

250 SX-F EU
250 SX-F USA
250 XC-F USA

Art. no. 3211858en



KTM

DEAR KTM CUSTOMER

Congratulations on your decision to purchase a KTM motorcycle. You are now the owner of a state-of-the-art sports motorcycle that will give you enormous pleasure if you service and maintain it accordingly.

We wish you a lot of enjoyment in riding this vehicle.

Enter the serial numbers of your vehicle below.

| | |
|--------------------------|----------------|
| Chassis number (☛ p. 10) | Dealer's stamp |
| Engine number (☛ p. 10) | |

The Owner's Manual contained the latest information for this model at the time of going to print. Slight deviations resulting from continuing development and design can, however, not be completely excluded.

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REG.NO. 12 100 6061

KTM-Sportmotorcycle AG
5230 Mattighofen, Austria





TABLE OF CONTENTS

| | | | | | |
|------|--|----|-------|---|----|
| 1 | MEANS OF REPRESENTATION | 4 | 8.4 | Shifting, riding | 21 |
| 1.1 | Symbols used | 4 | 8.5 | Applying the brakes..... | 21 |
| 1.2 | Formats used..... | 4 | 8.6 | Stopping, parking..... | 21 |
| 2 | SAFETY ADVICE..... | 5 | 8.7 | Transport | 22 |
| 2.1 | Use definition - intended use | 5 | 8.8 | Refueling | 22 |
| 2.2 | Safety advice..... | 5 | 9 | SERVICE SCHEDULE | 24 |
| 2.3 | Degrees of risk and symbols | 5 | 9.1 | Service schedule..... | 24 |
| 2.4 | Tampering warning..... | 5 | 9.2 | Service work (as additional order) | 25 |
| 2.5 | Safe operation | 6 | 10 | TUNING THE CHASSIS | 26 |
| 2.6 | Protective clothing | 6 | 10.1 | Checking the basic chassis setting with the rider's weight..... | 26 |
| 2.7 | Work rules..... | 6 | 10.2 | Compression damping of the shock absorber..... | 26 |
| 2.8 | Environment..... | 6 | 10.3 | Adjusting the low-speed compression damping of the shock absorber | 26 |
| 2.9 | Owner's Manual | 6 | 10.4 | Adjusting the high-speed compression damping of the shock absorber..... | 27 |
| 3 | IMPORTANT NOTES..... | 7 | 10.5 | Adjusting the rebound damping of the shock absorber..... | 28 |
| 3.1 | Guarantee, warranty | 7 | 10.6 | Measuring rear wheel sag unloaded..... | 28 |
| 3.2 | Operating and auxiliary substances | 7 | 10.7 | Checking the static sag of the shock absorber | 29 |
| 3.3 | Spare parts, accessories | 7 | 10.8 | Checking the riding sag of the shock absorber.... | 29 |
| 3.4 | Service | 7 | 10.9 | Adjusting the spring preload of the shock absorber 🛠️..... | 29 |
| 3.5 | Figures | 7 | 10.10 | Adjusting the riding sag 🛠️..... | 30 |
| 3.6 | Customer service..... | 7 | 10.11 | Checking the basic setting of the fork | 31 |
| 4 | VIEW OF VEHICLE | 8 | 10.12 | Adjusting the compression damping of the fork | 31 |
| 4.1 | View of vehicle, front left side (example) | 8 | 10.13 | Adjusting the rebound damping of the fork..... | 32 |
| 4.2 | View of vehicle, rear right (example) | 9 | 10.14 | Handlebar position..... | 32 |
| 5 | SERIAL NUMBERS | 10 | 10.15 | Adjusting the handlebar position 🛠️..... | 32 |
| 5.1 | Chassis number | 10 | 11 | SERVICE WORK ON THE CHASSIS..... | 34 |
| 5.2 | Type label | 10 | 11.1 | Raising the motorcycle with the lift stand..... | 34 |
| 5.3 | Engine number | 10 | 11.2 | Removing the motorcycle from the lift stand..... | 34 |
| 5.4 | Fork part number | 10 | 11.3 | Bleeding the fork legs..... | 34 |
| 5.5 | Shock absorber part number | 10 | 11.4 | Cleaning the dust boots of the fork legs..... | 35 |
| 6 | CONTROLS..... | 11 | 11.5 | Loosening the fork protection | 35 |
| 6.1 | Clutch lever..... | 11 | 11.6 | Positioning the fork protection..... | 35 |
| 6.2 | Hand brake lever..... | 11 | 11.7 | Removing the fork legs 🛠️..... | 36 |
| 6.3 | Throttle grip | 11 | 11.8 | Installing the fork legs 🛠️..... | 36 |
| 6.4 | Kill switch | 11 | 11.9 | Removing the fork protector 🛠️..... | 37 |
| 6.5 | Electric starter button..... | 11 | 11.10 | Installing the fork protector 🛠️..... | 37 |
| 6.6 | Overview of indicator lamps | 12 | 11.11 | Removing the lower triple clamp 🛠️..... | 37 |
| 6.7 | Opening the filler cap..... | 12 | 11.12 | Installing the lower triple clamp 🛠️..... | 38 |
| 6.8 | Closing the filler cap | 13 | 11.13 | Checking the steering head bearing play..... | 39 |
| 6.9 | Cold start button..... | 13 | 11.14 | Adjusting the play of the steering head bearing 🛠️..... | 40 |
| 6.10 | Idle speed adjusting screw..... | 14 | 11.15 | Greasing the steering head bearing 🛠️..... | 40 |
| 6.11 | Shift lever | 14 | 11.16 | Removing the start number plate..... | 41 |
| 6.12 | Foot brake lever | 14 | 11.17 | Installing the start number plate..... | 41 |
| 6.13 | Plug-in stand (All SX-F models)..... | 15 | 11.18 | Removing the front fender | 41 |
| 6.14 | Side stand (XC-F)..... | 15 | 11.19 | Installing the front fender | 42 |
| 7 | PREPARING FOR USE..... | 16 | 11.20 | Removing the shock absorber 🛠️..... | 42 |
| 7.1 | Advice on first use | 16 | 11.21 | Installing the shock absorber 🛠️..... | 43 |
| 7.2 | Running in the engine | 17 | 11.22 | Removing the seat | 44 |
| 7.3 | Preparing the vehicle for difficult operating conditions | 17 | 11.23 | Mounting the seat | 44 |
| 7.4 | Preparing for rides on dry sand..... | 18 | 11.24 | Removing the air filter box lid | 44 |
| 7.5 | Preparing for rides on wet sand | 18 | 11.25 | Installing the air filter box lid | 45 |
| 7.6 | Preparing for rides on wet and muddy surfaces..... | 19 | 11.26 | Removing the air filter 🛠️..... | 45 |
| 7.7 | Preparing for rides at high temperatures and low speeds | 19 | 11.27 | Installing the air filter 🛠️..... | 45 |
| 7.8 | Preparing for rides at low temperatures or in snow..... | 19 | 11.28 | Cleaning the air filter and air filter box 🛠️..... | 46 |
| 8 | RIDING INSTRUCTIONS..... | 20 | 11.29 | Securing the air filter box lid 🛠️..... | 46 |
| 8.1 | Checks and maintenance before putting into operation..... | 20 | 11.30 | Sealing the air filter box 🛠️..... | 47 |
| 8.2 | Starting..... | 20 | | | |
| 8.3 | Starting off..... | 21 | | | |

| | | | | | |
|-------|--|----|-------------|---|----|
| 11.31 | Removing the main silencer | 47 | 16.3 | Adjusting the idle speed  | 76 |
| 11.32 | Installing the main silencer | 47 | 16.4 | Checking the basic position of the shift lever | 76 |
| 11.33 | Changing the glass fiber yarn filling of the main silencer  | 47 | 16.5 | Adjusting the basic position of the shift lever  | 76 |
| 11.34 | Removing the fuel tank  | 48 | 17 | SERVICE WORK ON THE ENGINE | 77 |
| 11.35 | Installing the fuel tank  | 49 | 17.1 | Changing the fuel screen  | 77 |
| 11.36 | Checking for chain dirt accumulation | 50 | 17.2 | Checking the engine oil level | 77 |
| 11.37 | Cleaning the chain | 50 | 17.3 | Changing the engine oil and oil filter, cleaning the oil screen  | 78 |
| 11.38 | Checking the chain tension | 51 | 17.4 | Adding engine oil | 80 |
| 11.39 | Adjusting the chain tension | 51 | 18 | CLEANING, CARE | 81 |
| 11.40 | Checking the chain, rear sprocket, engine sprocket and chain guide | 52 | 18.1 | Cleaning the motorcycle | 81 |
| 11.41 | Adjusting the chain guide  | 54 | 19 | STORAGE | 82 |
| 11.42 | Checking the frame  | 54 | 19.1 | Storage | 82 |
| 11.43 | Checking the swingarm  | 54 | 19.2 | Putting into operation after storage | 82 |
| 11.44 | Checking the throttle cable routing | 54 | 20 | TROUBLESHOOTING | 83 |
| 11.45 | Checking the rubber grip | 55 | 21 | BLINK CODE | 85 |
| 11.46 | Additionally securing the rubber grip | 55 | 22 | TECHNICAL DATA | 86 |
| 11.47 | Adjusting the basic position of the clutch lever | 55 | 22.1 | Engine | 86 |
| 11.48 | Checking/rectifying the fluid level of the hydraulic clutch | 56 | 22.2 | Engine tightening torques | 87 |
| 11.49 | Changing the hydraulic clutch fluid  | 56 | 22.3 | Capacities | 88 |
| 12 | BRAKE SYSTEM | 57 | 22.3.1 | engine oil | 88 |
| 12.1 | Checking the free travel of the hand brake lever | 57 | 22.3.2 | coolant | 88 |
| 12.2 | Adjusting the basic position of the hand brake lever | 57 | 22.3.3 | fuel | 88 |
| 12.3 | Checking the brake discs | 57 | 22.4 | Chassis | 88 |
| 12.4 | Checking the front brake fluid level | 58 | 22.5 | Electrical system | 89 |
| 12.5 | Adding front brake fluid  | 58 | 22.6 | Tires | 89 |
| 12.6 | Checking the front brake linings | 59 | 22.7 | Fork | 89 |
| 12.7 | Changing the front brake linings  | 59 | 22.7.1 | 250 SX-F EU | 89 |
| 12.8 | Checking the free travel of foot brake lever | 61 | 22.7.2 | SX-F USA | 90 |
| 12.9 | Adjusting the basic position of the foot brake lever  | 61 | 22.7.3 | XC-F | 90 |
| 12.10 | Checking the rear brake fluid level | 62 | 22.8 | Shock absorber | 91 |
| 12.11 | Adding rear brake fluid  | 62 | 22.8.1 | 250 SX-F EU | 91 |
| 12.12 | Checking the rear brake linings | 63 | 22.8.2 | SX-F USA | 91 |
| 12.13 | Changing the rear brake linings  | 63 | 22.8.3 | XC-F | 92 |
| 13 | WHEELS, TIRES | 65 | 22.9 | Chassis tightening torques | 92 |
| 13.1 | Removing the front wheel  | 65 | 23 | SUBSTANCES | 94 |
| 13.2 | Installing the front wheel  | 65 | 24 | AUXILIARY SUBSTANCES | 96 |
| 13.3 | Removing the rear wheel  | 66 | 25 | STANDARDS | 98 |
| 13.4 | Installing the rear wheel  | 66 | INDEX | | 99 |
| 13.5 | Checking the tire condition | 67 | | | |
| 13.6 | Checking the tire air pressure | 68 | | | |
| 13.7 | Checking the spoke tension | 68 | | | |
| 14 | ELECTRICAL SYSTEM | 69 | | | |
| 14.1 | Removing the battery  | 69 | | | |
| 14.2 | Installing the battery  | 69 | | | |
| 14.3 | Recharging the battery  | 70 | | | |
| 14.4 | Changing the main fuse | 71 | | | |
| 15 | COOLING SYSTEM | 72 | | | |
| 15.1 | Cooling system | 72 | | | |
| 15.2 | Checking the antifreeze and coolant level | 72 | | | |
| 15.3 | Checking the coolant level | 73 | | | |
| 15.4 | Draining the coolant  | 73 | | | |
| 15.5 | Refilling coolant  | 74 | | | |
| 16 | TUNING THE ENGINE | 75 | | | |
| 16.1 | Checking the play in the throttle cable | 75 | | | |
| 16.2 | Adjusting the play in the throttle cable  | 75 | | | |

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). |
|  | All work marked with this symbol requires specialist knowledge and technical understanding. In the interest of your own safety, have these jobs performed by an authorized KTM workshop. There, your motorcycle will be optimally cared for by specially trained experts using the specialist tools required. |
|  | Indicates a page reference (more information is provided on the specified page). |
-

1.2 Formats used

The typographical formats used in this document are explained below.

-
- | | |
|----------------------|--|
| Specific name | Identifies a proprietary name. |
| Name® | Identifies a protected name. |
| Brand™ | Identifies a brand available on the open market. |
-

2.1 Use definition - intended use

(All SX-F models)

KTM sport motorcycles are designed and built to withstand the normal stresses and strains of competitive use. The motorcycles comply with currently valid regulations and categories of the top international motorsport organizations.



Info

The motorcycle may only be used in closed off areas remote from public road traffic.

(XC-F)

KTM sport motorcycles are designed and built to withstand the normal stresses and strains of competitive use. The motorcycles comply with currently valid regulations and categories of the top international motorsport organizations.



Info

This motorcycle is designed for use in offroad endurance competition and not primarily for use in motocross.

2.2 Safety advice

A number of safety instructions need to be followed to operate the vehicle safely. Therefore, read this manual carefully. The safety instructions are highlighted in the text and are referred to at the relevant passages.



Info

The vehicle has various information and warning labels at prominent locations. Do not remove information/warning labels. If they are missing, you or others may not recognize dangers and may therefore be injured.

2.3 Degrees of risk and symbols



Danger

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



Warning

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



Caution

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

Note

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



Warning

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

2.4 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 maintenance, 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 silencer, baffles, header pipes or any other components which conduct exhaust gases.
- 2 Removal or puncturing of any part of the intake system.
- 3 Lack of proper maintenance.
- 4 Replacing any moving part of the vehicle, or parts of the exhaust or intake system, with parts other than those specified by the manufacturer.

2.5 Safe operation

-  **Danger**
Danger of accidents Danger arising from the rider's judgement being impaired.
- Do not operate the vehicle while under the influence of alcohol, drugs and certain medications or physically or mentally impaired.
-  **Danger**
Danger of poisoning Exhaust gases are toxic and inhaling them may result in unconsciousness and/or death.
- When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in an enclosed space without an effective exhaust extraction system.
-  **Warning**
Danger of burns Some vehicle components become very hot when the vehicle is operated.
- Do not touch hot components such as exhaust system, radiator, engine, shock absorber, and the brake system. Allow these components to cool down before starting work on them.


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.

2.6 Protective clothing

-  **Warning**
Risk of injury Missing or poor protective clothing presents an increased safety risk.
- Wear protective clothing (helmet, boots, gloves, pants and jacket with protectors) every time you ride the vehicle. Always wear protective clothing that is in good condition and meets the legal requirements.

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

2.7 Work rules

Special tools are necessary for certain tasks. The tools are not contained in the vehicle but can be ordered under the number in parentheses. E.g.: bearing puller (15112017000)

During assembly, non-reusable parts (e.g. self-locking screws and nuts, seals and seal rings, O-rings, pins, lock washers) must be replaced by new parts.

In some instances, a thread locker (e.g. **Loctite**[®]) is required. The manufacturer instructions for use must be followed.

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

After you complete the repair or service work, check the operating safety of the vehicle.

2.8 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.

2.9 Owner's Manual

It is important that you 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 maintain your motorcycle. Only then will you find out how to customize the vehicle ideally for your own use and how you can protect yourself from injury.

Keep the Owner's Manual in an accessible place to enable you to refer to it as needed.

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 and should be handed over to the new owner if the vehicle is sold.

3.1 Guarantee, warranty

The work prescribed in the service schedule must be carried out by an authorized KTM workshop only and confirmed in the customer's service record and in the **KTM dealer.net**; otherwise, all warranty claims will be void. No warranty claims can be considered for damage resulting from manipulations and/or alterations to the vehicle.

Additional information on the guarantee or warranty and the procedures involved can be found in the service record.

3.2 Operating and auxiliary substances



Warning

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

- Do not allow fuel to get into the ground water, the ground, or the sewage system.

Use operating and auxiliary substances (such as fuel and lubricants) as specified in the Owner's Manual.

3.3 Spare parts, 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 KTM dealer will be glad to advise you.

The current **KTM PowerParts** for your vehicle can be found on the KTM website.

International KTM Website: <http://www.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. Incorrect adjustment and tuning of the engine and chassis can lead to damage and breakage of components.

Use of the vehicle under difficult conditions, such as on sand or on wet and muddy surfaces, can lead to considerably more rapid 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.

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.

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: <http://www.ktm.com>

4.1 View of vehicle, front left side (example)



- | | |
|---|-----------------------------|
| 1 | Hand brake lever (☛ p. 11) |
| 2 | Clutch lever (☛ p. 11) |
| 3 | Filler cap |
| 4 | Fork rebound setting |
| 5 | Cold start button (☛ p. 13) |
| 6 | Shift lever (☛ p. 14) |
| 7 | Air filter box lid |
| 8 | Plug-in stand (☛ p. 15) |

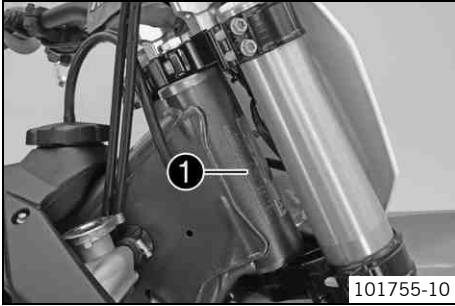
4.2 View of vehicle, rear right (example)



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| | |
|---|---------------------------------------|
| 1 | Kill switch (☛ p. 11) |
| 2 | Electric starter button (☛ p. 11) |
| 3 | Throttle grip (☛ p. 11) |
| 4 | Fork compression adjustment |
| 5 | Level viewer for brake fluid, rear |
| 6 | Shock absorber rebound adjustment |
| 7 | Shock absorber compression adjustment |
| 8 | Level viewer, engine oil |
| 9 | Foot brake lever (☛ p. 14) |

5.1 Chassis number



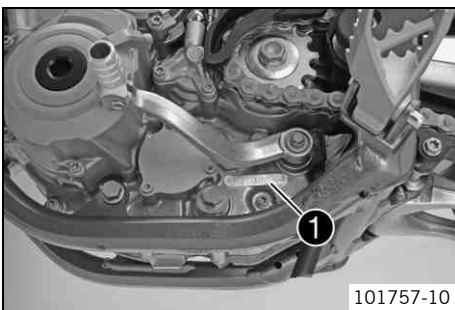
The chassis number ❶ is stamped on the right side of the steering head.

5.2 Type label



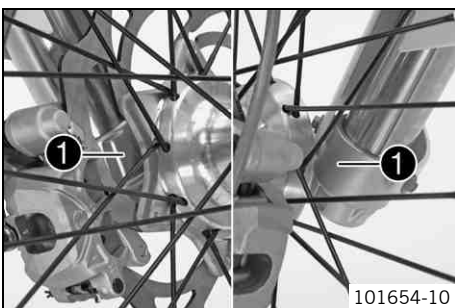
The type label ❶ is fixed to the front of the steering head.

5.3 Engine number



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

5.4 Fork part number



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

5.5 Shock absorber part number



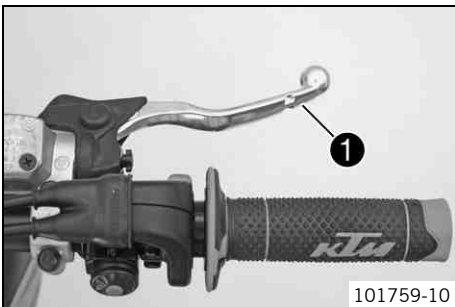
The shock absorber part number ❶ is stamped on the top of the shock absorber above the adjusting ring on the engine side.

6.1 Clutch lever



The clutch lever ❶ is fitted on the left side of the handlebar. The clutch is hydraulically operated and self-adjusting.

6.2 Hand brake lever



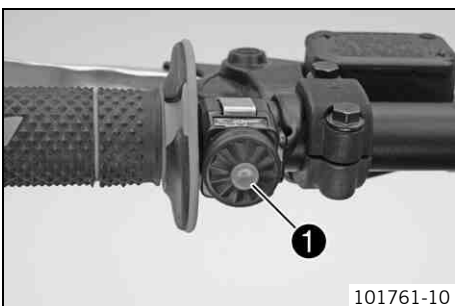
Hand brake lever ❶ is located on the right side of the handlebar. The hand brake lever is used to activate the front brake.

6.3 Throttle grip



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

6.4 Kill switch

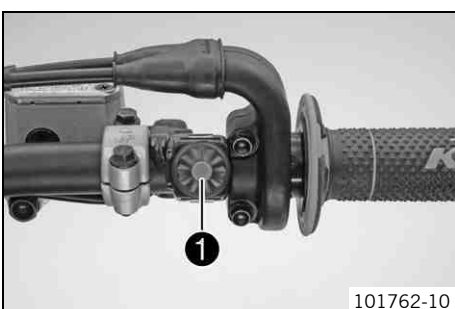


Kill switch ❶ is fitted on the left side of the handlebar.

Possible states

- Kill switch ☒ in the basic position – In this position, the ignition circuit is closed and the engine can be started.
- Kill switch ☒ pressed – In this position, the ignition circuit is interrupted, a running engine stops, and a non-running engine will not start.

6.5 Electric starter button

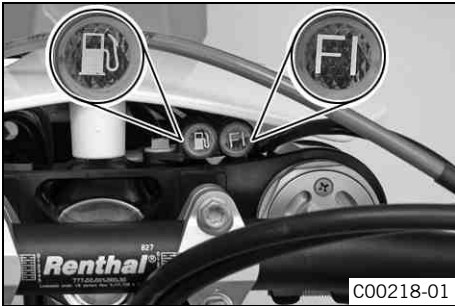


The electric starter button ❶ is fitted on the right side of the handlebar.

Possible states

- Electric starter button ☉ in basic position
- Electric starter button ☉ pressed – In this position, the electric starter is actuated.

6.6 Overview of indicator lamps



C00218-01

Possible states

| | |
|--|---|
| | FI warning lamp (MIL) lights up/flashes orange – The OBD (onboard diagnosis) has identified an emissions- or safety-critical fault. |
|--|---|

(XC-F)

| | |
|--|---|
| | Fuel level warning lamp lights up orange – Fuel level has reached the reserve mark. |
|--|---|

6.7 Opening the filler cap



Danger

Fire hazard Fuel is highly flammable.

- Never refuel the vehicle near open flames or burning cigarettes, and always switch off the engine first. Be careful that no fuel is spilt, especially on hot vehicle components. Clean up spilt fuel immediately.
- Fuel in the fuel tank expands when warm and can escape if the tank is overfilled. See the notes on refueling.



Warning

Danger of poisoning Fuel is poisonous and a health hazard.

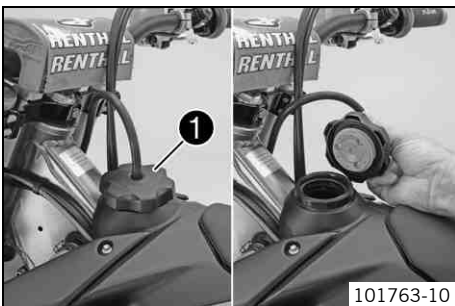
- Avoid contact between fuel and skin, eyes and clothing. Do not inhale fuel vapors. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If fuel is swallowed, contact a doctor immediately. Change clothing that has come into contact with fuel. Store fuel in a suitable canister according to regulations and keep it out of the reach of children.



Warning

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

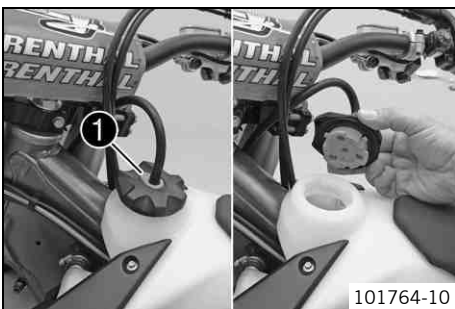
- Do not allow fuel to get into the ground water, the ground, or the sewage system.



101763-10

(All SX-F models)

- Turn filler cap ❶ counterclockwise and lift it off.

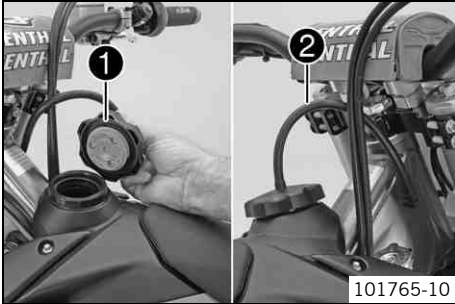


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(XC-F)

- Press release button ❶, turn the filler cap counterclockwise, and lift it off.

6.8 Closing the filler cap



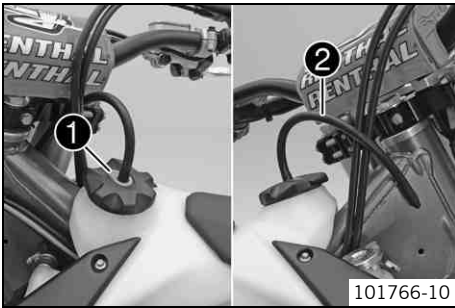
101765-10

(All SX-F models)

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

i Info

Run the fuel tank breather hose ❷ without kinks.



101766-10

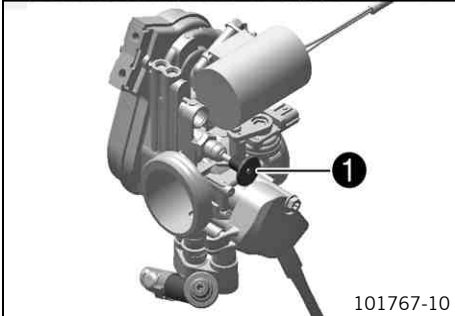
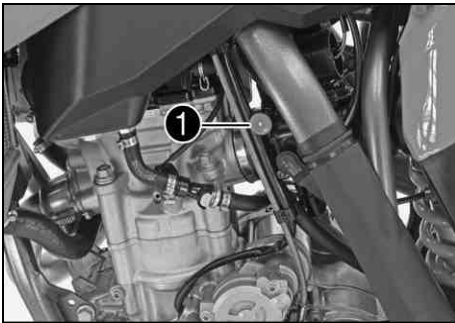
(XC-F)

- Replace the filler cap and turn clockwise until the release button ❶ locks in place.

i Info

Run the fuel tank breather hose ❷ without kinks.

6.9 Cold start button



101767-10

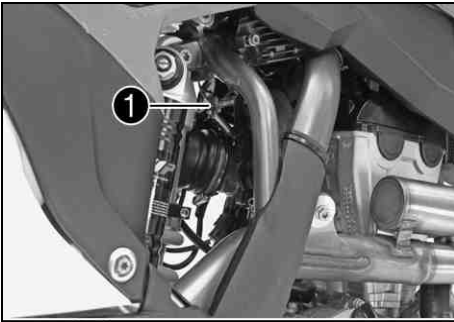
The cold start button ❶ is fitted on the left on the throttle valve body.

The injection system extends the injection time if the engine is cold and the outside temperature is low. The engine can only burn the increased fuel quantity if it receives more air. It obtains more air by pulling the cold start button.

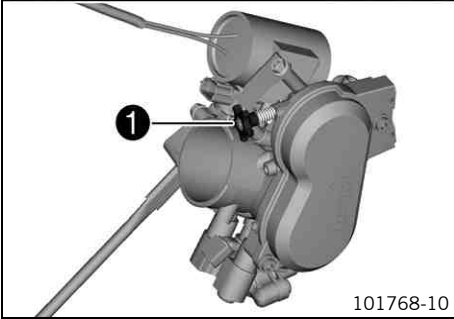
Possible states

- The cold start button is activated – The cold start button is pulled out all the way.
- The cold start button is deactivated – The cold start button is pushed in all the way.

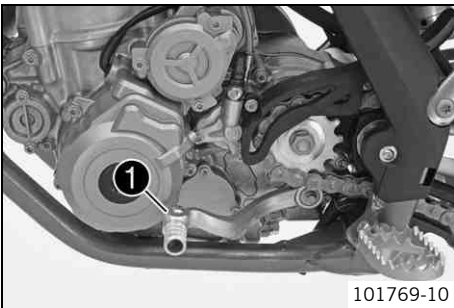
6.10 Idle speed adjusting screw



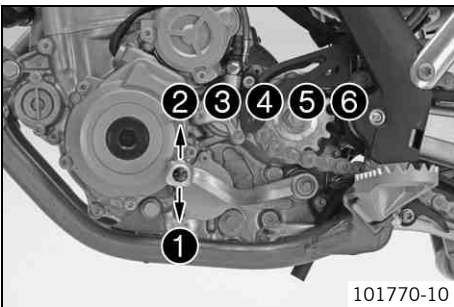
The idle setting of the throttle valve body has a big influence on the starting behavior, stable idling and the response to throttle opening. This means that an engine with a correctly set idle speed is easier to start than if the idle is set wrongly. The idle speed is adjusted with the idle speed adjusting screw **1**. Turning the adjusting screw clockwise increases the idle speed. Turning the adjusting screw counterclockwise lowers the idle speed.



6.11 Shift lever

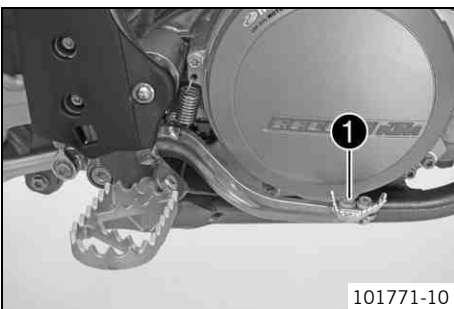


Shift lever **1** is mounted on the left side of the engine.



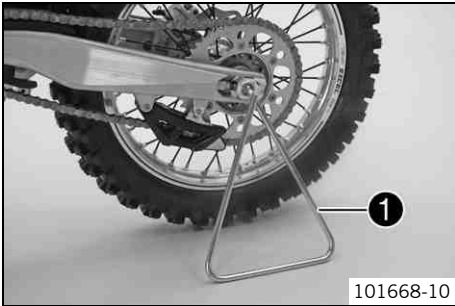
The gear positions can be seen in the photograph. The neutral or idle position is between the first and second gears.

6.12 Foot brake lever



Foot brake lever **1** is located in front of the right footrest. The foot brake lever is used to activate the rear brake.

