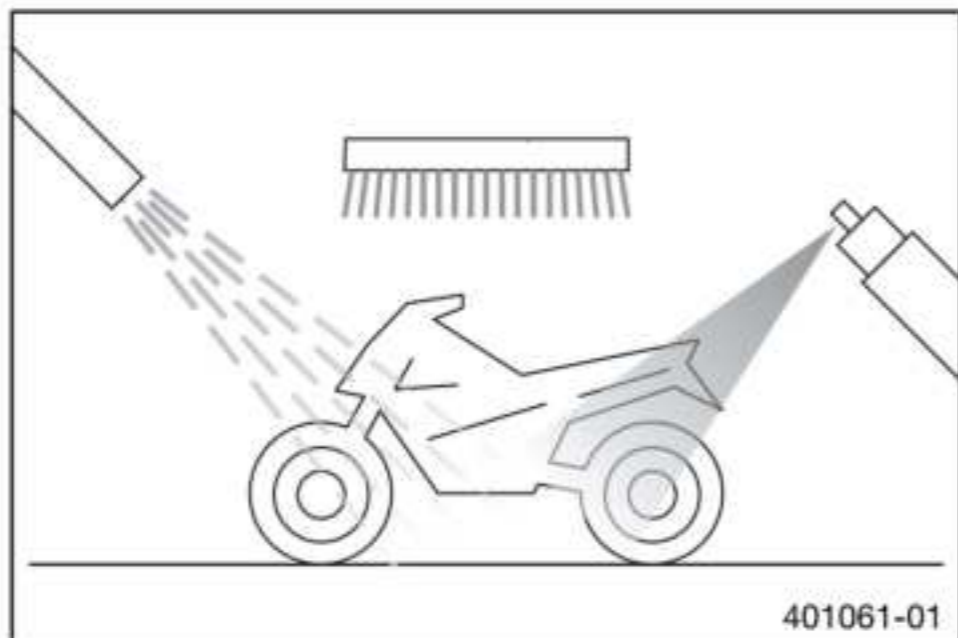
Environmental hazard Hazardous substances cause environmental damage.

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



Info

To maintain the value and appearance of the motorcycle over a long period, clean it regularly. Avoid direct sunshine when cleaning the motorcycle.



- Close off the exhaust system to keep water from entering.
- Remove loose dirt first with a soft jet of water.
- Spray heavily soiled parts with a normal commercial motorcycle cleaner and then brush off with a soft brush.

Motorcycle cleaner (📖 p. 378)



Info

Use warm water containing normal motorcycle cleaner and a soft sponge.

Never apply motorcycle cleaner to a dry vehicle; always rinse the vehicle with water first.

If the vehicle was operated in road salt, clean it with cold water. Warm water would enhance the corrosive effects of salt.

- After rinsing the motorcycle with a gentle spray of water, allow it to dry thoroughly.
- Remove the closure of the exhaust system.



Warning

Danger of accidents Moisture and dirt impair the brake system.

- Brake carefully several times to dry out and remove dirt from the brake linings and the brake discs.

- After cleaning, ride the vehicle a short distance until the engine warms up.



Info

The heat produced causes water at inaccessible locations in the engine and on the brake system to evaporate.

- Push back the protection caps of the handlebar controls to allow any water that has penetrated to evaporate.
- After the motorcycle has cooled down, lubricate all moving parts and pivot points.
- Clean the chain. (📖 p. 135)
- Treat bare metal (except for brake discs and the exhaust system) with a corrosion inhibitor.

Preserving materials for paints, metal and rubber
(📖 p. 379)

- Treat all painted parts with a mild paint care product.

Perfect finish and high gloss polish for paints (📖 p. 378)



Info

Do not polish parts that were matte when delivered as this would strongly impair the material quality.

- Treat all plastic parts and powder-coated parts with a mild cleaning and care product.
- Lubricate the ignition/steering lock.

Universal oil spray (📖 p. 379)

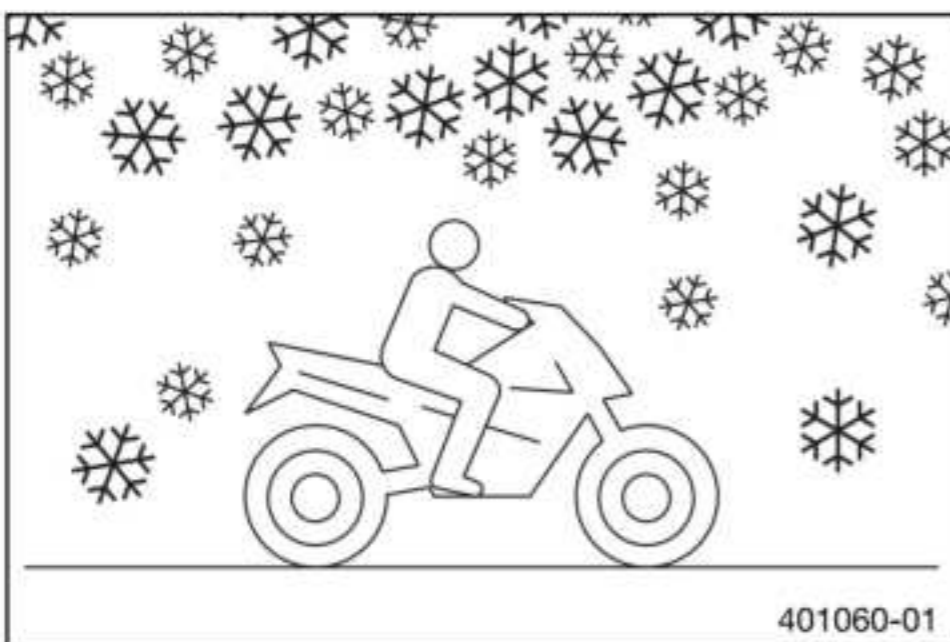
27.2 Checks and maintenance steps for winter operation



Info

If you use the motorcycle in winter, salt can be expected on the roads. You should therefore take precautions against aggressive road salt.

After riding on salted roads, thoroughly clean the vehicle with cold water and dry it well. Warm water enhances the corrosive effects of salt.



- Clean the motorcycle. (📖 p. 324)
- Clean the brake system.



Info

After **EVERY** trip on salted roads, thoroughly clean the brake calipers and brake linings, after they have cooled down and without removing them, with cold water and dry them carefully.

After riding on salted roads, thoroughly clean the motorcycle with cold water and dry it well.

- Treat the engine, the link fork, and all other bare or zinc-plated parts (except the brake discs) with a wax-based corrosion inhibitor.

**Info**

Corrosion inhibitor must not come in contact with the brake discs as this would greatly reduce the braking force.

- Clean the chain. (📖 p. 135)



28.1 Storage

Warning

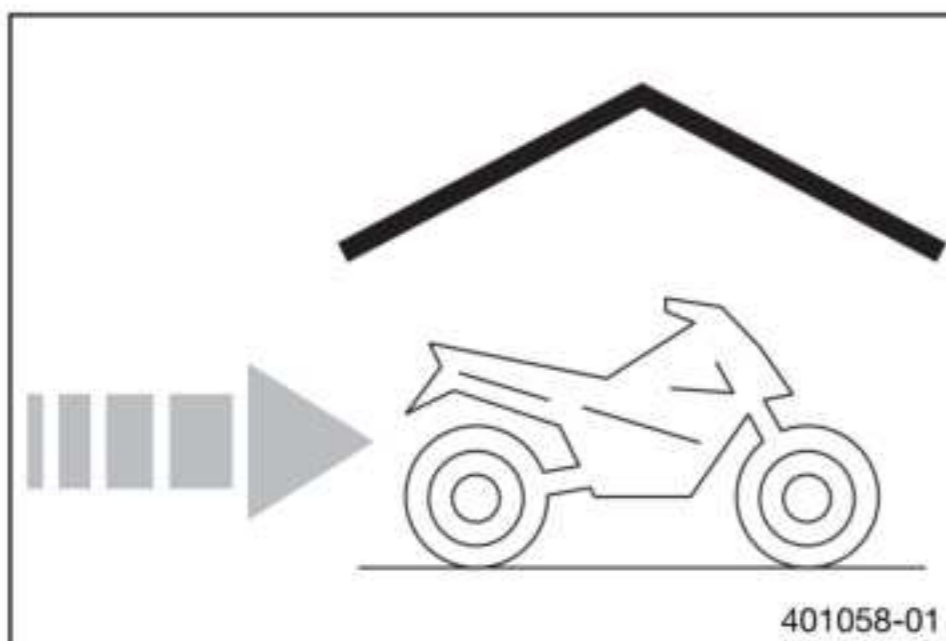
Danger of poisoning Fuel is poisonous and a health hazard.

- 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.

Info

If you plan to garage the motorcycle for a longer period, perform the following steps or have them performed.

Before storing the motorcycle, check all parts for function and wear. If service, repairs, or replacements are necessary, you should do this during the storage period (less workshop overload). In this way, you can avoid long workshop waiting times at the start of the new season.



- When refueling for the last time before taking the motorcycle out of service, add fuel additive.

Info

The fuel additive stabilizes the fuel for longer storage and makes starting easier next time.

- Refuel.
- Clean the motorcycle. (📖 p. 324)
- Change the engine oil and oil filter and clean the oil screens. (📖 p. 293)
- Check the antifreeze and coolant level. (📖 p. 283)
- Check tire pressure. (📖 p. 110)
- Remove the 12-V battery. (📖 p. 139)
- Charge the 12-V battery.

Guideline

Storage temperature of the 12-V battery without direct sunlight	0 ... 35 °C (32 ... 95 °F)
---	----------------------------

- Store the vehicle in a dry location that is not subject to large fluctuations in temperature.

Info

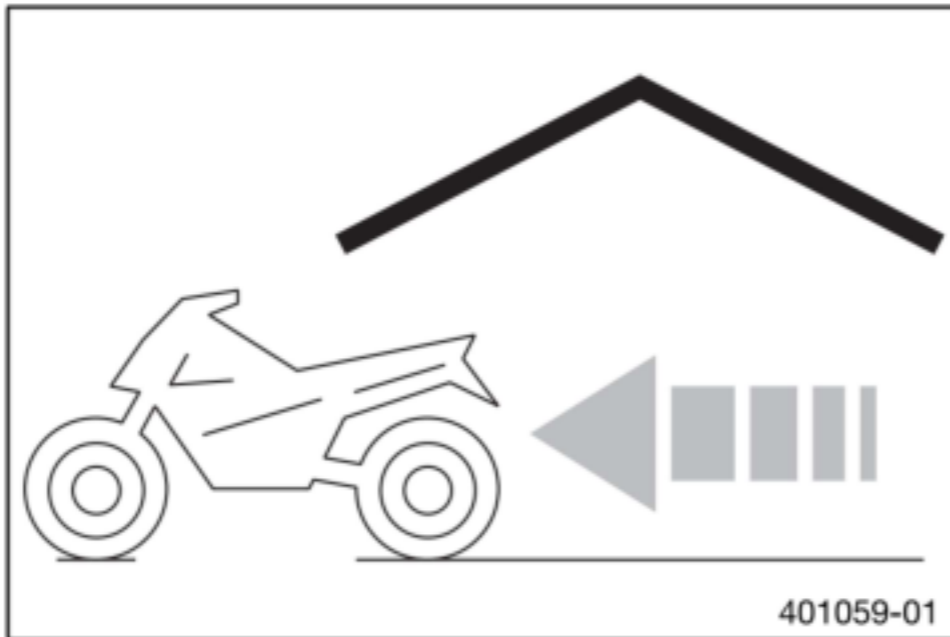
Husqvarna Motorcycles recommends raising the motorcycle.

- Raise the motorcycle with the rear lifting gear. (📖 p. 13)
- Lift the motorcycle with the front lifting gear. (📖 p. 13)
- Cover the vehicle with a tarp or similar cover that is permeable to air.

i Info

Do not use non-porous materials since they prevent humidity from escaping, thus causing corrosion. Avoid running the engine for a short time only. Since the engine cannot warm up properly, the water vapor produced during combustion condenses and causes valves and the exhaust system to rust.

28.2 Preparing for use after storage



- Take the motorcycle off the front lifting gear. (📖 p. 14)
- Remove the rear of the motorcycle from the wheel stand. (📖 p. 13)
- Install the 12-V battery. (📖 p. 140)
- Adjust the clock. (📖 p. 167)
- Perform checks and maintenance measures when preparing for use.
- Take a test ride.

29.1 Additional information

Any further work that results from the compulsory work or from the recommended work must be ordered separately and invoiced separately.

Different service intervals may apply in your country, depending on the local operating conditions. Individual service intervals and scopes may change in the course of technical developments. The most up-to-date service schedule can always be found on Husqvarna Motorcycles Dealer.net. Your authorized Husqvarna Motorcycles dealer will be glad to advise you.

29.2 Required work

	Every two years				
	Every year				
	every 20,000 km (12,400 mi)				
	every 10,000 km (6,200 mi)				
	after 1,000 km (620 mi)				
Read out the fault memory using the Husqvarna Motorcycles diagnostics tool.	○	●	●	●	●
Check that the electrical system is functioning properly.	○	●	●	●	●
Change the engine oil and oil filter and clean the oil screens. (📖 p. 293)	○	●	●	●	●
Check the front brake linings. (📖 p. 153)	○	●	●	●	●
Check the rear brake linings. (📖 p. 159)	○	●	●	●	●
Check the brake discs. (📖 p. 112)	○	●	●	●	●
Check the brake lines for damage and leakage.	○	●	●	●	●
Change the front brake fluid. (📖 p. 157)					●
Change the rear brake fluid. (📖 p. 164)					●
Change the hydraulic clutch fluid. (📖 p. 269)					●
Check the rear brake fluid level. (📖 p. 162)	○	●	●	●	
Check the front brake fluid level. (📖 p. 155)	○	●	●	●	
Check/correct the fluid level of the hydraulic clutch. (📖 p. 268)		●	●	●	
Check the free travel of the foot brake lever. (📖 p. 161)	○	●	●	●	●
Check the shock absorber and fork for leaks. Perform a fork service and shock absorber service as needed and depending on how the vehicle is used.	○	●	●	●	●
Clean the dust boots of the fork legs. (📖 p. 19)		●	●		
Check steering head bearing play. (📖 p. 31)	○	●	●	●	●
Check the tire condition. (📖 p. 110)	○	●	●	●	●
Check tire pressure. (📖 p. 110)	○	●	●	●	●
Check the spoke tension. (📖 p. 112)	○	●	●	●	●
Check the rim run-out. (📖 p. 113)	○	●	●	●	●
Check the chain, rear sprocket, engine sprocket, and chain guide. (📖 p. 131)		●	●	●	●
Check the chain tension. (📖 p. 130)	○	●	●	●	●
Change the fuel screen. (📖 p. 100)	○	●	●	●	●
Change the spark plugs. (📖 p. 301)			●		
Check the valve clearance. (📖 p. 303)		●	●		
Check the antifreeze and coolant level. (📖 p. 283)	○	●	●	●	●
Check the cables for damage and routing without sharp bends.		●	●	●	●
Change the air filter. Clean the air filter box. (📖 p. 91)		●	●		
Check the fuel pressure. (📖 p. 98)		●	●	●	●
Check the headlight setting. (📖 p. 169)	○	●	●		

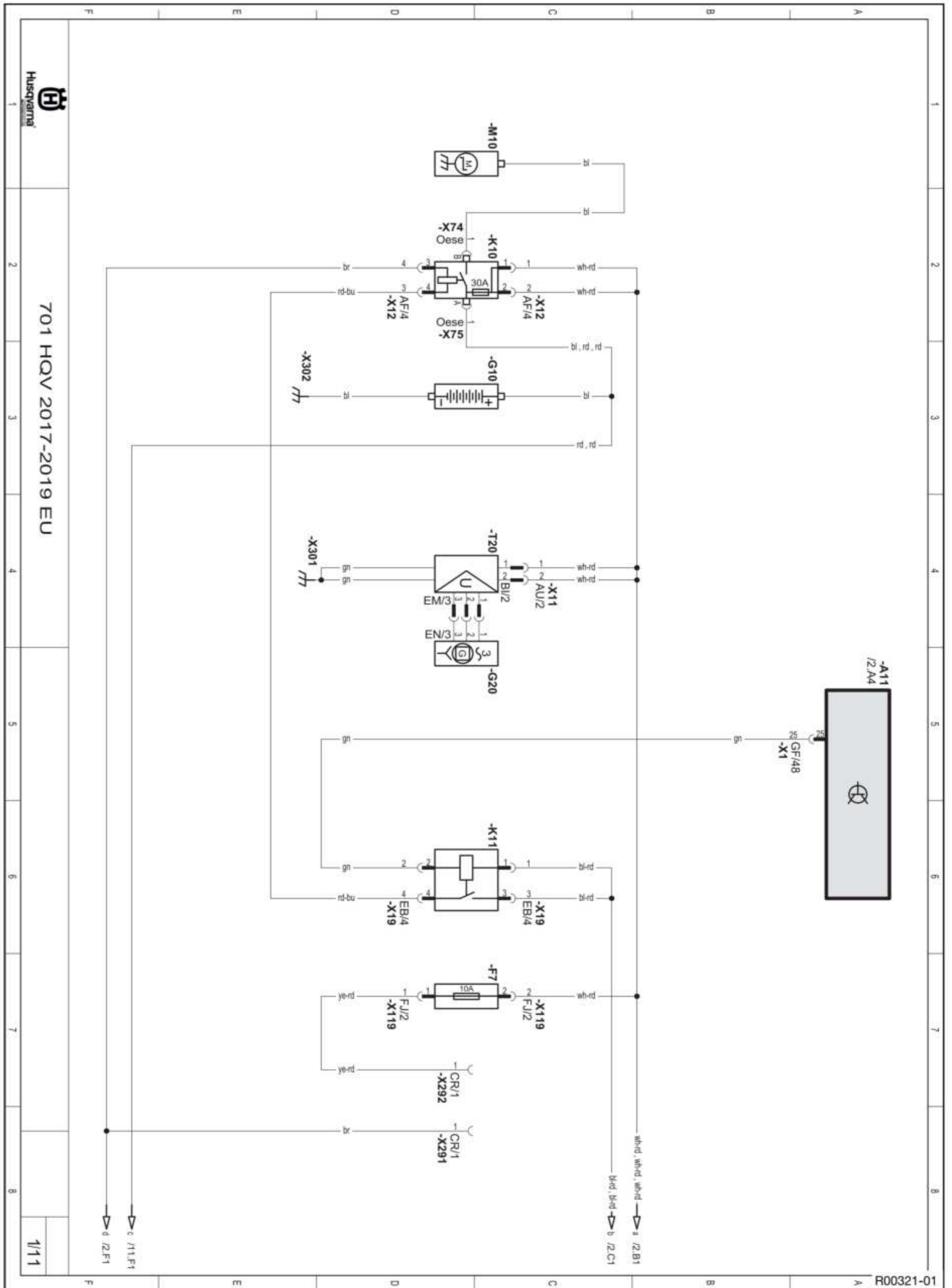
	Every two years				
	Every year				
	every 20,000 km (12,400 mi)				
	every 10,000 km (6,200 mi)				
	after 1,000 km (620 mi)				
Check that the radiator fan is functioning properly.	○	●	●	●	●
Final check: Check the vehicle for roadworthiness and take a test ride.	○	●	●	●	●
Read out the fault memory after the test ride using the Husqvarna Motorcycles diagnostics tool.	○	●	●	●	●
Make the service entry in Husqvarna Motorcycles Dealer.net and in the Service & Manufacturer Warranty Booklet.	○	●	●	●	●

- One-time interval
- Periodic interval

29.3 Recommended work

	Every four years				
	Every year				
	every 30,000 km (18,600 mi)				
	every 10,000 km (6,200 mi)				
	after 1,000 km (620 mi)				
Check the frame. (📖 p. 44)			●		
Check the link fork. (📖 p. 75)			●		
Check the fork bearing for play. (📖 p. 75)		●	●		
Check the wheel bearing for play. (📖 p. 111)		●	●		
Empty the drainage hoses.	○	●	●	●	●
Grease all moving parts (e.g., side stand, hand lever, chain, ...) and check for smooth operation.	○	●	●	●	●
Check all hoses (e.g. fuel, coolant, bleeder, drainage, etc.) and sleeves for cracking, leaks, and incorrect routing.		●	●	●	●
Check the screws and nuts for tightness.	○	●	●	●	●
Change the coolant. (📖 p. 285)					●

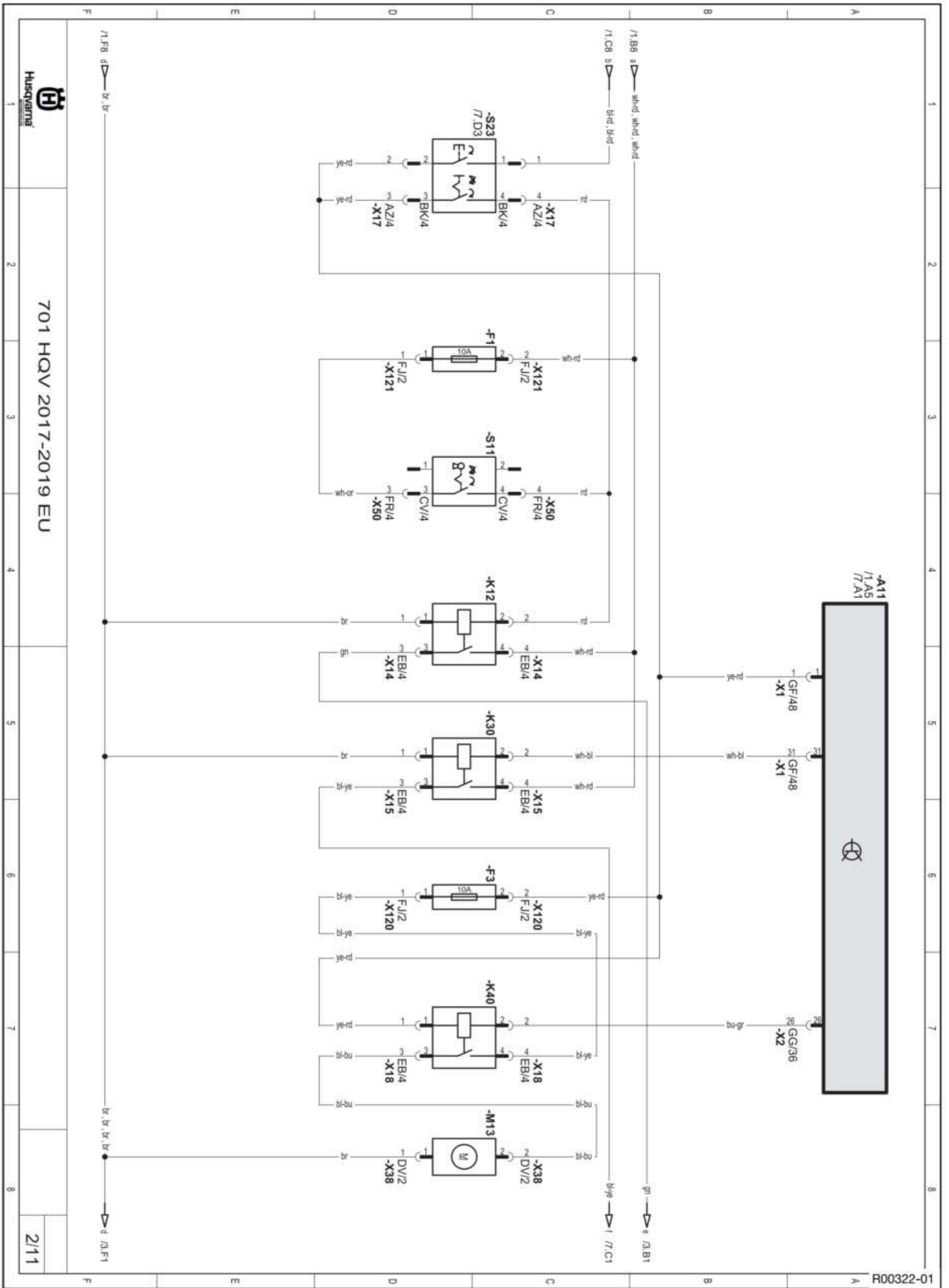
- One-time interval
- Periodic interval



701 HQV 2017-2019 EU

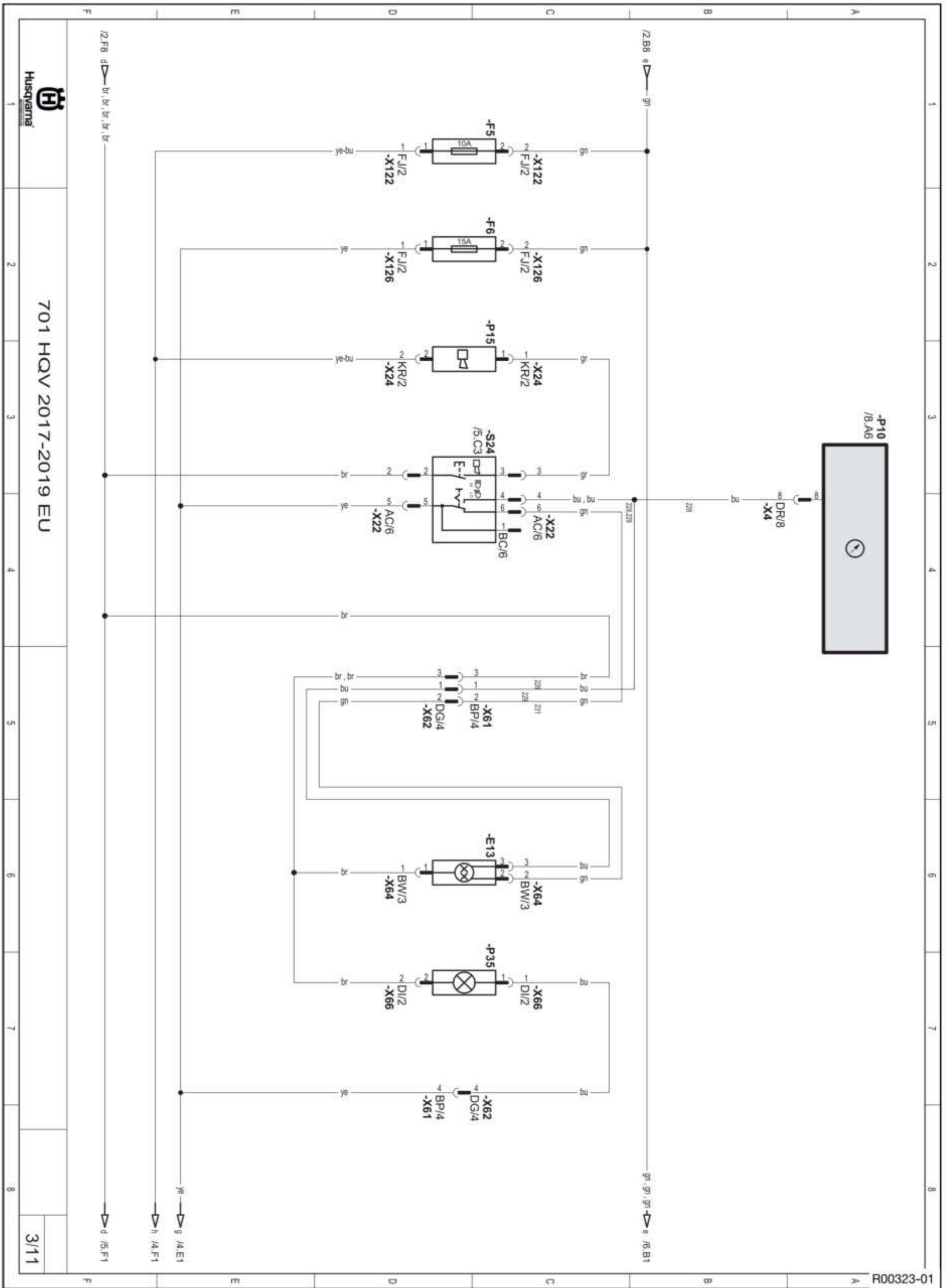
Components:

A11	Engine electronics control unit
F7	Fuse
G10	12-V battery
G20	Alternator
K10	Starter relay with main fuse
K11	Start auxiliary relay
M10	Electric starter system
T20	Voltage regulator
X291	Connector for accessory ground (terminal 31) ACC 1 (not assigned)
X292	Connector for accessory plus (terminal 30) ACC 1 (not assigned)



