Congratulations on your decision to purchase a KTM motorcycle. You are now the owner of a state-of-the-art, sporty motorcycle that you will continue to enjoy for a long time if you maintain it properly.

We wish you good and safe riding at all times!

Please enter the serial number of your vehicle below.

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

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Issued by: TÜV Management Service

KTM Sportmotorcycle GmbH
Stallhofnerstraße 3
5230 Mattighofen, Austria

This document is valid for the following models:
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1 MEANS OF REPRESENTATION

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! Your motorcycle will be optimally cared for there by specially trained experts using the auxiliary tools required.

📚 Indicates a page reference (more information is provided on the specified page).

ℹ️ Indicates information with more details or tips.

» Indicates the result of a testing step.

_VOLT Indicates a voltage measurement.

_CURRENT Indicates a current measurement.

🔚 Indicates the end of an activity, including potential rework.

1.2 Formats used
The typographical formats used in this document are explained below.

Proprietary name Indicates a proprietary name.

Name® Indicates a protected name.

Brand™ Indicates a brand available on the open market.

Underlined terms Refer to technical details of the vehicle or indicate technical terms, which are explained in the glossary.
2.1 Use definition – intended use

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

---

2.2 Misuse

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

---

2.3 Safety advice

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

---

2.4 Degrees of risk and symbols

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

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

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

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

- **Note**
  Indicates a danger that will lead to environmental damage if the appropriate measures are not taken.
2.5 Overview of labels

1. Canada type label
2. USA type label
3. Brake fluid information
4. Information on chain tension
5. Information on starting up
6. Information on emissions control
7. Information on noise emission

<table>
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THIS VEHICLE CONFORMS TO ALL APPLICABLE STANDARDS PRESCRIBED UNDER THE CANADIAN MOTOR VEHICLE SAFETY REGULATIONS IN EFFECT ON THE DATE OF MANUFACTURE. CE VÉHICULE EST CONFORME À TOUTES LES NORMES QUI LUI SONT APPLICABLES EN VIGUER AU JOUR DE SA FABRICATION.

Canada type label
### USA type label

**Clean filler cap before removing. Use only DOT4 brake fluid from a sealed container.**

![Image of brake fluid container]

**USA type label**

---

### Brake fluid information

**Brake fluid information**

---

### Information on chain tension

**Information on chain tension**

---

### Information on starting up

**Information on starting up**

---

### Information on emissions control

**Information on emissions control**

---
2.6   Reporting safety defects

If you believe that your vehicle has a defect which could cause an accident resulting in injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying KTM North America, Inc.

If NHTSA receives multiple similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or KTM North America, Inc.

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at 1-888-327-4236 or visit the website www.nhtsa.dot.gov, or write to: NHTSA Headquarters, 1200 New Jersey Avenue, SE, West Building, Washington, DC 20590. You can also obtain other information about motor vehicle safety from the Hotline.

2.7   Noise emission warranty

KTM warrants that this exhaust system, at the time of sale, meets all applicable U.S. EPA Federal noise standards.

This manufacturer’s warranty extends to the first person who purchases this exhaust system for purposes other than resale, and to all subsequent buyers.

Warranty claims should be directed to:
KTM North America, Inc., Customer Support, 1119 Milan Ave., Amherst, OH 44001, USA
Phone: (440) 985-3553
www.ktmusa.com

KTM Canada, Inc., Customer Support, 8701 Rue Samuel-Hatt, Chambly, QC J3L 6V4, Canada
Phone: (450) 441-4451
www.ktmcanada.com

2.8   Operating noise warning

This product should be checked for necessary repair or replacement parts if the motorcycle noise has increased significantly through use. Otherwise, the owner may become subject to penalties under the applicable ordinances.

2.9   Manufacturer warranty for the exhaust monitoring system

KTM North America, Inc., guarantees that, at the time of sale, the exhaust monitoring system complies with all the standards of the US Environmental Protection Agency (EPA) and the California Air Resources Board (CARB).

This manufacturer warranty applies in respect of the first owner of the motorcycle and all subsequent owners.

Your exhaust monitoring system may include parts, such as the fuel injection system, ignition, catalytic converter, control units, hoses, connectors and other emission related assemblies, fuel tank, crankcase breather, fuel tank lid for vehicles with fuel evaporation monitoring, oil filler cap, pressure control valve, fuel/vapor separator, canister, ignition coils, ignition wire, capacitors, and spark plugs, if a fault occurs before the first scheduled replacement and includes the hoses, fittings, and pipes that are used directly in these components.

If the warranty conditions are met, KTM will repair your motorcycle for you free of charge, including diagnosis, parts, and labor.

As the owner of the motorcycle, you are responsible for the required maintenance specified in the Owner’s Manual.
Please note that KTM is entitled to reject warranty claims if your motorcycle or a part fails due to misuse, negligence, an accident, participation in racing or similar events, improper maintenance or unauthorized modifications.