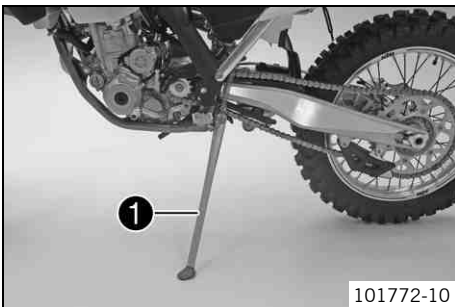
6.13 Plug-in stand (All SX-F models)



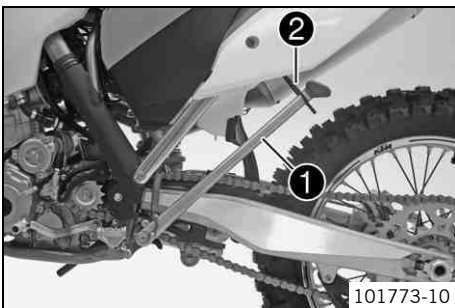
The holder for the plug-in stand ❶ is the left side of the wheel spindle. The plug-in stand is used to park the motorcycle.

i **Info**
Remove the plug-in stand before starting on a trip.

6.14 Side stand (XC-F)



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



The side stand is used to park the motorcycle.

i **Info**
When you are riding, side stand ❶ must be folded up and secured with rubber band ❷.

7.1 Advice on first use



Danger

Danger of accidents Danger arising from the rider's judgement being impaired.

- Do not operate the vehicle while under the influence of alcohol, drugs and certain medications or physically or mentally impaired.



Warning

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

- Wear protective clothing (helmet, boots, gloves, pants and jacket with protectors) every time you ride the vehicle. Always wear protective clothing that is in good condition and meets the legal requirements.



Warning

Danger of crashing Poor vehicle handling due to different tire tread patterns on front and rear wheels.

- The front and rear wheels must be fitted with tires with similar tread patterns to prevent loss of control over the vehicle.



Warning

Danger of accidents Critical riding behavior due to inappropriate riding.

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



Warning

Danger of accidents Accident risk caused by presence of a passenger.

- Your vehicle is not designed to carry passengers. Do not ride with a passenger.



Warning

Danger of accidents Failure of brake system.

- If the foot brake lever is not released, the brake linings drag continuously. The rear brake may fail due to overheating. Take your foot off the foot brake lever when you are not braking.



Warning

Danger of accidents Unstable riding behavior.

- Do not exceed the maximum permissible weight and axle loads.



Warning

Risk of misappropriation Usage by unauthorized persons.

- Never leave the vehicle while the engine is running. Secure the vehicle against use by unauthorized persons.



Info

When using your motorcycle, remember that others may feel disturbed by excessive noise.

- Make sure that the pre-delivery inspection work has been carried out by an authorized KTM workshop.
 - ✓ You receive a delivery certificate and the service record at vehicle handover.
- Before your first trip, read the entire operating instructions carefully.
- Familiarize yourself with the controls.
- Adjust the basic position of the clutch lever. (☞ p. 55)
- Adjust the basic position of the hand brake lever. (☞ p. 57)
- Adjust the basic position of the foot brake lever. ☞ (☞ p. 61)
- Adjust the basic position of the shift lever. ☞ (☞ p. 76)
- Get used to handling the motorcycle on a suitable piece of land before making a longer trip.



Info

Your motorcycle is not authorized for riding on public roads.

Offroad, you should be accompanied by another person on another machine so that you can help each other.

- Try also to ride as slowly as possible and in a standing position to get a better feeling for the vehicle.
- Do not make any offroad trips that over-stress your ability and experience.
- Hold the handlebar firmly with both hands and keep your feet on the footrests when riding.

(All SX-F models)

- Do not transport luggage.

(XC-F)

- If you carry any baggage, make sure 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 overall maximum permitted weight and the 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.) |

- Run in the engine. (☞ p. 17)

7.2 Running in the engine

- During the running-in phase, do not exceed the specified engine speed and engine performance.

Guideline

| | |
|----------------------------------|-----------|
| Maximum engine speed | |
| During the first operating hour | 7,000 rpm |
| Maximum engine performance | |
| During the first 3 service hours | ≤ 75 % |

- Avoid fully opening the throttle!

7.3 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 lead to considerably more rapid 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.

- Seal the air filter box. ☞ (☞ p. 47)
- Secure the air filter box lid. ☞ (☞ p. 46)
- Clean the air filter and air filter box. ☞ (☞ p. 46)



Info

Check the air filter approx. every 30 minutes.

- Additionally secure the rubber grip. (☞ p. 55)
- 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. 18)
- Rides on wet sand. (☞ p. 18)
- Rides on wet and muddy surfaces. (☞ p. 19)
- Rides at high temperatures and low speeds. (☞ p. 19)
- Rides at low temperatures or in snow. (☞ p. 19)

7.4 Preparing for rides on dry sand



- Fit a dust protection device on the air filter.

Dust protection device for air filter (77206920000)



Info

See the **KTM PowerParts** fitting instructions.



- Fit a sand protection device on the air filter.

Sand protection device for air filter (77206922000)



Info

See the **KTM PowerParts** fitting instructions.



- Clean the chain.

Chain cleaner (☛ p. 96)

- Fit the steel sprocket.



Tip

Do not grease the chain.

- Clean the radiator fins.
- Straighten bent radiator fins carefully.
- If used in sand regularly, replace the piston every 20 operating hours.

7.5 Preparing for rides on wet sand



- Fit a waterproofing device on the air filter.

Waterproofing device for air filter (77206921000)



Info

See the **KTM PowerParts** fitting instructions.



- Clean the chain.

Chain cleaner (☛ p. 96)

- Fit the steel sprocket.



Tip

Do not grease the chain.

- Clean the radiator fins.
- Straighten bent radiator fins carefully.
- If used in sand regularly, replace the piston every 20 operating hours.

7.6 Preparing for rides on wet and muddy surfaces



- Fit a waterproofing device on the air filter.

Waterproofing device for air filter (77206921000)



Info

See the **KTM PowerParts** fitting instructions.



- Fit the steel sprocket.
- Clean the motorcycle. (☛ p. 81)
- Straighten bent radiator fins carefully.

7.7 Preparing for rides at high temperatures and low speeds



- Adjust the secondary drive to the road conditions.



Info

The engine oil quickly gets hot if the clutch has to be operated very often due to an excessively high secondary drive.

- Clean the chain.

Chain cleaner (☛ p. 96)

- Clean the radiator fins.
- Straighten bent radiator fins carefully.
- Check the coolant level. (☛ p. 73)

7.8 Preparing for rides at low temperatures or in snow



- Fit a waterproofing device on the air filter.

Waterproofing device for air filter (77206921000)



Info

See the **KTM PowerParts** fitting instructions.

8.1 Checks and maintenance before putting into operation



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 used.

- Check the engine oil level. (☛ p. 77)
- Check the front brake fluid level. (☛ p. 58)
- Check the rear brake fluid level. (☛ p. 62)
- Check the front brake linings. (☛ p. 59)
- Check the rear brake linings. (☛ p. 63)
- Check that the brake system is functioning properly.
- Check the coolant level. (☛ p. 73)
- Check for chain dirt accumulation. (☛ p. 50)
- Check the chain, rear sprocket, engine sprocket and chain guide. (☛ p. 52)
- Check the chain tension. (☛ p. 51)
- Check the tire condition. (☛ p. 67)
- Check the tire air pressure. (☛ p. 68)
- Check the spoke tension. (☛ p. 68)
- Clean the dust boots of the fork legs. (☛ p. 35)
- Bleed the fork legs. (☛ p. 34)
- 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 reserves.

8.2 Starting



Danger

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

- When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in an enclosed space without an effective exhaust extraction system.

Note

Engine failure High engine speeds in cold engines have a negative effect on the service life of the engine.

- Always warm up the engine at low engine speeds.



101774-10

(All SX-F models)

- Remove the plug-in stand.

(XC-F)

- Raise the motorcycle off of the stand and secure the stand with the rubber band ❶.
- Shift gear to neutral.

Condition

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

- Pull the cold start button out all the way.
- Press the electric starter button.



Info

Press the electric starter button for at most 5 seconds. Wait for a least 5 seconds before trying again.

FI warning lamp lights up briefly as a functional control when starting.

8.3 Starting off

- Pull the clutch lever, engage 1st gear, release the clutch lever slowly and simultaneously open the throttle carefully.

8.4 Shifting, riding

Warning

Danger of accidents If you change down at high engine speed, the rear wheel can lock up.

- Do not change into a low gear at high engine speed. The engine races and the rear wheel can lock up.

Info

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

- When conditions allow (incline, road situation, etc.), you can shift into a higher gear. 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 pulled out during starting, push the cold start button all the way in after the engine warms up.
- After reaching maximum speed by fully opening the throttle grip, turn the throttle back so it is $\frac{3}{4}$ open. This will barely reduce the speed but fuel consumption will be considerably lower.
- Always open the throttle only as much as the engine can handle – opening the throttle abruptly increases fuel consumption.
- To shift down, brake and close the throttle at the same time.
- Pull the clutch lever and shift into a lower gear, release the clutch lever slowly and open the throttle or shift again.
- Switch off the engine if you expect to be standing for a long time.

Guideline

≥ 1 min

- Avoid frequent and longer slipping of the clutch. This heats the engine oil, the engine and the cooling system.
- Ride with a lower engine speed instead of with a high engine speed and a slipping clutch.

8.5 Applying the brakes

Warning

Danger of accidents If you brake too hard, the wheels can lock.

- Adapt your braking to the traffic situation and the road conditions.

Warning

Danger of accidents Reduced braking efficiency caused by spongy pressure point of front or rear brake.

- Check the brake system and do not continue riding. (Your authorized KTM workshop will be glad to help.)

Warning

Danger of accidents Reduced braking efficiency due to a wet or dirty brake system.

- Clean or dry a dirty or wet brake system by riding and braking gently.

- On sandy, wet or slippery surfaces, use the rear brake.
- Braking should always be completed before you go into a bend. Change down to a lower gear appropriate to your road speed.
- On long downhill stretches, use the braking effect of the engine. Change down one or two gears, but do not overstress the engine. In this way, you have to apply the brakes far less frequently and the brake system does not overheat.

8.6 Stopping, parking

Warning

Risk of misappropriation Usage by unauthorized persons.

- Never leave the vehicle while the engine is running. Secure the vehicle against use by unauthorized persons.

Warning

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

- Do not touch hot components such as exhaust system, radiator, engine, shock absorber, and the brake system. Allow these components to cool down before starting work on them.

Note

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

- Always place the vehicle on a firm and even surface.

Note

Fire hazard Some vehicle components become very hot when the vehicle is operated.

- Do not park the vehicle near flammable or explosive substances. Do not place objects on the vehicle while it is still warm from being run. Always let the vehicle cool first.

-
- Brake the motorcycle.
 - Shift gear to neutral.
 - Press and hold the kill switch ☒ while the engine is idling until the engine stops.
 - Park the motorcycle on firm ground.

8.7 Transport

Note

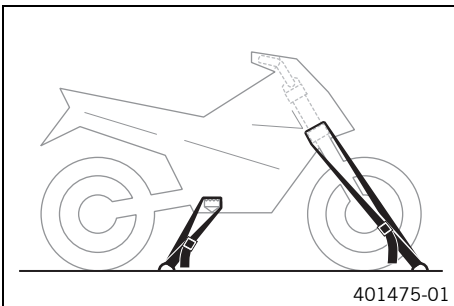
Danger of damage The parked vehicle may roll away or fall over.

- Always place the vehicle on a firm and even surface.

Note

Fire hazard Some vehicle components become very hot when the vehicle is operated.

- Do not park the vehicle near flammable or explosive substances. Do not place objects on the vehicle while it is still warm from being run. Always let the vehicle cool first.



- Switch off the engine.
- Use tension belts or other suitable devices to secure the motorcycle against accidents or falling over.

8.8 Refueling

**Danger**

Fire hazard Fuel is highly flammable.

- Never refuel the vehicle near open flames or burning cigarettes, and always switch off the engine first. Be careful that no fuel is spilt, especially on hot vehicle components. Clean up spilt fuel immediately.
- Fuel in the fuel tank expands when warm and can escape if the tank is overfilled. See the notes on refueling.

**Warning**

Danger of poisoning Fuel is poisonous and a health hazard.

- Avoid contact of the fuel with skin, eyes and clothing. Do not inhale fuel vapors. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If fuel is swallowed, contact a doctor immediately. Change clothing that has come into contact with fuel.

Note

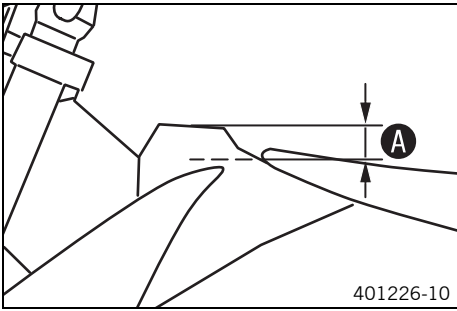
Material damage Premature clogging of the fuel filter.

- In some countries and regions, the available fuel quality and cleanliness may not be sufficient. This will result in problems with the fuel system. (Your authorized KTM workshop will be glad to help.)
- Only refuel with clean fuel that meets the specified standards.

**Warning**

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

- Do not allow fuel to get into the ground water, the ground, or the sewage system.



- Switch off the engine.
- Open the filler cap. (☛ p. 12)
- Fill the fuel tank with fuel up to measurement **A**.

Guideline

| | | |
|---|---------------------|---|
| Measurement of A | 35 mm (1.38 in) | |
| Total fuel tank capacity, approx. (All SX-F models) | 7.5 l (1.98 US gal) | Super unleaded (ROZ 95/RON 95/PON 91) (☛ p. 95) |
| Total fuel tank capacity, approx. (XC-F) | 9 l (2.4 US gal) | Super unleaded (ROZ 95/RON 95/PON 91) (☛ p. 95) |

- Close the filler cap. (☛ p. 13)

9.1 Service schedule

| | S1N | S10A | S20A | S30A |
|--|-----|------|------|------|
| Read out the fault memory using the KTM diagnostics tool. 🛠️ | • | • | • | • |
| Check and charge the battery. 🛠️ | | • | • | • |
| Check the front brake linings. (🔧 p. 59) | | • | • | • |
| Check the rear brake linings. (🔧 p. 63) | | • | • | • |
| Check the brake discs. (🔧 p. 57) | | • | • | • |
| Check the brake lines for damage and leakage. | | • | • | • |
| Check the rear brake fluid level. (🔧 p. 62) | | • | • | • |
| Check the free travel of the foot brake lever. (🔧 p. 61) | | • | • | • |
| Check the frame and swingarm. 🛠️ | | • | • | • |
| Check the swingarm bearing. 🛠️ | | | • | |
| Check the shock absorber linkage. 🛠️ | | • | • | • |
| Conduct a minor fork service. 🛠️ | | • | • | • |
| Conduct a major fork service. 🛠️ | | | | • |
| Check the tire condition. (🔧 p. 67) | • | • | • | • |
| Check the tire air pressure. (🔧 p. 68) | • | • | • | • |
| Check the wheel bearing for play. 🛠️ | | • | • | • |
| Check the wheel hubs. 🛠️ | | • | • | • |
| Check the rim run-out. 🛠️ | • | • | • | • |
| Check the spoke tension. (🔧 p. 68) | • | • | • | • |
| Check the chain, rear sprocket, engine sprocket and chain guide. (🔧 p. 52) | | • | • | • |
| Check the chain tension. (🔧 p. 51) | • | • | • | • |
| Grease all moving parts (e.g., hand lever, chain, ...) and check for smooth operation. 🛠️ | | • | • | • |
| Check/rectify the fluid level of the hydraulic clutch. (🔧 p. 56) | | • | • | • |
| Check the front brake fluid level. (🔧 p. 58) | | • | • | • |
| Check the free travel of the hand brake lever. (🔧 p. 57) | | • | • | • |
| Check the steering head bearing play. (🔧 p. 39) | • | • | • | • |
| Check the valve clearance. 🛠️ | • | | | • |
| Check the clutch. 🛠️ | | | • | |
| Change the shaft seal rings of the water pump. 🛠️ | | | | • |
| Change the engine oil and oil filter, clean the oil screen. 🛠️ (🔧 p. 78) | • | • | • | • |
| Check all hoses (e. g. fuel, cooling, bleeding, drainage) and sleeves for tearing, leaks and incorrect routing. 🛠️ | • | • | • | • |
| Check the antifreeze and coolant level. (🔧 p. 72) | • | • | • | • |
| Check the cables for damage and routing without sharp bends. 🛠️ | | • | • | • |
| Check that the throttle cables are undamaged, routed without sharp bends and set correctly. | • | • | • | • |
| Clean the air filter and air filter box. 🛠️ (🔧 p. 46) | | • | • | • |
| Change the glass fiber yarn filling of the main silencer. 🛠️ (🔧 p. 47) | | | • | |
| Check the screws and nuts for tightness. 🛠️ | • | • | • | • |
| Change the fuel screen. 🛠️ (🔧 p. 77) | • | • | • | • |
| Check the fuel pressure. 🛠️ | | • | • | • |
| Check the idle. 🛠️ | • | • | • | • |
| Final check: Check the vehicle for roadworthiness and take a test ride. | • | • | • | • |
| Read out the fault memory using the KTM diagnostics tool after a test ride. 🛠️ | • | • | • | • |
| Make the service entry in KTM DEALER.NET and in the service record. 🛠️ | • | • | • | • |

S1N: Once after 1 operating hour - corresponds to about 7 liters of fuel (1.8 US gal)

S10A: Every 10 operating hours - corresponds to about 70 liters of fuel (18.5 US gal) / after every race

S20A: Every 20 operating hours - corresponds to about 140 liters of fuel (37 US gal)

S30A: Every 30 operating hours - corresponds to about 210 liters of fuel (55.5 US gal)

9.2 Service work (as additional order)

| | S20N | S40A | S50A | S100A | J1A |
|--|------|------|------|-------|-----|
| Change the front brake fluid. 🛠️ | | | | | • |
| Change the rear brake fluid. 🛠️ | | | | | • |
| Change the hydraulic clutch fluid. 🛠️ (🔧 p. 56) | | | | | • |
| Grease the steering head bearing. 🛠️ (🔧 p. 40) | | | | | • |
| Service the shock absorber. 🛠️ | • | • | | | |
| Change the spark plug and spark plug connector. 🛠️ | | | | • | |
| Change the piston. 🛠️ | | | • | • | |
| Check/measure the cylinder. 🛠️ | | | • | • | |
| Check the cylinder head. 🛠️ | | | • | • | |
| Change the valves, valve springs and valve spring seats. 🛠️ | | | | • | |
| Check the camshaft and cam lever. 🛠️ | | | • | • | |
| Change the connecting rod, conrod bearing, and crank pin. 🛠️ | | | | • | |
| Check the transmission and shift mechanism. 🛠️ | | | | • | |
| Check the oil pressure regulator valve. 🛠️ | | | • | • | |
| Change the suction pump. 🛠️ | | | | • | |
| Check the force pump and lubrication system. 🛠️ | | | | • | |
| Change the timing chain. 🛠️ | | | | • | |
| Check the timing assembly. 🛠️ | | | • | • | |
| Change all engine bearings. 🛠️ | | | | • | |

S20N: Once after 20 operating hours - corresponds to about 140 liters of fuel (37 US gal)

S40A: Every 40 operating hours - corresponds to about 280 liters of fuel (74 US gal)

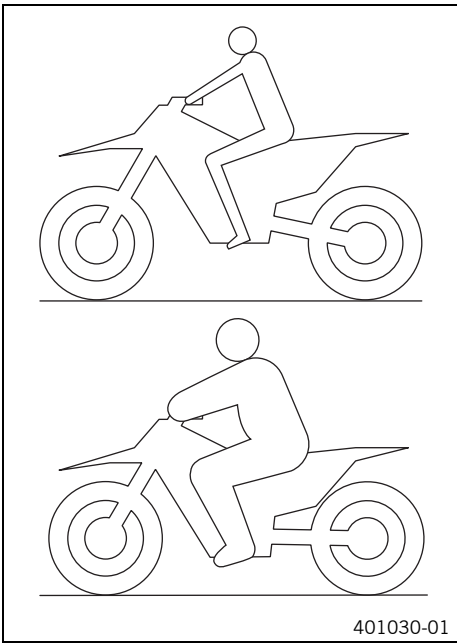
S50A: Every 50 operating hours - corresponds to about 350 liters of fuel (92.5 US gal)

S100A: Every 100 operating hours - corresponds to about 700 liters of fuel (185 US gal)

J1A: Annually

10.1 Checking the basic chassis setting with the rider's weight

i 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, swingarm 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

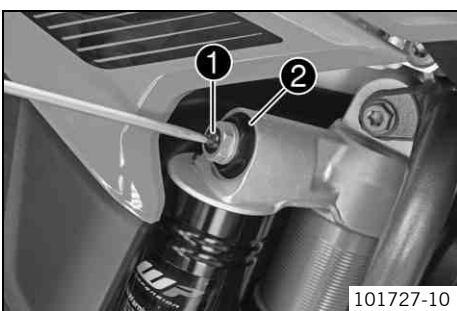
The compression damping of the shock absorber is divided into two ranges: high-speed and low-speed. High-speed and low-speed refer to the compression speed of the rear wheel suspension and not to the vehicle speed. The high-speed setting, for example, has an effect on the landing after a jump: the rear wheel suspension compresses more quickly. The low-speed setting, for example, has an effect when riding over long ground swells: the rear wheel suspension compresses more slowly. These two ranges can be adjusted separately, although the transition between high-speed and low-speed is gradual. Thus, changes 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
Danger of accidents Disassembly of pressurized parts can lead to injury.

- The shock absorber is filled with high density nitrogen. Adhere to the description provided. (Your authorized KTM workshop will be glad to help.)

i Info
The low-speed setting can be seen during the slow to normal compression of the shock absorber.



- Turn adjusting screw ① clockwise with a screwdriver up to the last perceptible click.

i Info
Do not loosen fitting ②.

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

Guideline

| | |
|--|-----------|
| Compression damping, low-speed (250 SX-F EU) | |
| Comfort | 17 clicks |
| Standard | 15 clicks |
| Sport | 13 clicks |
| Compression damping, low-speed (SX-F USA) | |
| Comfort | 17 clicks |
| Standard | 15 clicks |
| Sport | 13 clicks |
| Compression damping, low-speed (XC-F) | |
| Comfort | 17 clicks |
| Standard | 15 clicks |
| Sport | 13 clicks |

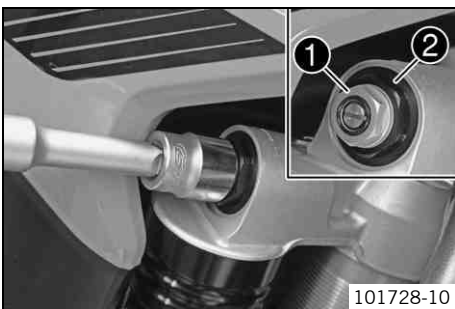
i Info
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

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

⚠ Caution
Danger of accidents Disassembly of pressurized parts can lead to injury.

- The shock absorber is filled with high density nitrogen. Adhere to the description provided. (Your authorized KTM workshop will be glad to help.)

i Info
The high-speed setting can be seen during the fast compression of the shock absorber.



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

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

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

Guideline

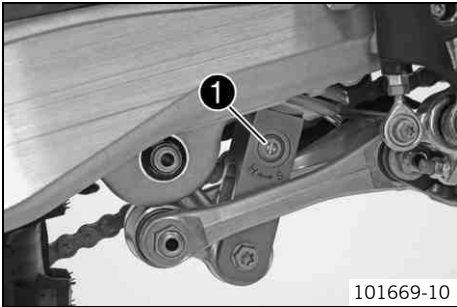
| | |
|---|-----------|
| Compression damping, high-speed (250 SX-F EU) | |
| Comfort | 2.5 turns |
| Standard | 2 turns |
| Sport | 1.5 turns |
| Compression damping, high-speed (SX-F USA) | |
| Comfort | 2.5 turns |
| Standard | 2 turns |
| Sport | 1.5 turns |
| Compression damping, high-speed (XC-F) | |
| Comfort | 2.5 turns |
| Standard | 2 turns |
| Sport | 1.5 turns |

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

10.5 Adjusting the rebound damping of the shock absorber

Caution
Danger of accidents Disassembly of pressurized parts can lead to injury.

- The shock absorber is filled with high density nitrogen. Adhere to the description provided. (Your authorized KTM workshop will be glad to help.)



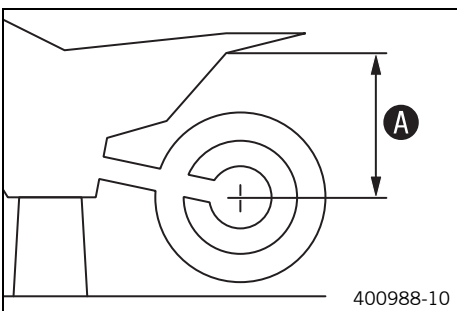
- Turn adjusting screw ❶ clockwise up to the last perceptible click.
- Turn back counterclockwise by the number of clicks corresponding to the shock absorber type.

Guideline

| Rebound damping (250 SX-F EU) | |
|-------------------------------|-----------|
| Comfort | 17 clicks |
| Standard | 15 clicks |
| Sport | 13 clicks |
| Rebound damping (SX-F USA) | |
| Comfort | 17 clicks |
| Standard | 15 clicks |
| Sport | 13 clicks |
| Rebound damping (XC-F) | |
| Comfort | 17 clicks |
| Standard | 15 clicks |
| Sport | 13 clicks |

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

10.6 Measuring rear wheel sag unloaded



Preparatory work

- Raise the motorcycle with the lift stand. (☛ p. 34)

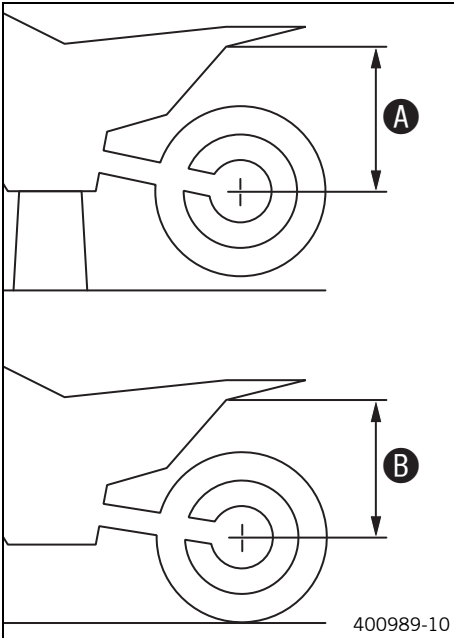
Main work

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

Finishing work

- Remove the motorcycle from the lift stand. (☛ p. 34)

10.7 Checking the static sag of the shock absorber



- Measure distance **A** of rear wheel unloaded. (☞ p. 28)
- Hold the motorcycle upright with the aid of an assistant.
- Measure the distance between the rear axle and the fixed point again.
- Note down the value as dimension **B**.

i Info

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

- Check the static sag.

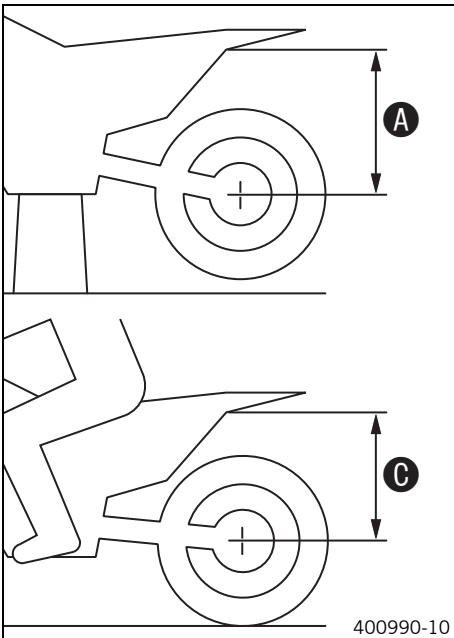
| | |
|--------------------------|-----------------|
| Static sag (250 SX-F EU) | 30 mm (1.18 in) |
|--------------------------|-----------------|

| | |
|-----------------------|-----------------|
| Static sag (SX-F USA) | 30 mm (1.18 in) |
|-----------------------|-----------------|

| | |
|-------------------|-----------------|
| Static sag (XC-F) | 30 mm (1.18 in) |
|-------------------|-----------------|

- » If the static sag is less or more than the specified value:
 - Adjust the spring preload of the shock absorber. ☞ (☞ p. 29)

10.8 Checking the riding sag of the shock absorber



- Measure distance **A** of rear wheel unloaded. (☞ p. 28)
- With another person holding the motorcycle, the rider, wearing full protective clothing, sits on the seat in a normal sitting position (feet on footrests) and bounces up and down a few times.
 - ✓ The rear wheel suspension levels out.
- Another person now measures the distance between the rear axle and the fixed point.
- Note down the value as dimension **C**.

i Info

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

- Check the riding sag.

| | |
|--------------------------|-----------------|
| Riding sag (250 SX-F EU) | 90 mm (3.54 in) |
|--------------------------|-----------------|

| | |
|-----------------------|------------------|
| Riding sag (SX-F USA) | 100 mm (3.94 in) |
|-----------------------|------------------|

| | |
|-------------------|------------------|
| Riding sag (XC-F) | 100 mm (3.94 in) |
|-------------------|------------------|

- » If the riding sag differs from the specified measurement:
 - Adjust the riding sag. ☞ (☞ p. 30)

10.9 Adjusting the spring preload of the shock absorber ☞

! Caution

Danger of accidents Disassembly of pressurized parts can lead to injury.

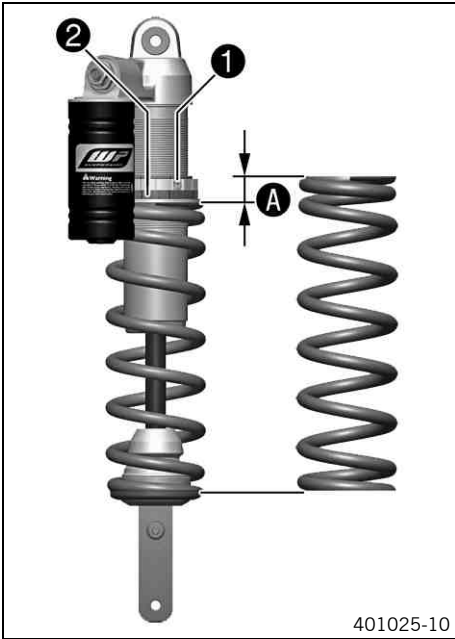
- The shock absorber is filled with high density nitrogen. Adhere to the description provided. (Your authorized KTM workshop will be glad to help.)

i Info

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

Preparatory work

- Raise the motorcycle with the lift stand. (☞ p. 34)
- Remove the shock absorber. ☞ (☞ p. 42)



- After removing the shock absorber, clean it thoroughly.