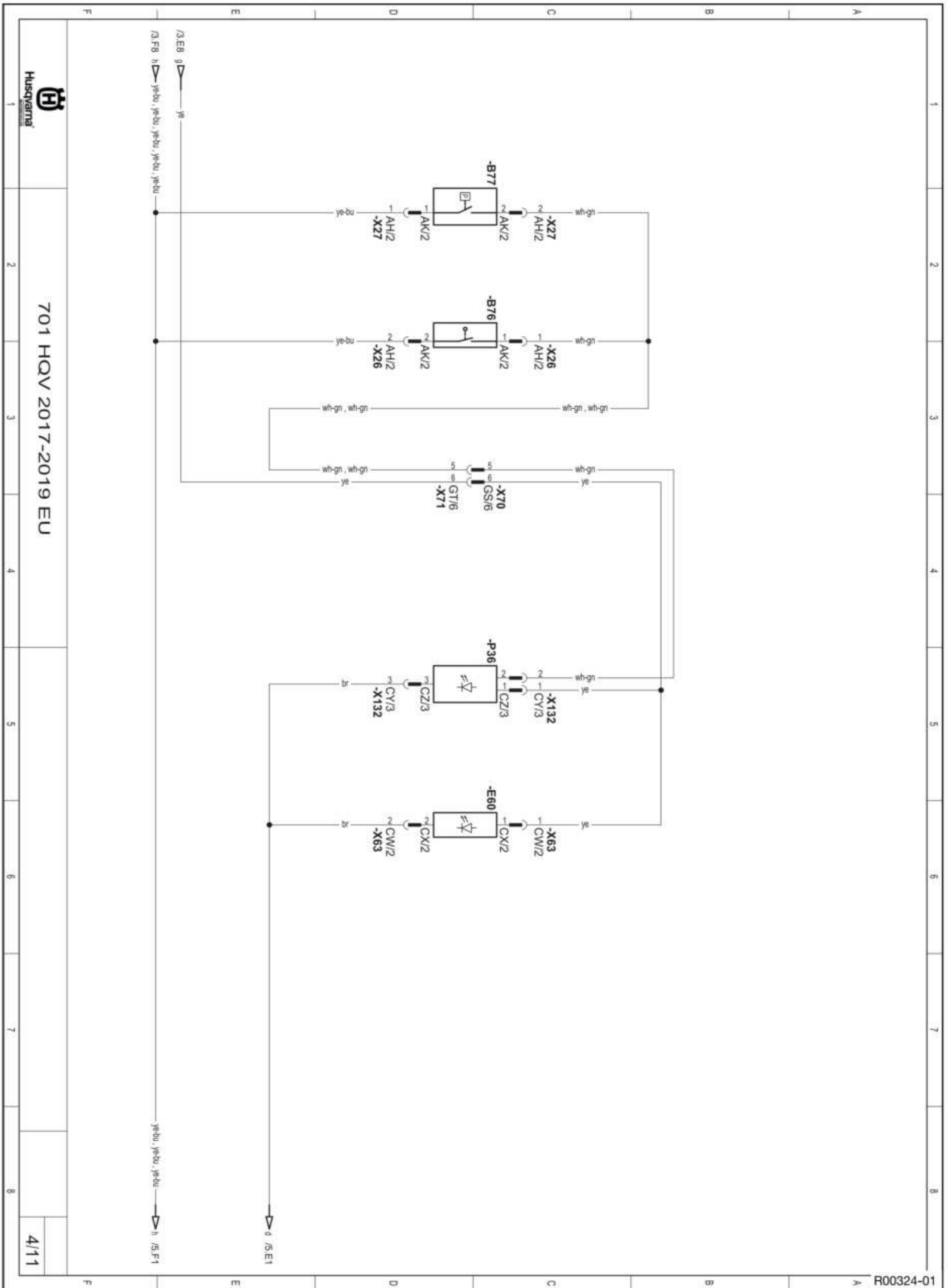
Components:

A11	Engine electronics control unit
F1	Fuse
F3	Fuse
K12	Light relay
K30	Power relay
K40	Fuel pump relay
M13	Fuel pump
S11	Ignition and steering lock
S23	Emergency OFF switch, tip switch



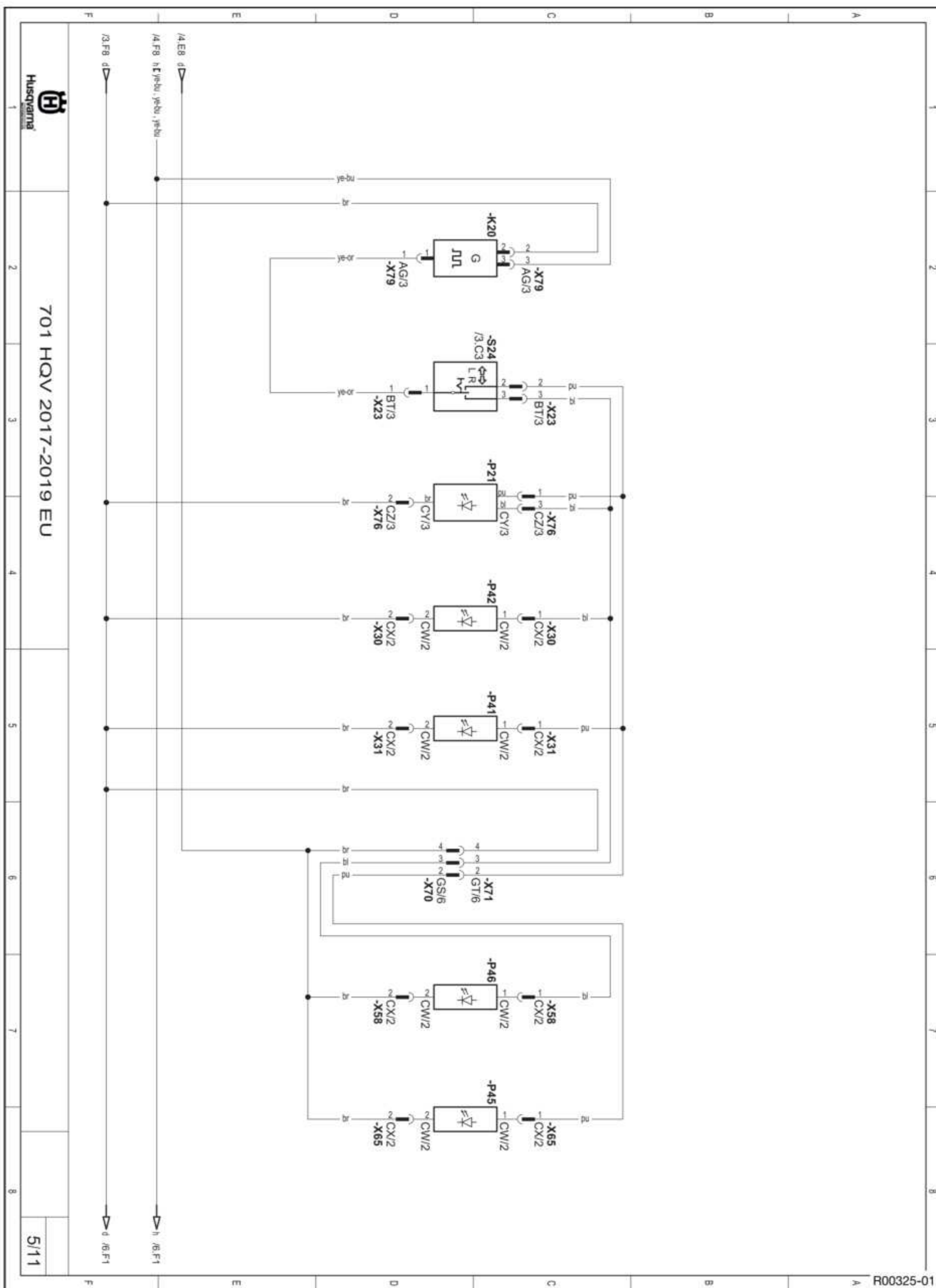
Components:

E13	Low beam, high beam
F5	Fuse
F6	Fuse
P10	Combination instrument
P15	Horn
P35	Parking light
S24	Light switch, horn button, high beam flasher button, turn signal switch



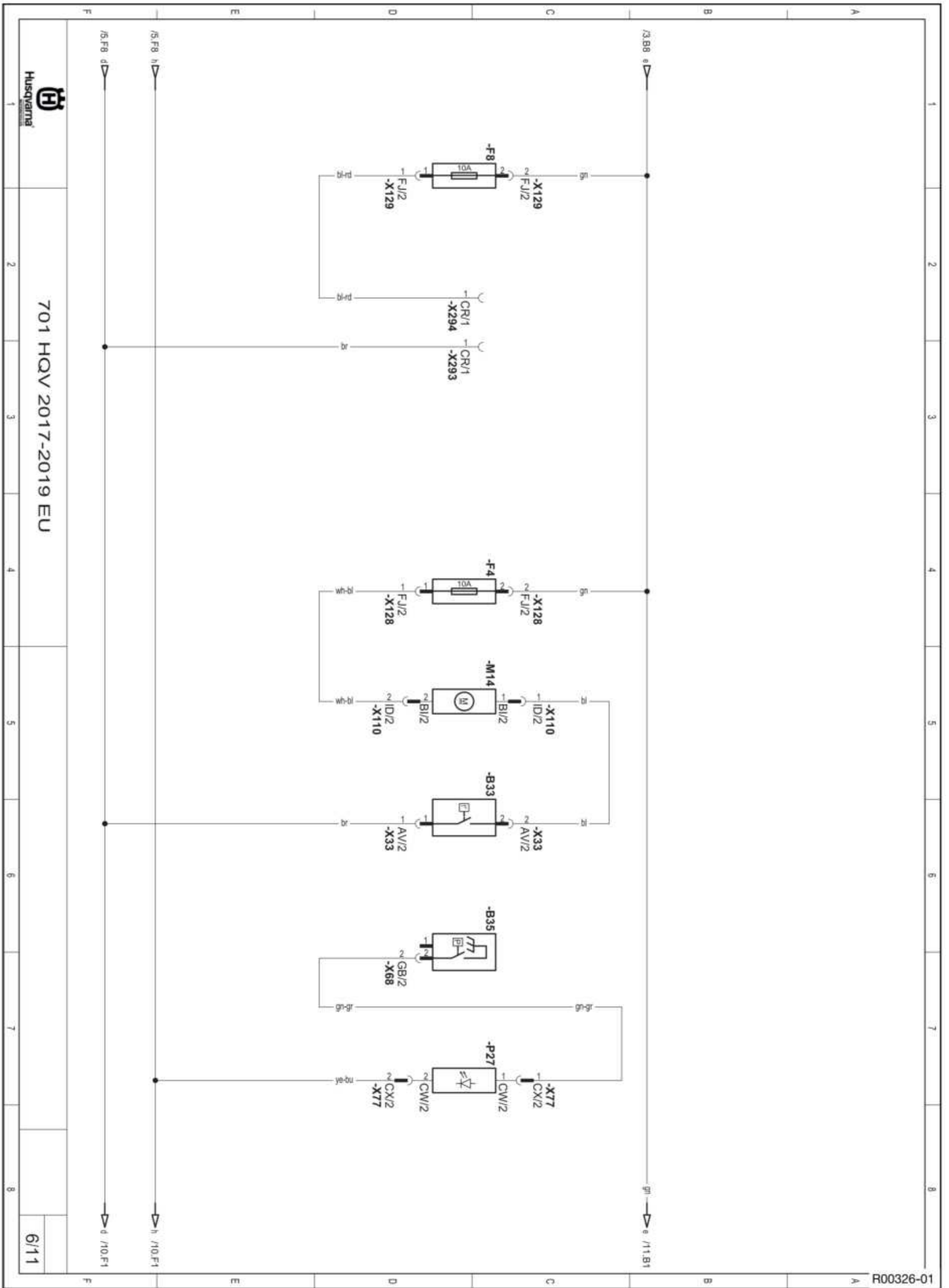
Components:

B76	Front brake light switch
B77	Rear brake light switch
E60	License plate lamp
P36	Brake/tail light



Components:

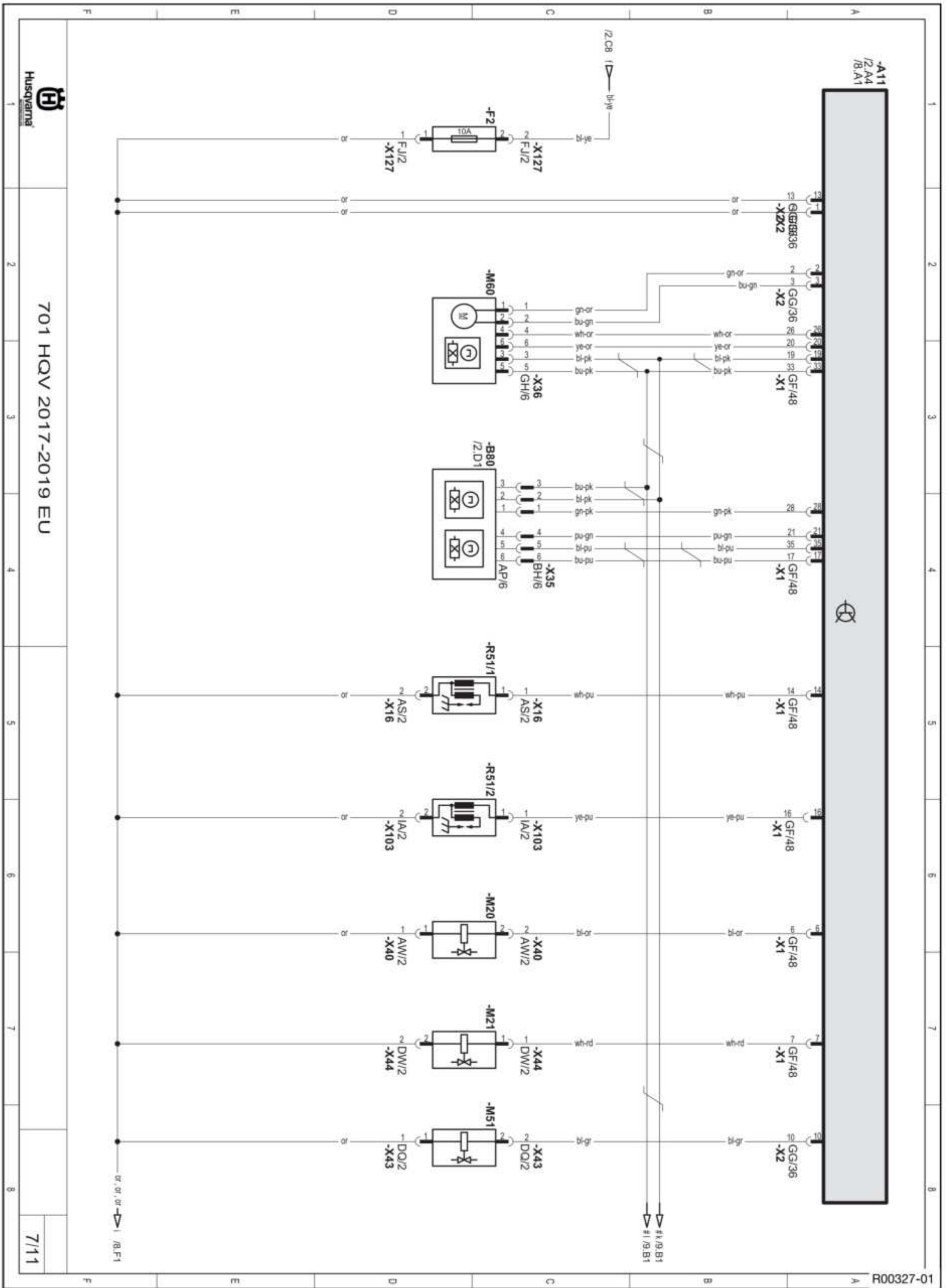
K20	Turn signal relay
P21	Turn signal indicator lamp
P41	Turn signal, front left
P42	Turn signal, front right
P45	Turn signal, rear left
P46	Turn signal, rear right
S24	Light switch, horn button, high beam flasher button, turn signal switch



R00326-01

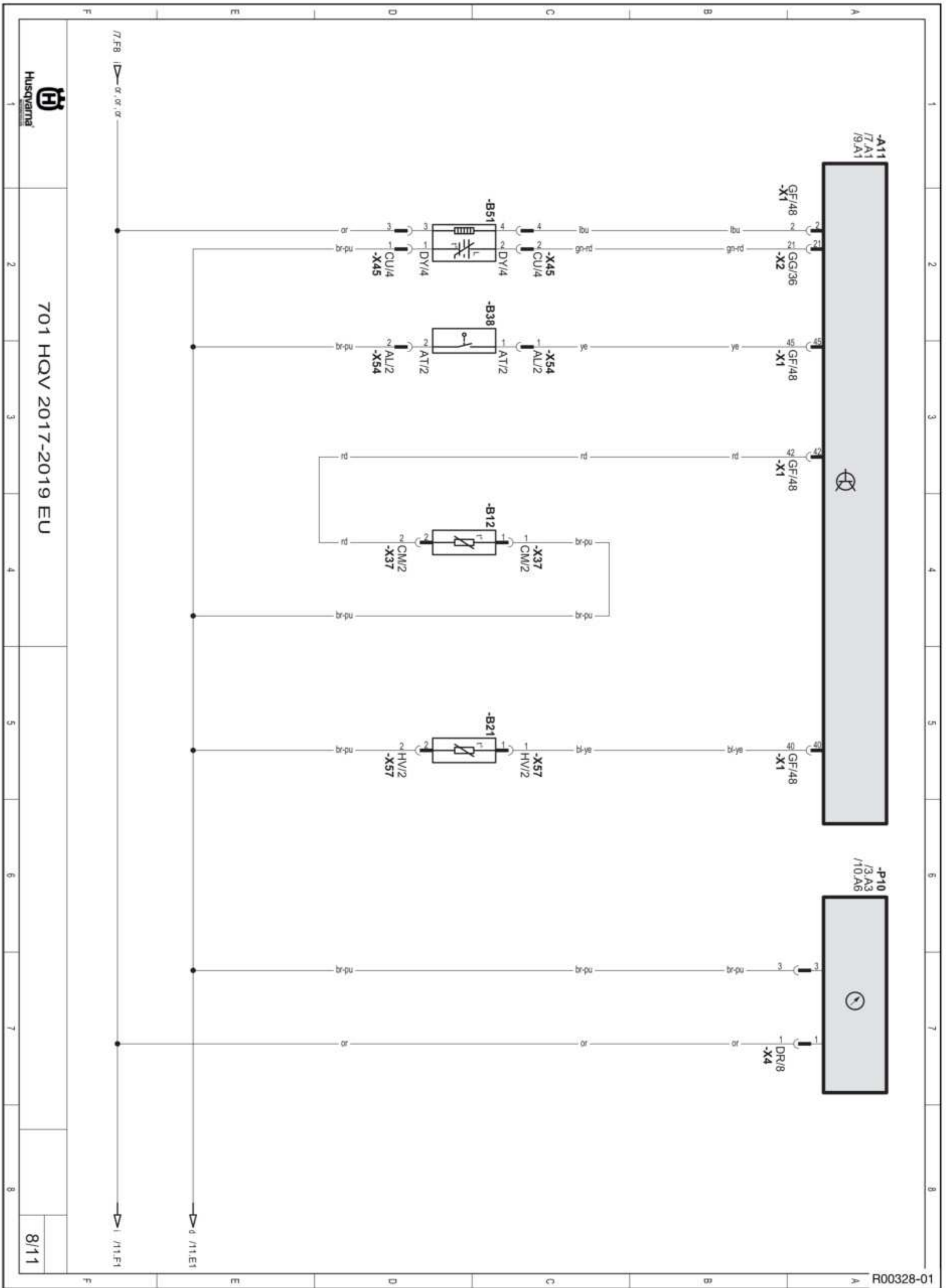
Components:

B33	Radiator fan temperature switch
B35	Oil pressure sensor
F4	Fuse
F8	Fuse
M14	Radiator fan
P27	Oil pressure warning lamp
X293	Connector for accessory ground (terminal 31) ACC 2 (not assigned)
X294	Connector for accessory plus (terminal 15) ACC 2 (not assigned)



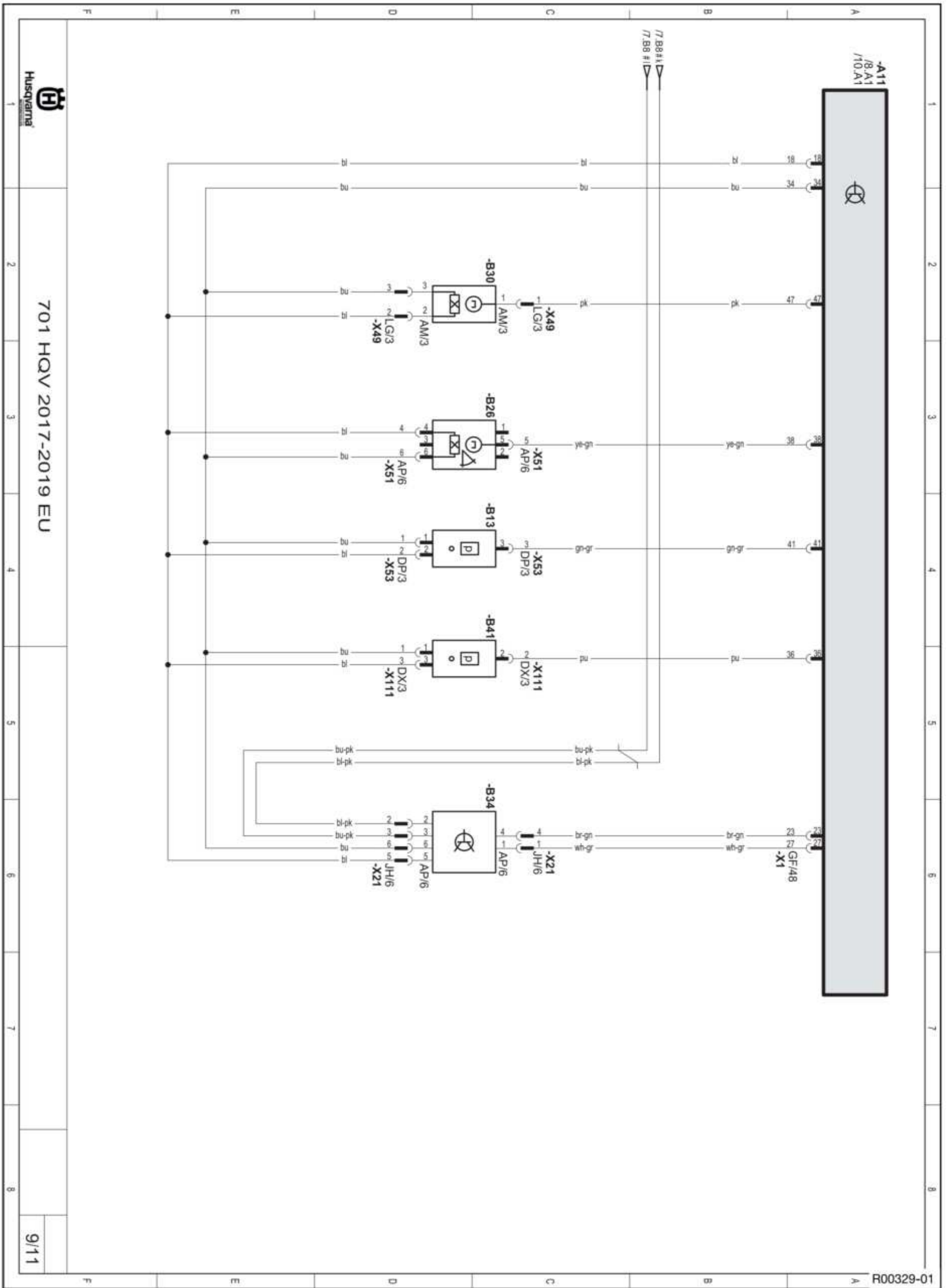
Components:

A11	Engine electronics control unit
B80	Throttle grip
F2	Fuse
M20	Evaporate emission control valve
M21	Secondary air system valve
M51	Injection valve, cylinder 1
M60	Throttle valve actuator
R51/1	Ignition coil 1, (cylinder 1)
R51/2	Ignition coil 2, (cylinder 1)



Components:

A11	Engine electronics control unit
B12	Intake air temperature sensor
B21	Coolant temperature sensor, cylinder 1
B38	Clutch switch
B51	Lambda sensor (cylinder 1)
P10	Combination instrument

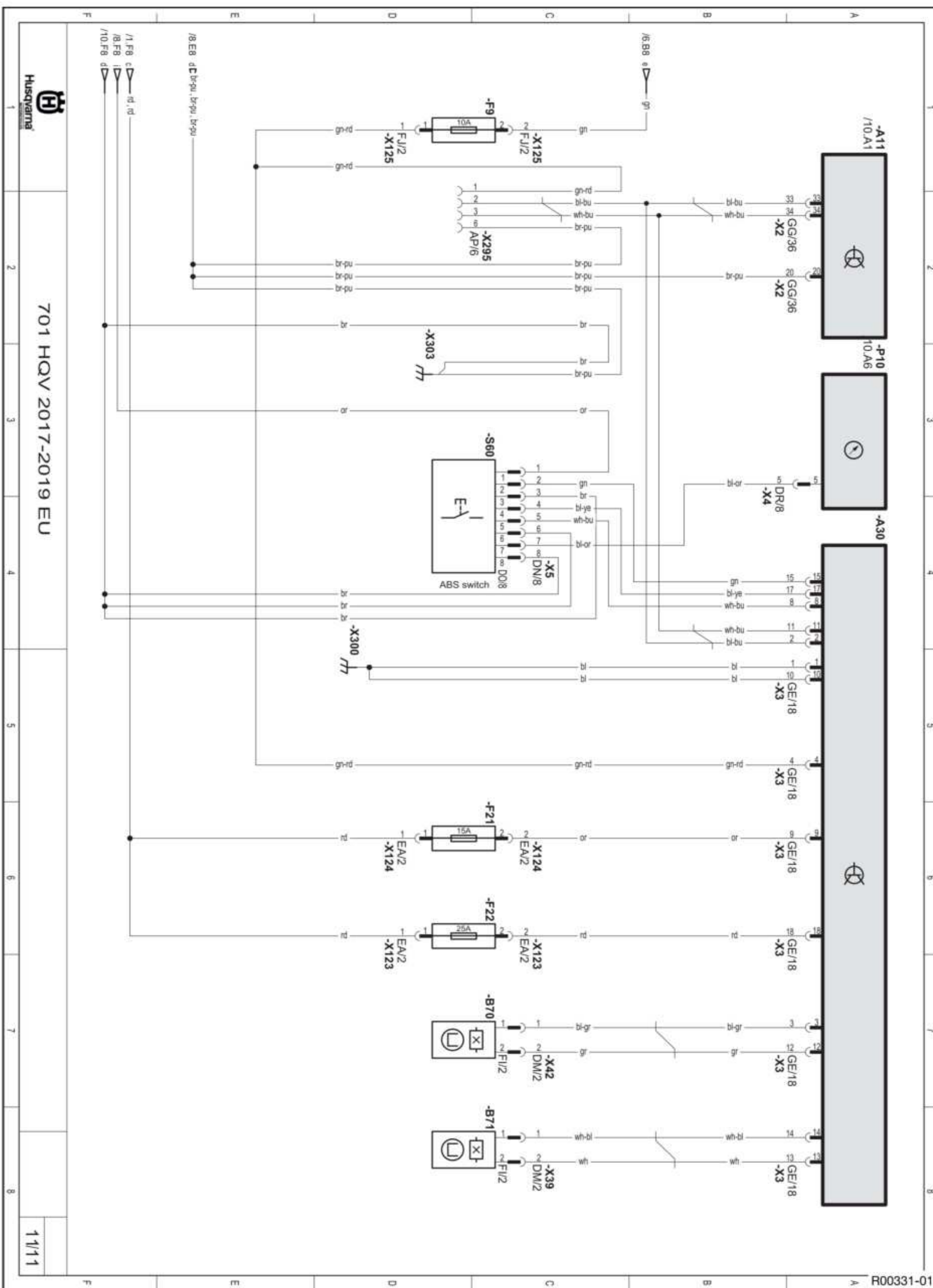


Components:

A11	Engine electronics control unit
B13	Ambient air pressure sensor
B26	Rollover sensor
B30	Side stand sensor
B34	Gear position sensor
B41	Induction manifold pressure sensor cylinder 1

Components:

- A11 Engine electronics control unit
- B32 Fuel level sensor
- B37 Crankshaft speed sensor
- P10 Combination instrument
- P22 Idle indicator lamp



701 HQV 2017-2019 EU

1/1/11

Components:

A11	Engine electronics control unit
A30	ABS control unit
B70	Front wheel speed sensor
B71	Rear wheel speed sensor
F9	Fuse
F21	ABS fuse
F22	ABS fuse
P10	Combination instrument
S60	ABS switch
X295	Diagnostics connector

Cable colors:

bl	Black
br	Brown
bu	Blue
gn	Green
gr	Gray
lbu	Light blue
or	Orange
pk	Pink
pu	Violet
rd	Red
wh	White
ye	Yellow

Components:

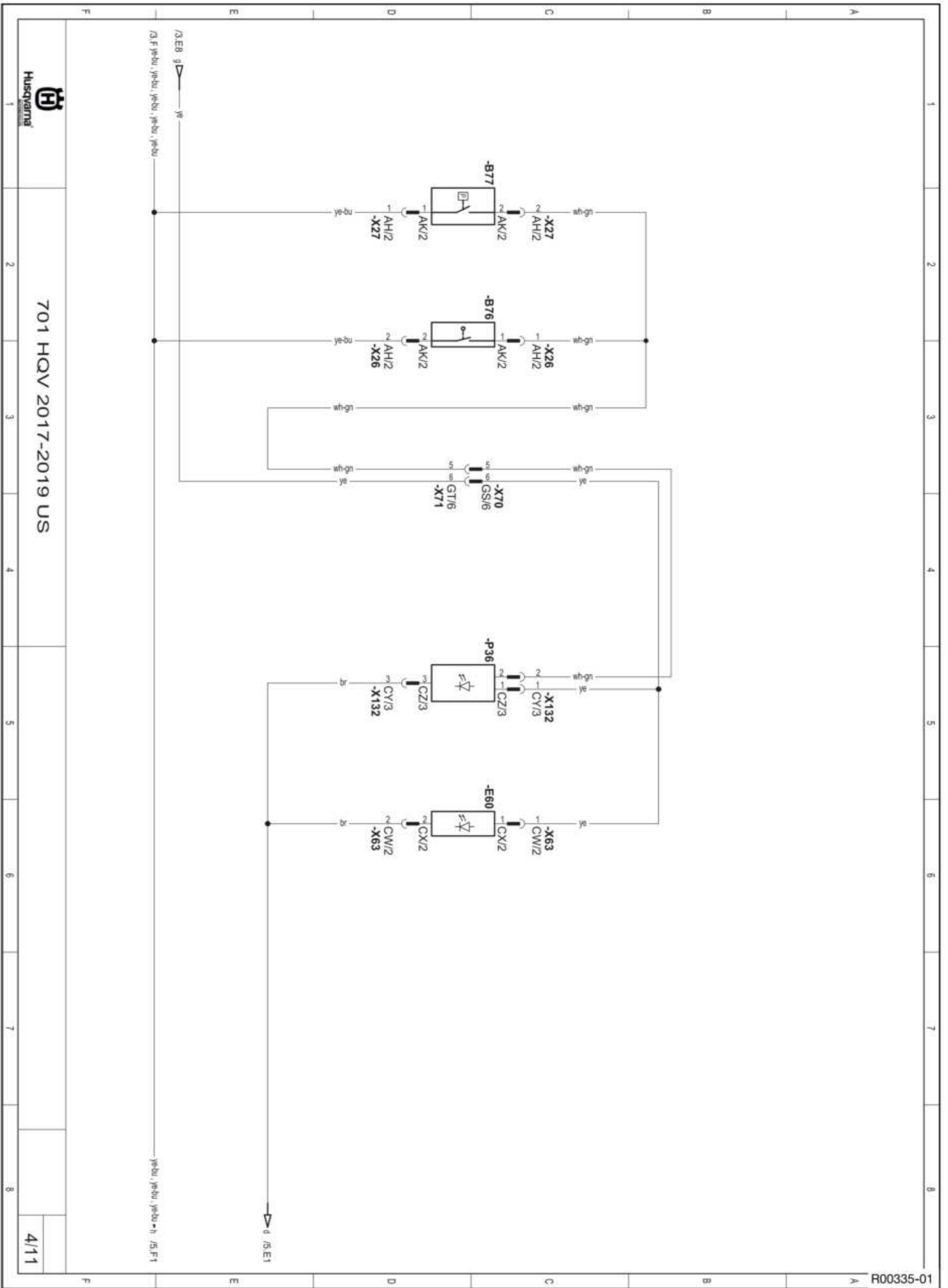
A11	Engine electronics control unit
F7	Fuse
G10	12-V battery
G20	Alternator
K10	Starter relay with main fuse
K11	Start auxiliary relay
M10	Electric starter system
T20	Voltage regulator
X291	Connector for accessory ground (terminal 31) ACC 1 (not assigned)
X292	Connector for accessory plus (terminal 30) ACC 1 (not assigned)

Components:

A11	Engine electronics control unit
F1	Fuse
F3	Fuse
K12	Light relay
K30	Power relay
K40	Fuel pump relay
M13	Fuel pump
S11	Ignition and steering lock
S23	Emergency OFF switch, tip switch

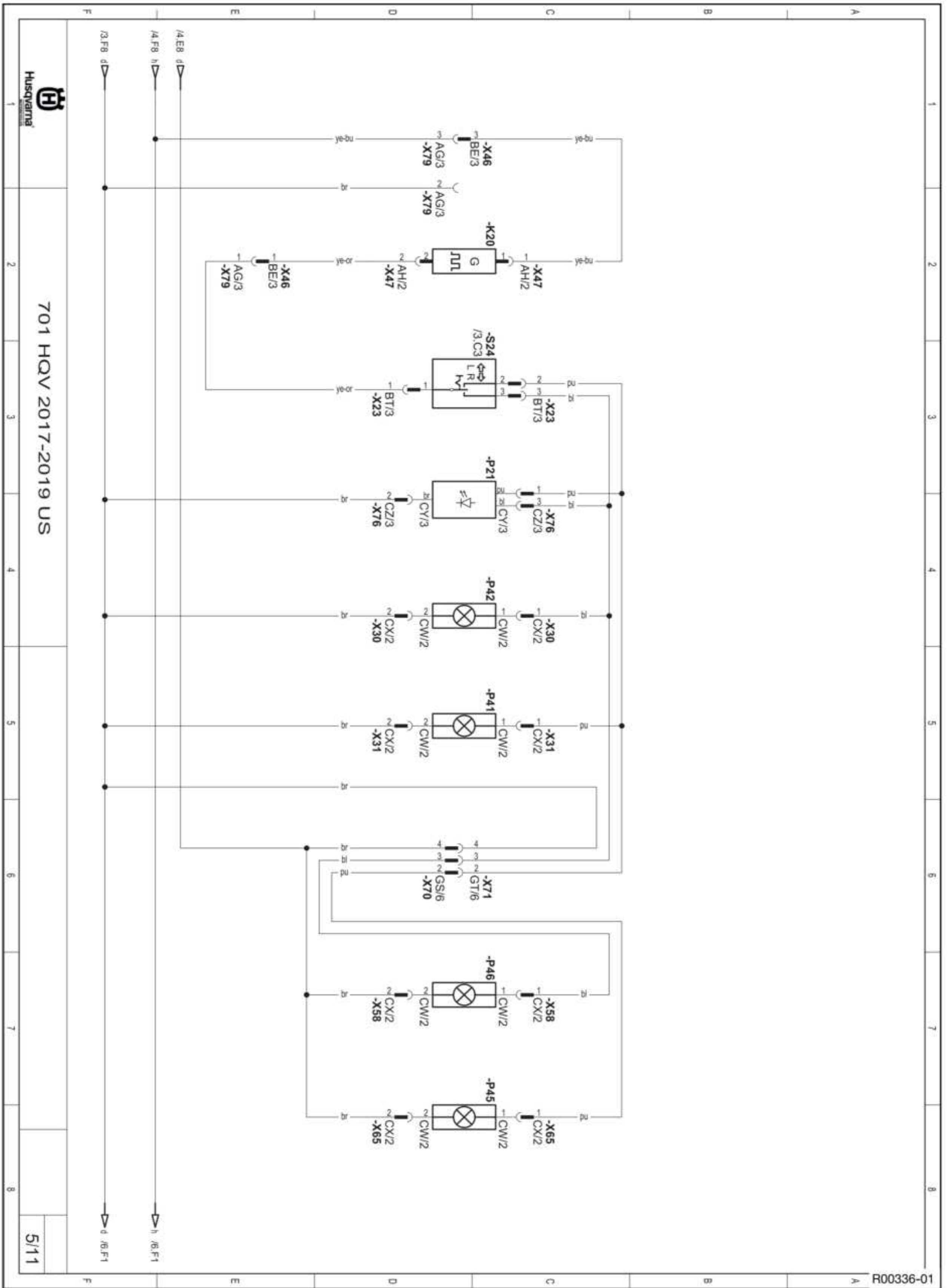
Components:

E13	Low beam, high beam
F5	Fuse
F6	Fuse
P10	Combination instrument
P15	Horn
P35	Parking light
S24	Light switch, horn button, high beam flasher button, turn signal switch



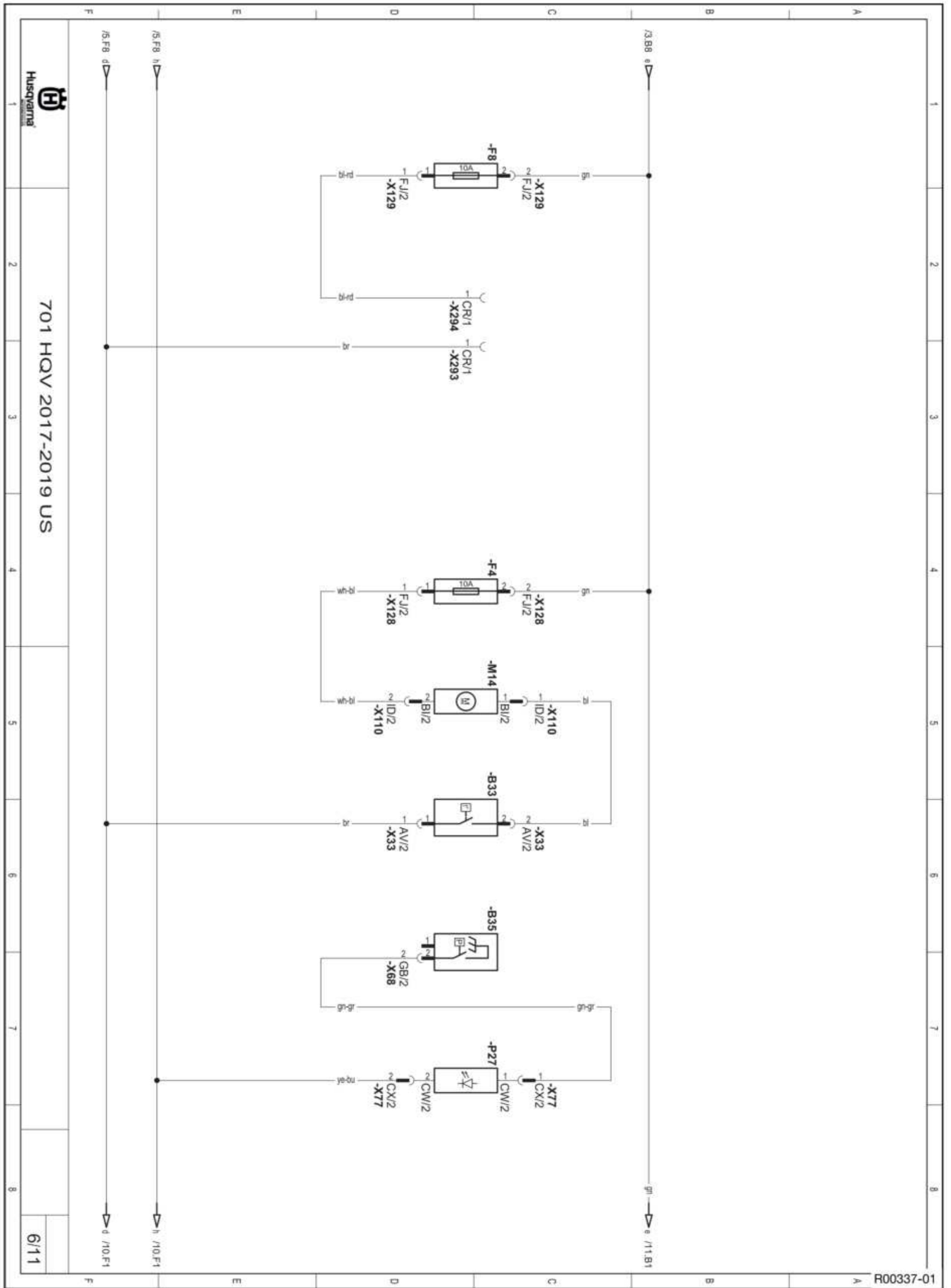
Components:

B76	Front brake light switch
B77	Rear brake light switch
E60	License plate lamp
P36	Brake/tail light



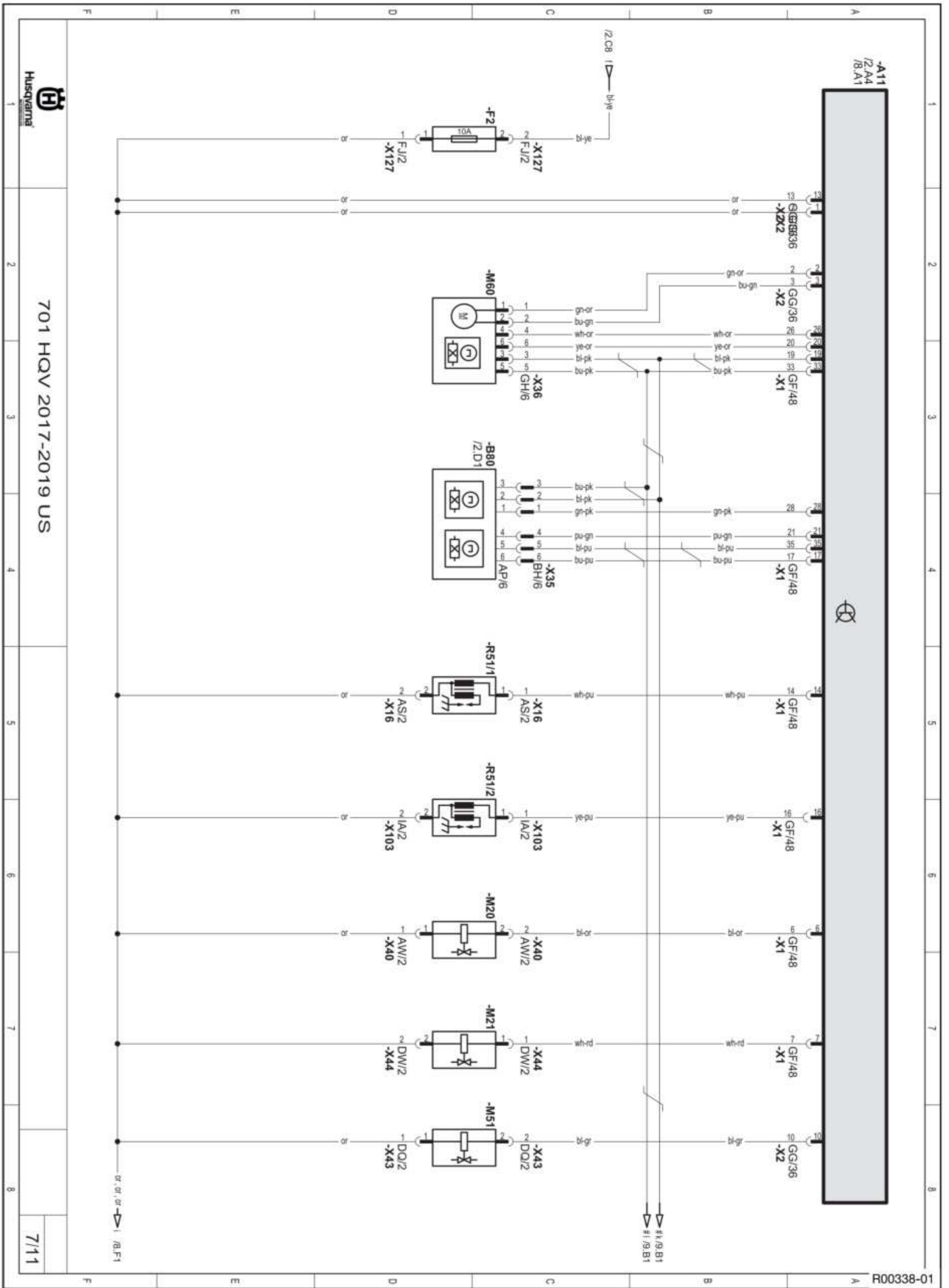
Components:

K20	Turn signal relay
P21	Turn signal indicator lamp
P41	Turn signal, front left
P42	Turn signal, front right
P45	Turn signal, rear left
P46	Turn signal, rear right
S24	Light switch, horn button, high beam flasher button, turn signal switch



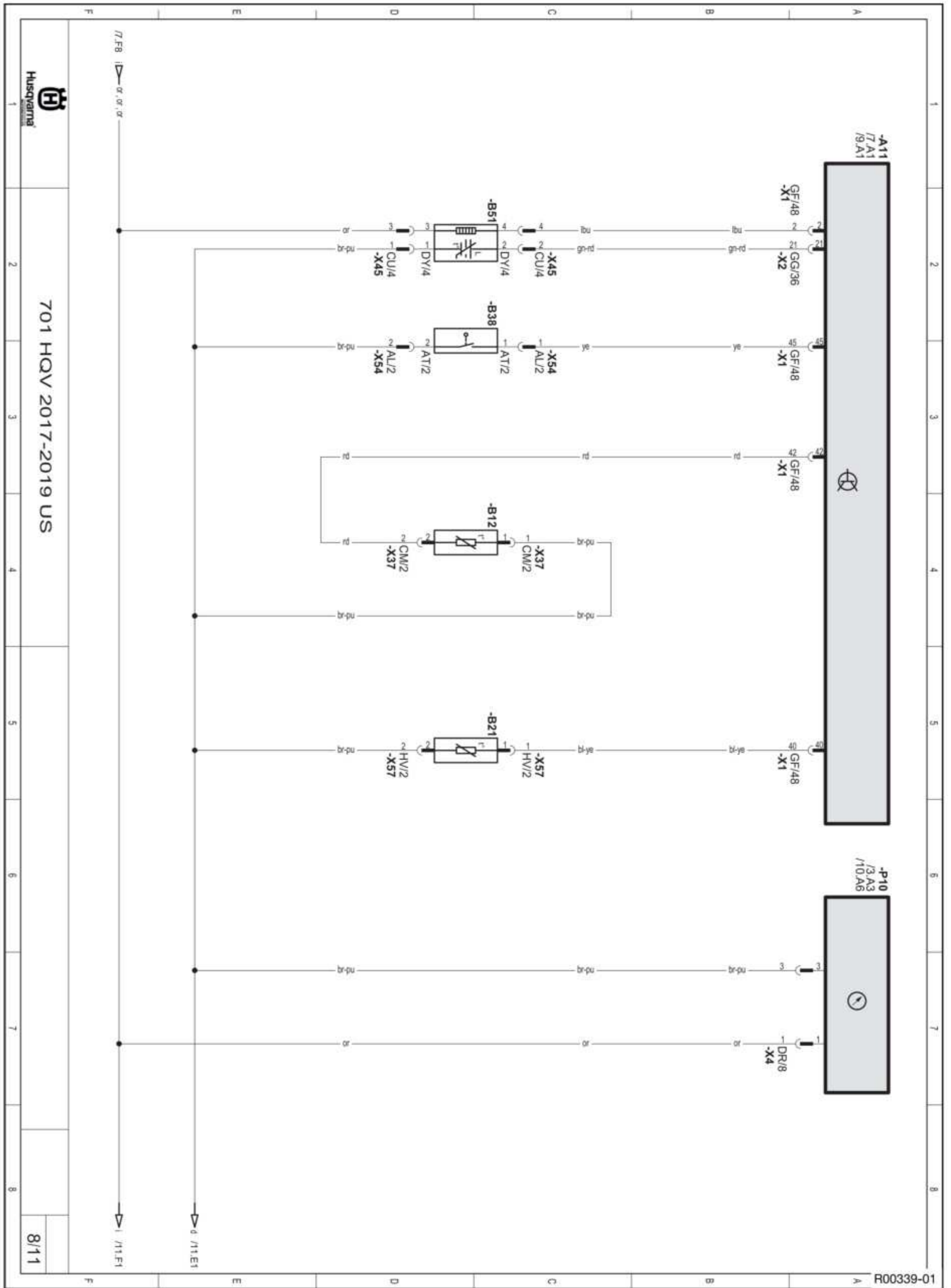
Components:

B33	Radiator fan temperature switch
B35	Oil pressure sensor
F4	Fuse
F8	Fuse
M14	Radiator fan
P27	Oil pressure warning lamp
X293	Connector for accessory ground (terminal 31) ACC 2 (not assigned)
X294	Connector for accessory plus (terminal 15) ACC 2 (not assigned)



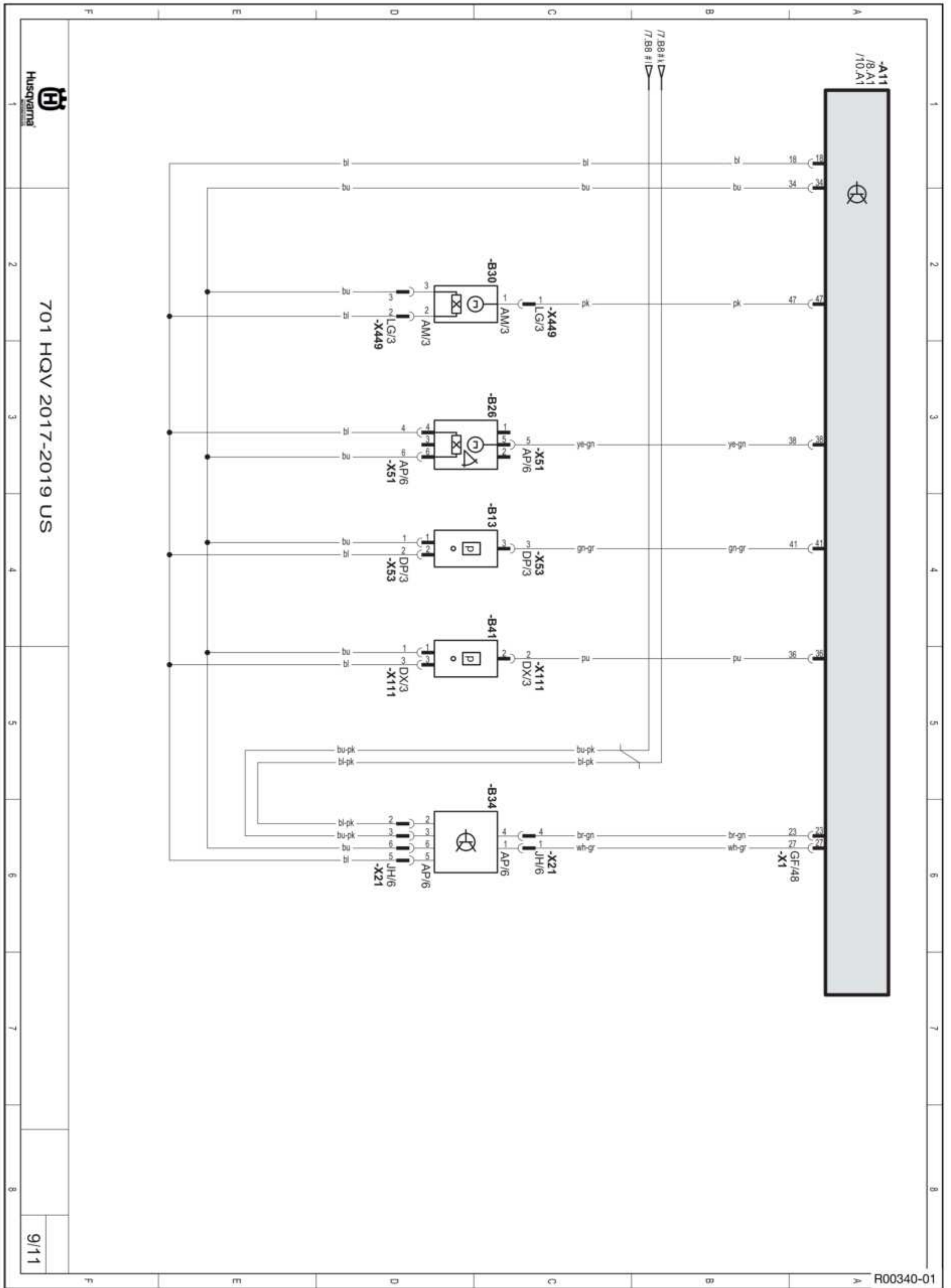
Components:

A11	Engine electronics control unit
B80	Throttle grip
F2	Fuse
M20	Evaporate emission control valve
M21	Secondary air system valve
M51	Injection valve, cylinder 1
M60	Throttle valve actuator
R51/1	Ignition coil 1, (cylinder 1)
R51/2	Ignition coil 2, (cylinder 1)



Components:

A11	Engine electronics control unit
B12	Intake air temperature sensor
B21	Coolant temperature sensor, cylinder 1
B38	Clutch switch
B51	Lambda sensor (cylinder 1)
P10	Combination instrument

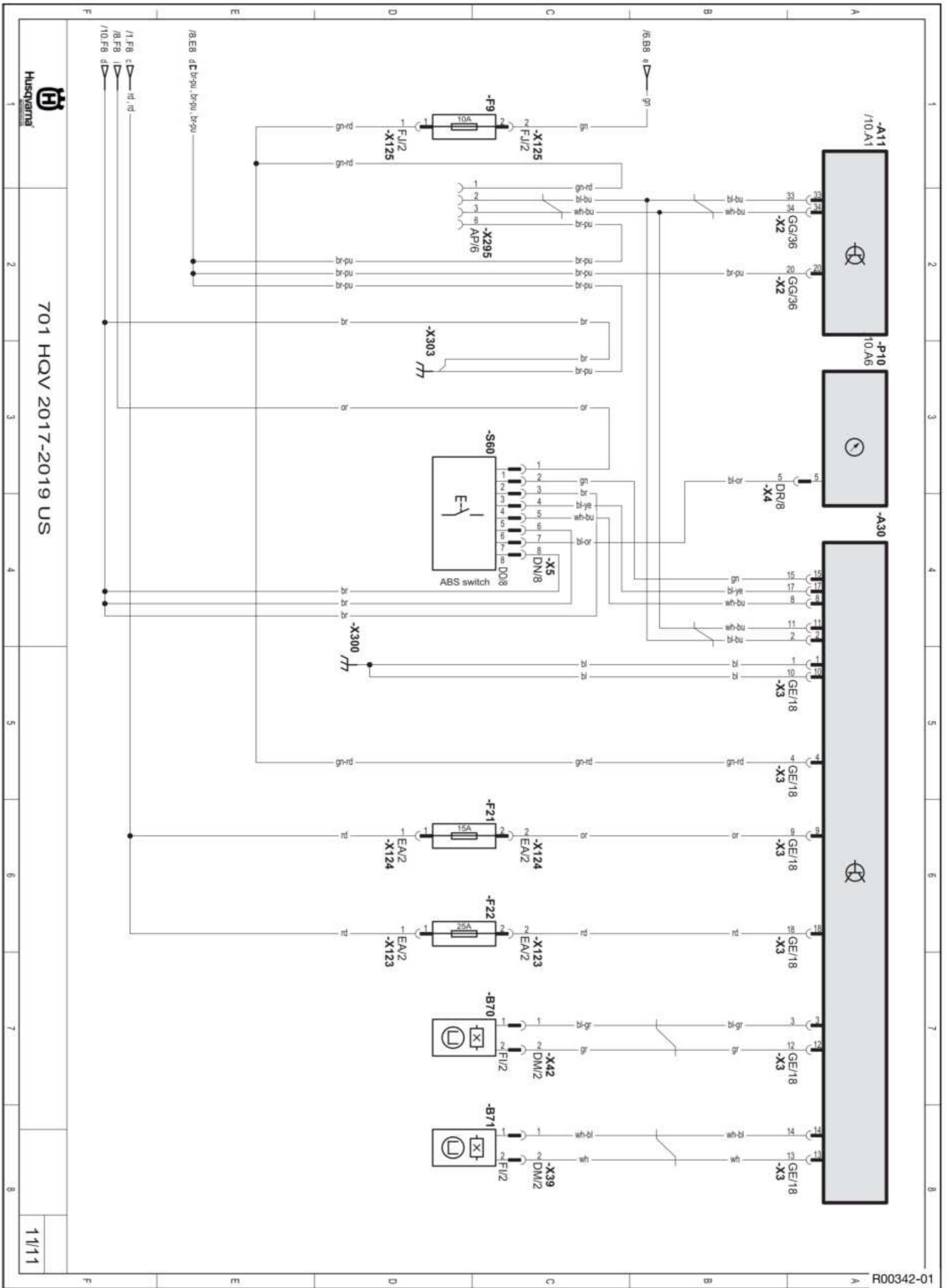


Components:

A11	Engine electronics control unit
B13	Ambient air pressure sensor
B26	Rollover sensor
B30	Side stand sensor
B34	Gear position sensor
B41	Induction manifold pressure sensor cylinder 1

Components:

A11	Engine electronics control unit
B32	Fuel level sensor
B37	Crankshaft speed sensor
P10	Combination instrument
P22	Idle indicator lamp



Components:

A11	Engine electronics control unit
A30	ABS control unit
B70	Front wheel speed sensor
B71	Rear wheel speed sensor
F9	Fuse
F21	ABS fuse
F22	ABS fuse
P10	Combination instrument
S60	ABS switch
X295	Diagnostics connector

Cable colors:

bl	Black
br	Brown
bu	Blue
gn	Green
gr	Gray
lbu	Light blue
or	Orange
pk	Pink
pu	Violet
rd	Red
wh	White
ye	Yellow

Brake fluid DOT 4 / DOT 5.1

Standard/classification

- DOT

Guideline

- Use only brake fluid that complies with the specified standard (see specifications on the container) and that exhibits the corresponding properties.

Recommended supplier

Castrol

- REACT PERFORMANCE DOT 4

MOTOREX®

- Brake Fluid DOT 5.1

Coolant

Guideline

- Only use high-grade, silicate-free coolant with corrosion inhibitor additive for aluminum motors. Low grade and unsuitable antifreeze causes corrosion, deposits and frothing.
- Do not use pure water as only coolant is able to meet the requirements needed in terms of corrosion protection and lubrication properties.
- Only use coolant that complies with the requirements stated (see specifications on the container) and that has the relevant properties.

Antifreeze protection to at least	-25 °C (-13 °F)
-----------------------------------	-----------------

The mixture ratio must be adjusted to the necessary antifreeze protection. Use distilled water if the coolant needs to be diluted.

The use of premixed coolant is recommended.

Observe the coolant manufacturer specifications for antifreeze protection, dilution and miscibility (compatibility) with other coolants.

Recommended supplier

MOTOREX®

- COOLANT M3.0

Engine oil (SAE 10W/50)

Standard/classification

- JASO T903 MA2 (📖 p. 400)
- SAE (📖 p. 400) (SAE 10W/50)

Guideline

- Use only engine oils that comply with the specified standards (see specifications on the container) and that possess the corresponding properties.

Fully synthetic engine oil

Recommended supplier

MOTOREX®

- Power Synt 4T

Fork oil (SAE 4) (48601166S1)**Standard/classification**

- SAE (📖 p. 400) (SAE 4)

Guideline

- Use only oils that comply with the specified standards (see specifications on the container) and that exhibit the corresponding properties.

