OWNER'S MANUAL 2024

READY TO RACE

250 SX
300 SX
250 XC
300 XC

ART. NO. 3214833EN



DEAR KTM CUSTOMER

Congratulations on your decision to purchase a KTM motorcycle. You are now the owner of a state-of-the-art sports vehicle which, with appropriate care, will bring you pleasure for a long time to come.

We wish you good and safe riding at all times!

Enter the serial numbers of your vehicle below.

Vehicle identification number (📖 p. 12)	Dealer's stamp
Engine number (📖 p. 12)	

The Owner's Manual contained the latest information for this model series at the time of publication. However, minor differences due to further developments in design cannot be ruled out completely.

All specifications contained herein are non-binding. KTM Sportmotorcycle 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. KTM accepts no liability for delivery options, deviations from figures and descriptions, misprints, and other errors. The models portrayed partly contain special equipment that does not belong to the regular scope of supply.

© 2023 KTM Sportmotorcycle 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.

ISO 9001(12 100 6061)
KTM 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

REG.NO. 12 100 6061

KTM Sportmotorcycle GmbH
Stallhofnerstraße 3
5230 Mattighofen, Austria

This document is valid for the following models:

250 SX (F6301X0)

300 SX (F6401X1)

250 XC (F6375X5)

300 XC (F6475X5)

3214833en

14.03.2023

TABLE OF CONTENTS

1 MEANS OF REPRESENTATION 5
1.1 Symbols used 5
1.2 Formats used 5
2 SAFETY ADVICE 6
2.1 Use definition – intended use 6
2.2 Misuse 6
2.3 Safety advice 6
2.4 Degrees of risk and symbols 6
2.5 Tampering warning 7
2.6 Safe operation 7
2.7 Protective clothing 7
2.8 Work rules 8
2.9 Environment 8
2.10 Owner's Manual 8
3 IMPORTANT NOTES 9
3.1 Manufacturer warranty, implied warranty 9
3.2 Fuel, auxiliary substances 9
3.3 Spare parts, technical accessories 9
3.4 Service 9
3.5 Figures 9
3.6 Customer service 9
4 VIEW OF VEHICLE 10
4.1 View of vehicle, front left (example) 10
4.2 View of vehicle, rear right (example) 11
5 SERIAL NUMBERS 12
5.1 Vehicle identification number 12
5.2 Steering head label 12
5.3 Engine number 12
5.4 Fork part number 12
5.5 Shock absorber article number 13
6 CONTROLS 14
6.1 Clutch lever 14
6.2 Hand brake lever 14
6.3 Throttle grip 15
6.4 Stop button 15
6.5 Start button 16
6.6 Combination switch 16
6.7 Overview of indicator lights (All SX models) 16
6.8 Overview of indicator lights (All XC models) 17
6.9 Combination instrument 17
6.10 Opening fuel tank filler cap 17
6.11 Closing the fuel tank filler cap 18
6.12 Cold start button 19
6.13 Idle speed adjusting screw 19
6.14 Shift lever 19
6.15 Foot brake lever 20
6.16 Plug-in stand (All SX models) 20
6.17 Side stand (All XC models) 21
7 PREPARING FOR USE 22
7.1 Advice on preparing for first use 22
7.2 Running in the engine 23
7.3 Starting power of lithium-ion batteries at low temperatures 24
7.4 Preparing the vehicle for difficult operating conditions 24
7.5 Preparing the vehicle for rides on dry sand 24
7.6 Preparing the vehicle for rides on wet sand 25
7.7 Preparing the vehicle for rides on wet and muddy circuits 26
7.8 Preparing vehicle for high temperatures or slow riding 26
7.9 Preparing the vehicle for low temperatures or snow 26
8 RIDING INSTRUCTIONS 27
8.1 Checks and maintenance measures when preparing for use 27
8.2 Starting the vehicle 27
8.3 Starting off 28
8.4 Shifting, riding 29
8.5 Braking 29
8.6 Stopping, parking 30
8.7 Transporting 30
8.8 Refueling 31
9 SERVICE SCHEDULE 33
9.1 Additional information 33
9.2 Service schedule 33
10 TUNING THE CHASSIS 35
10.1 Checking the basic chassis setting with rider's weight 35
10.2 Compression damping of the shock absorber 35
10.3 Adjusting the low-speed compression damping of the shock absorber 35
10.4 Adjusting the high-speed compression damping of the shock absorber 36
10.5 Adjusting the rebound damping of the shock absorber 37
10.6 Measuring the dimension of the rear wheel unloaded 37
10.7 Checking the static sag of the shock absorber 38
10.8 Checking the riding sag of the shock absorber 38

10.9 Adjusting the spring preload of the shock absorber 🔧 ... 39
10.10 Adjusting the riding sag 🔧 ... 40
10.11 Air suspension XACT ... 41
10.12 Checking the basic setting of the fork ... 41
10.13 Adjusting the fork air pressure (All SX models) ... 42
10.14 Adjusting the compression damping of the fork ... 43
10.15 Adjusting the rebound damping of the fork ... 44
10.16 Handlebar position ... 45
10.17 Adjusting the handlebar position 🔧 ... 45

11 SERVICE WORK ON THE CHASSIS ... 48

11.1 Raising the motorcycle with a lift stand ... 48
11.2 Removing the motorcycle from the lift stand ... 48
11.3 Bleeding the fork legs ... 49
11.4 Cleaning the dust boots of the fork legs ... 49
11.5 Removing the fork protector ... 50
11.6 Installing the fork protector ... 50
11.7 Removing the engine guard (All XC models) ... 51
11.8 Installing the engine guard (All XC models) ... 51
11.9 Removing the frame protector ... 52
11.10 Installing the frame protector ... 52
11.11 Removing the fork legs 🔧 ... 52
11.12 Installing the fork legs 🔧 ... 53
11.13 Removing the lower triple clamp 🔧 ... 54
11.14 Installing the lower triple clamp 🔧 ... 54
11.15 Checking steering head bearing play ... 56
11.16 Adjusting steering head bearing play 🔧 ... 57
11.17 Lubricating the steering head bearing 🔧 ... 58
11.18 Removing the start number plate ... 58
11.19 Installing the start number plate ... 58
11.20 Removing front fender ... 58
11.21 Installing front fender ... 59
11.22 Removing the shock absorber 🔧 ... 60
11.23 Installing the shock absorber 🔧 ... 61
11.24 Removing the seat ... 62
11.25 Mounting the seat ... 63
11.26 Removing the air filter box cover ... 63
11.27 Installing the air filter box cover ... 64
11.28 Removing the air filter 🔧 ... 66
11.29 Cleaning the air filter and air filter box 🔧 ... 66
11.30 Installing the air filter 🔧 ... 67
11.31 Preparing air filter box cover for securing 🔧 ... 68
11.32 Removing the main silencer ... 68
11.33 Installing the main silencer ... 68
11.34 Changing the glass fiber yarn filling in the main silencer 🔧 ... 69
11.35 Removing the fuel tank 🔧 ... 69
11.36 Installing the fuel tank 🔧 ... 71
11.37 Checking the chain for dirt ... 72
11.38 Cleaning the chain ... 72
11.39 Checking the chain tension ... 73
11.40 Adjusting the chain tension ... 74
11.41 Checking the chain, rear sprocket, engine sprocket, and chain guide ... 75
11.42 Checking the frame 🔧 ... 77
11.43 Checking the link fork 🔧 ... 77
11.44 Checking the throttle cable routing ... 77
11.45 Checking the rubber grip ... 78
11.46 Adjusting the basic position of the clutch lever ... 79
11.47 Checking/correcting the fluid level of hydraulic clutch ... 79
11.48 Changing the hydraulic clutch fluid 🔧 ... 80

12 BRAKE SYSTEM ... 82

12.1 Checking the free travel of the hand brake lever ... 82
12.2 Adjusting the basic position of the hand brake lever ... 82
12.3 Checking the brake discs ... 82
12.4 Checking the front brake fluid level ... 83
12.5 Adding front brake fluid 🔧 ... 84
12.6 Checking that the brake linings of the front brake are secured ... 85
12.7 Changing the brake linings of the front brake 🔧 ... 86
12.8 Checking the free travel of foot brake lever ... 88
12.9 Adjusting the basic position of the foot brake lever 🔧 ... 88
12.10 Checking the rear brake fluid level ... 89
12.11 Adding rear brake fluid 🔧 ... 90
12.12 Checking that the brake linings of the rear brake are secured ... 91
12.13 Changing the rear brake linings 🔧 ... 91

13 WHEELS, TIRES ... 94

13.1 Removing the front wheel 🔧 ... 94
13.2 Installing the front wheel 🔧 ... 95
13.3 Removing the rear wheel 🔧 ... 95
13.4 Installing the rear wheel 🔧 ... 96
13.5 Checking the tire condition ... 98
13.6 Checking tire pressure ... 98
13.7 Checking spoke tension ... 99

TABLE OF CONTENTS

14 ELECTRICAL SYSTEM 100
14.1 Removing the 12-V battery 100
14.2 Installing the 12-V battery 101
14.3 Charging the 12-V battery 102
14.4 Changing the main fuse 103
14.5 Changing the fuse of the fuel pump 104
14.6 Diagnostics connector 105
15 COOLING SYSTEM 106
15.1 Cooling system 106
15.2 Checking the antifreeze and coolant level 106
15.3 Checking the coolant level 107
15.4 Draining the coolant 107
15.5 Refilling with coolant 108
15.6 Changing the coolant 110
16 EXHAUST CONTROL 112
16.1 Programming the end positions of the exhaust control 112
17 TUNING THE ENGINE 114
17.1 Changing the mapping 114
17.2 Checking the play in the throttle cable 114
17.3 Adjusting the play in the throttle cable 115
17.4 Adjusting the idle speed 115
17.5 Checking the basic position of the shift lever 116
17.6 Adjusting the basic position of the shift lever 117
18 SERVICE WORK ON THE ENGINE 118
18.1 Changing the fuel screen 118
18.2 Checking the gear oil level 119
18.3 Changing the gear oil 119
18.4 Adding the gear oil 120
19 CLEANING, CARE 122
19.1 Cleaning the motorcycle 122
20 STORAGE 124
20.1 Storage 124
20.2 Preparing for use after storage 125
21 TROUBLESHOOTING 126
22 BLINK CODE 128
23 TECHNICAL SPECIFICATIONS 130
23.1 Engine 130
23.2 Engine tightening torques 131
23.3 Capacities 132
23.3.1 Gear oil 132
23.3.2 Coolant 132
23.3.3 Fuel 132
23.4 Chassis 132
23.5 Electrical system 133
23.6 Tires 133
23.7 Fork 133
23.7.1 All SX models 133
23.7.2 All XC models 134
23.8 Shock absorber 134
23.8.1 All SX models 134
23.8.2 All XC models 135
23.9 Chassis tightening torques 136
24 SUBSTANCES 138
25 AUXILIARY SUBSTANCES 140
26 STANDARDS 142
27 INDEX OF SPECIAL TERMS 143
28 LIST OF ABBREVIATIONS 144
29 LIST OF SYMBOLS 145
29.1 Yellow and orange symbols 145
29.2 Green and blue symbols 145
INDEX 146

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 work that requires expert knowledge and technical understanding. In the interest of your own safety, have these jobs performed by an authorized KTM workshop! Your motorcycle will be cared for there to the highest degree by specially trained experts using the special tools required.
	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 the end of an activity, including potential reworking.

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.
Underlined terms	Refer to technical details of the vehicle or indicate technical terms, which are explained in the glossary.

2.1 Use definition – intended use

(All SX models)

This vehicle has been designed and built to withstand the normal stresses and strains of racing. This vehicle complies with the currently valid regulations and categories of the top international motorsports organizations.

Info
Only operate this vehicle in closed-off areas remote from public road traffic.

(All XC models)

This vehicle has been designed and built to withstand the normal stresses and strains of racing. This vehicle complies with the currently valid regulations and categories of the top international motorsports organizations.

Info
This vehicle is designed for use in offroad endurance competition, and not primarily for use in motocross.
Only operate this vehicle in closed-off areas remote from public road traffic.

2.2 Misuse

The vehicle must only be used as intended.
Dangers can arise for people, property and the environment through use not as intended.
Any use of the vehicle beyond the intended and defined use constitutes misuse.
Misuse also includes the use of operating and auxiliary fluids which do not meet the required specification for the respective use.

2.3 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.

2.4 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.

2.5 Tampering warning

Tampering with the noise control system is prohibited. Federal law prohibits the following acts or the causing thereof:

1 The removal or rendering inoperative by any person other than for purposes of servicing, repair, or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use, or

2 the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

Among those acts presumed to constitute tampering are the acts listed below:

1 Removal or puncturing of the main silencers, baffles, header pipes or any other components which conduct exhaust gases.

2 Removal or puncturing of parts of the intake system.

3 Lack of proper maintenance.

4 Replacing moving parts of the vehicle, or parts of the exhaust system or intake system, with parts other than those specified by the manufacturer.

2.6 Safe operation

Danger

Danger of accidents A rider who is not fit to ride poses a danger to him or herself and others.

– Do not operate the vehicle if you are not fit to ride due to alcohol, drugs or medication.

– Do not operate the vehicle if you are physically or mentally impaired.

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.

Warning

Danger of burns Some vehicle components become hot when the vehicle is operated.

– Do not touch any parts such as the exhaust system, radiator, engine, damper, or brake system before the vehicle parts have cooled down.

– Let the vehicle parts cool down before you perform any work on the vehicle.

Only operate the vehicle when it is in perfect technical condition, in accordance with its intended use, and in a safe and environmentally compatible manner.
The vehicle should only be used by trained persons.
Have malfunctions that impair safety promptly eliminated by an authorized KTM workshop.
Adhere to the information and warning labels on the vehicle.

2.7 Protective clothing

Warning

Risk of injury Missing or poor protective clothing presents an increased safety risk.

– Wear appropriate protective clothing such as helmet, boots, gloves as well as trousers and a jacket with protectors on all rides.

– Always wear protective clothing that is in good condition and meets the legal regulations.

In the interest of your own safety, KTM recommends that you only operate the vehicle while wearing protective clothing.

2.8 Work rules

Unless specified otherwise, the ignition must be turned off during all work (models with ignition lock, models with remote key) or the engine must be at a standstill (models without ignition lock or remote key).
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)
Unless otherwise noted, normal conditions apply to all tasks and descriptions.

Ambient temperature	20 °C (68 °F)
Ambient air pressure	1,013 mbar (14.69 psi)
Relative air humidity	60 ± 5 %

During assembly, use new parts to replace parts which cannot be reused (e.g. self-locking screws and nuts, expansion screws, 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.
If thread locker (e.g., **Precote®**) has already been applied to a new part, do not apply any additional thread locker.
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.

2.9 Environment

If you use your motorcycle responsibly, you can ensure that problems and conflicts do not occur. To protect the future of the motorcycle sport, make sure that you use your motorcycle legally, display environmental consciousness, and respect the rights of others.
When disposing of used oil, other operating and auxiliary fluids, and used components, comply with the laws and regulations of the respective country.
Because motorcycles are not subject to the EU regulations governing the disposal of used vehicles, there are no legal regulations that pertain to the disposal of an end-of-life motorcycle. Your authorized KTM dealer will be glad to advise you.

2.10 Owner's Manual

Read this owner's manual carefully and completely before making your first trip. The Owner's Manual contains useful information and many tips on how to operate, handle, and service your motorcycle. This is the only way to find out how best to customize the vehicle for your own use and how you can protect yourself from injury.

Tip
Store the Owner's Manual on your terminal device, for example, so that you can read it whenever you need to.

If you would like to know more about the vehicle or have questions on the material you read, please contact an authorized KTM dealer.
The Owner's Manual is an important component of the vehicle. If the vehicle is sold, the Owner's Manual must be downloaded again by the new owner.
The Owner's Manual can be downloaded several times using the QR code or the link on the delivery certificate.

The Owner's Manual is also available for download from your authorized KTM dealer and on the KTM website. A printed copy can also be ordered from your authorized KTM dealer.
International KTM Website: KTM.COM

3.1 Manufacturer warranty, implied warranty

The work prescribed in the service schedule must only be carried out in an authorized KTM workshop and confirmed in the **KTM Dealer.net**, as otherwise all warranty claims will be void. Damage or secondary damage caused by tampering with and/or conversions on the vehicle are not covered by the manufacturer warranty.

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 fuels and auxiliary substances in accordance with the Owner's Manual and specification.

3.3 Spare parts, technical accessories

For your own safety, only use spare parts and accessory products that are approved and/or recommended by KTM and have them installed by an authorized KTM workshop. KTM accepts no liability for other products and any resulting damage or loss.
Certain spare parts and accessory products are specified in parentheses in the descriptions. Your authorized KTM dealer will be glad to advise you.

The latest news **KTM PowerParts** on your vehicle can be found on the KTM website.
International KTM Website: KTM.COM

3.4 Service

A prerequisite for perfect operation and prevention of premature wear is that the service, care, and tuning work on the engine and chassis is properly carried out as described in the Owner's Manual. An incorrect suspension setting can lead to damage and breakage of chassis components.
Use of the vehicle under difficult conditions, such as on sand or on wet, dusty and muddy surfaces, can result in significantly increased wear of components, such as the drive train, brake system, air filter or suspension components. For this reason, it may be necessary to inspect or replace parts before the next scheduled service.
It is imperative that you adhere to the stipulated run-in times and service intervals. If you observe these exactly, you will ensure a much longer service life for your motorcycle.
The relevant mileage or time interval is whichever occurs first.

3.5 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.

3.6 Customer service

Your authorized KTM dealer will be happy to answer any questions you may have on your vehicle and KTM.

A list of authorized KTM dealers can be found on the KTM website.
International KTM Website: KTM.COM

4 VIEW OF VEHICLE

4.1 View of vehicle, front left (example)



1. Hand brake lever (p. 14)
2. Clutch lever (p. 14)
3. Air filter box cover
4. Shift lever (p. 19)

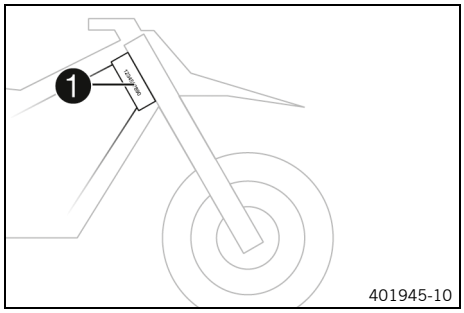
4.2 View of vehicle, rear right (example)



1. Shock absorber compression adjuster
2. Combination switch (📖 p. 16)
3. Stop button (📖 p. 15)
3. Start button (📖 p. 16)
4. Throttle grip (📖 p. 15)
5. Fork compression adjuster
6. Vehicle identification number (📖 p. 12)
7. Fork rebound adjustment
8. Foot brake lever (📖 p. 20)
9. Shock absorber rebound adjuster

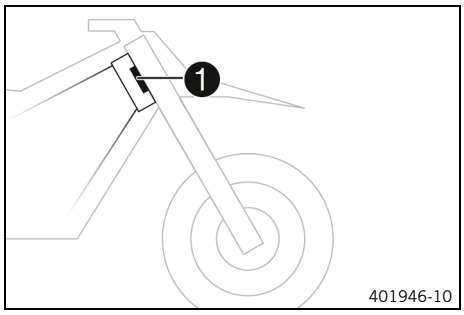
5 SERIAL NUMBERS

5.1 Vehicle identification number



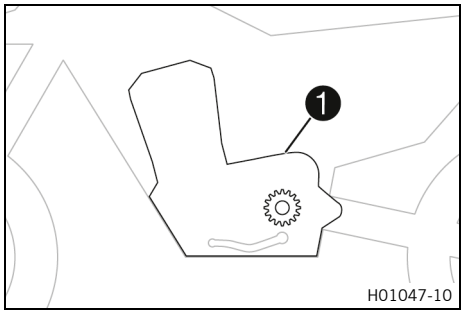
The vehicle identification number ❶ is stamped on the right side of the steering head.

5.2 Steering head label



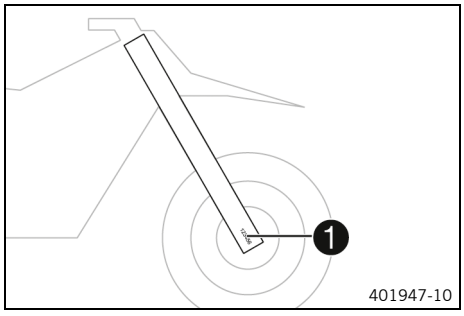
The steering head label ❶ is attached to the front of the steering head.

5.3 Engine number



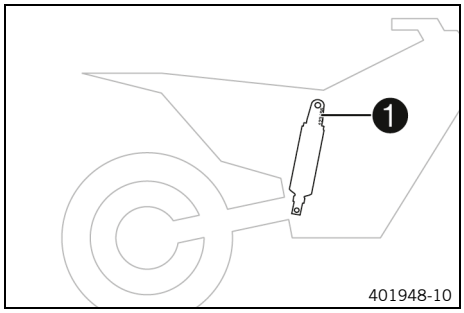
Engine number ❶ is embossed on the left side of the engine above the engine sprocket.

5.4 Fork part number



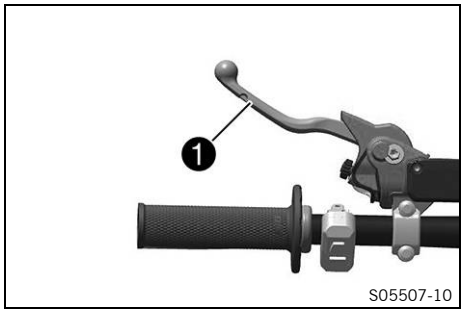
The fork part number ❶ is stamped on the inside of the axle clamp.

5.5 Shock absorber article number



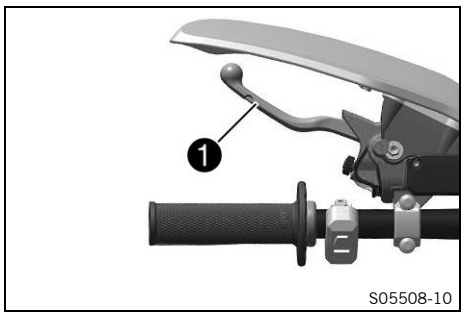
Shock absorber article number ❶ is stamped on the top of the shock absorber above the adjusting ring towards the engine side.

6.1 Clutch lever



(All SX models)

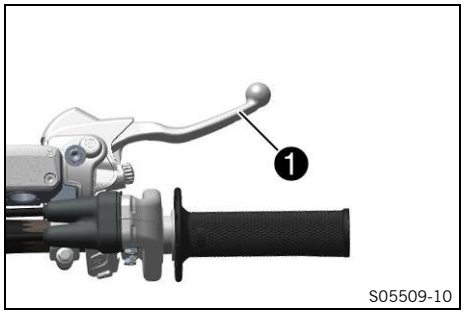
Clutch lever ❶ is fitted on the handlebar on the left.
The clutch is activated hydraulically and adjusts itself automatically.



(All XC models)

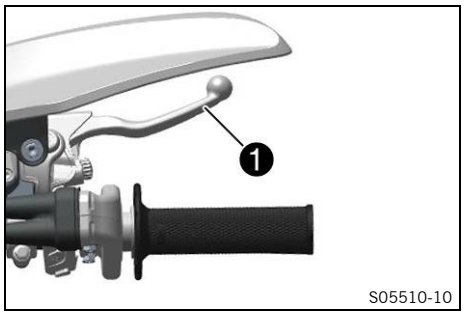
Clutch lever ❶ is fitted on the handlebar on the left.
The clutch is activated hydraulically and adjusts itself automatically.

6.2 Hand brake lever



(All SX models)

Hand brake lever ❶ is located on the right side of the handlebar.

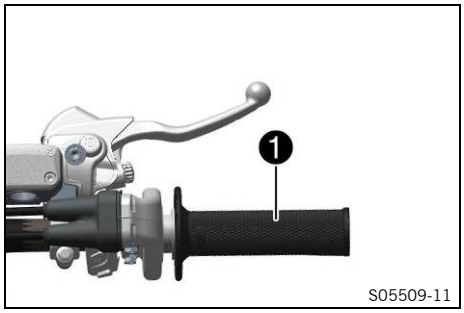


(All XC models)

Hand brake lever ❶ is located on the right side of the handlebar.

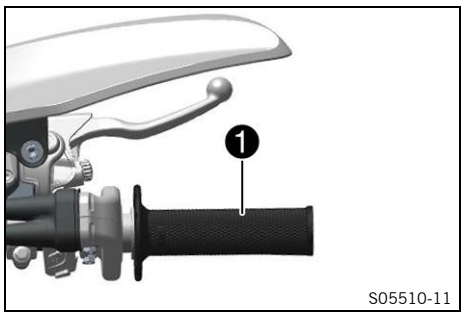
The front brake is engaged using the hand brake lever.

6.3 Throttle grip



(All SX models)

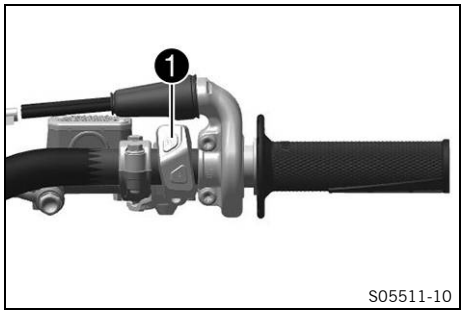
The throttle grip ❶ is fitted on the right side of the handlebar.



(All XC models)

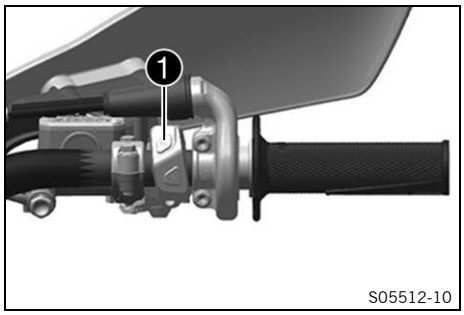
The throttle grip ❶ is fitted on the right side of the handlebar.

6.4 Stop button



(All SX models)

The stop button ❶ is located on the right side of the handlebar.



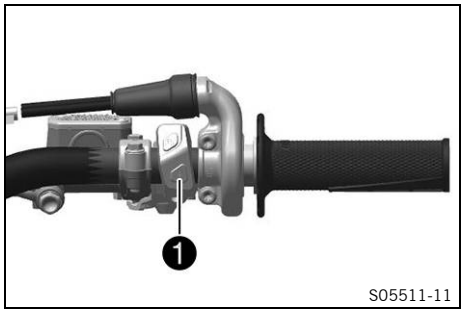
(All XC models)

The stop button ❶ is located on the right side of the handlebar.

Possible states

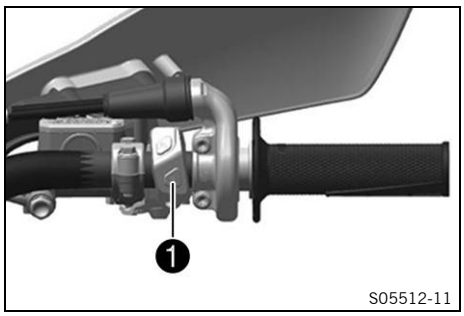
- The stop button ⊠ is in the basic position – In this position, the ignition circuit is closed and the engine can be started.
- Stop button ⊠ pressed – In this position, the ignition circuit is interrupted, a running engine stops, and a non-running engine will not start.

6.5 Start button



(All SX models)

Start button ❶ is fitted on the right side of the handlebar.



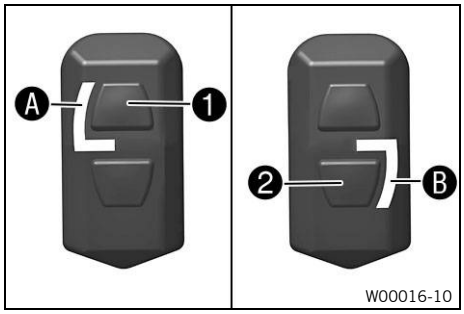
(All XC models)

Start button ❶ is fitted on the right side of the handlebar.

Possible states

- The start button is in the basic position
- The start button is pressed – In this position, the starter motor is actuated.

6.6 Combination switch



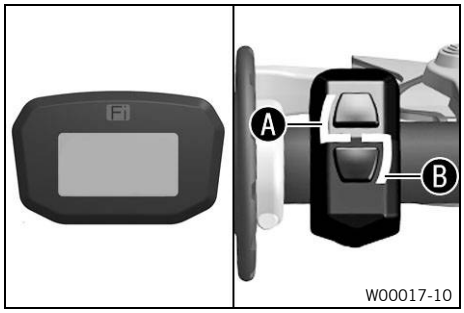
The combination switch is fitted on the left side of the handlebar.

Possible states

1	STANDARD – STANDARD mapping is activated when the indicator lamp Ⓐ lights up.
2	ADVANCED – ADVANCED mapping is activated when the indicator lamp Ⓑ lights up.

The engine characteristic can be changed using button ❶ and button ❷ on the combination switch.

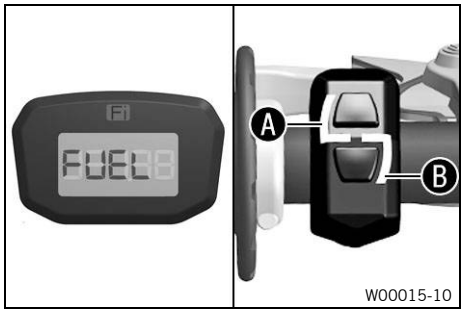
6.7 Overview of indicator lights (All SX models)



Possible states

Fi	Malfunction indicator lamp lights up/flashes orange – The OBD has detected a malfunction in the vehicle electronics.
	Indicator lamp Ⓐ lights up white – STANDARD mapping is activated.
	Indicator lamp Ⓑ lights up green – ADVANCED mapping is activated.

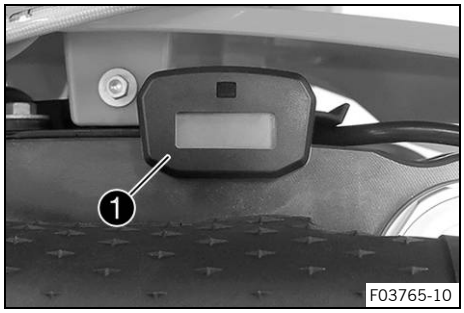
6.8 Overview of indicator lights (All XC models)



Possible states

Fi	Malfunction indicator lamp lights up/flashes orange – The OBD has detected a malfunction in the vehicle electronics.
L	Indicator lamp Ⓐ lights up white – STANDARD mapping is activated.
7	Indicator lamp Ⓑ lights up green – ADVANCED mapping is activated.
FUEL	**FUEL** is displayed – The fuel level has reached the reserve mark.

6.9 Combination instrument



The combination instrument ❶ is attached in front of the handlebar.
The combination instrument shows the total number of operating hours of the engine.
The operating hour counter begins counting when the engine is started and stops when the engine is switched off.

Info
Nothing can be cleared or adjusted on the combination instrument.
As soon as the diagnostics tool is connected, the service hour counter starts running.
Before longer diagnostic sessions, unplug the service hour counter behind the start number plate.

6.10 Opening fuel tank filler cap

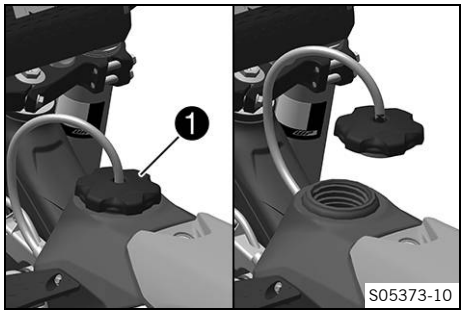
Danger
Fire hazard Fuel is highly flammable.
The fuel in the fuel tank expands when warm and can escape if overfilled.
- Do not fuel the vehicle in the vicinity of open flames or lit cigarettes.
- Switch off the engine for refueling.
- Make sure that no fuel is spilled; particularly not on hot parts of the vehicle.
- If any fuel is spilled, wipe it off immediately.
- Observe the specifications for refueling.

Warning
Danger of poisoning Fuel is harmful to health.
- Avoid skin, eye and clothing contact with fuel.
- Immediately consult a doctor if you swallow fuel.
- Do not inhale fuel vapors.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.
- Change your clothing if fuel spills on them.
- Keep fuels correctly in a suitable canister, and out of the reach of children.

Note

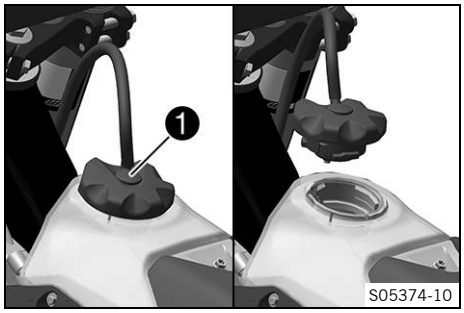
Environmental hazard Improper handling of fuel is a danger to the environment.

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



(All SX models)

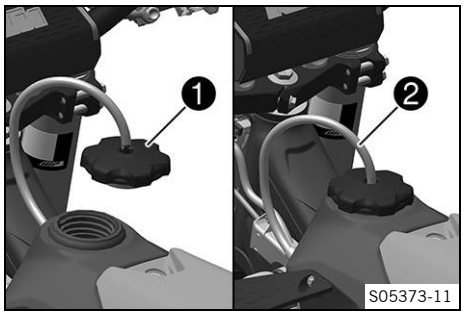
– Turn fuel tank filler cap ❶ counterclockwise and lift it off.



(All XC models)

– Press release button ❶, turn the fuel tank filler cap counterclockwise, and lift it off.

6.11 Closing the fuel tank filler cap

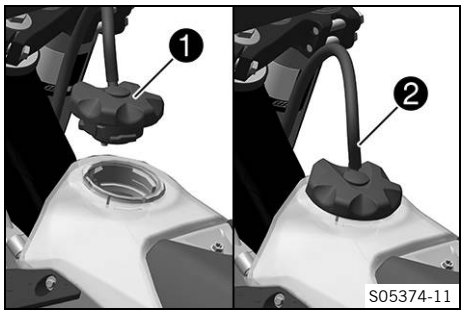


(All SX models)

– Mount fuel tank filler cap ❶ and turn it clockwise until the fuel tank is tightly closed.

Info

Route fuel tank breather hose ❷ without kinks.



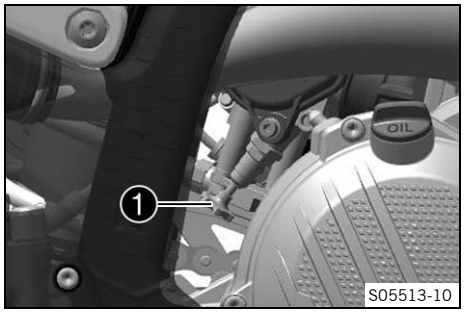
(All XC models)

– Mount filler cap ❶ and turn it clockwise until the release button engages.

Info

Route fuel tank breather hose ❷ without kinks.

6.12 Cold start button



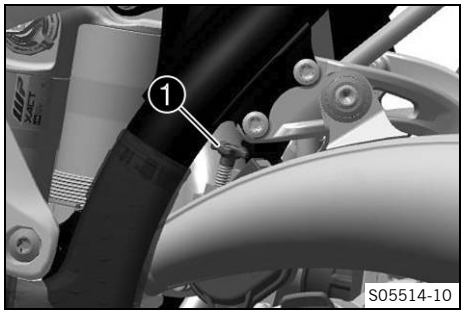
The cold start button ❶ is fitted to the bottom of the throttle valve body.
The electronic fuel injection system extends the injection time if the engine is cold and the ambient temperature is low. To help the engine burn the increased fuel quantity, it must be supplied with additional oxygen by pushing the cold start button.
After briefly opening up the throttle and then releasing the throttle grip again, or turning the throttle grip towards the front, the cold start button returns to its original position.