Main work

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

Hook wrench (T106S)

- Measure the overall spring length while the spring is not under tension.
- Tighten the spring by turning adjusting ring ② to measurement ④.

Guideline

| | |
|------------------------------|-----------------|
| Spring preload (250 SX-F EU) | 13 mm (0.51 in) |
| Spring preload (SX-F USA) | 12 mm (0.47 in) |
| Spring preload (XC-F) | 12 mm (0.47 in) |



Info

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

- Tighten screw ①.

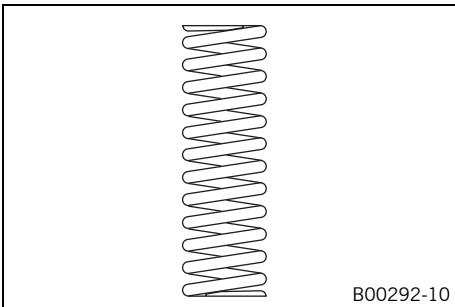
Guideline

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

Finishing work

- Install the shock absorber. (🔧 p. 43)
- Remove the motorcycle from the lift stand. (🔧 p. 34)

10.10 Adjusting the riding sag 🛠️



Preparatory work

- Raise the motorcycle with the lift stand. (🔧 p. 34)
- Remove the shock absorber. 🛠️ (🔧 p. 42)
- After removing the shock absorber, clean it thoroughly.

Main work

- Choose and mount a suitable spring.

Guideline

| | |
|---|---------------------|
| Spring rate (250 SX-F EU) | |
| Weight of rider: 65... 75 kg (143... 165 lb.) | 51 N/mm (291 lb/in) |
| Weight of rider: 75... 85 kg (165... 187 lb.) | 54 N/mm (308 lb/in) |
| Weight of rider: 85... 95 kg (187... 209 lb.) | 57 N/mm (325 lb/in) |
| Spring rate (SX-F USA) | |
| Weight of rider: 65... 75 kg (143... 165 lb.) | 51 N/mm (291 lb/in) |
| Weight of rider: 75... 85 kg (165... 187 lb.) | 54 N/mm (308 lb/in) |
| Weight of rider: 85... 95 kg (187... 209 lb.) | 57 N/mm (325 lb/in) |
| Spring rate (XC-F) | |
| Weight of rider: 65... 75 kg (143... 165 lb.) | 51 N/mm (291 lb/in) |
| Weight of rider: 75... 85 kg (165... 187 lb.) | 54 N/mm (308 lb/in) |
| Weight of rider: 85... 95 kg (187... 209 lb.) | 57 N/mm (325 lb/in) |



Info

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

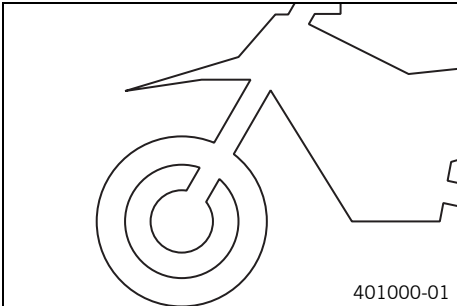
Finishing work

- Install the shock absorber. 🛠️ (🔧 p. 43)

- Check the static sag of the shock absorber. (☛ p. 29)
- Check the riding sag of the shock absorber. (☛ p. 29)
- Adjust the rebound damping of the shock absorber. (☛ p. 28)
- Remove the motorcycle from the lift stand. (☛ p. 34)

10.11 Checking the basic setting of the fork

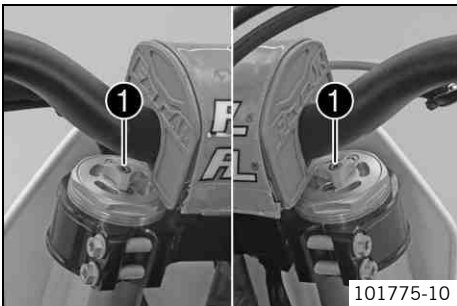
i Info
For various reasons, no exact riding sag can be determined for the forks.



- As with the shock absorber, smaller differences in the rider's weight can be compensated by the spring preload.
- However, if the fork is often overloaded (hard end stop on compression), harder springs must be fit to avoid damage to the fork and frame.

10.12 Adjusting the compression damping of the fork

i Info
The hydraulic compression damping determines the fork suspension behavior.



- Turn adjusting screws ❶ clockwise all the way.

i Info
Adjusting screws ❶ are located at the top end of the fork legs. Make the same adjustment on both fork legs.

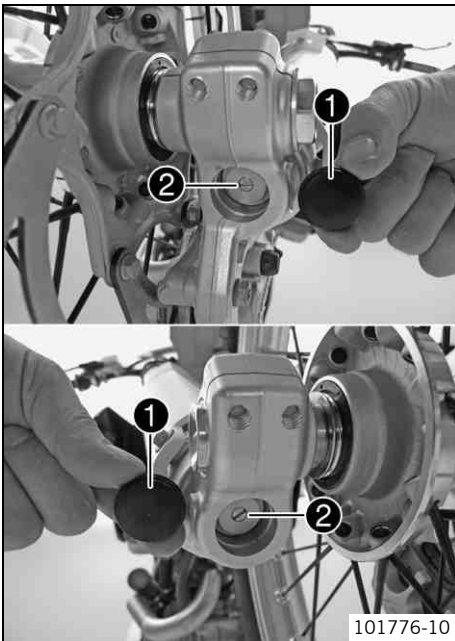
- Turn back counterclockwise by the number of clicks corresponding to the fork type. Guideline

| Compression damping (250 SX-F EU) | |
|-----------------------------------|-----------|
| Comfort | 14 clicks |
| Standard | 12 clicks |
| Sport | 10 clicks |
| Compression damping (SX-F USA) | |
| Comfort | 14 clicks |
| Standard | 12 clicks |
| Sport | 10 clicks |
| Compression damping (XC-F) | |
| Comfort | 14 clicks |
| Standard | 12 clicks |
| Sport | 10 clicks |

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

10.13 Adjusting the rebound damping of the fork

i Info
The hydraulic rebound damping determines the fork suspension behavior.



- Remove protection caps ❶.
- Turn adjusting screws ❷ clockwise all the way.

i Info
Adjusting screws ❷ are located at the bottom end of the fork legs. Make the same adjustment on both fork legs.

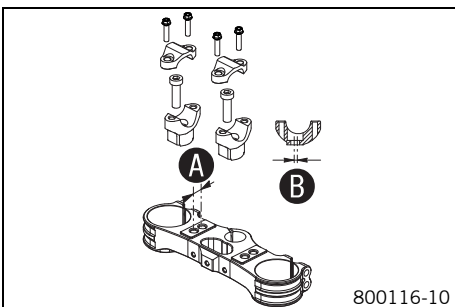
- Turn back counterclockwise by the number of clicks corresponding to the fork type. Guideline

| Rebound damping (250 SX-F EU) | |
|-------------------------------|-----------|
| Comfort | 14 clicks |
| Standard | 12 clicks |
| Sport | 10 clicks |
| Rebound damping (SX-F USA) | |
| Comfort | 14 clicks |
| Standard | 12 clicks |
| Sport | 10 clicks |
| Rebound damping (XC-F) | |
| Comfort | 14 clicks |
| Standard | 12 clicks |
| Sport | 10 clicks |

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

- Mount protection caps ❶.

10.14 Handlebar position



On the upper triple clamp, there are two holes at a distance of ❶ to each other.

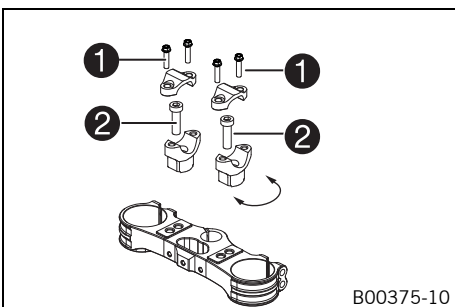
| | |
|-----------------|-----------------|
| Hole distance A | 15 mm (0.59 in) |
|-----------------|-----------------|

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

| | |
|-----------------|-------------------|
| Hole distance B | 3.5 mm (0.138 in) |
|-----------------|-------------------|

The handlebar can be mounted in four different positions. In this way, the handlebar can be mounted in the position that is most comfortable for the rider.

10.15 Adjusting the handlebar position



- Remove the four screws ❶. Remove the handlebar clamp. Remove the handlebar and lay it to one side.

i Info
Protect the motorcycle and its attachments against damage by covering them. Do not bend the cables and lines.

- Remove screws ❷. Remove the handlebar support.
- Place the handlebar support in the required position. Mount and tighten screws ❷.

Guideline

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



Info

Position the left and right handlebar supports evenly.

- Position the handlebar.



Info

Make sure cables and wiring are positioned correctly.

- Position the handlebar clamp. Mount and evenly tighten the four screws **1**.

Guideline

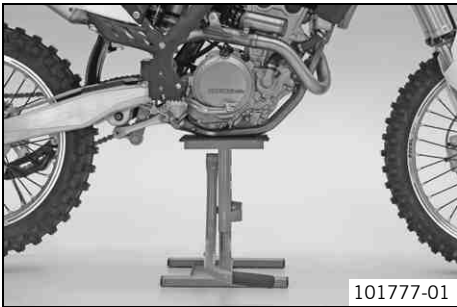
| | | |
|------------------------|----|------------------------|
| Screw, handlebar clamp | M8 | 20 Nm (14.8 lbf ft) |
|------------------------|----|------------------------|

11.1 Raising the motorcycle with the lift stand

Note

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

- Always place the vehicle on a firm and even surface.



- Raise the motorcycle at the frame underneath the engine.
 - ✓ The wheels must no longer touch the ground.
- Secure the motorcycle against falling over.

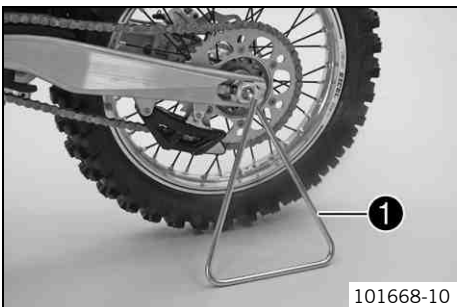
Lift stand (54829055000)

11.2 Removing the motorcycle from the lift stand

Note

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

- Always place the vehicle on a firm and even surface.

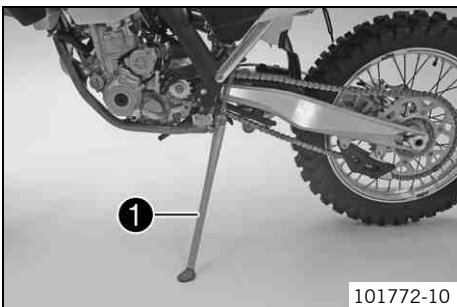


(All SX-F models)

- 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.

i Info

Remove the plug-in stand before starting on a trip.



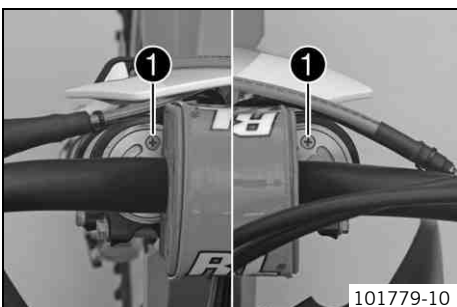
(XC-F)

- 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.

i Info

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

11.3 Bleeding the fork legs



Preparatory work

- Raise the motorcycle with the lift stand. (☛ p. 34)

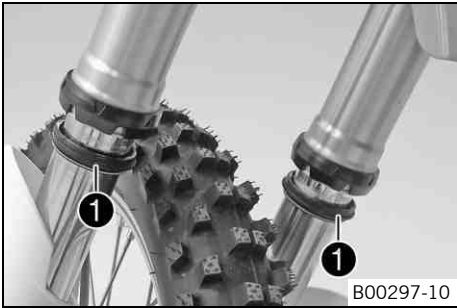
Main work

- Remove bleeder screws ❶ briefly.
 - ✓ Any excess pressure escapes from the interior of the fork.
- Mount and tighten bleeder screws.

Finishing work

- Remove the motorcycle from the lift stand. (☛ p. 34)

11.4 Cleaning the dust boots of the fork legs



Preparatory work

- Raise the motorcycle with the lift stand. (☞ p. 34)
- Loosen the fork protection. (☞ p. 35)

Main work

- Push dust boots ❶ of both fork legs downwards.

Info

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

Warning

Danger of accidents Reduced braking efficiency due to oil or grease on the brake discs.

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

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

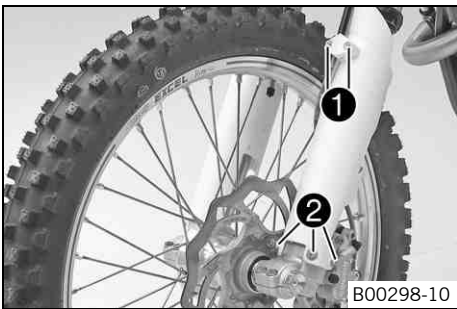
| |
|-------------------------------|
| Universal oil spray (☞ p. 97) |
|-------------------------------|

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

Finishing work

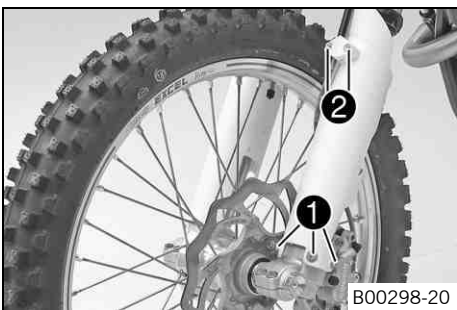
- Position the fork protection. (☞ p. 35)
- Remove the motorcycle from the lift stand. (☞ p. 34)

11.5 Loosening the fork protection



- Remove screws ❶ and take off the clamp.
- Remove screws ❷ on the left fork leg. Push the fork protection downwards.
- Remove the screws on the right fork leg. Push the fork protection downwards.

11.6 Positioning the fork protection



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

Guideline

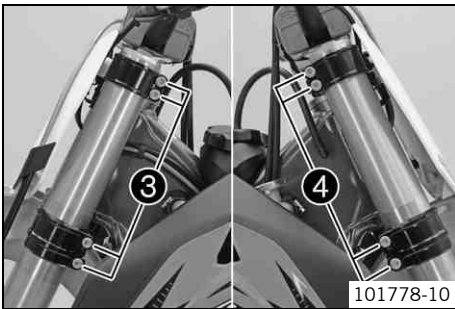
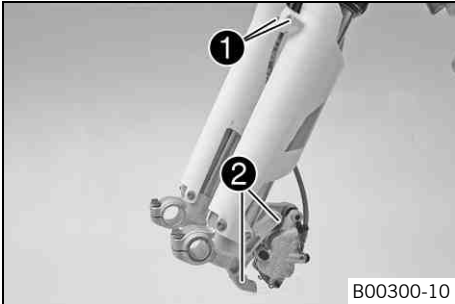
| | | |
|---------------------------|----|--------------------|
| Remaining screws, chassis | M6 | 10 Nm (7.4 lbf ft) |
|---------------------------|----|--------------------|

- Position the brake line and clamp. Mount and tighten screws ❷.
- Position the fork protection on the right fork leg. Mount and tighten the screws.

Guideline

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

11.7 Removing the fork legs



Preparatory work

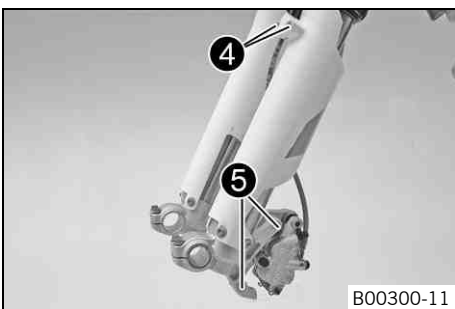
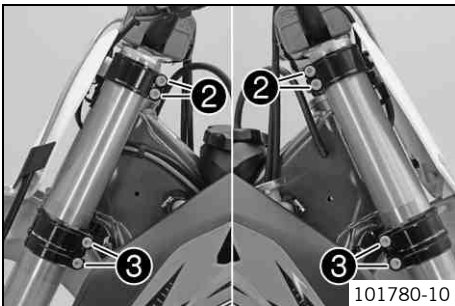
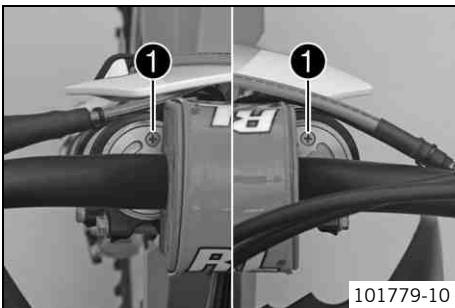
- Raise the motorcycle with the lift stand. (☞ p. 34)
- Remove the front wheel. (☞ p. 65)

Main work

- Remove screws 1 and take off the clamp.
- Remove screws 2 and take off the brake caliper.
- Allow the brake caliper and brake line to hang tension-free to the side.

- Loosen screws 3. Take out the left fork leg.
- Unscrew screws 4. Take out the right fork leg.

11.8 Installing the fork legs



Main work

- Position the fork legs.



Info

Grooves are milled into the side of the upper end of the fork legs. The second milled groove (from the top) must be flush with the top edge of the upper triple clamp. Position bleeder screws 1 toward the front.

- Tighten screws 2.

Guideline

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

- Tighten screws 3.

Guideline

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

- Position the brake caliper. Mount and tighten screws 5.

Guideline

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

- Position the brake line and clamp. Mount and tighten screws 4.

Finishing work

- Install the front wheel. (☞ p. 65)

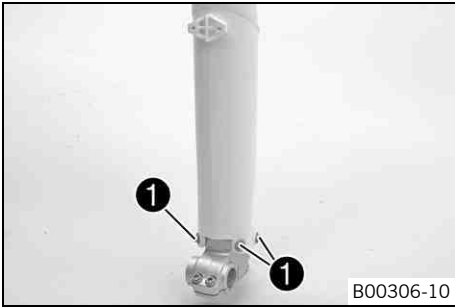
11.9 Removing the fork protector

Preparatory work

- Raise the motorcycle with the lift stand. (☞ p. 34)
- Remove the front wheel. (☞ p. 65)
- Remove the fork legs. (☞ p. 36)

Main work

- Remove screws ❶ on the left fork leg. Remove the fork protector from above.
- Remove the screws on the right fork leg. Remove the fork protector from above.



11.10 Installing the fork protector

Main work

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

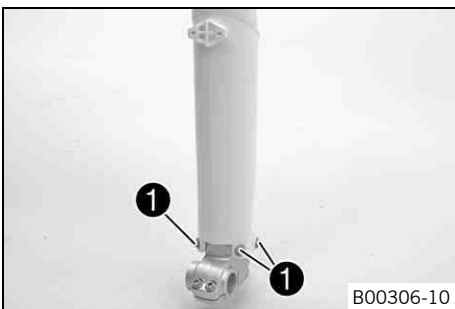
Guideline

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

- Position the fork protection on the right fork leg. Mount and tighten the screws.

Guideline

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



Finishing work

- Install the fork legs. (☞ p. 36)
- Install the front wheel. (☞ p. 65)

11.11 Removing the lower triple clamp

Preparatory work

- Raise the motorcycle with the lift stand. (☞ p. 34)
- Remove the front wheel. (☞ p. 65)
- Remove the fork legs. (☞ p. 36)
- Remove the start number plate. (☞ p. 41)
- Remove the front fender. (☞ p. 41)
- Remove the handlebar cushion.

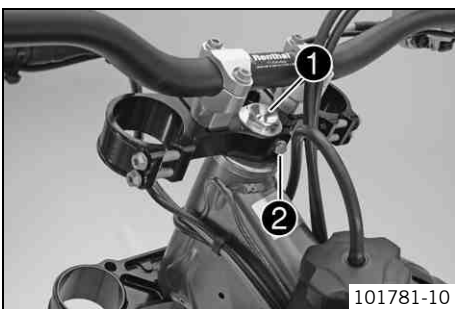
Main work

- Remove screw ❶.
- Remove screw ❷.
- Take off the top triple clamp with the handlebar and set it aside.



Info

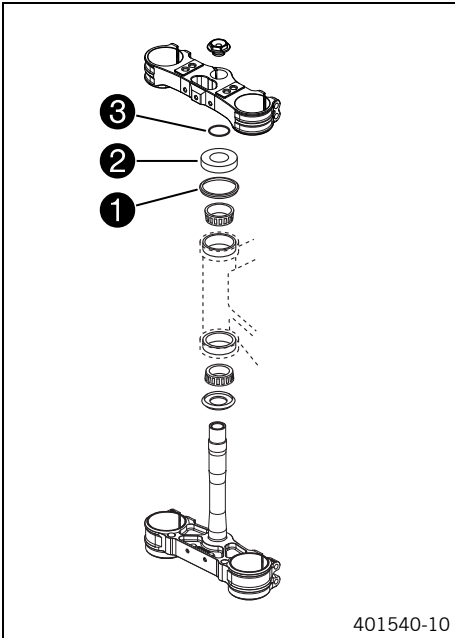
Protect the motorcycle and its attachments against damage by covering them.
Do not bend the cables and lines.



- Remove O-ring ❸. Remove protective ring ❹.
- Take out the lower triple clamp with the steering stem.
- Take out the upper steering head bearing.



11.12 Installing the lower triple clamp

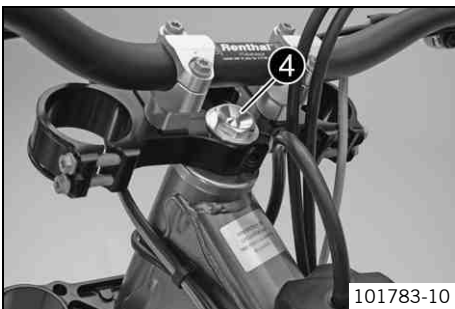


Main work

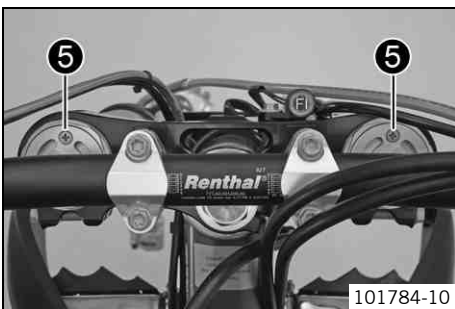
- Clean the bearing and sealing elements, check for damage, and grease.

High viscosity grease (☛ p. 96)

- Insert the lower triple clamp with the steering stem. Mount the upper steering head bearing.
- Check whether the top steering head seal ① is correctly positioned.
- Slide on protective ring ② and O-ring ③.



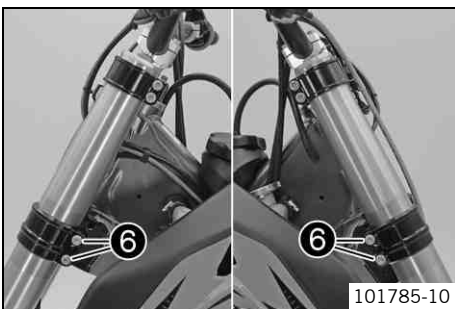
- Position the upper triple clamp with the steering.
- Mount screw ④ but do not tighten yet.



- Position the fork legs.

Info

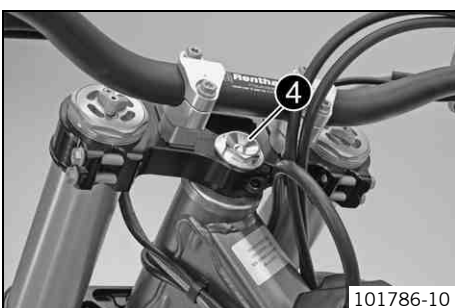
Grooves are milled into the side of the upper end of the fork legs. The second milled groove (from the top) must be flush with the top edge of the upper triple clamp. Position bleeder screws ⑤ toward the front.



- Fully tighten screws ⑥.

Guideline

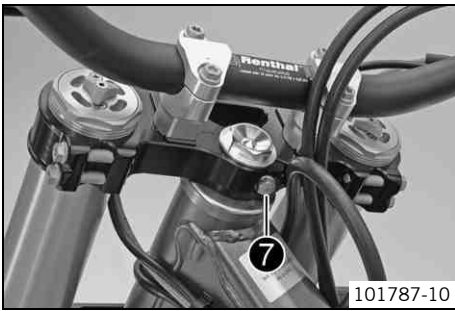
| | | |
|----------------------------|----|--------------------|
| Screw, bottom triple clamp | M8 | 12 Nm (8.9 lbf ft) |
|----------------------------|----|--------------------|



- Tighten screw ④.

Guideline

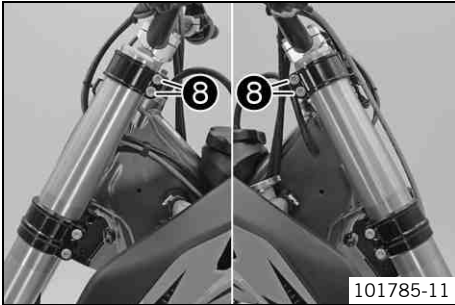
| | | |
|--------------------------|---------|--------------------|
| Screw, top steering head | M20x1.5 | 12 Nm (8.9 lbf ft) |
|--------------------------|---------|--------------------|



- Mount and tighten screw 7.

Guideline

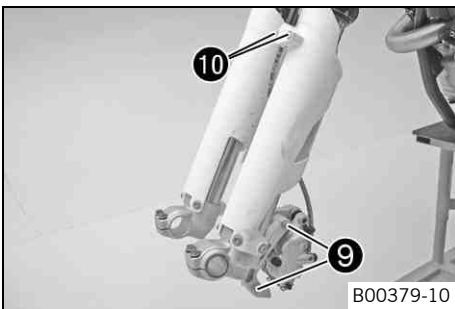
| | | | |
|--------------------------|----|------------------------|---------------|
| Screw, top steering stem | M8 | 17 Nm (12.5 lbf ft) | Loctite® 243™ |
|--------------------------|----|------------------------|---------------|



- Fully tighten screws 8.

Guideline

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



- Position the brake caliper. Mount and tighten screws 9.

Guideline

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

- Position the brake line and clamp. Mount and tighten screws 10.

Finishing work

- Install the front fender. (☛ p. 42)
- Mount the handlebar cushion.
- Install the start number plate. (☛ p. 41)
- Install the front wheel. ☛ (☛ p. 65)
- Check that the wiring harness, cables, and brake and clutch lines can move freely and are routed correctly.
- Check the steering head bearing play. (☛ p. 39)
- Remove the motorcycle from the lift stand. (☛ p. 34)

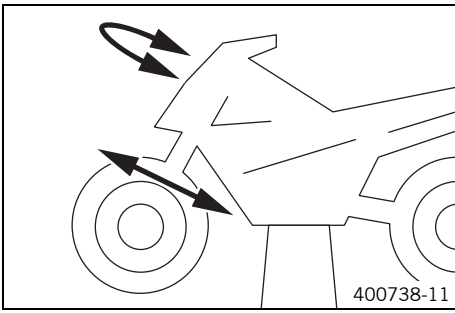
11.13 Checking the steering head bearing play

Warning
Danger of accidents Unstable vehicle handling from incorrect steering head bearing play.
 - Adjust the steering head bearing play without delay. (Your authorized KTM workshop will be glad to help.)

Info
 If the bike is ridden with play in the steering head bearing, the bearing and the bearing seats in the frame can become damaged over time.

Preparatory work

- Raise the motorcycle with the lift stand. (☛ p. 34)



Main work

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

No play should be noticeable in the steering head bearing.

- » If there is noticeable play present:
 - Adjust the play of the steering head bearing. 🛠️ (☞ p. 40)
- Move the handlebar to and fro over the entire steering range.

The handlebar must be able to move easily over the entire steering range. No resting locations should be noticeable.

- » If click positions are noticeable:
 - Adjust the play of the steering head bearing. 🛠️ (☞ p. 40)
 - Check the steering head bearing and change if necessary.

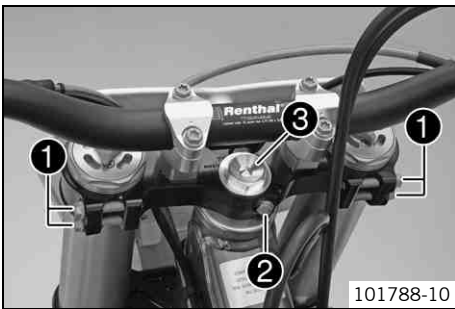
Finishing work

- Remove the motorcycle from the lift stand. (☞ p. 34)

11.14 Adjusting the play of the steering head bearing 🛠️

Preparatory work

- Raise the motorcycle with the lift stand. (☞ p. 34)
- Remove the handlebar cushion.



Main work

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

Guideline

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

- Using a plastic hammer, tap lightly on the upper triple clamp to avoid strains.
- Fully tighten screws ❶.

Guideline

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

- Mount and tighten screw ❷.

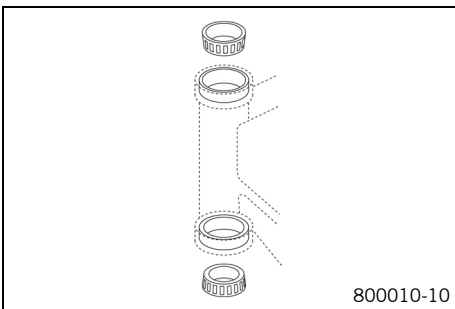
Guideline

| | | | |
|--------------------------|----|---------------------|----------------------|
| Screw, top steering stem | M8 | 17 Nm (12.5 lbf ft) | Loctite® 243™ |
|--------------------------|----|---------------------|----------------------|

Finishing work

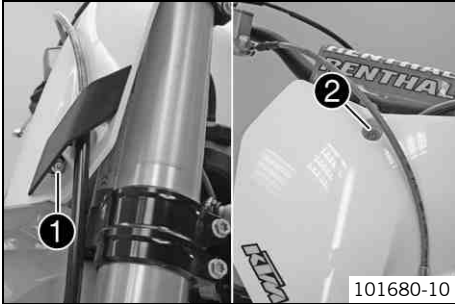
- Check the steering head bearing play. (☞ p. 39)
- Remove the motorcycle from the lift stand. (☞ p. 34)
- Mount the handlebar cushion.

11.15 Greasing the steering head bearing 🛠️



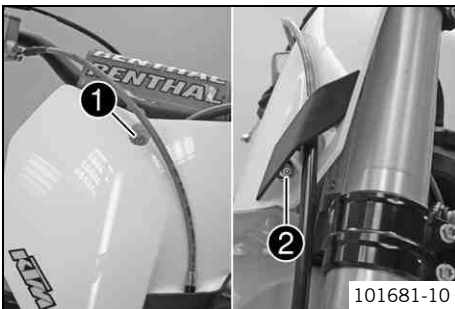
- Remove the lower triple clamp. 🛠️ (☞ p. 37)
- Install the lower triple clamp. 🛠️ (☞ p. 38)

11.16 Removing the start number plate



- Remove screw ❶ and take off the clamp.
- Remove screw ❷. Take off the start number plate.