Shock absorber fluid (SAE 2.5) (50180751S1)**Standard/classification**

- SAE (📖 p. 400) (SAE 2.5)

Guideline

- Use only oils that comply with the specified standards (see specifications on the container) and that exhibit the corresponding properties.

Super unleaded (ROZ 95/RON 95/PON 91)**Standard/classification**

- DIN EN 228 (ROZ 95/RON 95/PON 91)

Guideline

- Only use unleaded super fuel that matches or is equivalent to the specified fuel grade.
- Fuel with an ethanol content of up to 10 % (E10 fuel) is safe to use.

**Info**

Do **not** use fuel containing methanol (e. g. M15, M85, M100) or more than 10 % ethanol (e. g. E15, E25, E85, E100).

Chain cleaner

Recommended supplier
MOTOREX®
– Chain Clean

High viscosity grease

Recommended supplier
SKF®
– LGHB 2

Long-life grease

Recommended supplier
MOTOREX®
– Bike Grease 2000

Lubricant (T14034)

Recommended supplier
WP Performance Systems
– WP Racing Grease IPR 2

Lubricant (T159)

Recommended supplier
Bel-Ray®
– MC-11®

Lubricant (T158)

Recommended supplier
Lubcon®
– Turmogrease® PP 300

Lubricant (T625)

Recommended supplier
Molykote®
– 33 Medium

Motorcycle cleaner

Recommended supplier
MOTOREX®
– Moto Clean

Perfect finish and high gloss polish for paints

Recommended supplier
MOTOREX®
– Moto Shine

Preserving materials for paints, metal and rubber

Recommended supplier

MOTOREX®

- Moto Protect

Street chain spray

Guideline

Recommended supplier

MOTOREX®

- Chainlube Road Strong

Universal oil spray

Recommended supplier

MOTOREX®

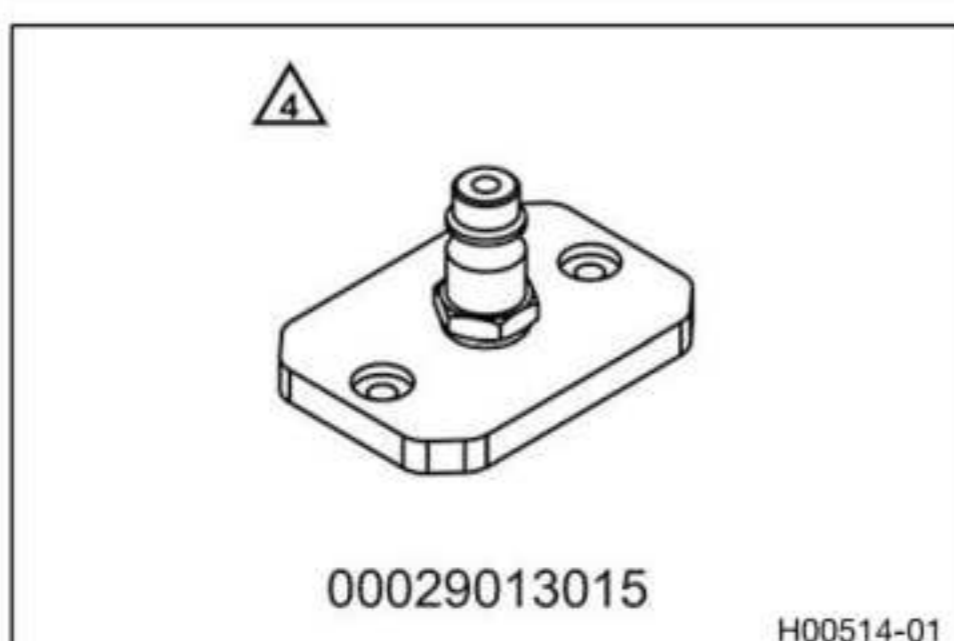
- Joker 440 Synthetic

Bleeder cover



Art. no.: 00029013004

Bleeder cover



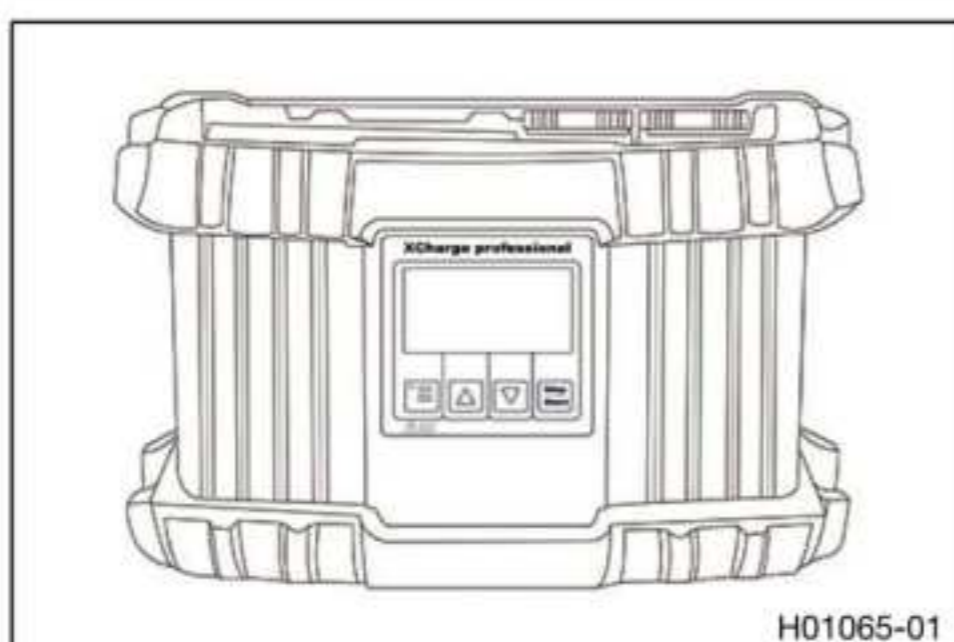
Art. no.: 00029013015

Bleeding device



Art. no.: 00029013100

EU battery charger XCharge-professional

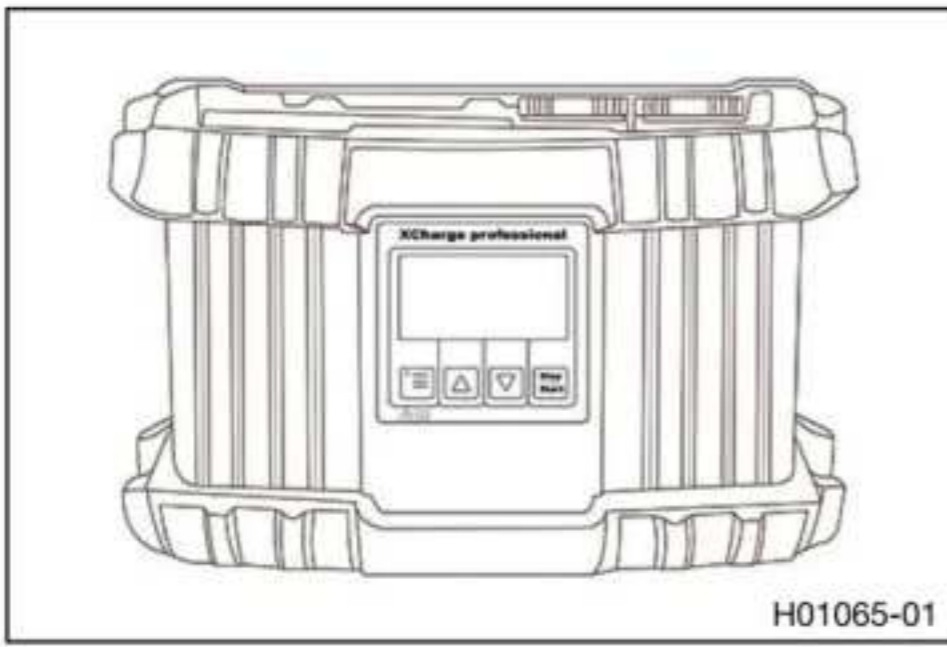


Art. no.: 00029095050

Feature

EU safety plug	
Nominal voltage	230 V
Mains fuse	16 A
Power cable length approx.	5 m (16 ft)
Charger cable length approx.	5 m (16 ft)

US battery charger XCharge-professional

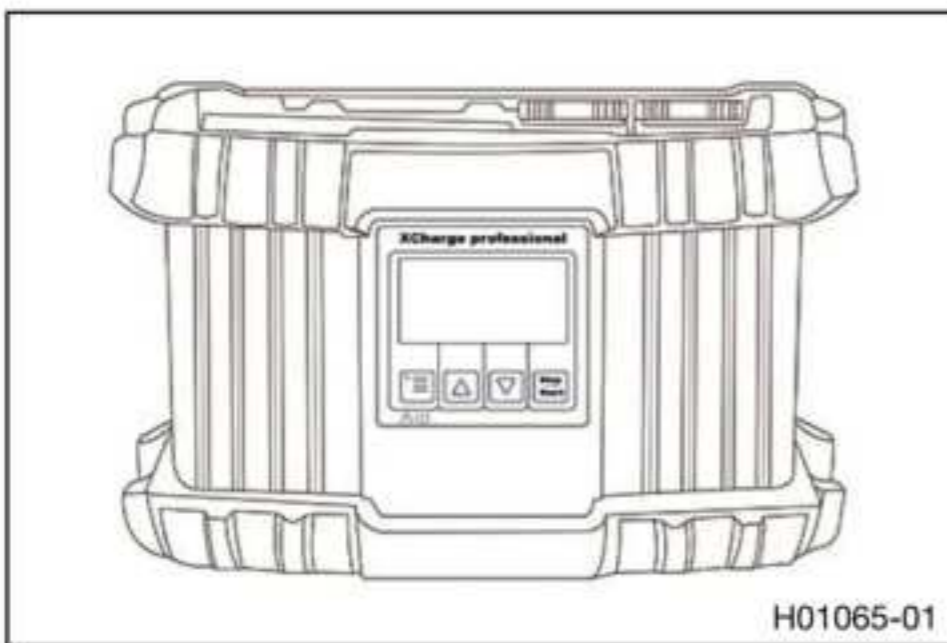


Art. no.: 00029095051

Feature

US plug	
Nominal voltage	120 V
Mains fuse	32 A
Power cable length approx.	5 m (16 ft)
Charger cable length approx.	5 m (16 ft)

UK battery charger XCharge-professional

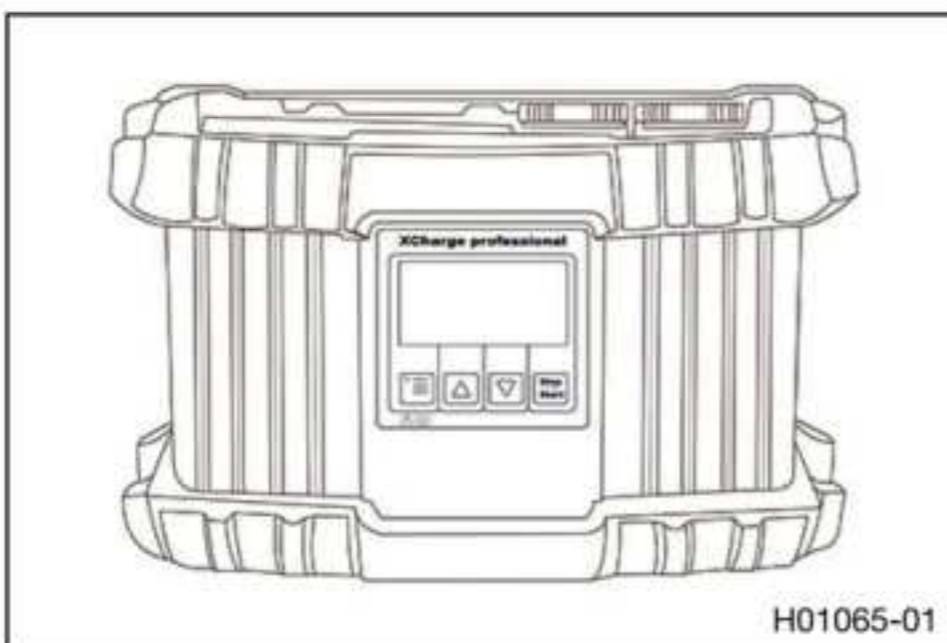


Art. no.: 00029095052

Feature

UK safety plug	
Nominal voltage	230 V
Mains fuse	16 A
Power cable length approx.	5 m (16 ft)
Charger cable length approx.	5 m (16 ft)

CH battery charger XCharge-professional

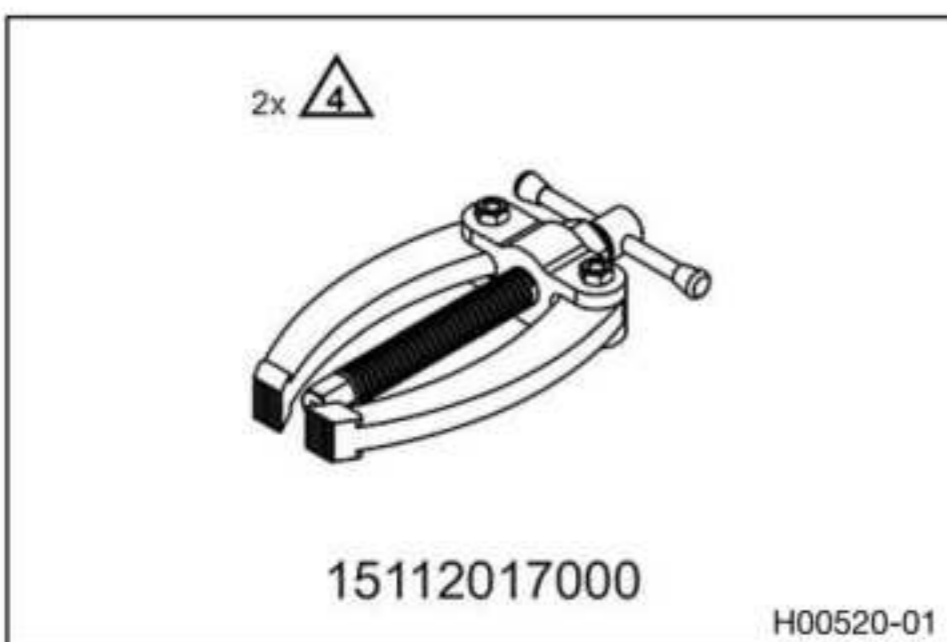


Art. no.: 00029095053

Feature

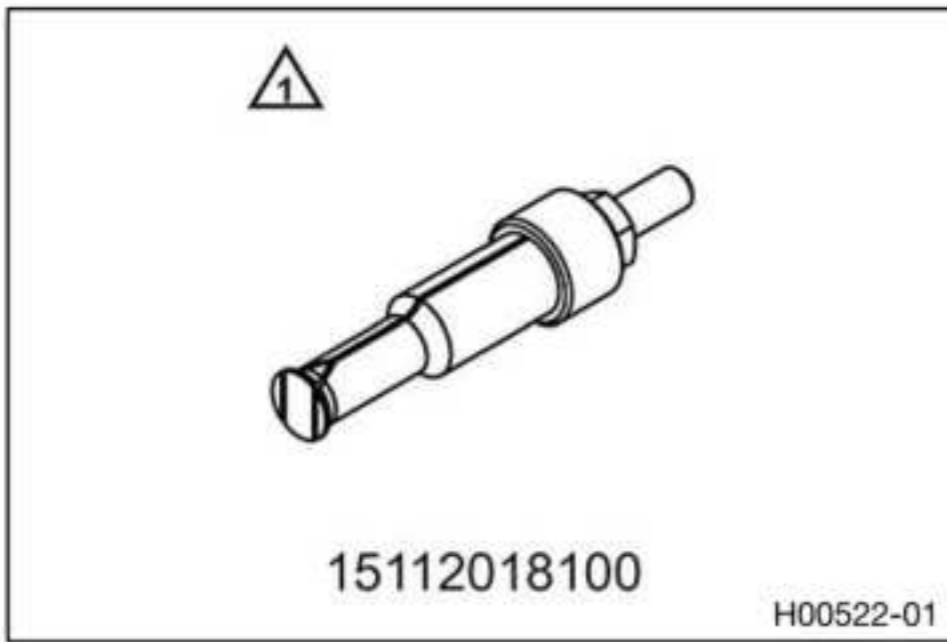
CH plug	
Nominal voltage	230 V
Mains fuse	16 A
Power cable length approx.	5 m (16 ft)
Charger cable length approx.	5 m (16 ft)

Bearing puller



Art. no.: 15112017000

Internal bearing puller

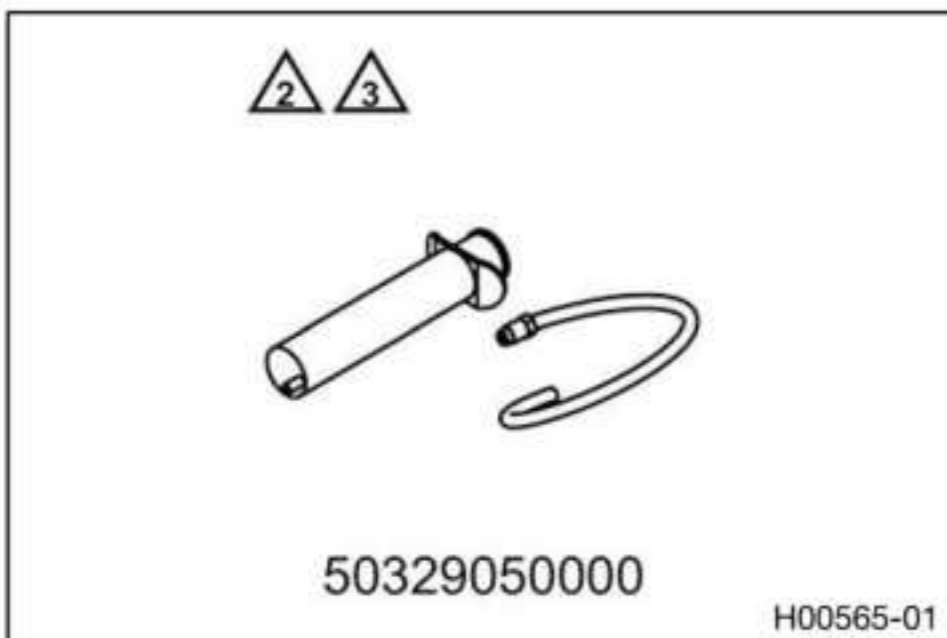


Art. no.: 15112018100

Feature

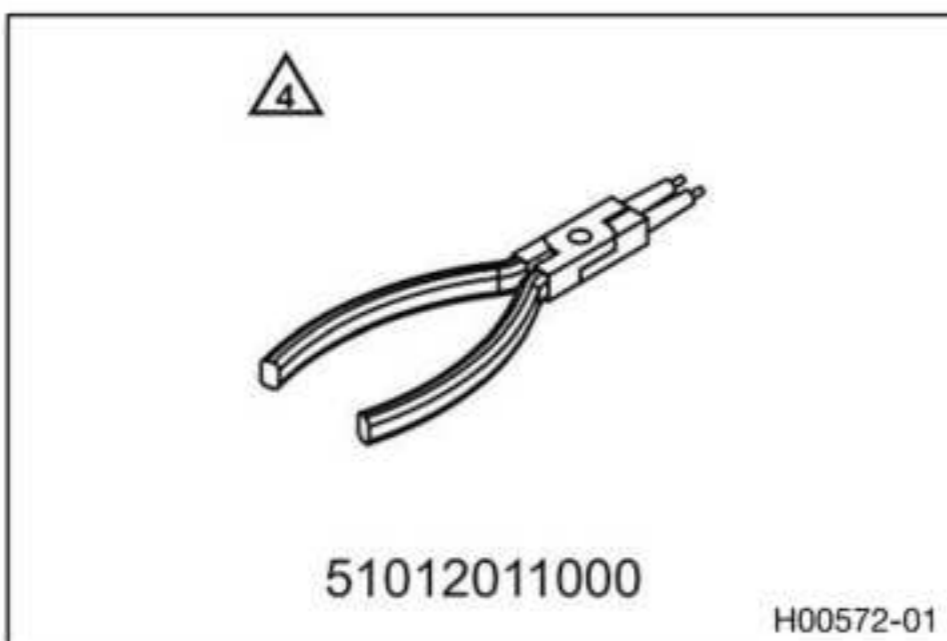
18 ... 23 mm (0.71 ... 0.91 in)

Syringe



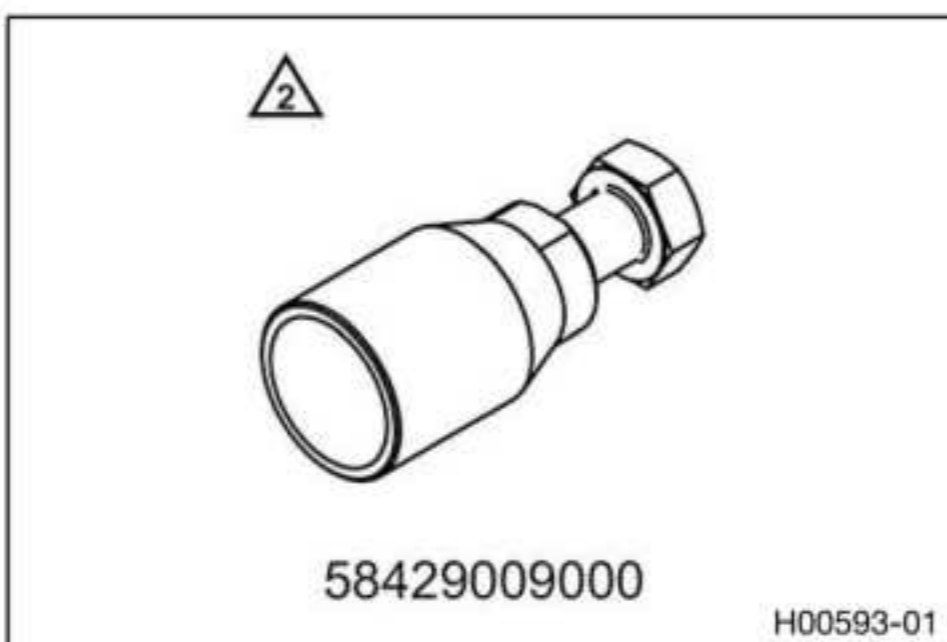
Art. no.: 50329050000

Lock ring plier



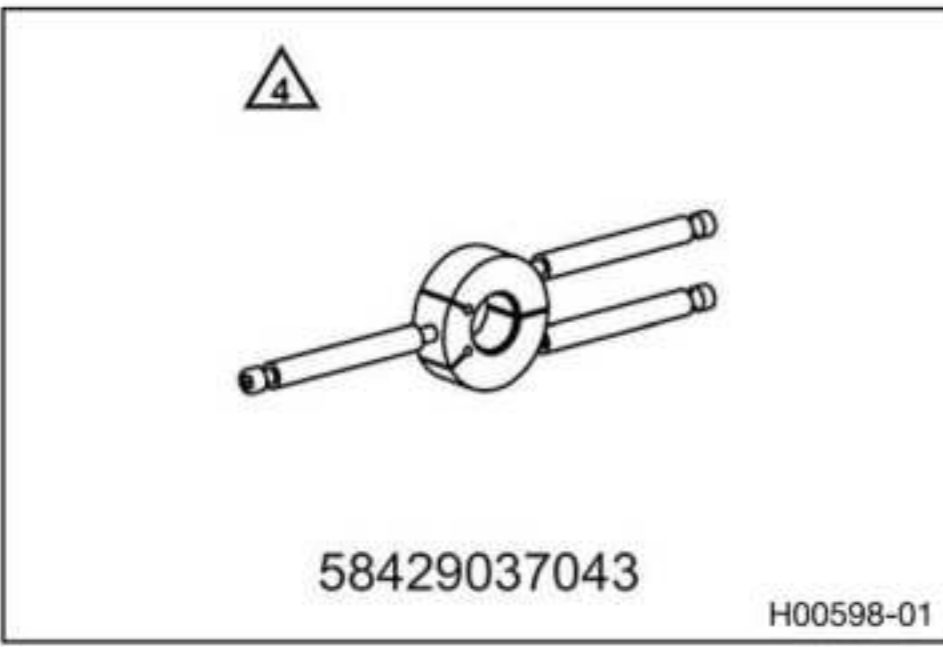
Art. no.: 51012011000

Puller



Art. no.: 58429009000

Puller

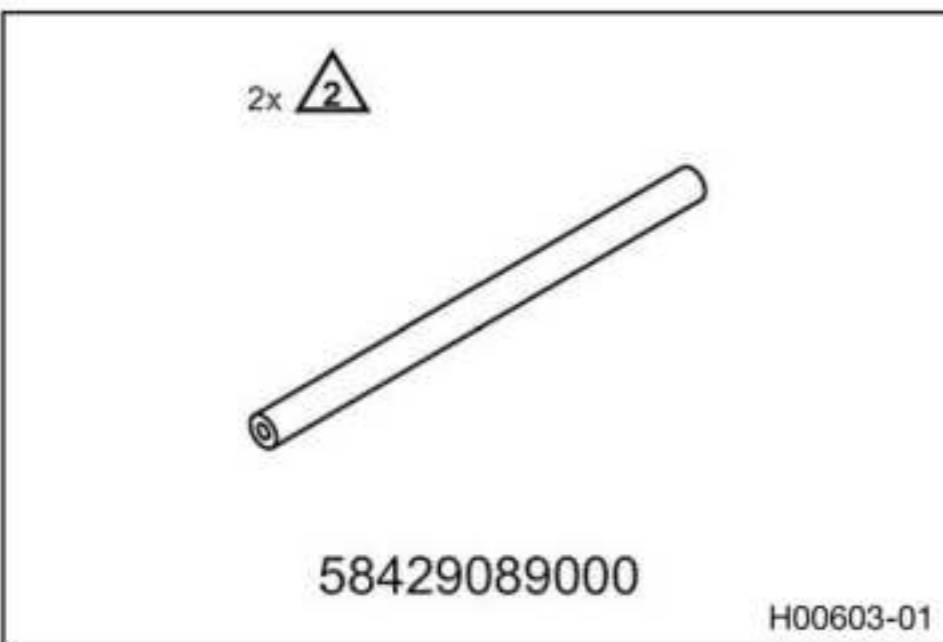


Art. no.: 58429037043

Feature

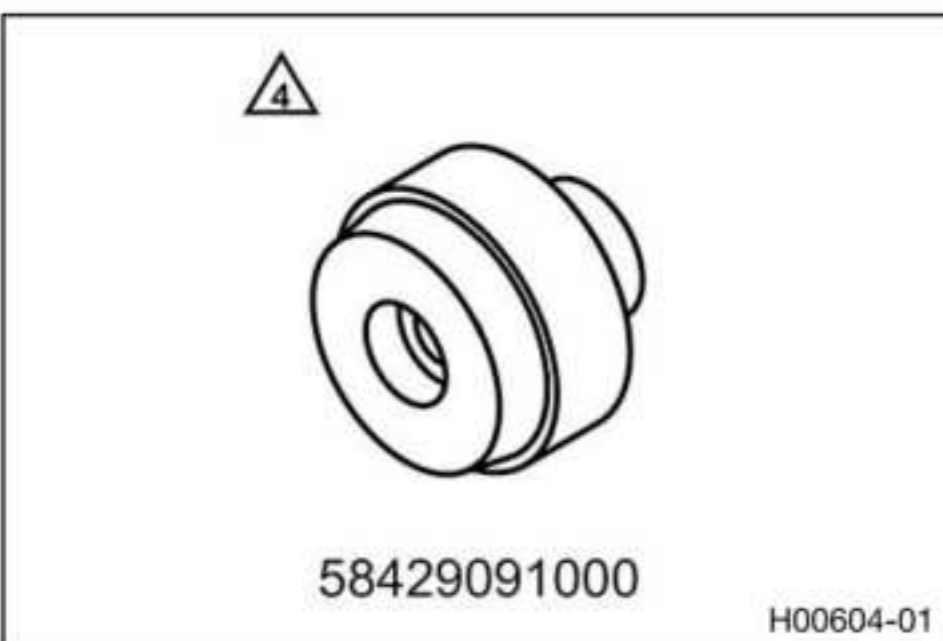
Inside diameter	43.9 mm (1.728 in)
-----------------	--------------------