**Scope of the manufacturer’s warranty**
- Five (5) years or 30,000 kilometers (18,641 miles), whichever occurs first.

If you have any questions regarding the manufacturer warranty for the exhaust monitoring system, please address these to:
KTM North America, Inc., Customer Support, 1119 Milan Ave., Amherst, OH 44001, USA
Phone: (888) 985-6090
U.S. Environmental Protection Agency, 2000 Travewood Drive, Ann Arbor, MI 48105, USA
California Air Resources Board, 1001 "I" Street, Sacramento, CA 95814, USA

### 2.10 Consumer rights

Warranty claims must be submitted to an authorized KTM workshop. If you are not satisfied, please contact:
KTM North America, Inc., Customer Support, 1119 Milan Ave., Amherst, OH 44001, USA
Phone: (440) 985-3553
www.ktmusa.com
KTM Canada, Inc., Customer Support, 8701 Rue Samuel-Hatt, Chambly, QC J3L 6V4, Canada
Phone: (450) 441-4451
www.ktmcanada.com
Different rights may apply, according to national or regional legislation.

### 2.11 Tampering warning

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

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

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

1. Removal or puncturing of the main silencers, baffles, manifolds or any other components which conduct exhaust gases.
2. Removal or puncturing of parts of the intake system.
3. Lack of proper maintenance.
4. Replacing moving parts of the vehicle, or parts of the exhaust system or intake system, with parts other than those specified by the manufacturer.

### 2.12 Safe operation

**Danger**

**Danger of accidents**  A rider who is not fit to ride poses a danger to him or herself and others.
- Do not operate the vehicle if you are not fit to ride due to alcohol, drugs or medication.
- Do not operate the vehicle if you are physically or mentally impaired.

**Danger**

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

Warning Danger of burns Some vehicle components become very hot when the vehicle is operated.
- Do not touch any parts such as the exhaust system, radiator, engine, shock absorber, or brake system before the vehicle parts have cooled down.
- Let the vehicle parts cool down before you perform any work on the vehicle.

Only operate the vehicle when it is in perfect technical condition, in accordance with its intended use, and in a safe and environmentally compatible manner.
An appropriate driver’s license is needed to ride the vehicle on public roads.
Have malfunctions that impair safety promptly eliminated by an authorized KTM workshop.
Adhere to the information and warning labels on the vehicle.

2.13 Protective clothing

Warning Risk of injury Missing or poor protective clothing presents an increased safety risk.
- Wear appropriate protective clothing such as helmet, boots, gloves as well as trousers and a jacket with protectors on all rides.
- Always wear protective clothing that is in good condition and meets the legal regulations.

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

2.14 Work rules

Unless specified otherwise, the ignition must be turned off during all work (models with ignition lock, models with remote key) or the engine must be at a standstill (models without ignition lock or remote key).
Special tools are necessary for certain tasks. The tools are not a component of the vehicle, but can be ordered using the number in parentheses. Example: bearing puller (15112017000)
During assembly, use new parts to replace parts which cannot be reused (e.g. self-locking screws and nuts, expansion screws, seals, sealing rings, O-rings, pins, and lock washers).
In the case of certain screws, a screw adhesive (e.g. Loctite®) is required. Observe the manufacturer’s instructions.
If thread locker (e.g., Precote®) has already been applied to a new part, do not apply any additional thread locker.
After disassembly, clean the parts that are to be reused and check them for damage and wear. Change damaged or worn parts.
After completing a repair or service work, check the operating safety of the vehicle.

2.15 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.
2.16 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 service 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 must be handed over to the new owner if the vehicle is sold.

The Owner's Manual is also available for download from your authorized KTM dealer and on the KTM website. International KTM Website: http://www.ktm.com
3.1 Manufacturer and implied warranty

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

3.2 Fuel, auxiliary substances

**Note**

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

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

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

3.3 Spare parts, accessories

For your own safety, only use spare parts and accessory products that are approved and/or recommended by KTM and have them installed by an authorized KTM workshop. KTM accepts no liability for other products and any resulting damage or loss.

Certain spare parts and accessory products are specified in parentheses in the descriptions. Your authorized KTM dealer will be glad to advise you.

The 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. An incorrect suspension setting can lead to damage and breakage of chassis components.

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

It is imperative that you adhere to the stipulated run-in times and service intervals. If you observe these exactly, you will ensure a much longer service life for your motorcycle.

The relevant mileage or time interval is whichever occurs first.

3.5 Figures

The figures contained in the manual may depict special equipment.

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

3.6 Customer service

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

A list of authorized KTM dealers can be found on the KTM website.
International KTM Website: http://www.ktm.com
4.1 View of vehicle, front left (example)

1. Clutch lever (p. 19)
2. Filler cap
3. Air filter box cover
4. Side stand (p. 24)
5. Engine number (p. 18)
6. Shift lever (p. 23)
4.2 View of vehicle, rear right (example)

1. Horn button (p. 19)
2. Turn signal switch (p. 20)
3. Light switch (p. 20)
4. Start button (p. 20)
5. Emergency OFF switch (p. 20)
6. Throttle grip (p. 19)
7. Hand brake lever (p. 19)
8. Foot brake lever (p. 24)
5.1 Vehicle identification number

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

5.2 Type label

Type label 1 is fixed to the front of the steering head. The additional type label for Canada 2 is fixed to the front of the chest tube.

5.3 Key number

Key number 1 for the ignition and steering lock is indicated on the KEYCODECARD.