11.17 Installing the start number plate



- Position the start number plate. Mount and tighten screw ❶.

Guideline

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

i Info
Make sure that the holding lugs engage in the fender.

- Position the brake line and clamp. Mount and tighten screw ❷.

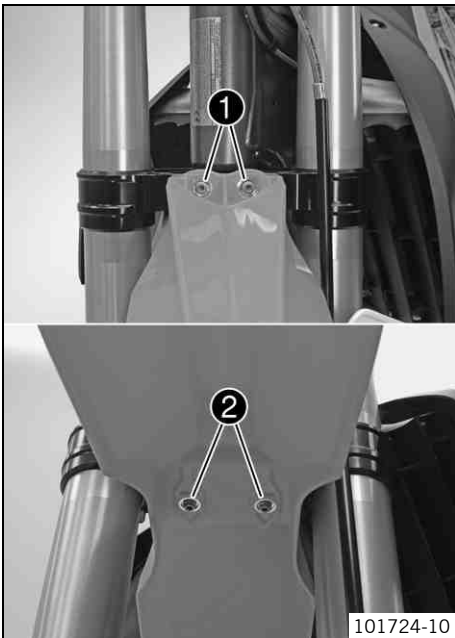
11.18 Removing the front fender

Preparatory work

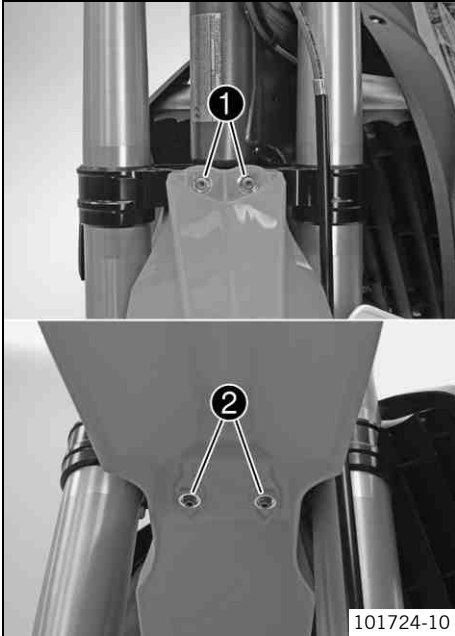
- Remove the start number plate. (➔ p. 41)

Main work

- Remove screws ❶ and ❷. Remove the front fender.



11.19 Installing the front fender



Main work

- Ensure that the spacers are mounted in the fender.
- Position the front fender. Mount and tighten screws ❶ and ❷.

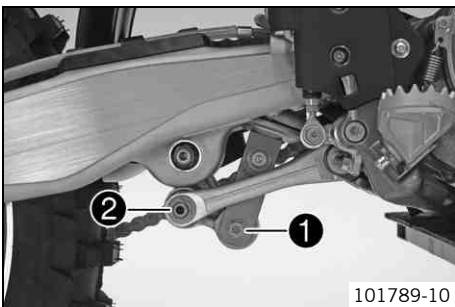
Guideline

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

Finishing work

- Install the start number plate. (☛ p. 41)

11.20 Removing the shock absorber

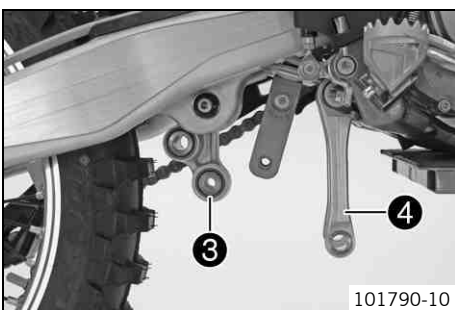


Preparatory work

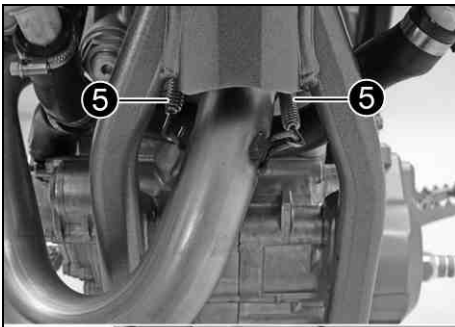
- Raise the motorcycle with the lift stand. (☛ p. 34)

Main work

- Remove screw ❶.
- Remove screw cap ❷.



- Press angle lever ❸ toward the rear.
- Press linkage lever ❹ downward.

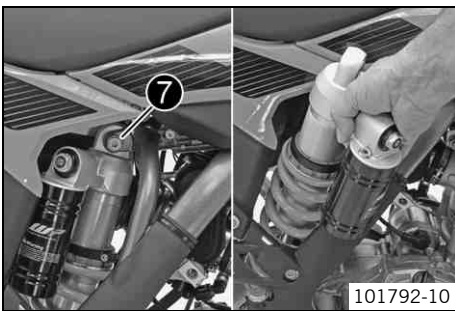


- Detach springs ⑤.

Spring hooks (50305017000)

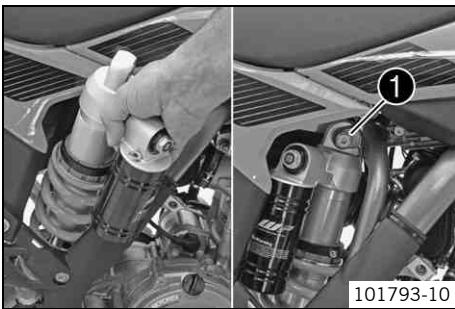


- Remove screw ⑥.
- Press the shock absorber toward the rear and remove the manifold.



- Remove screw ⑦.
- Remove the shock absorber from the top.

11.21 Installing the shock absorber ↩

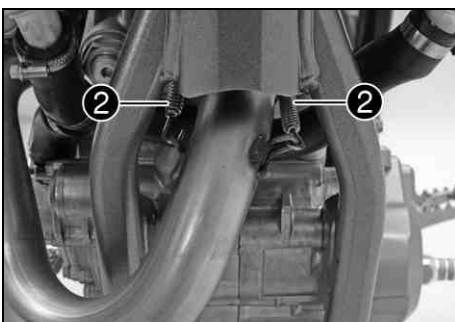


Main work

- Insert the shock absorber from above.
- Position the shock absorber.
- Mount and tighten screw ①.

Guideline

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



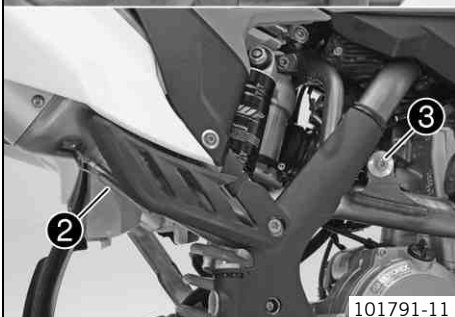
- Position the manifold.
- Attach springs ②.

Spring hooks (50305017000)

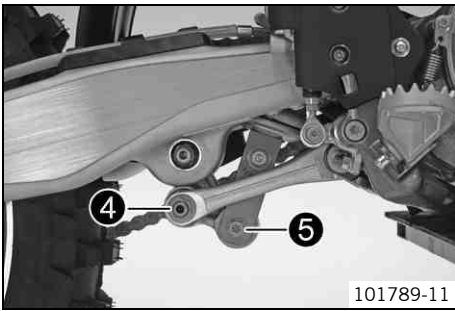
- Mount and tighten screw ③.

Guideline

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



101791-11



- Position the angle lever and linkage lever.

- Mount and tighten fitting 4.

Guideline

| | | |
|-----------------------------------|---------|-------------------|
| Nut, linkage lever to angle lever | M14x1.5 | 80 Nm (59 lbf ft) |
|-----------------------------------|---------|-------------------|

- Mount and tighten screw 5.

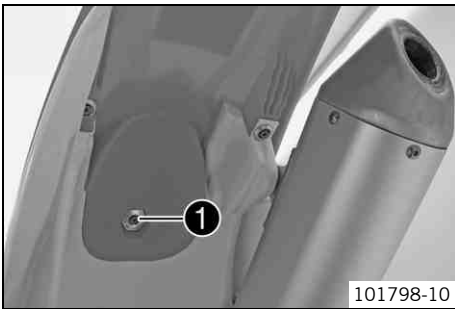
Guideline

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

Finishing work

- Remove the motorcycle from the lift stand. (👉 p. 34)

11.22 Removing the seat



- Remove screw 1.

- Lift up the seat at the rear, pull it back and then remove it from above.

11.23 Mounting the seat



- Hook in the front of the seat at the collar bushing of the fuel tank, lower it at the rear and simultaneously it push forward.

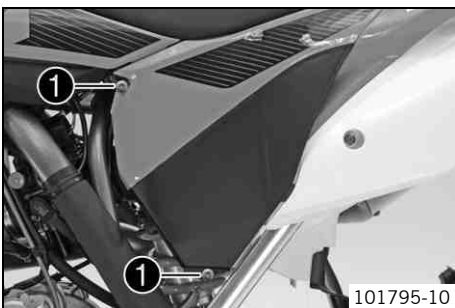
- Make sure that the seat is correctly locked in.

- Mount and tighten the screw of the seat fixation.

Guideline

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

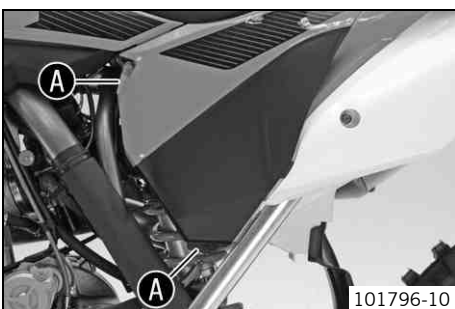
11.24 Removing the air filter box lid



Condition

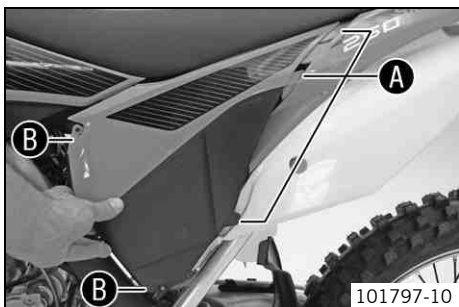
The air filter box lid is secured.

- Remove screws 1.

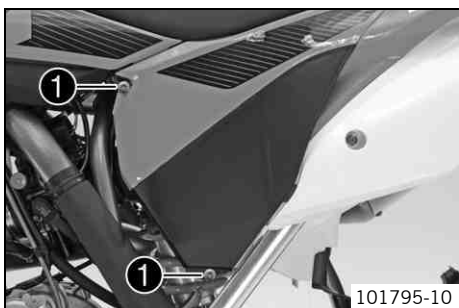


- Pull off the air filter box lid in area A sideways and remove it toward the front.

11.25 Installing the air filter box lid



- Insert the air filter box lid into rear area **A** and clip it into front area **B**.



Condition

The air filter box lid is secured.

- Mount and tighten screws **1**.

Guideline

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

| | | |
|----------------------------|--|--|
| EJOT PT screw (0017060204) | | |
|----------------------------|--|--|

11.26 Removing the air filter

Note

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

- Never ride the vehicle without an air filter since dust and dirt can get into the engine and result in increased wear.



Warning

Environmental hazard Hazardous substances cause environmental damage.

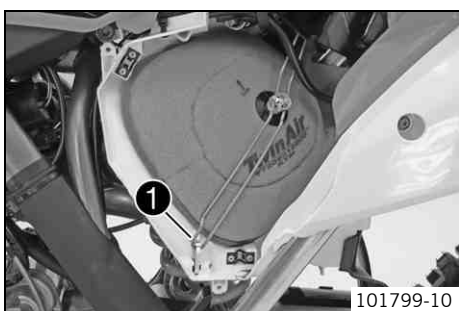
- Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

Preparatory work

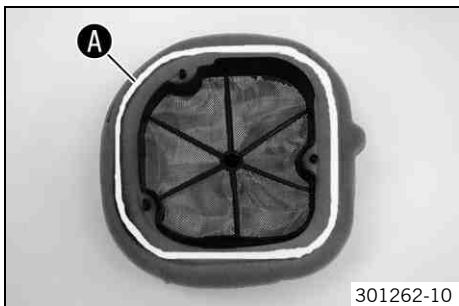
- Remove the air filter box lid. (☛ p. 44)

Main work

- Detach air filter holder **1** at the bottom and swing it to one side. Remove the air filter with the air filter support.
- Remove the air filter from the air filter support.



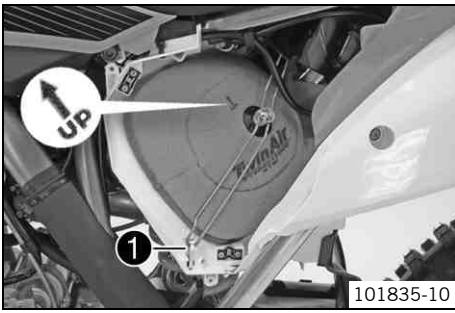
11.27 Installing the air filter



Main work

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

| |
|----------------------------|
| Long-life grease (☛ p. 96) |
|----------------------------|



- Insert both parts together, position them, and fasten them using air filter holder ❶.
- ✓ The arrow of marking **UP** faces up.



Info

If the air filter is not correctly mounted, dust and dirt can enter the engine and cause damage.

Finishing work

- Install the air filter box lid. (☞ p. 45)

11.28 Cleaning the air filter and air filter box 🛠️



Warning

Environmental hazard Hazardous substances cause environmental damage.

- Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in 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 lid. (☞ p. 44)
- Remove the air filter. 🛠️ (☞ p. 45)

Main work

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

| |
|------------------------------|
| Air filter cleaner (☞ p. 96) |
|------------------------------|



Info

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

- Oil the dry air filter with a high quality filter oil.

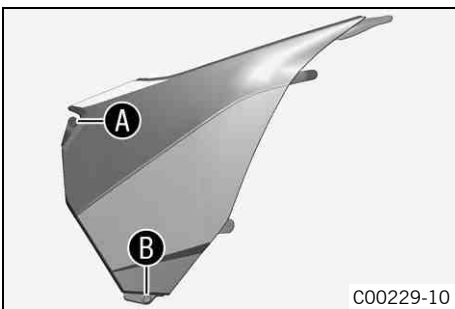
| |
|-----------------------------------|
| Oil for foam air filter (☞ p. 97) |
|-----------------------------------|

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

Finishing work

- Install the air filter. 🛠️ (☞ p. 45)
- Install the air filter box lid. (☞ p. 45)

11.29 Securing the air filter box lid 🛠️



Preparatory work

- Remove the air filter box lid. (☞ p. 44)

Main work

- Drill a hole at markings **A** and **B**.

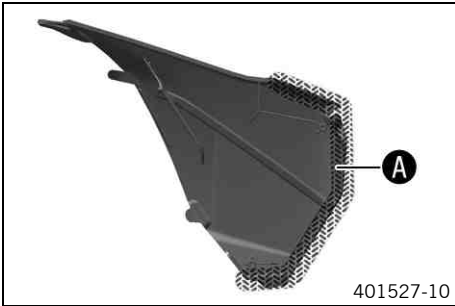
Guideline

| | |
|----------|----------------|
| Diameter | 6 mm (0.24 in) |
|----------|----------------|

Finishing work

- Install the air filter box lid. (☞ p. 45)

11.30 Sealing the air filter box



- Seal the air filter box in the marked area **A**.

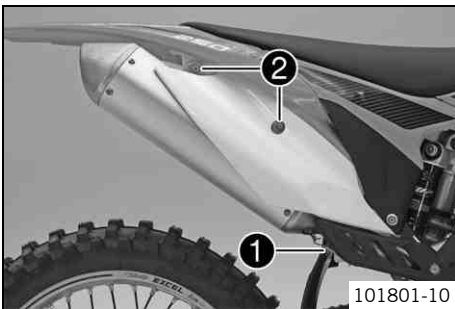
11.31 Removing the main silencer



Warning

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

- Allow the exhaust system to cool down. Do not touch hot components.

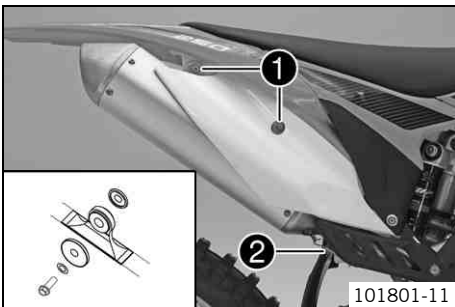


- Disconnect spring **1**.

| |
|----------------------------|
| Spring hooks (50305017000) |
|----------------------------|

- Remove screws **2** and take off the main silencer.

11.32 Installing the main silencer



- Position the main silencer. Mount and tighten screws **1**.

Guideline

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

- Reconnect spring **2**.

| |
|----------------------------|
| Spring hooks (50305017000) |
|----------------------------|

11.33 Changing the glass fiber yarn filling of the main silencer



Warning

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

- Allow the exhaust system to cool down. Do not touch hot components.

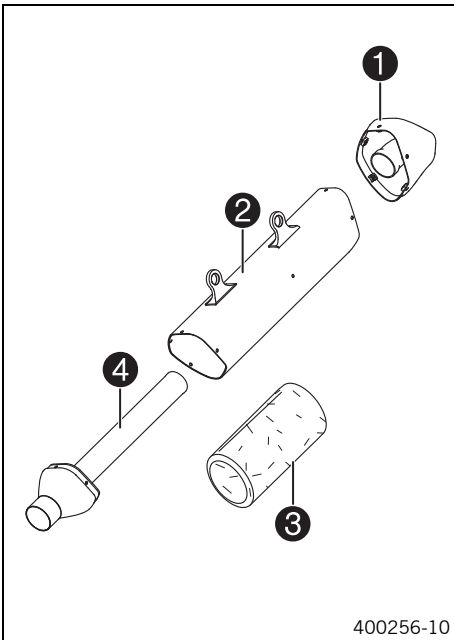


Info

Over time, the fibers of the glass fiber yarn escape and the damper "burns" out. Not only is the noise level higher, the performance characteristic changes.

Preparatory work

- Remove the main silencer. (☛ p. 47)



Main work

- Remove all screws from the main silencer. Take off protection cap ① and outer tube ②.
- Pull the glass fiber yarn filling ③ from inner tube ④.
- Clean the parts that are to be reinstalled.
- Mount the new glass fiber yarn filling ③ on the inner tube.
- Slide outer tube ② over the glass fiber yarn filling.
- Insert protection cap ① into the outer tube.
- Mount and tighten all screws.

Finishing work

- Install the main silencer. (☛ p. 47)

11.34 Removing the fuel tank ☛



Danger

Fire hazard Fuel is highly flammable.

- Never refuel the vehicle near open flames or burning cigarettes, and always switch off the engine first. Be careful that no fuel is spilt, especially on hot vehicle components. Clean up spilt fuel immediately.
- Fuel in the fuel tank expands when warm and can escape if the tank is overfilled. See the notes on refueling.



Warning

Danger of poisoning Fuel is poisonous and a health hazard.

- Avoid contact between fuel and skin, eyes and clothing. Do not inhale fuel vapors. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If fuel is swallowed, contact a doctor immediately. Change clothing that has come into contact with fuel. Store fuel in a suitable canister according to regulations and keep it out of the reach of children.

Preparatory work

- Remove the seat. (☛ p. 44)

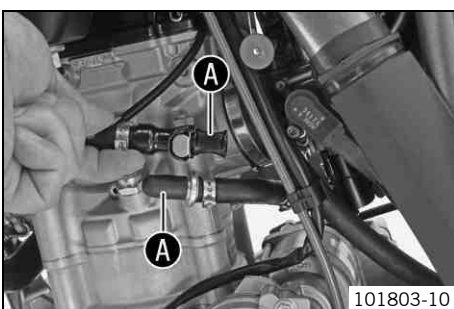
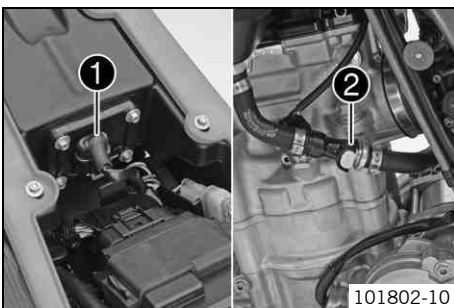
Main work

- Disconnect electric plug-in connection ① of the fuel pump.
- Thoroughly clean plug-in connection ② of the fuel line using compressed air.



Info

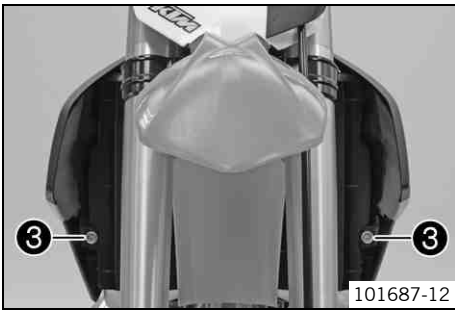
Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line clogs the injection valve.



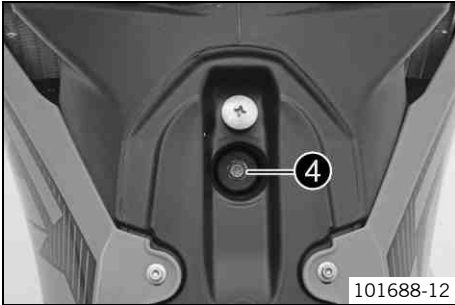
- Disconnect the plug-in connection of the fuel line.
- Mount wash cap set A.

Wash cap set (81212016000)

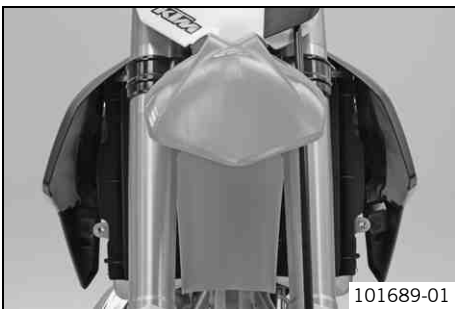
- Remove the tube from the fuel tank breather.



- Remove screws ③ with the collar bushing.



- Remove screw ④ with the rubber bushing.



- Pull both spoilers off of the sides of the radiator bracket and lift off the fuel tank.

11.35 Installing the fuel tank



Danger

Fire hazard Fuel is highly flammable.

- Never refuel the vehicle near open flames or burning cigarettes, and always switch off the engine first. Be careful that no fuel is spilt, especially on hot vehicle components. Clean up spilt fuel immediately.
- Fuel in the fuel tank expands when warm and can escape if the tank is overfilled. See the notes on refueling.



Warning

Danger of poisoning Fuel is poisonous and a health hazard.

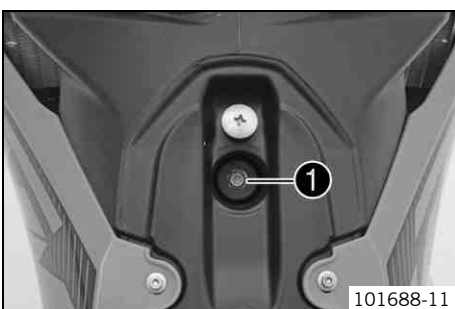
- Avoid contact of the fuel with skin, eyes and clothing. Do not inhale fuel vapors. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If fuel is swallowed, contact a doctor immediately. Change clothing that has come into contact with fuel.

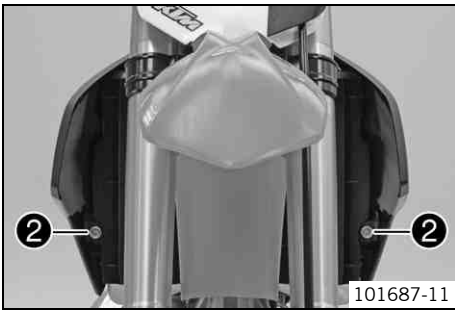
Main work

- Check the throttle cable routing. (☛ p. 54)
- Position the fuel tank and fit the two spoilers to the sides of the radiator bracket.
- Make sure that no cables are trapped or damaged.
- Mount the fuel tank breather.
- Mount and tighten screw ① with the rubber bushing.

Guideline

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

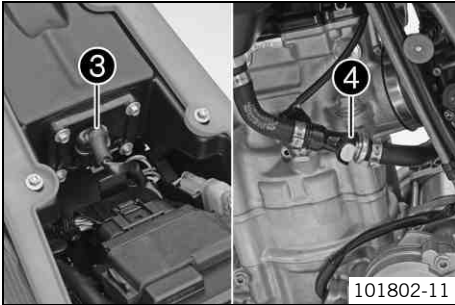




- Mount and tighten screws 2 with the collar bushing.

Guideline

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



- Connect the electrical plug-in connection 3.
- Thoroughly clean the plug-in connection of the fuel line using compressed air.



Info

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

- Remove the wash cap set. Lubricate the O-ring and connect plug-in connection 4 of the fuel line.



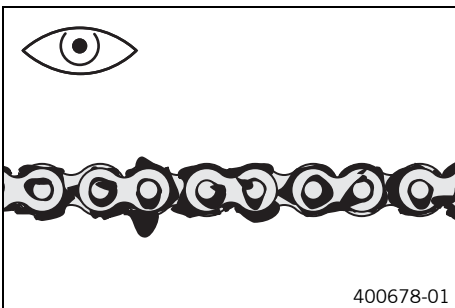
Info

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

Finishing work

- Mount the seat. (☛ p. 44)

11.36 Checking for chain dirt accumulation



- Check the chain for coarse dirt accumulation.
 - » If the chain is very dirty:
 - Clean the chain. (☛ p. 50)

11.37 Cleaning the chain



Warning

Danger of accidents Oil or grease on the tires reduces their grip.

- Remove oil and grease with a suitable cleaning material.



Warning

Danger of accidents Reduced braking efficiency due to oil or grease on the brake discs.

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



Warning

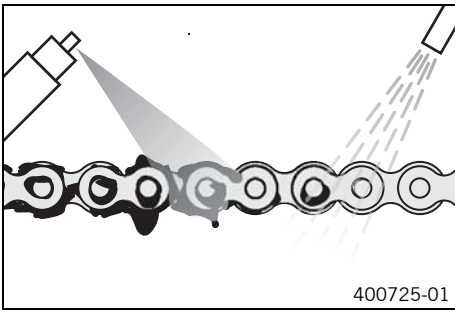
Environmental hazard Hazardous substances cause environmental damage.

- Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.



Info

The service life of the chain depends largely on its maintenance.



- Clean the chain regularly and then treat with chain spray.

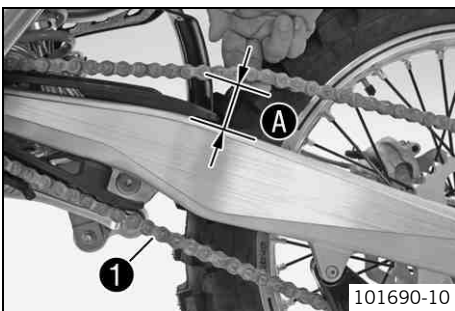
| |
|-------------------------|
| Chain cleaner (☛ p. 96) |
|-------------------------|

| |
|--------------------------------|
| Off-road chain spray (☛ p. 96) |
|--------------------------------|

11.38 Checking the chain tension

Warning
Danger of accidents Danger caused by incorrect chain tension.

- If the chain tension is too high, the components of the secondary power train (chain, engine sprocket, rear sprocket, bearings in transmission and rear wheel) are under additional load. Apart from premature wear, in extreme cases the chain can rupture or the countershaft of the transmission can break. On the other hand, if the chain is loose, it can fall off the engine sprocket or the rear sprocket and block the rear wheel or damage the engine. Check the chain tension and correct if necessary.



Preparatory work

- Raise the motorcycle with the lift stand. (☛ p. 34)

Main work

- Push the chain at the end of the chain sliding component upwards to measure the chain tension **A**.

i Info
 The lower chain section **1** must be taut.
 Chain wear is not always even, so you should repeat this measurement at different chain positions.

| | |
|---------------|-------------------------------|
| Chain tension | 55... 58 mm (2.17... 2.28 in) |
|---------------|-------------------------------|

- » If the chain tension does not meet specifications:
 - Adjust the chain tension. (☛ p. 51)

Finishing work

- Remove the motorcycle from the lift stand. (☛ p. 34)

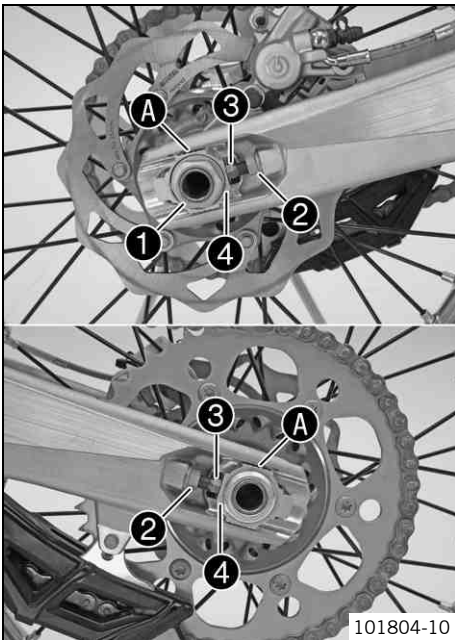
11.39 Adjusting the chain tension

Warning
Danger of accidents Danger caused by incorrect chain tension.

- If the chain tension is too high, the components of the secondary power train (chain, engine sprocket, rear sprocket, bearings in transmission and rear wheel) are under additional load. Apart from premature wear, in extreme cases the chain can rupture or the countershaft of the transmission can break. On the other hand, if the chain is loose, it can fall off the engine sprocket or the rear sprocket and block the rear wheel or damage the engine. Check the chain tension and correct if necessary.

Preparatory work

- Raise the motorcycle with the lift stand. (☛ p. 34)
- Check the chain tension. (☛ p. 51)



Main work

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

Guideline

| | | |
|--|-------------------------------|--|
| Chain tension | 55... 58 mm (2.17... 2.28 in) | |
| Turn adjusting screws ③ on the left and right so that the markings on the left and right chain adjusters are in the same position relative to the reference marks A. The rear wheel is then correctly aligned. | | |

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

Guideline

| | | |
|-------------------------|---------|-------------------|
| Nut, rear wheel spindle | M25x1.5 | 80 Nm (59 lbf ft) |
|-------------------------|---------|-------------------|



Info

The wide adjustment range of the chain adjusters (32 mm (1.18 in)) enables different secondary ratios with the same chain length. Chain adjusters ④ can be turned by 180°.