Tool bracket



Art. no.: 58429089000

Pressing tool



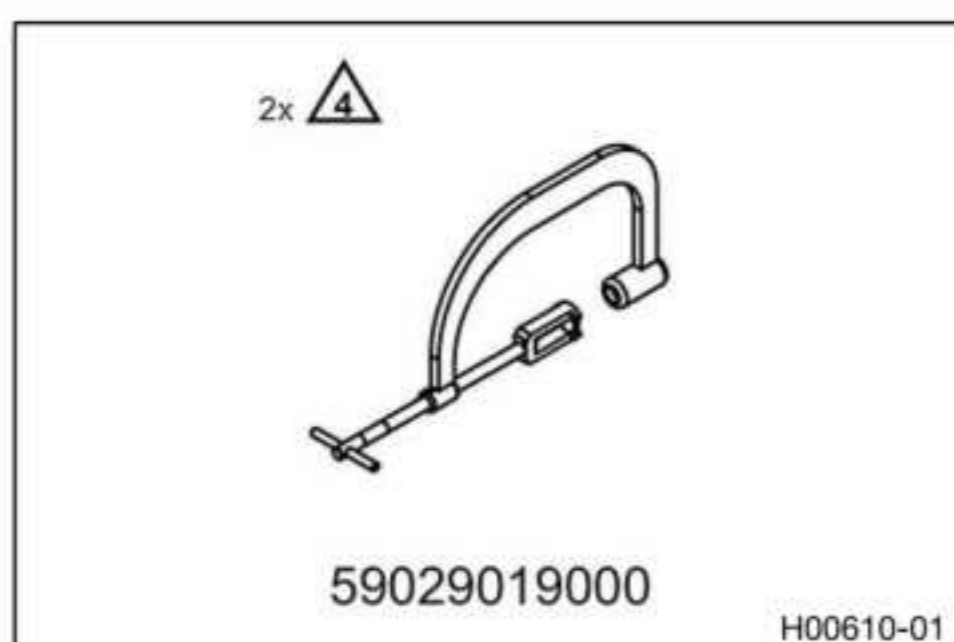
Art. no.: 58429091000

Pressing tool



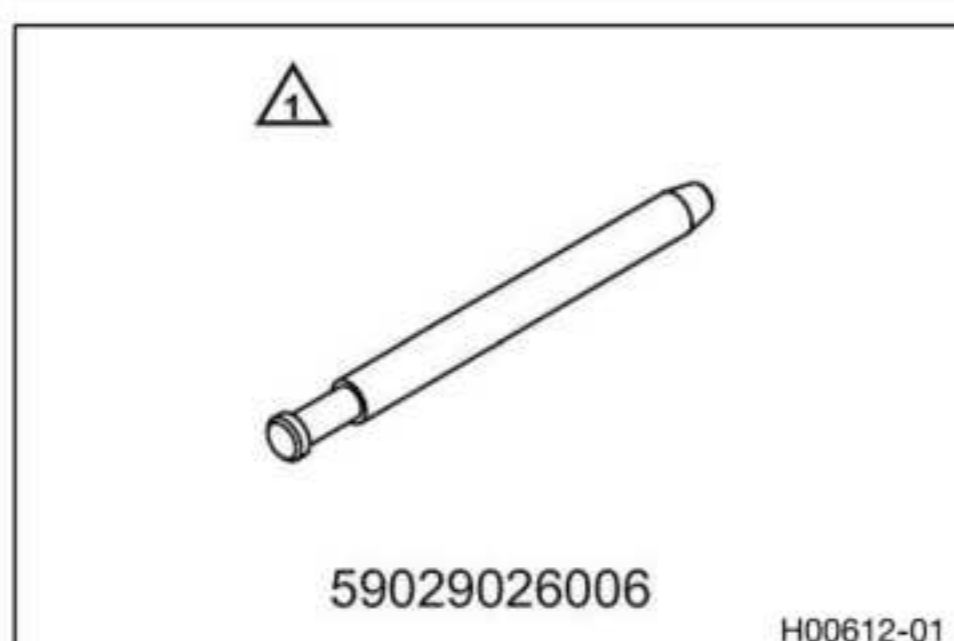
Art. no.: 58429092000

Valve spring mounter



Art. no.: 59029019000

Limit plug gauge

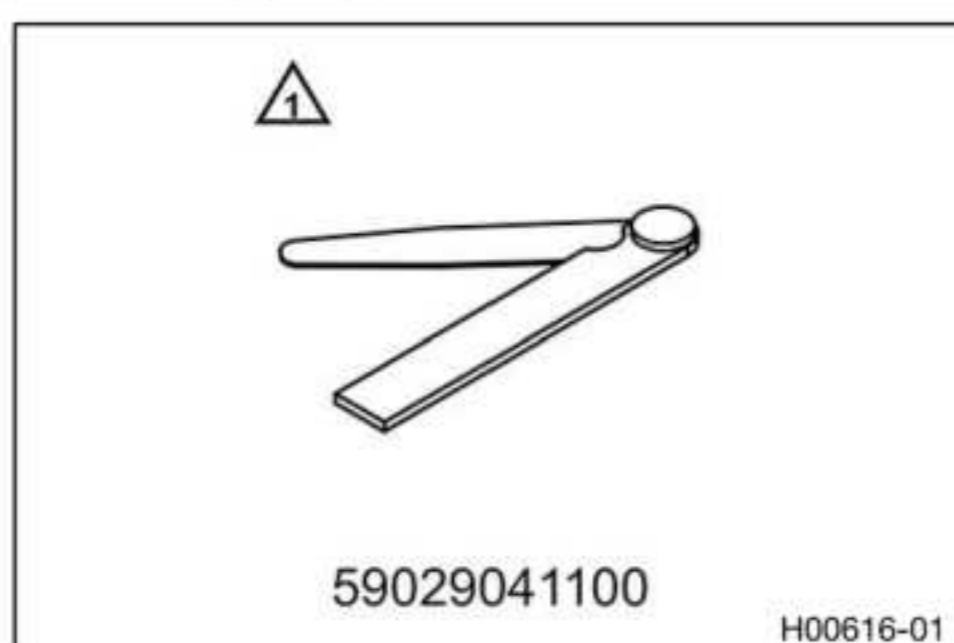


Art. no.: 59029026006

Feature

Diameter	6.05 mm (0.2382 in)
----------	---------------------

Feeler gauge

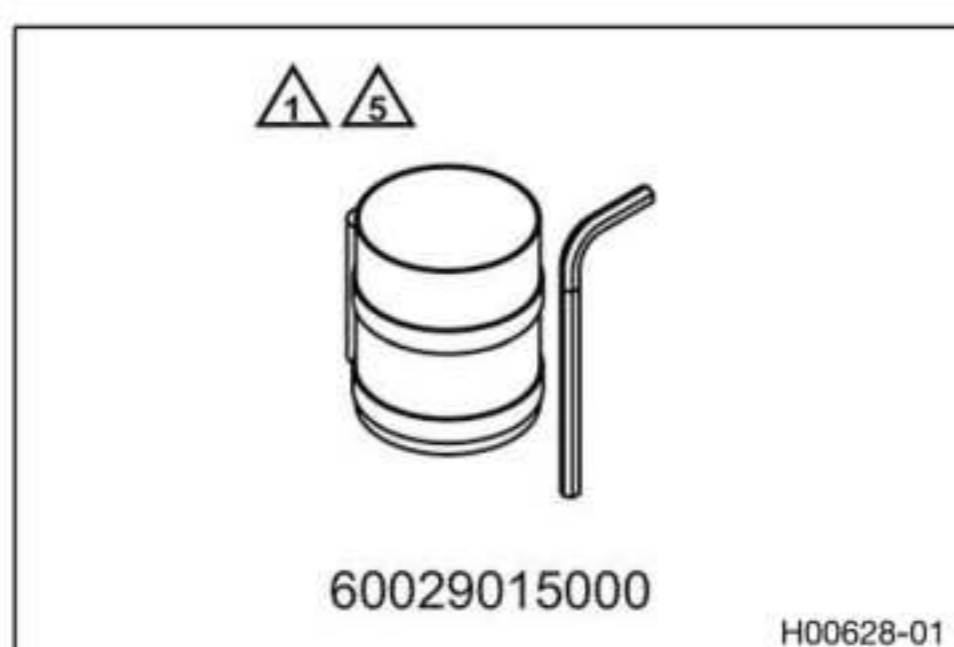


Art. no.: 59029041100

Feature

5 piece	0.10 ... 0.25 mm (0.0039 ... 0.0098 in)
---------	---

Piston ring compressor

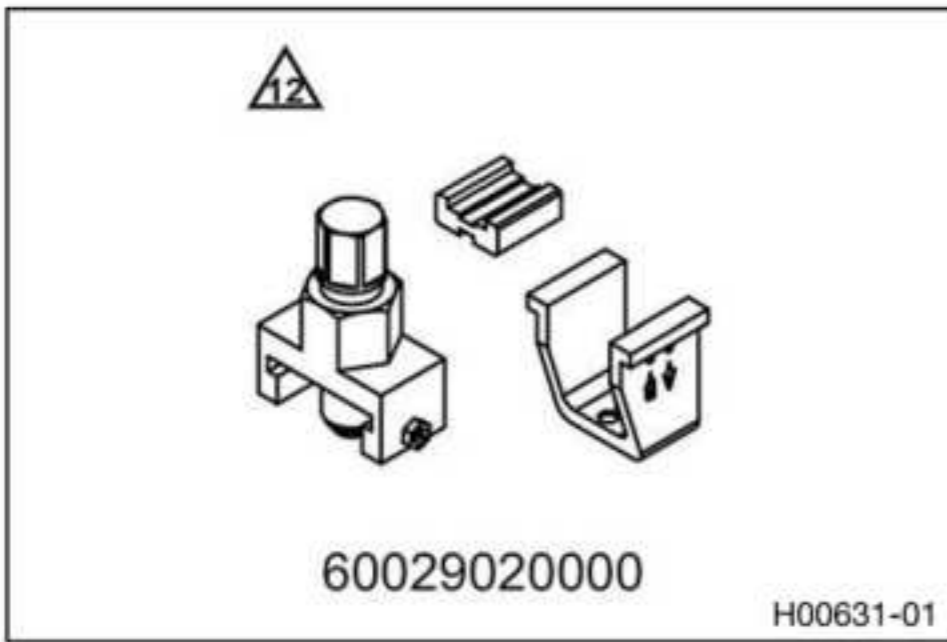


Art. no.: 60029015000

Feature

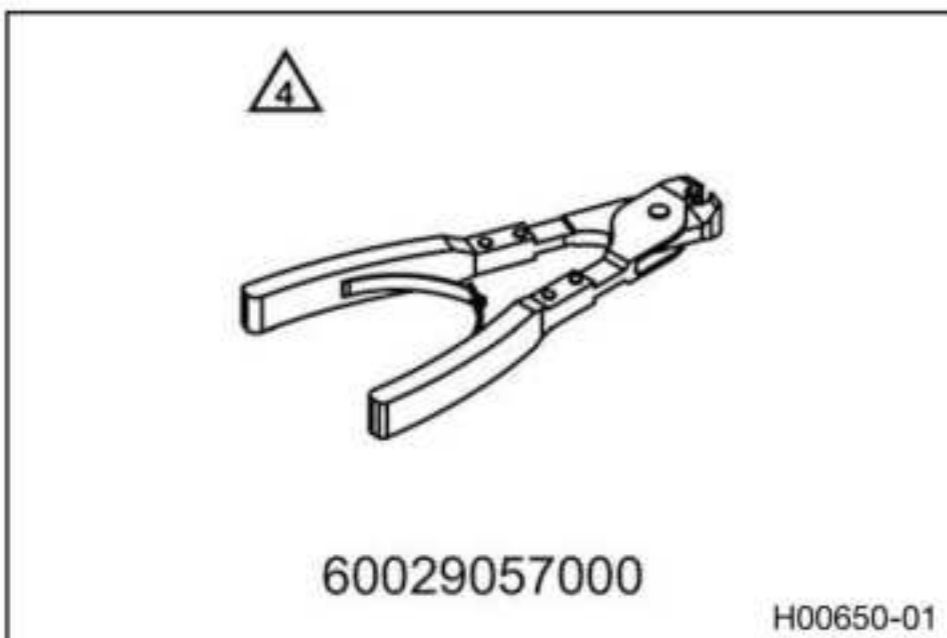
Height	80 mm (3.15 in)
Diameter	57 ... 125 mm (2.24 ... 4.92 in)