Info
Check whether the cold start button has returned to its basic position.

Possible states

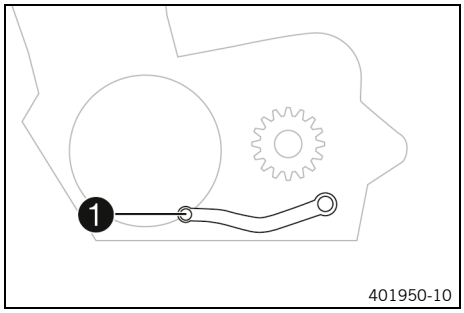
- The cold start button is activated – The cold start button is pushed in all the way.
- The cold start button is deactivated – The cold start button is in its basic position.

6.13 Idle speed adjusting screw

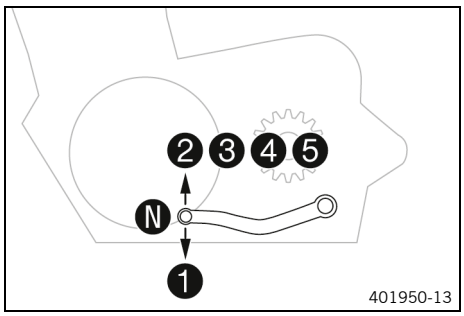


The idle setting of the throttle valve body substantially influences the vehicle's starting behavior, a stable idle speed, and the vehicle's response when the throttle is opened.
An engine with a correctly set idle speed is easier to start than an engine with the idle speed set incorrectly.
The idle speed is adjusted using the idle speed adjusting screw ❶.
Increase the idle speed by turning the idle speed adjusting screw clockwise.
Decrease the idle speed by turning the idle speed adjusting screw counterclockwise.

6.14 Shift lever

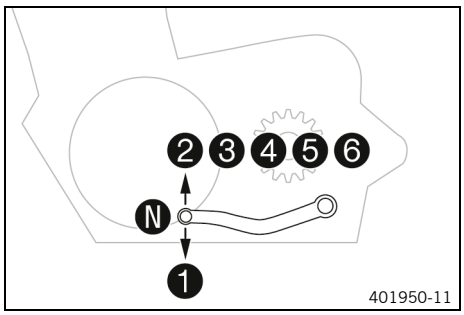


Shift lever ❶ is mounted on the left of the engine.



(All SX models)

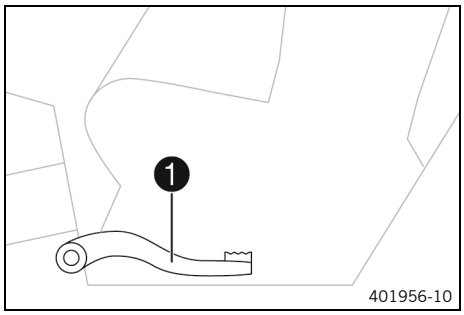
The gear positions can be seen in the figure.
The neutral or idle position is between the first and second gears.



(All XC models)

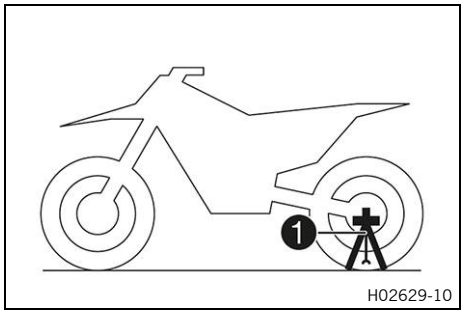
The gear positions can be seen in the figure.
The neutral or idle position is between the first and second gears.

6.15 Foot brake lever



Foot brake lever ❶ is located in front of the right footrest.
The foot brake lever is used to activate the rear brake.

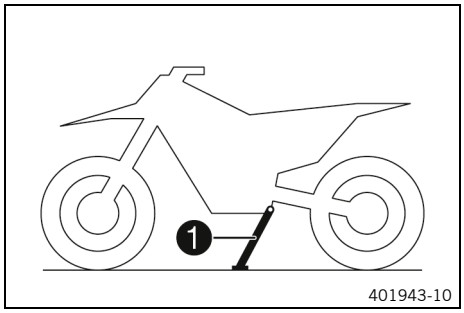
6.16 Plug-in stand (All SX models)



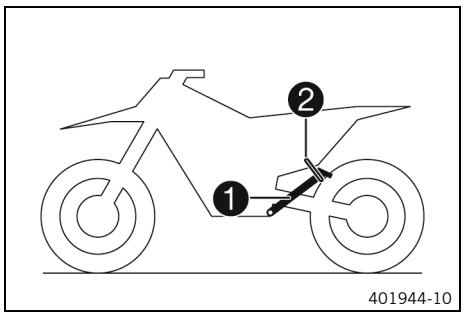
The holder for the plug-in stand ❶ is the left side of the wheel spindle.
The plug-in stand is used to park the motorcycle.
The plug-in stand is used as a fork locker when transporting the motorcycle.

Info
Remove the plug-in stand before riding.

6.17 Side stand (All XC models)



The side stand ❶ is located on the left of the vehicle.



The side stand is used for parking the motorcycle.

Info

When you are riding, side stand ❶ must be folded up and secured with rubber strap ❷.

7.1 Advice on preparing for first use

Danger

Danger of accidents A rider who is not fit to ride poses a danger to him or herself and others.

– Do not operate the vehicle if you are not fit to ride due to alcohol, drugs or medication.
– Do not operate the vehicle if you are physically or mentally impaired.

Warning

Risk of injury Missing or poor protective clothing presents an increased safety risk.

– Wear appropriate protective clothing such as helmet, boots, gloves as well as trousers and a jacket with protectors on all rides.
– Always wear protective clothing that is in good condition and meets the legal regulations.

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 An unadapted riding style impairs the handling characteristic.

– Adapt your riding speed to the road conditions and your riding ability.

Warning

Danger of accidents The vehicle is not designed to carry passengers.

– Do not ride with a passenger.

Warning

Danger of accidents The brake system fails in the event of overheating.

If the foot brake lever is not released, the brake linings drag continuously.

– Take your foot off the foot brake lever if you do not want to brake.

Warning

Danger of accidents Total weight and axle loads influence the handling characteristic.

– Do not exceed the maximum permissible overall weight or the axle loads.

Warning

Risk of injury People who act without authorization may not be familiar with the vehicle.

– Do not leave the vehicle unattended if the engine is running.
– Protect the vehicle against access by unauthorized persons.

Info

When using the motorcycle, remember that others may be disturbed by excessive noise.

– Ensure that the pre-sales inspection work has been carried out by an authorized KTM workshop.
  ✓ You will receive a delivery certificate when the vehicle is handed over.
– Read the entire Owner's Manual before riding for the first time.
– Get to know the controls.
– Adjust the basic position of the clutch lever. (📖 p. 79)
– Adjust the basic position of the hand brake lever. (📖 p. 82)

– Adjust the basic position of the foot brake lever. 🔧 (📖 p. 88)
– Adjust the basic position of the shift lever. 🔧 (📖 p. 117)
– Get used to the handling characteristic of the motorcycle on suitable terrain before undertaking a more challenging ride.

Info
This vehicle is not approved for use on public roads.
When offroad, it is recommended that you are accompanied by another person on another vehicle so that you can help each other.

– Also, ride as slowly as possible and in a standing position to get a better feel for the motorcycle.
– Do not undertake any off-road trips that exceed your ability and experience.
– Hold the handlebar firmly with both hands and keep your feet on the footrests when riding.

(All SX models)
– Do not carry the luggage.

(All XC models)
– If luggage is carried, ensure it is fixed firmly as close as possible to the center of the vehicle and ensure even weight distribution between the front and rear wheels.

Info
Motorcycles react sensitively to any changes of weight distribution.

– Do not exceed the maximum permissible weight and maximum permissible axle loads.
Guideline

Maximum permissible overall weight	335 kg (739 lb.)
Maximum permissible front axle load	145 kg (320 lb.)
Maximum permissible rear axle load	190 kg (419 lb.)

– Check the spoke tension. (📖 p. 99)

Info
The spoke tension must be checked after half an hour of operation.

– Run in the engine. (📖 p. 23)

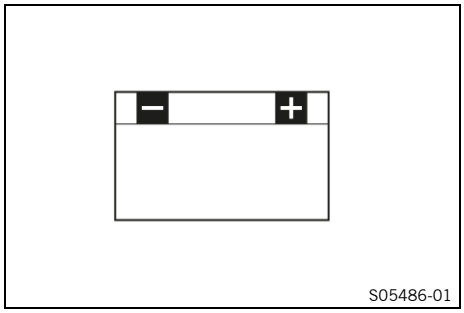
7.2 Running in the engine

– During the running-in phase, do not exceed the specified engine performance.
Guideline

Maximum engine performance	
During the first 3 operating hours	< 70 %
During the first 5 operating hours	< 100 %

– Avoid fully opening the throttle!

7.3 Starting power of lithium-ion batteries at low temperatures



Lithium-ion batteries are far lighter than lead batteries, have a low self-discharge rate, and have more starting power at temperatures over 15 °C (60 °F). At low temperatures, however, the starting power of lithium-ion batteries drops to below that of lead batteries.

Multiple starting attempts may be needed. Press the start button for 5 seconds, and wait 30 seconds between attempts. The pauses are necessary so that the heat created can distribute through the lithium-ion battery and the lithium-ion battery is not damaged.

If the charged lithium-ion battery is unable to actuate the starter motor or does so only weakly when temperatures are below 15 °C (60 °F), the battery is not faulty but needs to be warmed up internally to increase its starting power (current output).

The starting power increases as the battery warms up.

7.4 Preparing the vehicle for difficult operating conditions

Info

Use of the vehicle under difficult conditions, such as on sand or on wet and muddy surfaces, can result in significantly increased wear of components, such as the drive train, brake system, or suspension components. For this reason, it may be necessary to inspect or replace parts before the next scheduled service.

– Prepare air filter box cover for securing. (📖 p. 68)
– Clean the air filter and air filter box. (📖 p. 66)

Info

Check the air filter approx. every 30 minutes.

– Check the electrical connector for humidity and corrosion and to ensure it is firmly seated.
  » If humidity, corrosion, or damage is found:
    – Clean and dry the connector, or change it if necessary.

Difficult operating conditions are:

– Rides on dry sand. (📖 p. 24)
– Rides on wet sand. (📖 p. 25)
– Rides on wet and muddy circuits. (📖 p. 26)
– Rides at high temperatures or slow riding. (📖 p. 26)
– Riding at low temperatures and in snow. (📖 p. 26)

7.5 Preparing the vehicle for rides on dry sand

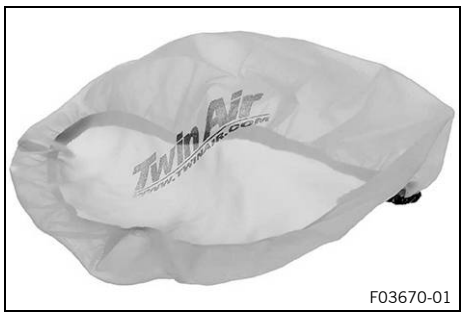


– Mount the air filter dust cover.

Air filter dust cover (A46006920000)

Info

Observe the fitting instructions for **KTM PowerParts**.



F03670-01

– Mount the air filter sand cover.

Air filter sand cover (A46006922000)

Info
Observe the fitting instructions for **KTM PowerParts**.


600868-01

– Clean the chain.

Chain cleaner (📖 p. 140)

– Mount the steel sprocket.
– Grease the chain.

Universal oil spray (📖 p. 141)

– Clean the radiator fins.
– Straighten the bent radiator fins carefully.

7.6 Preparing the vehicle for rides on wet sand



F03668-01

– Mount the air filter rain cover.

Air filter rain cover (A46006921000)

Info
Observe the fitting instructions for **KTM PowerParts**.


600868-01

– Clean the chain.

Chain cleaner (📖 p. 140)

– Mount the steel sprocket.
– Grease the chain.

Universal oil spray (📖 p. 141)

– Clean the radiator fins.
– Straighten the bent radiator fins carefully.

7.7 Preparing the vehicle for rides on wet and muddy circuits



F03668-01

– Mount the air filter rain cover.

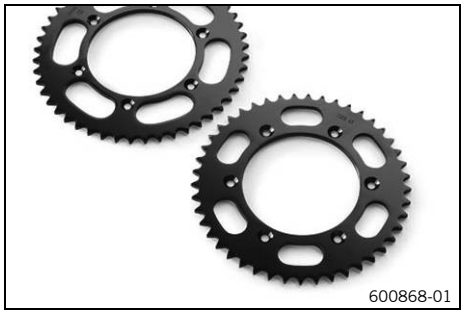
Air filter rain cover (A46006921000)

Info
Observe the fitting instructions for **KTM PowerParts**.


600868-01

– Mount the steel sprocket.
– Clean the motorcycle. (📖 p. 122)
– Straighten the bent radiator fins carefully.

7.8 Preparing vehicle for high temperatures or slow riding


600868-01

– Adjust the secondary drive to the road conditions.

Info
The engine oil heats up quickly when the clutch is operated frequently due to an excessively high secondary ratio.

– Clean the chain.

Chain cleaner (📖 p. 140)

– Clean the radiator fins.
– Straighten the bent radiator fins carefully.
– Check the coolant level. (📖 p. 107)

7.9 Preparing the vehicle for low temperatures or snow



F03668-01

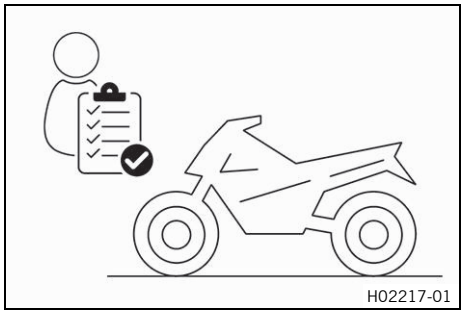
– Mount the air filter rain cover.

Air filter rain cover (A46006921000)

Info
Observe the fitting instructions for **KTM PowerParts**.

8.1 Checks and maintenance measures when preparing for use

Info
Before every trip, check the condition of the vehicle and ensure that it is safe to operate.
The vehicle must be in perfect technical condition when it is being operated.


H02217-01

- Check the gear oil level. (p. 119)
- Check the front brake fluid level. (p. 83)
- Check the rear brake fluid level. (p. 89)
- Check that the brake linings of the front brake are secured. (p. 85)
- Check that the brake linings of the rear brake are secured. (p. 91)
- Check that the brake system is functioning properly.
- Check the coolant level. (p. 107)
- Check the chain for dirt. (p. 72)
- Check the chain, rear sprocket, engine sprocket, and chain guide. (p. 75)
- Check the chain tension. (p. 73)
- Check the tire condition. (p. 98)
- Check tire pressure. (p. 98)
- Check the spoke tension. (p. 99)

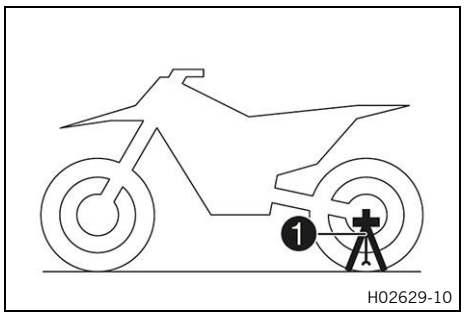
Info
The spoke tension must be checked regularly as incorrect spoke tension will strongly impair riding safety.

- Clean the dust boots of the fork legs. (p. 49)
- Bleed the fork legs. (p. 49)
- Check the air filter.
- Check the settings of all controls and ensure that they can be operated smoothly.
- Check all screws, nuts, and hose clamps regularly for tightness.
- Check the fuel level.

8.2 Starting the vehicle

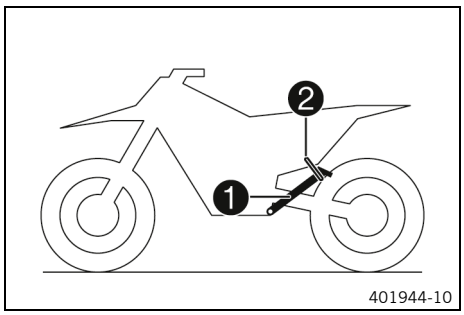
Danger
Danger of poisoning Exhaust gases are toxic and inhaling them may result in unconsciousness and death.
- Always make sure there is sufficient ventilation when running the engine.
- Use effective exhaust extraction when starting or running the engine in an enclosed space.

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.



(All SX models)

– Remove plug-in stand ❶.



(All XC models)

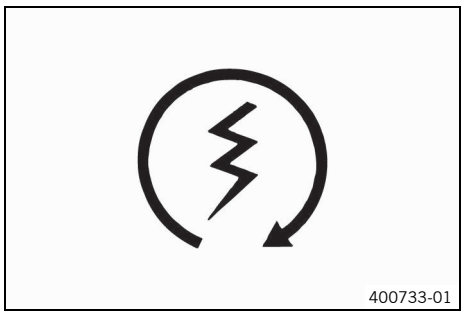
– Take the motorcycle off side stand ❶ and secure the side stand with rubber strap ❷.

– Shift the transmission into neutral.

Condition

Ambient temperature: < 20 °C (< 68 °F)

– Push the cold start button in all the way.



– Press the start button.

Info

Press the start button for a maximum of 5 seconds. Wait for 15 seconds before a further attempt at starting.

At low temperatures, wait for 30 seconds.

At temperatures below 6 °C (43 °F), several attempts at starting may be necessary to warm-up the lithium-ion battery and thereby increase the starting power.

After 6 unsuccessful starting attempts, do not try again, and check the vehicle for other malfunctions instead.

During the starting process, the malfunction indicator lamp lights up.

8.3 Starting off

Info

The plug-in stand must be removed before riding.

When you are riding, the side stand must be folded up and secured with the rubber strap.

– Pull the clutch lever, shift into first gear, release the clutch lever slowly and at the same time open the throttle carefully.

8.4 Shifting, riding

Warning
Danger of accidents If you change down at high engine speed, the rear wheel blocks and the engine races.
– Do not change into a low gear at high engine speed.

Info
If unusual noises occur while riding, stop immediately, switch off the engine and contact an authorized KTM workshop.
First-gear is used for starting off and for steep inclines.

– Shift into a higher gear when conditions allow (incline, road situation, etc.). To do so, release the throttle while simultaneously pulling the clutch lever, shift into the next gear, release the clutch lever and open the throttle.
– If the cold start button was pushed while starting, open the throttle briefly and release the throttle grip or turn the throttle grip forward.
  ✔ The cold start button goes to the basic position.
– After reaching maximum speed by fully opening the throttle grip, turn the throttle back so it is ¾ open. This will barely reduce the speed, but fuel consumption will be considerably lower.
– Only open the throttle as much as the engine can handle – abrupt throttle grip opening increases fuel consumption.
– To shift down, apply the brakes and close the throttle at the same time.
– Pull the clutch lever and shift into a lower gear, release the clutch lever slowly, and either open the throttle or shift again.
– Switch off the engine if you are likely to be running at idle speed or stationary for a long time.
  Guideline

≥ 1 min

– Avoid frequent or lengthy slipping of the clutch. This causes the engine oil, engine and cooling system to heat up.
– Ride at a low engine speed instead of at a high engine speed with a slipping clutch.

8.5 Braking

Warning
Danger of accidents Excessively forceful application of the brakes blocks the wheels.
– Adjust application of the brakes to the respective riding situation and riding surface conditions.

Warning
Danger of accidents A spongy pressure point on the front or rear brake reduces braking efficiency.
– Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)

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.

– On sandy, wet, or slippery surfaces, use mostly the rear brake.
– Always finish braking before the going into a bend. Shift down to a lower gear appropriate to your speed.

– Use the braking effect of the engine on long downhill stretches. Shift back one or two gears, but do not over-rev the engine when doing so. This means that significantly less braking is required and the brake system does not overheat.

8.6 Stopping, parking

Warning

Risk of injury People who act without authorization may not be familiar with the vehicle.

– Do not leave the vehicle unattended if the engine is running.
– Protect the vehicle against access by unauthorized persons.

Warning

Danger of burns Some vehicle components become hot when the vehicle is operated.

– Do not touch any parts such as the exhaust system, radiator, engine, damper, or brake system before the vehicle parts have cooled down.
– Let the vehicle parts cool down before you perform any work on the vehicle.

Note

Fire hazard Hot vehicle components pose a fire hazard and explosion risk.

– Do not park the vehicle near to materials which are highly flammable or explosive.
– Allow the vehicle to cool down before covering it.

Note

Material damage The vehicle may be damaged by incorrect procedure when parking.

Significant damage may be caused if the vehicle rolls away or falls over.

The components for parking the vehicle are designed only for the weight of the vehicle.

– Park the vehicle on a firm and level surface.
– Ensure that nobody sits on the vehicle when the vehicle is parked on a stand.

– Apply the brakes on the motorcycle.
– Shift the transmission to neutral position.
– Press and hold the stop button ⊠ while the engine is idling until the engine stops.
– Park the motorcycle on firm ground.

8.7 Transporting

Note

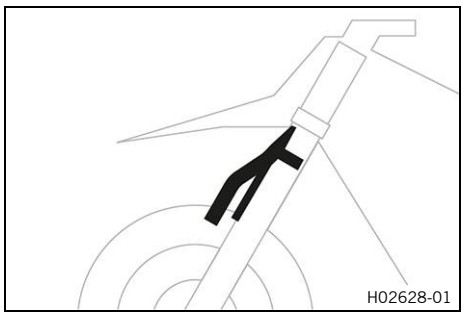
Danger of damage The parked vehicle can roll away or fall over.

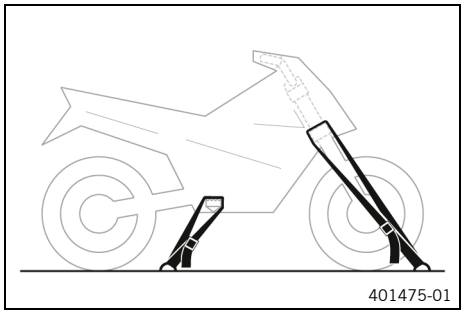
– Park the vehicle on a firm and level surface.

Note

Fire hazard Hot vehicle components pose a fire hazard and explosion risk.

– Do not park the vehicle near to materials which are highly flammable or explosive.
– Allow the vehicle to cool down before covering it.





(All SX models)

– Switch off the engine.

– Mount plug-in stand on the fork legs.

Plug-in stand (79029094000)

Info

The plug-in stand is included.

Make sure the brake line runs in front of the plug-in stand and does not become wedged.

– Use tension belts or other suitable devices to secure the motorcycle against falling over or rolling away.

Info

Only tighten the tension belts to the point that the plug-in stand is in contact with the fender and tires.

Pay attention to the alignment of the plug-in stand to the fender.

(All XC models)

– Switch off the engine.

– Use tension belts or other suitable devices to secure the motorcycle against falling over or rolling away.

8.8 Refueling

Danger

Fire hazard Fuel is highly flammable.

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

– Do not fuel 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 harmful to health.

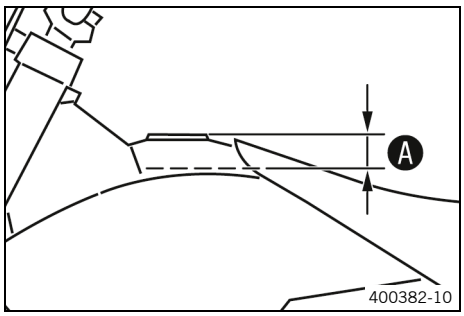
– Avoid skin, eye and clothing contact with fuel.
– Immediately consult a doctor if you swallow fuel.
– Do not inhale fuel vapors.
– Rinse the affected area immediately with plenty of water in the event of contact with the skin.
– Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.
– Change your clothing if 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.

– Switch off the engine.
– Open fuel tank filler cap. (p. 17)



– Fill the fuel tank with fuel up to measurement Ⓐ.

Guideline

Measurement of Ⓐ	35 mm (1.38 in)

Total fuel tank capacity, approx. (All SX models)	7.2 l (1.9 US gal)	Super unleaded (95 octane) mixed with 2-stroke engine oil (1:60) (📖 p. 139)
Total fuel tank capacity, approx. (All XC models)	8.5 l (2.25 US gal)	Super unleaded (95 octane) mixed with 2-stroke engine oil (1:60) (📖 p. 139)

Engine oil, 2-stroke (📖 p. 138)

– Close the fuel tank filler cap. (📖 p. 18)

9.1 Additional information

Any further work that results from the service work must be ordered separately and invoiced separately.
Different service intervals may apply in your country, depending on the local operating conditions.
If the vehicle is used in particularly harsh conditions such as heavy rain, mud, sand, snow, extreme temperatures, frequent full load etc., shorter service intervals than those in the table may be necessary.
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 KTM Dealer.net. Your authorized KTM dealer will be happy to advise you.

9.2 Service schedule

	After 1 operating hour	After 15 operating hours / Every 15 operating hours	Every 45 operating hours	Every 90 operating hours	every 24 months
Read out the fault memory using the KTM diagnostics tool. 🔧	○	●	●	●	●
Check that the electrical system is functioning properly. 🔧	○	●	●	●	
Check and charge the 12-V battery. 🔧	○	●	●	●	●
Check that the brake linings of the front brake are secured. (📖 p. 85)	○	●	●	●	●
Check that the brake linings of the rear brake are secured. (📖 p. 91)	○	●	●	●	●
Check the brake discs. (📖 p. 82)	○	●	●	●	●
Check the brake lines for damage and tightness.	○	●	●	●	●
Check the front brake fluid level. (📖 p. 83)	○	●	●		
Change the front brake fluid. 🔧				●	●
Check the rear brake fluid level. (📖 p. 89)	○	●	●		
Change the rear brake fluid. 🔧				●	●
Check/correct the fluid level of hydraulic clutch. (📖 p. 79)			●		
Change the hydraulic clutch fluid. 🔧 (📖 p. 80)				●	●
Check the free travel of the hand brake lever. (📖 p. 82)	○	●	●	●	●
Check the free travel of the foot brake lever. (📖 p. 88)	○	●	●	●	●
Check the idle speed. 🔧	○	●	●	●	●
Change the gear oil. 🔧 (📖 p. 119)	○	●	●	●	●
Check all hoses (e.g. fuel, cooling, bleeder, drainage hoses, etc.) and sleeves for cracking, tightness, and correct routing. 🔧	○	●	●	●	●
Check the cables for damage and for routing without kinks. 🔧		●	●	●	●
Check that the throttle cables are undamaged, routed without kinks, and set correctly.		●	●	●	●
Check the frame. 🔧 (📖 p. 77)		●	●	●	
Check the link fork. 🔧 (📖 p. 77)		●	●	●	
Check the fork bearing for play. 🔧			●	●	
Check the shock absorber heim joint for play. 🔧			●	●	
Check the shock absorber linkage. 🔧		●	●	●	
Check the tire condition. (📖 p. 98)		●	●	●	●
Check tire pressure. (📖 p. 98)	○	●	●	●	●
Check the wheel bearing for play. 🔧		●	●	●	
Check the wheel hubs. 🔧		●	●	●	
Check the rim run-out. 🔧	○	●	●	●	

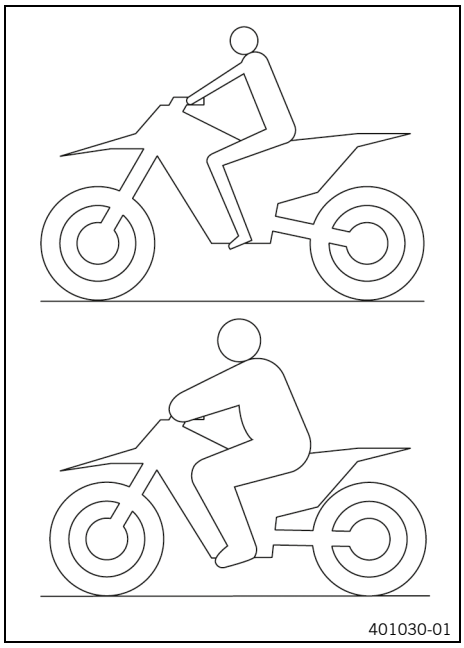
	After 1 operating hour	After 15 operating hours / Every 15 operating hours	Every 45 operating hours	Every 90 operating hours	every 24 months
Check the spoke tension. (📖 p. 99)	○	●	●	●	
Check the chain, rear sprocket, engine sprocket, and chain guide. (📖 p. 75)	○	●	●	●	
Check the chain tension. (📖 p. 73)	○	●	●	●	●
Grease all moving parts (e.g., hand lever, chain,...) and check for smooth operation. 🔧	○	●	●	●	●
Check the basic throttle valve position sensor setting. 🔧		○	●	●	●
Change the spark plug and spark plug connector. 🔧		●	●	●	
Change the fuel filter. 🔧				●	●
Check the clutch. 🔧		●	●	●	
Clean the air filter and air filter box. 🔧 (📖 p. 66)		●	●	●	●
Change the glass fiber yarn filling in the main silencer. 🔧 (📖 p. 69)			●	●	
Service the fork. 🔧			●	●	
Perform the shock absorber service. 🔧			●	●	
Check all screws, nuts, and hose clips for a tight fit. 🔧	○	●	●	●	●
Change the fuel screen. 🔧 (📖 p. 118)	○	●	●	●	●
Check the fuel pressure. 🔧	○		●	●	●
Check the antifreeze and coolant level. (📖 p. 106)			●	●	
Check the coolant level. (📖 p. 107)	○	●			
Change the coolant. 🔧 (📖 p. 110)					●
Check steering head bearing play. (📖 p. 56)	○	●			
Lubricate the steering head bearing. 🔧 (📖 p. 58)			●	●	●
Check the electric starter drive. 🔧			●	●	●
Check the reed valve housing, reed valve and intake flange. 🔧		●	●	●	
Perform minor engine service. (Change the piston. Check the cylinder head. Change the O-rings of the manifold and the cylinder head. Check the cylinder and Z dimension. Clean the exhaust control. Check the exhaust control for function and smooth operation. Program the exhaust control end positions. Check and clean the pressure sensor flange.) 🔧		●	●	●	
Perform major engine service including removing and installing the engine. (Change the connecting rod, conrod bearing, and crank pin. Check the transmission and the shift mechanism. Change all the engine bearings, the radial shaft seal rings and the seals.) 🔧			●	●	
Final check: check vehicle for operating safety. 🔧	○	●	●	●	●
Take a test ride. 🔧	○	●	●	●	●
Read out the fault memory after the test ride using the KTM diagnostics tool. 🔧	○	●	●	●	●
Make a service entry in **KTM Dealer.net**. 🔧	○	●	●	●	●

○ One-time interval

● Periodic interval

10.1 Checking the basic chassis setting with rider's weight

Info
When adjusting the basic chassis setting, first adjust the shock absorber and then the fork.



– For optimal motorcycle riding characteristics and to avoid damage to forks, shock absorbers, link fork and frame, the basic settings of the suspension components must match the rider's weight.
– As delivered, KTM offroad motorcycles are adjusted for an average rider's weight (with full protective clothing).

Guideline

Standard rider weight	75 ... 85 kg (165 ... 187 lb.)

– If the rider's weight is above or below this range, the basic setting of the suspension components must be adjusted accordingly.
– Small weight differences can be compensated by adjusting the spring preload, but in the case of large weight differences, the springs must be replaced.

10.2 Compression damping of the shock absorber

The compression damping of the shock absorber is divided into two ranges: high-speed and low-speed.
High-speed and low-speed refer to the compression speed of the rear wheel suspension and not to the vehicle speed.
The high-speed compression adjuster has an effect, for example, when landing after a jump: the rear wheel suspension compresses quickly.
The low-speed compression adjuster has an effect, for example, when riding over long ground swells: the rear wheel suspension compresses slowly.
These two ranges can be adjusted separately, although the transition between high-speed and low-speed is gradual. Thus, modifications in the high-speed range affect the compression damping in the low-speed range and vice versa.

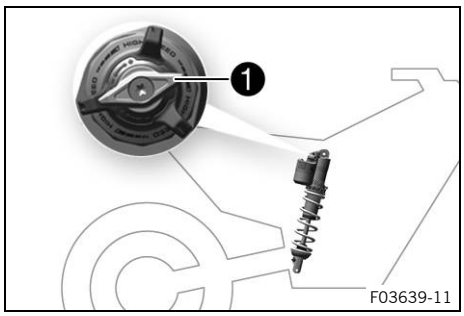
10.3 Adjusting the low-speed compression damping of the shock absorber

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. (Your authorized KTM workshop will be glad to help.)

Info
The effect of the low-speed compression adjuster can be seen in slow to normal compression of the shock absorber.



– Turn adjuster ❶ clockwise all the way to the stop.
– Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

Guideline

Lowspeed compression damping (All SX models)	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks
Lowspeed compression damping (All XC models)	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks

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

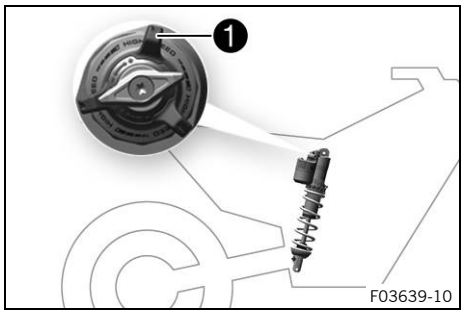
10.4 Adjusting the high-speed compression damping of the shock absorber

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. (Your authorized KTM workshop will be glad to help.)

Info
The effect of the high speed compression adjuster can be seen in the fast compression of the shock absorber.



– Turn adjuster ❶ clockwise all the way to the stop.
– Turn counterclockwise by the number of turns corresponding to the shock absorber type.

Guideline

Highspeed compression damping (All SX models)	
Comfort	2 turns
Standard	1.5 turns
Sport	1 turn
Highspeed compression damping (All XC models)	
Comfort	2 turns
Standard	1.5 turns
Sport	1 turn

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

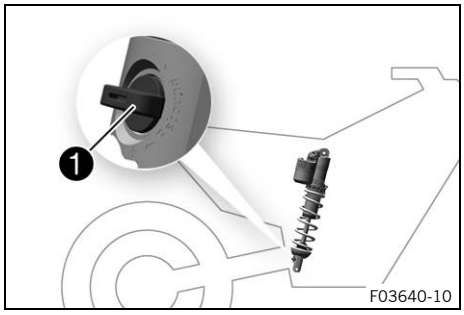
10.5 Adjusting the rebound damping of the shock absorber

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. (Your authorized KTM workshop will be glad to help.)



– Turn adjuster ❶ clockwise up to the last perceptible click.
– Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

Guideline

Rebound damping (All SX models)	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks
Rebound damping (All XC models)	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks

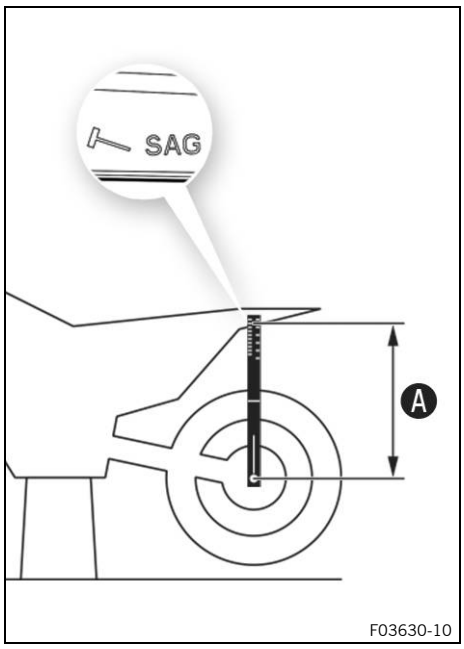
Info

Turn clockwise to increase the damping; turn counterclockwise to reduce damping when the shock absorber rebounds.