Finishing work

- Remove the motorcycle from the lift stand. (☛ p. 34)

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

Preparatory work

- Raise the motorcycle with the lift stand. (☛ p. 34)

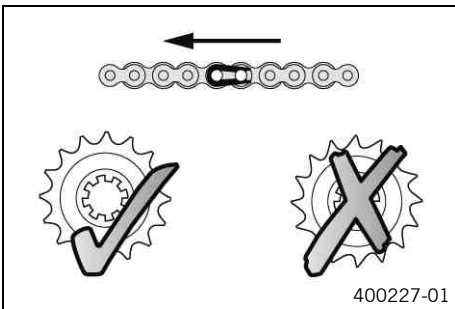
Main work

- Shift gear to neutral.
- Check the rear sprocket and engine sprocket for wear.
 - » If the rear sprocket and engine sprocket are worn:
 - Replace the rear sprocket or engine sprocket. ☛

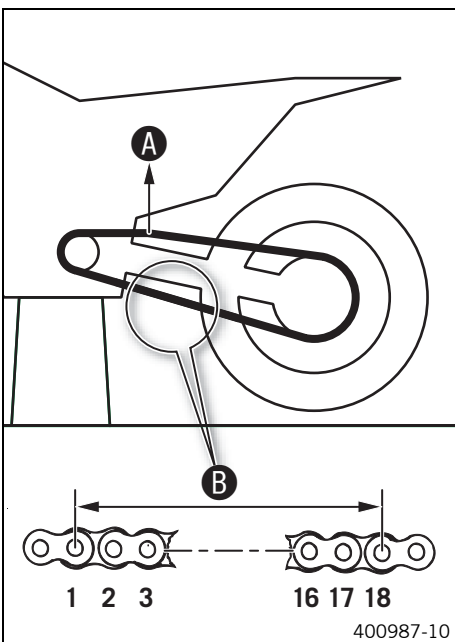


Info

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



400227-01



400987-10

- Pull on the upper part of the chain with the specified weight A.

Guideline

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

- Measure the distance B of 18 chain links in the lower chain section.



Info

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

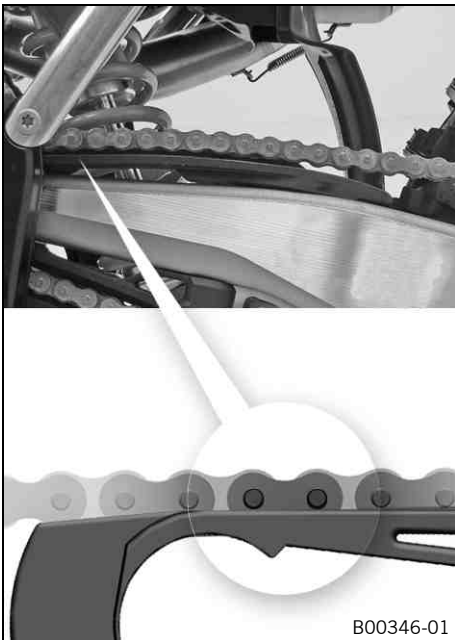
| | |
|---|-------------------|
| Maximum distance B at the longest chain section | 272 mm (10.71 in) |
|---|-------------------|

- » If the distance B is greater than the specified measurement:
 - Replace the chain. ☛



Info

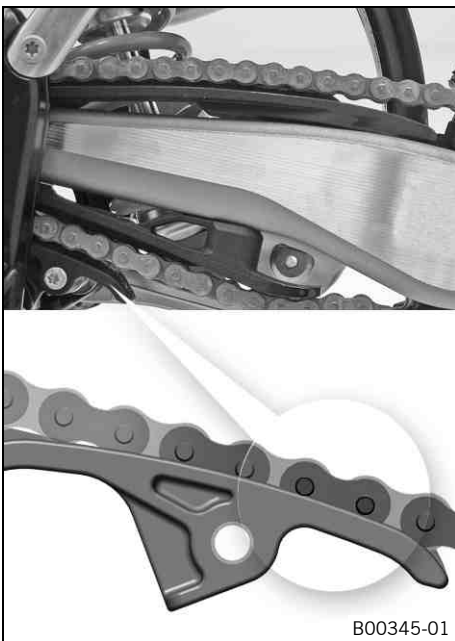
When the chain is replaced, the rear sprocket and engine sprocket should also be changed. New chains wear out faster on old, worn sprockets.



- Check the chain sliding guard for wear.
 - » If the bottom edge of the chain bolt 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 the chain sliding guard.

Guideline

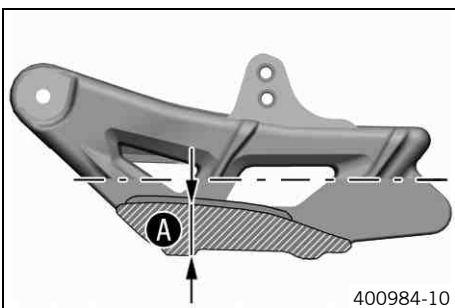
| | | | |
|----------------------------|----|----------------------|----------------------|
| Screw, chain sliding guard | M6 | 6 Nm (4.4 lbf ft) | Loctite® 243™ |
|----------------------------|----|----------------------|----------------------|



- Check the chain sliding piece for wear.
 - » If the bottom edge of the chain bolt is in line with or below the chain sliding piece:
 - Change the chain sliding piece. 🛠️
- Check that the chain sliding piece is firmly seated.
 - » If the chain sliding piece is loose:
 - Tighten the chain sliding piece.

Guideline

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



- Measure material thickness **A** at the bottom of the chain guide.

| | |
|---|-----------------|
| Minimum distance A at the lowest point | 12 mm (0.47 in) |
|---|-----------------|

- » If distance **A** is less than the specified measurement:
 - Change the chain guide. 🛠️



- Check that the chain guide is firmly seated.
 - » If the chain guide is loose:
 - Tighten the chain guide.

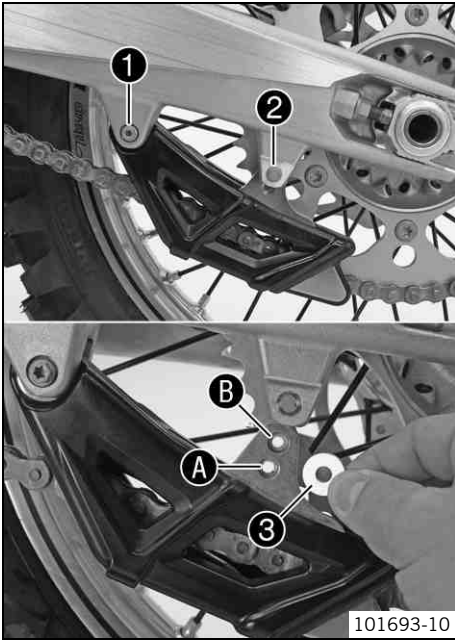
Guideline

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

Finishing work

- Remove the motorcycle from the lift stand. (👉 p. 34)

11.41 Adjusting the chain guide



101693-10

- Loosen screw ❶. Remove screw ❷. Swing the chain guide down.

Condition

Number of teeth: ≤ 44 teeth

- Insert collar bushing ❸ into drill hole ❶. Position the chain guide.
- Mount and tighten screw ❷. Tighten screw ❶.

Guideline

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

Condition

Number of teeth: ≥ 45 teeth

- Insert collar bushing ❸ into drill hole ❷. Position the chain guide.
- Mount and tighten screw ❷. Tighten screw ❶.

Guideline

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

11.42 Checking the frame



500284-01

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



Info

A frame that has been damaged due to a mechanical impact must always be changed. Repair of the frame is not authorized by KTM.

11.43 Checking the swingarm



500285-01

- Check the swingarm for damage, cracking, and deformation.
 - » If the swingarm shows signs of damage, cracking, or deformation:
 - Change the swingarm.



Info

A damaged swingarm must always be changed. Repair of the swingarm is not authorized by KTM.

11.44 Checking the throttle cable routing

Preparatory work

- Remove the seat. (☞ p. 44)
- Remove the fuel tank. (☞ p. 48)



Main work

- Check the throttle cable routing.

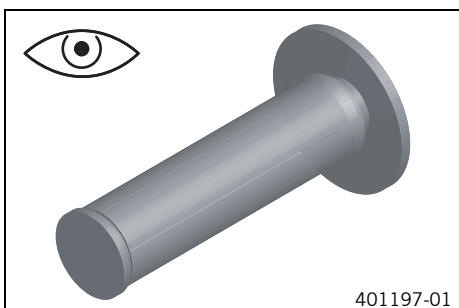
Both throttle cables must be routed to the throttle valve body side by side behind the handlebars and above the fuel tank bearing.

- » If the throttle cable is not routed as specified:
 - Correct the throttle cable routing.

Finishing work

- Install the fuel tank. (🔧 p. 49)
- Mount the seat. (🔧 p. 44)

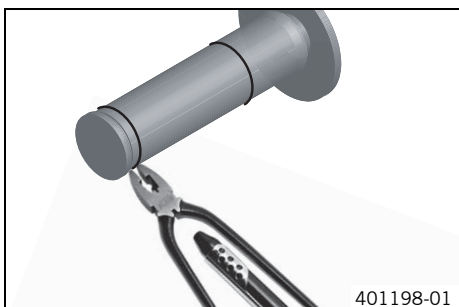
11.45 Checking the rubber grip



- Check the rubber grips on the handlebar for damage and wear and to ensure they are firmly seated.
 - » If a rubber grip is damaged, worn or loose:
 - Change and secure the rubber grip.

Rubber grip adhesive (00062030051) (🔧 p. 97)

11.46 Additionally securing the rubber grip



Preparatory work

- Check the rubber grip. (🔧 p. 55)

Main work

- Secure the rubber grip at two points using the securing wire.

Securing wire (54812016000)

Wire twister forceps (U6907854)

- ✓ The twisted wire ends face away from the hands and are bent toward the rubber grip.

11.47 Adjusting the basic position of the clutch lever



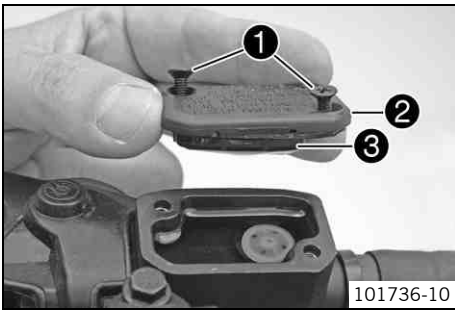
- Adjust the basic setting of the clutch lever to your hand size by turning adjusting screw ❶.

i 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!

11.48 Checking/rectifying the fluid level of the hydraulic clutch

i Info
The fluid level rises with increased wear of the clutch lining discs.



- Move the clutch fluid reservoir mounted on the handlebar to a horizontal position.
- Remove screws ①.
- Remove cover ② with membrane ③.
- 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. 94) |
|---------------------------------------|

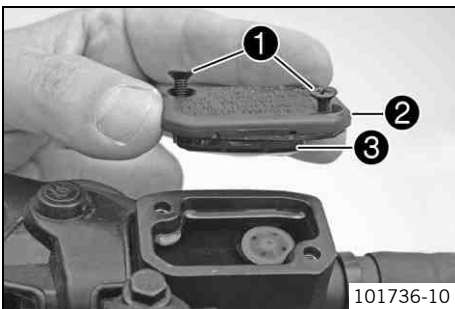
- Position the cover with the membrane. Mount and tighten the screws.

i Info
Clean up overflowed or spilt brake fluid immediately with water.

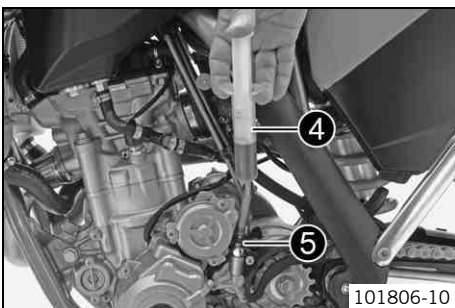
11.49 Changing the hydraulic clutch fluid ☞

Warning
Environmental hazard Hazardous substances cause environmental damage.

- Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

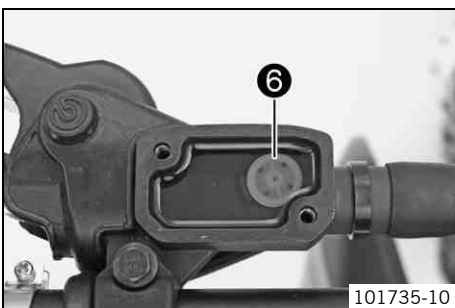


- Move the clutch fluid reservoir mounted on the handlebar to a horizontal position.
- Remove screws ①.
- Remove cover ② with membrane ③.



- Fill bleeding syringe ④ with the appropriate hydraulic fluid.
- Mount bleeding syringe ④ on bleeder screw ⑤ with a suitable hose piece.
- On the clutch slave cylinder, only release bleeder screw ⑤ to the point where filling is possible.

i Info
Wash off overflowing or spilled brake fluid immediately with water. Avoid contact between brake fluid and painted parts. Brake fluid attacks paint. Use only clean brake fluid from a sealed container.



- Inject the liquid into the system until it escapes from openings ⑥ of the master cylinder without bubbles.
- To prevent overflow, drain fluid occasionally from the master cylinder reservoir.
- Tighten the bleeder screw and remove the bleeding syringe with the hose.
- Correct the fluid level of the hydraulic clutch.

Guideline

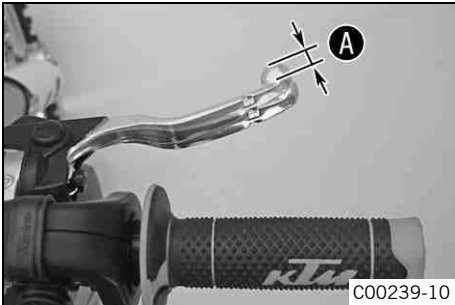
| | |
|---------------------------------|----------------|
| Fluid level below container rim | 4 mm (0.16 in) |
|---------------------------------|----------------|

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

12.1 Checking the free travel of the hand brake lever

Warning
Danger of accidents Brake system failure.

- If there is no free travel on the hand brake lever, pressure builds up on the front brake circuit. The front brake can fail due to overheating. Adjust the free travel on hand brake lever according to specifications.

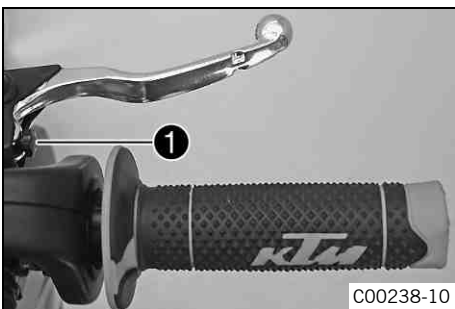


- Push the hand brake lever forward and check free travel **A**.

| | |
|---------------------------------|---|
| Free travel of hand brake lever | $\geq 3 \text{ mm } (\geq 0.12 \text{ in})$ |
|---------------------------------|---|

- » If the free travel does not meet specifications:
 - Adjust the basic position of the hand brake lever. (☛ p. 57)

12.2 Adjusting the basic position of the hand brake lever



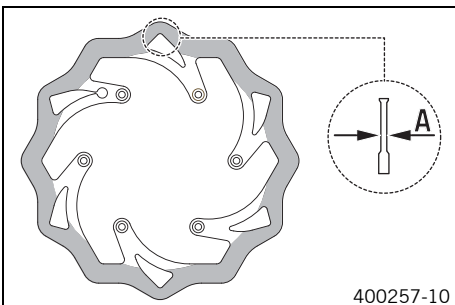
- Check the free travel of the hand brake lever. (☛ p. 57)
- Adjust the basic setting of the hand brake lever to your hand size by turning adjusting screw **1**.

i 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.
 Turn the adjusting screw by hand only, and do not apply any force.
 Do not make any adjustments while riding!

12.3 Checking the brake discs

Warning
Danger of accidents Reduced braking efficiency due to worn brake disc(s).

- Change the worn brake disc(s) without delay. (Your authorized KTM workshop will be glad to help.)



- Check the thickness of the front and rear brake discs at several places on the disk to see if it conforms to measurement **A**.

i Info
 Wear reduces the thickness of the brake disc around the area used by 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 brake disc.
- Check the front and rear brake discs for damage, cracking and deformation.
 - » If the brake disc shows signs of damage, cracking or deformation:
 - Change the brake disc.

12.4 Checking the front brake fluid level



Warning

Danger of accidents Failure of the brake system.

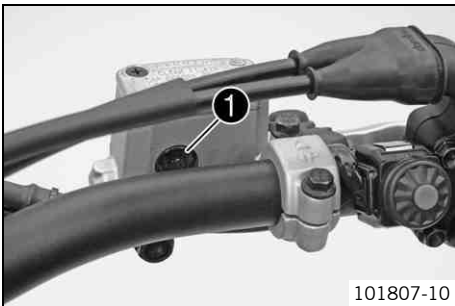
- If the brake fluid level falls below the **MIN** mark, this indicates a leakage in the brake system or worn-out brake linings. Check the brake system and do not continue riding. (Your authorized KTM workshop will be glad to help.)



Warning

Danger of accidents Reduced braking efficiency due to old brake fluid.

- Change the brake fluid of the front and rear brake according to the service schedule. (Your authorized KTM workshop will be glad to help.)



- Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
- Check the brake fluid level in the viewer ❶.
 - » When the brake fluid level drops below the **MIN** mark:
 - Add front brake fluid. 🛠️ (📄 p. 58)

12.5 Adding front brake fluid 🛠️



Warning

Danger of accidents Failure of the brake system.

- If the brake fluid level falls below the **MIN** mark, this indicates a leakage in the brake system or worn-out brake linings. Check the brake system and do not continue riding. (Your authorized KTM workshop will be glad to help.)



Warning

Skin irritation Brake fluid can cause skin irritation on contact.

- Avoid contact with skin and eyes, and keep out of the reach of children.
- Wear suitable protective clothing and goggles.
- If brake fluid comes into contact with the eyes, flush the eyes thoroughly with water and consult a physician immediately.



Warning

Danger of accidents Reduced braking efficiency due to old brake fluid.

- Change the brake fluid of the front and rear brake according to the service schedule. (Your authorized KTM workshop will be glad to help.)



Warning

Environmental hazard Hazardous substances cause environmental damage.

- Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

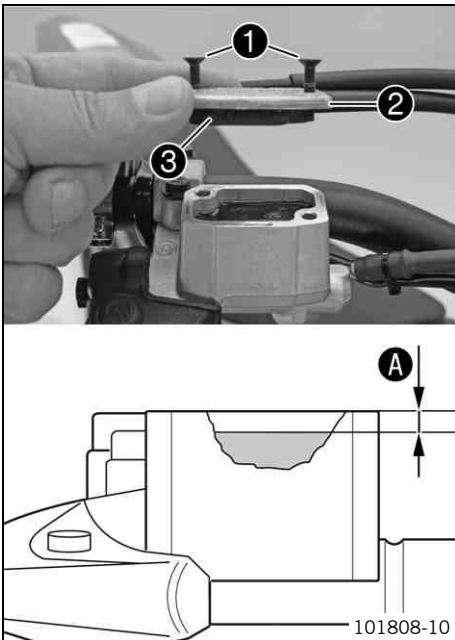


Info

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

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

Use only clean brake fluid from a sealed container.



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

Guideline

| | |
|---|---------------|
| Dimension A (brake fluid level below top edge of container) | 5 mm (0.2 in) |
|---|---------------|

| |
|---------------------------------------|
| Brake fluid DOT 4 / DOT 5.1 (☞ p. 94) |
|---------------------------------------|

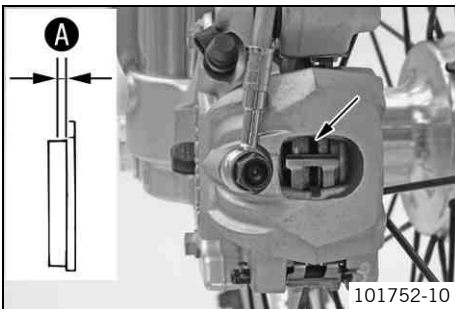
- Position the cover with the membrane. Mount and tighten the screws.

Info
Clean up overflowed or spilt brake fluid immediately with water.

12.6 Checking the front brake linings

Warning
Danger of accidents Reduced braking efficiency caused by worn brake linings.

- Change worn brake linings immediately. (Your authorized KTM workshop will be glad to help.)



- Check the brake linings for minimum thickness A.

| | |
|---------------------|--------------------|
| Minimum thickness A | ≥ 1 mm (≥ 0.04 in) |
|---------------------|--------------------|

- » If the minimum thickness is less than specified:
 - Change the front brake linings. ☞ (☞ p. 59)
- Check the brake linings for damage and cracking.
 - » If damage or cracking is visible:
 - Change the front brake linings. ☞ (☞ p. 59)

12.7 Changing the front brake linings ☞

Warning
Danger of accident Brake system failure.

- Maintenance work and repairs must be carried out professionally. (Your authorized KTM workshop will be glad to help.)

Warning
Skin irritation Brake fluid can cause skin irritation on contact.

- Avoid contact with skin and eyes, and keep out of the reach of children.
- Wear suitable protective clothing and goggles.
- If brake fluid comes into contact with the eyes, flush the eyes thoroughly with water and consult a physician immediately.

Warning
Danger of accidents Reduced braking efficiency due to old brake fluid.

- Change the brake fluid of the front and rear brake according to the service schedule. (Your authorized KTM workshop will be glad to help.)

Warning
Environmental hazard Hazardous substances cause environmental damage.

- Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.



Warning

Environmental hazard Hazardous substances cause environmental damage.

- Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

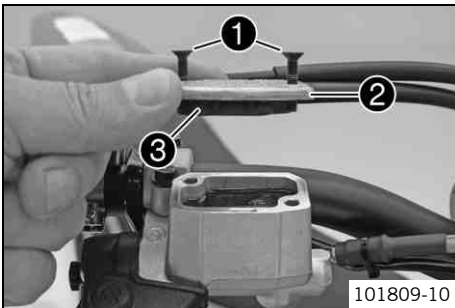


Info

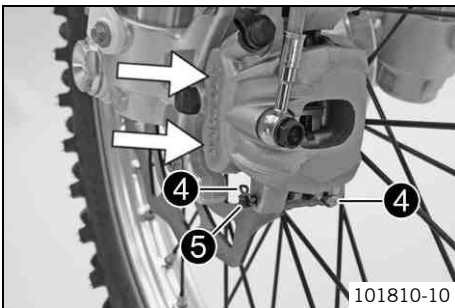
Never use DOT 5 brake fluid! It is silicone-based and purple in color. Oil seals and brake lines are not designed for DOT 5 brake fluid.

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

Use only clean brake fluid from a sealed container.



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



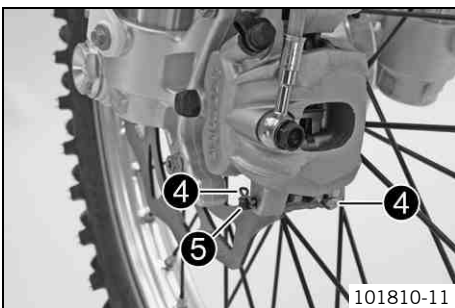
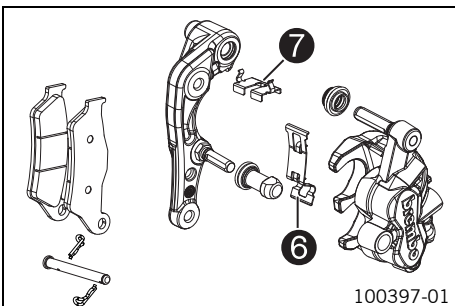
- Manually press the brake caliper to the brake disc to push back the brake pistons. Ensure that brake fluid does not flow out of the brake fluid reservoir, extracting it by suction if it does.



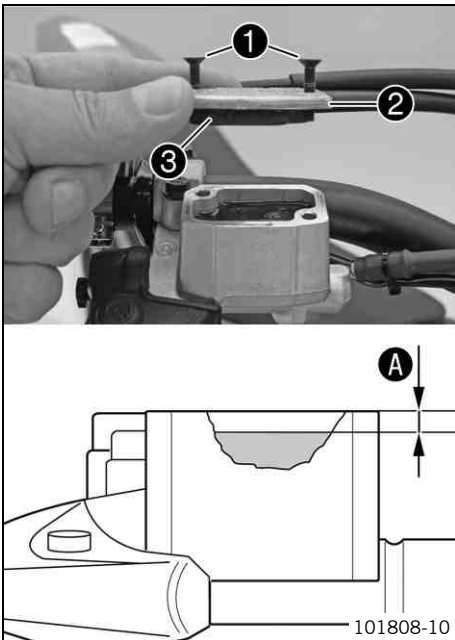
Info

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

- Remove cotter pin ④, pull out pin ⑤, and remove the brake linings.
- Clean the brake caliper and brake caliper support.
- Check that leaf spring ⑥ in the brake caliper and sliding plate ⑦ in the brake caliper support are seated correctly.



- Insert the brake linings, insert pin ⑤, and mount cotter pins ④.
- 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 to level **A**.

Guideline

| | |
|--|---------------|
| Dimension A (brake fluid level below top edge of container) | 5 mm (0.2 in) |
|--|---------------|

| |
|---------------------------------------|
| Brake fluid DOT 4 / DOT 5.1 (☞ p. 94) |
|---------------------------------------|

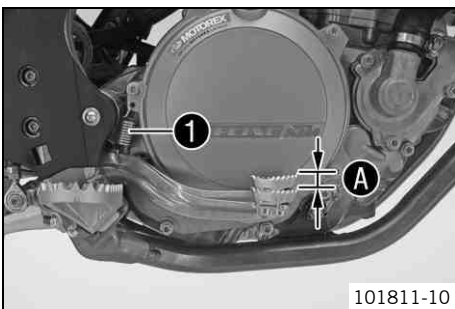
- Position cover **2** with membrane **3**.
- Mount and tighten screws **1**.

i Info
Clean up overflowed or spilt brake fluid immediately with water.

12.8 Checking the free travel of foot brake lever

Warning
Danger of accidents Brake system failure.

- If there is no free travel on the foot brake lever, pressure builds up on the rear brake circuit. The rear brake can fail due to overheating. Adjust the free travel on foot brake lever according to specifications.



- 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

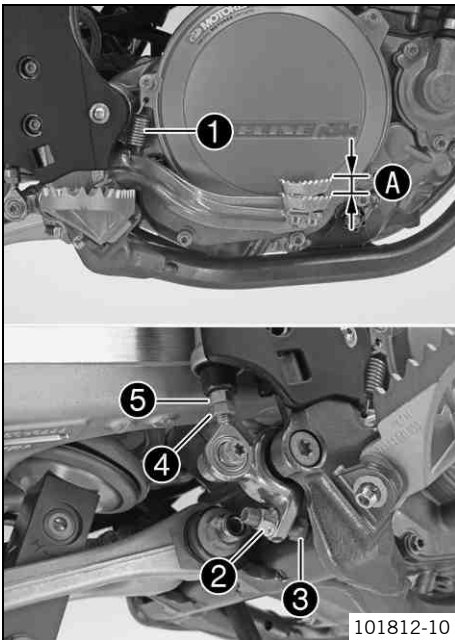
| | |
|---------------------------------|----------------------------|
| Free travel at foot brake lever | 3... 5 mm (0.12... 0.2 in) |
|---------------------------------|----------------------------|

- » If the free travel does not meet specifications:
 - Adjust the basic position of the foot brake lever. ☞ (☞ p. 61)
- Reconnect spring **1**.

12.9 Adjusting the basic position of the foot brake lever ☞

Warning
Danger of accidents Brake system failure.

- If there is no free travel on the foot brake lever, pressure builds up on the rear brake circuit. The rear brake can fail due to overheating. Adjust the free travel on foot brake lever according to specifications.



- Disconnect spring ❶.
- Loosen nut ❷ and, with push rod ❸, turn it back until you have maximum free travel.
- To adjust the basic position of the foot brake lever individually, loosen nut ❸ and turn screw ❹ accordingly.



Info
The range of adjustment is limited.

- Turn push rod ❸ accordingly until you have free travel A. 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 ❸ and tighten nut ❷.

Guideline

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

- Hold screw ❹ and tighten nut ❸.

Guideline

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

- Reconnect spring ❶.

12.10 Checking the rear brake fluid level



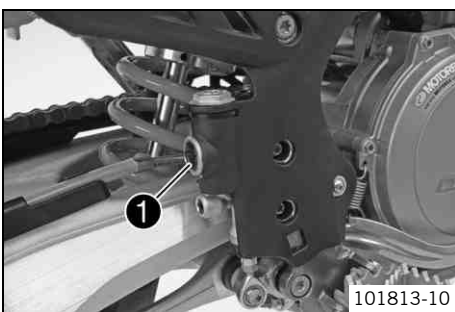
Warning
Danger of accidents Failure of the brake system.

- If the brake fluid level falls below the **MIN** mark, this indicates a leakage in the brake system or worn-out brake linings. Check the brake system and do not continue riding. (Your authorized KTM workshop will be glad to help.)



Warning
Danger of accidents Reduced braking efficiency due to old brake fluid.

- Change the brake fluid of the front and rear brake according to the service schedule. (Your authorized KTM workshop will be glad to help.)



- Stand the vehicle upright.
- Check the brake fluid level in the viewer ❶.
 - » When in the viewer ❶ an air bubble is visible:
 - Add rear brake fluid. 🛠️ (👉 p. 62)

12.11 Adding rear brake fluid 🛠️



Warning
Danger of accidents Failure of the brake system.

- If the brake fluid level falls below the **MIN** mark, this indicates a leakage in the brake system or worn-out brake linings. Check the brake system and do not continue riding. (Your authorized KTM workshop will be glad to help.)



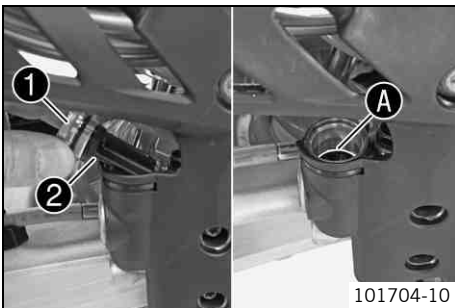
Warning
Skin irritation Brake fluid can cause skin irritation on contact.

- Avoid contact with skin and eyes, and keep out of the reach of children.
- Wear suitable protective clothing and goggles.
- If brake fluid comes into contact with the eyes, flush the eyes thoroughly with water and consult a physician immediately.

- Warning**
Danger of accidents Reduced braking efficiency due to old brake fluid.
- Change the brake fluid of the front and rear brake according to the service schedule. (Your authorized KTM workshop will be glad to help.)

- Warning**
Environmental hazard Hazardous substances cause environmental damage.
- Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

- Info**
- Never use DOT 5 brake fluid! It is silicone-based and purple in color. Oil seals and brake lines are not designed for DOT 5 brake fluid.
 Avoid contact between brake fluid and painted parts. Brake fluid attacks paint!
 Use only clean brake fluid from a sealed container.