Info
You need the key number to order a spare key. Keep the KEYCODECARD in a safe place.
5.4 Engine number

Engine number 1 is embossed on the left side of the engine over the engine sprocket.

5.5 Fork part number

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

5.6 Shock absorber article number

Shock absorber article number 1 is stamped on the top of the shock absorber above the adjusting ring towards the engine side.
6.1 Clutch lever

Clutch lever 1 is fitted on the handlebar on the left. The clutch is activated hydraulically and adjusts itself automatically.

6.2 Hand brake lever

The hand brake lever 1 is fitted 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 1 is fitted on the right side of the handlebar.

6.4 Horn button

Horn button 1 is fitted on the left side of the handlebar.

Possible states
- The horn button is in the basic position
- The horn button is pressed – The horn is operated in this position.
6.5 Light switch

The light switch 1 is fitted on the left side of the handlebar.

Possible states

- Low beam on – The light switch is turned downward. In this position, the low beam and tail light are switched on.
- High beam on – The light switch is turned upward. In this position, the high beam and the tail light are switched on.

6.6 Turn signal switch

Turn signal switch 1 is fitted on the left side of the handlebar.

Possible states

- Turn signal light off
- Turn signal light, left, on – The turn signal switch is pressed to the left. The turn signal switch returns to the middle position after activation.
- Turn signal light, right, on – The turn signal switch is pressed to the right. The turn signal switch returns to the middle position after activation.

To switch off the turn signal, press the turn signal switch toward the switch housing.

6.7 Emergency OFF switch

The emergency OFF switch 1 is fitted on the right side of the handlebar.

Possible states

- Ignition off – In this position, the ignition circuit is interrupted, a running engine stops, and a non-running engine will not start.
- Ignition on – In this position, the ignition circuit is closed and the engine can be started.

6.8 Start button

Start button 1 is fitted on the right side of the handlebar.

Possible states

- The start button 1 is in the basic position
- The start button 1 is pressed – The starter motor is actuated in this position.
6.9 Overview of indicator lamps

Possible states

<table>
<thead>
<tr>
<th>Lamp Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The high beam indicator lamp lights up blue</td>
<td>The high beam is switched on.</td>
</tr>
<tr>
<td>Malfunction indicator lamp lights up/flashes yellow</td>
<td>The OBD has detected an error in the vehicle electronics. Come safely to a halt, and contact an authorized KTM workshop.</td>
</tr>
<tr>
<td>The fuel level warning lamp lights up yellow</td>
<td>The fuel level has reached the reserve mark.</td>
</tr>
<tr>
<td>Turn signal indicator lamp flashes green</td>
<td>The turn signal is switched on.</td>
</tr>
</tbody>
</table>

6.10 Ignition lock

Ignition lock 1 is located to the right of the combination instrument.

Possible states

<table>
<thead>
<tr>
<th>State</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ignition off</td>
<td>In this position, the ignition circuit is interrupted, a running engine stops, and a non-running engine will not start.</td>
</tr>
<tr>
<td>Ignition on</td>
<td>In this position, the ignition circuit is closed and the engine can be started.</td>
</tr>
</tbody>
</table>

6.11 Opening the fuel tank filler cap

**Danger**

**Fire hazard** Fuel is highly flammable.

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

**Warning**

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

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

**Note**

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

- Do not allow fuel to enter the groundwater, the soil, or the sewage system.
6.12 Closing the fuel tank filler cap

- Mount the fuel tank filler cap and turn it clockwise until release button 1 engages.

**Info**
Route fuel tank breather hose 2 without kinks.

6.13 Cold start button

The cold start button 1 is fitted to the bottom of the throttle valve body. The electronic fuel injection system extends the injection time if the engine is cold and the ambient temperature is low. To help the engine burn the increased fuel quantity, it must be supplied with additional oxygen by pushing the cold start button. After briefly opening up the throttle and then releasing the throttle grip again, or turning the throttle grip towards the front, the cold start button returns to its original position.

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

**Possible states**
- The cold start button is activated – The cold start button is pushed in all the way.
- The cold start button is deactivated – The cold start button is in its basic position.
6.14 Idle speed adjusting screw

The idle setting of the throttle valve body substantially influences the vehicle's starting behavior, a stable idle speed, and the vehicle's response when the throttle is opened. An engine with a correctly set idle speed is easier to start than an engine with the idle speed set incorrectly. The idle speed is adjusted using the idle speed adjusting screw 1. Increase the idle speed by turning the idle speed adjusting screw clockwise. Decrease the idle speed by turning the idle speed adjusting screw counterclockwise.

6.15 Shift lever

Shift lever 1 is mounted on the left of the engine. The gear positions can be seen in the figure. The neutral or idle position is between the first and second gears.
6.16 Foot brake lever

Foot brake lever 1 is located in front of the right footrest. The rear brake is engaged with the foot brake lever.

6.17 Side stand

The side stand 1 is attached to the left side of the vehicle.

The side stand is used for parking the motorcycle.

Info
When you are riding, side stand 1 must be folded up and secured with rubber strap 2.

6.18 Steering lock

Steering lock 1 is fitted on the left side of the steering head. The steering lock is used to lock the steering. Steering, and therefore riding, is no longer possible.
6.19 Locking the steering

Note
Danger of damage  The parked vehicle can roll away or fall over.
– Park the vehicle on a firm and level surface.