10.6 Measuring the dimension of the rear wheel unloaded

Preparatory work

– Raise the motorcycle with a lift stand. (📖 p. 48)



Main work

– Position the sag gage in the rear axle and measure the distance to marking **SAG** on the rear fender.

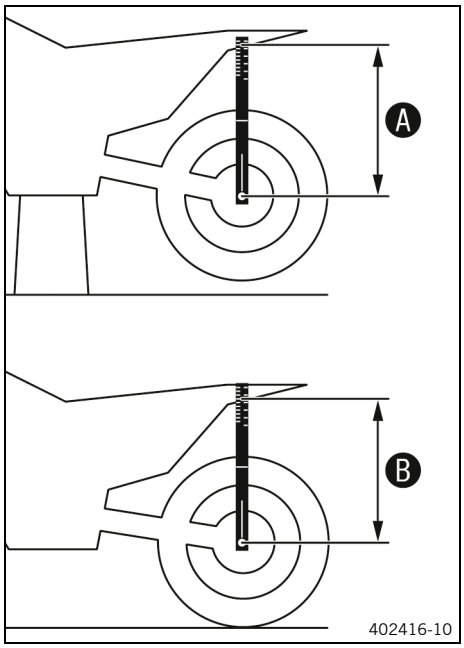
Sag gage (00029090200)

– Note the value as dimension Ⓐ.

Finishing work

– Remove the motorcycle from the lift stand. (p. 48)

10.7 Checking the static sag of the shock absorber



– Measure dimension Ⓐ of rear wheel unloaded. (p. 37)
– Hold the motorcycle upright with aid of an assistant.
– Measure the distance again between the rear axle and marking **SAG** on the rear fender using the sag gage.
– Note the value as dimension Ⓑ.

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

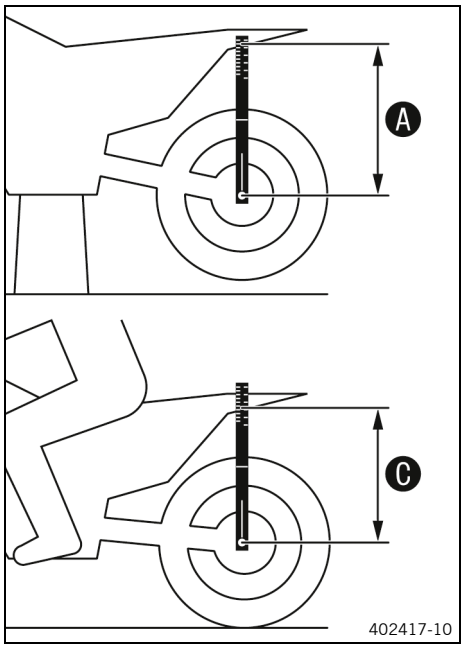
– Check the static sag.

Static sag (All SX models)	35 mm (1.38 in)

Static sag (All XC models)	35 mm (1.38 in)

» If the static sag is less or more than the specified value:
– Adjust the spring preload of the shock absorber. (p. 39)

10.8 Checking the riding sag of the shock absorber



– Measure dimension Ⓐ of rear wheel unloaded. (p. 37)
– 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 again measures the distance between the rear axle and marking **SAG** on the rear fender using the sag gage.
– Note the value as dimension Ⓒ.

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

– Check riding sag.
Guideline

Riding sag (All SX models)	105 mm (4.13 in)
Riding sag (250 XC)	105 mm (4.13 in)
Riding sag (300 XC)	100 mm (3.94 in)

» If the riding sag differs from the specified measurement:
– Adjust the riding sag. (p. 40)

10.9 Adjusting the spring preload of the shock absorber

Caution

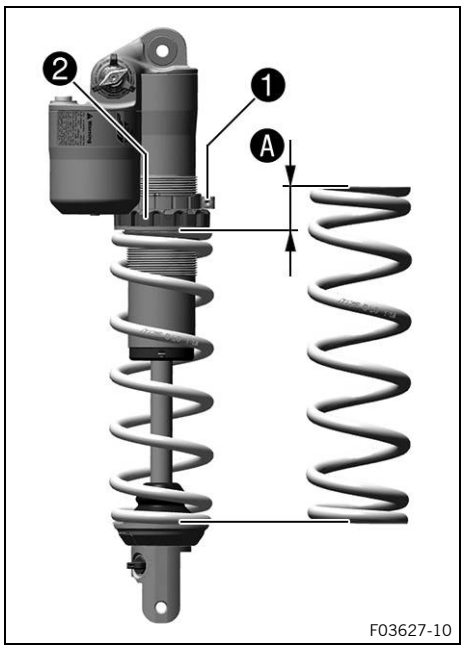
Risk of injury Parts of the shock absorber will move around if the shock absorber is detached incorrectly.

The shock absorber is filled with highly compressed nitrogen.

– Please follow the description provided. (Your authorized KTM workshop will be glad to help.)

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 a lift stand. (p. 48)
– Remove the frame protector. (p. 52)
– Remove the shock absorber. (p. 60)
– 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 (90129051000)

Info

If the spring cannot be fully released, the spring must be removed to accurately measure the spring length.

– Measure the total spring length while the spring is not under tension.
– Tension the spring by turning adjusting ring 2 to specified dimension A.

Guideline

Spring preload (All SX models)	8 mm (0.31 in)
Spring preload (All XC models)	8 mm (0.31 in)

Info

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

– Tighten bolt 1.

Guideline

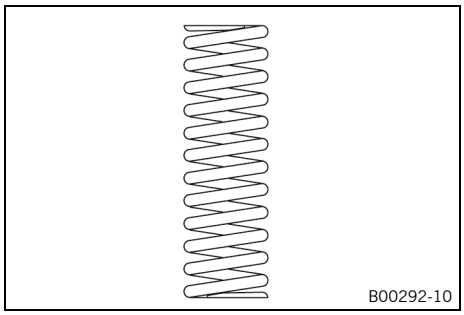
Screw, shock absorber adjusting ring	M5	5 Nm (3.7 lbf ft)

Finishing work

– Install the shock absorber. (p. 61)
– Check the free travel of the foot brake lever. (p. 88)
– Install the frame protector. (p. 52)

– Remove the motorcycle from the lift stand. (p. 48)

10.10 Adjusting the riding sag



Preparatory work

– Raise the motorcycle with a lift stand. (p. 48)
– Remove the frame protector. (p. 52)
– Remove the shock absorber. (p. 60)
– After removing the shock absorber, clean it thoroughly.

Main work

– Select and mount a suitable spring.

Guideline

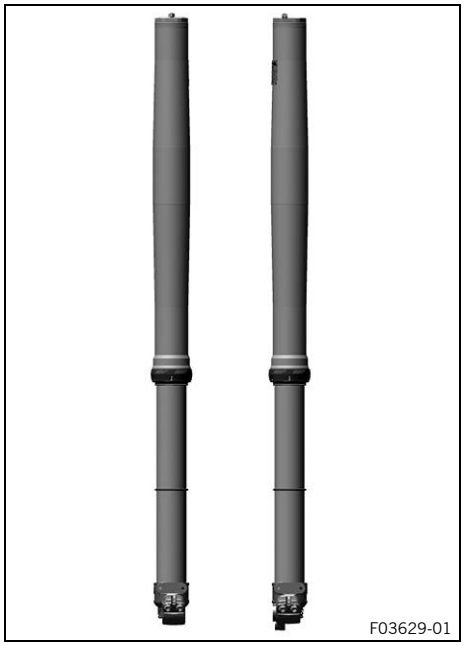
Spring rate (All SX models)	
Weight of rider: 65 ... 75 kg (143 ... 165 lb.)	42 N/mm (240 lb/in)
Weight of rider: 75 ... 85 kg (165 ... 187 lb.)	45 N/mm (257 lb/in)
Weight of rider: 85 ... 95 kg (187 ... 209 lb.)	48 N/mm (274 lb/in)
Spring rate (All XC models)	
Weight of rider: 65 ... 75 kg (143 ... 165 lb.)	42 N/mm (240 lb/in)
Weight of rider: 75 ... 85 kg (165 ... 187 lb.)	45 N/mm (257 lb/in)
Weight of rider: 85 ... 95 kg (187 ... 209 lb.)	48 N/mm (274 lb/in)

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

Finishing work

– Install the shock absorber. (p. 61)
– Check the free travel of the foot brake lever. (p. 88)
– Install the frame protector. (p. 52)
– Remove the motorcycle from the lift stand. (p. 48)
– Check the static sag of the shock absorber. (p. 38)
– Check the riding sag of the shock absorber. (p. 38)
– Adjust the rebound damping of the shock absorber. (p. 37)

10.11 Air suspension XACT



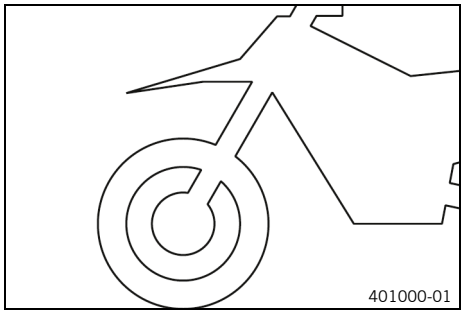
Air suspension **WP XACT** is used in the fork.
In this system, the suspension is located in the left fork leg and damping in the right fork leg.
As fork springs are no longer required, a significant weight advantage is achieved when compared to conventional forks. The response on slightly uneven surfaces is significantly improved.
In normal driving mode, suspension is provided exclusively by an air cushion. A steel spring is located in the left fork leg as an end stop.

Info
If the fork is frequently overloaded, then the air pressure in the fork must be increased to avoid damage to the fork and frame.

The air pressure in the fork can be quickly adjusted to the rider's weight, surface conditions and the rider's preference using a fork airpump. The fork does not have to be dismantled. The time consuming mounting of harder or softer fork springs is not required.
If the air chamber loses air due to a damaged seal, the fork will still not sag. In this case the air is retained in the fork. The suspension travel is maintained as far as possible. The damping becomes harder and the riding comfort reduces.
As with a conventional fork, the damping can be adjusted in rebound and compression stages.
The rebound adjuster is located at the lower end of the right fork leg.
The compression adjuster is located at the upper end of the right fork leg.

10.12 Checking the basic setting of the fork

Info
For various reasons, no exact riding sag can be determined for the fork.



- Smaller differences in the rider's weight can be compensated for by the fork air pressure.
- However, if the fork frequently bottoms out (hard end stop on compression), the fork air pressure must be increased, within the specified values, to avoid damage to the fork and frame.
- If the fork feels unusually hard after extended periods of operation, the fork legs need to be bled.

10.13 Adjusting the fork air pressure (All SX models)

Warning

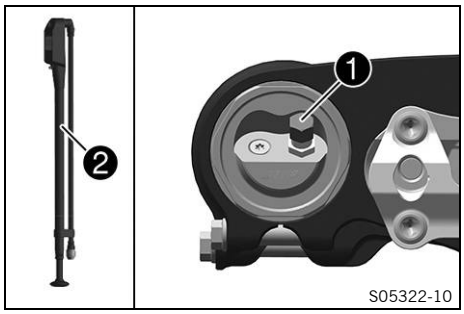
Danger of accidents Modifications to the suspension setting may seriously alter the handling characteristic.

Modifications which are not coordinated with others 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.

Info

Check or adjust the air pressure under the same conditions at the earliest 5 minutes after switching off the engine.
The air suspension is located in the left fork leg. The pressure and rebound damping is located in the right fork leg.



Preparatory work

– Raise the motorcycle with a lift stand. (p. 48)

Main work

– Remove protection cap ❶.
– Push together fork airpump ❷ fully.

Fork airpump (79412966100)

Info

The fork airpump is included as part of the motorcycle's accessory pack.

– Connect the fork airpump to the left fork leg.
✔ The fork airpump indicator switches on automatically.
✔ A little air escapes from the fork leg when connecting.

Info

This is due to the volume of the hose and not due to a defect in the fork airpump or the fork.
Read the accompanying **KTM PowerParts** instructions.

– Adjust the air pressure as specified.

Guideline

Air pressure	10.5 bar (152 psi)
Gradual changing of the air pressure in steps of	0.2 bar (3 psi)
Minimum air pressure	7 bar (102 psi)
Maximum air pressure	12 bar (174 psi)

Info

Never adjust the air pressure to a value outside the stated range.

– Disconnect the fork airpump from the left fork leg.
✔ When disconnecting, excess pressure will escape from the hose – the fork leg itself does not lose any air.

✔ The fork airpump indicator switches off automatically after 80 seconds.

– Mount the protection cap.

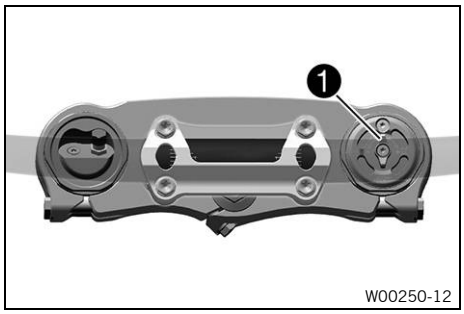
Info
Only mount the protection cap by hand.

Finishing work

– Remove the motorcycle from the lift stand. (p. 48)

10.14 Adjusting the compression damping of the fork

Info
The hydraulic compression damping determines the fork suspension behavior.



(All SX models)

– Turn adjuster ❶ clockwise up to the last perceptible click.

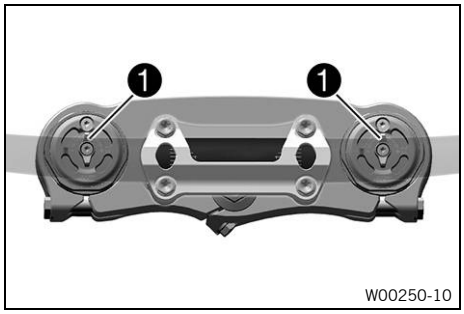
Info
Adjuster ❶ is located at the upper end of the right fork leg.

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

Guideline

Compression damping	
Comfort	17 clicks
Standard	12 clicks
Sport	7 clicks

Info
Turn clockwise to increase damping; turn counterclockwise to reduce damping during compression.



(All XC models)

– Turn adjusters ❶ clockwise up to the last perceptible click.

Info
Adjusters ❶ are located at the top end of the fork legs.

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

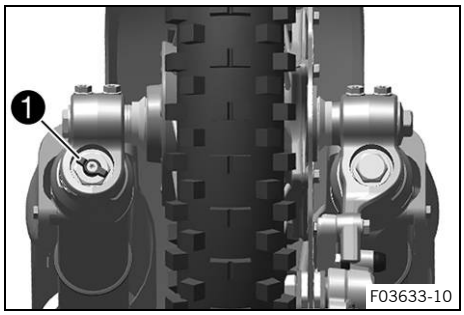
Guideline

Compression damping	
Comfort	17 clicks
Standard	12 clicks
Sport	7 clicks

Info
Turn clockwise to increase damping; turn counterclockwise to reduce damping during compression.

10.15 Adjusting the rebound damping of the fork

Info
The hydraulic rebound damping determines the fork suspension behavior.



(All SX models)

– Turn adjuster ❶ clockwise all the way to the stop.

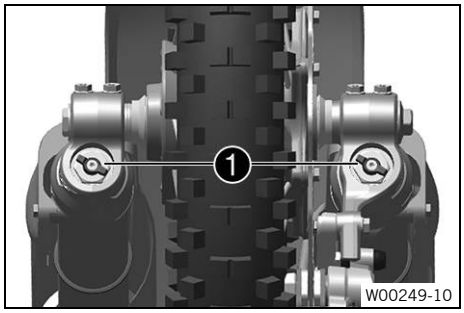
Info
Adjuster ❶ is located at the lower end of the right fork leg.

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

Guideline

Rebound damping	
Comfort	23 clicks
Standard	18 clicks
Sport	13 clicks

Info
Turn clockwise to increase the damping; turn counterclockwise to reduce damping when the shock absorber rebounds.



(All XC models)

– Turn adjusting screws ❶ clockwise all the way.

Info
Adjusting screws ❶ are located at the bottom end of the fork legs.

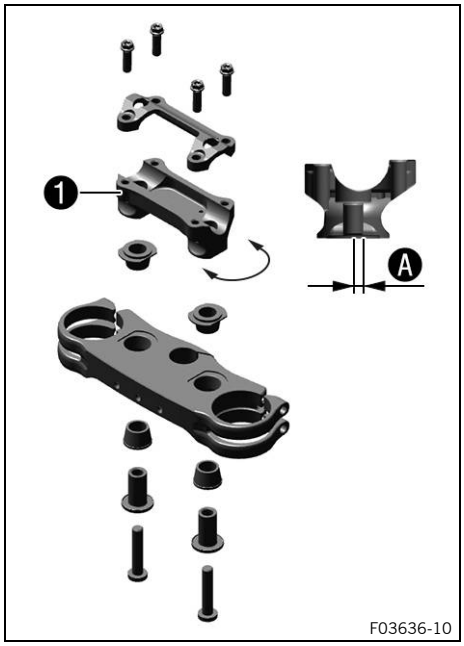
– Turn counterclockwise by the number of clicks corresponding to the fork type.

Guideline

Rebound damping	
Comfort	23 clicks
Standard	18 clicks
Sport	13 clicks

Info
Turn clockwise to increase the damping; turn counterclockwise to reduce damping when the shock absorber rebounds.

10.16 Handlebar position



The holes on the handlebar support ❶ are placed at a distance of Ⓐ 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.

Info
In addition, the handlebar can be mounted rigidly or on a rubber bearing.

10.17 Adjusting the handlebar position

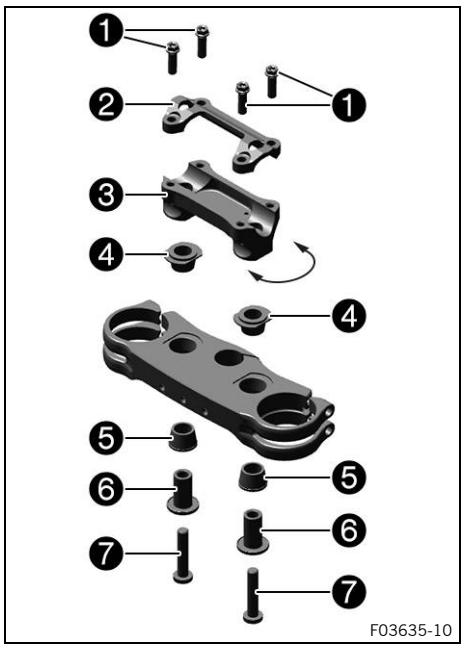
Warning
Danger of accidents A repaired handlebar poses a safety risk.

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.

Info
The handlebar can be mounted rigidly or on a rubber bearing.

Preparatory work
– Take off the handlebar cushion.



Main work

– Remove screws ❶. Take off handlebar clamp ❷. Take off 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 the screws ❼ and bushing ❻. Take off handlebar support ❸.

Adjusting the handlebar position with the handlebar clamp in the rubber bearing

– Position the rubber bushings ❹ and ❺.
– Place the handlebar support in the required position.

Info
The handlebar support is longer and higher on one side.

– Mount and tighten the screws ❼ with bushing ❻.

Guideline

Screw, handlebar support	M10	40 Nm (29.5 lbf ft) **Loctite®243™**

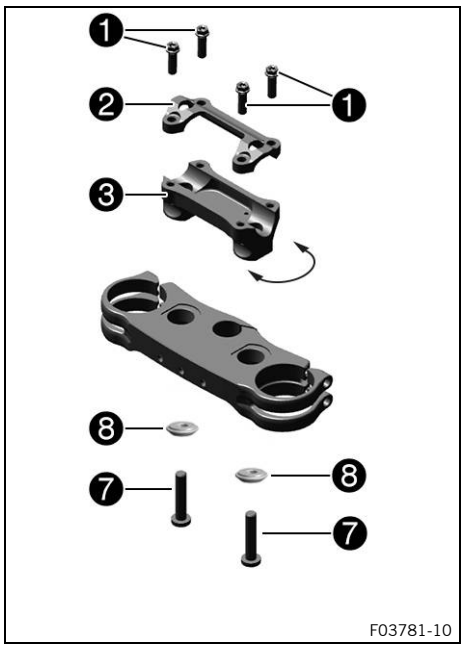
– Position the handlebar.

Info
Make sure the cables and wiring are positioned correctly.

– Position handlebar clamp ❷.
– Mount screws ❶, but do not tighten yet.
– First bolt the handlebar clamp with screws ❶ onto the longer, higher side of the handlebar supports so that both parts touch.
– Tighten screws ❶ evenly.

Guideline

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



Adjusting the handlebar position with the handlebar clamp

– Place the handlebar support in the required position.

Info
The handlebar support is longer and higher on one side.

– Mount and tighten the screws ❼ with the bushings ❽.

Guideline

Screw, handlebar support	M10	40 Nm (29.5 lbf ft) **Loctite®243™**

Rigid handlebar support bushing (A46001038010)

✔ The conical side of bushing faces downwards.

– Position the handlebar.

Info
Make sure the cables and wiring are positioned correctly.

– Position handlebar clamp ❷.

– Mount screws ❶, but do not tighten yet.

– First bolt the handlebar clamp with screws ❶ onto the longer, higher side of the handlebar supports so that both parts touch.

– Tighten screws ❶ evenly.

Guideline

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

Finishing work

– Mount the handlebar cushion.

11.1 Raising the motorcycle with a lift stand

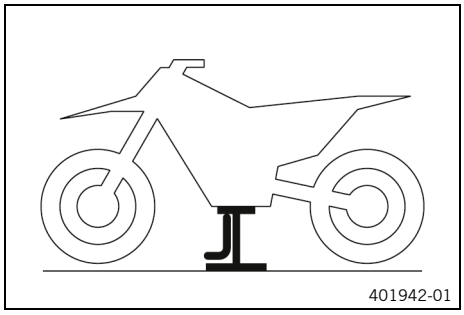
Note

Material damage The vehicle may be damaged by incorrect procedure when parking.

Significant damage may be caused if the vehicle rolls away or falls over.

The components for parking the vehicle are designed only for the weight of the vehicle.

– Park the vehicle on a firm and level surface.
– Ensure that nobody sits on the vehicle when the vehicle is parked on a stand.


401942-01

– Raise the motorcycle at the frame underneath the engine.

Lift stand (78129955100)

✔ Neither wheel is in contact with the ground.

– Secure the motorcycle against falling over.

11.2 Removing the motorcycle from the lift stand

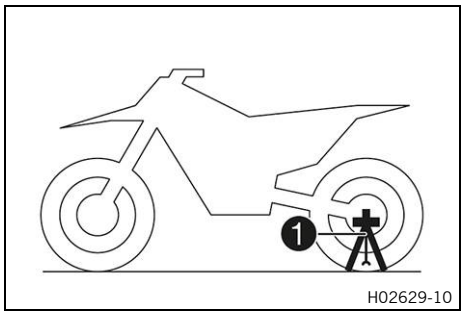
Note

Material damage The vehicle may be damaged by incorrect procedure when parking.

Significant damage may be caused if the vehicle rolls away or falls over.

The components for parking the vehicle are designed only for the weight of the vehicle.

– Park the vehicle on a firm and level surface.
– Ensure that nobody sits on the vehicle when the vehicle is parked on a stand.



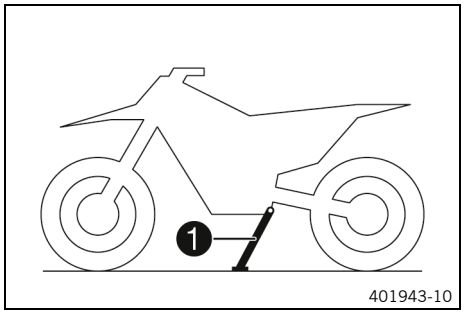
H02629-10

(All SX models)

– Remove the motorcycle from the lift stand.
– Remove the lift stand.
– To park the motorcycle, insert plug-in stand ❶ into the left side of the wheel spindle.

Plug-in stand (A46029094000)

Info
Remove the plug-in stand before riding.



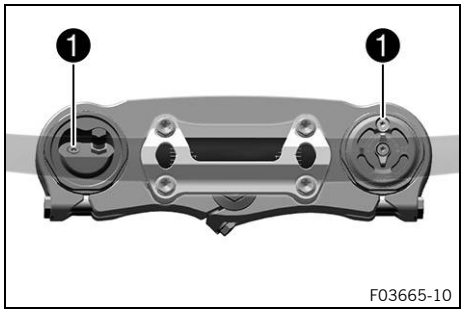
401943-10

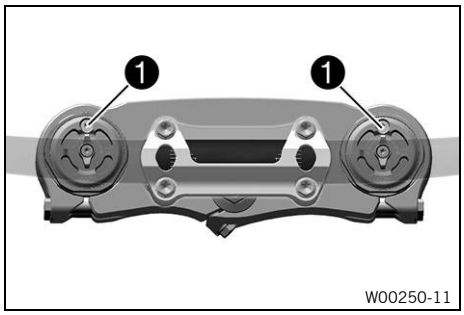
(All XC models)

– Remove the motorcycle from the lift stand.
– Remove the lift stand.
– To park the motorcycle, press side stand ❶ to the ground with your foot and lean the motorcycle on it.

Info
When you are riding, the side stand must be folded up and secured with the rubber strap.

11.3 Bleeding the fork legs





Preparatory work

– Raise the motorcycle with a lift stand. (📖 p. 48)

Main work

(All SX models)

– Release bleeder screws ❶.

✔ Any excess pressure escapes from the interior of the fork.

– Tighten the bleeder screws.

(All XC models)

– Release bleeder screws ❶.

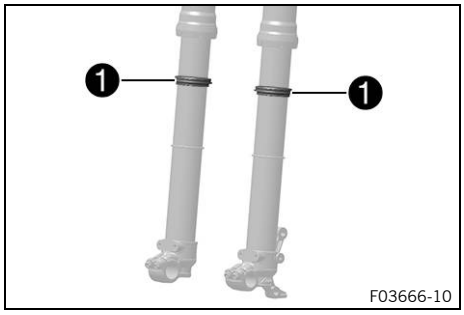
✔ Any excess pressure escapes from the interior of the fork.

– Tighten the bleeder screws.

Finishing work

– Remove the motorcycle from the lift stand. (📖 p. 48)

11.4 Cleaning the dust boots of the fork legs



Preparatory work

– Raise the motorcycle with a lift stand. (📖 p. 48)

– Remove the fork protector. (📖 p. 50)

Main work

– Push dust boots ❶ 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.

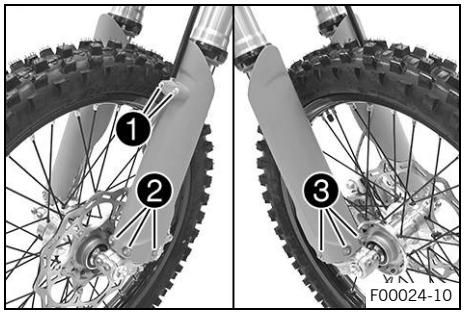
Universal oil spray (📖 p. 141)

– Press the dust boots back into their normal position.
– Remove excess oil.

Finishing work

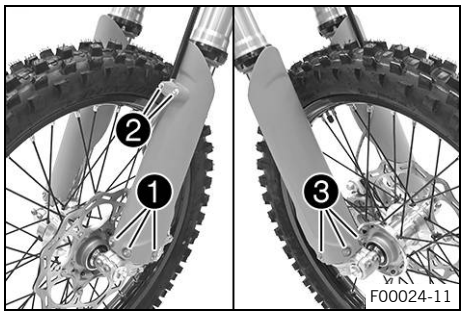
– Install the fork protector. (📖 p. 50)
– Remove the motorcycle from the lift stand. (📖 p. 48)

11.5 Removing the fork protector



– Remove screws ❶. Remove the clamp.
– Remove screws ❷. Take off the left fork protector.
– Remove screws ❸. Take off the right fork protector.

11.6 Installing the fork protector



– Position the fork protection on the left fork leg. Mount and tighten screws ❶.

Guideline

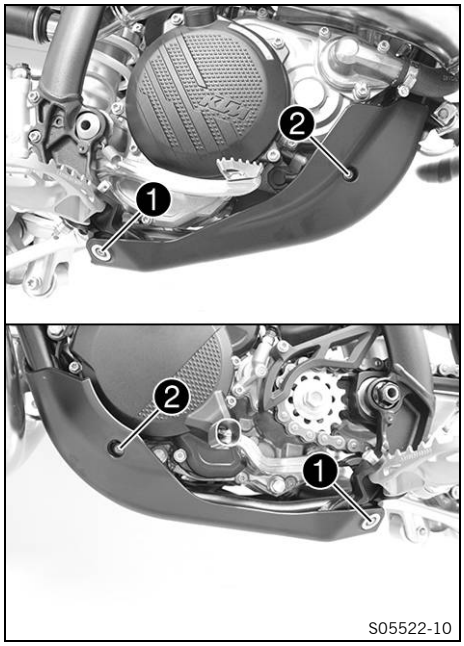
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)

– Position the brake line and clamp. Mount and tighten screws ❷.
– Position the fork protector on the right fork leg. Mount and tighten screws ❸.

Guideline

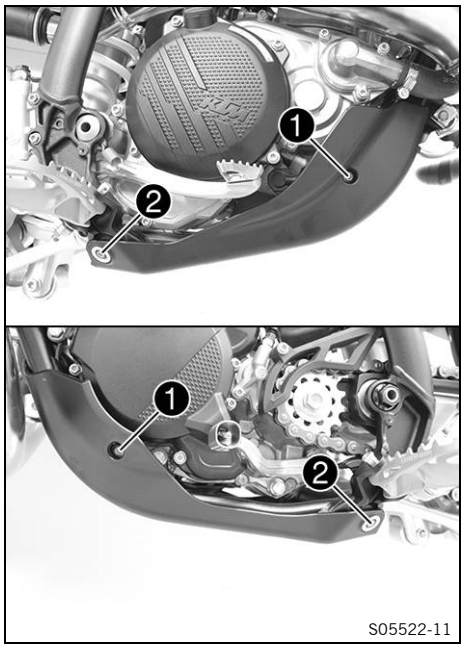
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)

11.7 Removing the engine guard (All XC models)



– Remove screws ❶ with the bushings.
– Remove screw ❷. Take off the engine guard.

11.8 Installing the engine guard (All XC models)



– Position the engine guard on the frame.
– Mount screws ❶, but do not tighten yet.

Guideline

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

– Mount screws ❷ with bushings, but do not tighten yet.

Guideline

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

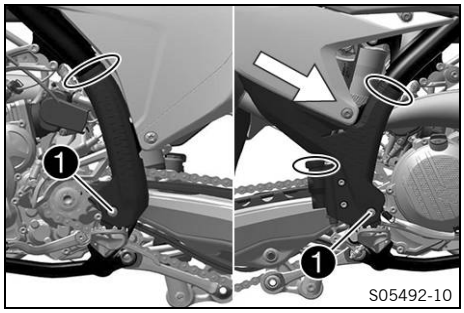
✔ The engine guard is directed evenly toward the front.

– Tighten all the screws of the engine guard.

Guideline

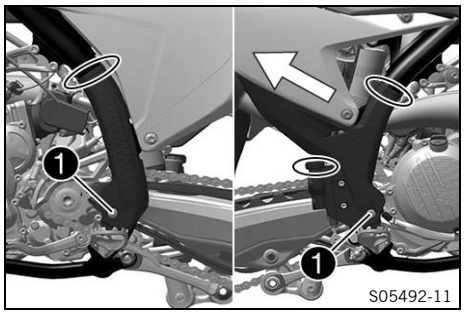
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)

11.9 Removing the frame protector



– Remove the cable ties.
– Remove screws ❶ with the bushings.
– Take off the left frame protector.
– Push the right frame protector to the front and take off at the bottom.

11.10 Installing the frame protector



– Position the left frame protector.
– Insert the right frame protector from below and push it to the rear.
– Mount screws ❶ with the bushings and tighten.

  Guideline

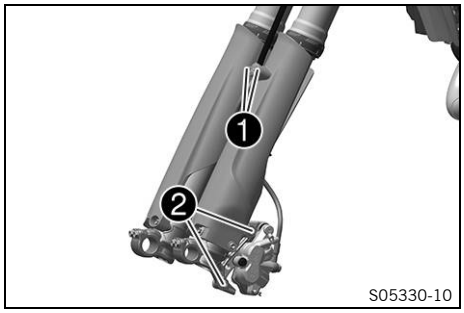
Screw, frame protector	M5	3 Nm (2.2 lbf ft)

– Secure the frame protector with cable ties.

11.11 Removing the fork legs

Preparatory work

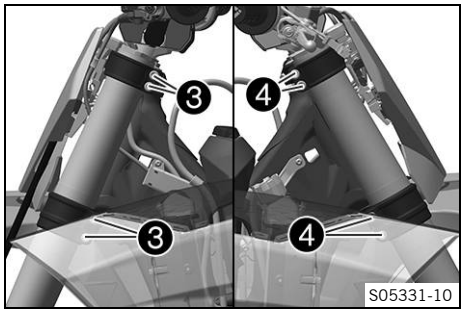
– Raise the motorcycle with a lift stand. (📖 p. 48)
– Remove the front wheel. (📖 p. 94)



Main work

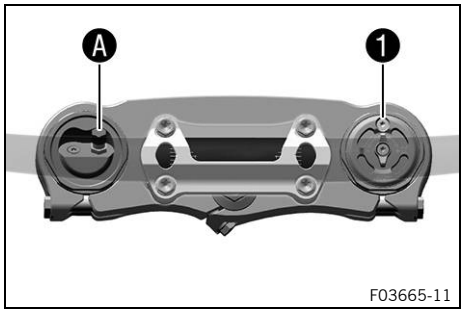
– Remove screws ❶ and take off the clamp.
– Remove screws ❷ and take off the brake caliper.
– Allow the brake caliper and brake line to hang loosely to the side.

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



– Loosen screws ❸. Remove the left fork leg.
– Loosen screws ❹. Remove the right fork leg.

11.12 Installing the fork legs



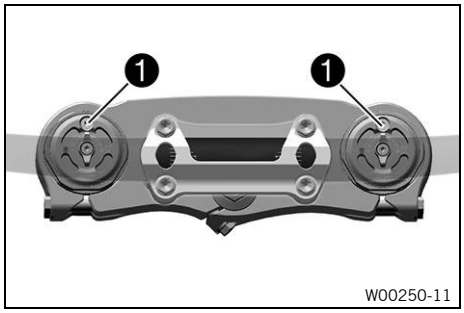
Main work
(All SX models)

– Position the fork legs.

✓ Air bleeder screw ❶ of the right fork leg is positioned to the front.

✓ Valve Ⓐ of the left fork leg faces the front.

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 upper edge of the upper triple clamp.
The air suspension is located in the left fork leg. The pressure and rebound damping is located in the right fork leg.

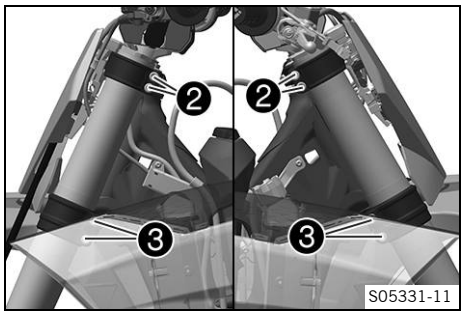


(All XC models)

– Position the fork legs.

✓ Bleeder screws ❶ of the fork legs are positioned toward the front.

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 upper edge of the upper triple clamp.
The air suspension is located in the left fork leg. The pressure and rebound damping is located in the right fork leg.



– Tighten screws ❷.