Chain rivet tool



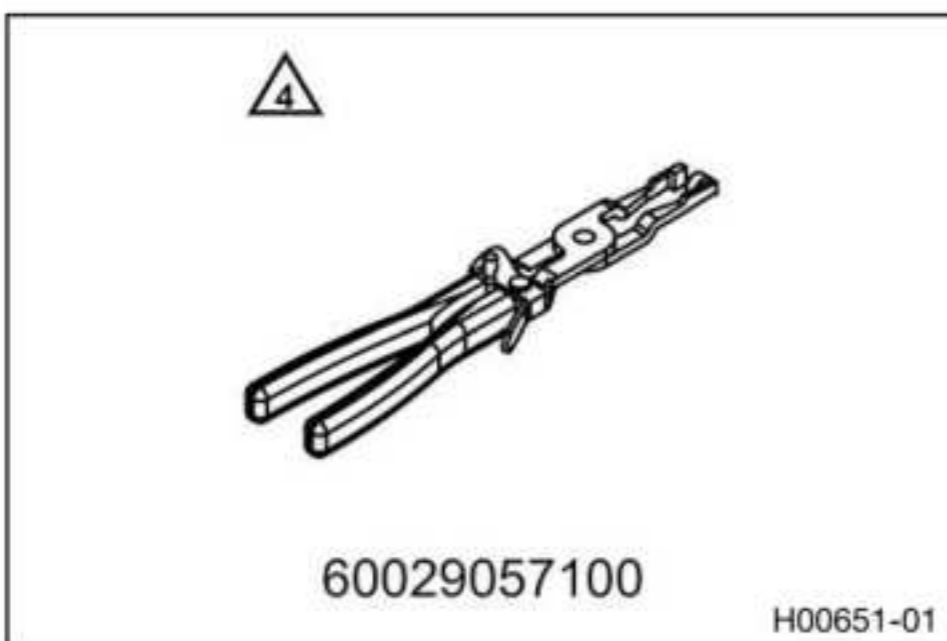
Art. no.: 6002902000

Hose clamp plier



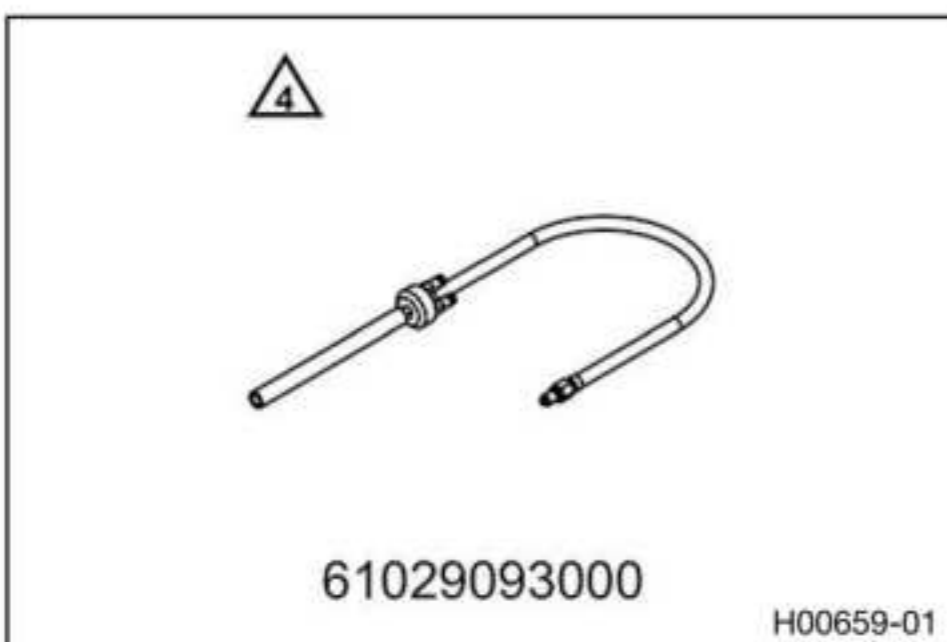
Art. no.: 60029057000

Spring band clamps plier



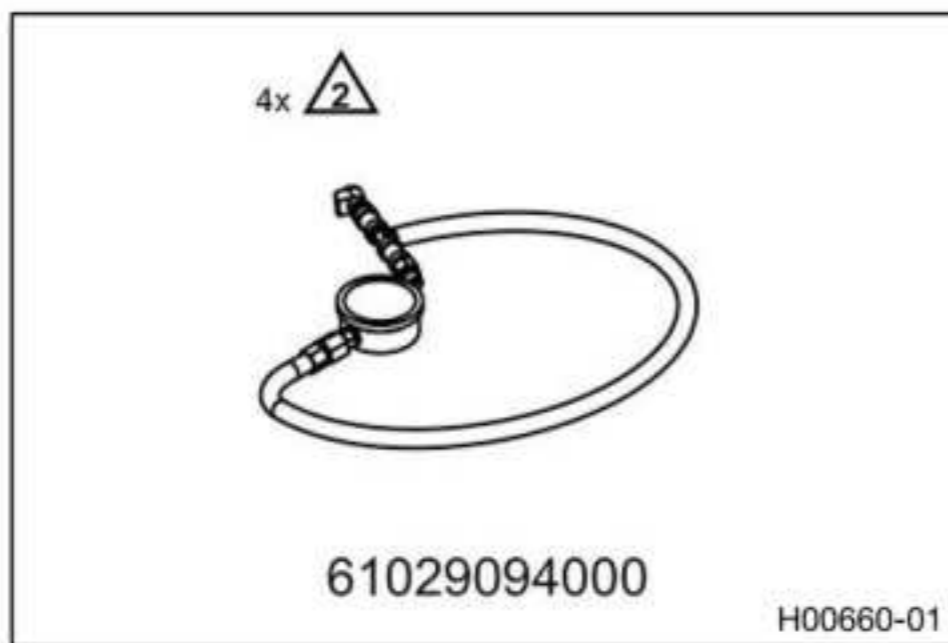
Art. no.: 60029057100

Testing hose



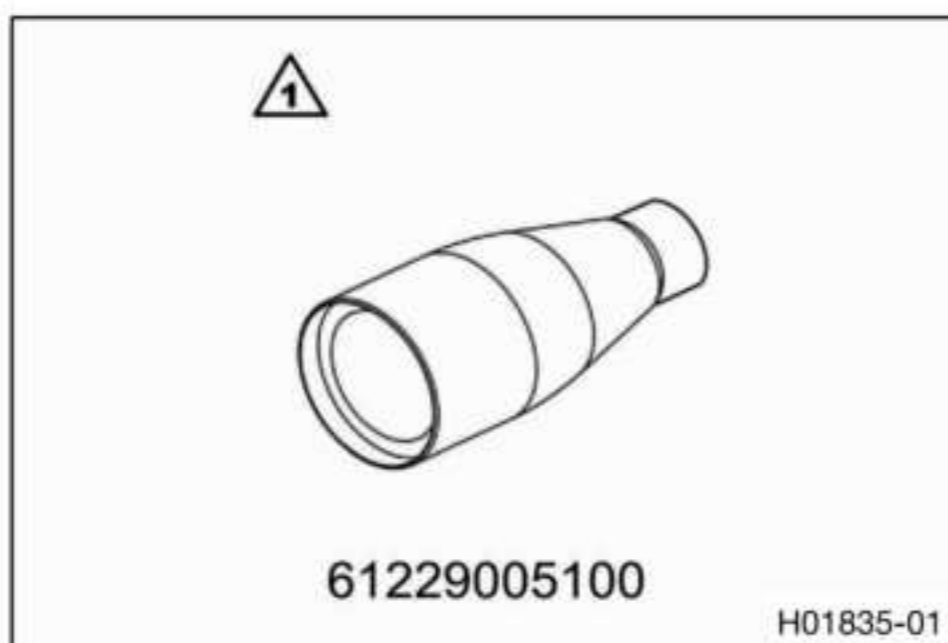
Art. no.: 61029093000

Pressure testing tool



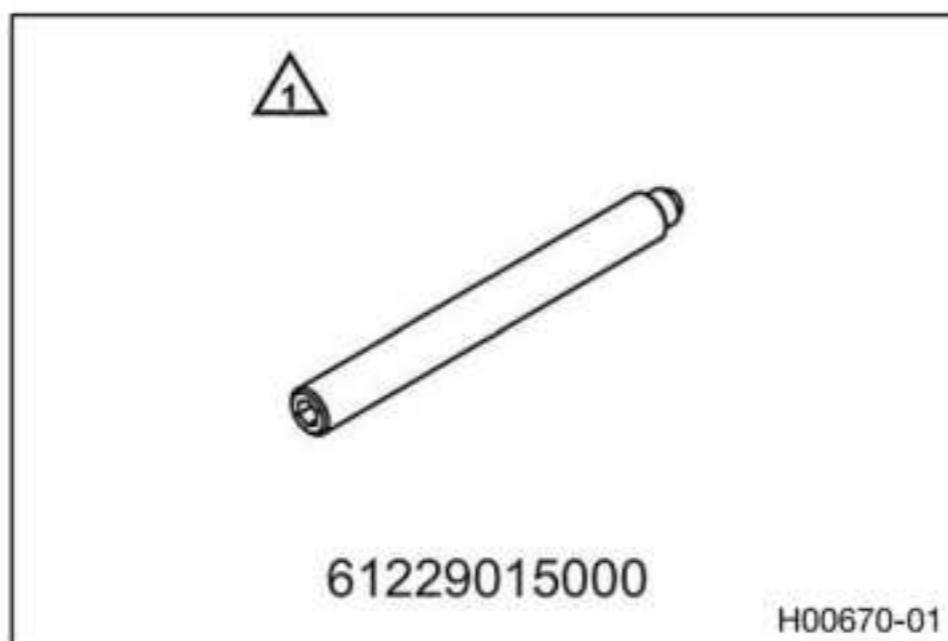
Art. no.: 61029094000

Protection cap



Art. no.: 61229005100

Locking screw



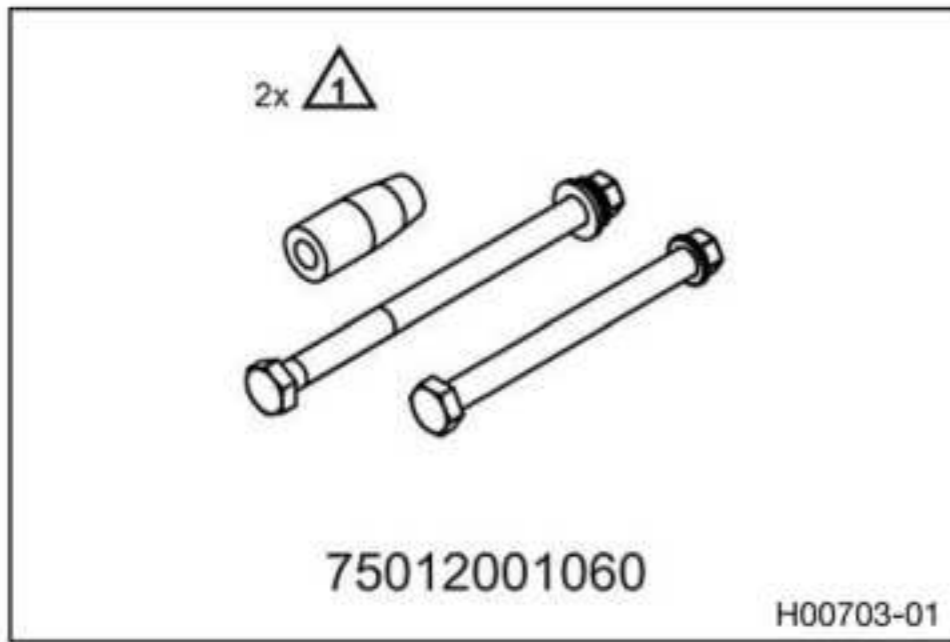
Art. no.: 61229015000

Work stand



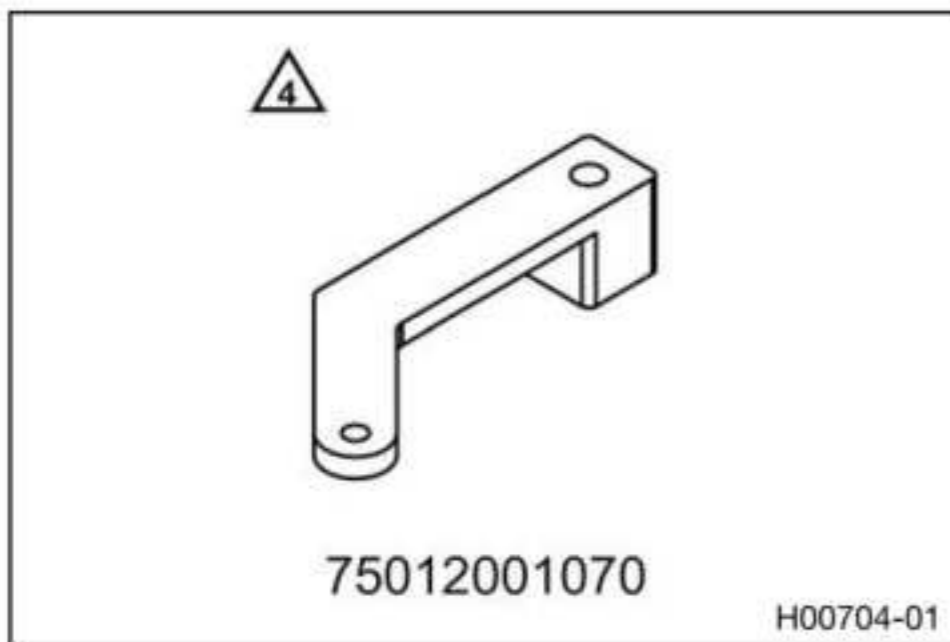
Art. no.: 62529055200

Fitting for work stand



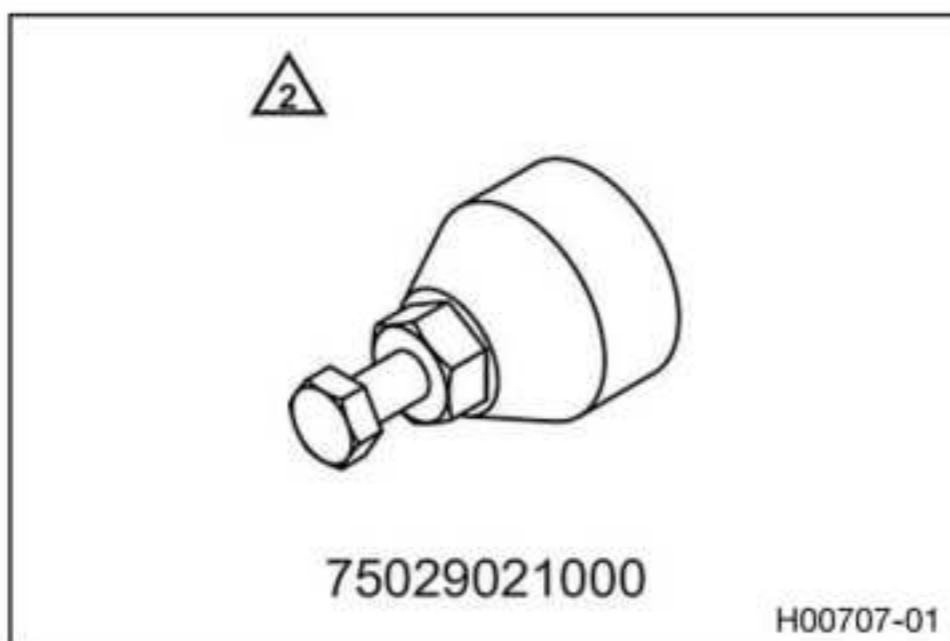
Art. no.: 75012001060

Holder for engine motor stand



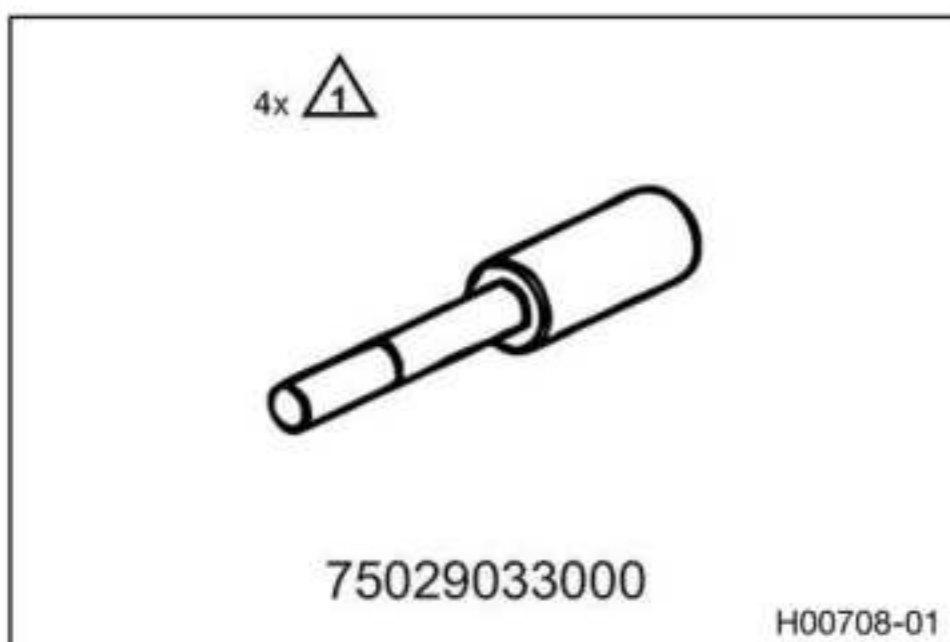
Art. no.: 75012001070

Puller



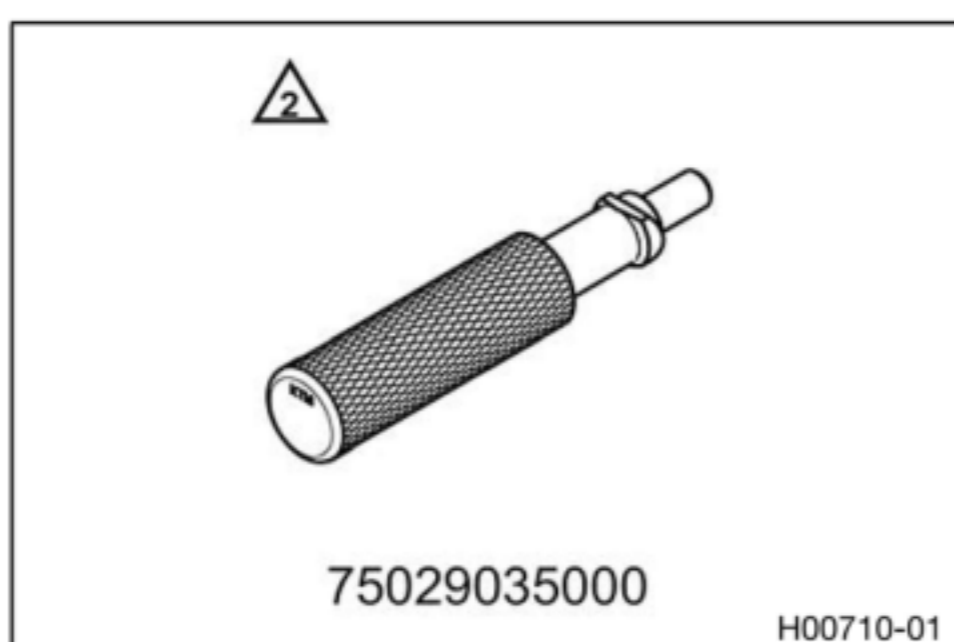
Art. no.: 75029021000

Assembly screws



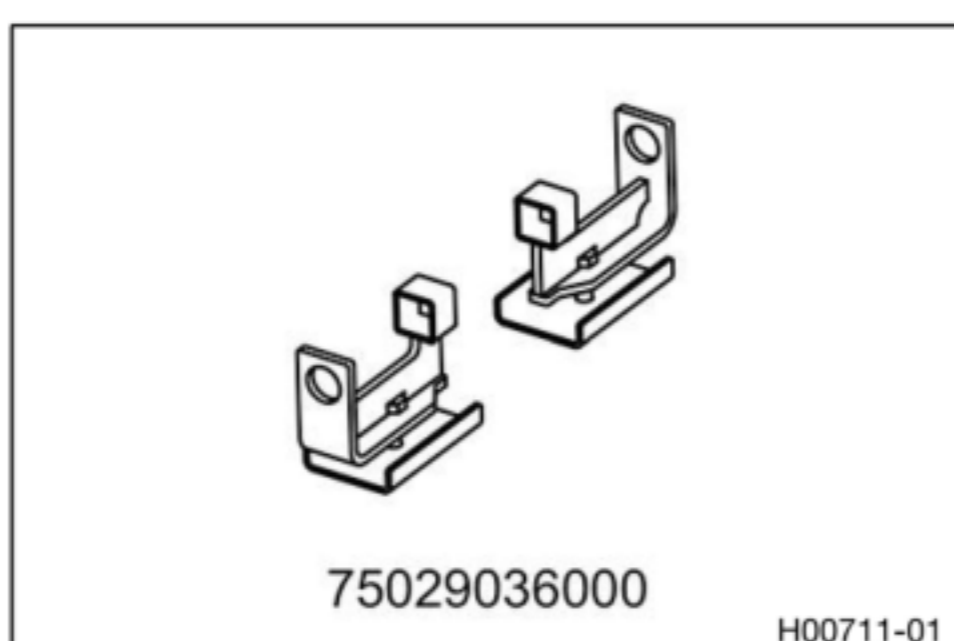
Art. no.: 75029033000

Insertion for piston ring lock



Art. no.: 75029035000

Work stand attachments



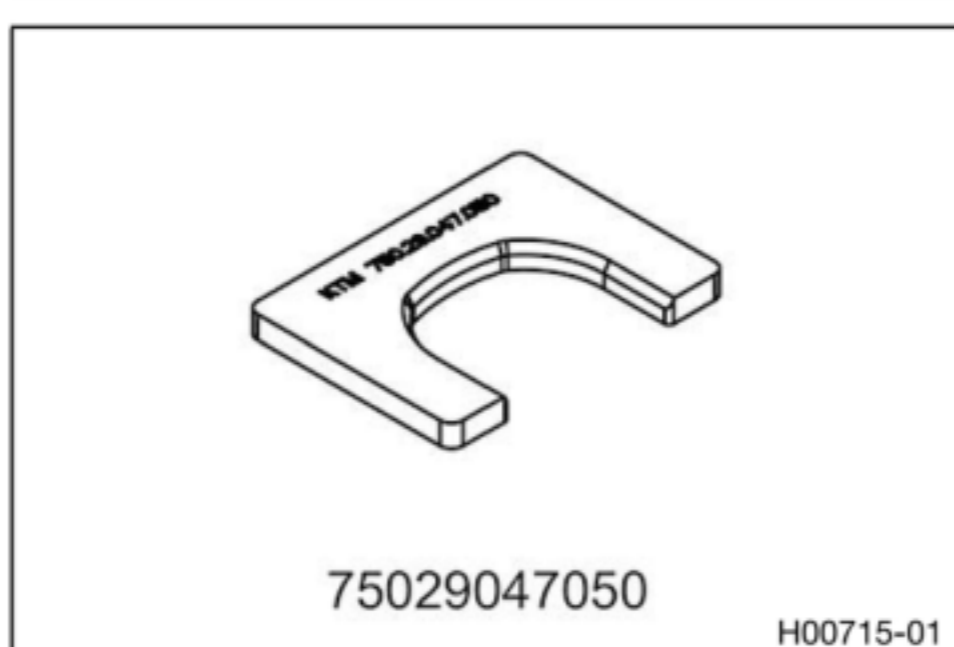
Art. no.: 75029036000

Crankshaft pressing tool



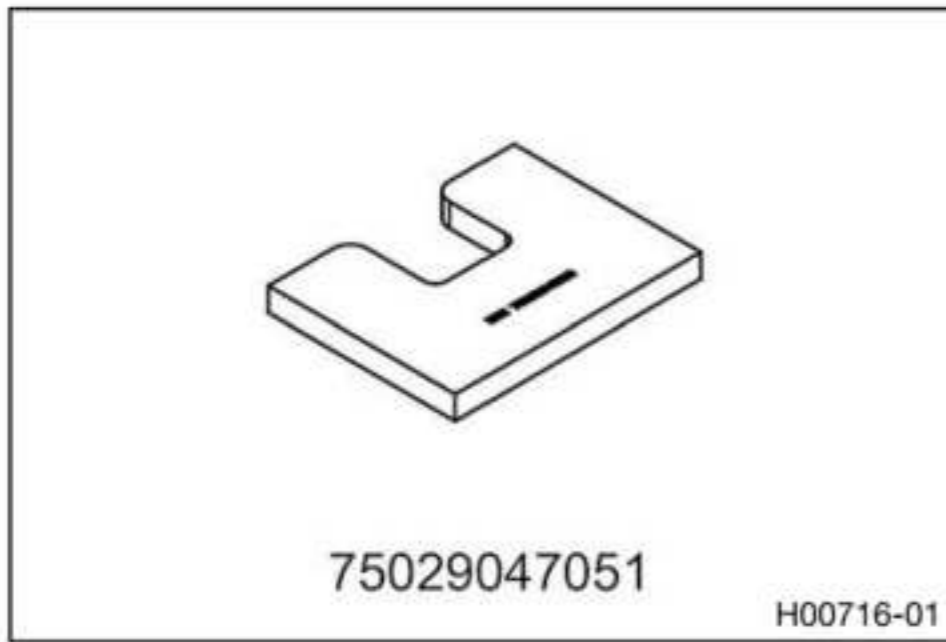
Art. no.: 75029047000

Separator plate, upper part



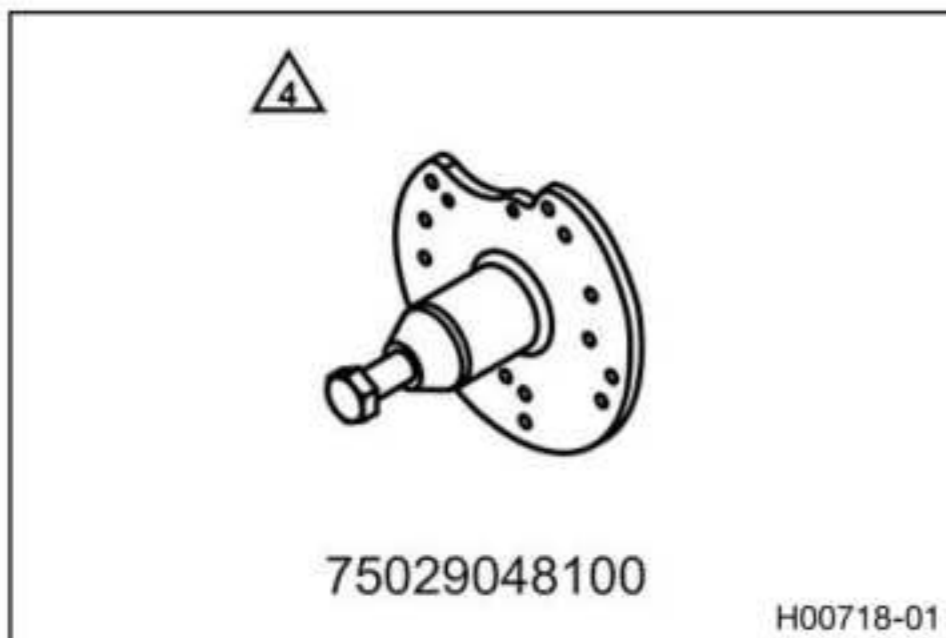
Art. no.: 75029047050

Separator plate, base



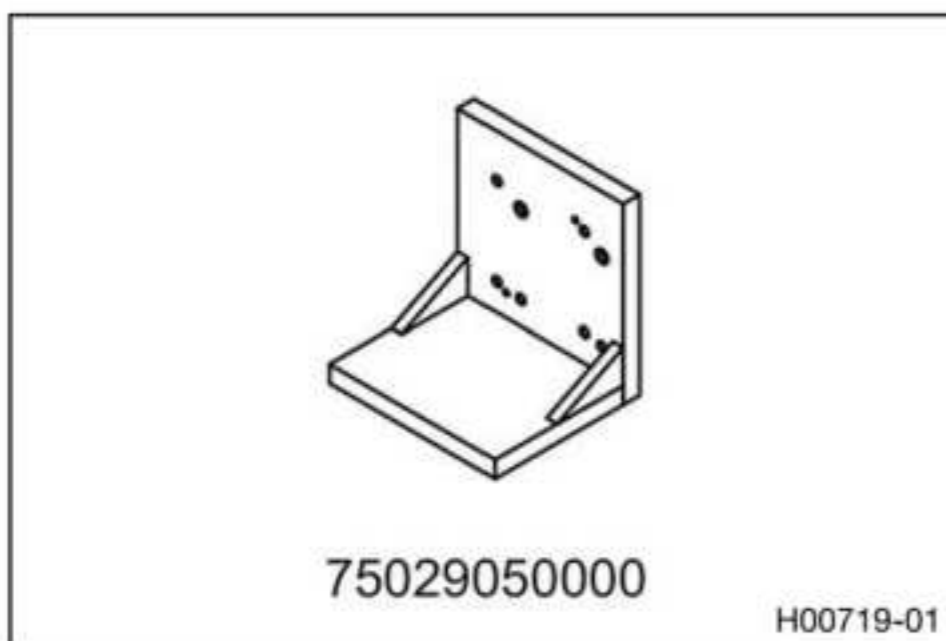
Art. no.: 75029047051

Puller



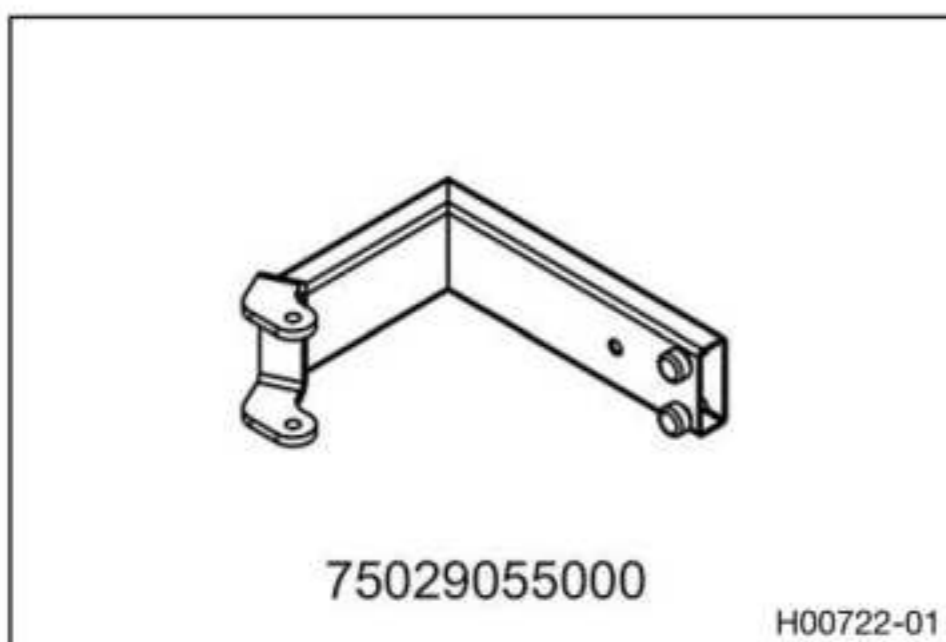
Art. no.: 75029048100

Clamping plate



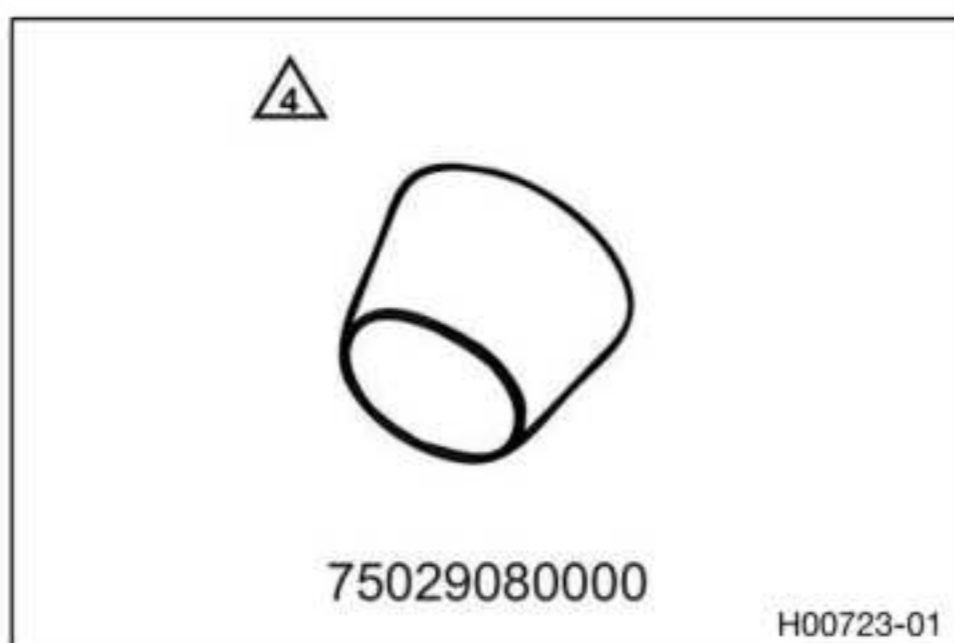
Art. no.: 75029050000

Floor jack attachment



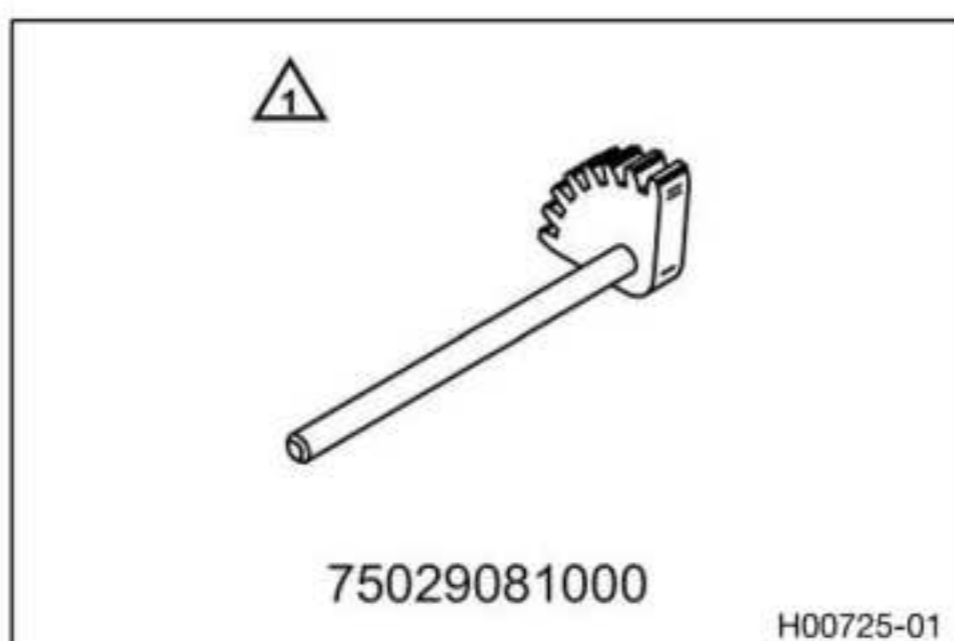
Art. no.: 75029055000

Protecting sleeve



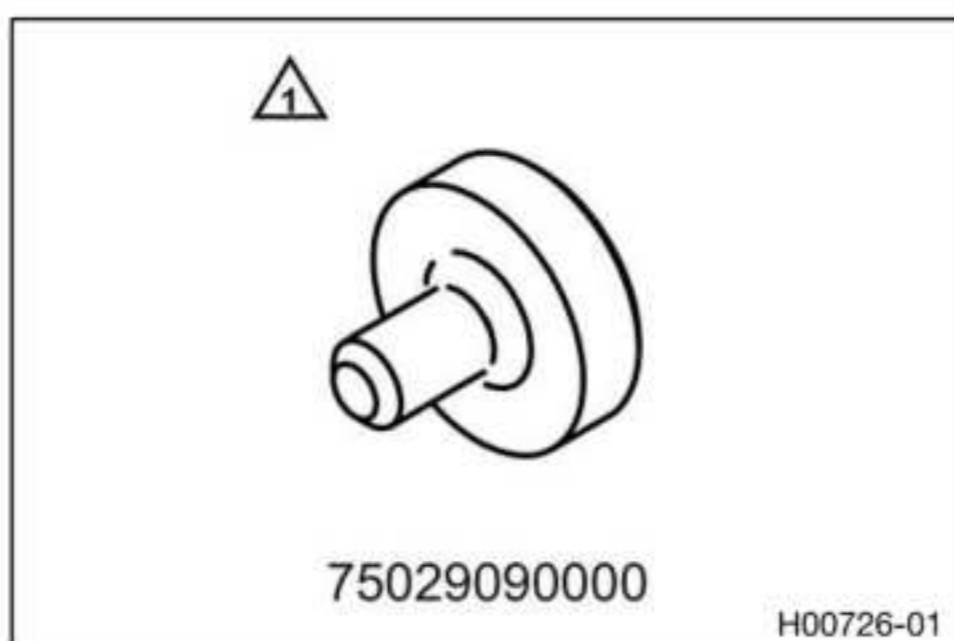
Art. no.: 75029080000

Gear segment



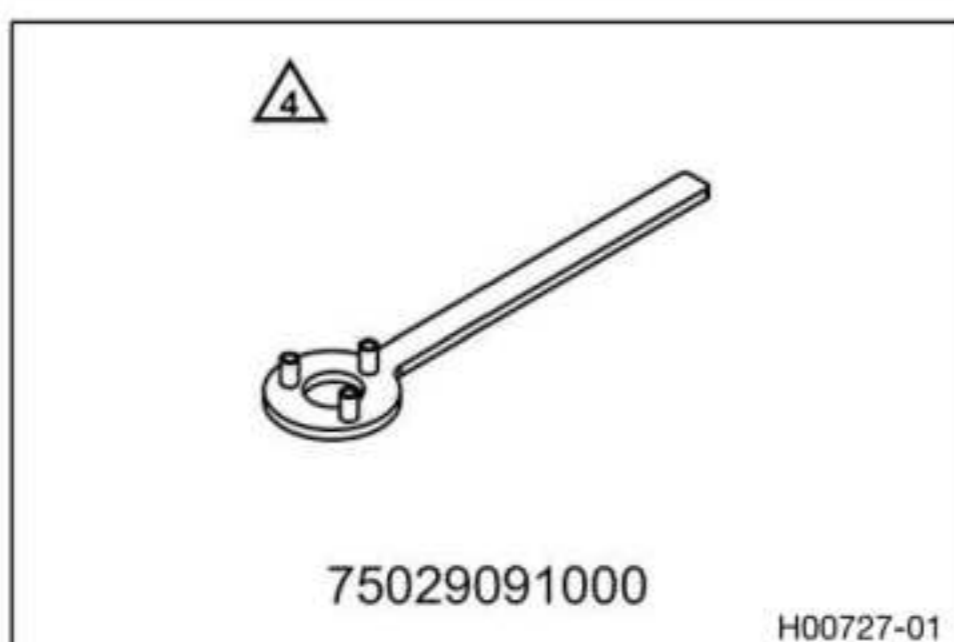
Art. no.: 75029081000

Protection cap



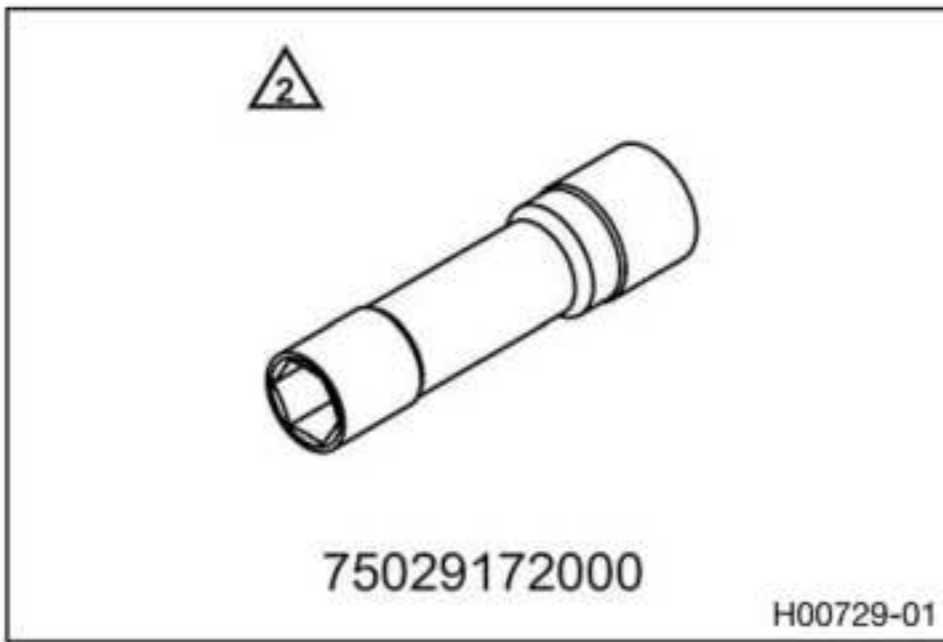
Art. no.: 75029090000

Holding wrench



Art. no.: 75029091000

Spark plug wrench

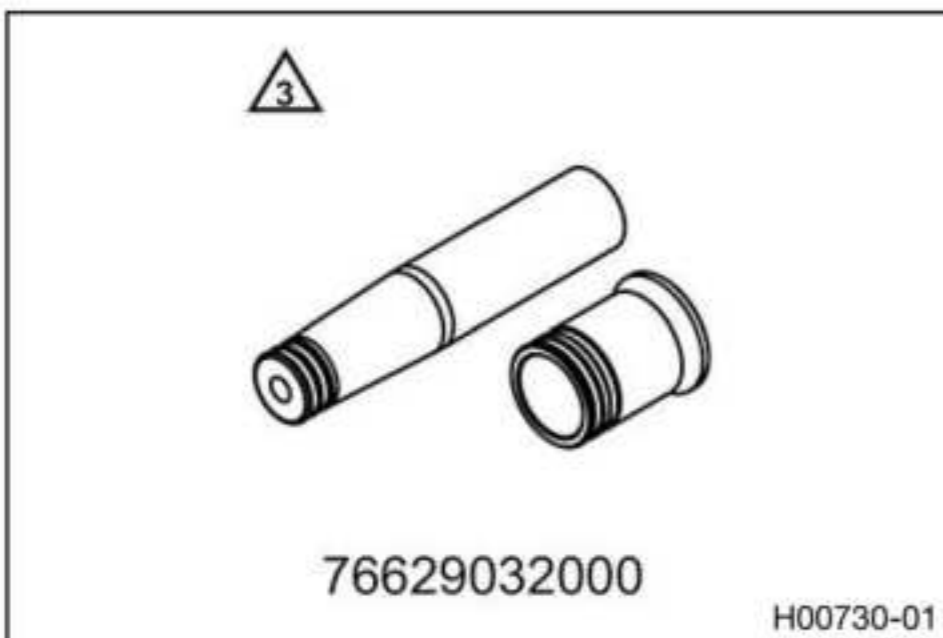


Art. no.: 75029172000

Feature

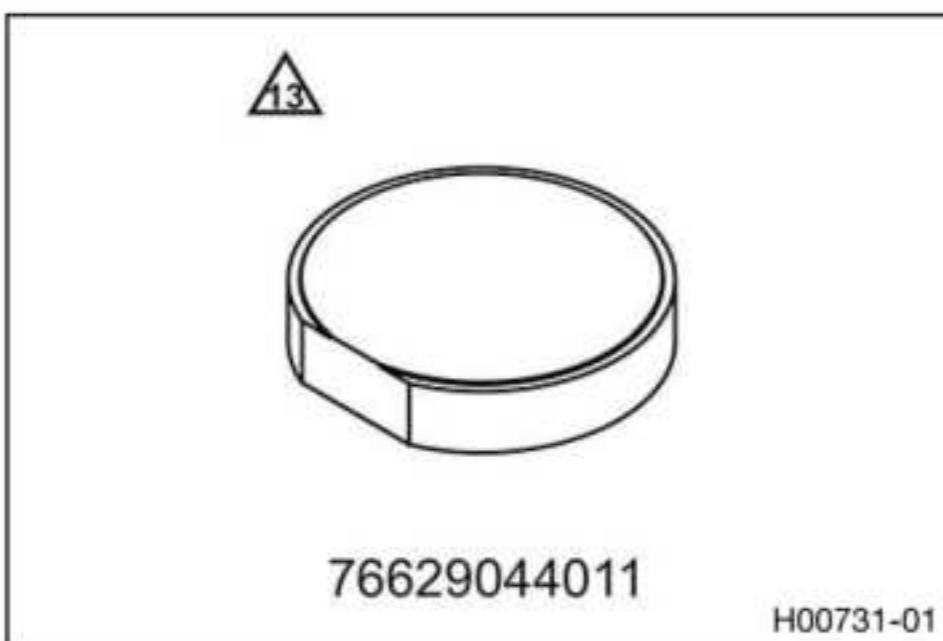
Drive	1/2 in
Hexagonal part	14 mm (0.55 in)
Length	85 mm (3.35 in)