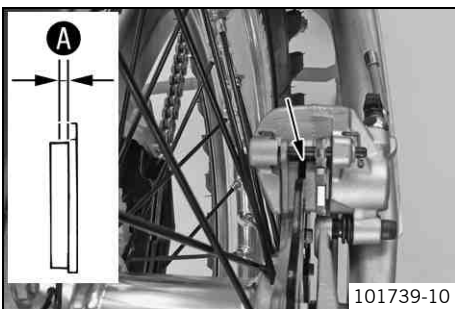


- Stand the vehicle upright.
 - Remove screw cap ❶ with membrane ❷ and the O-ring.
 - Add brake fluid to level A.
- | |
|---------------------------------------|
| Brake fluid DOT 4 / DOT 5.1 (👉 p. 94) |
|---------------------------------------|
- Mount and tighten the screw cap with the membrane and O-ring.

- Info**
 Clean up overflowed or spilt brake fluid immediately with water.

12.12 Checking the rear brake linings

- Warning**
Danger of accidents Reduced braking efficiency caused by worn brake linings.
- Change worn brake linings immediately. (Your authorized KTM workshop will be glad to help.)



- Check the brake linings for minimum thickness A.
- | | |
|---------------------|--------------------|
| Minimum thickness A | ≥ 1 mm (≥ 0.04 in) |
|---------------------|--------------------|
- » If the minimum thickness is less than specified:
 - Change the rear brake linings. 🛠️ (👉 p. 63)
 - Check the brake linings for damage and cracking.
 - » If damage or cracking is visible:
 - Change the rear brake linings. 🛠️ (👉 p. 63)

12.13 Changing the rear brake linings 🛠️

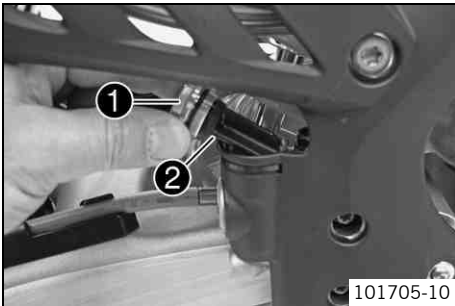
- Warning**
Skin irritation Brake fluid can cause skin irritation on contact.
- Avoid contact with skin and eyes, and keep out of the reach of children.
 - Wear suitable protective clothing and goggles.
 - If brake fluid comes into contact with the eyes, flush the eyes thoroughly with water and consult a physician immediately.

- Warning**
Danger of accidents Reduced braking efficiency due to old brake fluid.
- Change the brake fluid of the front and rear brake according to the service schedule. (Your authorized KTM workshop will be glad to help.)

- Warning**
Environmental hazard Hazardous substances cause environmental damage.
- Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

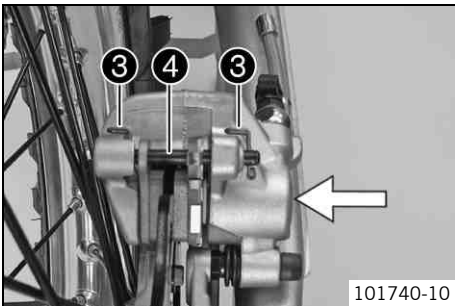
i Info

Never use DOT 5 brake fluid! It is silicone-based and purple in color. Oil seals and brake lines are not designed for DOT 5 brake fluid.
 Avoid contact between brake fluid and painted parts. Brake fluid attacks paint!
 Use only clean brake fluid from a sealed container.



101705-10

- Stand the vehicle upright.
- Remove screw cap ① with membrane ② and the O-ring.



101740-10

- Press the brake caliper toward the brake disc to push back the brake piston and ensure that no brake fluid runs out of the brake fluid reservoir, sucking it off if it does.

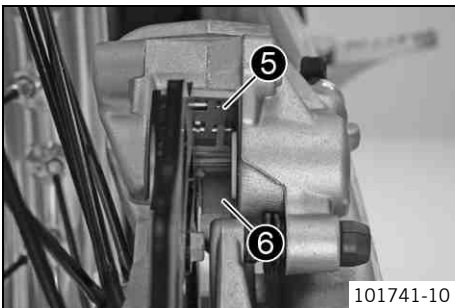
i Info

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

- Remove locking split pins ③, withdraw pin ④, and take out the brake linings.
- Clean the brake caliper and brake caliper support.
- Check that leaf spring ⑤ in the brake caliper and sliding plate ⑥ in the brake caliper support are seated correctly.

i Info

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

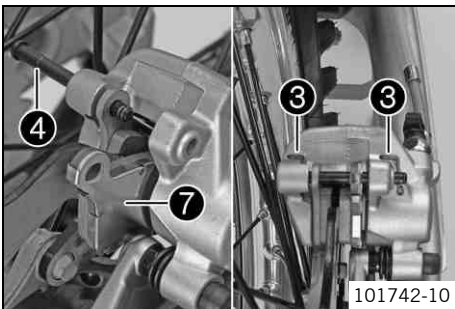


101741-10

- Insert the brake linings, insert pin ④, and mount locking split pins ③.

i Info

Make sure that the decoupling plate ⑦ is mounted on the piston side of the brake lining.



101742-10

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

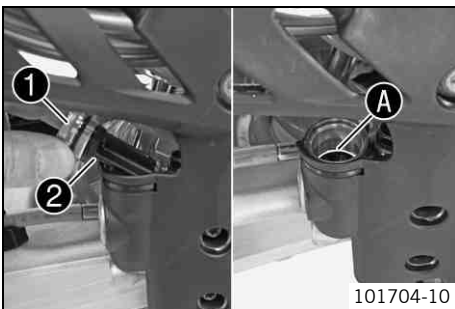
- Add brake fluid to level A.

Brake fluid DOT 4 / DOT 5.1 (☞ p. 94)

- Mount and tighten screw cap ① with membrane ② and the O-ring.

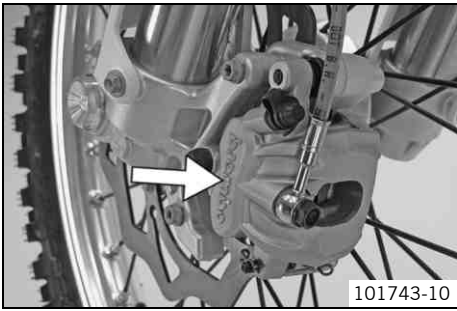
i Info

Clean up overflowed or spilled brake fluid immediately with water.



101704-10

13.1 Removing the front wheel



Preparatory work

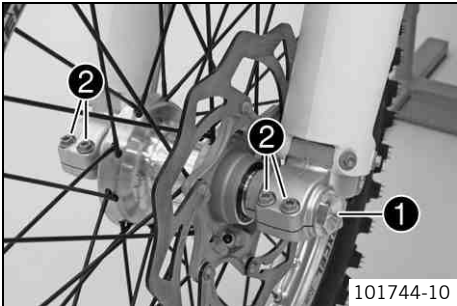
- Raise the motorcycle with the lift stand. (☛ p. 34)

Main work

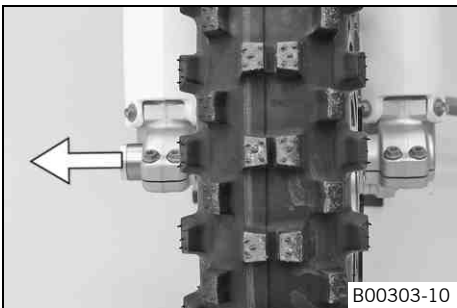
- Press the brake caliper onto the brake disc by hand in order to push back the brake pistons.

i Info

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



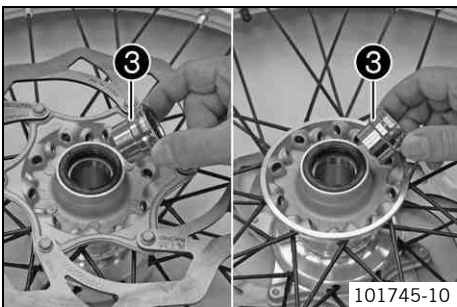
- Remove screw ❶.
- Loosen screws ❷.



- Holding the front wheel, withdraw the wheel spindle. Take the front wheel out of the fork.

i Info

Do not pull the hand brake lever when the front wheel is removed. Always lay the wheel down in such a way that the brake disc is not damaged.

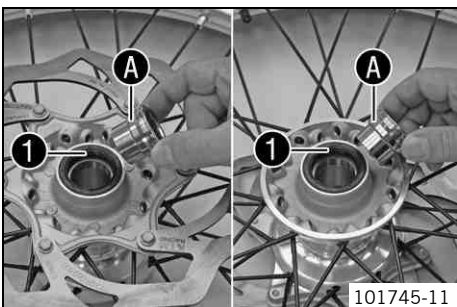


- Remove spacers ❸.

13.2 Installing the front wheel

Warning **Danger of accidents** Reduced braking efficiency due to oil or grease on the brake discs.

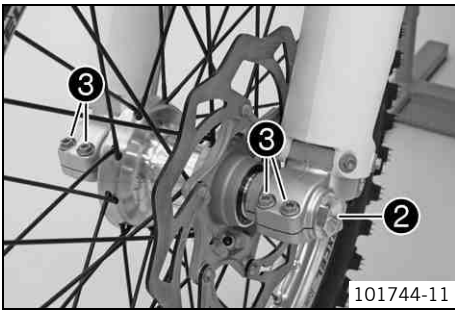
- Always keep the brake discs free of oil and grease, and clean them with brake cleaner when necessary.



- Check the wheel bearing for damage and wear.
 - » If the wheel bearing is damaged or worn:
 - Change the wheel bearing. ☛
- Clean and grease the shaft seal rings ❶ and contact surface ❸ of the spacers.

Long-life grease (☛ p. 96)

- Insert the spacers.
- Lift the front wheel into the fork, position it, and insert the wheel spindle.



- Mount and tighten screw ②.

Guideline

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

- Activate the hand brake lever multiple times until the brake linings are in contact with the brake disc.
- Remove the motorcycle from the lift stand. (☛ p. 34)
- Pull the front brake and compress the fork powerfully a few times.
 - ✓ The fork legs straighten.

- Tighten screws ③.

Guideline

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

13.3 Removing the rear wheel

Preparatory work

- Raise the motorcycle with the lift stand. (☛ p. 34)

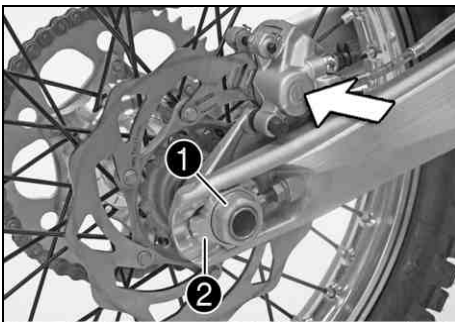
Main work

- Press the brake caliper onto the brake disc by hand in order to push back the brake piston.



Info

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

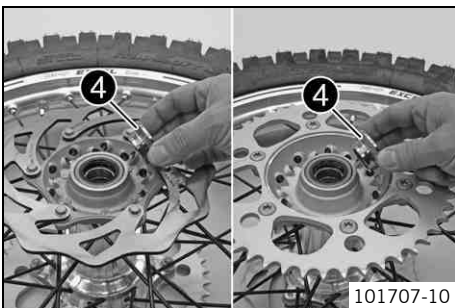
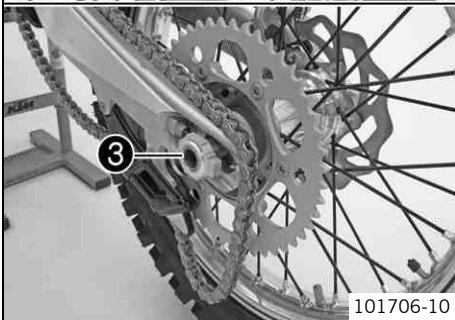


- Remove nut ①.
- Remove chain adjuster ②. Withdraw wheel spindle ③ only enough to allow the rear wheel to be pushed forward.
- Push the rear wheel forward as far as possible. Remove the chain from the rear sprocket.
- Holding the rear wheel, withdraw the wheel spindle. Take the rear wheel out of the swing arm.



Info

Do not operate the foot brake when the rear wheel is removed. Always lay the wheel down in such a way that the brake disc is not damaged.



- Remove spacers ④.

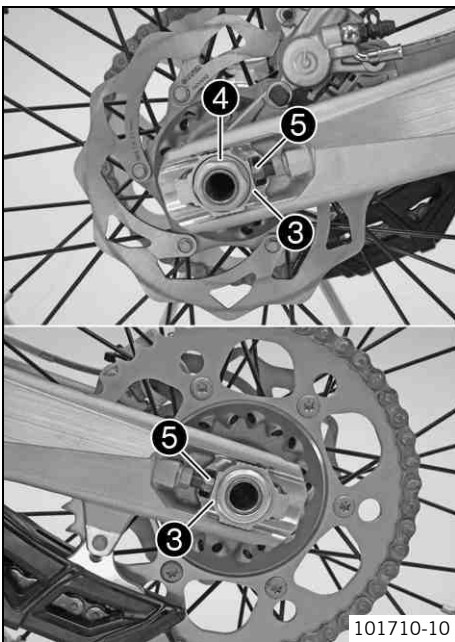
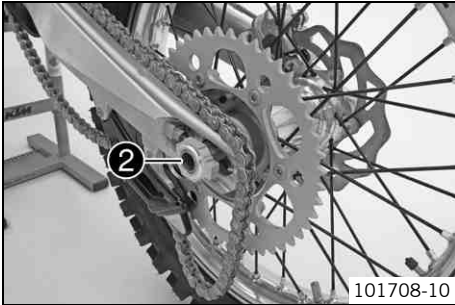
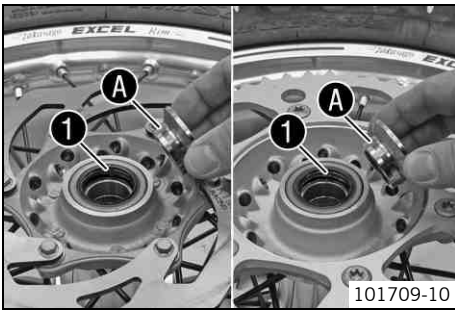
13.4 Installing the rear wheel



Warning

Danger of accidents Reduced braking efficiency due to oil or grease on the brake discs.

- Always keep the brake discs free of oil and grease, and clean them 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 wheel bearing. 🛠️
- Clean and grease the shaft seal rings ❶ and contact surface ❷ of the spacers.

Long-life grease (👉 p. 96)

- Insert the spacers.
- Lift the rear wheel into the swing arm, position it, and insert the wheel spindle ❸.
- Put the chain on.

- Position chain adjuster ❹. Mount nut ❺, but do not tighten it yet.
- Make sure that chain adjusters ❹ are fitted correctly on adjusting screws ❺.
- Check the chain tension. (👉 p. 51)
- Tighten nut ❺.

Guideline

| | | |
|-------------------------|---------|-------------------|
| Nut, rear wheel spindle | M25x1.5 | 80 Nm (59 lbf ft) |
|-------------------------|---------|-------------------|



Info

The wide adjustment range of the chain adjusters (32 mm (1.18 in)) enables different secondary ratios with the same chain length. Chain adjusters ❹ can be turned by 180°.

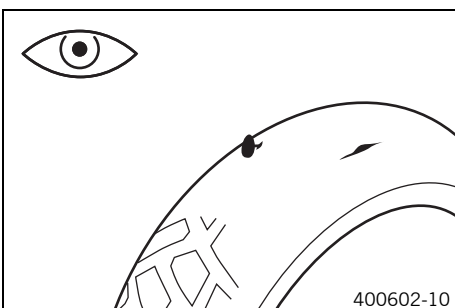
- Operate the foot brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point.

Finishing work

- Remove the motorcycle from the lift stand. (👉 p. 34)

13.5 Checking the tire condition

i Info
 Only mount tires approved and/or recommended by KTM.
 Other tires could have a negative effect on riding behavior.
 The type, condition and air pressure of the tires all have an important impact on the riding behavior of the motorcycle.
 The tires mounted on the front and rear wheels must have a similar profile.
 Worn tires have a negative effect on riding behavior, especially on wet surfaces.



- Examine the front and rear tires for cuts, foreign bodies and other damage.
 - » If you find cuts, foreign bodies or other damage on a tire:
 - Change the tire.
- Check the depth of the tread.



Info

Note local national regulations concerning the minimum tread depth.

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

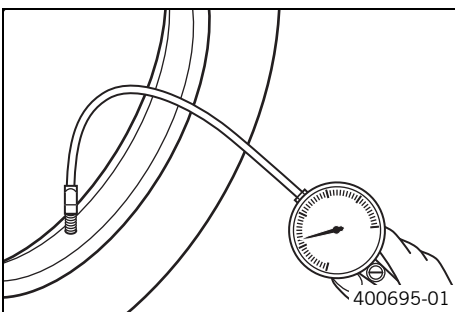
- » If the tread depth is less than the minimum allowable depth:
 - Change the tire.
- Check the tire age.

i Info
 The tire manufacture date is usually included in the tire identification number and comprises the last four digits of the **DOT** code. 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 tire is older than five years:
 - Change the tire.

13.6 Checking the tire air pressure

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



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

| Tire air pressure, offroad | |
|----------------------------|------------------|
| Front | 1.0 bar (15 psi) |
| Rear | 1.0 bar (15 psi) |

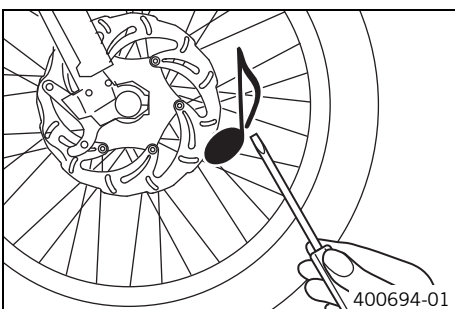
- » If the tire pressure does not meet specifications:
 - Correct the tire pressure.
- Mount the protection cap.

13.7 Checking the spoke tension

! Warning
Danger of accidents Instable handling due to incorrect spoke tension.

- Ensure that the spoke tension is correct. (Your authorized KTM workshop will be glad to help.)

i Info
 A loose spoke causes wheel imbalance and rapidly leads to more loose spokes. If the spokes are too tight, they can break due to local overload. Check the spoke tension regularly, especially on a new motorcycle.



- Briefly strike each spoke with the tip of a screwdriver.

i Info
 The tone frequency depends on the length of the spoke and the 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 varies:
 - Correct the spoke tension. 🛠️
- Check the spoke torque.

Guideline

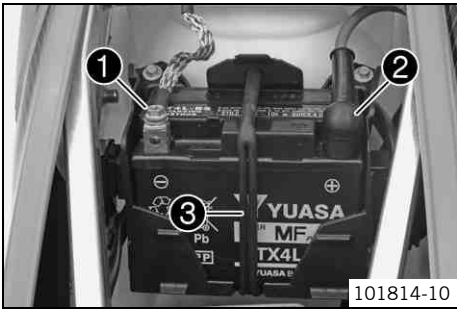
| | | |
|---------------------------|------|-------------------------------|
| Spoke nipple, front wheel | M4.5 | 5... 6 Nm (3.7... 4.4 lbf ft) |
| Spoke nipple, rear wheel | M4.5 | 5... 6 Nm (3.7... 4.4 lbf ft) |

Torque wrench with various accessories in set (58429094000)

14.1 Removing the battery ↩

Warning
Risk of injury Battery acid and battery gases cause serious chemical burns.

- Keep batteries out of the reach of children.
- Wear suitable protective clothing and goggles.
- Avoid contact with battery acid and battery gases.
- Keep the battery away from sparks or open flames. Charge only in well-ventilated areas.
- In the event of skin contact, rinse with large amounts of water. If battery acid gets in the eyes, rinse with water for at least 15 minutes and contact a physician.



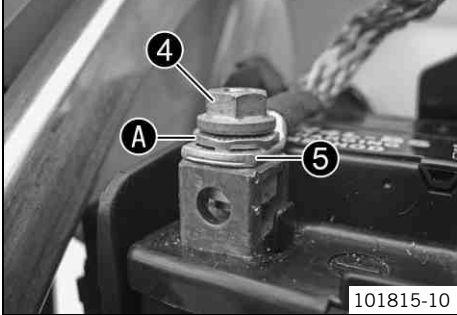
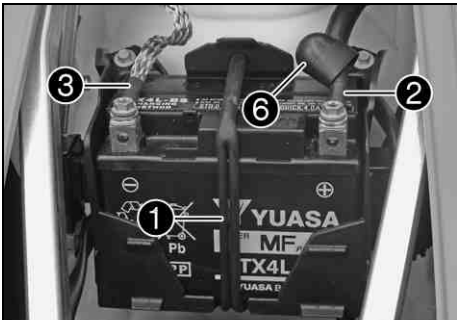
Preparatory work

- Switch off all power consumers and switch off the engine.
- Remove the seat. (↩ p. 44)

Main work

- Disconnect the negative (minus) cable ① of the battery.
- Pull back the positive terminal cover ② and disconnect the positive (plus) cable of the battery.
- Detach rubber band ③ from the bottom.
- Lift the battery out.

14.2 Installing the battery ↩



Main work

- Insert the battery into the battery compartment with the terminals facing to the front.

(All SX-F models)

| |
|------------------------------|
| Battery (YTX4L-BS) (↩ p. 89) |
|------------------------------|

(XC-F)

| |
|------------------------------|
| Battery (YTX5L-BS) (↩ p. 89) |
|------------------------------|

- Reconnect rubber band ①.
- Connect positive cable ②.

Guideline

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

Info
 Contact disks ④ must be mounted between screws ④ and cable sockets ⑤ with the claws facing down.

- Slide positive terminal cover ⑥ over the positive terminal.
- Connect negative cable ③.

Guideline

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

Info
 Contact disk ④ must be mounted between screw ④ and cable socket ⑤ with the claws facing down.

Finishing work

- Mount the seat. (↩ p. 44)

14.3 Recharging the battery

Warning
Risk of injury Battery acid and battery gases cause serious chemical burns.

- Keep batteries out of the reach of children.
- Wear suitable protective clothing and goggles.
- Avoid contact with battery acid and battery gases.
- Keep the battery away from sparks or open flames. Charge only in well-ventilated areas.
- In the event of skin contact, rinse with large amounts of water. If battery acid gets in the eyes, rinse with water for at least 15 minutes and contact a physician.

Warning
Environmental hazard The battery contains elements that are harmful to the environment.


- Do not discard batteries with the household trash. Dispose of a defective battery in an environmentally compatible manner. Give the battery to your KTM dealer or to a recycling center that accepts used batteries.

Warning
Environmental hazard Hazardous substances cause environmental damage.

- Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

Info
 Even when there is no load on the battery, it still loses power steadily.
 The charge state and the type of charge are very important for the service life of the battery.
 Rapid recharging with a high charging current shortens the battery's service life.
 If the charging current, charging voltage and charging time are exceeded, electrolyte escapes through the safety valves. This reduces the battery capacity.
 If the battery is depleted from starting the vehicle repeatedly, the battery must be charged immediately.
 If the battery is left in a discharged state for an extended period, it will become over-discharged and sulfate, destroying the battery.
 The battery is maintenance-free, i.e., the acid level does not have to be checked.

Preparatory work

- Switch off all power consumers and switch off the engine.
- Remove the seat. ( p. 44)
- Disconnect the negative (minus) cable of the battery to avoid damage to the motorcycle's electronics.

Main work

- Connect the battery charger to the battery. Switch on the battery charger.

| |
|-------------------------------|
| Battery charger (58429074000) |
|-------------------------------|

You can also use the battery charger to test rest potential and start potential of the battery, and to test the alternator. With this device, you cannot overcharge the battery.

Info
 Never remove cover **1**.
 Charge the battery with a maximum of 10% of the capacity specified on the battery housing **2**.

- Switch off the charger after charging. Disconnect the battery.

Guideline

| | |
|--|----------|
| The charge current, charge voltage and charge time must not be exceeded. | |
| Charge the battery regularly when the motorcycle is not in use | 3 months |

Finishing work

- Mount the seat. ( p. 44)



14.4 Changing the main fuse

Warning
Fire hazard The electrical system can be overloaded if the wrong fuses are used.
 – Use only fuses with the prescribed amperage. Never by-pass or repair fuses.

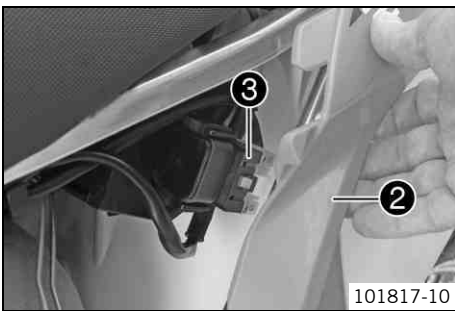
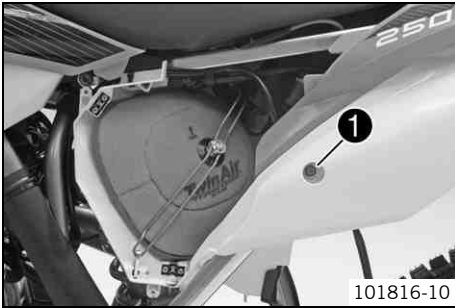
Info
 The main fuse protects all power consumers of the vehicle. It is located in the starter relay housing under the air filter box lid.

Preparatory work

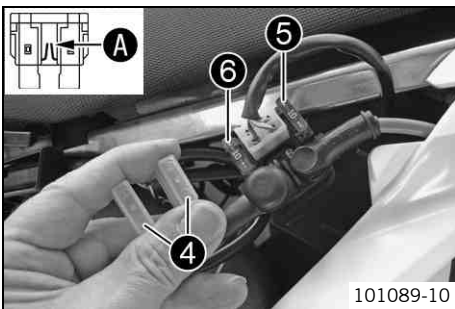
- Switch off all power consumers and switch off the engine.
- Remove the air filter box lid. (☛ p. 44)

Main work

- Remove screw ❶.



- Lift rear fairing ❷ slightly and pull starter relay ❸ out of the holder.



- Remove protection caps ❹.
- Remove the faulty main fuse ❺.

Info
 A defective fuse is indicated by a burned-out fuse wire **A**.
 A reserve fuse **❻** is located in the starter relay.

- Install a new main fuse.

| |
|------------------------------|
| Fuse (58011109110) (☛ p. 89) |
|------------------------------|

- Check that the electrical equipment is functioning.

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

- Mount the protection caps.
- Mount the starter relay onto the holder and lay the cable.
- Position the rear fairing. Mount and tighten the screw.

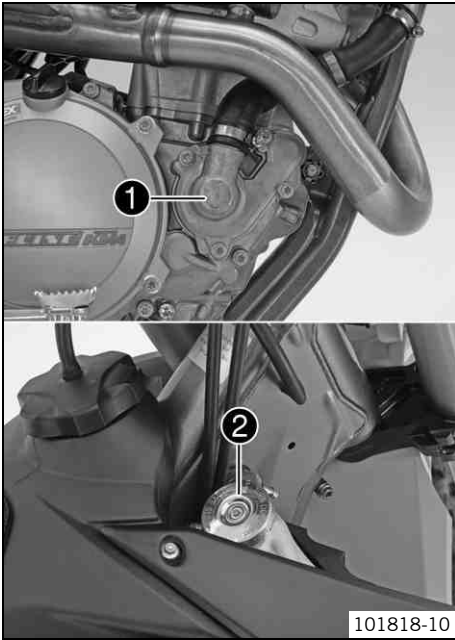
Guideline

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

Finishing work

- Install the air filter box lid. (☛ p. 45)

15.1 Cooling system



Water pump ❶ in the engine circulates 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 very hot and is under pressure.

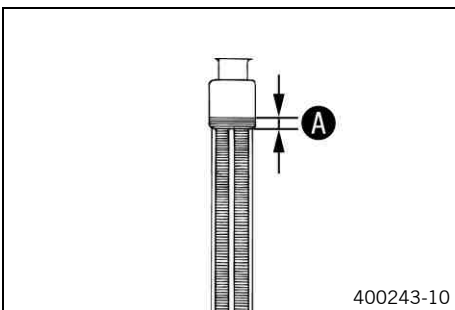
- Do not remove the radiator cap, radiator hoses or other cooling system components when the engine is hot. Allow the engine and cooling system to cool down. In case of scalding, rinse immediately with lukewarm water.



Warning

Danger of poisoning Coolant is poisonous and a health hazard.

- Avoid contact between coolant and skin, eyes and clothing. If it gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If coolant is swallowed, contact a doctor immediately. Change clothes that have come into contact with coolants. Keep coolant out of the reach of children.



Condition

The engine is cold.

- Stand the motorcycle upright on a horizontal surface.
- Remove the radiator cap.
- Check the antifreeze of the coolant.

| |
|-------------------------------|
| -25... -45 °C (-13... -49 °F) |
|-------------------------------|

» If the antifreeze of the coolant does not meet specifications:

- Correct the antifreeze of the coolant.

- Check the coolant level in the radiator.

| | |
|--------------------------------------|-----------------|
| Coolant level ❶ above radiator fins. | 10 mm (0.39 in) |
|--------------------------------------|-----------------|

» If the coolant level does not meet specifications:

- Correct the coolant level.

Alternative 1

| |
|-------------------|
| Coolant (☞ p. 94) |
|-------------------|

Alternative 2

| |
|--|
| Coolant (mixed ready to use) (☞ p. 94) |
|--|

- Mount the radiator cap.

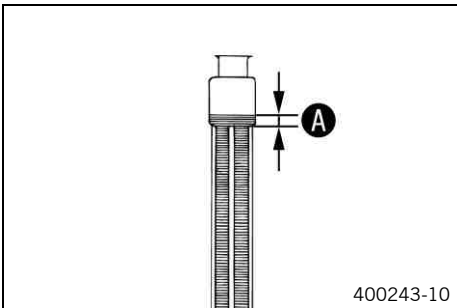
15.3 Checking the coolant level

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

- Do not remove the radiator cap, radiator hoses or other cooling system components when the engine is hot. Allow the engine and cooling system to cool down. In case of scalding, rinse immediately with lukewarm water.

Warning
Danger of poisoning Coolant is poisonous and a health hazard.

- Avoid contact between coolant and skin, eyes and clothing. If it gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If coolant is swallowed, contact a doctor immediately. Change clothes that have come into contact with coolants. Keep coolant out of the reach of children.



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 A above radiator fins. | 10 mm (0.39 in) |
|---|-----------------|

» If the coolant level does not meet specifications:

- Correct the coolant level.

Alternative 1

| |
|-------------------|
| Coolant (☛ p. 94) |
|-------------------|

Alternative 2

| |
|--|
| Coolant (mixed ready to use) (☛ p. 94) |
|--|

- Mount the radiator cap.