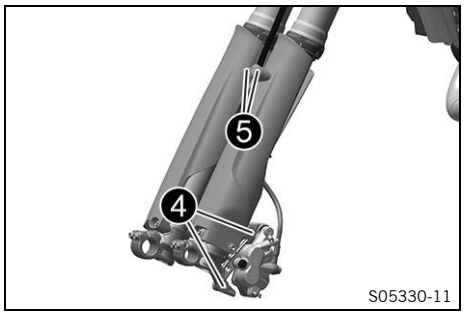
Guideline

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

– Tighten screws ❸.

Guideline

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



– Position the brake caliper. Mount and tighten screws ❹.

Guideline

Screw, front brake caliper	M8	25 Nm (18.4 lbf ft) **Loctite®243™**

– Position the brake line and the clamp. Mount and tighten screws ❺.

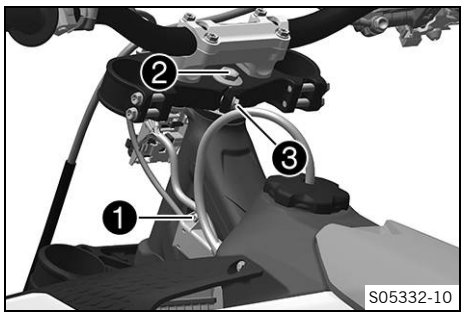
Finishing work

– Install the front wheel. (📖 p. 95)

11.13 Removing the lower triple clamp

Preparatory work

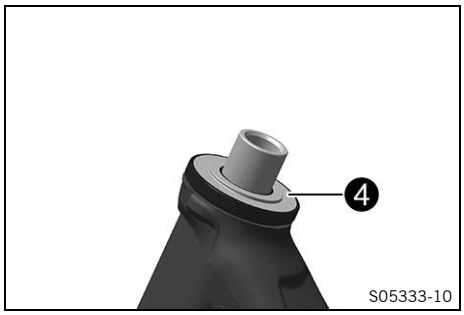
- Raise the motorcycle with a lift stand. (p. 48)
- Remove the front wheel. (p. 94)
- Remove the fork legs. (p. 52)
- Remove the start number plate. (p. 58)
- Remove front fender. (p. 58)
- Take off the handlebar cushion.



Main work

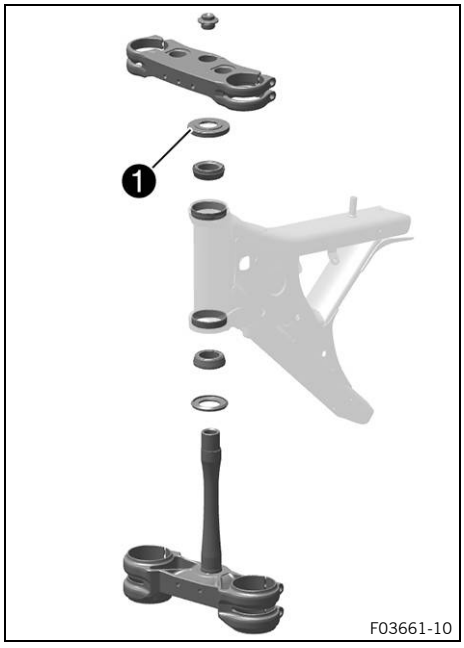
- Remove screw 1. Detach the wiring harness.
- Remove screw 2.
- Remove screw 3.
- Take off the upper triple clamp with the handlebar and place to one side.

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



- Remove the steering head seal 4.
- Remove the lower triple clamp with steering stem.
- Remove the upper steering head bearing.

11.14 Installing the lower triple clamp

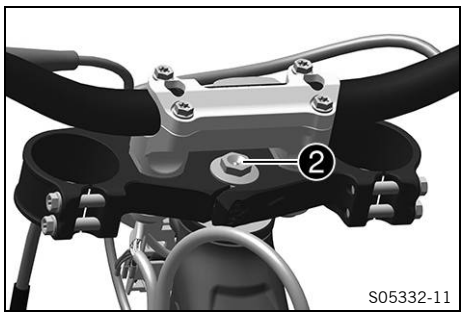


Main work

- Clean the bearing and sealing elements, check for damage, and grease.

High viscosity grease (p. 140)

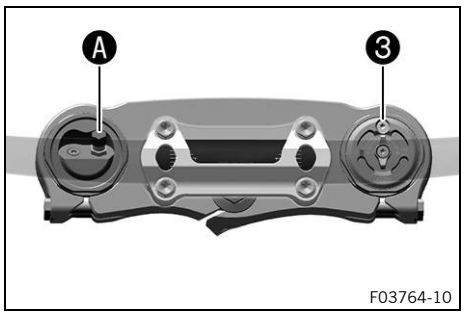
- Insert the lower triple clamp with the steering stem. Mount upper steering head bearing.
- Push on steering head seal 1.



– Position the upper triple clamp and handlebar.
– Mount screw ❷, but do not tighten it yet.

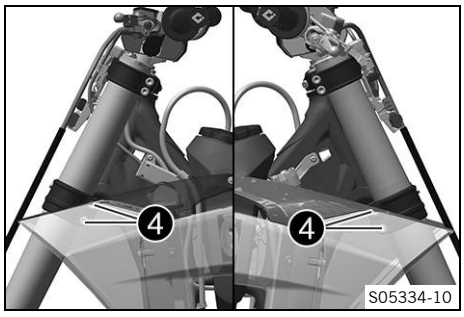
Guideline

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



– Position the fork legs.
✓ Air bleeder screw ❸ of the right fork leg is positioned to the front.
✓ Valve Ⓐ of the left fork leg faces the front.

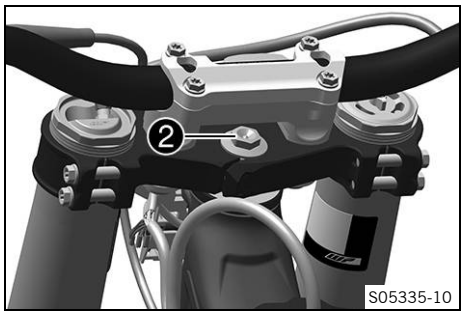
Info
Grooves are milled into the side of the upper end of the fork legs. The second milled groove (from the top) must be flush with the upper edge of the upper triple clamp. The air suspension is located in the left fork leg. The pressure and rebound damping is located in the right fork leg.



– Tighten screws ❹.

Guideline

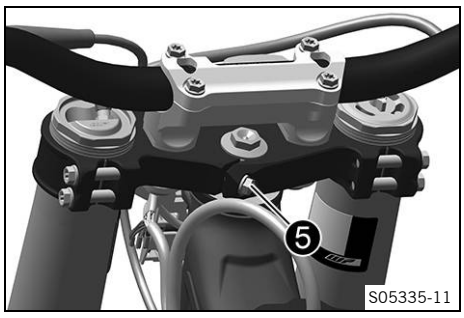
Screw, bottom triple clamp	M8	12 Nm (8.9 lbf ft)



– Tighten screw ❷.

Guideline

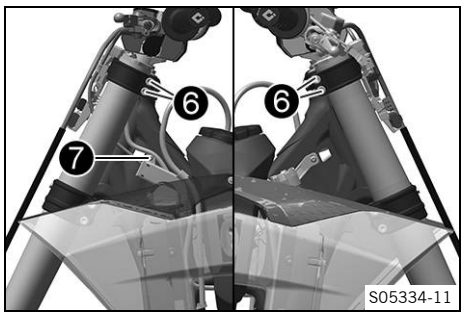
Screw, steering head, top	M20x1.5	12 Nm (8.9 lbf ft)

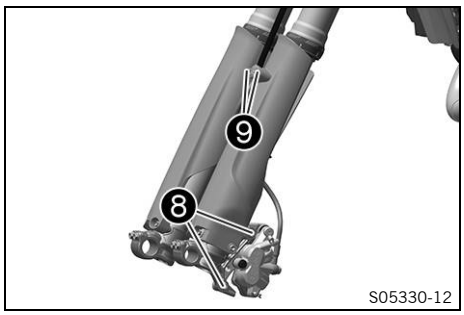


– Mount and tighten screw ❺.

Guideline

Screw, top 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 ❻.

Guideline

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

– Secure the wiring harness with cable holder on the left. Mount and tighten screw ❼.
– Position the brake caliper. Mount and tighten screws ❽.

Guideline

Screw, front brake caliper	M8	25 Nm (18.4 lbf ft) **Loctite®243™**

– Position the brake line and the clamp. Mount and tighten screws ❾.

Finishing work

– Install front fender. (📖 p. 59)
– Mount the handlebar cushion.
– Install the start number plate. (📖 p. 58)
– Install the front wheel. 🔧 (📖 p. 95)
– 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. 56)
– Remove the motorcycle from the lift stand. (📖 p. 48)

11.15 Checking steering head bearing play

Warning

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

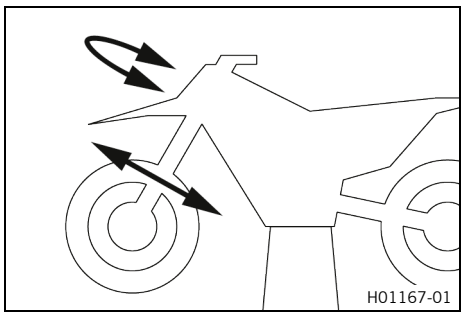
– Correct incorrect steering head bearing play immediately. (Your authorized KTM workshop will be glad to help.)

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 a lift stand. (📖 p. 48)



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. 57)

– 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. 57)

– Check the steering head bearing and change if necessary.

Finishing work

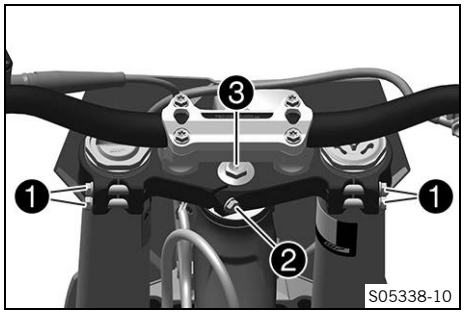
– Remove the motorcycle from the lift stand. (p. 48)

11.16 Adjusting steering head bearing play

Preparatory work

– Raise the motorcycle with a lift stand. (p. 48)

– Remove the handlebar cushion.



Main work

– Loosen screws ❶.

– Remove screw ❷.

– Loosen and retighten screw ❸.

Guideline

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

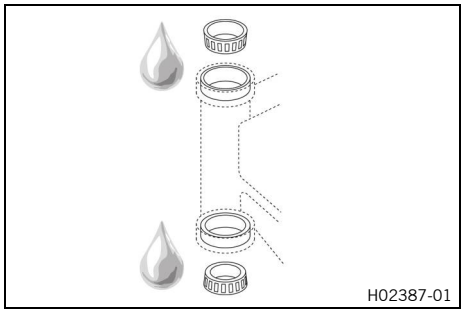
Finishing work

– Check steering head bearing play. (p. 56)

– Remove the motorcycle from the lift stand. (p. 48)

– Mount the handlebar cushion.

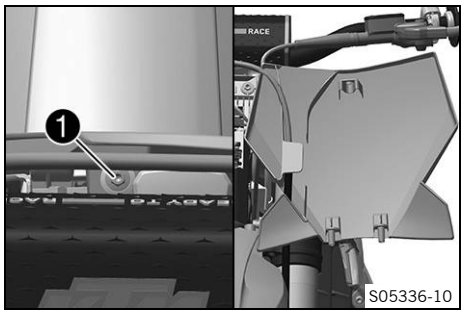
11.17 Lubricating the steering head bearing



– Remove the lower triple clamp. (📖 p. 54)
– Install the lower triple clamp. (📖 p. 54)

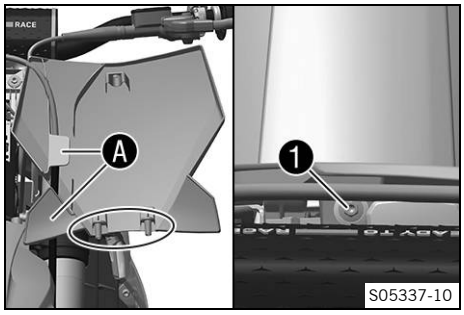
Info
The steering head bearing is cleaned and lubricated in the course of removal and installation.

11.18 Removing the start number plate



– Remove screw 1.
– Unhook the start number plate from the brake line and remove it.

11.19 Installing the start number plate



– Position the brake line in holders A on the start number plate.
– Position the start number plate. Mount and tighten screw 1.

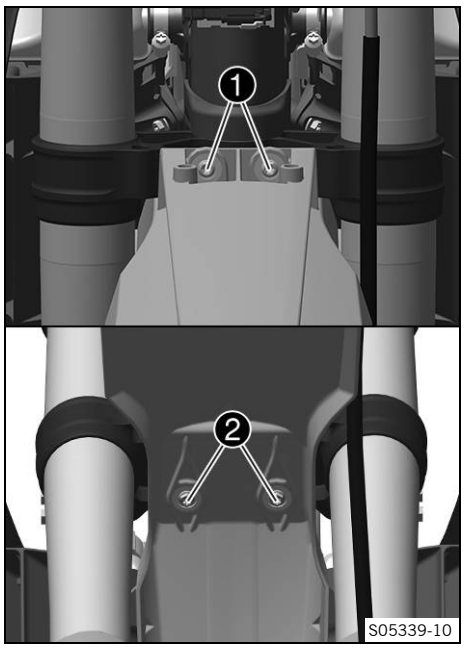
Guideline

Remaining screws, chassis	**EJOT PT** K60x25	2 Nm (1.5 lbf ft)

✔ The holding lugs engage in the fender.

11.20 Removing front fender

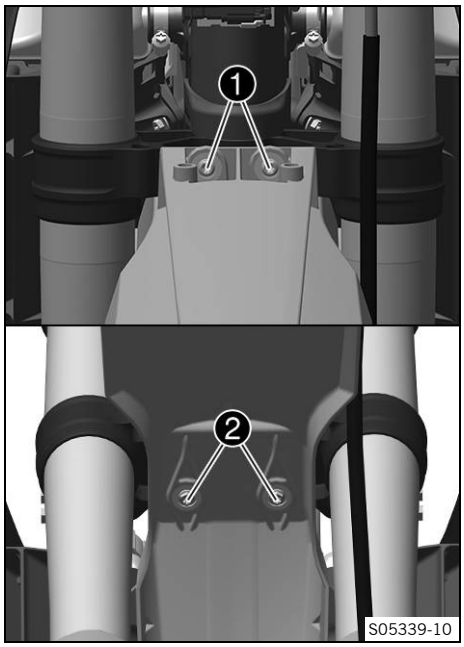
Preparatory work
– Remove the start number plate. (📖 p. 58)



Main work

– Remove screws ❶ and ❷. Remove front fender.

11.21 Installing front fender



Main work

– Position front fender. Mount and tighten screws ❶ and ❷.

Guideline

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

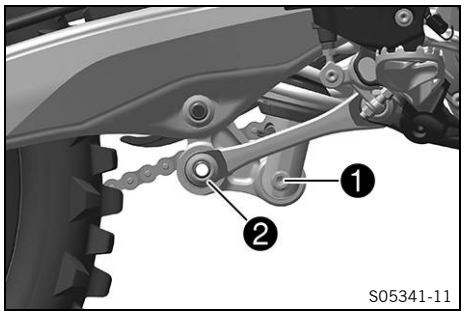
Finishing work

– Install the start number plate. (📖 p. 58)

11.22 Removing the shock absorber

Preparatory work

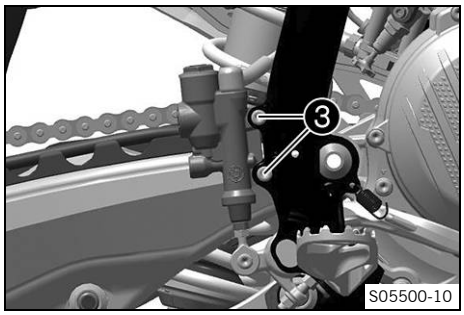
- Raise the motorcycle with a lift stand. (p. 48)
- Remove the frame protector. (p. 52)



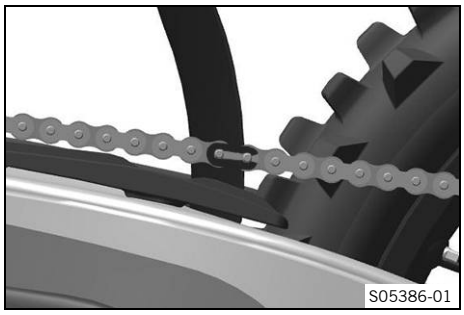
Main work

- Remove screw ❶.
- Remove fitting ❷.

> **Info**
> Raise the swingarm slightly to be able to remove the screws more easily.

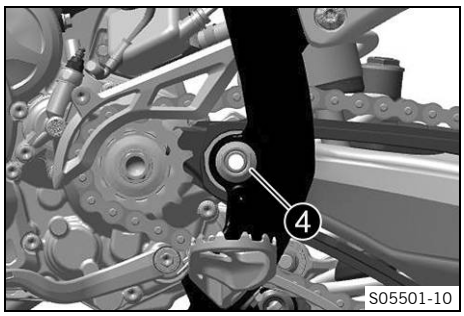


- Remove screws ❸.
- Pull off foot brake cylinder from the push rod.

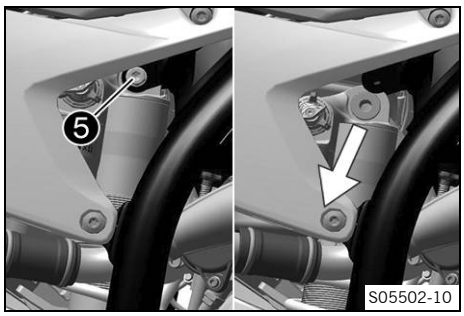


- Remove the connecting link of the chain.
- Take off the chain.

> **Info**
> Cover the components to protect them against damage.

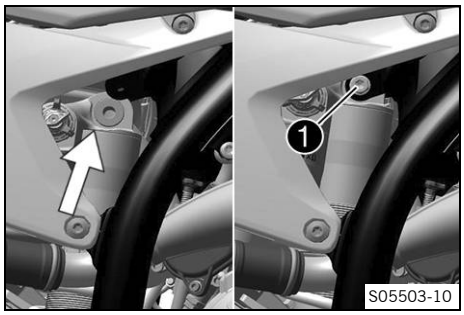


- Remove nut ❹ and the swingarm pivot.
- Push the link fork back and secure it against falling over.



– Hold the shock absorber and remove screw ❺.
– Remove the shock absorber carefully at the bottom.

11.23 Installing the shock absorber

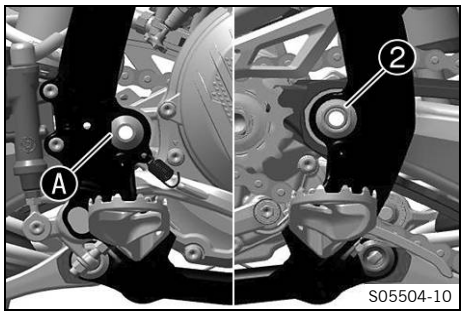


Main work

– Carefully position the shock absorber into the vehicle from the bottom.
– Mount and tighten screw ❶.

Guideline

Screw, top shock absorber	M10	60 Nm (44.3 lbf ft) **Loctite®2701™**



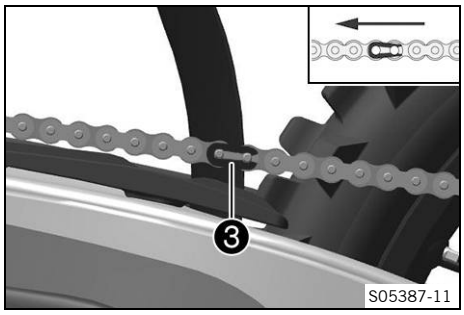
– Position the link fork and mount the swingarm pivot.

Info
Pay attention to flat area Ⓐ.

– Mount and tighten nut ❷.

Guideline

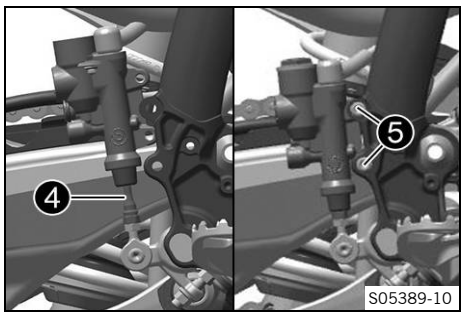
Nut, swingarm pivot	M16x1.5	100 Nm (73.8 lbf ft)



– Mount the chain.
– Connect the chain with connecting link ❸.

Guideline

The closed side of the chain joint lock must face in the direction of travel.



– Position the foot brake cylinder.

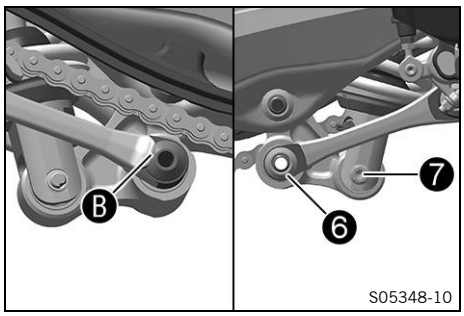
✓ Push rod ❹ engages in the foot brake cylinder.

Info
Ensure that the dust boot is correctly seated.

– Mount and tighten screws ❺.

Guideline

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



– Position the angle lever and linkage lever.
– Mount and tighten fitting ❻.

Guideline

Nut, linkage lever on angle lever	M16x1.5	60 Nm (44.3 lbf ft)

Info
Pay attention to flat area Ⓑ.

– Mount and tighten screw ❼.

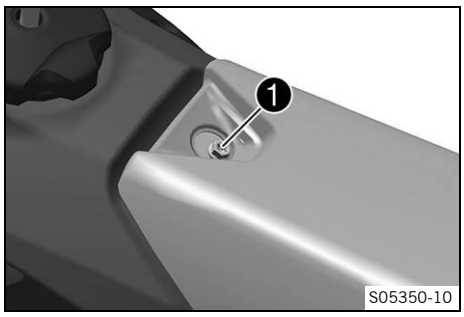
Guideline

Screw, bottom shock absorber	M10	60 Nm (44.3 lbf ft) **Loctite®2701™**

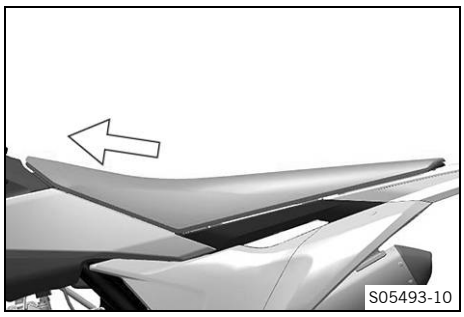
Info
Raise the link fork slightly to be able to mount the screw more easily.

Finishing work
– Check the free travel of the foot brake lever. (📖 p. 88)
– Install the frame protector. (📖 p. 52)
– Remove the motorcycle from the lift stand. (📖 p. 48)

11.24 Removing the seat

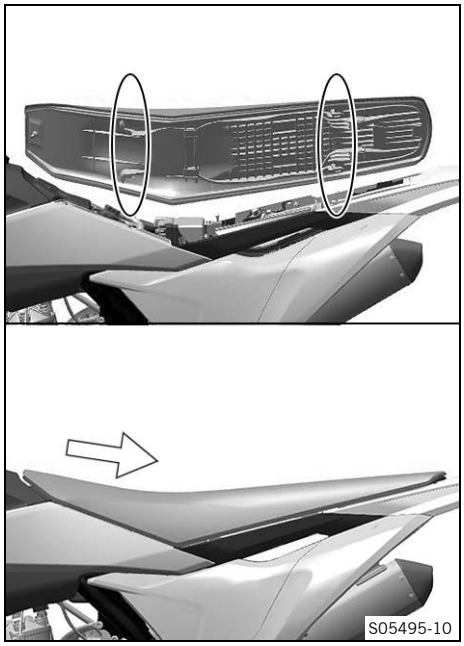


– Remove screw ❶.



– Raise seat, pull it toward the fuel tank and take it off.

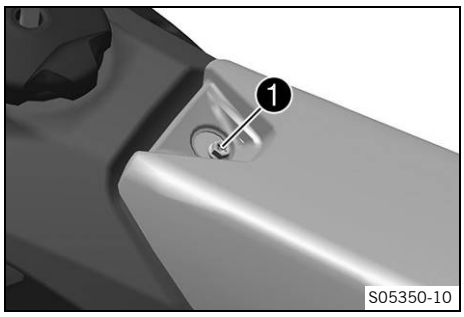
11.25 Mounting the seat



– Attach the seat to the collar bushings at the front and simultaneously push it back.

✔ The holding lugs engage in the recesses at the back.

– Make sure the seat is latched in place correctly.

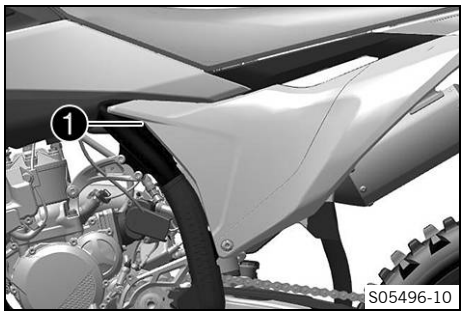


– Mount and tighten screw ❶.

Guideline

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

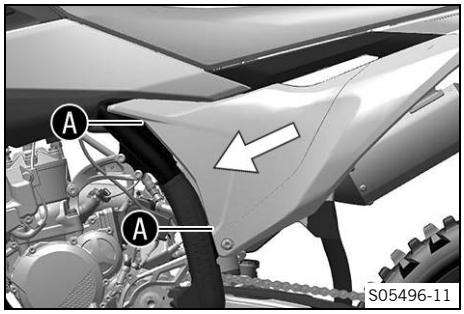
11.26 Removing the air filter box cover



Condition

The air filter box cover is secured.

– Remove screw ❶.



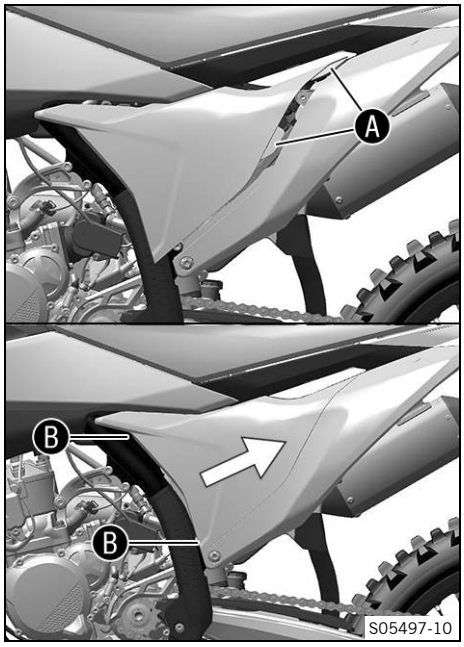
– Pull off the air filter box cover in area Ⓐ and push it sideways and forward. Take off the air filter box cover.

Condition

The air filter box cover is not secured.

– Pull off the air filter box cover in area Ⓐ and push it sideways and forward. Take off the air filter box cover.

11.27 Installing the air filter box cover



(All SX models)

Condition

The air filter box cover is secured.

– Insert the air filter box cover in area Ⓐ and clip it into area Ⓑ.

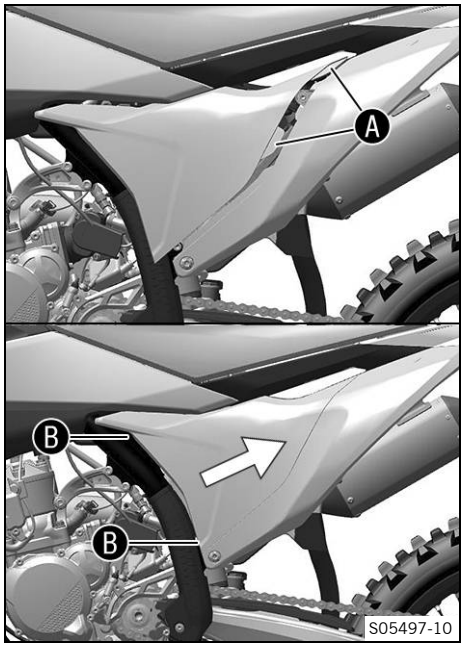
Info
An air filter box cover with openings for greater airflow and a more direct response is included.



– Mount and tighten screw ❶.

Guideline

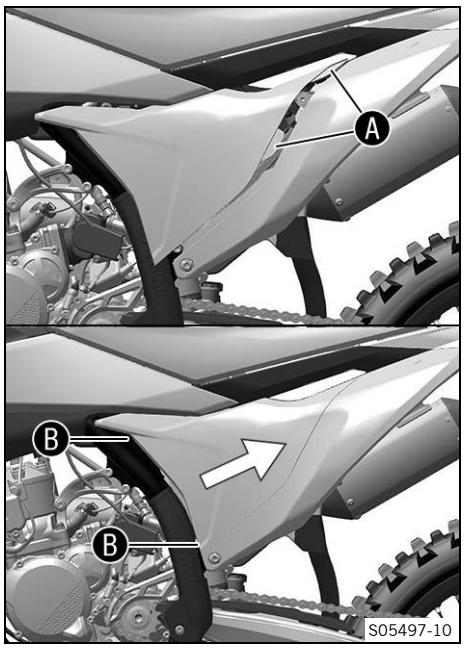
Screw, air filter box cover	**EJOT PT®** K60x20-Z	3 Nm (2.2 lbf ft)



Condition

The air filter box cover is not secured.

– Insert the air filter box cover in area Ⓐ and clip it into area Ⓑ.



(All XC models)

Condition

The air filter box cover is secured.

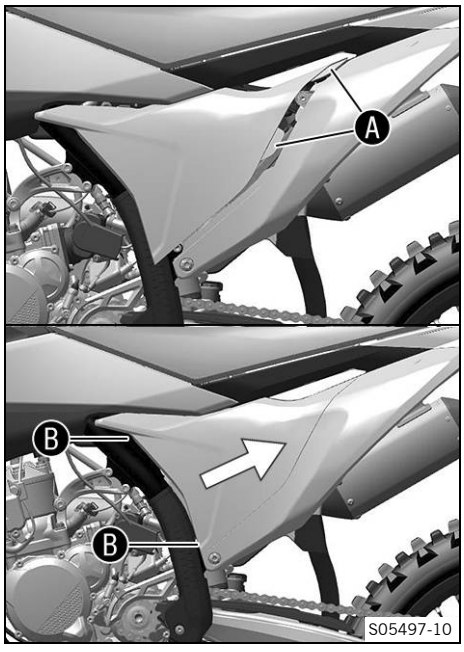
– Insert the air filter box cover in area Ⓐ and clip it into area Ⓑ.



– Mount and tighten screw ❶.

Guideline

Screw, air filter box cover	**EJOT PT®** K60x20-Z	3 Nm (2.2 lbf ft)



Condition

The air filter box cover is not secured.

– Insert the air filter box cover in area Ⓐ and clip it into area Ⓑ.

◀

11.28 Removing the air filter

Note

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

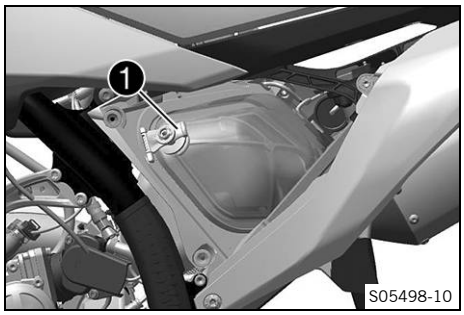
Dust and dirt will enter the engine without an air filter.

– Only operate the vehicle if it is equipped with an air filter.

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.



Preparatory work

– Remove the air filter box cover. (p. 63)

Main work

– Detach retaining tab 1. Remove air filter with air filter support.
– Remove air filter with air filter support.
– Remove air filter from air filter support.

11.29 Cleaning the air filter and air filter box

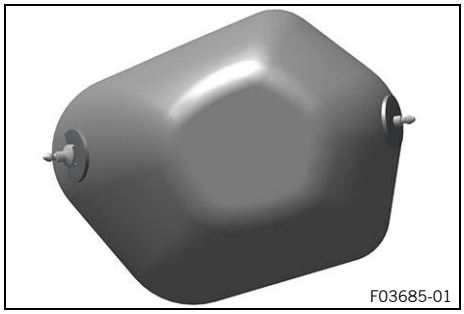
Note

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

Do not clean the air filter with fuel or petroleum since these substances attack the foam.



Preparatory work

– Remove the air filter box cover. (p. 63)
– Remove the air filter. (p. 66)

Main work

– Wash the air filter thoroughly in special cleaning liquid and allow it to dry properly.

Air filter cleaner (p. 140)

Info

Only press the air filter to dry it, never wring it out.

– Oil the dry air filter with a high-grade air filter oil.

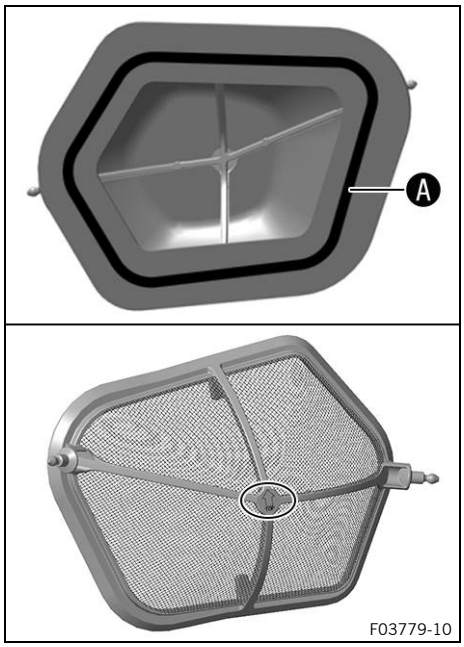
Oil for foam air filter (p. 140)

– Clean the air filter box.
– Clean the intake flange and check it for damage and tightness.

Finishing work

– Install the air filter. (🔧 (📖 p. 67)
– Install the air filter box cover. (📖 p. 64)

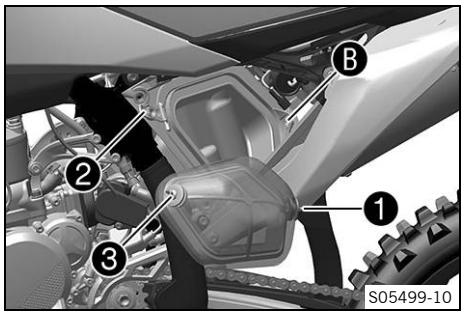
11.30 Installing the air filter 🔧



Main work

– Mount the clean air filter on the air filter support.
– Grease the air filter in area Ⓐ.

Long-life grease (📖 p. 140)



– Insert air filter and position retaining pin ❶ in bushing Ⓑ.
  ✔ The air filter is correctly positioned.

Info
The marking on the air filter must face upwards.

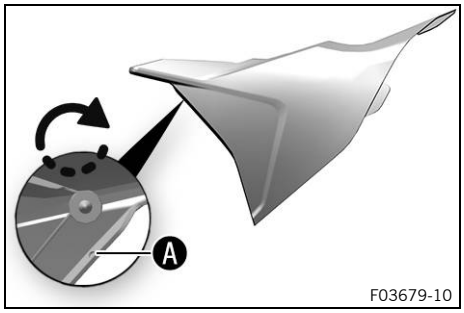
– Insert retaining tab ❷.
  ✔ Retaining pin ❸ is secured by retaining tab ❷.

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

Finishing work

– Install the air filter box cover. (📖 p. 64)

11.31 Preparing air filter box cover for securing



Preparatory work

– Remove the air filter box cover. (📖 p. 63)

Main work

– Drill a hole at marking Ⓐ.