– Park the vehicle.
– Turn handlebar as far as possible to the right.
– Lubricate the steering lock regularly.

Universal oil spray (p. 152)

– Insert the key for the steering lock into the steering lock (p. 24), turn it to the left, push it in, and turn it to the right. Pull out the key for the steering lock.
   ✔ Steering is no longer possible.

Info
Never leave the key for the steering lock in the steering lock.

6.20 Unlocking the steering

– Insert the key for the steering lock into the steering lock (p. 24), turn it to the left, pull it out, and turn it to the right. Pull out the key for the steering lock.
   ✔ The handlebar can now be moved again.

Info
Never leave the key for the steering lock in the steering lock.
7.1 Combination instrument overview

- Press the button \( \mathbb{H} \) to control different functions.
- Press the button \( \mathbb{H} \) to control different functions.

Info
When the vehicle is delivered, only the \text{SPEED/H} and \text{SPEED/ODO} display modes are activated.

7.2 Activation and test

Activating combination instrument
The combination instrument is activated when one of the buttons is pressed or an impulse comes from the wheel speed sensor.

Display test
To enable you to check that the display is functioning properly, all display segments light up briefly.

WS (wheel size)
After the display function check, the wheel circumference \( \text{WS} \) is displayed briefly.

Info
The number 2205 equals the circumference of the 21" front wheel with standard tires.

The display then changes to the last selected mode.

7.3 Setting the kilometers or miles

Info
If you change the unit, the value \text{ODO} is retained and converted accordingly.
The values \text{TR1}, \text{TR2}, \text{A1}, \text{A2} and \text{S1} are cleared when the unit of measure is changed.

Condition
The motorcycle is stationary.

- Repeatedly press the button \( \mathbb{H} \) briefly until \( \text{H} \) appears at the bottom right of the display.
- Press the button \( \mathbb{H} \) for 2–3 seconds.
  ✔ The Setup menu is displayed and the active functions are shown.
- Repeatedly press the button \( \mathbb{H} \) briefly until \text{Km/h/Mph} flashes.

Adjusting the Km/h
- Press the button \( \mathbb{H} \).

Adjusting the Mph
- Press the button \( \mathbb{H} \).
Wait 3 - 5 seconds.

The settings are stored.

Info
If no button is pressed for 10–12 seconds, or if an impulse comes from the wheel speed sensor, the settings are automatically saved and the setup menu is closed.

7.4 Setting the combination instrument

Info
When the vehicle is delivered, only the SPEED/H and SPEED/ODO display modes are activated.

Condition
The motorcycle is stationary.

Repeatedly press the button briefly until H appears at the bottom right of the display.

Press the button for 2–3 seconds.

The Setup menu is displayed and the active functions are shown.

Info
If no button is pressed for 10–12 seconds, the settings are automatically saved.

If no button is pressed for 20 seconds, or if an impulse comes from the wheel speed sensor, the settings are automatically saved and the setup menu is closed.

Repeatedly press the button briefly until the desired function flashes.

The selected function flashes.

Activating the function
- Press the button.

The symbol continues to appear in the display and the next function appears.

Deactivating a function
- Press the button.

The symbol disappears in the display and the next function appears.
7.5 Setting the clock

**Condition**
The motorcycle is stationary.

- Repeatedly press the button briefly until **CLK** appears at the bottom right of the display.
- Press the button for 2–3 seconds.
  ✓ The hour display flashes.
- Adjust hour display with the button and/or button.
- Wait 3 - 5 seconds.
  ✓ The next segment of the display flashes and can be set.
- You can set the following segments in the same way as the hours by pressing the button and the button.

**Info**
The seconds can only be set to zero.
If no button is pressed for 15-20 seconds, or if an impulse comes from the wheel speed sensor, the settings are automatically saved and the setup menu is closed.

7.6 Viewing the lap time

**Info**
This function can only be opened if lap times have actually been timed.

**Condition**
The motorcycle is stationary.

- Repeatedly press the button briefly until **LAP** appears at the bottom right of the display.
- Briefly press the button.
  LAP 1 appears on the left side of the display.
- The laps 1–10 can be viewed with the button.
- Press and hold the button for 3-5 seconds.
  ✓ The lap times are deleted.
- Briefly press the button.
  ✓ Next display mode

**Info**
When an impulse is received from the wheel speed sensor, the left side of the display changes back to the **SPEED** mode.
7.7 Display mode SPEED (speed)

- Repeatedly press the button briefly until SPEED appears on the left side of the display.

The current speed is displayed in the SPEED display mode. The current speed can be displayed in Km/h or Mph.

**Info**

Make the setting according to the country.

When an impulse comes from the front wheel, the left side of the display changes to the SPEED mode and the current speed is shown.

7.8 Display mode SPEED/H (operating hours)

**Condition**

- The motorcycle is stationary.
- Repeatedly press the button briefly until H appears at the bottom right of the display.

In display mode H, the service hours of the engine are displayed. The service hour counter stores the total traveling time.

**Info**

The service hour counter is necessary for ensuring that service work is carried out at the right intervals.