Mounting tool for lock ring



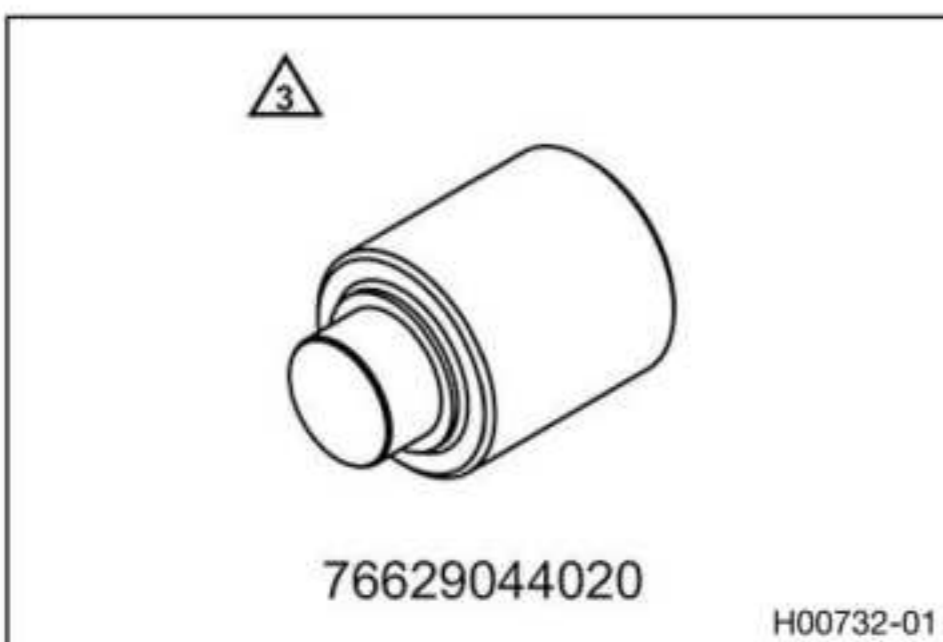
Art. no.: 76629032000

Pressing tool



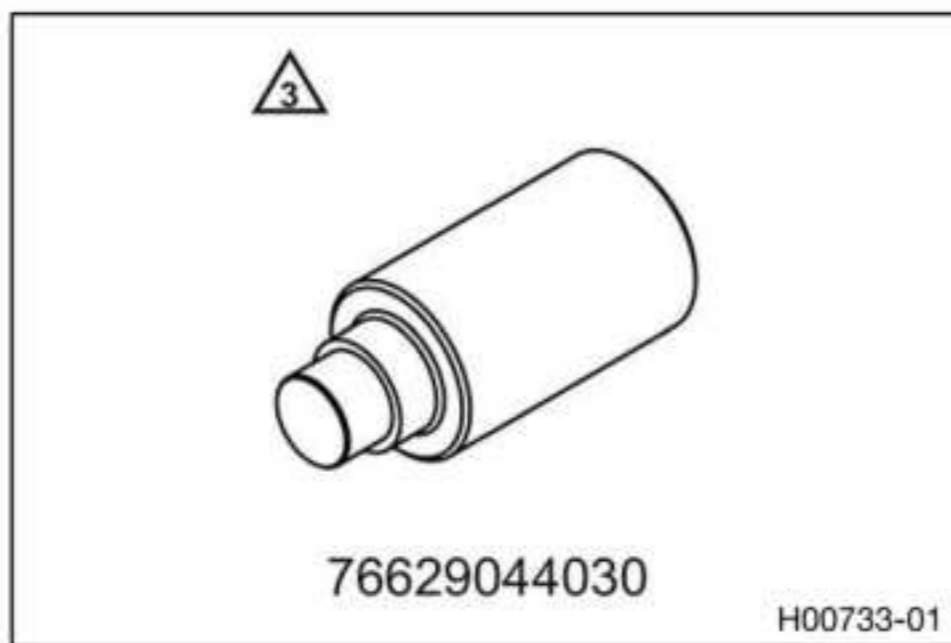
Art. no.: 76629044011

Pressing tool



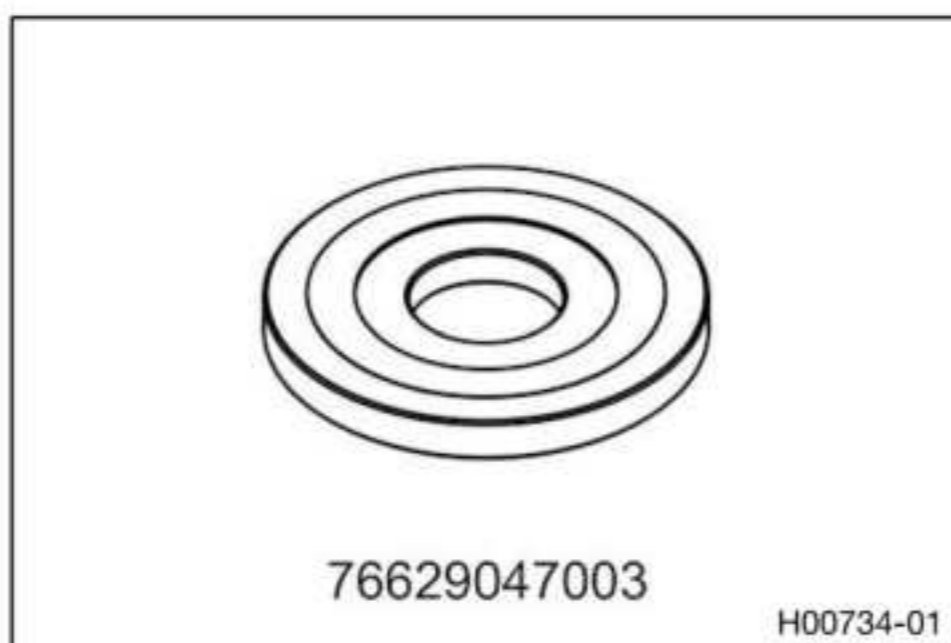
Art. no.: 76629044020

Pressing tool



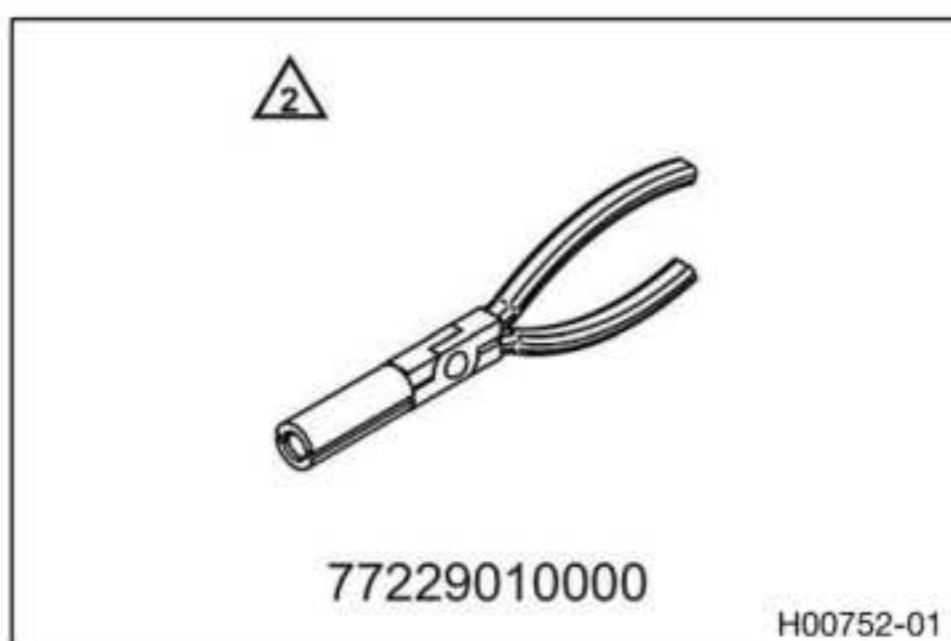
Art. no.: 76629044030

Cover for crankshaft pressing tool



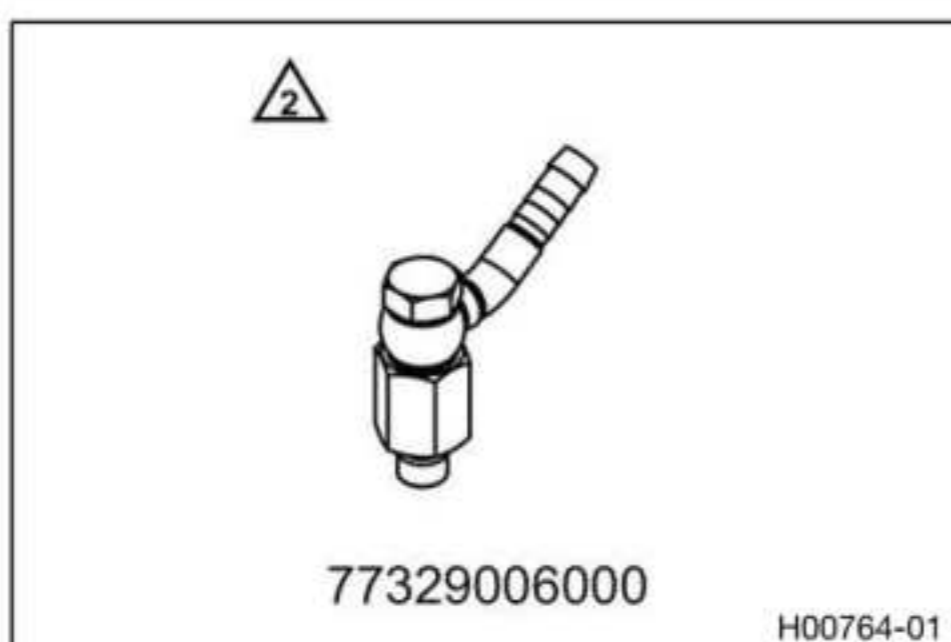
Art. no.: 76629047003

Valve stem seals plier



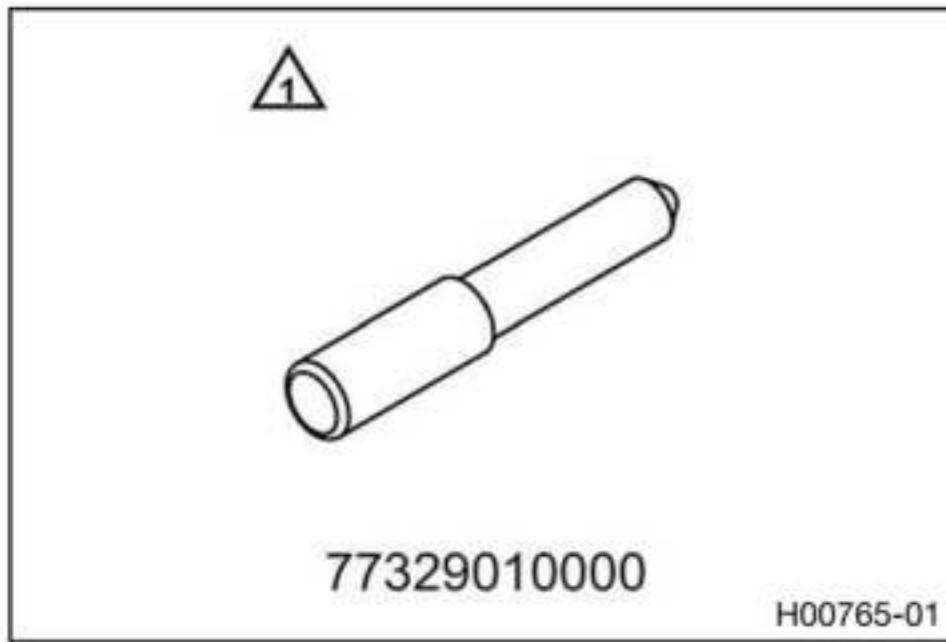
Art. no.: 77229010000

Oil pressure adapter



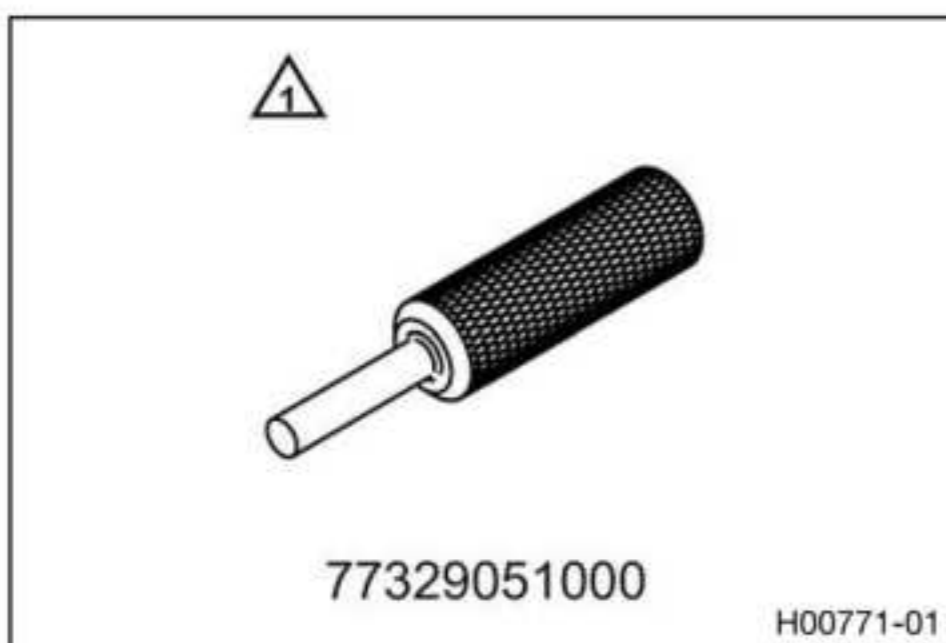
Art. no.: 77329006000

Locking screw



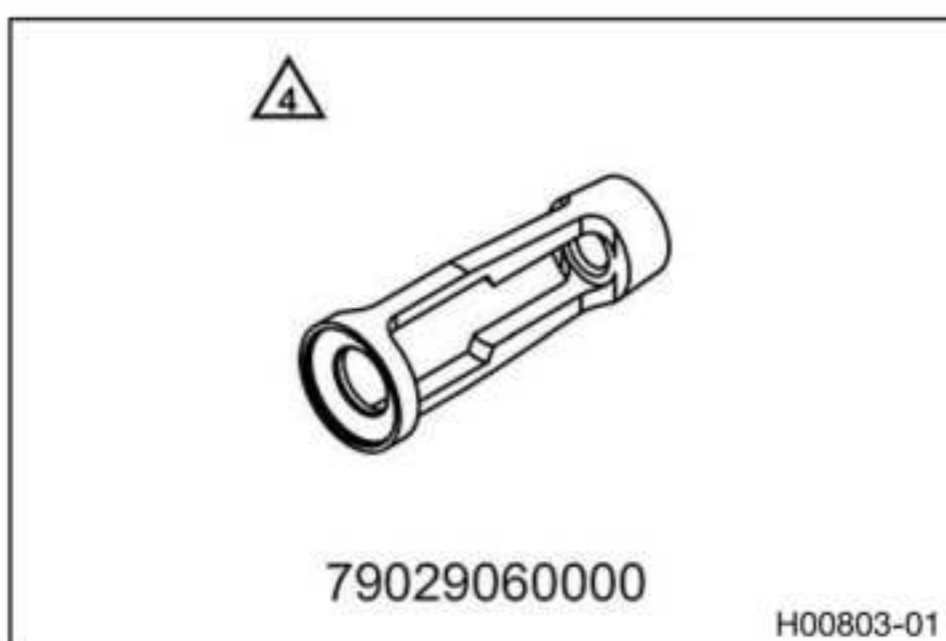
Art. no.: 77329010000

Release device for timing chain tensioner



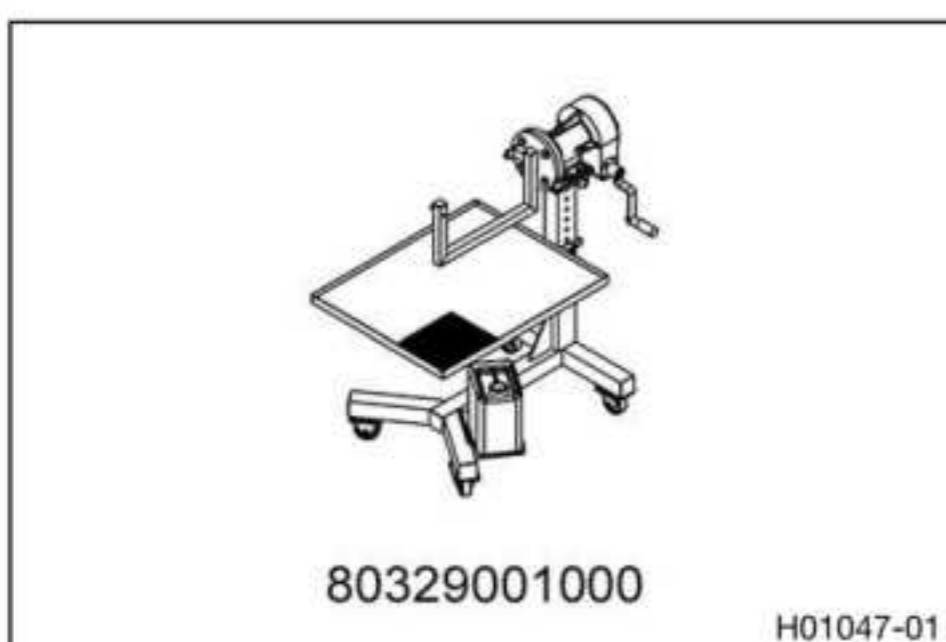
Art. no.: 77329051000

Insert for valve spring lever



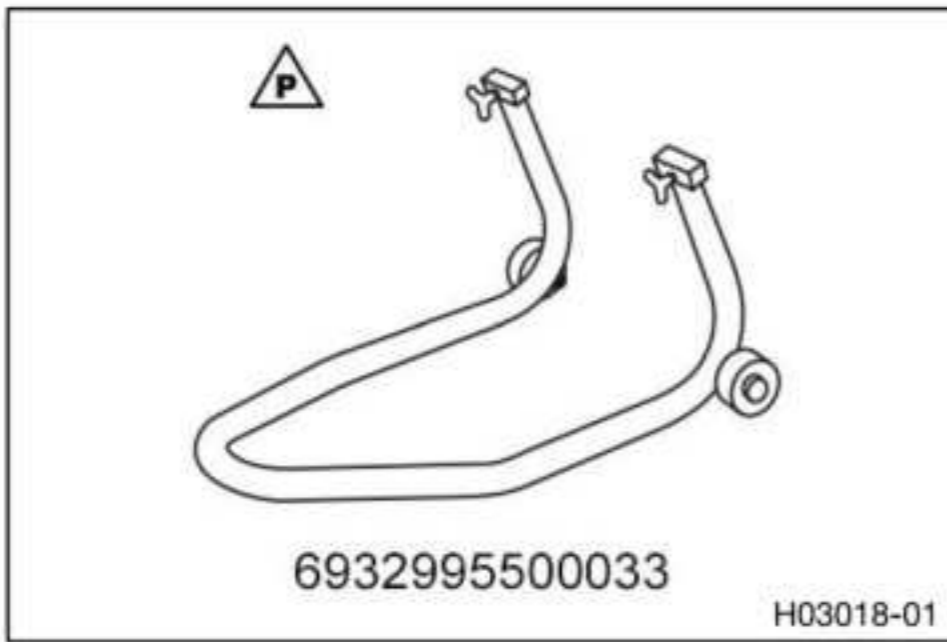
Art. no.: 79029060000

Engine assembly stand



Art. no.: 80329001000

Rear wheel work stand



Art. no.: 6932995500033

XC_1 NG DE



Art. no.: 00029296000DE

XC_1 NG EN



Art. no.: 00029296000EN

XC_1 NG ES



Art. no.: 00029296000ES

XC_1 NG FR

Art. no.: 00029296000FR



XC_1 NG IT

Art. no.: 00029296000IT



XC_1 NG JP

Art. no.: 00029296000JP

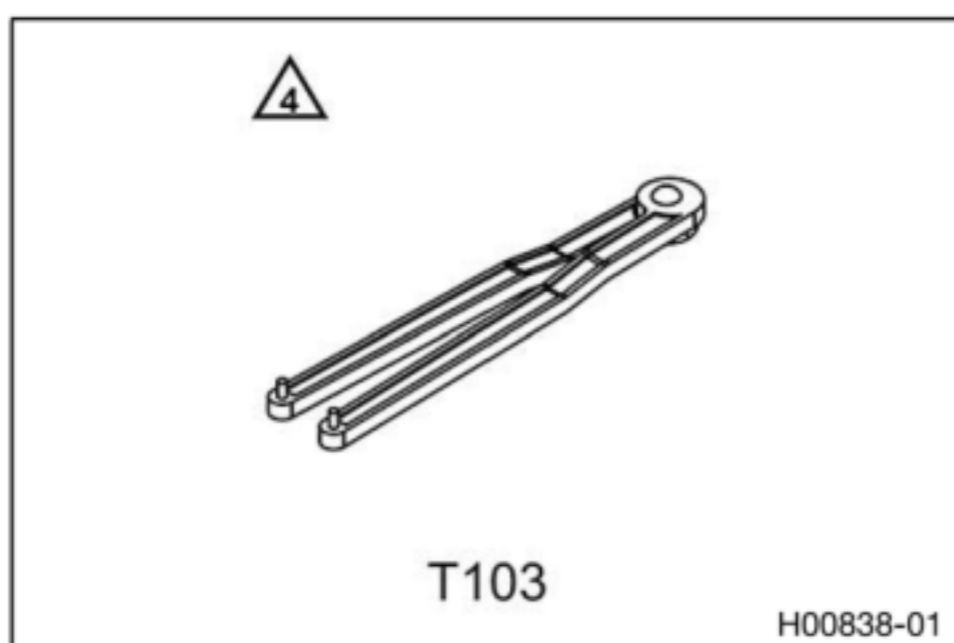


XC_1 NG US

Art. no.: 00029296000US



Pin wrench

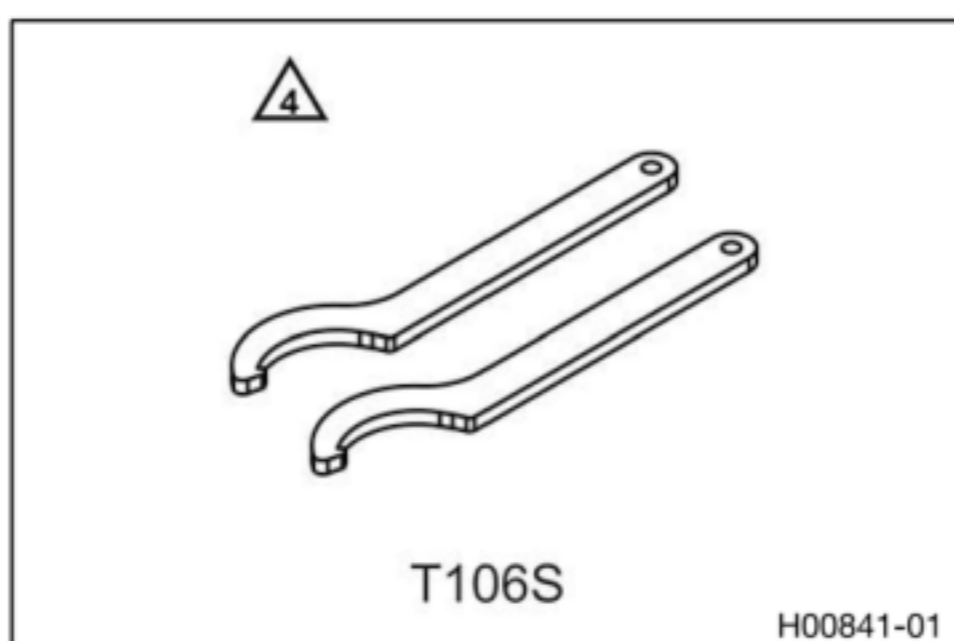


Art. no.: T103

Feature

adjustable	
Diameter	4 mm (0.16 in)

Hook wrench

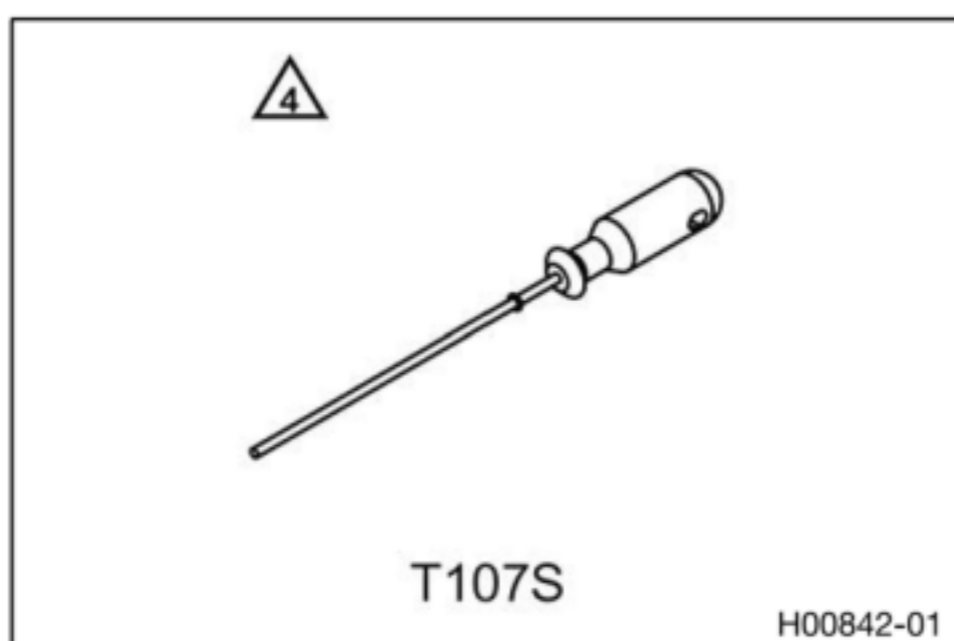


Art. no.: T106S

Feature

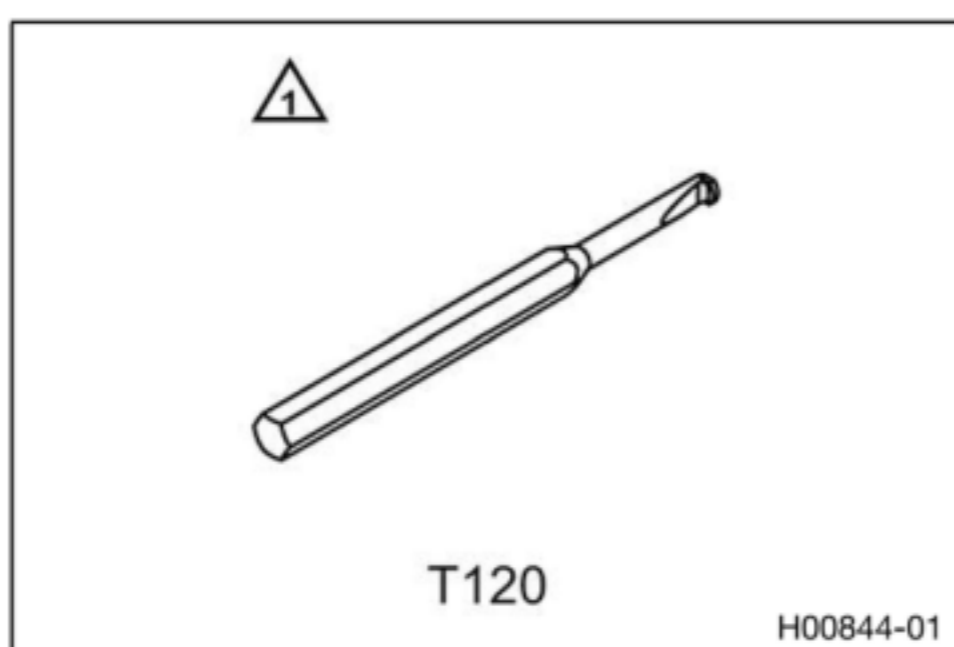
Diameter	68 ... 75 mm (2.68 ... 2.95 in)
----------	---------------------------------

Depth micrometer



Art. no.: T107S

Drift

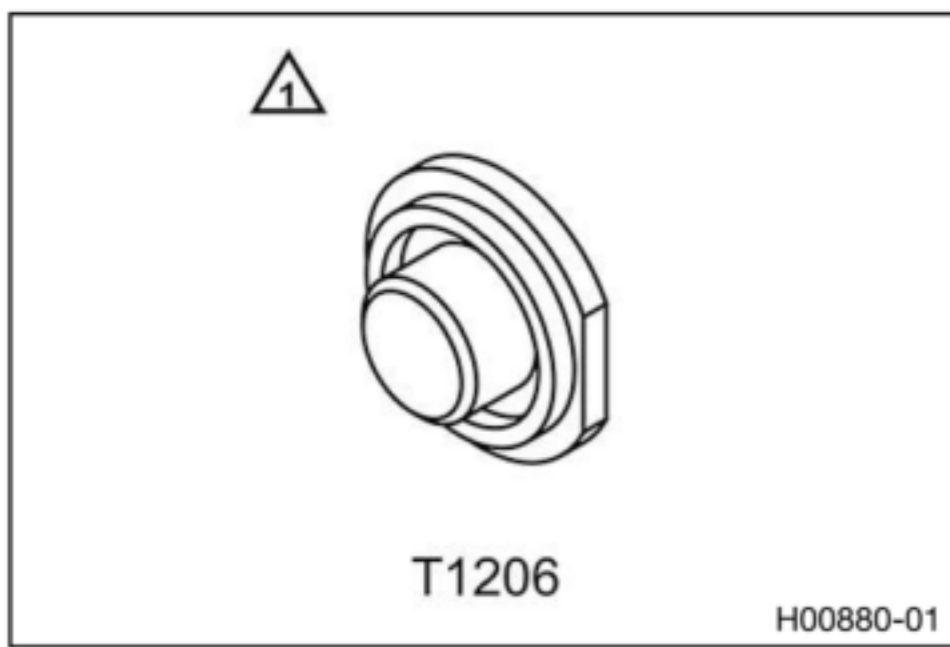


Art. no.: T120

Feature

Diameter	8 mm (0.31 in)
----------	----------------

Pressing tool

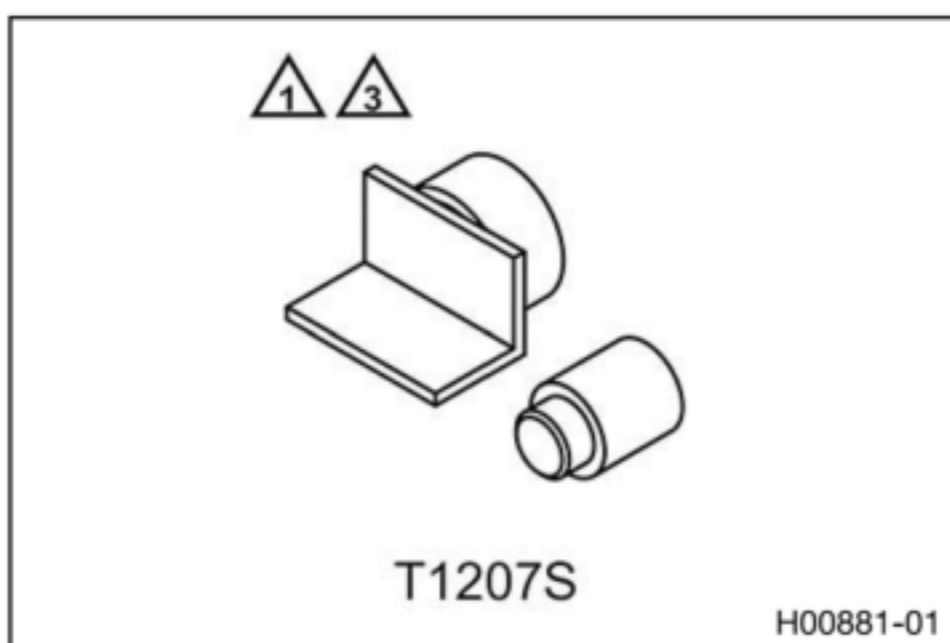


Art. no.: T1206

Feature

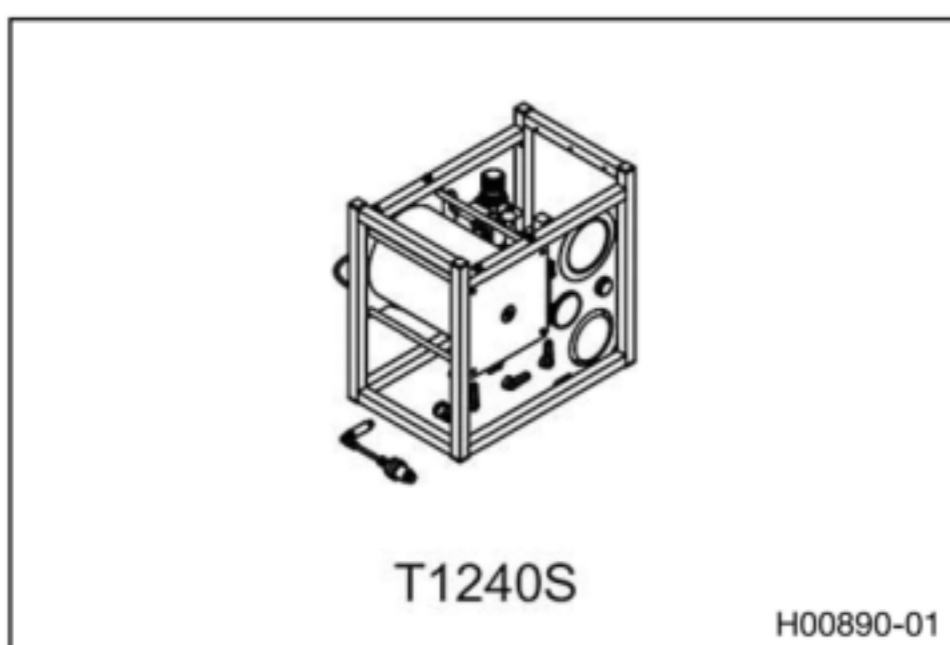
Diameter	15 ... 30 mm (0.59 ... 1.18 in)
----------	---------------------------------