Guideline

Diameter	6 mm (0.24 in)

Finishing work

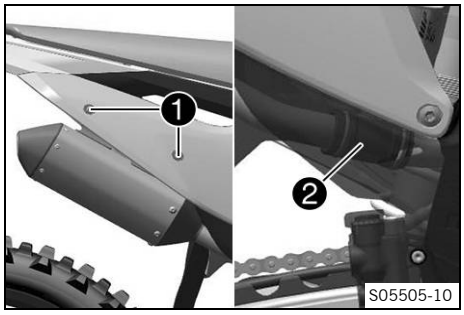
– Install the air filter box cover. (📖 p. 64)

11.32 Removing the main silencer

Warning

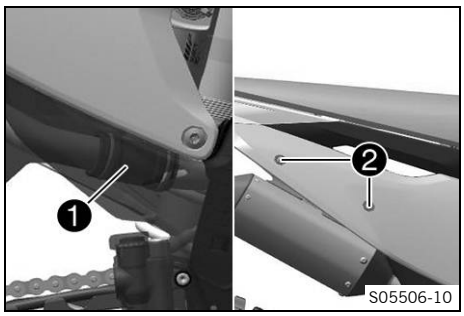
Danger of burns The exhaust system gets hot when the vehicle is driven.

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



– Remove screws ❶ with the washers.
– Pull off the main silencer from the manifold at exhaust sleeve ❷.

11.33 Installing the main silencer



– Position the main silencer in exhaust sleeve ❶.
– Mount and tighten screws ❷ with the washers.

Guideline

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

11.34 Changing the glass fiber yarn filling in the main silencer

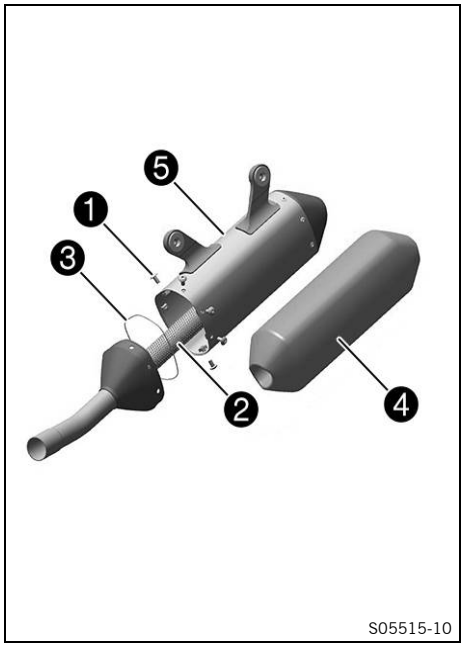
Warning

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

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

Info

Over time, the fibers of the rock wool escape into the air, and the main silencer “burns out”.
Not only is the noise level higher, but the performance characteristics change.



S05515-10

Preparatory work

– Remove the main silencer. (p. 68)

Main work

– Remove screws ❶. Pull out inner tube ❷ with O-ring ❸.
– Remove the glass fiber yarn filling ❹ from the inner tube.
– Clean the parts that need to be reinstalled and check for damage.
– Fit the new glass fiber yarn filling ❹ into the inner tube.
– Mount O-ring ❸ on inner tube ❷.
– Slide outer tube ❺ over the inner tube with the new glass fiber yarn filling.
– Mount and tighten all screws ❶.

Guideline

Screws on main silencer	M5	7 Nm (5.2 lbf ft)

Finishing work

– Install the main silencer. (p. 68)

11.35 Removing the fuel tank

Danger

Fire hazard Fuel is highly flammable.

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

– Do not fuel 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

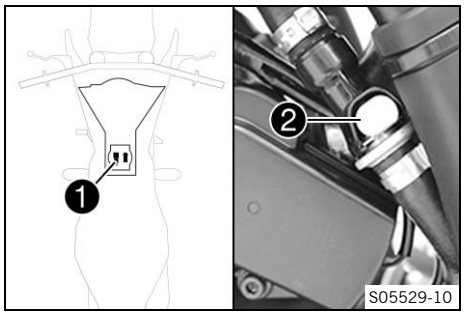
Danger of poisoning Fuel is harmful to health.

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

Preparatory work

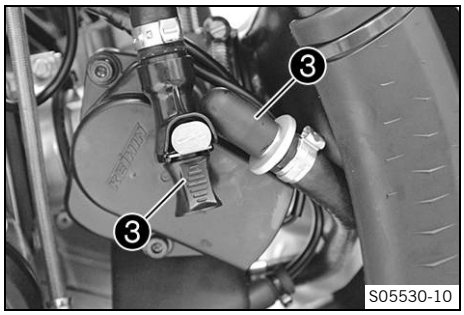
- Remove the seat. (📖 p. 62)

Main work



- Unplug fuel pump connector ❶.
- Clean quick release coupling ❷ thoroughly with compressed air.

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



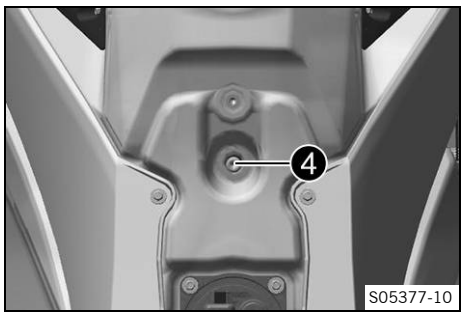
- Disconnect the quick release coupling.

Info
Remaining fuel may flow out of the fuel hose.

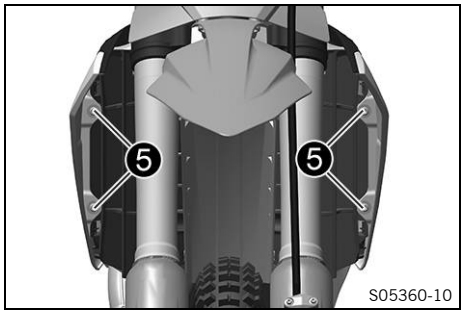
- Mount wash cap set ❸.

Wash cap set (81212016100)

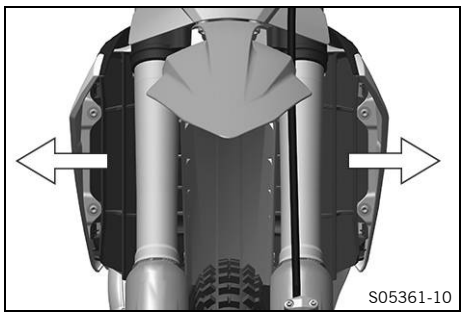
- Pull the fuel tank breather hose off the fuel tank lid.



- Remove screw ❹ with the rubber bushing.



- Remove screws ❺ with the collar bushings.



– Pull both spoilers laterally off the radiator and lift off the fuel tank.

11.36 Installing the fuel tank

Danger

Fire hazard Fuel is highly flammable.

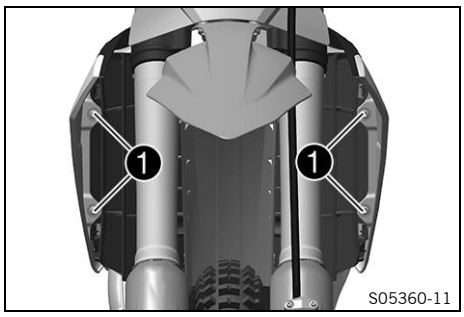
The fuel in the fuel tank expands when warm and can escape if overfilled.

– Do not fuel 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 harmful to health.

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

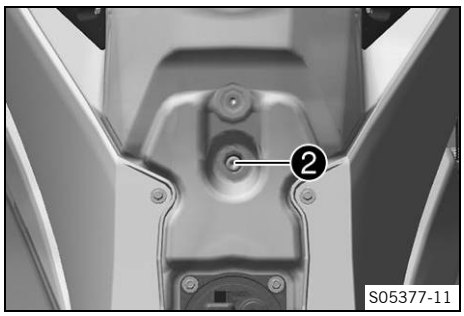


Main work

– Check the throttle cable routing. (p. 77)
– Position the fuel tank and fit the two spoilers laterally to the radiator.
– Make sure that no cables or throttle cables are trapped or damaged.
– Attach the fuel tank breather hose to the fuel tank lid.
– Mount and tighten screws ❶ with the collar bushings.

Guideline

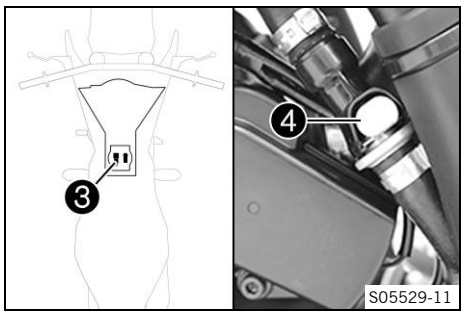
Screw, fuel tank spoiler on radiator	M6	6 Nm (4.4 lbf ft)



– Mount and tighten screw ❷ with the rubber bushing.

Guideline

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



– Plug in fuel pump connector ❸.
– Remove the wash cap set and thoroughly clean the quick release coupling using compressed air.

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

– Spray silicone spray onto a lint-free cleaning cloth and lightly lubricate the O-ring of the quick-release coupling.

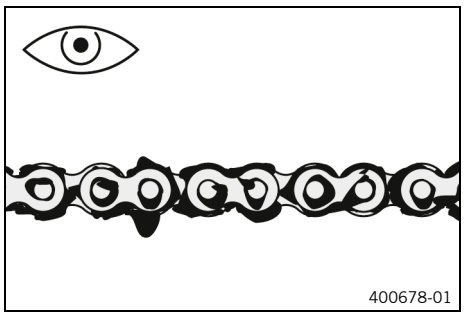
Silicone spray (📖 p. 141)

– Join the quick-release coupling ❹ of the fuel line.

Info
Route the cable and fuel line at a safe distance from the exhaust system.

Finishing work
– Mount the seat. (📖 p. 63)

11.37 Checking the chain for dirt



– Check the chain for heavy soiling.
  » If the chain is very dirty:
    – Clean the chain. (📖 p. 72)

11.38 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.

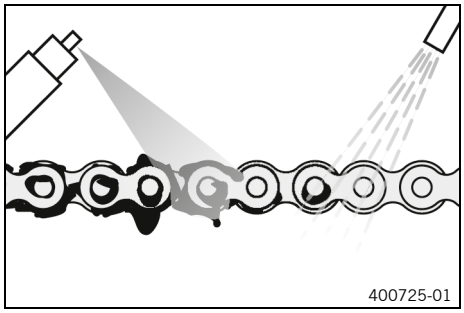
Note

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 a lift stand. (📖 p. 48)

Main work

– Rinse off loose dirt with a soft jet of water.
– Remove old grease residue with chain cleaner.

Chain cleaner (📖 p. 140)

– After drying, apply chain spray.

Off-road chain spray (📖 p. 140)

Finishing work

– Remove the motorcycle from the lift stand. (📖 p. 48)

11.39 Checking the chain tension

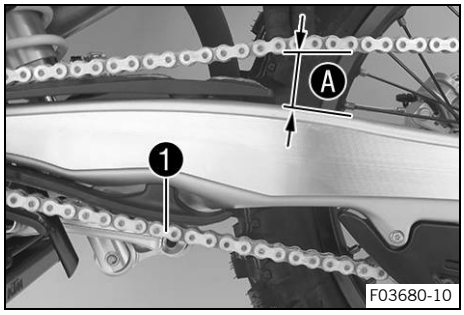
Warning

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.



Preparatory work

– Raise the motorcycle with a lift stand. (📖 p. 48)

Main work

– Pull the chain at the end of the chain sliding piece upward to measure chain tension Ⓐ.

Guideline

Lower chain section ❶ must be taut.

Info

Chain wear is not always even, so you should repeat this measurement at different chain positions.

Chain tension	58 … 61 mm (2.28 … 2.4 in)

» If the chain tension does not meet the specification:
– Adjust the chain tension. (📖 p. 74)

Finishing work

– Remove the motorcycle from the lift stand. (📖 p. 48)

11.40 Adjusting the chain tension

Warning

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

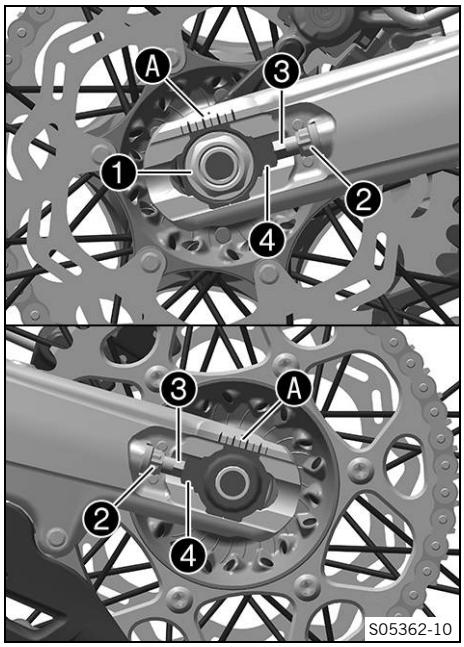
If the chain is tensioned too much, the chain, engine sprocket, rear sprocket, transmission and rear wheel bearings wear more quickly. Some components may break if overloaded.

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

– Raise the motorcycle with a lift stand. (📖 p. 48)
– Check the chain tension. (📖 p. 73)



Main work

– Loosen nut ❶.
– Loosen nuts ❷.
– Adjust the chain tension by turning adjusting screws ❸ left and right.

  Guideline

Chain tension	58 … 61 mm (2.28 … 2.4 in)
Turn adjusting screws ❸ on the left and right so that the markings on the left and right chain adjusters are in the same position relative to reference marks Ⓐ. The rear wheel is then correctly aligned.	

– Tighten nuts ❷.
– Make sure that chain adjusters ❹ are fitted correctly on adjusting screws ❸.
– Tighten nut ❶.

  Guideline

Nut, wheel spindle, rear	M22x1.5	80 Nm (59 lbf ft)

Info

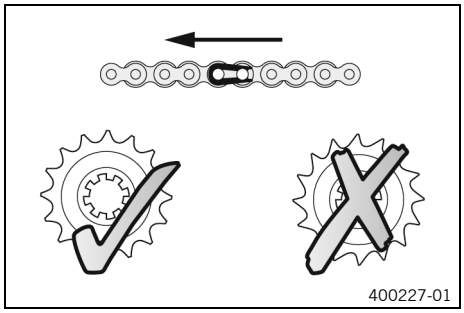
The wide adjustment range of the chain adjusters (32 mm (1.26 in)) enables different secondary ratios with the same chain length.

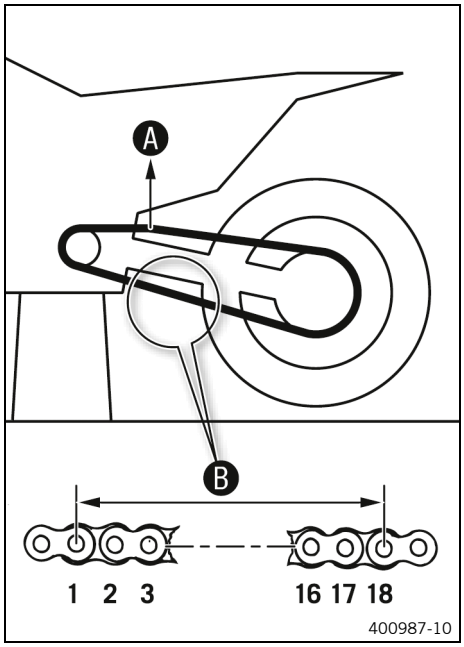
Chain adjusters ❹ can be turned by 180°.

Finishing work

– Remove the motorcycle from the lift stand. (📖 p. 48)

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





Preparatory work

– Raise the motorcycle with a lift stand. (📖 p. 48)

Main work

– Shift the transmission into neutral.
– Check the chain, rear sprocket, and engine sprocket for wear.
  » If the chain, rear sprocket or engine sprocket is worn:
    – Change the drivetrain kit. 🔧

> **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 Ⓐ.

  Guideline

Weight, chain wear measurement	10 ... 15 kg (22 ... 33 lb.)

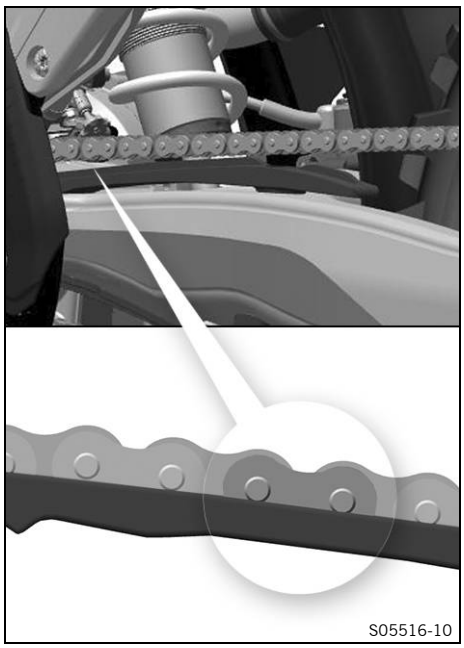
– Measure distance Ⓑ of 18 chain rollers in the lower chain section.

> **Info**
> Chain wear is not always even, so you should repeat this measurement at different chain positions.

Maximum distance Ⓑ from 18 chain rollers at the longest chain section	272 mm (10.71 in)

  » If distance Ⓑ is greater than the specified measurement:
    – Change the drivetrain kit. 🔧

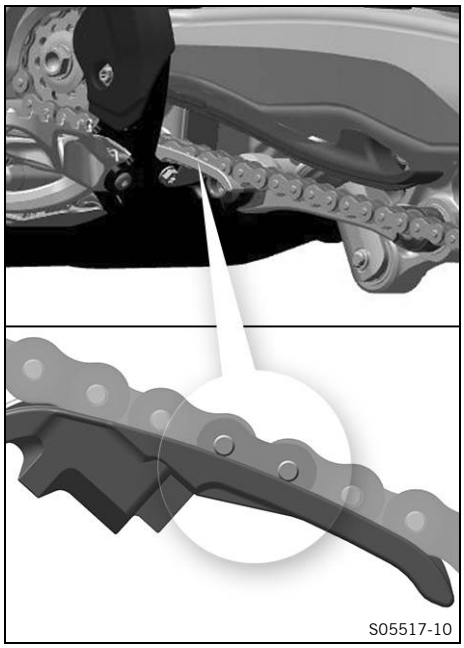
> **Info**
> When a new chain is mounted, the rear sprocket and engine sprocket should also be changed. New chains wear out faster on an old, worn rear sprocket or engine sprocket.


S05516-10

– 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:
    – Change the chain sliding guard.
– Check that the chain sliding guard is firmly seated.
  » If the chain sliding guard is loose:
    – Tighten screws on the chain sliding guard.

    Guideline

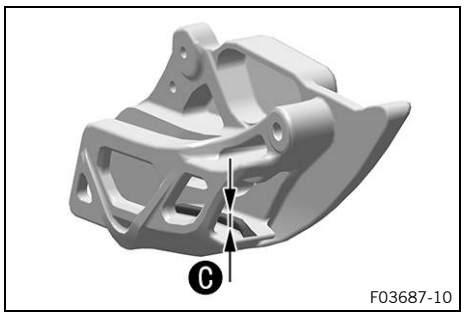
Screw, chain sliding guard	M6	6 Nm (4.4 lbf ft)


S05517-10

– 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 screw on the chain sliding piece.

    Guideline

Screw, chain sliding piece	M8	15 Nm (11.1 lbf ft)



F03687-10

– Check the chain guide with a slide gage for dimension C.

Minimum thickness C of the chain guide	6 mm (0.24 in)

  » If the measured value is less than the specification:
    – Change the chain guide.


F03682-01

– Check that the chain guide is firmly seated.
  » If the chain guide is loose:
    – Tighten the screws on the chain guide.

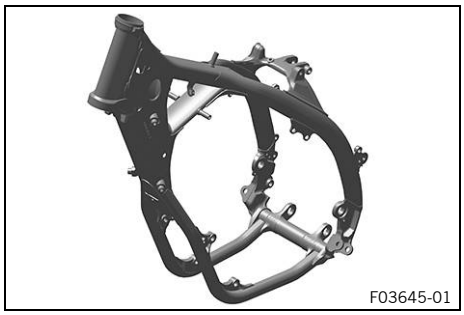
    Guideline

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

Finishing work

– Remove the motorcycle from the lift stand. (📖 p. 48)

11.42 Checking the frame

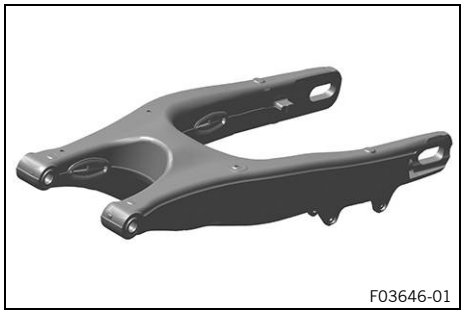

F03645-01

– Check the frame for damage, cracks, and deformation.
  » If the frame shows signs of damage, cracks, or deformation:
    – Change the frame.

    Guideline

    Repairs on the frame are not permitted.

11.43 Checking the link fork


F03646-01

– Check the link fork for damage, cracks, and deformation.
  » If the link fork shows signs of damage, cracks, or deformation:
    – Change the link fork.

    Guideline

    Repairs on the link fork are not permitted.

11.44 Checking the throttle cable routing

Warning

Danger of accidents The throttle cable can become kinked, trapped or blocked if it is not routed correctly.

If the throttle cable is kinked, trapped or blocked, the speed can no longer be controlled.

– Make sure that the throttle cable routing and the play in throttle cable complies with the specification.

Preparatory work

– Remove the seat. (📖 p. 62)
– Remove the fuel tank. (📖 p. 69)



Main work

– Check the throttle cable routing.

Both throttle cables must be routed, side by side, on the back of the handlebars, above the fuel tank bracket on the right of the frame to the throttle valve body. The throttle cable must be secured on the fuel tank bracket with a rubber strap.

» If the throttle cable is not routed as specified:

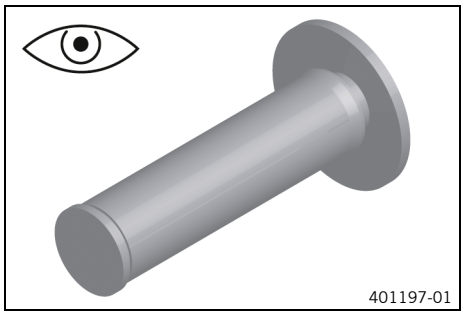
– Correct the throttle cable routing.

Finishing work

– Install the fuel tank. (p. 71)

– Mount the seat. (p. 63)

11.45 Checking the rubber grip



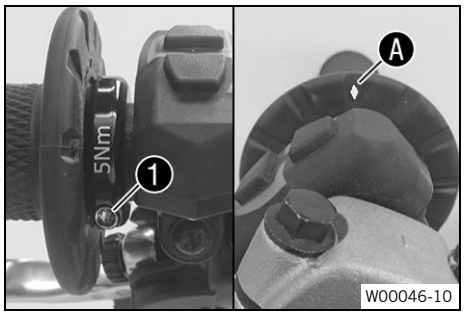
– Check the rubber grips on the handlebar for damage, wear, and looseness.

Info

The rubber grips are vulcanized onto a sleeve on the left and onto the handle tube of the throttle grip on the right. The left sleeve is clamped onto the handlebar. The rubber grip can only be replaced with the sleeve or the throttle tube.

» If a rubber grip is damaged or worn:

– Change the rubber grip.



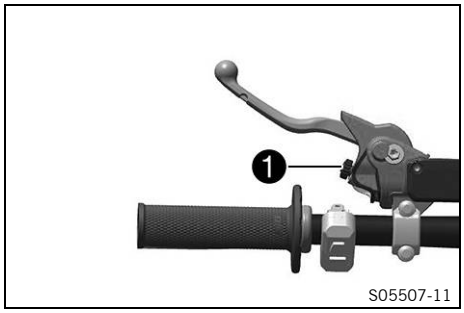
– Check that screw 1 is firmly seated.

Guideline

Screw, fixed grip	M4	5 Nm (3.7 lbf ft) **Loctite®243™**

Diamond A must be located at the top.

11.46 Adjusting the basic position of the clutch lever



– Adjust the basic position of the clutch lever to your hand size by turning adjusting screw ❶.

Info

Turn the adjusting screw counterclockwise to decrease the distance between the clutch lever and the handlebar.

Turn the adjusting screw clockwise to increase the distance between the clutch lever and the handlebar.

The range of adjustment is limited.

Turn the adjusting screw by hand only, and do not apply any force.

Do not make any adjustments while riding.

11.47 Checking/correcting the fluid level of hydraulic clutch

Warning

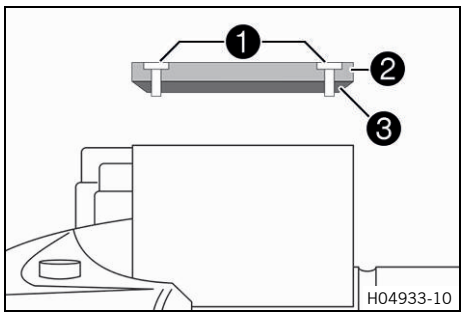
Skin irritation Brake fluid is a harmful substance.

– 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.

Info

The fluid level rises with increasing wear of the clutch facing discs.

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



– Move the hydraulic clutch fluid reservoir mounted on the handlebar into a horizontal position.
– Remove screws ❶.
– Take off cover ❷ with membrane ❸.
– Check the fluid level.

Fluid level 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. 138)

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

Info

Use water to immediately clean up any brake fluid that has overflowed or spilled.

11.48 Changing the hydraulic clutch fluid

Warning

Skin irritation Brake fluid is a harmful substance.

- 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.

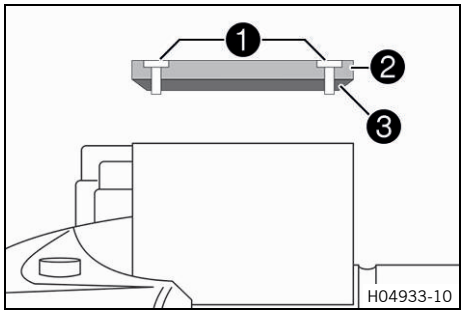
Note

Environmental hazard Hazardous substances cause environmental damage.

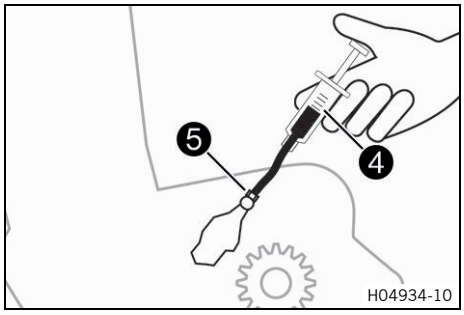
- Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

Info

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



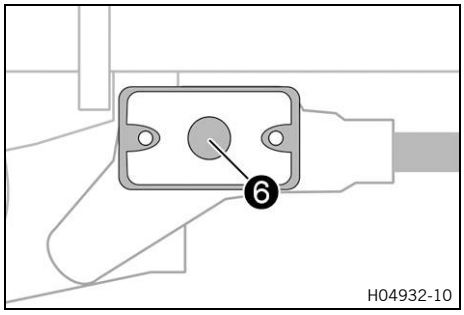
- Move the hydraulic clutch fluid reservoir mounted on the handlebar into a horizontal position.
- Remove screws ❶.
- Take off cover ❷ with membrane ❸.



- Fill bleeding syringe ❹ with the appropriate hydraulic fluid.

Syringe (50329050000)
Brake fluid DOT 4 / DOT 5.1 (📖 p. 138)

- On the clutch slave cylinder, remove bleeder screw ❺ and mount bleeding syringe ❹.



- Now press the fluid into the system until it emerges from hole ❻ of the master cylinder without bubbles.
- Occasionally extract the fluid from the master cylinder reservoir to prevent overflowing.
- Remove the bleeding syringe. Mount and tighten the 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.

Info
Use water to immediately clean up any brake fluid that has overflowed or spilled.

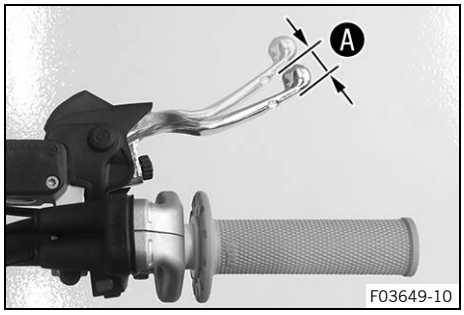
12.1 Checking the free travel of the hand brake lever

Warning

Danger of accidents The brake system fails in the event of overheating.

If there is no free travel on the hand brake lever, pressure builds up on the front brake circuit.

– Check brake system for damage.

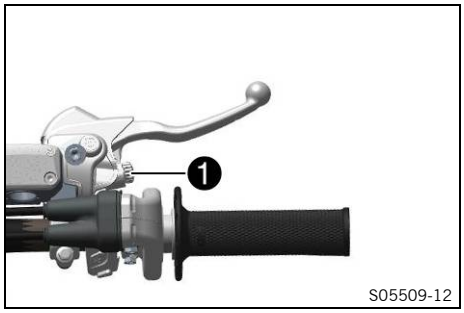


– Push the hand brake lever forward and check free travel Ⓐ.

Free travel of hand brake lever	≥ 3 mm (≥ 0.12 in)

» If the free travel does not match the specification:
  – Inspect the brake system for damage and dirt.

12.2 Adjusting the basic position of the hand brake lever



– Check the free travel of the hand brake lever. (📖 p. 82)
– Adjust the basic position of the hand brake lever to your hand size by turning adjusting screw ❶.

Info

Turn the adjusting screw clockwise to increase the distance between the hand brake lever and the handlebar.

Turn the adjusting screw counterclockwise to decrease the distance between the hand brake lever and the handlebar.

The range of adjustment is limited.

Only turn the adjusting screw by hand, and do not use force.

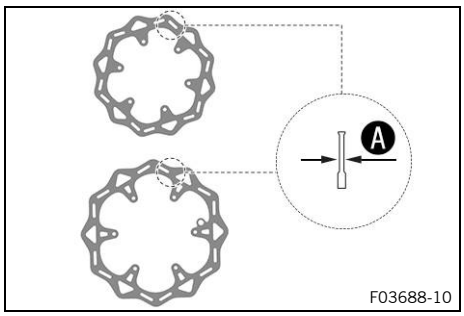
Do not make any adjustments while riding.

12.3 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. (Your authorized KTM workshop will be glad to help.)



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

Info
Wear reduces the thickness of the brake disc around the contact surface of the brake linings.

Brake discs - wear limit	
front	2.5 mm (0.098 in)
rear	3.5 mm (0.138 in)

» If the brake disc thickness is less than the specified value:
  – Change the front brake disc.
  – Change the rear brake disc.

– 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.
  – Change the rear brake disc.

12.4 Checking the front brake fluid level

Warning
Danger of accidents An insufficient brake fluid level will cause the brake system to fail.

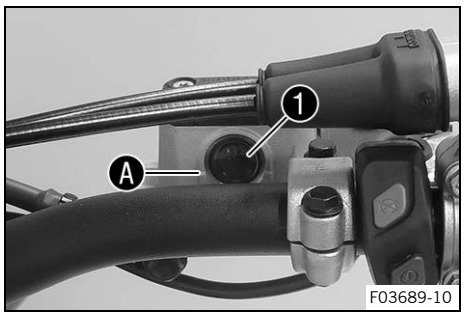
If the brake fluid level drops below the specified marking or the specified value, the brake system is leaking or the brake linings are worn down.

– Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)

Warning
Danger of accidents Brake fluid which is too old or of the wrong type impairs the function of the brake system.

– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)
– Make sure that only clean, approved brake fluid from a tightly sealed container is used. (Your authorized KTM workshop will be glad to help.)

Preparatory work
– Check that the brake linings of the front brake are secured. (p. 85)



Main work
– Move the brake reservoir mounted on the handlebar to a horizontal position.
– Check the brake fluid level in level viewer 1.

» If the brake fluid level has dropped below the marking A:
  – Add front brake fluid. (p. 84)

12.5 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. (Your authorized KTM workshop will be glad to help.)

Warning

Skin irritation Brake fluid is a harmful substance.

– 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 Brake fluid which is too old or of the wrong type impairs the function of the brake system.

– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)
– Make sure that only clean, approved brake fluid from a tightly sealed container is used. (Your authorized KTM workshop will be glad to help.)

Note

Environmental hazard Hazardous substances cause environmental damage.

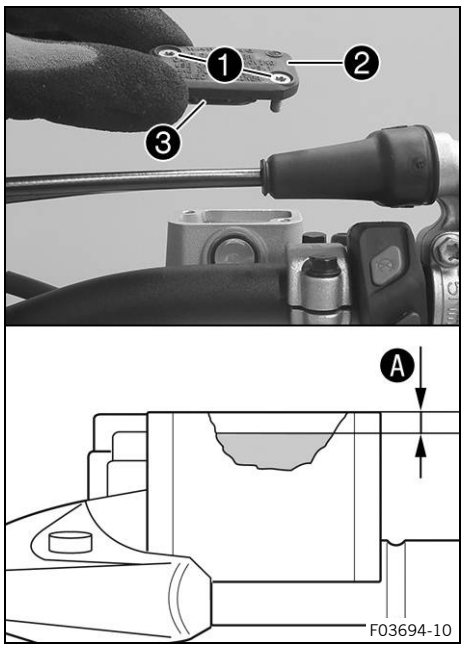
– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

Info

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

Preparatory work

– Check that the brake linings of the front brake are secured. (p. 85)



Main work

– Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
– Remove screws ❶.
– Take off cover ❷ with membrane ❸.
– Add brake fluid to level Ⓐ.

Guideline

Level Ⓐ (brake fluid level below reservoir rim)	5 mm (0.2 in)

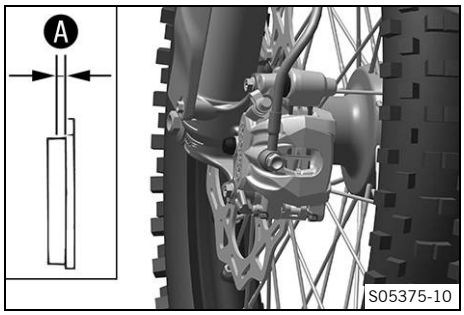
Brake fluid DOT 4 / DOT 5.1 (📖 p. 138)

– Position cover ❷ with membrane ❸. Mount and tighten screws ❶.

Info
Use water to immediately clean up any brake fluid that has overflowed or spilled.

12.6 Checking that the brake linings of the front brake are secured

Warning
Danger of accidents Worn-out brake linings reduce the braking effect.
– Ensure that worn-out brake linings are replaced immediately. (Your authorized KTM workshop will be glad to help.)



– Check the brake linings for lining thickness Ⓐ.

Minimum thickness Ⓐ	≥ 1 mm (≥ 0.04 in)

» If it is less than the minimum thickness:
– Change the brake linings of the front brake. 🔧 (📖 p. 86)

– Check the brake linings for damage and cracking.
» If there is damage or cracking:
– Change the brake linings of the front brake. 🔧 (📖 p. 86)

– Check that the brake linings are secured.
» If the brake linings are not secured correctly:
– Secure brake linings, replace with new parts if necessary.

12.7 Changing the brake linings of the front brake

Warning

Danger of accidents Incorrect servicing will cause the brake system to fail.

– Ensure that service work and repairs are performed professionally. (Your authorized KTM workshop will be glad to help.)

Warning

Skin irritation Brake fluid is a harmful substance.

– 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 Brake fluid which is too old or of the wrong type impairs the function of the brake system.

– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)
– Make sure that only clean, approved brake fluid from a tightly sealed container is used. (Your authorized KTM workshop will be glad to help.)

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.

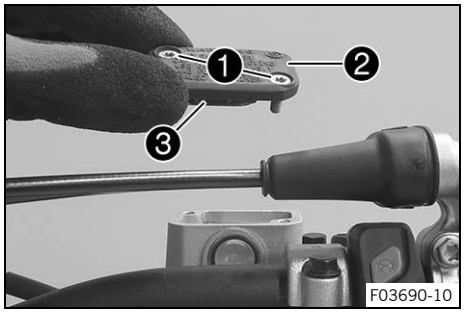
Note

Environmental hazard Hazardous substances cause environmental damage.

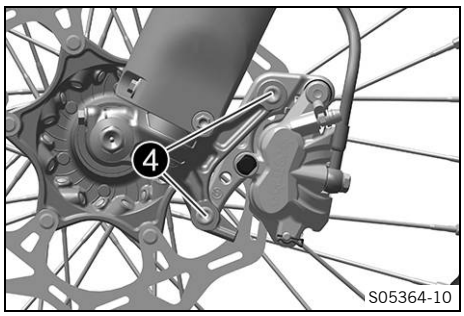
– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

Info

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

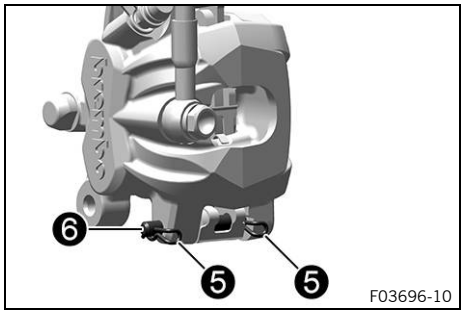


– Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
– Remove screws ❶.
– Take off cover ❷ with membrane ❸.

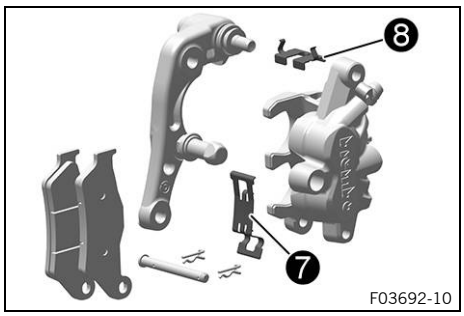


- Remove screws ❹.
- Press back the brake linings by slightly tilting the brake caliper laterally on the brake disc. Carefully pull the brake caliper up and off the brake disc.
- Press the brake piston back into the basic position and ensure that brake fluid does not flow out of the brake fluid reservoir; extract some if necessary.

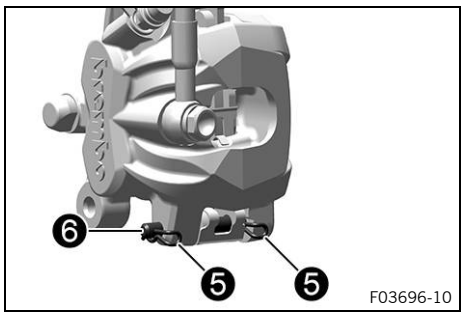
Info
Do not operate the hand brake lever if the brake caliper has been removed.



- Remove cotter pins ❺, pull out pin ❻, and remove the brake linings.
- Clean the brake caliper and the brake caliper bracket.

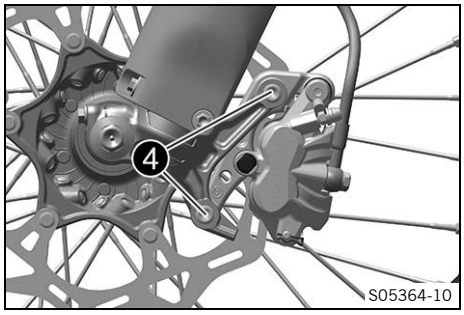


- Check that spring plate ❼ in the brake caliper and brake pad sliding plate ❽ in the brake caliper bracket are seated correctly.



- Insert the new brake linings, insert pin ❻, and mount cotter pins ❺.

Info
Always change the brake linings in pairs.
To make it easier to mount the pin, push the brake linings against the retainer spring.
Make sure the brake linings and retainer spring are seated correctly.

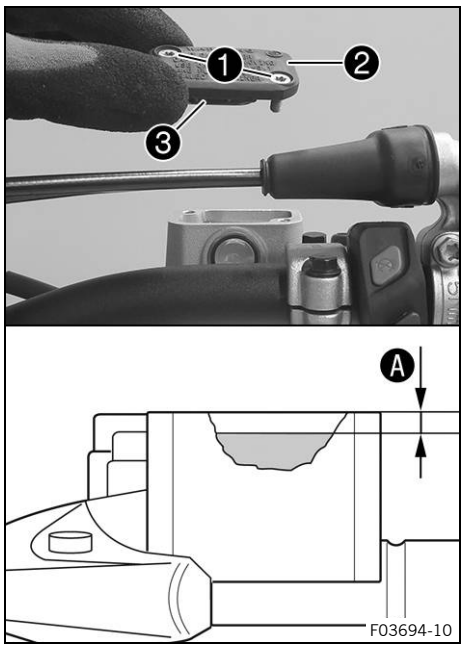


- Position the brake caliper.
- Mount and tighten screws ❹.

Guideline

Screw, front brake caliper	M8	25 Nm (18.4 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.



– Add brake fluid up 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. 138)

– Position cover 2 with membrane 3.
– Mount and tighten screws 1.

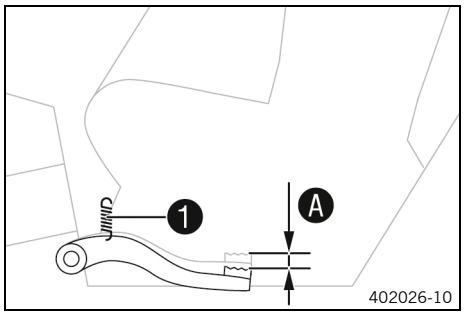
Info
Use water to immediately clean up any brake fluid that has overflowed or spilled.

12.8 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.



– Disconnect spring 1.
– 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)

» If the free travel does not meet specifications:
– Adjust the basic position of the foot brake lever. 🔧 (📖 p. 88)

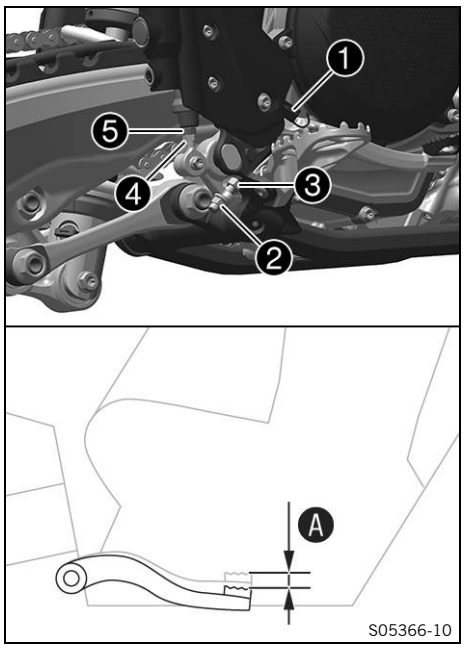
– Reconnect spring 1.

12.9 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.



– Detach spring ❶.
– Loosen nut ❹ and, with push rod ❺, turn it back until you have maximum free travel.
– To adjust the basic position of the foot brake lever to individual requirements, loosen nut ❷ and turn screw ❸ accordingly.

Info
The range of adjustment is limited.

– Turn push rod ❺ accordingly until you have free travel Ⓐ. If necessary, adjust the basic position of the foot brake lever.

Guideline

Free travel at foot brake lever	3 ... 5 mm (0.12 ... 0.2 in)

– Hold push rod ❺ and tighten nut ❹.

Guideline

Remaining nuts, chassis	M6	10 Nm (7.4 lbf ft)

– Hold screw ❸ and tighten nut ❷.

Guideline

Nut, foot brake lever stop	M8	20 Nm (14.8 lbf ft)

– Attach spring ❶.

12.10 Checking the rear brake fluid level

Warning
Danger of accidents An insufficient brake fluid level will cause the brake system to fail.

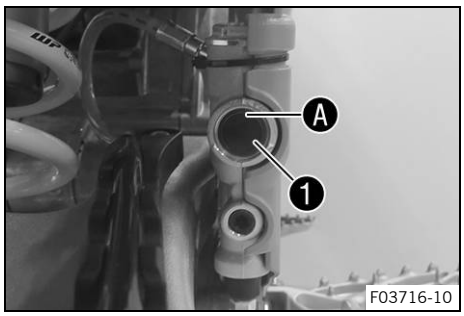
If the brake fluid level drops below the specified marking or the specified value, the brake system is leaking or the brake linings are worn down.

– Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)

Warning
Danger of accidents Brake fluid which is too old or of the wrong type impairs the function of the brake system.

– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)
– Make sure that only clean, approved brake fluid from a tightly sealed container is used. (Your authorized KTM workshop will be glad to help.)

Preparatory work
– Check that the brake linings of the rear brake are secured. (📖 p. 91)



Main work

– Stand the vehicle upright.

– Check the brake fluid level in level viewer 1.

» If the brake fluid has dropped below marking A:

– Add rear brake fluid. (p. 90)

12.11 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 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. (Your authorized KTM workshop will be glad to help.)

Warning

Skin irritation Brake fluid is a harmful substance.

– 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 Brake fluid which is too old or of the wrong type impairs the function of the brake system.

– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)

– Make sure that only clean, approved brake fluid from a tightly sealed container is used. (Your authorized KTM workshop will be glad to help.)

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.

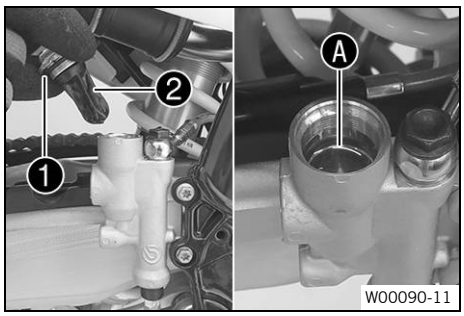
Info

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

Preparatory work

– Check that the brake linings of the rear brake are secured. (p. 91)

– Remove the frame protector. (p. 52)



Main work

– Stand the vehicle upright.
– Remove screw cap ❶ with membrane ❷ and the O-ring.
– Add brake fluid up to the marking Ⓐ.

Brake fluid DOT 4 / DOT 5.1 (📖 p. 138)

– Mount and tighten the screw cap with the membrane and O-ring.

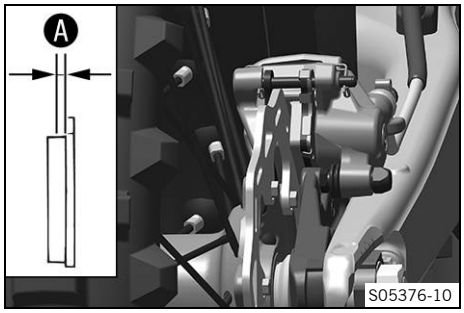
Info
Use water to immediately clean up any brake fluid that has overflowed or spilled.

Finishing work

– Install the frame protector. (📖 p. 52)

12.12 Checking that the brake linings of the rear brake are secured

Warning
Danger of accidents Worn-out brake linings reduce the braking effect.
– Ensure that worn-out brake linings are replaced immediately. (Your authorized KTM workshop will be glad to help.)



– Check the brake linings for lining thickness Ⓐ.

Minimum thickness Ⓐ	≥ 1 mm (≥ 0.04 in)

» If it is less than the minimum thickness:
– Change the rear brake linings. 🔧 (📖 p. 91)
– Check the brake linings for damage and cracking.
» If there is damage or cracking:
– Change the rear brake linings. 🔧 (📖 p. 91)
– Check that the brake linings are secured.
» If the brake linings are not secured correctly:
– Secure brake linings, replace with new parts if necessary.

12.13 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. (Your authorized KTM workshop will be glad to help.)

Warning

Skin irritation Brake fluid is a harmful substance.

– 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 Brake fluid which is too old or of the wrong type impairs the function of the brake system.

– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)
– Make sure that only clean, approved brake fluid from a tightly sealed container is used. (Your authorized KTM workshop will be glad to help.)

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.

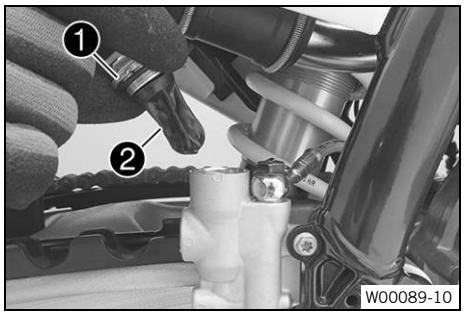
Note

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

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

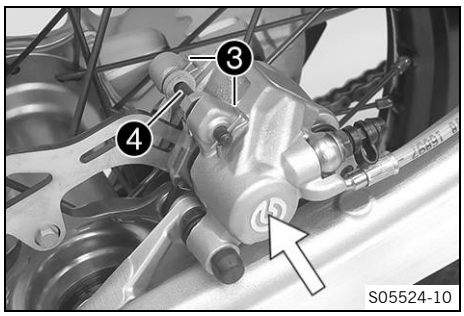


Preparatory work

– Remove the frame protector. (p. 52)

Main work

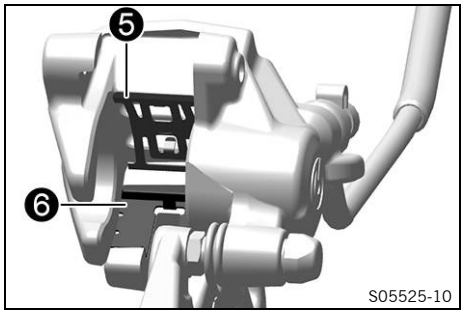
– Stand the vehicle upright.
– Remove screw cap ❶ with membrane ❷ and the O-ring.



– Manually press the brake caliper toward the brake disc to push back the brake piston. Ensure that brake fluid does not flow out of the brake fluid reservoir; extract some if necessary.

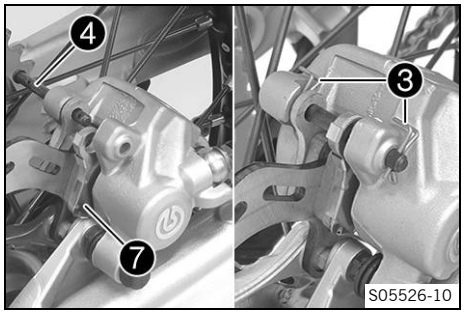
Info
Make sure that you do not press the brake caliper against the spokes when pushing back the brake piston.

– Remove cotter pins ❸, pull out pin ❹, and remove the brake linings.
– Clean the brake caliper and the brake caliper bracket.



– Check that spring plate ❺ in the brake caliper and brake pad sliding plate ❻ in the brake caliper bracket are seated correctly.

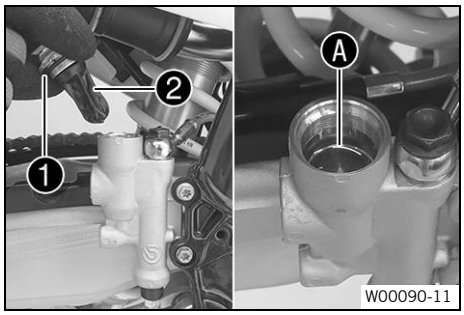
Info
The arrow on the spring plate points in the direction of rotation of the brake disc.



– Insert the new brake linings, insert pin ❹, and mount cotter pins ❸.

Info
Always change the brake linings in pairs.
Make sure that decoupling plate ❼ is mounted on the piston side brake lining.

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



– Correct brake fluid level to marking Ⓐ.

Brake fluid DOT 4 / DOT 5.1 (📖 p. 138)

– Mount and tighten screw cap ❶ with membrane ❷ and the O-ring.

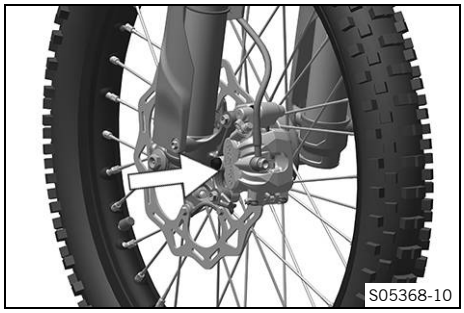
Info
Use water to immediately clean up any brake fluid that has overflowed or spilled.

Finishing work
– Install the frame protector. (📖 p. 52)

13.1 Removing the front wheel

Preparatory work

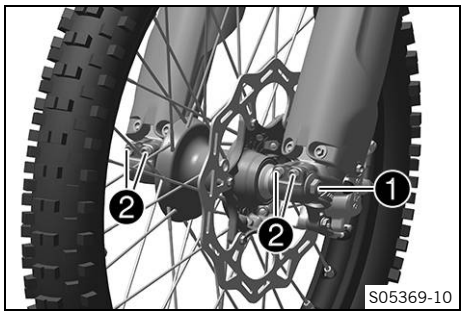
– Raise the motorcycle with a lift stand. (p. 48)


S05368-10

Main work

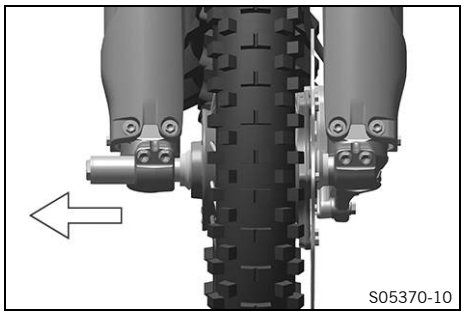
– Manually press the brake caliper toward the brake disc to push back the brake pistons.

Info
Make sure that you do not press the brake caliper against the spokes when pushing back the brake pistons.



S05369-10

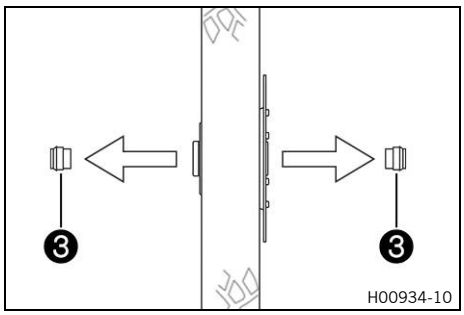
– Loosen screw ❶ by several rotations.
– Loosen screws ❷.
– Press on screw ❶ to push the wheel spindle out of the axle clamp.
– Remove screw ❶.


S05370-10

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.

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



H00934-10

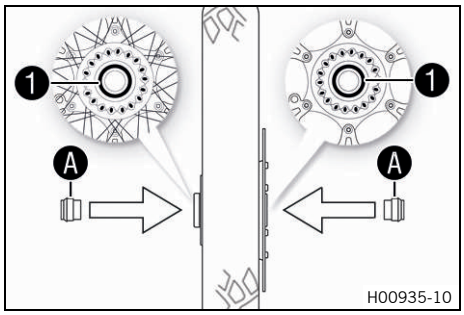
– Remove spacers ❸.

13.2 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.

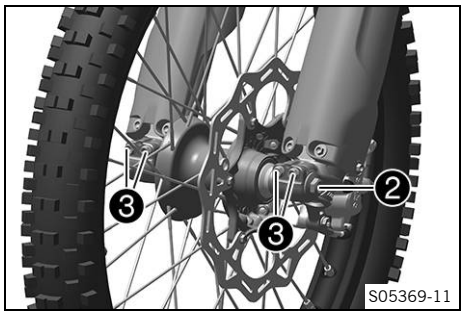


– Check the wheel bearing for damage and wear.
  » If the wheel bearing is damaged or worn:
    – Change front wheel bearing.
– Clean and grease shaft seal rings ❶ and contact surfaces Ⓐ of the spacers.

Long-life grease (📖 p. 140)

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

Long-life grease (📖 p. 140)



– Position the front wheel and insert the wheel spindle.
  ✔ The brake linings are correctly positioned.
– Mount and tighten screw ❷.

  Guideline

Screw, wheel spindle, front	M20x1.5	35 Nm (25.8 lbf ft)

– Operate the hand brake lever several times until the brake linings are seated correctly against the brake disc.
– Remove the motorcycle from the lift stand. (📖 p. 48)
– Operate the front brake and compress the fork a few times firmly.
  ✔ The fork legs straighten.
– Tighten screws ❸.

  Guideline

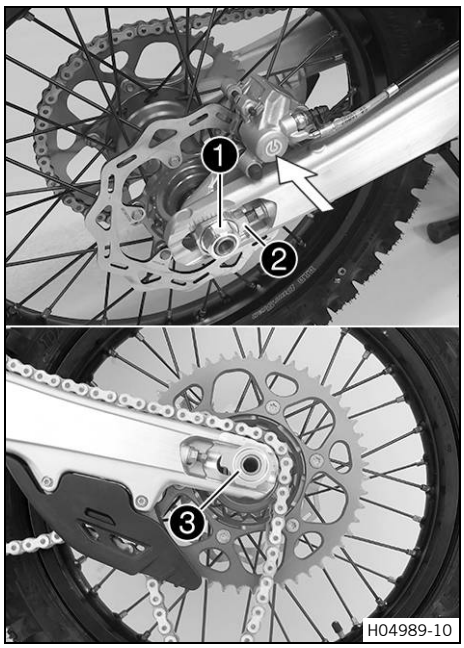
Screw, fork shoe	M8	15 Nm (11.1 lbf ft)

◀

13.3 Removing the rear wheel

Preparatory work

– Raise the motorcycle with a lift stand. (📖 p. 48)



Main work

– Manually press the brake caliper toward the brake disc to push back the brake piston.

Info
Make sure that you do not press the brake caliper against the spokes when pushing back the brake piston.

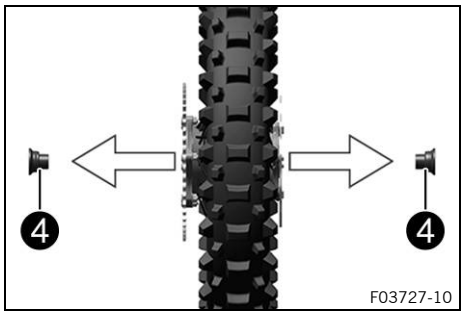
– Remove nut ❶.
– Take off chain adjuster ❷. Pull out wheel spindle ❸ far enough to allow the rear wheel to be pushed forward.
– Push the rear wheel forward as far as possible. Remove the chain from the rear sprocket.

Info
Cover the components to protect them against damage.

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 rear wheel and remove the wheel spindle. Take the rear wheel out of the link fork.

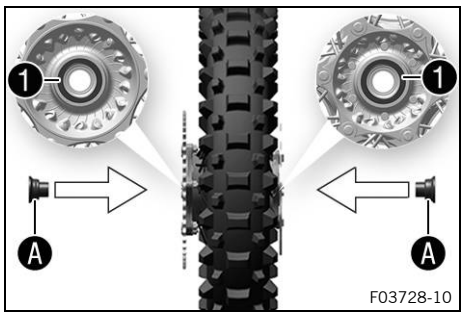
Info
Do not operate the foot brake lever when the rear wheel is removed.



– Remove spacers ❹.

13.4 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.



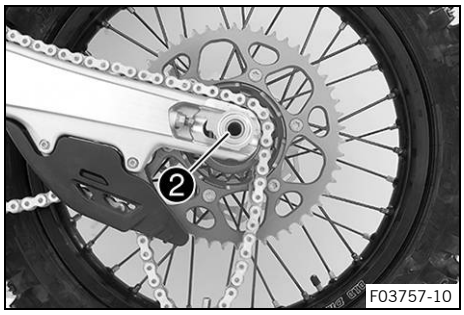
Main work

– Check the wheel bearing for damage and wear.
  » If the wheel bearing is damaged or worn:
    – Change the rear wheel bearing.
– Clean and grease shaft seal rings ❶ and contact surfaces Ⓐ of the spacers.

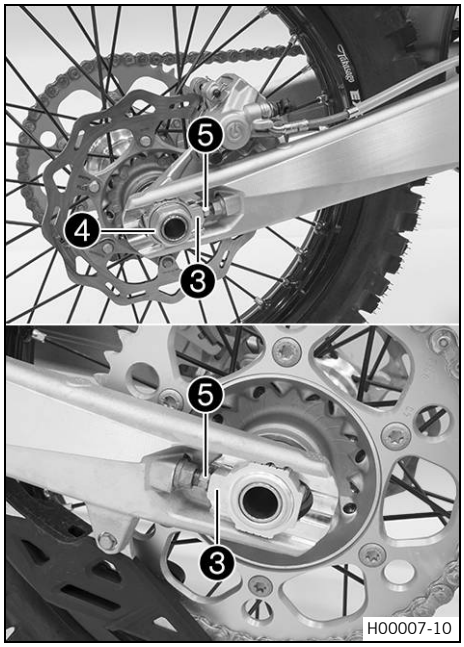
Long-life grease (📖 p. 140)

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

Long-life grease (📖 p. 140)



– Position rear wheel and insert wheel spindle ❷.
  ✔ The brake linings are correctly positioned.
– Mount the chain.



– Position chain adjuster ❸. Mount nut ❹, but do not tighten it yet.
– Make sure that chain adjusters ❸ are fitted correctly on adjusting screws ❺.
– Check the chain tension. (📖 p. 73)
– Tighten nut ❹.

  Guideline

Nut, wheel spindle, rear	M22x1.5	80 Nm (59 lbf ft)

Info

The wide adjustment range of the chain adjusters (32 mm (1.26 in)) enables different secondary ratios with the same chain length.

Chain adjusters ❸ can be turned by 180°.

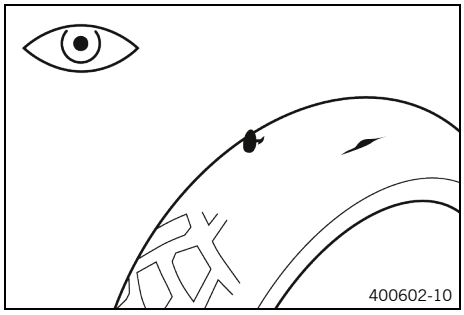
– Operate the foot brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point.

Finishing work

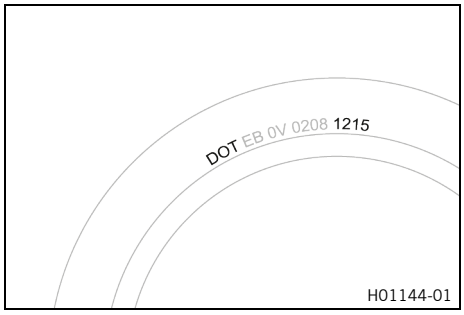
– Remove the motorcycle from the lift stand. (📖 p. 48)

13.5 Checking the tire condition

Info
Only mount tires approved and/or recommended by KTM.
Other tires could have a negative effect on handling characteristics.
The type, condition, and pressure of the tires all have a major impact on the handling characteristic of the motorcycle.
The tires mounted on the front and rear wheels must have a similar profile.
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.



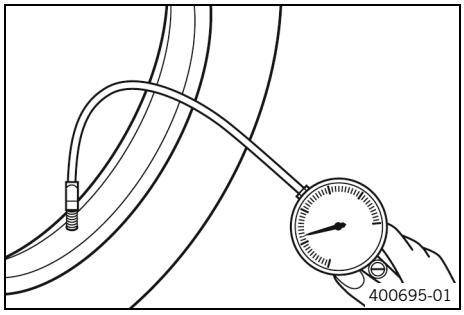
– Check the tire age.

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.
KTM 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.

13.6 Checking tire pressure

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.

Offroad tire pressure	
front	1.0 bar (15 psi)
rear	1.0 bar (15 psi)

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

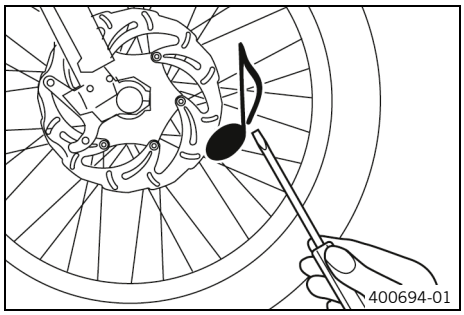
13.7 Checking spoke tension

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. (Your authorized KTM workshop will be glad to help.)



– Strike each spoke briefly using a screwdriver blade.

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.

– Check the spoke torque.

Guideline

Spoke nipple, front wheel	M4.5	6 Nm (4.4 lbf ft)
Spoke nipple, rear wheel	M4.5	6 Nm (4.4 lbf ft)

Torque wrench kit (58429094000)

14.1 Removing the 12-V battery

Caution

Danger of burns The voltage regulator gets very hot when the vehicle is operated.

– Allow the voltage regulator to cool down before performing any work.

Note

Environmental hazard 12 V batteries contain environmentally hazardous materials.

– Do not dispose of 12 V batteries as household waste.

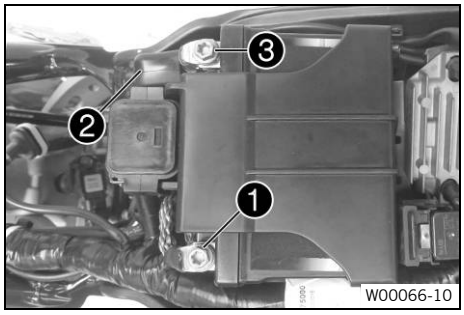
– Dispose of 12 V batteries at a collection point for used batteries.

Preparatory work

– Remove the seat. (p. 62)

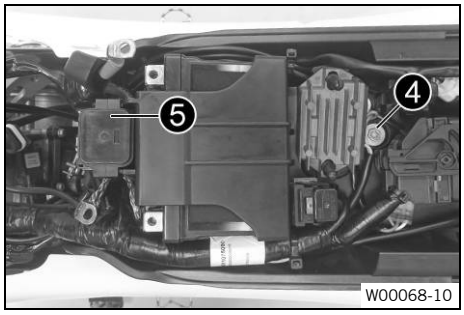
– Remove the fuel tank. (p. 69)

Main work



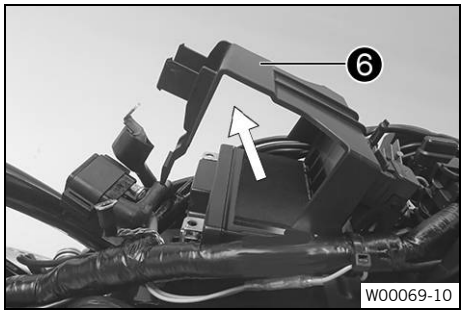
– Disconnect negative cable ❶ from the 12-V battery.

– Pull back positive terminal cover ❷ and disconnect positive cable ❸ from the 12-V battery.



– Remove screw ❹.

– Pull starter relay ❺ off the holder and hang to the side.

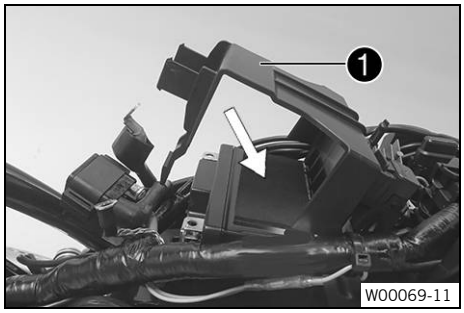


– Pull up battery holding bracket ❻ and remove the 12-V battery to the rear.

Info

Pay attention to the wiring harness.

14.2 Installing the 12-V battery

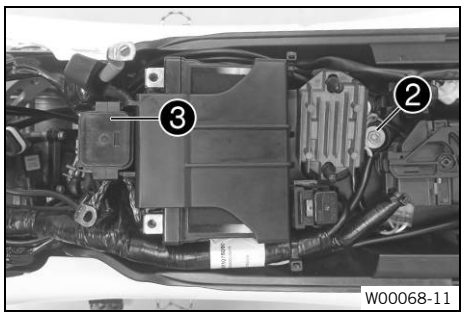


Main work

– Pull up battery holding bracket ❶, insert the 12-V battery into the battery compartment with the terminals facing upwards and secure with battery holding bracket ❶.

12-V battery (HJTZ5S-FP-C) (📖 p. 133)

Info
Ensure that the cable is routed correctly.

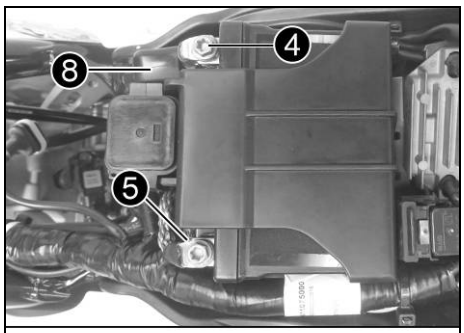


– Mount and tighten screw ❷.

Guideline

Screw, battery holding bracket	M6	6 Nm (4.4 lbf ft)

– Mount starter relay ❸ onto the holder and route the cable.



– Connect positive cable ❹ to the 12-V battery.

Guideline

Screw, battery terminal	M5	2.5 Nm (1.84 lbf ft)

– Connect negative cable ❺ to the 12 V battery.

Guideline

Screw, battery terminal	M5	2.5 Nm (1.84 lbf ft)

Contact disks Ⓐ must be mounted under screws ❻ and cable sockets ❼ with the claws toward the battery terminal.

– Slide positive terminal cover ❽ over the positive terminal.

Finishing work

– Install the fuel tank. (📖 p. 71)
– Mount the seat. (📖 p. 63)

14.3 Charging the 12-V battery

Warning

Risk of injury 12 V batteries contain harmful substances.

- Keep 12 V batteries out of the reach of children.
- Keep sparks and open flames away from 12 V batteries.
- Only charge 12 V batteries in well-ventilated rooms.
- Maintain a minimum clearance from inflammable materials when charging 12 V batteries.
  Minimum clearance 1 m (3 ft)
- Do not charge deeply discharged 12 V batteries if the charge is already below the minimum voltage.
  Minimum voltage before the start of the charge 9 V
- Dispose of 12 V batteries correctly if they have less than the minimum voltage.

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 when there is no load on the 12-V battery, it discharges steadily each day.
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, the 12-V battery will be destroyed.
If the 12-V battery is discharged by repeated starting, charge the 12-V battery immediately.
If the 12-V battery is left in a discharged state for an extended period, it will become deeply discharged and suffer a loss of capacity, destroying the battery.
The 12-V battery is maintenance-free.



Preparatory work

- Remove the seat. (p. 62)
- Remove the fuel tank. (p. 69)
- Remove the 12-V battery. (p. 100)

Main work

- Check the battery voltage.
  - » Battery voltage: < 9 V
    - Do not charge the 12-V battery.
    - Replace the 12-V battery and dispose of the old 12-V battery properly.
  - » If the specifications have been met:
    Battery voltage: ≥ 9 V
    - Charge the 12-V battery.

Guideline

The charging current, charging voltage, and charging time must not be exceeded.	
Maximum charging voltage	14.4 V
Maximum charging current	3.0 A
Maximum charging time	24 h
Recharge the 12-V battery regularly when the motorcycle is not being used	6 months

Battery charger and tester (A54029974000)

This battery charger tests whether the 12-V battery retains its voltage. It is also impossible to overcharge the 12-V battery with this battery charger. The charging time may be longer at low temperatures.

This battery charger is only suitable for lithium iron phosphate batteries. Read the accompanying **KTM PowerParts** instructions.

Info

Never remove cover ❶.

– Switch off the battery charger after charging and disconnect from the 12-V battery.

Finishing work

– Install the 12-V battery. (🔧) (📖 p. 101)
– Install the fuel tank. (🔧) (📖 p. 71)
– Mount the seat. (📖 p. 63)

14.4 Changing the main fuse

Warning

Fire hazard Incorrect fuses overload the electrical system.