If the combination instrument is in H display mode when starting off, it automatically changes to the ODO display mode.

The H display mode is suppressed during the journey.

<table>
<thead>
<tr>
<th>Press the button for 2–3 seconds.</th>
<th>The display changes to the functions setup menu.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Briefly press the button.</td>
<td>Next display mode</td>
</tr>
<tr>
<td>Press the button for 2–3 seconds.</td>
<td>No function</td>
</tr>
<tr>
<td>Briefly press the button.</td>
<td>No function</td>
</tr>
</tbody>
</table>

7.9 Setup menu

**Condition**

- The motorcycle is stationary.
- Repeatedly press the button briefly until H appears at the bottom right of the display.
- Press the button for 2–3 seconds.

The Setup menu displays the active functions.
Repeatedly press the button briefly until the desired function is reached. If no button is pressed for 20 seconds, the settings are automatically saved.

<table>
<thead>
<tr>
<th>Briefly press the button</th>
<th>Activates the flashing display and changes to the next display</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press the button for 2–3 seconds.</td>
<td>No function</td>
</tr>
<tr>
<td>Briefly press the button</td>
<td>Deactivates the flashing display and changes to the next display</td>
</tr>
<tr>
<td>Press the button for 2–3 seconds.</td>
<td>No function</td>
</tr>
<tr>
<td>Wait 3 - 5 seconds.</td>
<td>Changes to the next display without changes</td>
</tr>
<tr>
<td>Wait 10 - 12 seconds.</td>
<td>Setup menu starts, stores the settings, and changes to H or ODO.</td>
</tr>
</tbody>
</table>

### 7.10 Setting the unit of measurement

#### Condition
- The motorcycle is stationary.
- Repeatedly press the button briefly until H appears at the bottom right of the display.
- Press the button for 2–3 seconds.
- Repeatedly press the button briefly until Km/h/Mph flashes.

In measurement unit mode, you can change the unit of measurement.

#### Info
If no button is pressed for 5 seconds, the settings are automatically saved.

<table>
<thead>
<tr>
<th>Briefly press the button</th>
<th>Starts selection, activates Km/h display</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press the button for 2–3 seconds.</td>
<td>No function</td>
</tr>
<tr>
<td>Briefly press the button</td>
<td>Activates Mph display</td>
</tr>
<tr>
<td>Press the button for 2–3 seconds.</td>
<td>No function</td>
</tr>
<tr>
<td>Wait 3 - 5 seconds.</td>
<td>Changes to the next display, changes from selection to the Setup menu</td>
</tr>
<tr>
<td>Wait 10 - 12 seconds.</td>
<td>Stores and closes the Setup menu</td>
</tr>
</tbody>
</table>
7.11 Display mode SPEED/CLK (time)

- Repeatedly press the button briefly until CLK appears at the bottom right of the display.

The time is shown in display mode CLK.

<table>
<thead>
<tr>
<th>Button Pressed</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Press the button for 2–3 seconds.</td>
<td>The display changes to the Setup menu of the clock.</td>
</tr>
<tr>
<td>- Briefly press the button.</td>
<td>Next display mode</td>
</tr>
<tr>
<td>- Press the button for 2–3 seconds.</td>
<td>No function</td>
</tr>
<tr>
<td>- Briefly press the button.</td>
<td>No function</td>
</tr>
</tbody>
</table>

7.12 Setting the clock

**Condition**
- The motorcycle is stationary.
- Repeatedly press the button briefly until CLK appears at the bottom right of the display.
- Press the button for 2–3 seconds.

<table>
<thead>
<tr>
<th>Button Pressed</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Press the button for 2–3 seconds.</td>
<td>Increases the value</td>
</tr>
<tr>
<td>- Briefly press the button.</td>
<td>Increases the value</td>
</tr>
<tr>
<td>- Press the button for 2–3 seconds.</td>
<td>Reduces the value</td>
</tr>
<tr>
<td>- Briefly press the button.</td>
<td>Reduces the value</td>
</tr>
<tr>
<td>- Wait 3 - 5 seconds.</td>
<td>Changes to the next value</td>
</tr>
<tr>
<td>- Wait 10 - 12 seconds.</td>
<td>Closes the SETUP menu</td>
</tr>
</tbody>
</table>

7.13 Display mode SPEED/LAP (lap time)

- Repeatedly press the button briefly until LAP appears at the bottom right of the display.

In the LAP display mode, up to 10 lap times can be timed with the stop watch.

**Info**
If the lap time continues running after the button is pressed, 9 memory locations are occupied. Lap 10 must be timed using the button.
### 7 COMBINATION INSTRUMENT

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press the button for 2–3 seconds.</td>
<td>The stop watch and the lap time are reset.</td>
</tr>
<tr>
<td>Briefly press the button.</td>
<td>Next display mode</td>
</tr>
<tr>
<td>Press the button for 2–3 seconds.</td>
<td>Stops the clock.</td>
</tr>
<tr>
<td>Briefly press the button.</td>
<td>Starts the stop watch or stop the current lap time measurement, stores it and the stop watch starts the next lap.</td>
</tr>
</tbody>
</table>

#### 7.14 Viewing the lap time

**Condition**
- The motorcycle is stationary.
- Repeatedly press the button briefly until *LAP* appears at the bottom right of the display.
- Briefly press the button.