15.4 Draining the coolant ☛

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

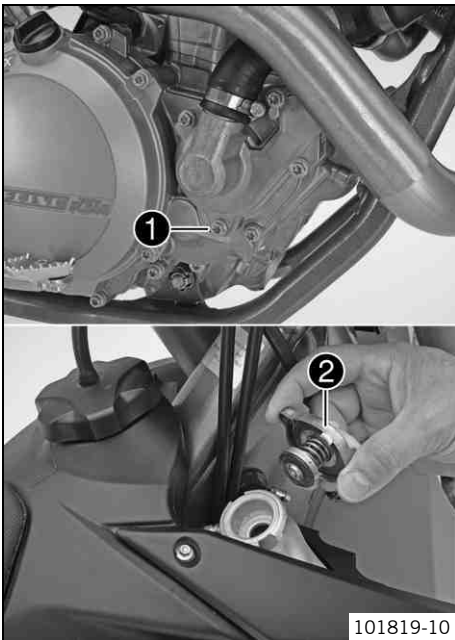
- Do not remove the radiator cap, radiator hoses or other cooling system components when the engine is hot. Allow the engine and cooling system to cool down. In case of scalding, rinse immediately with lukewarm water.

Warning
Danger of poisoning Coolant is poisonous and a health hazard.

- Avoid contact between coolant and skin, eyes and clothing. If it gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If coolant is swallowed, contact a doctor immediately. Change clothes that have come into contact with coolants. Keep coolant out of the reach of children.

Condition

The engine is cold.



- Position the motorcycle upright.
- Place a suitable 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.

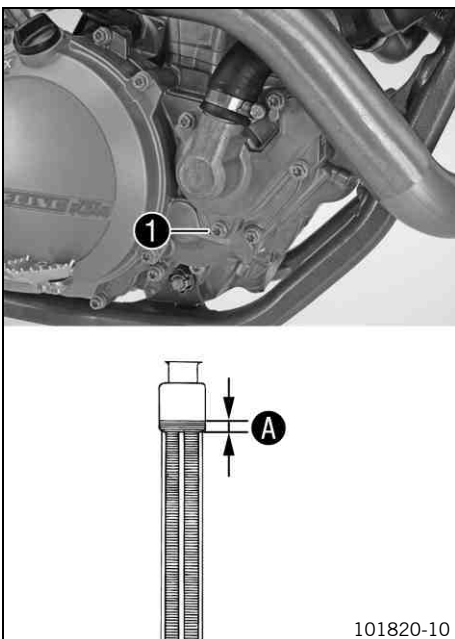
Guideline

| | | |
|-------------------------|----|--------------------|
| Screw, water pump cover | M6 | 10 Nm (7.4 lbf ft) |
|-------------------------|----|--------------------|

15.5 Refilling coolant 🛠️

Warning
Danger of poisoning Coolant is poisonous and a health hazard.

- Avoid contact between coolant and skin, eyes and clothing. If it gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If coolant is swallowed, contact a doctor immediately. Change clothes that have come into contact with coolants. Keep coolant out of the reach of children.



- Make sure that screw ❶ is tightened.
- Position the motorcycle upright.
- Pour coolant in up to measurement A above the radiator fins.

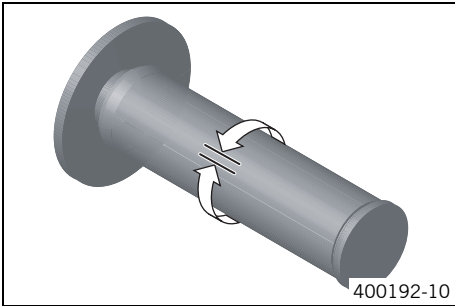
Guideline

| | |
|------------------------------------|-----------------|
| Dimension A over the radiator fins | 10 mm (0.39 in) |
|------------------------------------|-----------------|

| | | |
|---------|-----------------|--|
| Coolant | 1.2 l (1.3 qt.) | Coolant (🔧 p. 94) |
| | | Coolant (mixed ready to use) (🔧 p. 94) |

- Mount the radiator cap.
- Take a short test ride.
- Check the coolant level. (🔧 p. 73)

16.1 Checking the play in the throttle cable



- Check the throttle grip for smooth operation.
- Move the handlebar to the straight-ahead position. Move the throttle grip backwards and forwards to ascertain the play in the throttle cable.

| | |
|---------------------|----------------------------|
| Throttle cable play | 3... 5 mm (0.12... 0.2 in) |
|---------------------|----------------------------|

- » If the throttle cable play does not meet specifications:
 - Adjust the play in the throttle cable. 🛠️ (👉 p. 75)



Danger

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

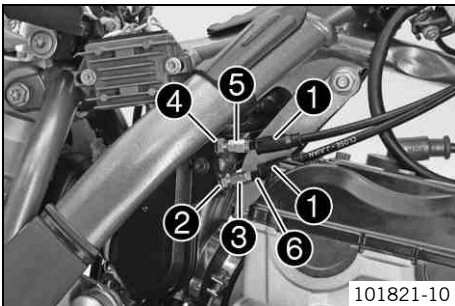
- When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in an enclosed space without an effective exhaust extraction system.

- Start the engine and let it run idle. 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. 75)

16.2 Adjusting the play in the throttle cable 🛠️



Preparatory work

- Remove the seat. (👉 p. 44)
- Remove the fuel tank. 🛠️ (👉 p. 48)
- Check the throttle cable routing. (👉 p. 54)

Main work

- Move the handlebar to the straight-ahead position.
- Push back sleeves ❶.
- Loosen nut ❷. Turn adjusting screw ❸ in as far as possible.
- Loosen nut ❹. Turn adjusting screw ❺ so that there is play in the throttle cable at the throttle grip.

Guideline

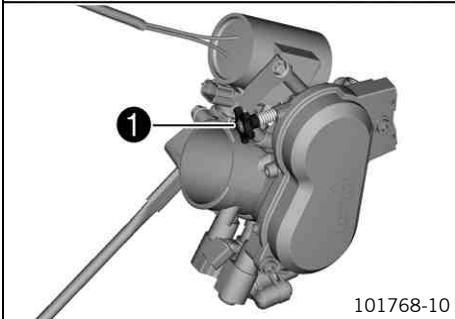
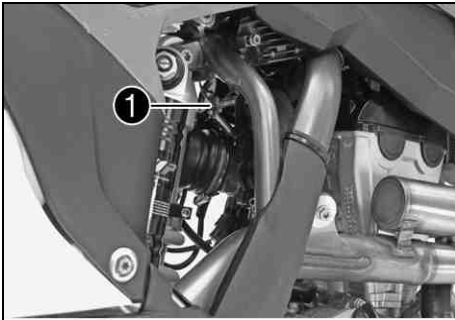
| | |
|---------------------|----------------------------|
| Throttle cable play | 3... 5 mm (0.12... 0.2 in) |
|---------------------|----------------------------|

- Tighten nut ❹.
- Press and hold the throttle grip in the closed setting. Turn adjusting screw ❸ out until there is no play in the throttle cable ❻.
- Tighten nut ❷.
- Push sleeves ❶ on. Check the throttle grip for smooth operation.

Finishing work

- Install the fuel tank. 🛠️ (👉 p. 49)
- Mount the seat. (👉 p. 44)
- Check the play in the throttle cable. (👉 p. 75)

16.3 Adjusting the idle speed 🛠️



- Run the engine until warm.
- Set the desired idle speed by turning the idle speed adjusting screw ❶.

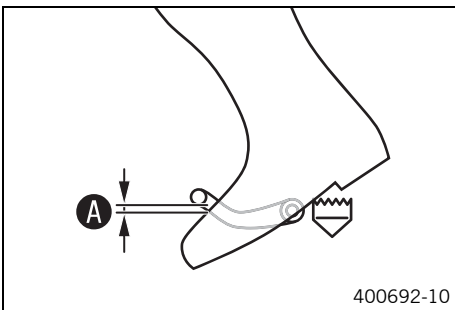
Guideline

| | |
|------------|--------------------|
| Idle speed | 2,150... 2,250 rpm |
|------------|--------------------|

i Info

Turn counterclockwise to decrease the idle speed.
Turn clockwise to increase the idle speed.

16.4 Checking the basic position of the shift lever

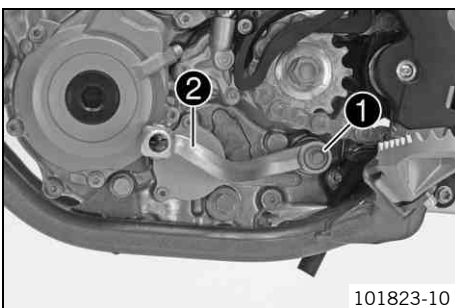


- Sit on the vehicle in the riding position and determine the distance ❶ between the upper edge of your boot and the shift lever.

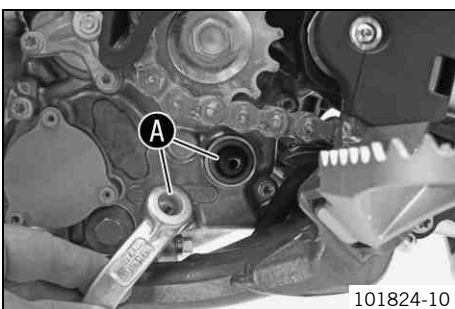
| | |
|---|-------------------------------|
| Distance between shift lever and upper edge of boot | 10... 20 mm (0.39... 0.79 in) |
|---|-------------------------------|

- » If the distance does not meet specifications:
 - Adjust the basic position of the shift lever. 🛠️ (p. 76)

16.5 Adjusting the basic position of the shift lever 🛠️



- Remove screw ❶ and take off shift lever ❷.



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

i 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 the screw.


Guideline

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

17.1 Changing the fuel screen

 **Danger**
Fire hazard Fuel is highly flammable.

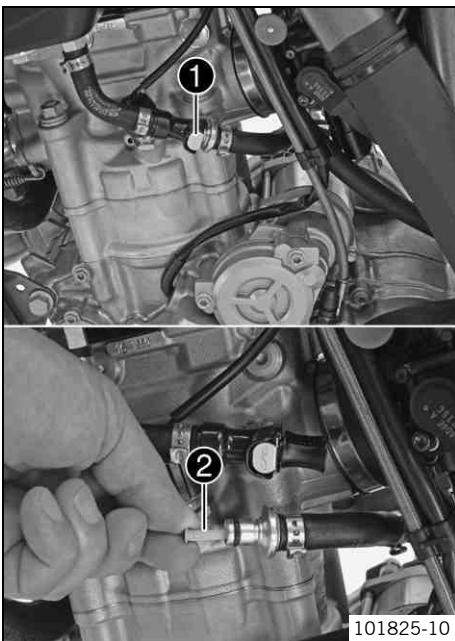
- Never refuel the vehicle near open flames or burning cigarettes, and always switch off the engine first. Be careful that no fuel is spilt, especially on hot vehicle components. Clean up spilt fuel immediately.
- Fuel in the fuel tank expands when warm and can escape if the tank is overfilled. See the notes on refueling.

 **Warning**
Danger of poisoning Fuel is poisonous and a health hazard.

- Avoid contact of the fuel with skin, eyes and clothing. Do not inhale fuel vapors. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If fuel is swallowed, contact a doctor immediately. Change clothing that has come into contact with fuel.


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

- Do not allow fuel to get into the ground water, the ground, or the sewage system.




101825-10

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

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


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

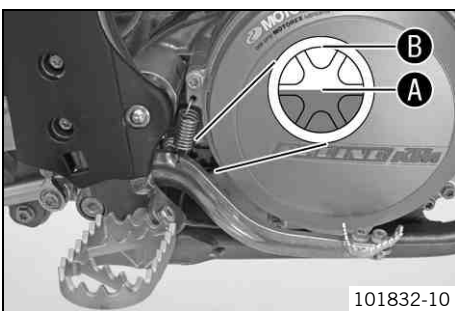
 **Danger**
Danger of poisoning Exhaust gases are toxic and inhaling them may result in unconsciousness and/or death.

- When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in an enclosed space without an effective exhaust extraction system.

- Start the engine and check the response.

17.2 Checking the engine oil level

 **Info**
 The engine oil level can be checked when the engine is cold or warm.



101832-10

Preparatory work

- Stand the motorcycle upright on a horizontal surface.

Condition

The engine is cold.

- Check the engine oil level.


The engine oil level is up to the middle **A** of the level viewer.

- » If the engine oil is not up to the middle of the level viewer:
 - Add engine oil. (🔧 p. 80)

Condition

The engine is at operating temperature.

- Check the engine oil level.

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

The engine oil is at a level between the middle **A** and upper edge **B** of the level viewer.

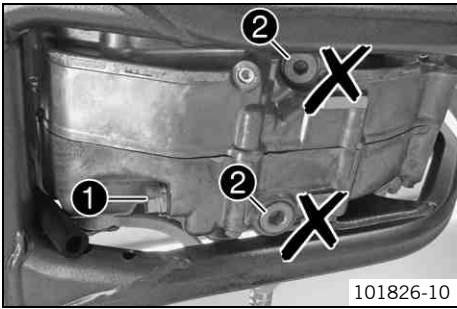
- » If the engine oil is not up to the middle **A** of the level viewer:
 - Add engine oil. (☛ p. 80)

17.3 Changing the engine oil and oil filter, cleaning the oil screen ☛

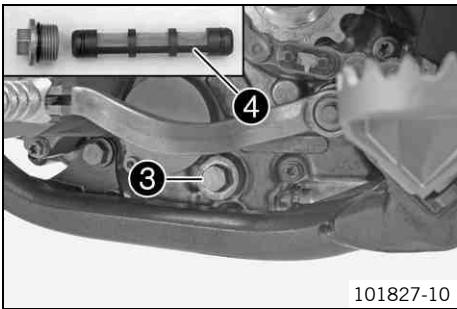
Warning
Danger of scalding Engine oil and gear oil get very hot when the motorcycle is ridden.
 – Wear appropriate protective clothing and safety gloves. In case of burns, rinse immediately with lukewarm water.

Warning
Environmental hazard Hazardous substances cause environmental damage.
 – Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

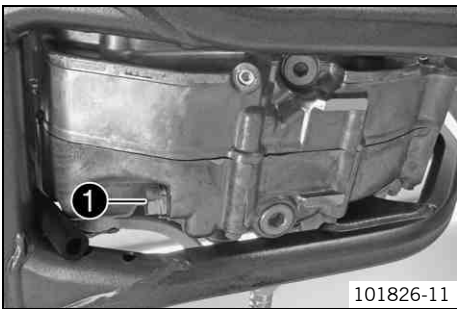
Info
 Drain the engine oil only when the engine is warm.



101826-10



101827-10



101826-11

Preparatory work

- Park the motorcycle on a level surface.

Main work

- Place a suitable container under the engine.
- Remove oil drain plug **1** with the magnet and seal ring.

Info
 Do not remove screws **2** on both sides.

- Remove screw plug **3** with oil screen **4**.
- Completely drain the engine oil.
- Thoroughly clean the parts and sealing surfaces.
- Push the oil screen with O-rings onto a pin wrench.
- Push the pin wrench through the opening into the drill hole of the opposite engine case wall and push the oil screen as far as possible into the engine case.
- Mount and tighten screw plug **3** with the O-ring.

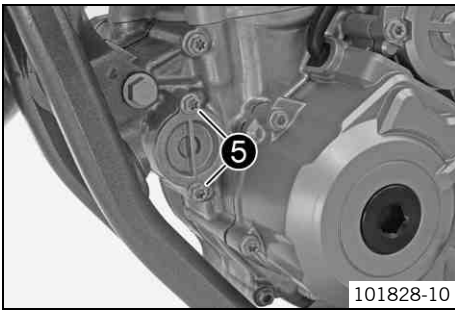
Guideline

| | | |
|------------------------|---------|------------------------|
| Screw plug, oil screen | M20x1.5 | 15 Nm (11.1 lbf ft) |
|------------------------|---------|------------------------|

- Mount and tighten the oil drain plug **1** with the magnet and a new seal ring.

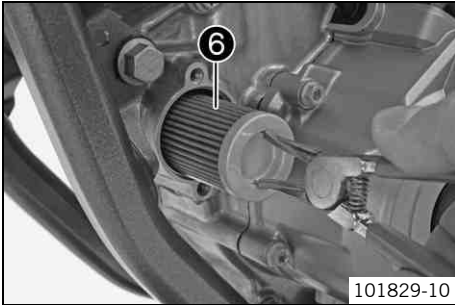
Guideline

| | | |
|----------------------------|---------|------------------------|
| Oil drain plug with magnet | M12x1.5 | 20 Nm (14.8 lbf ft) |
|----------------------------|---------|------------------------|



101828-10

- Remove screws ⑤. Remove the oil filter cover with the O-ring.

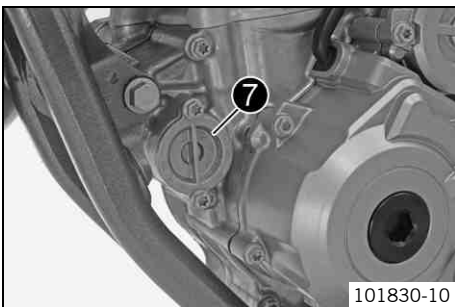


101829-10

- Pull oil filter ⑥ out of the oil filter housing.

Circlip pliers reverse (51012011000)

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



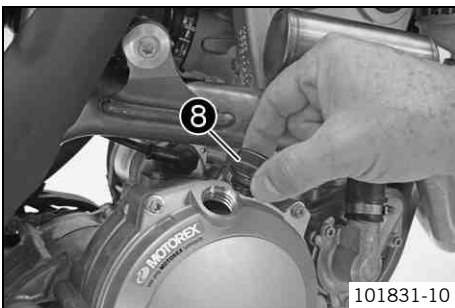
101830-10

- Lay the motorcycle on its side and fill the oil filter housing to about 1/3 full with engine oil.
- Fill the oil filter with engine oil and place it in the oil filter housing.
- Oil the O-ring of the oil filter cover and mount it with the oil filter cover ⑦.
- Mount and tighten the screws.

Guideline

| | | |
|-------------------------|----|--------------------|
| Screw, oil filter cover | M6 | 10 Nm (7.4 lbf ft) |
|-------------------------|----|--------------------|

- Stand the motorcycle upright.



101831-10

- Remove the oil filler plug ⑧ with the O-ring from the clutch cover and fill up with engine oil.

| | | | |
|------------|-------------------|---|---|
| Engine oil | 1.10 l (1.16 qt.) | Engine oil (SAE 10W/50) (☛ p. 94) | |
| | | Alternative engine oil for harsh operating conditions and increased performance | Engine oil (SAE 10W/60) (00062010035) (☛ p. 94) |

i Info
Too little engine oil or poor-quality engine oil results in premature wear to the engine.

- Install and tighten the oil filler plug with O-ring.



Danger

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

- When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in an enclosed space without an effective exhaust extraction system.

- Start the engine and check that it is oil-tight.

Finishing work

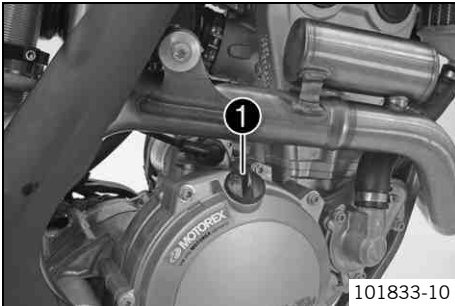
- Check the engine oil level. (☛ p. 77)

17.4 Adding engine oil



Info

Too little engine oil or poor-quality engine oil results in premature wear to the engine.



- Remove the oil filler plug ❶ with the O-ring from the clutch cover.
- Add the same engine oil that was used when the motor was changed.

Engine oil (SAE 10W/50) (☛ p. 94)

Alternative 1

Engine oil (SAE 10W/60) (00062010035) (☛ p. 94)



Info

For optimal performance of the engine oil, do not mix different types of engine oil.

If appropriate, change the engine oil.

- Install and tighten the oil filler plug with O-ring.



Danger

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

- When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in an enclosed space without an effective exhaust extraction system.

- Start the engine and check that it is oil-tight.

18.1 Cleaning the motorcycle

Note

Material damage Damage and destruction of components by high-pressure cleaning equipment.

- When cleaning the vehicle with a pressure cleaner, do not point the water jet directly onto electrical components, connectors, cables, bearings, etc. Maintain a minimum distance of 60 cm between the nozzle of the pressure cleaner and the component. Excessive pressure can cause malfunctions or destroy these parts.

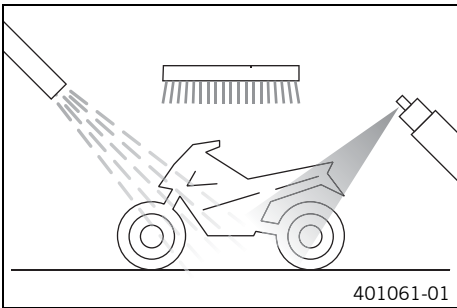
 **Warning**

Environmental hazard Hazardous substances cause environmental damage.

- Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

 **Info**

If you clean the motorcycle regularly, its value and appearance will be maintained over a long period. Avoid direct sunshine on the motorcycle during cleaning.



- Close off the exhaust system to keep water from entering.
- First remove coarse dirt particles with a gentle spray of water.
- Spray very dirty areas with a normal motorcycle cleaner and then clean with a paintbrush.

Motorcycle cleaner (☛ p. 96)

 **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 Reduced braking efficiency due to a wet or dirty brake system.

- Clean or dry a dirty or wet brake system by riding and braking gently.

- After cleaning, ride a short distance until the engine reaches operating temperature.

 **Info**

The heat produced causes water at inaccessible locations in the engine and on the brake system to evaporate.

- Push back the protection caps of the handlebar controls to allow any water that has penetrated to evaporate.
- After the motorcycle has cooled off, lubricate all moving parts and bearings.
- Clean the chain. (☛ p. 50)
- Treat bare metal parts (except for brake discs and the exhaust system) with a corrosion inhibitor.

Cleaning and preserving materials for metal, rubber and plastic (☛ p. 96)

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

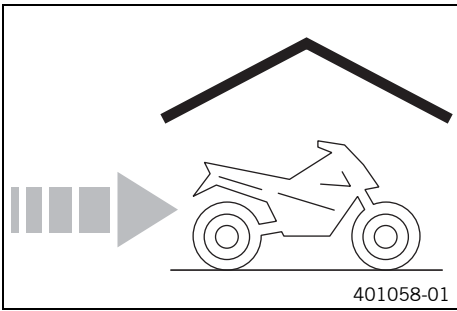
Paint cleaner and polish for high-gloss and matte finishes, bare metal and plastic surfaces (☛ p. 97)

19.1 Storage

Warning
Danger of poisoning Fuel is poisonous and a health hazard.

- Avoid contact between fuel and skin, eyes and clothing. Do not inhale fuel vapors. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If fuel is swallowed, contact a doctor immediately. Change clothing that has come into contact with fuel. Store fuel in a suitable canister according to regulations and keep it out of the reach of children.

Info
 If you want to garage the motorcycle for a longer period, take the following steps. 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. 81)
 - Change the engine oil and oil filter, clean the oil screen. 🛠️ (☞ p. 78)
 - Check the antifreeze and coolant level. (☞ p. 72)
 - When refueling for the last time before taking the motorcycle out of service, add fuel additive.
- Fuel additive (☞ p. 96)
- Check the tire air pressure. (☞ p. 68)
 - Remove the battery. 🛠️ (☞ p. 69)
 - Recharge the battery. 🛠️ (☞ p. 70)

Guideline

| | |
|--|--------------------------|
| Storage temperature of battery without direct sunlight | 0... 35 °C (32... 95 °F) |
|--|--------------------------|

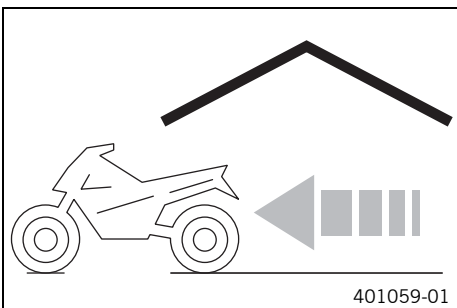
- Store the vehicle in a dry location that is not subject to large fluctuations in temperature.

Info
 KTM recommends raising the motorcycle.

- Raise the motorcycle with the lift stand. (☞ p. 34)
- Cover the vehicle with a tarp or a 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. Since the engine cannot warm up properly, the water vapor produced during combustion condenses and causes valves and exhaust system to rust.

19.2 Putting into operation after storage



- Remove the motorcycle from the lift stand. (☞ p. 34)
- Install the battery. 🛠️ (☞ p. 69)
- Refuel. (☞ p. 22)
- Perform checks and maintenance steps before putting into operation. (☞ p. 20)
- Take a test ride.

| Faults | Possible cause | Action |
|---|--|--|
| The engine cannot be cranked (electric starter) | Operating error | – Carry out the start procedure. (☞ p. 20) |
| | Battery discharged | – Recharge the battery. 🛠️ (☞ p. 70) – Check the charging voltage. 🛠️ – Check the open-circuit current. 🛠️ – Check the stator winding of the alternator. 🛠️ |
| | Main fuse burned out | – Change the main fuse. (☞ p. 71) |
| | Faulty starter relay | – Check the starter relay. 🛠️ |
| | Faulty starter motor | – Check the starter motor. 🛠️ |
| Engine turns but does not start | Coupling of fuel hose connection not joined together | – Join the fuel hose connection. |
| | Fuel screen in the fuel hose connection is clogged | – Change the fuel screen. 🛠️ (☞ p. 77) |
| | Idle speed is not set correctly | – Adjust the idle speed. 🛠️ (☞ p. 76) |
| | Spark plug oily or wet | – Clean and dry the spark plug, or change it if necessary. |
| | Electrode distance (plug gap) of spark plug too wide | – Adjust the plug gap. Guideline Spark plug electrode gap 0.8 mm (0.031 in) |
| | Short circuit cable in wiring harness frayed, kill switch defective | – Check the wiring harness. (visual check) – Check the electrical system. |
| | Defect in fuel injection system | – Read out the fault memory using the KTM diagnostics tool. 🛠️ |
| Engine does not speed up | Defect in fuel injection system – Read out the fault memory using the KTM diagnostics tool. 🛠️ | |
| Engine has too little power | Air filter is very dirty | – Clean the air filter and air filter box. 🛠️ (☞ p. 46) |
| | Fuel filter is very dirty | – Change the fuel filter. 🛠️ |
| | Defect in fuel injection system | – Read out the fault memory using the KTM diagnostics tool. 🛠️ |
| | 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 of the main silencer. 🛠️ (☞ p. 47) |
| | Valve clearance too little | – Adjust the valve clearance. 🛠️ |
| Engine dies during the trip | Lack of fuel – Refuel. (☞ p. 22) | |
| Engine overheats | Too little coolant in cooling system | – Check the cooling system for leakage. – Check the coolant level. (☞ p. 73) |
| | Too little air stream | – Switch off the engine when standing. |
| | Radiator fins very dirty | – Clean the radiator fins. |
| | Foam formation in cooling system | – Drain the coolant. 🛠️ (☞ p. 73) – Refill the coolant. 🛠️ (☞ p. 74) |
| | Bent radiator hose | – Change the radiator hose. 🛠️ |
| FI warning lamp (MIL) lights up/flashes | Defect in fuel injection system – Stop the motorcycle and identify the faulty part using the blink code. – Check the cabling for damage and the electrical plug-in connections for corrosion and damage. – Read out the fault memory using the KTM diagnostics tool. 🛠️ | |
| High oil consumption | Engine vent hose bent | – Route the vent hose without bends or change it if necessary. |
| | Engine oil level too high | – Check the engine oil level. (☞ p. 77) |
| | Engine oil too thin (low viscosity) | – Change the engine oil and oil filter, clean the oil screen. 🛠️ (☞ p. 78) |

| Faults | Possible cause | Action |
|----------------------|--------------------------|--|
| High oil consumption | Piston and cylinder worn | – Piston/cylinder - determine the mounting clearance. |
| Battery discharged | Battery is not charging | – Check the charging voltage. 🔧 – Check the stator winding of the alternator. 🔧 |
| | Unwanted power consumer | – Check the open-circuit current. 🔧 |

| | |
|---|--|
| Blink code FI warning lamp (MIL) |  02 FI warning lamp (MIL) flashes 2x short |
| Error level condition | Crankshaft position sensor - circuit fault |
| Blink code FI warning lamp (MIL) |  06 FI warning lamp (MIL) flashes 6x short |
| Error level condition | Throttle position sensor circuit A - input signal too low Throttle position sensor circuit A - input signal too high |
| Blink code FI warning lamp (MIL) |  09 FI warning lamp (MIL) flashes 9x short |
| Error level condition | Manifold absolute pressure sensor cylinder 1 - input signal too low Manifold absolute pressure sensor cylinder 1 - input signal too high |
| Blink code FI warning lamp (MIL) |  12 FI warning lamp (MIL) flashes 1x long, 2x short |
| Error level condition | Engine coolant temperature sensor - input signal too low Engine coolant temperature sensor - input signal too high |
| Blink code FI warning lamp (MIL) |  13 FI warning lamp (MIL) flashes 1x long, 3x short |
| Error level condition | Intake air temperature sensor - input signal to low Intake air temperature sensor - input signal too high |
| Blink code FI warning lamp (MIL) |  15 FI warning lamp (MIL) flashes 1x long, 5x short |
| Error level condition | Rollover sensor (A/D type) - input signal too low Rollover sensor (A/D type) - input signal too high |
| Blink code FI warning lamp (MIL) |  33 FI warning lamp (MIL) flashes 3x long, 3x short |
| Error level condition | Injector cylinder 1 - circuit fault |
| Blink code FI warning lamp (MIL) |  37 FI warning lamp (MIL) flashes 3x long, 7x short |
| Error level condition | Ignition coil 1, cylinder 1 - circuit fault |
| Blink code FI warning lamp (MIL) |  41 FI warning lamp (MIL) flashes 4x long, 1x short |
| Error level condition | Fuel pump control - short circuit to ground or open circuit Fuel pump control - input signal too low |