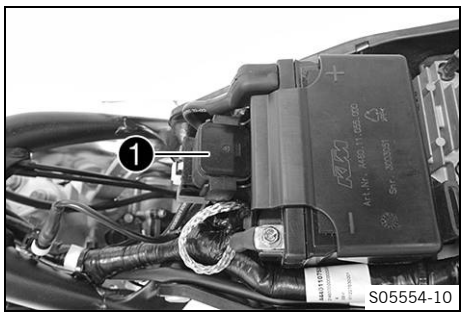
– Only use fuses with the required ampere value.
– Do not bypass or repair fuses.

Info

The main fuse protects all electrical power consumers of the vehicle. It is located in the starter relay housing under the seat.

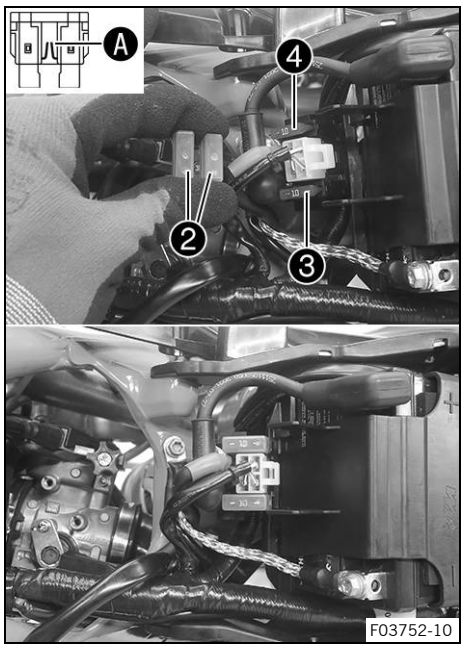
Preparatory work

– Press and hold the stop button ⊠ while the engine is idling until the engine stops.
– Remove the seat. (📖 p. 62)
– Remove the fuel tank. (🔧) (📖 p. 69)



Main work

– Pull starter relay ❶ from the holder.



– Take off protection caps ❷.
– Remove faulty main fuse ❸.

Info
A faulty fuse has a burned-out fuse wire Ⓐ.
A spare fuse ❹ is located in the starter relay.

– Insert a new main fuse.

Fuse (58011109110) (📖 p. 133)

– Check that the electrical system is functioning properly.

Tip
Insert a spare fuse so that it is available if needed.

– Mount the protection caps.
– Mount the starter relay onto the holder and route the cable.

Finishing work

– Install the fuel tank. 🔧 (📖 p. 71)
– Mount the seat. (📖 p. 63)

14.5 Changing the fuse of the fuel pump

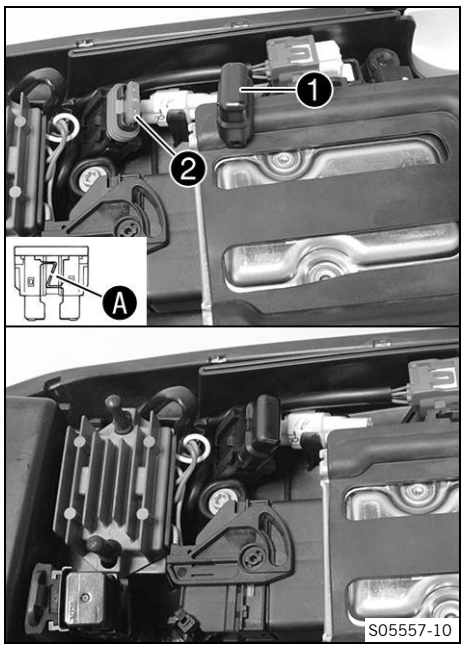
Warning
Fire hazard Incorrect fuses overload the electrical system.
– Only use fuses with the required ampere value.
– Do not bypass or repair fuses.

Caution
Danger of burns The voltage regulator gets very hot when the vehicle is operated.
– Allow the voltage regulator to cool down before performing any work.

Info
The fuel pump is protected by the fuel pump fuse. This is located under the seat.

Preparatory work

– Remove the seat. (📖 p. 62)



Main work

– Take off protection cap ❶.
– Remove the faulty fuse ❷.

Info
A faulty fuse has a burned-out fuse wire Ⓐ.

– Insert the new fuse for the fuel pump.

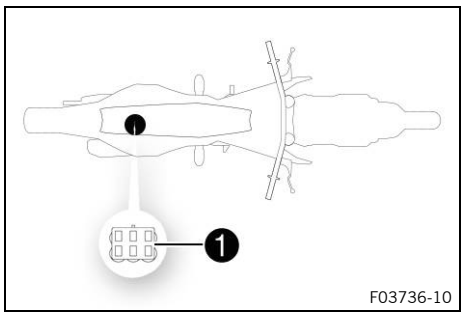
Fuse (58011109105) (📖 p. 133)

– Check that the electrical system is functioning properly.
– Attach the protection cap.

Finishing work

– Mount the seat. (📖 p. 63)

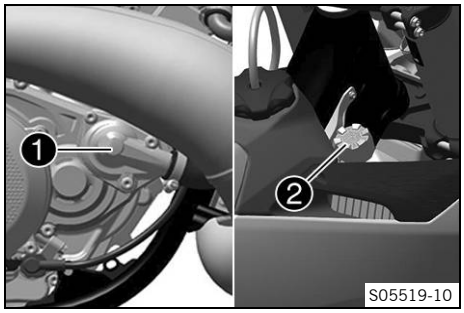
14.6 Diagnostics connector



Diagnostics connector ❶ is located under the seat.

Info
As soon as the diagnostics tool is connected, the service hour counter starts running.
Before longer diagnostic sessions, unplug the service hour counter behind the start number plate.

15.1 Cooling system



Water pump ❶ in the engine ensures forced circulation of the coolant.
The pressure resulting from the warming of the cooling system is regulated by a valve in radiator cap ❷. This ensures that operating the vehicle at the specified coolant temperature will not result in a risk of malfunctions.

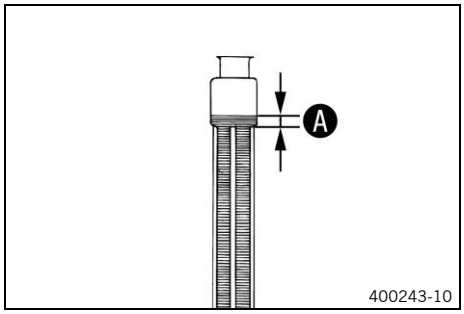
120 °C (248 °F)

Cooling is effected by the air stream.
The lower the speed, the less the cooling effect. Dirty cooling fins also reduce the cooling effect.

15.2 Checking the antifreeze and coolant level

Warning
Danger of scalding During motorcycle operation, the coolant gets 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 harmful to health.
- 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 upright on a horizontal surface.
- Remove the radiator cap.
- Check the coolant antifreeze.

−25 … −45 °C (−13 … −49 °F)

» If the antifreeze in the coolant does not match the specified value:
  - Correct the coolant antifreeze.

- Check the coolant level in the radiator.

Coolant level Ⓐ above the radiator fins	10 mm (0.39 in)

» If the coolant level does not match the specified value:
  - Correct the coolant level.

Coolant (📖 p. 138)

- Mount the radiator cap.

◀

15.3 Checking the coolant level

Warning

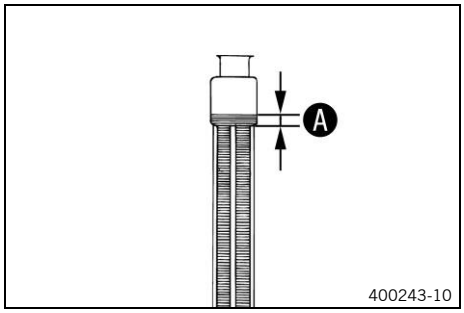
Danger of scalding During motorcycle operation, the coolant gets hot and is under pressure.

- 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 harmful to health.

- 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 upright on a horizontal surface.
- Remove the radiator cap.
- Check the coolant level in the radiator.

Coolant level Ⓐ above the radiator fins	10 mm (0.39 in)

» If the coolant level does not match the specified value:

- Correct the coolant level.

Coolant (📖 p. 138)

- Mount the radiator cap.

15.4 Draining the coolant 🔧

Warning

Danger of scalding During motorcycle operation, the coolant gets 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

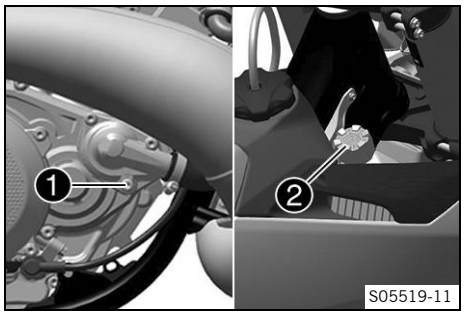
Danger of poisoning Coolant is harmful to health.

- 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.

- Position the motorcycle upright.
- Place an appropriate container under the water pump cover.



- Remove screw ❶. Take off radiator cap ❷.
- Completely drain the coolant.
- Mount and tighten screw ❶ with a new seal ring.

  Guideline

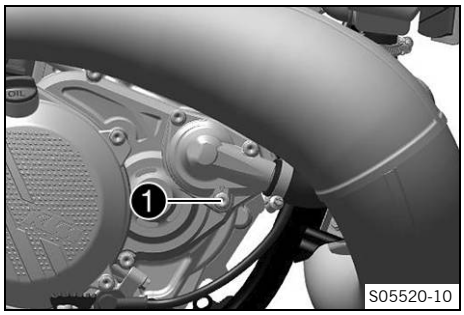
Screw, water pump cover, short	M6x40	10 Nm (7.4 lbf ft)

15.5 Refilling with coolant

Warning

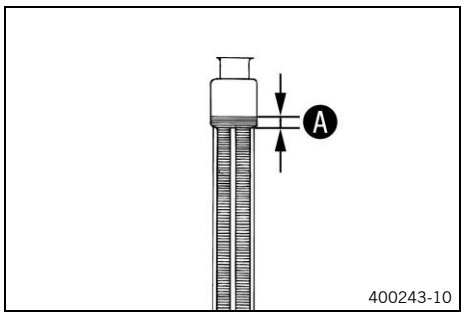
Danger of poisoning Coolant is harmful to health.

- 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

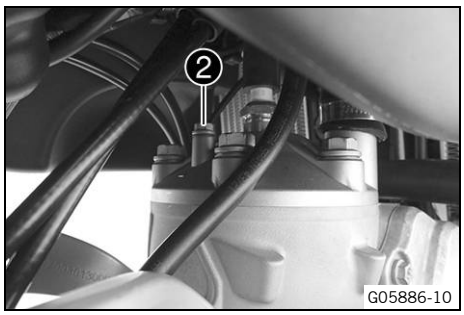
- Make sure that screw ❶ is tightened.
- Position the motorcycle upright.



– Pour coolant in up to level Ⓐ above the radiator fins.

Guideline

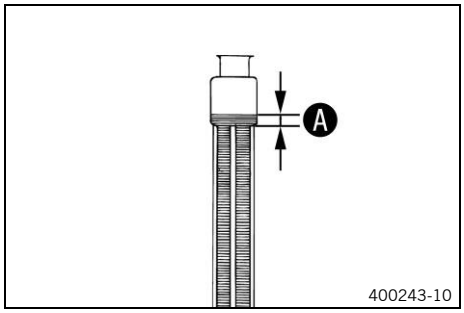
10 mm (0.39 in)
Coolant (📖 p. 138)



– Remove screw ❷ and wait until coolant emerges without bubbles.
– Mount and tighten screw ❷.

Guideline

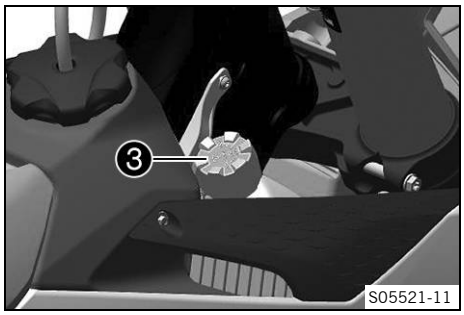
Bleeder screw, cylinder head	M6	10.5 Nm (7.74 lbf ft)



– Pour coolant in up to level Ⓐ above the radiator fins.

Guideline

10 mm (0.39 in)
Coolant (📖 p. 138)



– Mount radiator cap ❸.

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.

– Allow the engine to warm up and cool down again.

Finishing work

– Check the coolant level. (📖 p. 107)

15.6 Changing the coolant

Warning

Danger of scalding During motorcycle operation, the coolant gets 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

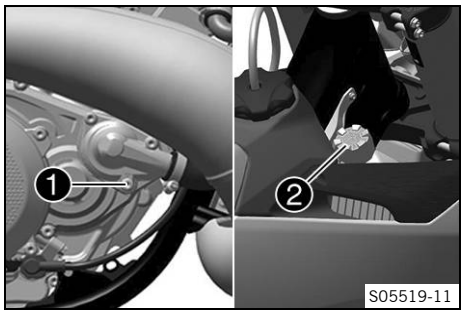
Danger of poisoning Coolant is harmful to health.

- 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.

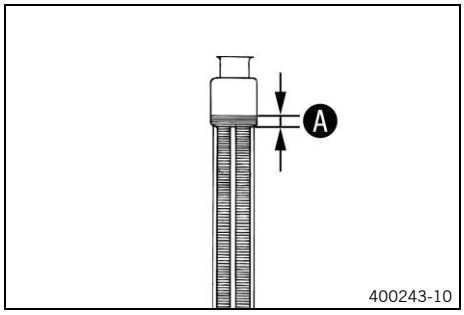
- Position the motorcycle upright.
- Place an appropriate container under the water pump cover.



- Remove screw ❶. Take off radiator cap ❷.
- Completely drain the coolant.
- Mount and tighten screw ❶ with a new seal ring.

  Guideline

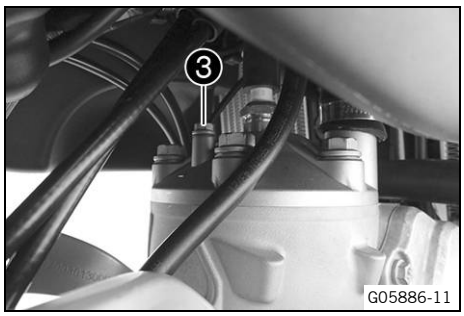
Screw, water pump cover, short	M6x40	10 Nm (7.4 lbf ft)



- Pour coolant in up to level Ⓐ above the radiator fins.

  Guideline

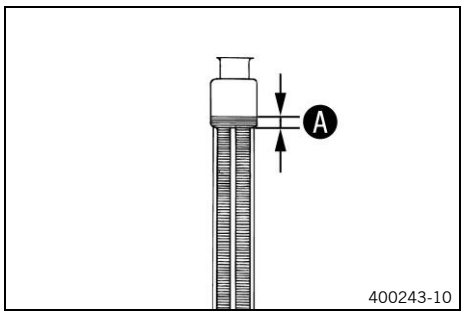
10 mm (0.39 in)
Coolant (📖 p. 138)



– Remove screw ❸ and wait until coolant emerges without bubbles.
– Mount and tighten screw ❸.

Guideline

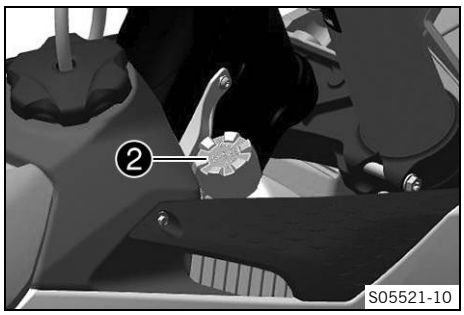
Bleeder screw, cylinder head	M6	10.5 Nm (7.74 lbf ft)



– Pour coolant in up to level Ⓐ above the radiator fins.

Guideline

10 mm (0.39 in)
Coolant (📖 p. 138)



– Mount radiator cap ❷.

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.

– Allow the engine to warm up and cool down again.
– Check the cooling system for leaks.

Finishing work

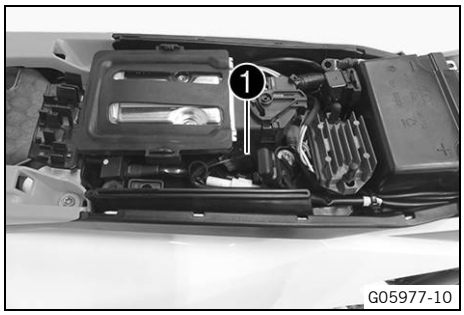
– Check the coolant level. (📖 p. 107)

16.1 Programming the end positions of the exhaust control

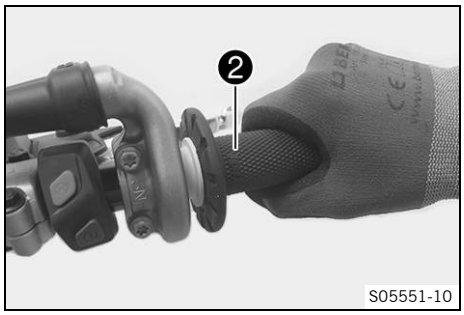
Info
If work has been carried out on the exhaust control, the end positions must be reprogrammed.

Condition
The engine is off.

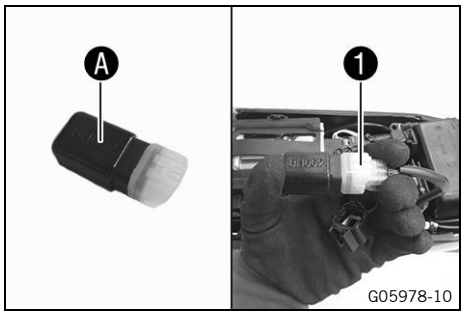
Preparatory work
– Remove the seat. (p. 62)



Main work
– Pull diagnostics connector ❶ off the holder.

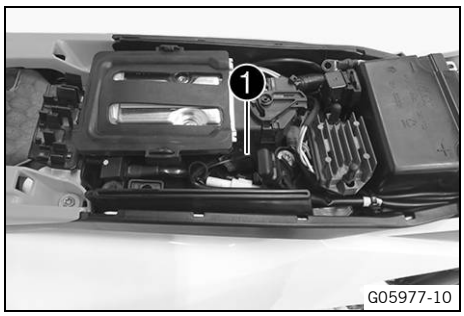


– Move throttle grip ❷ to where it is half open and hold in position.



Info
Wake-up connector Ⓐ is in the motorcycle's separate enclosure.

– Plug wake-up connector Ⓐ into diagnostics connector ❶.
– Wait for at least five seconds.
  ✓ The end positions of the exhaust control are read. The procedure is clearly audible.
  ✓ The combination instrument lighting is activated, the combination switch lights up green.
– Release the fixing from the throttle grip.
  ✓ The end positions of the exhaust control are programmed.
– Wait until you can no longer hear the exhaust control engine operating.
– Disconnect wake-up connector Ⓐ from diagnostics connector ❶.



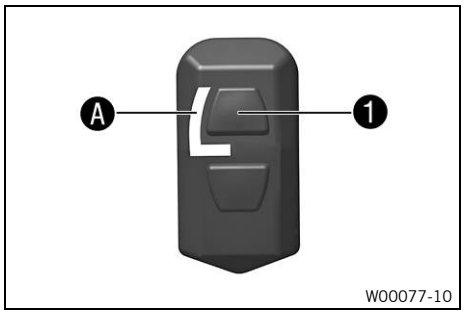
– Mount diagnostics connector ❶ on the holder.

Finishing work

– Mount the seat. (📖 p. 63)

17.1 Changing the mapping

Info
The desired engine characteristic can be altered using the combination switch.
Changing the mapping also affects the response of the exhaust control.
The setting most recently selected is activated again when restarting.
The mapping can also be changed during the ride.



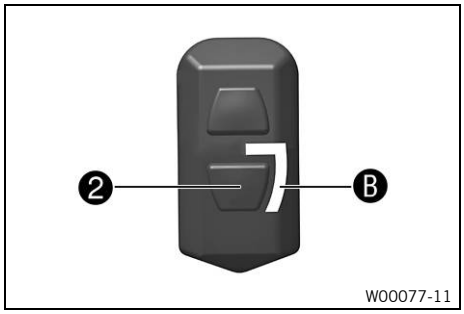
Activating STANDARD mapping:

– Press button ❶.

Guideline

Engine speed	< 4,000 rpm

✔ The indicator lamp Ⓐ lights up.
✔ STANDARD – balanced response



Activating ADVANCED mapping:

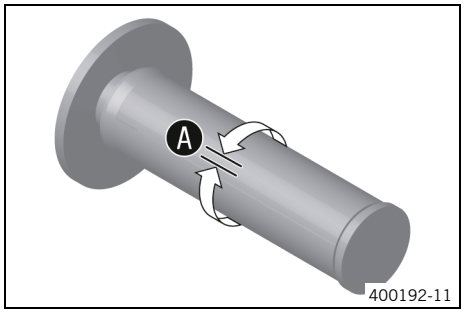
– Press button ❷.

Guideline

Engine speed	< 4,000 rpm

✔ The indicator lamp Ⓑ lights up.
✔ ADVANCED – direct response

17.2 Checking the play in the throttle cable



– Check the throttle grip for smooth operation.
– Move the handlebar to the straight-ahead position. Turn the throttle grip back and forth slightly and determine the play in throttle cable Ⓐ.

Play in throttle cable	2 … 3 mm (0.08 … 0.12 in)

» If the throttle cable play does not meet the specified value:
– Adjust the play in the throttle cable. (📖 p. 115)

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 run at idle speed. Move the handlebar to and fro over the entire steering range.

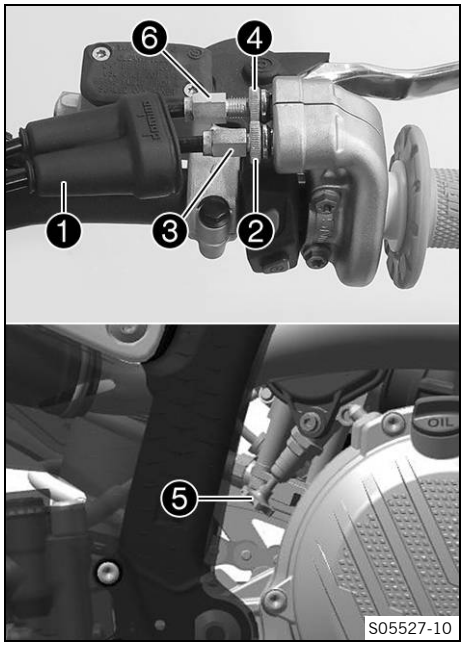
The idle speed must not change.

» If the idle speed changes:

– Adjust the play in the throttle cable. (p. 115)

17.3 Adjusting the play in the throttle cable

Info
If the correct routing of the throttle cables has already been secured, the fuel tank does not need to be removed.



Preparatory work
– Remove the seat. (p. 62)
– Remove the fuel tank. (p. 69)
– Check the throttle cable routing. (p. 77)

Main work
– Move the handlebar to the straight-ahead position.
– Push back sleeve 1.
– Loosen nut 2.
– Turn adjusting screw 3 in as far as possible.
– Loosen nut 4.
– Push cold start button 5 all the way to the stop.
– Turn adjusting screw 6 so that the cold start button moves to the basic position when the throttle grip is turned to the front.
– Tighten nut 4.
– Turn adjusting screw 3 so that there is play in the throttle cable at the throttle grip.
Guideline

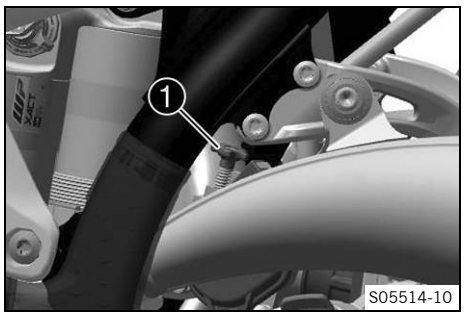
Play in throttle cable	2 ... 3 mm (0.08 ... 0.12 in)

– Tighten nut 2.
– Slide on sleeve 1.
– Check the throttle grip for smooth operation.

Finishing work
– Check the play in the throttle cable. (p. 114)
– Install the fuel tank. (p. 71)
– Mount the seat. (p. 63)

17.4 Adjusting the idle speed

Warning
Danger of accidents The engine may go out spontaneously if the idle speed is set too low.
– Set the idle speed to the specified value. (Your authorized KTM workshop will be glad to help.)



– Run the engine until warm.

Guideline

Do not allow engine to warm up at idle speed.

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.

– Adjust the idle speed by turning idle speed adjusting screw ❶ using a suitable tachometer.

Guideline

Idle speed	1,500 ... 1,700 rpm

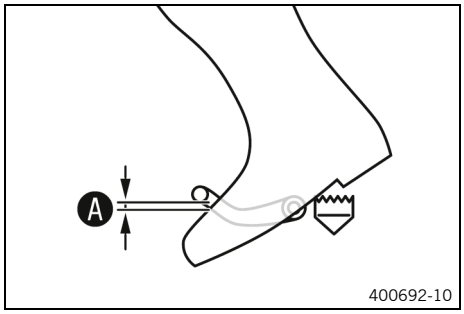
Info

Turning counterclockwise lowers the idle speed.
Turning clockwise raises the idle speed.
Make the setting in small steps.
An incorrect idle speed can have a negative impact on overall engine running.

17.5 Checking the basic position of the shift lever

Info

When driving, the shift lever must not touch the rider's boot when in the basic position.
When the shift lever keeps touching the boot, the transmission will be subject to an excessive load.

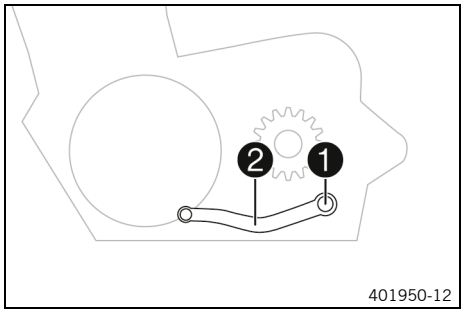


– Sit on the vehicle in the riding position and determine distance Ⓐ between the upper edge of your boot and the shift lever.

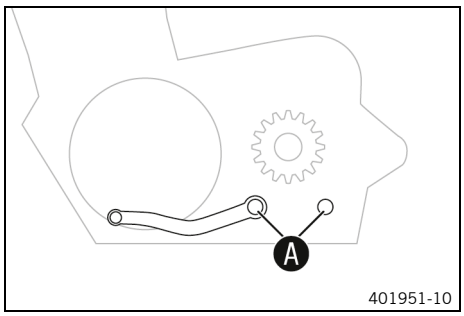
Distance between shift lever and upper edge of boot	10 ... 20 mm (0.39 ... 0.79 in)

» If the distance does not meet specifications:
– Adjust the basic position of the shift lever. (📖 p. 117)

17.6 Adjusting the basic position of the shift lever



– Remove screw ❶ with the washers and take off shift lever ❷.



– Clean gear teeth Ⓐ of the shift lever and shift shaft.
– Mount the shift lever on the shift shaft in the required position and engage gearing.

Info
The range of adjustment is limited.
The shift lever must not come into contact with any other vehicle components during the shift procedure.

– Mount and tighten screw ❶ with washers.

Guideline

Screw, shift lever	M6	14 Nm (10.3 lbf ft) **Loctite®243™**

18.1 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 fuel 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

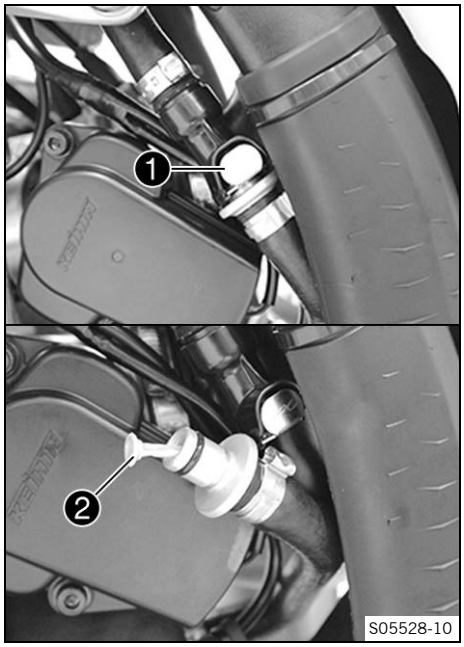
Danger of poisoning Fuel is harmful to health.

- Avoid skin, eye and clothing contact with fuel.
- Immediately consult a doctor if you swallow fuel.
- Do not inhale fuel vapors.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.
- Change your clothing if 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 quick release coupling ❶ 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 the quick release coupling.

Info

Remaining fuel may flow out of the fuel hose.

- Pull fuel screen ❷ out of the connecting piece.
- Insert the new fuel screen all the way into the connecting piece.
- Spray silicone spray onto a lint-free cleaning cloth and lightly lubricate the O-ring of the quick-release coupling.

Silicone spray (📖 p. 141)

- Join the quick release coupling.

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.

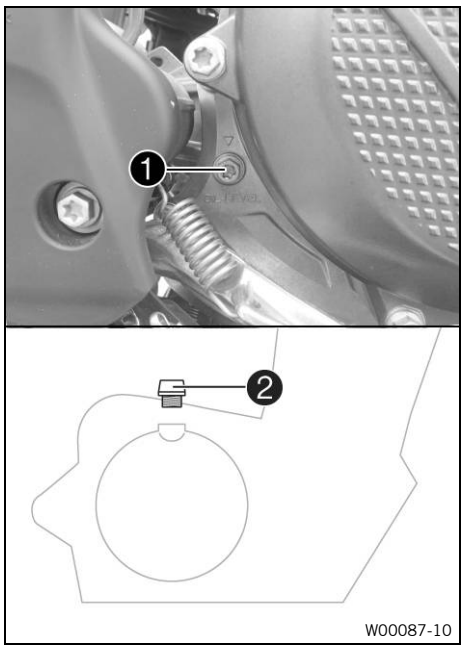
– Start the engine and check the response.

18.2 Checking the gear oil level

Info
The gear oil level must be checked when the engine is cold.

Preparatory work
– Stand the motorcycle upright on a horizontal surface.

Main work
– Detach the foot brake lever spring.



– Remove gear oil level monitoring screw ❶.
– Check the gear oil level.

A small quantity of gear oil must run out of the drilled hole.

» If no gear oil runs out:
– Add the gear oil. (p. 120)

– Mount and tighten the gear oil level monitoring screw.
Guideline

Screw, gear oil level monitoring	M6	8 Nm (5.9 lbf ft)

– Attach the foot brake lever spring.

18.3 Changing the gear oil

Warning
Danger of scalding Engine and gear oil get hot when the motorcycle is operated.
– Wear suitable protective clothing and safety gloves.
– In the event of scalding, rinse the area affected immediately with lukewarm water.

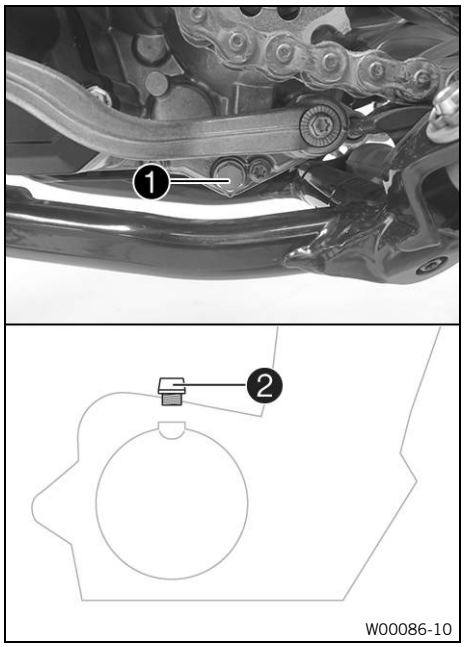
Note

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 gear oil while the engine is at operating temperature.



Preparatory work

– Park the motorcycle on a level surface.
– Position an appropriate container under the engine.

Main work

– Remove gear oil drain plug ❶ with magnet.
– Let the gear oil drain fully.
– Thoroughly clean the gear oil drain plug with magnet.
– Clean the sealing surface on the engine.
– Mount and tighten gear oil drain plug ❶ with the magnet and a new seal ring.

  Guideline

Gear oil drain plug with magnet	M12x1.5	20 Nm (14.8 lbf ft)

– Remove filler plug ❷ with the O-ring, and fill up with gear oil.

Gear oil	0.80 l (0.85 qt.)	Engine oil (15W/50) (📖 p. 138)

– Mount and tighten the filler plug together 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 it for leaks.

Finishing work

– Check the gear oil level. (📖 p. 119)

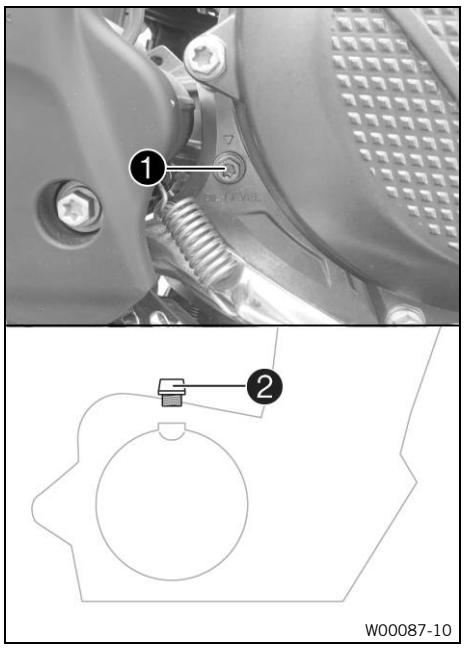
18.4 Adding the gear oil

Info

Too little gear oil or poor-quality gear oil results in premature wear to the transmission.
Gear oil must only be topped up when the engine is cold.

Preparatory work

– Park the motorcycle on a level surface.



Main work

– Remove gear oil level monitoring screw ❶.
– Remove filler plug ❷ with the O-ring.
– Add gear oil until it emerges from the drill hole of the gear oil level monitoring screw.

Engine oil (15W/50) (📖 p. 138)

– Mount and tighten the gear oil level monitoring screw.

Guideline

Screw, gear oil level monitoring	M6	8 Nm (5.9 lbf ft)

– Mount and tighten filler plug ❷ with the O-ring.

Finishing work

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 it for leaks.

19.1 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

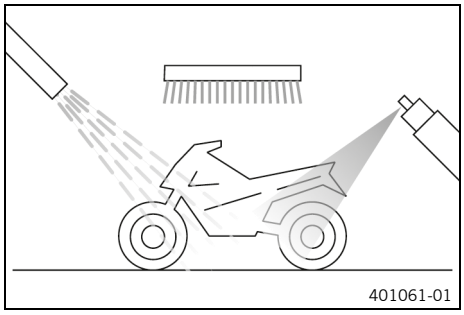
Environmental hazard Hazardous substances cause environmental damage.

– 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 exhaust system to keep water from entering.
– Remove the coarse dirt particles with a gentle water jet.
– Spray the heavily soiled parts with a normal commercial motorcycle cleaner and clean using a brush.

Motorcycle cleaner (p. 140)

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.

– 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.

– After the motorcycle has cooled down, lubricate all moving parts and pivot points.
– Clean the chain. (p. 72)

– Treat bare metal (except for brake discs and the exhaust system) with a corrosion inhibitor.

Preserving materials for paints, metal and rubber (📖 p. 140)

– Treat all plastic parts and powder-coated parts with a mild cleaning and care product.

Special cleaner for glossy and matte paint finishes, metal and plastic surfaces (📖 p. 141)

20.1 Storage

Warning

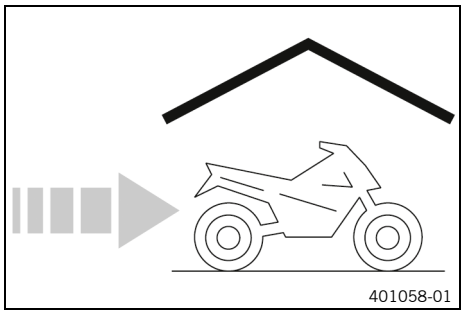
Danger of poisoning Fuel is harmful to health.