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press the button for 2–3 seconds.</td>
<td>The stop watch and the lap time are reset.</td>
</tr>
<tr>
<td>Briefly press the button.</td>
<td>Select a lap from 1–10</td>
</tr>
<tr>
<td>Press the button for 2–3 seconds.</td>
<td>No function</td>
</tr>
<tr>
<td>Briefly press the button.</td>
<td>View the next lap time.</td>
</tr>
</tbody>
</table>

#### 7.15 Display mode SPEED/ODO (odometer)

- Repeatedly press the button briefly until *ODO* appears at the bottom right of the display.

The total traveled distance is shown in display mode *ODO*.

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press the button for 2–3 seconds.</td>
<td>No function</td>
</tr>
<tr>
<td>Briefly press the button.</td>
<td>Next display mode</td>
</tr>
<tr>
<td>Press the button for 2–3 seconds.</td>
<td>No function</td>
</tr>
<tr>
<td>Briefly press the button.</td>
<td>No function</td>
</tr>
</tbody>
</table>
7.16 Display mode SPEED/TR1 (trip master 1)

- Repeatedly press the button briefly until TR1 appears at the top right of the display.

TR1 (trip master 1) runs constantly and counts up to 999.9. You can use it to measure trips or the distance between refueling stops.

TR1 is coupled with A1 (average speed 1) and S1 (stop watch 1).

Info
If 999.9 is exceeded, the values of TR1, A1 and S1 are automatically reset to 0.0.

| Press the button for 2–3 seconds. | Displays of TR1, A1 and S1 are reset to 0.0. |
| Briefly press the button. | Next display mode |
| Press the button for 2–3 seconds. | No function |
| Briefly press the button. | No function |

7.17 Display mode SPEED/TR2 (trip master 2)

- Repeatedly press the button briefly until TR2 appears at the top right of the display.

TR2 (trip master 2) runs constantly and counts up to 999.9.

| Press the button for 2–3 seconds. | Clears the values TR2 and A2. |
| Briefly press the button. | Next display mode |
| Press the button for 2–3 seconds. | Reduces value of TR2. |
| Briefly press the button. | Reduces value of TR2. |

7.18 Setting TR2 (trip master 2)

Condition
- The motorcycle is stationary.

- Repeatedly press the button briefly until TR2 appears at the top right of the display.

- Press the button for 2–3 seconds until TR2 flashes.

The displayed value can be set manually with the button and the button. This is a very practical function when riding using the road book.
The TR2 value can also be corrected manually during the journey with the button and the button.

If 999.9 is exceeded, the value of TR2 is automatically reset to 0.0.

<table>
<thead>
<tr>
<th>Action</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press the button for 2–3 seconds.</td>
<td>Increases value of TR2.</td>
</tr>
<tr>
<td>Briefly press the button.</td>
<td>Increases value of TR2.</td>
</tr>
<tr>
<td>Press the button for 2–3 seconds.</td>
<td>Reduces value of TR2.</td>
</tr>
<tr>
<td>Briefly press the button.</td>
<td>Reduces value of TR2.</td>
</tr>
<tr>
<td>Wait 10 - 12 seconds.</td>
<td>Stores and closes the Setup menu.</td>
</tr>
</tbody>
</table>

### 7.19 Display mode SPEED/A1 (average speed 1)

- Repeatedly press the button briefly until A1 appears at the top right of the display.

A1 (average speed 1) shows the average speed calculated using TR1 (trip master 1) and S1 (stop watch 1).

The calculation of this value is activated by the first impulse of the wheel speed sensor and ends 3 seconds after the last impulse.

<table>
<thead>
<tr>
<th>Action</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press the button for 2–3 seconds.</td>
<td>Displays of TR1, A1 and S1 are reset to 0.0.</td>
</tr>
<tr>
<td>Briefly press the button.</td>
<td>Next display mode</td>
</tr>
<tr>
<td>Press the button for 2–3 seconds.</td>
<td>No function</td>
</tr>
<tr>
<td>Briefly press the button.</td>
<td>No function</td>
</tr>
</tbody>
</table>

### 7.20 Display mode SPEED/A2 (average speed 2)

- Repeatedly press the button briefly until A2 appears at the top right of the display.

A2 (average speed 2) shows the average speed on the basis of the current speed if the stop watch S2 (stop watch 2) is running.

<table>
<thead>
<tr>
<th>Action</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Briefly press the button.</td>
<td>Next display mode</td>
</tr>
</tbody>
</table>

Info

The displayed value can differ from the actual average speed if S2 was not stopped after the ride.
Press the button \( \text{II} \) for 2–3 seconds. | No function
---|---
Press the button \( \text{II} \) for 2–3 seconds. | No function
Briefly press the button \( \text{II} \). | No function

### 7.21 Display mode SPEED/S1 (stop watch 1)

- Repeatedly press the button \( \text{II} \) briefly until \( \text{S1} \) appears at the top right of the display.

**S1** (Stop watch 1) shows the riding time based on \( \text{TR1} \) and continues running as soon as an impulse arrives from the wheel speed sensor.