22.1 Engine

| | |
|--------------------------------------|---|
| Design | 1-cylinder 4-stroke engine, water-cooled |
| Displacement | 249.91 cm ³ (15.2505 cu in) |
| Stroke | 52.3 mm (2.059 in) |
| Bore | 78 mm (3.07 in) |
| Compression ratio | 13.9:1 |
| Idle speed | 2,150... 2,250 rpm |
| Control | DOHC, four valves controlled via cam lever, drive via timing chain |
| Valve diameter, intake | 32.5 mm (1.28 in) |
| Valve diameter, exhaust | 26.5 mm (1.043 in) |
| Valve clearance | |
| Intake at: 20 °C (68 °F) | 0.10... 0.15 mm (0.0039... 0.0059 in) |
| Exhaust at: 20 °C (68 °F) | 0.13... 0.18 mm (0.0051... 0.0071 in) |
| Crankshaft bearing | 2 cylinder bearings |
| Conrod bearing | Slide bearing |
| Piston pin bearing | Bearing bush |
| Pistons | Forged light alloy |
| Piston rings | 1 compression ring, 1 oil scraper ring |
| Engine lubrication | Pressure circulation lubrication with two Eaton pumps |
| Primary transmission | 24:73 |
| Clutch | Multidisc clutch in oil bath/hydraulically activated |
| Gearbox | 6-gear, claw shifted |
| Transmission ratio (All SX-F models) | |
| 1st gear | 13:32 |
| 2nd gear | 16:32 |
| 3rd gear | 17:28 |
| 4th gear | 19:26 |
| 5th gear | 21:25 |
| 6th gear | 22:24 |
| Transmission ratio (XC-F) | |
| 1st gear | 13:32 |
| 2nd gear | 16:30 |
| 3rd gear | 16:24 |
| 4th gear | 23:28 |
| 5th gear | 23:23 |
| 6th gear | 26:22 |
| Alternator | 12 V, 66 W |
| Ignition | Contactless controlled fully electronic ignition with digital ignition adjustment |
| Spark plug | NGK LMAR9AI-8 |
| Spark plug electrode gap | 0.8 mm (0.031 in) |
| Cooling | Water cooling, permanent circulation of coolant by water pump |
| Starting aid | Electric starter |

22.2 Engine tightening torques

| | | | |
|---|-------|---------------------------------|--|
| Jet, crank chamber ventilation | M4 | 2 Nm (1.5 lbf ft) | Loctite® 243™ |
| Oil jet for alternator cooling | M4 | 2 Nm (1.5 lbf ft) | Loctite® 243™ |
| Oil jet for balancer shaft lubrication | M4 | 2 Nm (1.5 lbf ft) | Loctite® 243™ |
| Oil nozzle for conrod bearing lubrication | M4 | 2 Nm (1.5 lbf ft) | Loctite® 243™ |
| Screw, oil jet for piston cooling | M4 | 2 Nm (1.5 lbf ft) | Loctite® 243™ |
| Screw, stator | M4 | 4 Nm (3 lbf ft) | Loctite® 648™ |
| Locking screw for bearing | M5 | 6 Nm (4.4 lbf ft) | Loctite® 243™ |
| Oil jet for cam lever lubrication | M5 | 3 Nm (2.2 lbf ft) | Loctite® 243™ |
| Oil jet for clutch lubrication | M5 | 6 Nm (4.4 lbf ft) | Loctite® 243™ |
| Oil jet, piston cooling | M5 | 2 Nm (1.5 lbf ft) | Loctite® 243™ |
| Screw cap, oil channel in alternator cover | M5 | 3 Nm (2.2 lbf ft) | Loctite® 243™ |
| Screw, crankshaft position sensor | M5 | 6 Nm (4.4 lbf ft) | Loctite® 243™ |
| Screw, locking lever | M5 | 6 Nm (4.4 lbf ft) | Loctite® 243™ |
| Screw, oil pump cover | M5 | 6 Nm (4.4 lbf ft) | Loctite® 243™ |
| Nut, cylinder head | M6 | 10 Nm (7.4 lbf ft) | Lubricated with engine oil |
| Nut, water-pump wheel | M6 | 6 Nm (4.4 lbf ft) | Loctite® 243™ |
| Screw, alternator cover, torque limiter cover | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, clutch cover | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, clutch slave cylinder | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, clutch spring | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, engine case | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, exhaust flange | M6 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, kick starter stop (XC-F) | M6 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, oil filter cover | M6 | 10 Nm (7.4 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, timing chain guide rail | M6 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, timing chain securing guide | M6 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, valve cover | M6 | 8 Nm (5.9 lbf ft) | – |
| Screw, water pump cover | M6 | 10 Nm (7.4 lbf ft) | – |
| Stud, cylinder head | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, autodecompression | M7x1 | 15 Nm (11.1 lbf ft) | Loctite® 243™ |
| Screw, camshaft bearing bridge | M7x1 | 14 Nm (10.3 lbf ft) | Lubricated with engine oil |
| Screw plug, crankshaft location | M8 | 10 Nm (7.4 lbf ft) | – |
| Screw, timing chain tensioning rail | M8 | 15 Nm (11.1 lbf ft) | Loctite® 243™ |
| Screw, engine sprocket | M10 | 60 Nm (44.3 lbf ft) | Loctite® 2701 |
| Plug, oil channel | M10x1 | 15 Nm (11.1 lbf ft) | Loctite® 243™ |
| Rotor screw | M10x1 | 70 Nm (51.6 lbf ft) | Thread, oiled with engine oil/cone degreased |
| Screw plug, cam lever axis | M10x1 | 10 Nm (7.4 lbf ft) | – |
| Screw, unlocking of timing chain tensioner | M10x1 | 10 Nm (7.4 lbf ft) | – |
| Spark plug | M10x1 | 10... 12 Nm (7.4... 8.9 lbf ft) | – |

| | | | |
|------------------------------------|-----------|---|--|
| Nut, cylinder head | M10x1.25 | Tightening sequence: Tighten diagonally. 1st tightening stage 10 Nm (7.4 lbf ft) 2nd tightening stage 30 Nm (22.1 lbf ft) 3rd tightening stage 50° | Thread, oiled with engine oil/cone greased |
| Stud, cylinder head | M10x1.25 | 20 Nm (14.8 lbf ft) | Loctite® 243™ |
| Engine coolant temperature sensor | M12x1.5 | 12 Nm (8.9 lbf ft) | – |
| Oil drain plug with magnet | M12x1.5 | 20 Nm (14.8 lbf ft) | – |
| Plug, oil pressure regulator valve | M12x1.5 | 20 Nm (14.8 lbf ft) | – |
| Oil drain plug | M14x1.5 | 15 Nm (11.1 lbf ft) | – |
| Nut, inner clutch hub | M18x1.5 | 100 Nm (73.8 lbf ft) | Loctite® 243™ |
| Nut, primary gear | M18LHx1.5 | 100 Nm (73.8 lbf ft) | Loctite® 243™ |
| Screw plug, oil screen | M20x1.5 | 15 Nm (11.1 lbf ft) | – |
| Plug, timing chain tensioner | M24x1.5 | 25 Nm (18.4 lbf ft) | – |
| Screw, alternator cover | M24x1.5 | 18 Nm (13.3 lbf ft) | – |

22.3 Capacities

22.3.1 engine oil

| | | |
|------------|-------------------|---|
| Engine oil | 1.10 l (1.16 qt.) | Engine oil (SAE 10W/50) (☛ p. 94) |
| | | Alternative engine oil for harsh operating conditions and increased performance |
| | | Engine oil (SAE 10W/60) (00062010035) (☛ p. 94) |

22.3.2 coolant

| | | |
|---------|-----------------|--|
| Coolant | 1.2 l (1.3 qt.) | Coolant (☛ p. 94) |
| | | Coolant (mixed ready to use) (☛ p. 94) |

22.3.3 fuel

| | | |
|---|---------------------|---|
| Total fuel tank capacity, approx. (All SX-F models) | 7.5 l (1.98 US gal) | Super unleaded (ROZ 95/RON 95/PON 91) (☛ p. 95) |
| Total fuel tank capacity, approx. (XC-F) | 9 l (2.4 US gal) | Super unleaded (ROZ 95/RON 95/PON 91) (☛ p. 95) |
| Fuel reserve, approx. (XC-F) | 1.5 l (1.6 qt.) | |

22.4 Chassis

| | |
|------------------------------------|---|
| Frame | Central tube frame made of chrome molybdenum steel tubing |
| Fork | WP Suspension Up Side Down 4860 MXMA CC |
| Suspension travel | |
| Front | 300 mm (11.81 in) |
| Suspension travel (250 SX-F EU) | |
| Rear | 330 mm (12.99 in) |
| Suspension travel (SX-F USA, XC-F) | |
| Rear | 317 mm (12.48 in) |
| Fork offset | 22 mm (0.87 in) |
| Shock absorber | WP Suspension 5018 BAVP DCC |
| Brake system | Disc brakes, brake calipers on floating bearings |
| 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) |
| Tire air pressure, offroad | |
| Front | 1.0 bar (15 psi) |
| Rear | 1.0 bar (15 psi) |
| Secondary ratio | 13:50 |
| Chain | 5/8 x 1/4" |
| Available rear sprockets | 38, 40, 42, 45, 48, 49, 50, 51, 52 |
| Steering head angle | 63.5° |
| Wheelbase | 1,495±10 mm (58.86±0.39 in) |
| Seat height, unloaded | 992 mm (39.06 in) |
| Ground clearance, unloaded | 376 mm (14.8 in) |
| Weight without fuel, approx. (All SX-F models) | 102.8 kg (226.6 lb.) |
| Weight without fuel, approx. (XC-F) | 105.8 kg (233.2 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.) |

22.5 Electrical system

| | | |
|----------------------------------|----------------------|---|
| Battery (All SX-F models) | YTX4L-BS | Battery voltage: 12 V Nominal capacity: 3 Ah Maintenance-free |
| Battery (XC-F) | YTX5L-BS | Battery voltage: 12 V Nominal capacity: 4 Ah Maintenance-free |
| Fuse | 58011109110 | 10 A |
| FI warning lamp | LED | |
| Remaining indicator lamps (XC-F) | W2.3W/socket W2x4.6d | 12 V 2.3 W |

22.6 Tires

| Validity | Front tires | Rear tires |
|---------------|---|---|
| (250 SX-F EU) | 80/100 - 21 M/C 51M TT Pirelli SCORPION MX Midsoft 32 | 100/90 - 19 62M TT Pirelli SCORPION MX Midsoft 32 |
| (SX-F USA) | 80/100 - 21 51M TT Dunlop GEOMAX MX51F | 100/90 - 19 62M TT Dunlop GEOMAX MX51 |
| (XC-F) | 80/100 - 21 51M TT Dunlop GEOMAX MX51F | 100/100 - 18 64M TT Dunlop GEOMAX MX51 |

Additional information is available in the Service section under:
<http://www.ktm.com>

22.7 Fork

22.7.1 250 SX-F EU

| | |
|---------------------|--|
| Fork part number | 14.18.7M.05 |
| Fork | WP Suspension Up Side Down 4860 MXMA CC |
| Compression damping | |
| Comfort | 14 clicks |
| Standard | 12 clicks |
| Sport | 10 clicks |
| Rebound damping | |
| Comfort | 14 clicks |
| Standard | 12 clicks |
| Sport | 10 clicks |

| | | |
|---|------------------------|---|
| Spring length with preload spacer(s) | 497 mm (19.57 in) | |
| Spring rate | | |
| Weight of rider: 65... 75 kg (143... 165 lb.) | 4.4 N/mm (25.1 lb/in) | |
| Weight of rider: 75... 85 kg (165... 187 lb.) | 4.6 N/mm (26.3 lb/in) | |
| Weight of rider: 85... 95 kg (187... 209 lb.) | 4.8 N/mm (27.4 lb/in) | |
| Gas pressure | 1.2 bar (17 psi) | |
| Fork length | 940 mm (37.01 in) | |
| Oil capacity per cartridge | 195 ml (6.59 fl. oz.) | Fork oil (SAE 4) (48601166S1) (☛ p. 95) |
| Oil capacity fork leg without cartridge | 390 ml (13.19 fl. oz.) | Fork oil (SAE 4) (48601166S1) (☛ p. 95) |

22.7.2 SX-F USA

| | | |
|---|--|---|
| Fork part number | 14.18.7M.55 | |
| Fork | WP Suspension Up Side Down 4860 MXMA CC | |
| Compression damping | | |
| Comfort | 14 clicks | |
| Standard | 12 clicks | |
| Sport | 10 clicks | |
| Rebound damping | | |
| Comfort | 14 clicks | |
| Standard | 12 clicks | |
| Sport | 10 clicks | |
| Spring length with preload spacer(s) | 494 mm (19.45 in) | |
| Spring rate | | |
| Weight of rider: 65... 75 kg (143... 165 lb.) | 4.4 N/mm (25.1 lb/in) | |
| Weight of rider: 75... 85 kg (165... 187 lb.) | 4.6 N/mm (26.3 lb/in) | |
| Weight of rider: 85... 95 kg (187... 209 lb.) | 4.8 N/mm (27.4 lb/in) | |
| Gas pressure | 1.2 bar (17 psi) | |
| Fork length | 940 mm (37.01 in) | |
| Oil capacity per cartridge | 195 ml (6.59 fl. oz.) | Fork oil (SAE 4) (48601166S1) (☛ p. 95) |
| Oil capacity fork leg without cartridge | 390 ml (13.19 fl. oz.) | Fork oil (SAE 4) (48601166S1) (☛ p. 95) |

22.7.3 XC-F

| | | |
|---|--|--|
| Fork part number | 14.18.7M.75 | |
| Fork | WP Suspension Up Side Down 4860 MXMA CC | |
| Compression damping | | |
| Comfort | 14 clicks | |
| Standard | 12 clicks | |
| Sport | 10 clicks | |
| Rebound damping | | |
| Comfort | 14 clicks | |
| Standard | 12 clicks | |
| Sport | 10 clicks | |
| Spring length with preload spacer(s) | 492 mm (19.37 in) | |
| Spring rate | | |
| Weight of rider: 65... 75 kg (143... 165 lb.) | 4.2 N/mm (24 lb/in) | |
| Weight of rider: 75... 85 kg (165... 187 lb.) | 4.4 N/mm (25.1 lb/in) | |
| Weight of rider: 85... 95 kg (187... 209 lb.) | 4.6 N/mm (26.3 lb/in) | |
| Gas pressure | 1.2 bar (17 psi) | |
| Fork length | 940 mm (37.01 in) | |

| | | |
|---|------------------------|---|
| Oil capacity per cartridge | 195 ml (6.59 fl. oz.) | Fork oil (SAE 4) (48601166S1) (☛ p. 95) |
| Oil capacity fork leg without cartridge | 380 ml (12.85 fl. oz.) | Fork oil (SAE 4) (48601166S1) (☛ p. 95) |

22.8 Shock absorber

22.8.1 250 SX-F EU

| | | |
|---|---|--|
| Shock absorber part number | 18.18.7M.05 | |
| Shock absorber | WP Suspension 5018 BAVP DCC | |
| Compression damping, low-speed | | |
| Comfort | 17 clicks | |
| Standard | 15 clicks | |
| Sport | 13 clicks | |
| Compression damping, high-speed | | |
| Comfort | 2.5 turns | |
| Standard | 2 turns | |
| Sport | 1.5 turns | |
| Rebound damping | | |
| Comfort | 17 clicks | |
| Standard | 15 clicks | |
| Sport | 13 clicks | |
| Spring preload | 13 mm (0.51 in) | |
| Spring rate | | |
| Weight of rider: 65... 75 kg (143... 165 lb.) | 51 N/mm (291 lb/in) | |
| Weight of rider: 75... 85 kg (165... 187 lb.) | 54 N/mm (308 lb/in) | |
| Weight of rider: 85... 95 kg (187... 209 lb.) | 57 N/mm (325 lb/in) | |
| Spring length | 260 mm (10.24 in) | |
| Gas pressure | 10 bar (145 psi) | |
| Static sag | 30 mm (1.18 in) | |
| Riding sag | 90 mm (3.54 in) | |
| Fitted length | 490 mm (19.29 in) | |
| Shock absorber oil | Shock absorber oil (SAE 2.5) (50180342S1) (☛ p. 95) | |

22.8.2 SX-F USA

| | | |
|---|------------------------------------|--|
| Shock absorber part number | 18.18.7M.55 | |
| Shock absorber | WP Suspension 5018 BAVP DCC | |
| Compression damping, low-speed | | |
| Comfort | 17 clicks | |
| Standard | 15 clicks | |
| Sport | 13 clicks | |
| Compression damping, high-speed | | |
| Comfort | 2.5 turns | |
| Standard | 2 turns | |
| Sport | 1.5 turns | |
| Rebound damping | | |
| Comfort | 17 clicks | |
| Standard | 15 clicks | |
| Sport | 13 clicks | |
| Spring preload | 12 mm (0.47 in) | |
| Spring rate | | |
| Weight of rider: 65... 75 kg (143... 165 lb.) | 51 N/mm (291 lb/in) | |
| Weight of rider: 75... 85 kg (165... 187 lb.) | 54 N/mm (308 lb/in) | |

| | |
|---|---|
| Weight of rider: 85... 95 kg (187... 209 lb.) | 57 N/mm (325 lb/in) |
| Spring length | 260 mm (10.24 in) |
| Gas pressure | 10 bar (145 psi) |
| Static sag | 30 mm (1.18 in) |
| Riding sag | 100 mm (3.94 in) |
| Fitted length | 486 mm (19.13 in) |
| Shock absorber oil | Shock absorber oil (SAE 2.5) (50180342S1) (☛ p. 95) |

22.8.3 XC-F

| | |
|---|---|
| Shock absorber part number | 18.18.7M.75 |
| Shock absorber | WP Suspension 5018 BAVP DCC |
| Compression damping, low-speed | |
| Comfort | 17 clicks |
| Standard | 15 clicks |
| Sport | 13 clicks |
| Compression damping, high-speed | |
| Comfort | 2.5 turns |
| Standard | 2 turns |
| Sport | 1.5 turns |
| Rebound damping | |
| Comfort | 17 clicks |
| Standard | 15 clicks |
| Sport | 13 clicks |
| Spring preload | 12 mm (0.47 in) |
| Spring rate | |
| Weight of rider: 65... 75 kg (143... 165 lb.) | 51 N/mm (291 lb/in) |
| Weight of rider: 75... 85 kg (165... 187 lb.) | 54 N/mm (308 lb/in) |
| Weight of rider: 85... 95 kg (187... 209 lb.) | 57 N/mm (325 lb/in) |
| Spring length | 260 mm (10.24 in) |
| Gas pressure | 10 bar (145 psi) |
| Static sag | 30 mm (1.18 in) |
| Riding sag | 100 mm (3.94 in) |
| Fitted length | 486 mm (19.13 in) |
| Shock absorber oil | Shock absorber oil (SAE 2.5) (50180342S1) (☛ p. 95) |

22.9 Chassis tightening torques

| | | | |
|--|--------------------------|-------------------------------|----------------------|
| Screw, air filter box lid | EJOT PT® K60x20-Z | 3 Nm (2.2 lbf ft) | – |
| Spoke nipple, front wheel | M4.5 | 5... 6 Nm (3.7... 4.4 lbf ft) | – |
| Spoke nipple, rear wheel | M4.5 | 5... 6 Nm (3.7... 4.4 lbf ft) | – |
| Screw, battery terminal | M5 | 2.5 Nm (1.84 lbf ft) | – |
| Screw, intake air temperature sensor | M5 | 2 Nm (1.5 lbf ft) | – |
| Screw, shock absorber adjusting ring | M5 | 5 Nm (3.7 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, chain sliding guard | M6 | 6 Nm (4.4 lbf ft) | Loctite® 243™ |
| Screw, front brake disc | M6 | 14 Nm (10.3 lbf ft) | Loctite® 243™ |
| Screw, rear brake disc | M6 | 14 Nm (10.3 lbf ft) | Loctite® 243™ |
| Screw, throttle grip | M6 | 3 Nm (2.2 lbf ft) | – |
| Fuel connection on fuel tank | M8 | 10 Nm (7.4 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 | 10 Nm (7.4 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 brace | M8 | 33 Nm (24.3 lbf ft) | – |
| Screw, fork stub | 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, side stand attachment (XC-F) | M8 | 45 Nm (33.2 lbf ft) | Loctite® 2701 |
| Screw, subframe | M8 | 35 Nm (25.8 lbf ft) | Loctite® 2701 |
| Screw, top steering stem | M8 | 17 Nm (12.5 lbf ft) | Loctite® 243™ |
| Screw, top triple clamp | M8 | 17 Nm (12.5 lbf ft) | – |
| Engine carrying 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 |
| Nut, fuel pump | M12 | 15 Nm (11.1 lbf ft) | – |
| Nut, seat fixing | M12x1 | 20 Nm (14.8 lbf ft) | – |
| Nut, frame to linkage lever | M14x1.5 | 80 Nm (59 lbf ft) | Loctite® 2701 |
| Nut, linkage lever on swingarm | M14x1.5 | 80 Nm (59 lbf ft) | – |
| Nut, linkage lever to angle lever | M14x1.5 | 80 Nm (59 lbf ft) | – |
| Nut, swingarm pivot | M16x1.5 | 100 Nm (73.8 lbf ft) | – |
| Screw, top steering head | M20x1.5 | 12 Nm (8.9 lbf ft) | – |
| Screw-in nozzles, cooling system | M20x1.5 | 12 Nm (8.9 lbf ft) | Loctite® 243™ |
| Screw, front wheel spindle | M24x1.5 | 45 Nm (33.2 lbf ft) | – |
| Nut, rear wheel spindle | M25x1.5 | 80 Nm (59 lbf ft) | – |

Brake fluid DOT 4 / DOT 5.1

According to

- DOT

Guideline

- Use only brake fluid that complies with the specified standard (see specifications on the container) and that possesses the corresponding properties. KTM recommends **Castrol** and **Motorex®** products.

Supplier

Castrol

- **RESPONSE BRAKE FLUID SUPER DOT 4**

Motorex®

- **Brake Fluid DOT 5.1**

Coolant

Guideline

- Use only suitable coolant (also in countries with high temperatures). Use of low-quality antifreeze can lead to corrosion and foaming. KTM recommends **Motorex®** products.

Mixture ratio

| | |
|--|---|
| Antifreeze protection: -25... -45 °C (-13... -49 °F) | 50 % corrosion inhibitor/antifreeze 50 % distilled water |
|--|---|

Coolant (mixed ready to use)

| | |
|------------|-----------------|
| Antifreeze | -40 °C (-40 °F) |
|------------|-----------------|

Supplier

Motorex®

- **COOLANT G48**

Engine oil (SAE 10W/50)

According to

- JASO T903 MA (☛ p. 98)
- SAE (☛ p. 98) (SAE 10W/50)

Guideline

- Use only engine oils that comply with the specified standards (see specifications on the container) and that possess the corresponding properties. KTM recommends **Motorex®** products.

| |
|----------------------|
| Synthetic engine oil |
|----------------------|

Supplier

Motorex®

- **Cross Power 4T**

Engine oil (SAE 10W/60) (00062010035)

According to

- JASO T903 MA (☛ p. 98)
- SAE (☛ p. 98) (SAE 10W/60)
- KTM LC4 2007+

Guideline

- Use only engine oils that comply with the specified standards (see specifications on the container) and that possess the corresponding properties. KTM recommends **Motorex®** products.

| |
|----------------------|
| Synthetic engine oil |
|----------------------|

Supplier

Motorex®

- **Cross Power 4T**

Fork oil (SAE 4) (48601166S1)

According to

- SAE (☛ p. 98) (SAE 4)

Guideline

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

Shock absorber oil (SAE 2.5) (50180342S1)

According to

- SAE (☛ p. 98) (SAE 2.5)

Guideline

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

Super unleaded (ROZ 95/RON 95/PON 91)

According to

- DIN EN 228 (ROZ 95/RON 95/PON 91)

Guideline

- Only use unleaded super fuel that matches or is equivalent to the specified fuel grade.
- Fuel with an ethanol content of up to 10 % (E10 fuel) is safe to use.



Info

Do **not** use fuel containing methanol (e. g. M15, M85, M100) or more than 10 % ethanol (e. g. E15, E25, E85, E100).

Air filter cleaner

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Twin Air Dirt Bio Remover**

Chain cleaner

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Chain Clean**

Cleaning and preserving materials for metal, rubber and plastic

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Protect & Shine**

Fuel additive

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Fuel Stabilizer**

High viscosity grease

Guideline

- KTM recommends **SKF®** products.

Supplier

SKF®

- **LGHB 2**

Long-life grease

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Bike Grease 2000**

Motorcycle cleaner

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Moto Clean 900**

Off-road chain spray

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Chainlube Offroad**

Oil for foam air filter

Guideline

- KTM recommends **Motorex®** products.

Supplier**Motorex®**

- **Twin Air Liquid Bio Power**

Paint cleaner and polish for high-gloss and matte finishes, bare metal and plastic surfaces

Guideline

- KTM recommends **Motorex®** products.

Supplier**Motorex®**

- **Clean & Polish**

Rubber grip adhesive (00062030051)

Supplier

KTM-Sportmotorcycle AG

- **GRIP GLUE**

Universal oil spray

Guideline

- KTM recommends **Motorex®** products.

Supplier**Motorex®**

- **Joker 440 Synthetic**

JASO T903 MA

Different technical development directions required a new specification for 4-stroke motorcycles – the JASO T903 MA Standard. Earlier, engine oils from the automobile industry were used for 4-stroke motorcycles because there was no separate motorcycle specification. Whereas long service intervals are demanded for automobile engines, high performance at high engine speeds are in the foreground for motorcycle engines. In most motorcycles, the gearbox and the clutch are lubricated with the same oil as the engine. The JASO MA 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.

| | |
|----------------------------------|----|
| A | |
| Accessories | 7 |
| Air filter | |
| cleaning | 46 |
| installing | 45 |
| removing | 45 |
| Air filter box | |
| cleaning | 46 |
| sealing | 47 |
| Air filter box lid | |
| installing | 45 |
| removing | 44 |
| securing | 46 |
| Antifreeze | |
| checking | 72 |
| Auxiliary substances | 7 |
| B | |
| Basic chassis setting | |
| checking with rider's weight | 26 |
| Battery | |
| installing | 69 |
| recharging | 70 |
| removing | 69 |
| Blink code | 85 |
| Brake discs | |
| checking | 57 |
| Brake fluid | |
| front brake, adding | 58 |
| rear brake, adding | 62 |
| Brake fluid level | |
| front brake, checking | 58 |
| rear brake, checking | 62 |
| Brake linings | |
| front brake, changing | 59 |
| front brake, checking | 59 |
| rear brake, changing | 63 |
| rear brake, checking | 63 |
| C | |
| Chain | |
| checking | 52 |
| cleaning | 50 |
| Chain guide | |
| adjusting | 54 |
| checking | 52 |
| Chain tension | |
| adjusting | 51 |
| checking | 51 |
| Chassis number | 10 |
| Clutch | |
| fluid level, checking/correcting | 56 |
| fluid, changing | 56 |
| Clutch lever | 11 |
| basic position, adjusting | 55 |
| Cold start button | 13 |

| | |
|--|-------|
| Compression damping | |
| fork, adjusting | 31 |
| Compression damping, high-speed | |
| shock absorber, adjusting | 27 |
| Compression damping, low-speed | |
| shock absorber, adjusting | 26 |
| Coolant | |
| draining | 73 |
| refilling | 74 |
| Coolant level | |
| checking | 72-73 |
| Cooling system | 72 |
| Customer service | 7 |
| D | |
| Difficult operating conditions | 17 |
| Difficult riding conditions | |
| dry sand | 18 |
| high temperatures | 19 |
| low speeds | 19 |
| low temperatures | 19 |
| muddy surfaces | 19 |
| snow | 19 |
| wet sand | 18 |
| wet surfaces | 19 |
| E | |
| Electric starter button | 11 |
| Engine | |
| running in | 17 |
| Engine number | 10 |
| Engine oil | |
| adding | 80 |
| changing | 78 |
| Engine oil level | |
| checking | 77 |
| Engine sprocket | |
| checking | 52 |
| Environment | 6 |
| F | |
| Figures | 7 |
| Filler cap | |
| closing | 13 |
| opening | 12 |
| Foot brake lever | 14 |
| basic position, adjusting | 61 |
| free travel, checking | 61 |
| Fork legs | |
| basic setting, checking | 31 |
| bleeding | 34 |
| compression damping, adjusting | 31 |
| dust boots, cleaning | 35 |
| installing | 36 |
| rebound damping, adjusting | 32 |
| removing | 36 |
| Fork protector | |
| installing | 37 |
| removing | 37 |

Frame
 checking 54

Front fender
 installing 42
 removing 41

Front wheel
 installing 65
 removing 65

Fuel screen
 changing 77

Fuel tank
 installing 49
 removing 48

Fuse
 main fuse, changing 71

H

Hand brake lever 11
 basic position, adjusting 57
 free travel, checking 57

Handlebar position 32
 adjusting 32

I

Idle speed
 adjusting 76

Idle speed adjusting screw 14

Intended use 5

K

Kill switch 11

L

Lower triple clamp
 installing 38
 removing 37

M

Main fuse
 changing 71

Main silencer
 glass fiber yarn filling, changing 47
 installing 47
 removing 47

Motorcycle
 cleaning 81
 raising with lift stand 34
 removing from lift stand 34

O

Oil filter
 changing 78

Oil screen
 cleaning 78

Operating substances 7

Overview of indicator lamps 12

Owner's Manual 6

P

Plug-in stand 15

Protective clothing 6

Putting into operation
 advice on first use 16
 after storage 82
 checks and maintenance before putting into operation .. 20

R

Rear sprocket
 checking 52

Rear wheel
 installing 66
 removing 66

Rebound damping
 fork, adjusting 32
 shock absorber, adjusting 28

Refueling
 fuel 22

Riding sag
 adjusting 30

Rubber grip
 checking 55
 securing 55

S

Safe operation 6

Seat
 mounting 44
 removing 44

Service 7

Service schedule 24-25

Shift lever
 basic position, adjusting 76
 basic position, checking 76

Shock absorber
 compression damping, general 26
 compression damping, high-speed, adjusting 27
 compression damping, low-speed, adjusting 26
 installing 43
 rebound damping, adjusting 28
 removing 42
 riding sag, checking 29
 spring preload, adjusting 29
 static sag, checking 29

Side stand 15

Spare parts 7

Spoke tension
 checking 68

Start number plate
 installing 41
 removing 41

Starting 20

Steering head bearing
 greasing 40

Steering head bearing play
 adjusting 40
 checking 39

Storage 82

Swingarm
 checking 54

T

Technical data

| | |
|----------------------------|----|
| capacities | 88 |
| chassis | 88 |
| chassis tightening torques | 92 |
| electrical system | 89 |
| engine | 86 |
| engine tightening torques | 87 |
| fork | 89 |
| shock absorber | 91 |
| tires | 89 |

Throttle cable play

| | |
|-----------|----|
| adjusting | 75 |
| checking | 75 |

Throttle cable routing

| | |
|----------|----|
| checking | 54 |
|----------|----|

Throttle grip

| | |
|--|----|
| | 11 |
|--|----|

Tire air pressure

| | |
|----------|----|
| checking | 68 |
|----------|----|

Tire condition

| | |
|----------|----|
| checking | 67 |
|----------|----|

Transport

| | |
|--|----|
| | 22 |
|--|----|

Troubleshooting

| | |
|--|-------|
| | 83-84 |
|--|-------|

Type label

| | |
|--|----|
| | 10 |
|--|----|

U

Use definition

| | |
|--|---|
| | 5 |
|--|---|

V

View of vehicle

| | |
|-----------------|---|
| front left | 8 |
| rear right side | 9 |

W

Warranty

| | |
|--|---|
| | 7 |
|--|---|

Work rules

| | |
|--|---|
| | 6 |
|--|---|



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