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



- Clean the motorcycle. (p. 122)
- Change the gear oil. (p. 119)
- Check the antifreeze and coolant level. (p. 106)
- When refueling for the last time before taking the motorcycle out of service, add fuel additive.

Fuel additive (p. 140)

- Refuel. (p. 31)

Tip

Fill the fuel tank completely as specified, using fuel with the lowest possible ethanol content.

- Check tire pressure. (p. 98)
- Remove the 12-V battery. (p. 100)
- Charge the 12-V battery. (p. 102)

  Guideline

Ideal charging and storage temperature of the lithium-ion battery	10 ... 20 °C (50 ... 68 °F)

- Store the vehicle in a dry location that is not subject to large fluctuations in temperature.

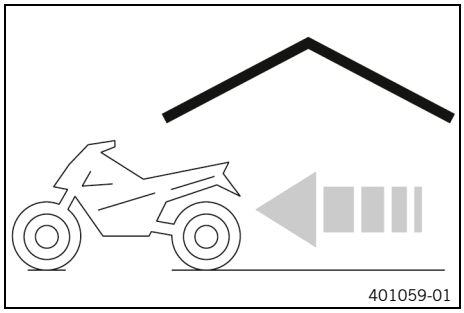
Info

KTM recommends jacking up the motorcycle.

- Raise the motorcycle with a lift stand. (p. 48)
- Cover the vehicle with a tarp or a similar cover that is permeable to air.

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. Because the engine will not warm up sufficiently, the water vapor produced during combustion will condense, causing engine parts and the exhaust system to rust.

20.2 Preparing for use after storage



– Remove the motorcycle from the lift stand. (📖 p. 48)
– Perform checks and maintenance measures when preparing for use. (📖 p. 27)
– Take a test ride.

Faults	Possible cause	Action
12-V battery discharged	The 12-V battery is not being charged by the alternator	– Check the charging voltage. – Check the alternator.
	Unwanted electrical power consumer	– Check the open-circuit current.
Malfunction indicator lamp lights up or flashes	Malfunction in the electronic fuel injection	– Check wiring for damage and electrical plug-in connectors for corrosion and damage. – Read out the fault memory using the KTM diagnostics tool.
Gear oil exits at the vent hose	Too much gear oil added	– Check the gear oil level. (p. 119)
The engine turns but does not start	Operating error	– Carry out start procedure. (p. 27)
	Quick release coupling not joined	– Join the quick release coupling.
	Idle speed is not set correctly	– Adjust the idle speed. (p. 115)
	Fuel supply interrupted	– Check the fuel tank breather.
	Spark plug sooty or wet	– Clean and dry the spark plug and spark plug connector, or change if necessary.
	Plug gap of spark plug too wide	– Adjust plug gap. Guideline Spark plug electrode gap 0.60 mm (0.0236 in)
	Ignition system defective	– Check the ignition coil. – Check the spark plug connector.
	Short-circuit cable in wiring harness frayed, stop button faulty	– Check the stop button.
	The connector or ignition coil is loose or oxidized	– Clean the connector and treat it with contact spray.
	Malfunction in the electronic fuel injection	– Check wiring for damage and electrical plug-in connectors for corrosion and damage. – Read out the fault memory using the KTM diagnostics tool.
The engine does not turn over (starter motor)	Operating error	– Carry out start procedure. (p. 27)
	12-V battery discharged	– Charge the 12-V battery. (p. 102) – Check the charging voltage. – Check the closed current. – Check the alternator.
	Main fuse blown	– Change the main fuse. (p. 103)
	Starter relay faulty	– Check the starter relay.
	Starter motor faulty	– Check the starter motor.
Engine does not speed up	Malfunction in the electronic fuel injection	– Check wiring for damage and electrical plug-in connectors for corrosion and damage. – Read out the fault memory using the KTM diagnostics tool.
	Ignition system defective	– Check the ignition coil. – Check the spark plug connector.
The engine has no idle speed	Spark plug defective	– Change the spark plug.

Faults	Possible cause	Action
The engine has no idle speed	Ignition system defective	– Check the ignition coil. – Check the spark plug connector.
	Idle speed is not set correctly	– Adjust the idle speed. (📖 p. 115)
The engine dies during the trip	Lack of fuel	– Refuel. (📖 p. 31)
	The engine takes in false air	– Check that the intake flange is firmly seated.
	The connector or ignition coil is loose or oxidized	– Clean the connector and treat it with contact spray.
Engine overheats	Too little coolant in cooling system	– Check the cooling system for leakage. – Check the coolant level. (📖 p. 107)
	Too little air stream	– Switch off engine when stationary.
	Radiator fins very dirty	– Clean the radiator fins.
	Foam formation in cooling system	– Drain the coolant. (📖 p. 107) – Refill with coolant. (📖 p. 108)
	Damaged cylinder head or cylinder head gasket	– Check the cylinder head and cylinder head gasket.
	Bent radiator hose	– Change the radiator hose.
	Thermostat defective	– Check the thermostat. Guideline Opening temperature: 70 °C (158 °F)
Engine has too little power	Air filter very dirty	– Clean the air filter and air filter box. (📖 p. 66)
	Fuel filter is very dirty	– Change the fuel filter.
	Fuel screen is very dirty	– Change the fuel screen. (📖 p. 118)
	Malfunction in the electronic fuel injection	– Check wiring for damage and electrical plug-in connectors for corrosion and damage. – Read out the fault memory using the KTM diagnostics tool.
	Fuel supply interrupted	– Check the fuel tank breather.
	Exhaust system leaky, deformed or too little glass fiber yarn filling in main silencer	– Check exhaust system for damage. – Change the glass fiber yarn filling in the main silencer. (📖 p. 69)
	Ignition system defective	– Check the ignition coil. – Check the spark plug connector.
	Diaphragm or reed valve housing damaged	– Check the diaphragm and reed valve housing.
Water in the gear oil	Damaged radial shaft seal ring or water pump	– Check the radial shaft seal ring and the water pump.
White smoke emission (steam in exhaust gas)	Damaged cylinder head or cylinder head gasket	– Check the cylinder head and cylinder head gasket.

Blink code for malfunction indicator lamp	Fi 14 Malfunction indicator lamp flashes 1x long, 4x short
Error level condition	Crankcase pressure sensor – difference too high between sensor and engine control unit

Blink code for malfunction indicator lamp	Fi 09 Malfunction indicator lamp flashes 9x short
Error level condition	Crankcase pressure sensor - short circuit to ground
	Crankcase pressure sensor - open/short circuit to plus
	Ambient air pressure sensor – short circuit to ground
	Ambient air pressure sensor – open/short circuit to plus

Blink code for malfunction indicator lamp	Fi 13 Malfunction indicator lamp flashes 1x long, 3x short
Error level condition	Intake air temperature sensor – input signal too low
	Intake air temperature sensor – input signal too high
	Intake air temperature sensor – electric circuit open

Blink code for malfunction indicator lamp	Fi 12 Malfunction indicator lamp flashes 1x long, 2x short
Error level condition	Coolant temperature sensor – input signal too low
	Coolant temperature sensor – input signal too high
	Coolant temperature sensor – electric circuit open

Blink code for malfunction indicator lamp	Fi 06 Malfunction indicator lamp flashes 6x short
Error level condition	Throttle valve position sensor circuit A - adaption failed
	Throttle valve position sensor circuit A – input signal too low
	Throttle valve position sensor circuit A – input signal too high

Blink code for malfunction indicator lamp	Fi 41 Malfunction indicator lamp flashes 4x long, 1x short
Error level condition	Fuel pump - short circuit to ground/open circuit
	Fuel pump – short circuit to plus

Blink code for malfunction indicator lamp	Fi 33 Malfunction indicator lamp flashes 3x long, 3x short
Error level condition	Injection valve 1, cylinder 1 – input signal too low
	Injection valve 1, cylinder 1 – input signal too high

Blink code for malfunction indicator lamp	Fi 34 Malfunction indicator lamp flashes 3x long, 4x short
Error level condition	Injection valve 2, cylinder 1 – input signal too low
	Injection valve 2, cylinder 1 – input signal too high

Blink code for malfunction indicator lamp	Fi 37 Malfunction indicator lamp flashes 3x long, 7x short
Error level condition	Ignition coil – circuit fault

Blink code for malfunction indicator lamp	Fi 02 Malfunction indicator lamp flashes 2x short
Error level condition	Crankshaft speed sensor – synchronization faulty
	Crankshaft speed sensor – signal implausible
	Crankshaft speed sensor – signal irregular
	Crankshaft speed sensor – no signal

Blink code for malfunction indicator lamp	Fi 50 Malfunction indicator lamp flashes 5x long
Error level condition	Exhaust control actuator – no signal
	Exhaust control actuator – temperature too high
	Exhaust control actuator – incorrect setting
	Exhaust control actuator – setpoint value signal faulty
	Exhaust control actuator – input signal too low
	Exhaust control actuator – input signal too high
	Exhaust control actuator – mechanical error in the lower position
	Exhaust control actuator – mechanical error in the upper position
	Exhaust control actuator – mechanical error

Blink code for malfunction indicator lamp	Fi 21 Malfunction indicator lamp flashes 2x long, 1x short
Error level condition	Battery voltage - input voltage too low
	Battery voltage – input voltage too high

Blink code for malfunction indicator lamp	Fi 53 Malfunction indicator lamp flashes 5x long, 3x short
Error level condition	Sensor voltage 1 – open circuit/short circuit to ground
	Sensor voltage 1 – short circuit to plus

Blink code for malfunction indicator lamp	Fi 54 Malfunction indicator lamp flashes 5x long, 4x short
Error level condition	Sensor voltage 2 – open circuit/short circuit to ground
	Sensor voltage 2 – short circuit to plus

Blink code for malfunction indicator lamp	Fi Malfunction indicator lamp lights up
Error level condition	Power relay – circuit fault
	Tilt sensor – input signal too low
	Tilt sensor – input signal too high

23.1 Engine

Design	1-cylinder 2-stroke engine, water-cooled, with reed intake and exhaust control
Displacement (All 250 models)	249 cm³ (15.19 cu in)
Displacement (All 300 models)	293.15 cm³ (17.8892 cu in)
Stroke	72 mm (2.83 in)
Hole (All 250 models)	66.4 mm (2.614 in)
Hole (All 300 models)	72 mm (2.83 in)
Crankshaft bearing	1 grooved ball bearing/1 roller bearing
Conrod bearing	Needle bearing
Piston pin bearing	Needle bearing
Piston	Cast aluminum
Piston rings (All 250 models)	2 half keystone rings
Piston rings (All 300 models)	2 rectangular rings
X-distance (upper edge of piston to special tool)	0 ... 0.10 mm (0 ... 0.0039 in)
Z distance (height of control flap) (All 250 models)	48.0 mm (1.89 in)
Z distance (height of control flap) (All 300 models)	48.0 mm (1.89 in)
Primary transmission	26:72
Clutch	Multidisc clutch in oil bath/hydraulically activated
Transmission (All SX models)	5-gear transmission, claw shifted
Transmission (All XC models)	6-gear transmission, claw shifted
Transmission ratio (All SX models)	
first-gear	14:28
second-gear	16:26
third-gear	18:24
fourth-gear	21:24
fifth-gear	22:21
Transmission ratio (All XC models)	
first-gear	13:33
second-gear	16:30
third-gear	18:26
fourth-gear	22:26
fifth-gear	23:23
sixth-gear	26:22
Ignition system	Electronic ignition
Spark plug	NGK BR 8 ES
Spark plug electrode gap	0.60 mm (0.0236 in)
Starting aid	Electric starter system

23.2 Engine tightening torques

Screw, inner membrane sheets	**EJOT DELTA PT®** 3.5x25	1 Nm (0.7 lbf ft)
Screw, membrane support plate	**EJOT DELTA PT®** 3x12	1 Nm (0.7 lbf ft)
Screw, outer membrane sheets	**EJOT DELTA PT®** 3x6	1 Nm (0.7 lbf ft)
Nut, axle for control flap	M5	5 Nm (3.7 lbf ft)
Screw, actuator, exhaust control	M5	5 Nm (3.7 lbf ft) **Loctite®243™**
Screw, bearing retainer	M5	6 Nm (4.4 lbf ft) **Loctite®243™**
Screw, clutch spring retainer	M5	6 Nm (4.4 lbf ft)
Screw, control flap, exhaust control	M5	8 Nm (5.9 lbf ft) **Loctite®243™**
Screw, cover, actuator, exhaust control	M5	5 Nm (3.7 lbf ft) **Loctite®243™**
Screw, crankshaft speed sensor	M5	6 Nm (4.4 lbf ft) **Loctite®243™**
Screw, exhaust control cover	M5	6 Nm (4.4 lbf ft)
Screw, idler shaft, exhaust control	M5	8 Nm (5.9 lbf ft) **Loctite®243™**
Screw, locking lever	M5	6 Nm (4.4 lbf ft) **Loctite®243™**
Screw, retaining bracket of exhaust control	M5	6 Nm (4.4 lbf ft) **Loctite®2701™**
Screw, stator	M5	6 Nm (4.4 lbf ft) **Loctite®243™**
Nut, water pump impeller	M6	5 Nm (3.7 lbf ft) **Loctite®243™**
Screw, alternator cover	M6	8 Nm (5.9 lbf ft)
Screw, clutch cover	M6	10 Nm (7.4 lbf ft)
Screw, clutch cover	M6x25	10 Nm (7.4 lbf ft)
Screw, clutch cover	M6x60	10 Nm (7.4 lbf ft)
Screw, cover, starter motor	M6	8 Nm (5.9 lbf ft)
Screw, engine case	M6x45	10 Nm (7.4 lbf ft)
Screw, engine case	M6x60	10 Nm (7.4 lbf ft)
Screw, gear oil level monitoring	M6	8 Nm (5.9 lbf ft)
Screw, intake flange/reed valve housing	M6	6 Nm (4.4 lbf ft)
Screw, intermediate flange	M6	8 Nm (5.9 lbf ft)
Screw, outer clutch cover	M6	8 Nm (5.9 lbf ft)
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)
Screw, water pump cover, long	M6x60	10 Nm (7.4 lbf ft)
Screw, water pump cover, short	M6x40	10 Nm (7.4 lbf ft)

Screw, balancer shaft	M8	30 Nm (22.1 lbf ft) **Loctite®243™**
Screw, cylinder head	M8	27 Nm (19.9 lbf ft)
Nut, cylinder base	M10	38 Nm (28 lbf ft)
Screw, drive chain engine sprocket	M10	60 Nm (44.3 lbf ft) **Loctite®2701™**
Stud, cylinder base	M10	12 Nm (8.9 lbf ft)
Nut, rotor	M12x1	60 Nm (44.3 lbf ft)
Gear oil drain plug with magnet	M12x1.5	20 Nm (14.8 lbf ft)
Spark plug	M14x1.25	25 Nm (18.4 lbf ft)
Nut, inner clutch hub	M18x1.5	100 Nm (73.8 lbf ft)
Nut, primary gear wheel	M18LHx1.5	150 Nm (110.6 lbf ft) **Loctite®243™**

23.3 Capacities

23.3.1 Gear oil

Gear oil	0.80 l (0.85 qt.)	Engine oil (15W/50) (📖 p. 138)

23.3.2 Coolant

Coolant	0.95 l (1 qt.)	Coolant (📖 p. 138)

23.3.3 Fuel

Total fuel tank capacity, approx. (All SX models)	7.2 l (1.9 US gal)	Super unleaded (95 octane) mixed with 2-stroke engine oil (1:60) (📖 p. 139)
Total fuel tank capacity, approx. (All XC models)	8.5 l (2.25 US gal)	Super unleaded (95 octane) mixed with 2-stroke engine oil (1:60) (📖 p. 139)

Fuel reserve approx. (All XC models)	2.8 l (3 qt.)

23.4 Chassis

Frame	Central tube frame made of chrome molybdenum steel tubing
Fork (All SX models)	**WP AER**
Fork (All XC models)	**WP Closed Cartridge**
Suspension travel	
front	310 mm (12.2 in)
rear	300 mm (11.81 in)
Fork offset	22 mm (0.87 in)
Shock absorber	**WP XACT LDS**
Brake system	Disc brakes, floating brake calipers
Brake discs - diameter	
front	260 mm (10.24 in)
rear	220 mm (8.66 in)
Brake discs - wear limit	

front	2.5 mm (0.098 in)
rear	3.5 mm (0.138 in)
Offroad tire pressure	
front	1.0 bar (15 psi)
rear	1.0 bar (15 psi)
Secondary ratio	14:49
Chain	5/8 x 1/4"
Rear sprockets available	48, 49, 50, 51, 52
Steering head angle	63.9°
Wheelbase	1,493 ± 10 mm (58.78 ± 0.39 in)
Seat height unloaded	958 mm (37.72 in)
Ground clearance unloaded	354 mm (13.94 in)
Weight without fuel, approx. (All SX models)	99.4 kg (219.1 lb.)
Weight without fuel, approx. (All XC models)	102.1 kg (225.1 lb.)
Maximum permissible front axle load	145 kg (320 lb.)
Maximum permissible rear axle load	190 kg (419 lb.)
Maximum permissible overall weight	335 kg (739 lb.)

23.5 Electrical system

12-V battery	HJTZ5S-FP-C	Lithium-ion battery Battery voltage: 12 V Nominal capacity: 2.0 Ah Maintenance-free
Fuse	58011109105	5 A
Fuse	58011109110	10 A

23.6 Tires

Validity	Front tire	Rear tire
(All SX models)	**80/100 - 21 51M TT** Dunlop GEOMAX MX33 F	**110/90 - 19 62M TT** Dunlop GEOMAX MX33
(All XC models)	**80/100 - 21 51M TT** Dunlop GEOMAX MX33 F	**110/100 - 18 64M TT** Dunlop GEOMAX AT81
The tires specified represent one of the possible series production tires. For alternative manufacturers, if any, contact an authorized dealer or qualified tire dealership. If local road approval regulations apply, these and the respective technical specifications must be observed. Additional information is available in the Service section under: KTM.COM		

23.7 Fork

23.7.1 All SX models

Fork article number	A460C103X406000
Fork	**WP AER**
Compression damping	
Comfort	17 clicks
Standard	12 clicks

Sport	7 clicks
Rebound damping	
Comfort	23 clicks
Standard	18 clicks
Sport	13 clicks
Air pressure	10.5 bar (152 psi)
Fork length	950 mm (37.4 in)

Oil capacity external mechanism left	240 $\pm\frac{10}{50}$ ml (8.11 $\pm\frac{0.34}{1.69}$ fl. oz.)	Fork oil (SAE 4) (48601166S1) (📖 p. 139)
Oil capacity external mechanism right	240 $\pm\frac{10}{50}$ ml (8.11 $\pm\frac{0.34}{1.69}$ fl. oz.)	Fork oil (SAE 4) (48601166S1) (📖 p. 139)
Grease capacity, left cartridge	5 g (0.18 oz)	Special grease (00062010053) (📖 p. 141)
Oil capacity, right cartridge	380 ml (12.85 fl. oz.)	Fork oil (SAE 4) (48601166S1) (📖 p. 139)

23.7.2 All XC models

Fork article number	A590C173X402000
Fork	**WP Closed Cartridge**
Compression damping	
Comfort	17 clicks
Standard	12 clicks
Sport	7 clicks
Rebound damping	
Comfort	23 clicks
Standard	18 clicks
Sport	13 clicks
Fork length	940 mm (37.01 in)

Oil capacity, external mechanism	385 ... 395 ml (13.02 ... 13.35 fl. oz.)	Fork oil (SAE 4) (48601166S1) (📖 p. 139)
Oil capacity, cartridge	175 ml (5.92 fl. oz.)	Fork oil (SAE 4) (48601166S1) (📖 p. 139)

23.8 Shock absorber

23.8.1 All SX models

Shock absorber article number	A460C403X408000
Shock absorber	**WP XACT LDS**
Lowspeed compression damping	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks
Highspeed compression damping	
Comfort	2 turns
Standard	1.5 turns
Sport	1 turn

Rebound damping	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks
Spring preload	8 mm (0.31 in)
Spring rate	
Weight of rider: 65 ... 75 kg (143 ... 165 lb.)	42 N/mm (240 lb/in)
Weight of rider: 75 ... 85 kg (165 ... 187 lb.)	45 N/mm (257 lb/in)
Weight of rider: 85 ... 95 kg (187 ... 209 lb.)	48 N/mm (274 lb/in)
Spring length	240 mm (9.45 in)
Gas pressure	10 bar (145 psi)
Static sag	35 mm (1.38 in)
Riding sag	105 mm (4.13 in)
Fitted length	456.3 mm (17.965 in)
Shock absorber fluid (📖 p. 139)	SAE 2.5

23.8.2 All XC models

Shock absorber article number	A460C473X408000
Shock absorber	**WP XACT LDS**
Lowspeed compression damping	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks
Highspeed compression damping	
Comfort	2 turns
Standard	1.5 turns
Sport	1 turn
Rebound damping	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks
Spring preload	8 mm (0.31 in)
Spring rate	
Weight of rider: 65 ... 75 kg (143 ... 165 lb.)	42 N/mm (240 lb/in)
Weight of rider: 75 ... 85 kg (165 ... 187 lb.)	45 N/mm (257 lb/in)
Weight of rider: 85 ... 95 kg (187 ... 209 lb.)	48 N/mm (274 lb/in)
Spring length	240 mm (9.45 in)
Gas pressure	10 bar (145 psi)
Static sag	35 mm (1.38 in)
Riding sag (250 XC)	105 mm (4.13 in)
Riding sag (300 XC)	100 mm (3.94 in)
Fitted length	456.3 mm (17.965 in)
Shock absorber fluid (📖 p. 139)	SAE 2.5

23.9 Chassis tightening torques

Hose clamp, radiator		2.4 Nm (1.77 lbf ft)
Hose clip, inlet sleeve to throttle valve body		2.8 Nm (2.07 lbf ft)
Screw, air filter box, on subframe	**EJOT PT®** K60x20AL	5 Nm (3.7 lbf ft)
Screw, combination switch	**EJOT PT®** K50x18 T20	2 Nm (1.5 lbf ft)
Screw, fuel pump on fuel tank	**EJOT PT®** K60x25-Z	2.5 Nm (1.84 lbf ft)
Screw, intake air temperature sensor	**EJOT PT®** K50x18 T20	0.7 Nm (0.52 lbf ft)
Screw, seat fixing	**EJOT EJOFORM PT®** K60x23/18	2.5 Nm (1.84 lbf ft)
Screw, stop button	**EJOT PT** K50x18 T20	2 Nm (1.5 lbf ft)
Screw, fixed grip	M4	5 Nm (3.7 lbf ft) **Loctite®243™**
Screw, hose clip, throttle valve body	M4	5 Nm (3.7 lbf ft)
Spoke nipple, front wheel	M4.5	6 Nm (4.4 lbf ft)
Spoke nipple, rear wheel	M4.5	6 Nm (4.4 lbf ft)
Remaining nuts, chassis	M5	5 Nm (3.7 lbf ft)
Remaining screws, chassis	M5	5 Nm (3.7 lbf ft)
Screw, battery terminal	M5	2.5 Nm (1.84 lbf ft)
Screw, frame protector	M5	3 Nm (2.2 lbf ft)
Screw, shock absorber adjusting ring	M5	5 Nm (3.7 lbf ft)
Screw, throttle valve body cover	M5	2.6 Nm (1.92 lbf ft)
Screws on main silencer	M5	7 Nm (5.2 lbf ft)
Nut, cable on starter motor	M6	4 Nm (3 lbf ft)
Nut, throttle cable on throttle valve body	M6	3 Nm (2.2 lbf ft)
Remaining nuts, chassis	M6	10 Nm (7.4 lbf ft)
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
Screw, ball joint of push rod on foot brake cylinder	M6	10 Nm (7.4 lbf ft) **Loctite®243™**
Screw, battery cable to starter relay	M6x16	6 Nm (4.4 lbf ft)
Screw, battery holding bracket	M6	6 Nm (4.4 lbf ft)
Screw, brake disc, front	M6	14 Nm (10.3 lbf ft) **Loctite®243™**
Screw, brake lever	M6	5 Nm (3.7 lbf ft)
Screw, brake line guide on link fork	M6	4.5 Nm (3.32 lbf ft)
Screw, chain guide on link fork at the rear	M6	10 Nm (7.4 lbf ft)
Screw, chain sliding guard	M6	6 Nm (4.4 lbf ft)
Screw, clutch lever	M6	5 Nm (3.7 lbf ft)
Screw, connector board with combination instrument	M6	5 Nm (3.7 lbf ft)
Screw, fuel tank spoiler on radiator	M6	6 Nm (4.4 lbf ft)
Screw, ground wire on frame	M6	10 Nm (7.4 lbf ft)

Screw, rear brake disc	M6	14 Nm (10.3 lbf ft) **Loctite®243™**
Screw, seat fixing	M6	8 Nm (5.9 lbf ft)
Screw, starter cable to starter relay	M6x8	6 Nm (4.4 lbf ft)
Screw, throttle grip	M6	5 Nm (3.7 lbf ft)
Nut, foot brake lever stop	M8	20 Nm (14.8 lbf ft)
Nut, rear sprocket screw	M8	35 Nm (25.8 lbf ft) **Loctite®2701™**
Nut, rim lock	M8	12 Nm (8.9 lbf ft)
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, engine sprocket cover on frame	M8	15 Nm (11.1 lbf ft)
Screw, fork shoe	M8	15 Nm (11.1 lbf ft)
Screw, front brake caliper	M8	25 Nm (18.4 lbf ft) **Loctite®243™**
Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)
Screw, manifold	M8	15 Nm (11.1 lbf ft)
Screw, side stand fixing (All XC models)	M8	33 Nm (24.3 lbf ft) **Loctite®2701™**
Screw, subframe bottom	M8x18	30 Nm (22.1 lbf ft) **Loctite®2701™**
Screw, subframe, top	M8x15	35 Nm (25.8 lbf ft) **Loctite®243™**
Screw, top steering stem	M8	20 Nm (14.8 lbf ft) **Loctite®243™**
Screw, top triple clamp	M8	17 Nm (12.5 lbf ft)
Engine bracket screw	M10	60 Nm (44.3 lbf ft)
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	60 Nm (44.3 lbf ft) **Loctite®2701™**
Screw, handlebar support	M10	40 Nm (29.5 lbf ft) **Loctite®243™**
Screw, top shock absorber	M10	60 Nm (44.3 lbf ft) **Loctite®2701™**
Coolant temperature sensor	M10x1.25	10 Nm (7.4 lbf ft)
Nut, angle lever to link fork	M16x1.5	60 Nm (44.3 lbf ft)
Nut, frame on linkage lever	M16x1.5	60 Nm (44.3 lbf ft)
Nut, linkage lever on angle lever	M16x1.5	60 Nm (44.3 lbf ft)
Nut, swingarm pivot	M16x1.5	100 Nm (73.8 lbf ft)
Screw, steering head, top	M20x1.5	12 Nm (8.9 lbf ft)
Screw, wheel spindle, front	M20x1.5	35 Nm (25.8 lbf ft)
Nut, wheel spindle, rear	M22x1.5	80 Nm (59 lbf ft)
Screw-in fitting, cooling system	M24x1.5	7.5 Nm (5.53 lbf ft)

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 (15W/50)

Standard/classification

– JASO T903 MA2 (📖 p. 142)

– SAE (📖 p. 142) (15W/50)

Guideline

– Use only engine oils that comply with the specified standards (see specifications on the container) and that possess the corresponding properties.

Recommended supplier

MOTOREX®

– **Top Speed 4T**

Engine oil, 2-stroke

Standard/classification

– JASO FD (📖 p. 142)

Guideline

– Only use high-grade 2-stroke engine oil from a reputable brand.

fully synthetic

Recommended supplier
MOTOREX®
– **Cross Power 2T**

Fork oil (SAE 4) (48601166S1)

Standard/classification
– SAE (📖 p. 142) (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. 142) (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)

Standard/classification
– DIN EN 228 (ROZ 95)

Guideline
– Only use super unleaded fuel that matches or is equivalent to the specified standard.
– 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).

Super unleaded (95 octane) mixed with 2-stroke engine oil (1:60)

Standard/classification
– DIN EN 228
– JASO FD (📖 p. 142) (1:60)

Mixture ratio

1:60	Engine oil, 2-stroke (📖 p. 138) Super unleaded (ROZ 95) (📖 p. 139)

Recommended supplier
MOTOREX®
– **Cross Power 2T**

Air filter cleaner

Recommended supplier
MOTOREX®
– **Racing Bio Dirt Remover**

Chain cleaner

Recommended supplier
MOTOREX®
– **Chain Clean**

Fuel additive

Recommended supplier
MOTOREX®
– **Fuel Stabilizer**

High viscosity grease

Recommended supplier
SKF®
– **LGHB 2**

Long-life grease

Recommended supplier
MOTOREX®
– **Bike Grease 2000**

Motorcycle cleaner

Recommended supplier
MOTOREX®
– **Moto Clean**

Off-road chain spray

Recommended supplier
MOTOREX®
– **Chainlube Offroad**

Oil for foam air filter

Recommended supplier
MOTOREX®
– **Racing Bio Liquid Power**

Preserving materials for paints, metal and rubber

Recommended supplier
MOTOREX®
– **Moto Protect**

Silicone spray

Recommended supplier
MOTOREX®
– **Silicone Spray**

Special cleaner for glossy and matte paint finishes, metal and plastic surfaces

Recommended supplier
MOTOREX®
– **Quick Cleaner**

Special grease (00062010053)

Recommended supplier
Klüber Lubrication®
– **Klüberfood NH1 34-401**

Universal oil spray

Recommended supplier
MOTOREX®
– **Joker 440 Synthetic**

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.

JASO FD

JASO FD is a classification for a 2-stroke engine oil that was specifically developed for the extreme demands of racing. Thanks to first-rate synthetic esters and specially designed additives, superb combustion is achieved even under extreme operating conditions.

OBD	On-board diagnosis	Vehicle system, which monitors the specified parameters of the vehicle electronics

28 LIST OF ABBREVIATIONS

Art. no.	Article number
ca.	circa
cf.	compare
e.g.	for example
etc.	et cetera
i.a.	inter alia
no.	number
poss.	possibly

29.1 Yellow and orange symbols

Yellow and orange symbols indicate an error condition that requires prompt intervention. Active driving aids are also represented by yellow or orange symbols.

	Malfunction indicator lamp lights up/flashes orange – The OBD has detected a malfunction in the vehicle electronics.
	Malfunction indicator lamp lights up/flashes orange – The OBD has detected a malfunction in the vehicle electronics.

29.2 Green and blue symbols

Green and blue symbols reflect information.

	Indicator lamp Ⓑ lights up green – ADVANCED mapping is activated.

1

12-V battery
charging 102
installing 101
removing 100
starting power 24

A

Air filter
cleaning 66
installing 67
removing 66

Air filter box
cleaning 66

Air filter box cover
installing 64
preparing for securing 68
removing 63

Air suspension XACT 41

Antifreeze
checking 106

Auxiliary substances 9

B

Basic chassis setting
checking with rider's weight 35

Blink code 128-129

Brake discs
checking 82

Brake fluid
front brake, adding 84
rear brake, adding 90

Brake fluid level
front brake, checking 83
rear brake, checking 89

Brake lining retainers
of front brake, checking 85
of rear brake, checking 91

Brake linings
of front brake, changing 86
of front brake, checking 85
of rear brake, checking 91
of the rear brake, changing 91

C

Capacity
coolant 132
gear oil 120, 132

Chain
checking 75
cleaning 72

Chain guide
checking 75

Chain tension
adjusting 74
checking 73

Clutch
fluid level, checking/correcting 79
fluid, changing 80

Clutch lever 14
basic position, adjusting 79

Cold start button 19

Combination instrument 17

Compression damping
fork, adjusting 43

Coolant
changing 110
draining 107
refilling 108

Coolant level
checking 106-107

Cooling system 106

Customer service 9

D

Diagnostics connector 105

Difficult operating conditions 24
dry sand 24
high temperatures 26
low temperature 26
muddy surfaces 26
slow speed 26
snow 26
wet sand 25
wet surfaces 26

E

Engine
running in 23

Engine guard
installing 51
removing 51

Engine number 12

Engine sprocket
checking 75

Environment 8

Exhaust control
end positions, programming 112

F

Figures 9

Filling up
fuel 31
Foot brake lever 20
basic position, adjusting 88
free travel, checking 88
Fork
air pressure, adjusting 42
article number 12
basic setting, checking 41
Fork legs
bleeding 49
dust boots, cleaning 49
installing 53
removing 52
Fork protector
installing 50
removing 50
Frame
checking 77
Frame protector
installing 52
removing 52
Front fender
installing 59
removing 58
Front wheel
installing 95
removing 94
Fuel screen
changing 118
Fuel tank
installing 71
removing 69
Fuel tank filler cap
closing 18
opening 17
Fuel, oils, etc. 9
Fuse
main fuse, changing 103
of the fuel pump, changing 104

G

Gear oil
adding 120
changing 119
Gear oil level
checking 119

H

Hand brake lever 14
basic position, adjusting 82
free travel, checking 82
Handlebar position 45
adjusting 45
High-speed compression damping
shock absorber, adjusting 36

I

Idle speed
adjusting 115
Idle speed adjusting screw 19
Implied warranty 9
Indicator lamps
overview 16
Intended use 6

L

Link fork
checking 77
Lower triple clamp
installing 54
removing 54
Low-speed compression damping
shock absorber, adjusting 35

M

Main fuse
changing 103
Main silencer
glass fiber yarn filling, changing 69
installing 68
removing 68
Manufacturer warranty 9
Mapping
changing 114
Misuse 6
Motorcycle
cleaning 122
from lift stand, removing 48
lift stand, raising with 48

O

Overview of indicator lights 17
Owner's Manual 8

P

Play in throttle cable
adjusting 115
checking 114
Plug-in stand 20
Preparing for use
advice on preparing for first use 22
after storage 125

checks and maintenance measures when preparing for use 27
Protective clothing 7

R

Rear sprocket
checking 75
Rear wheel
installing 96
removing 95
Rebound damping
fork, adjusting 44
shock absorber, adjusting 37
Riding sag
adjusting 40
Rubber grip
checking 78

S

Safe operation 7
Seat
mounting 63
removing 62
Service 9
Shift lever 19
basic position, adjusting 117
basic position, checking 116
Shock absorber
article number 13
compression damping, general 35
installing 61
removing 60
riding sag, checking 38
spring preload, adjusting 39
static sag, checking 38
Side stand 21
Spare parts 9
Spoke tension
checking 99
Start button 16
Start number plate
installing 58
removing 58
Starting 27
Starting power of lithium-ion batteries at low temperatures 24
Steering head bearing
lubricating 58
Steering head bearing play
adjusting 57
checking 56
Steering head label 12
Stop button 15
Storage 124

T

Technical accessories 9
Technical specifications
capacities 132
chassis 132
chassis tightening torques 136
electrical system 133
engine 130
engine tightening torques 131
fork 133
shock absorber 134
tires 133
Throttle cable routing
checking 77
Throttle grip 15
Tire condition
checking 98
Tire pressure
checking 98
Transporting 30
Troubleshooting 126-127

U

Use definition 6

V

Vehicle identification number 12
View of vehicle
front left 10
rear right 11

W

Work rules 8

3214833en

14.03.2023



KTM Sportmotorcycle GmbH
5230 Mattighofen/Austria
KTM.COM

Photo: Mitterbauer/KISKA/KTM