The calculation of this value starts with the first impulse from the wheel speed sensor and ends 3 seconds after the last impulse.

| Press the button \( \text{II} \) for 2–3 seconds. | Displays of \( \text{TR1}, \text{A1} \) and \( \text{S1} \) are reset to 0.0.
---|---
Briefly press the button \( \text{II} \). | Next display mode
Press the button \( \text{II} \) for 2–3 seconds. | No function
Briefly press the button \( \text{II} \). | No function

### 7.22 Display mode SPEED/S2 (stop watch 2)

- Repeatedly press the button \( \text{II} \) briefly until \( \text{S2} \) appears at the top right of the display.

**S2** (Stop watch 2) is a manual stop watch.

If **S2** is running in the background, the display \( \text{S2} \) flashes.

| Press the button \( \text{II} \) for 2–3 seconds. | The displays of \( \text{S2} \) and \( \text{A2} \) are set to 0,0.
---|---
Briefly press the button \( \text{II} \). | Next display mode
Press the button \( \text{II} \) for 2–3 seconds. | No function
Briefly press the button \( \text{II} \). | Starts or stops \( \text{S2} \).
### 7.23 Table of functions

<table>
<thead>
<tr>
<th>Display</th>
<th>Press the button ⬇️ for 2–3 seconds.</th>
<th>Briefly press the button ⬇️.</th>
<th>Press the button ⬇️ for 2–3 seconds.</th>
<th>Briefly press the button ⬇️.</th>
<th>Wait 3 - 5 seconds.</th>
<th>Wait 10 - 12 seconds.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display mode SPEED/H (operating hours)</td>
<td>The display changes to the functions setup menu.</td>
<td>Next display mode</td>
<td>No function</td>
<td>No function</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Setup menu</td>
<td>No function</td>
<td>Activates the flashing display and changes to the next display</td>
<td>No function</td>
<td>Deactivates the flashing display and changes to the next display</td>
<td>Changes to the next display without changes</td>
<td>Setup menu starts, stores the settings, and changes to H or ODO.</td>
</tr>
<tr>
<td>Setting the unit of measurement</td>
<td>No function</td>
<td>Starts selection, activates Km/h display</td>
<td>No function</td>
<td>Activates Mph display</td>
<td>Changes to the next display, changes from selection to the Setup menu</td>
<td>Stores and closes the Setup menu</td>
</tr>
<tr>
<td>Display mode SPEED/CLK (time)</td>
<td>The display changes to the Setup menu of the clock.</td>
<td>Next display mode</td>
<td>No function</td>
<td>No function</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Setting the clock</td>
<td>Increases the value</td>
<td>Increases the value</td>
<td>Reduces the value</td>
<td>Reduces the value</td>
<td>Changes to the next value</td>
<td>Closes the SETUP menu</td>
</tr>
<tr>
<td>Display mode SPEED/LAP (lap time)</td>
<td>The stop watch and the lap time are reset.</td>
<td>Next display mode</td>
<td>Stops the clock.</td>
<td>Starts the stop watch or stop the current lap time measurement, stores it and the stop watch starts the next lap.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viewing the lap time</td>
<td>The stop watch and the lap time are reset.</td>
<td>Select a lap from 1–10</td>
<td>No function</td>
<td>View the next lap time.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Display mode SPEED/ODO (odometer)</td>
<td>No function</td>
<td>Next display mode</td>
<td>No function</td>
<td>No function</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Display mode SPEED/TR1 (trip master 1)</td>
<td>Displays of TR1, A1 and S1 are reset to 0,0.</td>
<td>Next display mode</td>
<td>No function</td>
<td>No function</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Display mode SPEED/TR2 (trip master 2)</td>
<td>Clears the values TR2 and A2.</td>
<td>Next display mode</td>
<td>Reduces value of TR2.</td>
<td>Reduces value of TR2.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table of conditions and menu activation

<table>
<thead>
<tr>
<th>Display mode</th>
<th>The motorcycle is stationary.</th>
<th>Menu can be activated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display mode <strong>SPEED/H</strong> (operating hours)</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Setup menu</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Setting the unit of measurement</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Setting the clock</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Display mode <strong>SPEED/LAP</strong> (lap time)</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Viewing the lap time</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Display mode <strong>SPEED/TR1</strong> (trip master 1)</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Display mode <strong>SPEED/TR2</strong> (trip master 2)</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Setting <strong>TR2</strong> (trip master 2)</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Display mode <strong>SPEED/A1</strong> (average speed 1)</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Display mode <strong>SPEED/A2</strong> (average speed 2)</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Display mode <strong>SPEED/S1</strong> (stop watch 1)</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Display mode <strong>SPEED/S2</strong> (stop watch 2)</td>
<td>•</td>
<td></td>
</tr>
</tbody>
</table>
8.1 Advice on preparing for first use

**Danger**

**Danger of accidents**  A rider who is not fit to ride poses a danger to him or herself and others.
- Do not operate the vehicle if you are not fit to ride due to alcohol, drugs or medication.
- Do not operate the vehicle if you are physically or mentally impaired.

**Warning**

**Risk of injury**  Missing or poor protective clothing presents an increased safety risk.
- Wear appropriate protective clothing such as helmet, boots, gloves as well as trousers and a jacket with protectors on all rides.
- Always wear protective clothing that is in good condition and meets the legal regulations.