Pressing tool



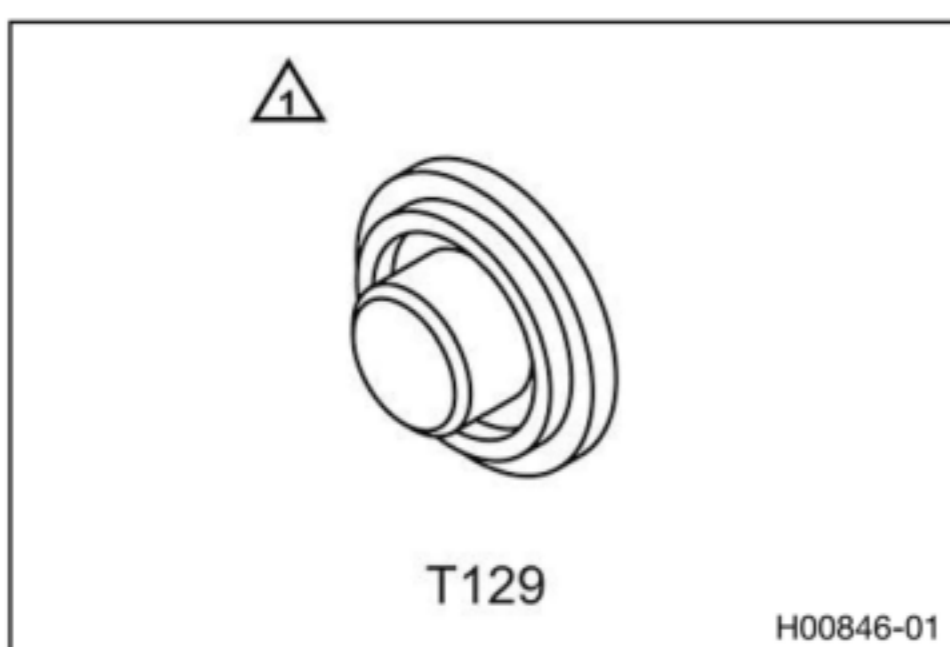
Art. no.: T1207S

Vacuum pump



Art. no.: T1240S

Pressing tool

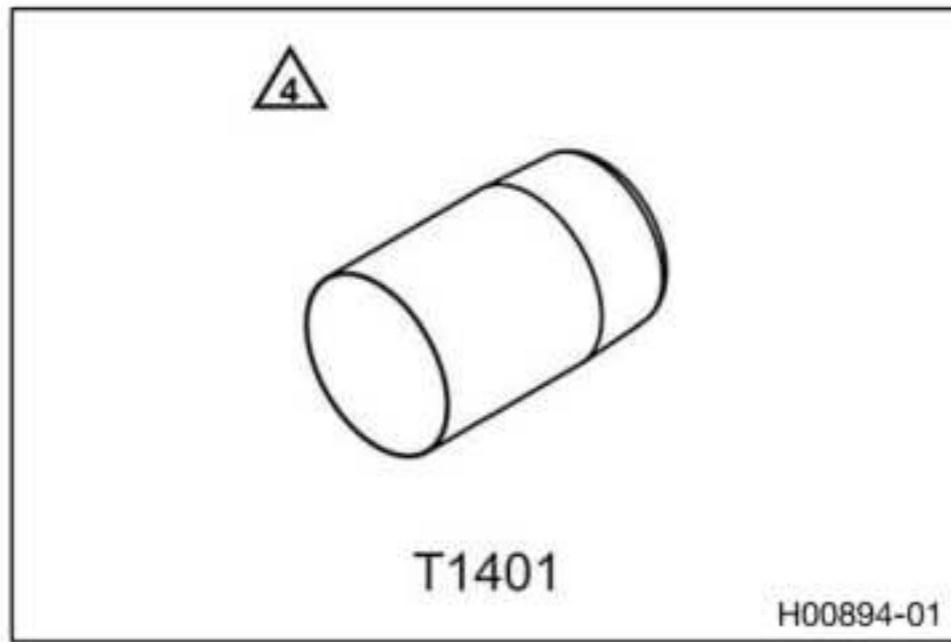


Art. no.: T129

Feature

Diameter	15 ... 30 mm (0.59 ... 1.18 in)
----------	---------------------------------

Protecting sleeve

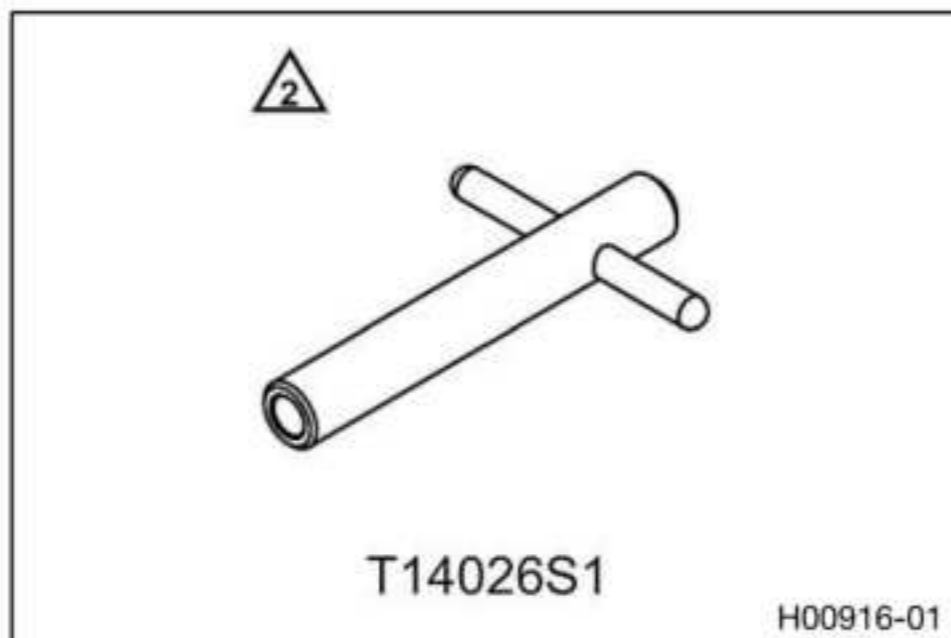


Art. no.: T1401

Feature

Diameter	48 mm (1.89 in)
----------	-----------------

Support tool

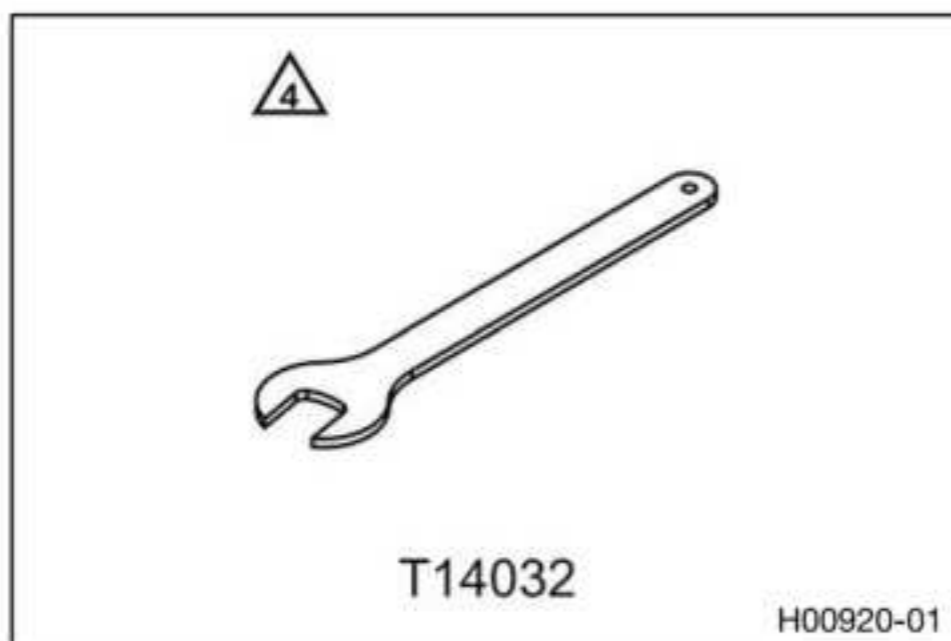


Art. no.: T14026S1

Feature

M12	
Diameter	17 mm (0.67 in)

Open end wrench

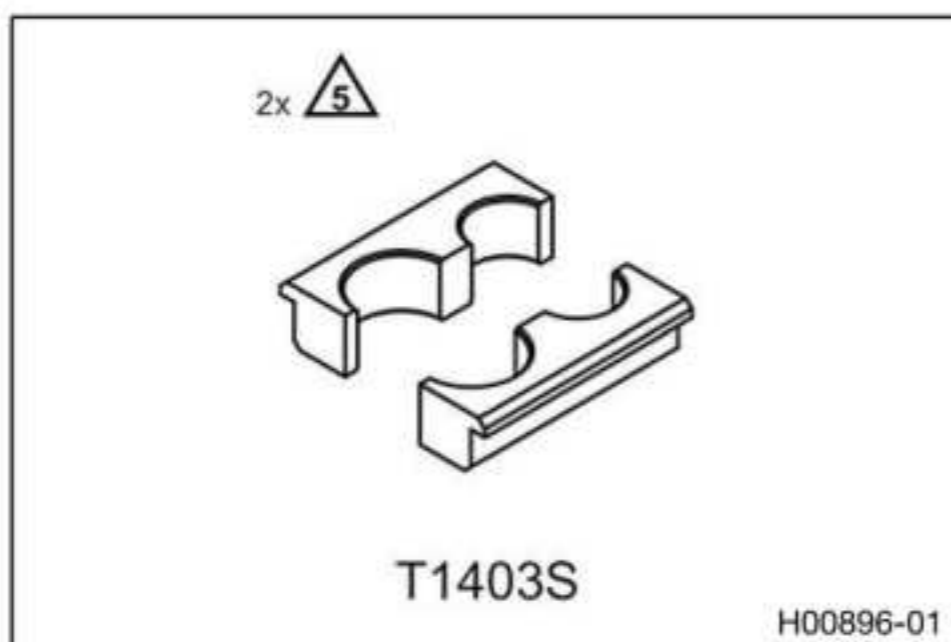


Art. no.: T14032

Feature

Jaw opening	22 mm (0.87 in)
-------------	-----------------

Clamping stand

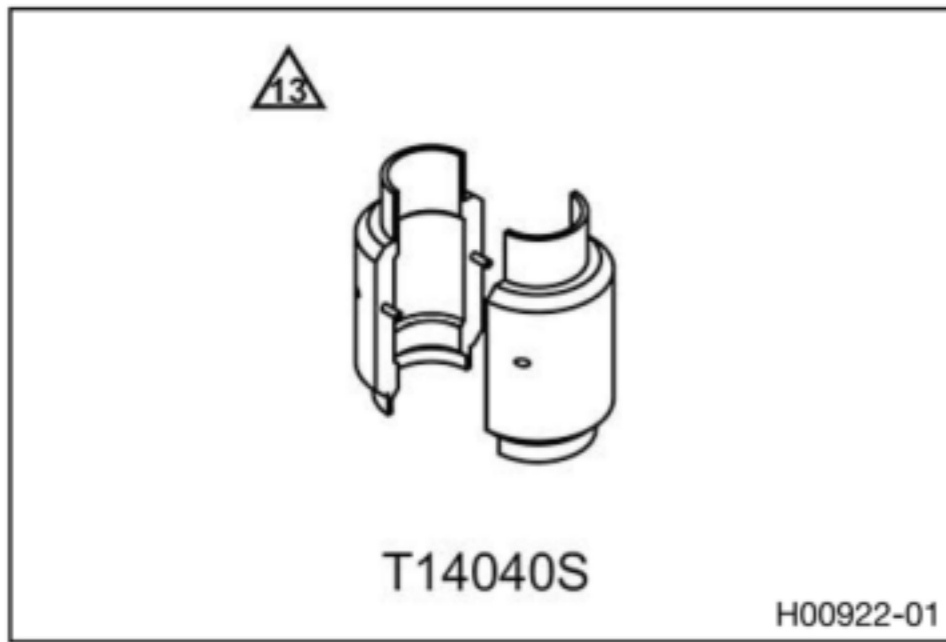


Art. no.: T1403S

Feature

Diameter	48 mm (1.89 in)
Diameter	60 mm (2.36 in)

Mounting tool

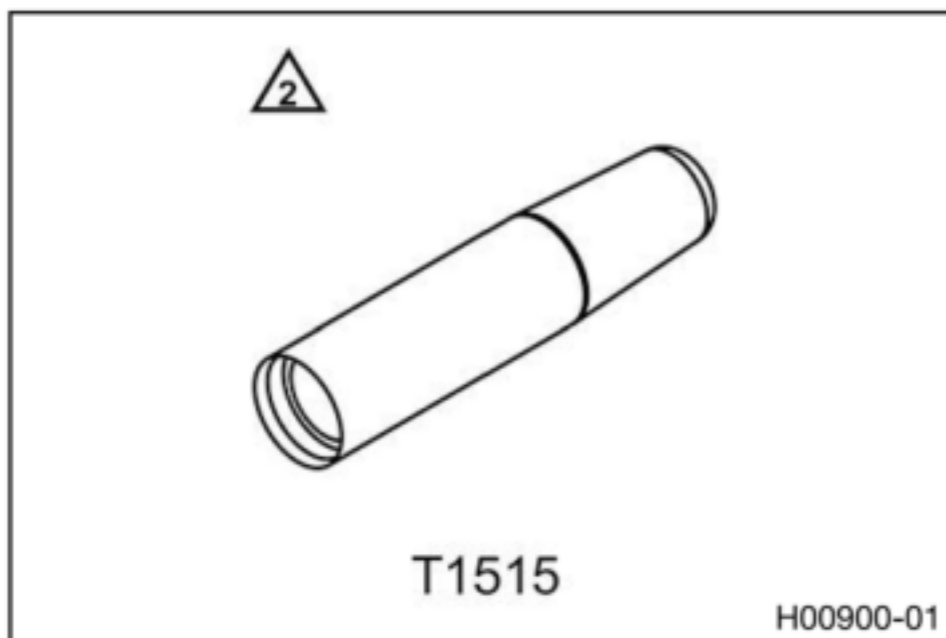


Art. no.: T14040S

Feature

Diameter	48 mm (1.89 in)
----------	-----------------

Mounting sleeve

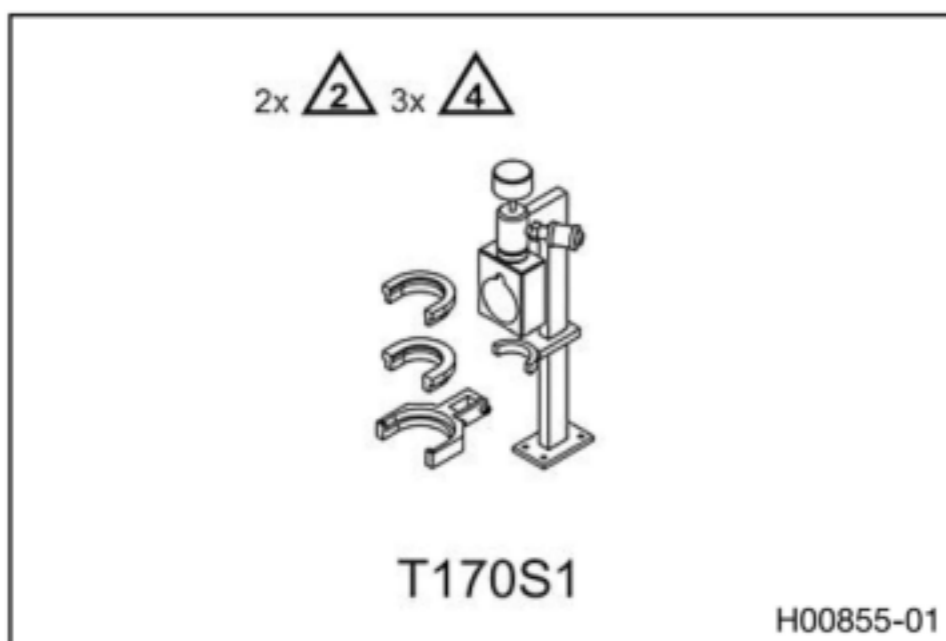


Art. no.: T1515

Feature

Diameter	18 mm (0.71 in)
----------	-----------------

Filling tool



Art. no.: T170S1

JASO T903 MA2

Different technical development directions required a separate specification for motorcycles – the **JASO T903 MA2** standard.

Earlier, engine oils from the automobile industry were used for motorcycles because there was no separate motorcycle specification.

Whereas long service intervals are demanded for automobile engines, the focus for motorcycle engines is on high performance at high engine speeds.

In most motorcycle engines, the transmission and clutch are lubricated with the same oil.

The **JASO T903 MA2** standard meets these special requirements.

SAE

The SAE viscosity classes were defined by the Society of Automotive Engineers and are used for classifying oils according to their viscosity. The viscosity describes only one property of oil and says nothing about quality.

ABS	Anti-lock braking system	Safety system that prevents locking of the wheels when driving straight ahead without the influence of lateral forces
PA	Preload adjuster	Device on the suspension components that enables the adjustment of the spring preload

Art. no.	Article number
ca.	circa
cf.	compare
e.g.	for example
etc.	et cetera
i.a.	inter alia
no.	number
poss.	possibly

1	
12-V battery	
charging	142
connecting	142
disconnecting	141
installing	140
removing	139
A	
ABS	151
ABS fuses	
changing	148
Accessories	9
Air filter	
installing	86
removing	86
Air filter box	
installing	89
removing	87
Alternator	
stator winding, checking	297
Anti-lock braking system	151
Assembling the engine	
clutch cover, installing	249
locking lever, installing	245
oil screens, installing	266
shift drum locating, installing	246
shift shaft, installing	246
spacer and spring, installing	249
taking engine off universal mounting rack	267
thermostat, installing	263
valve cover, installing	265
water pump cover, mounting	252
Auxiliary substances	9
B	
Brake disc	
front brake, changing	118
of rear brake, changing	129
Brake discs	
checking	112
Brake fluid	
front brake, adding	156
front brake, changing	157
of rear brake, adding	163
of rear brake, changing	164
Brake fluid level	
front brake, checking	155
rear brake, checking	162

Brake linings	
front brake, changing	153
front brake, checking	153
of rear brake, changing	159
rear brake, checking	159

C	
Capacity	
coolant	283, 286, 318
engine oil	184, 295, 318
fuel	318

Chain	
checking	131
cleaning	135
opening	134
riveting	134

Chain guide	
checking	131
setting	131

Chain tension	
adjusting	130
checking	130

Changing the headlight bulb	172
------------------------------------	-----

Charging voltage	
checking	144

Clutch	
fluid level, checking/correcting	268
fluid, changing	269

Combination instrument	
adjusting the kilometers or miles	167
service display, setting	168
setting the clock	167
wheel circumference, adjusting	168

Coolant	
antifreeze and coolant level, checking	283
changing	285
draining	282
level, checking	284

Cooling system	
filling/bleeding	282

Cylinder - Nikasil® coating	213
------------------------------------	-----

D	
Diagnostics connector	150
Disassembling the engine	
alternator cover, removing	187
clutch cover, removing	195
crankshaft and balancer shaft, removing	202
engine oil, draining	185
locking lever, removing	199

shift drum locating, removing	199	drive gear wheel of the balancer shaft, installing	211
spacer and spring, removing	196	drive gear wheel of the balancer shaft, removing	208
spacer, removing	187	freewheel, checking	240
spark plugs, removing	186	freewheel, removing	240
transmission shafts, removing	202	main shaft, assembling	237
valve cover, removing	186	oil pumps, checking for wear	216
Drivetrain kit		piston ring end gap, checking	216
changing	137	section of the engine case, left	205
E		section of the engine case, right	203
Engine		shift mechanism, checking	232
installing	178	valves, installing	227
removing	174	water pump impeller	207
Engine - Work on individual parts		Engine assembly	
crankshaft run-out at bearing pin, checking	211	alternator cover, installing	265
cylinder head, checking	226	camshafts, installing	256
piston, checking/measuring	214	clutch basket, installing	247
piston/cylinder mounting clearance, determin- ing	216	clutch push rod, installing	266
shift shaft, preassembling	233	crankshaft and balancer shaft, installing	243
timing chain tensioner, preparing for installa- tion	218	crankshaft speed sensor distance, adjusting	251
valve spring retainer, checking	226	crankshaft speed sensor, installing	250
valve springs, checking	226	cylinder head, installing	255
valves, checking	225	engine, setting to top dead center	252
Engine – work on the individual parts		gear position sensor, installing	264
axial clearance of crankshaft and balancer shaft, measuring	212	left engine case, installing	243
cam lever and rocker arm, installing	228	oil filter, installing	263
camshaft bearing and balancer shaft bearing, changing	221	oil pumps, installing	244
clutch cover	207	piston, installing	253
connecting rod, conrod bearing, and crank pin, changing	208	primary gear wheel, installing	247
crankshaft bearing inner race, installing	212	resonator, installing	267
crankshaft bearing inner race, removing	208	rotor, installing	251
cylinder - Nikasil [®] coating	213	spacer, installing	264
freewheel, installing	241	spark plugs, installing	266
main shaft, disassembling	234	starter drive, installing	246
starter drive, checking	239	starter motor, installing	266
timing assembly, checking	219	timing chain rails, installing	250
transmission, checking	235	timing chain tensioner, installing	258
valves, removing	225	transmission shafts, installing	241
Engine – working on the individual parts		valve clearance, adjusting	260
antihopping clutch, disassembling	229	valve clearance, checking	259
antihopping clutch, preassembling	231	Engine disassembly	
cam lever and rocker arm, demounting	220	camshafts, removing	190
clutch, checking	229	clutch basket, removing	196
countershaft, assembling	238	clutch push rod, removing	186
countershaft, disassembling	235	crankshaft speed sensor, removing	195
cylinder, checking/measuring	213	cylinder head, removing	191
		engine, clamping into the engine assembly stand	184
		engine, positioning at ignition top dead center	189
		gear position sensor, removing	187

- left engine case, removing 201
oil filter, removing 188
oil pumps, removing 200
piston, removing 192
primary gear wheel, removing 198
resonator, removing 185
rotor, removing 194
shift shaft, removing 199
starter drive, removing 198
starter motor, removing 186
thermostat, removing 188
timing chain tensioner, removing 189
timing chain, removing 194
water pump impeller, removing 193
- Engine electronics control unit**
resetting 311
- Engine number** 11
- Engine oil**
adding 296
changing 293
- Engine oil level**
checking 290
- Engine sprocket**
checking 131
- F**
- Figures** 9
- Foot brake lever**
basic position, adjusting 162
free travel, checking 161
- Fork**
compression damping, adjusting 18
dust boots, cleaning 19
rebound, adjusting 18
- Fork bearing**
changing 78
checking 75
- Fork legs**
assembling 26
checking 25
disassembling 22
installing 21
removing 20
- Fork part number** 12
- Fork protector**
installing 20
removing 20
- Frame**
checking 44
- Front fender**
installing 109
removing 109
- Front wheel**
installing 116-117
removing 114-115
- Fuel filter**
changing 101
- Fuel pressure**
checking 98
- Fuel pump**
changing 105
- Fuel screen**
changing 100
- Fuel tank filler cap**
closing 92
opening 92
- Fuel, oils, etc.** 9
- Fuse**
individual power consumers, changing 147
- G**
- Gear position sensor**
changing 279
programming 281
- H**
- Hand brake lever**
basic position, adjusting 155
- Handlebar position** 38
adjusting 38
- Headlight**
light range, adjusting 170
setting, checking 169
- Headlight mask with headlight**
installing 171
removing 170
- Heim joint**
checking 51
- I**
- Ignition coil**
primary winding, checking 300
- Implied warranty** 9
- Initialization run**
performing 311
- K**
- Key number** 11

L

Link fork	
checking	75
installing	77
removing	76

Lower triple clamp	
installing	34
removing	33

M

Main fuse	
changing	146

Main silencer	
installing	85
removing	84

Manifold	
installing	83
removing	82

Manufacturer warranty	9
------------------------------	---

Motorcycle	
cleaning	324
lifting with front lifting gear	13
raising with the rear lifting gear	13
removing from work stand	15
removing the rear from the wheel stand	13
taking off front lifting gear	14
work stand, raising with	14

O

Oil circuit	288
--------------------	-----

Oil filter	
changing	293

Oil nozzle for clutch lubrication	
checking/cleaning	289

Oil pressure	
checking	290

Oil screens	
cleaning	293

P

Parking light bulb	
changing	172

Preparing for use	
after storage	328

R

Rear fairing	
installing	97
removing	96

Rear hub damping rubber pieces	
checking	136

Rear sprocket	
checking	131

Rear sprocket carrier	
changing the bearing	128

Rear wheel	
installing	122, 124
removing	120-121

Riding sag	
adjusting	50

Rim run-out	
checking	113

S

Seat	
mounting	93
removing	93

Service schedule	329-331
-------------------------	---------

Servicing the shock absorber	60
-------------------------------------	----

Shock absorber	
damper, assembling	67
damper, bleeding and filling	70
damper, checking	63
damper, disassembling	61
damper, filling with nitrogen	73
heim joint, changing	55
heim joint, installing	65
heim joint, removing	64
high-speed compression damping, adjusting	45
installing	53
low-speed compression damping, adjusting	46
piston rod, assembling	66
piston rod, disassembling	62
rebound damping, adjusting	47
removing	52
riding sag, checking	49
shock absorber, servicing	60
silent block, changing	57
spring preload, adjusting	49
spring, installing	74
spring, removing	60
static sag, checking	48

Shock absorber article number	12
--------------------------------------	----

Shock absorber linkage	
checking	57

Side cover	
mounting	94
removing	93

Side cover, rear left	
installing	96
removing	95
Side cover, rear right	
installing	95
removing	94
Spare parts	9
Spark plugs	
changing	301
Spoke tension	
checking	112
Starting	15
for checking the function	17
Steering head bearing	
changing	36
Steering head bearing play	
adjusting	32
checking	31
Storage	327

T

Technical data	
capacities	318
chassis	318
chassis tightening torques	321
electrical system	319
engine	313
engine tightening torques	315
engine tolerance, wear limits	314
fork	319
shock absorber	320
tires	319
Throttle grip	
changing	39
Tire condition	
checking	110
Tire pressure	
checking	110
Turn signal bulb	
changing	173
Type label	10

V

Valve clearance	
adjusting	308
checking	303
Vehicle identification number	10

W

Wheel bearing	
checking	111
of front wheel, changing	119
of the rear wheel, changing	126
Winter operation	
checks and maintenance steps	325
Wiring diagram	332-375
Page 01 of 11	332, 354
Page 02 of 11	334, 356
Page 03 of 11	336, 358
Page 04 of 11	338, 360
Page 05 of 11	340, 362
Page 06 of 11	342, 364
Page 07 of 11	344, 366
Page 08 of 11	346, 368
Page 09 of 11	348, 370
Page 10 of 11	350, 372
Page 11 of 11	352, 374
Work rules	8

PIONEERING SINCE 1903



3403093en

08/2018



Husqvarna[®]
MOTORCYCLES

Husqvarna Motorcycles GmbH
Stallhofnerstraße 3 | 5230 Mattighofen | Austria
www.husqvarna-motorcycles.com



Photo: Mitterbauer,
Husqvarna Motorcycles GmbH