**Warning**

**Danger of crashing**  Different tire tread patterns on the front and rear wheel impair the handling characteristic.
Different tire tread patterns can make the vehicle significantly more difficult to control.
- Make sure that only tires with a similar tire tread pattern are fitted to the front and rear wheel.

**Warning**

**Danger of accidents**  An unadapted riding style impairs the handling characteristic.
- Adapt your riding speed to the road conditions and your riding ability.

**Warning**

**Danger of accidents**  The vehicle is not designed to carry passengers.
- Do not ride with a passenger.

**Warning**

**Danger of accidents**  The brake system fails in the event of overheating.
If the foot brake lever is not released, the brake linings drag continuously.
- Take your foot off the foot brake lever when you are not braking.

**Warning**

**Danger of accidents**  Total weight and axle loads influence the handling characteristic.
- Do not exceed the maximum permissible overall weight or the axle loads.

**Warning**

**Risk of misappropriation**  People who act without authorization endanger themselves and others.
- Do not leave the vehicle unattended if the engine is running.
- Protect the vehicle against access by unauthorized persons.

**Info**

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

- Make sure that the pre-sales inspection work has been carried out by an authorized KTM workshop.
  - You will receive a delivery certificate when the vehicle is handed over.
- Before riding for the first time, read the entire Owner’s Manual carefully.
- Get to know the controls.
- Adjust basic position of the clutch lever. (p. 86)
- Adjust the free travel of the handbrake lever. (p. 90)
– Adjust the basic position of the foot brake lever. (p. 96)
– Adjust the basic position of the shift lever. (p. 127)
– Get used to the handling characteristics of the motorcycle on a suitable surface before undertaking more challenging trips.

**Info**
When offroad, it is recommended that you are accompanied by another person on another vehicle so that you can help each other.

– Try also to ride as slowly as possible and in a standing position to get a better feel for the motorcycle.
– Do not make any off-road trips that exceed your ability and experience.
– Hold the handlebar firmly with both hands and keep your feet on the footrests when riding.
– If you carry any luggage, make sure you fix it firmly as close as possible to the center of the vehicle and ensure even weight distribution between the front and rear wheels.

**Info**
Motorcycles react sensitively to any changes of weight distribution.

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

**Guideline**

<table>
<thead>
<tr>
<th>Maximum permissible overall weight</th>
<th>335 kg (739 lb.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum permissible front axle load</td>
<td>145 kg (320 lb.)</td>
</tr>
<tr>
<td>Maximum permissible rear axle load</td>
<td>190 kg (419 lb.)</td>
</tr>
</tbody>
</table>

– Check the spoke tension. (p. 106)

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

– Run in the engine. (p. 39)

### 8.2 Running-in the engine

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

**Guideline**

<table>
<thead>
<tr>
<th>Maximum engine speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>During the first operating hour</td>
</tr>
<tr>
<td>Maximum engine performance</td>
</tr>
<tr>
<td>During the first 3 operating hours</td>
</tr>
</tbody>
</table>

– Avoid fully opening the throttle!
8.3 Starting power of lithium-ion batteries at low temperatures

Lithium-ion batteries are far lighter than lead batteries, have a low self-discharge rate, and have more starting power at temperatures over 15 °C (60 °F). At low temperatures, however, the starting power of lithium-ion batteries drops to below that of lead batteries. Multiple starting attempts may be needed. Press the start button for 5 seconds, and wait 30 seconds between attempts. The pauses are necessary so that the heat created can distribute through the lithium-ion battery and the 12-V battery is not damaged. If the charged lithium-ion battery is unable to actuate the electric starter when temperatures are below 15 °C (60 °F), the battery is not faulty, but needs to be warmed up internally to increase its starting power (current output). The starting power increases as the battery warms up.

8.4 Preparing the vehicle for difficult operating conditions

- Clean the air filter and air filter box. (p. 73)

- Check the air filter approx. every 30 minutes.

- Check the 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. 40)
- Rides on wet sand. (p. 41)
- Rides on wet and muddy circuits. (p. 42)
- Rides at high temperatures or slow riding. (p. 42)
- Riding at low temperatures and in snow. (p. 42)

8.5 Preparing the vehicle for riding on dry sand

- Mount the air filter dust cover.

Air filter dust cover (79006920000)

- Info
  - Observe the fitting instructions for KTM PowerParts.
Mount the air filter sand cover.

Air filter sand cover (79006922000)

Info
Observe the fitting instructions for KTM PowerParts.

Clean the chain.

Chain cleaner (p. 151)

Mount the steel sprocket.

Grease the chain.

Universal oil spray (p. 152)

Clean the radiator fins.

Straighten the bent radiator fins carefully.

---

Mount the air filter rain cover.

Air filter rain cover (79006921000)

Info
Observe the fitting instructions for KTM PowerParts.

Clean the chain.

Chain cleaner (p. 151)

Mount the steel sprocket.

Grease the chain.

Universal oil spray (p. 152)

Clean the radiator fins.

Straighten the bent radiator fins carefully.

---

8.6 Preparing the vehicle for riding on wet sand
8.7 Preparing the vehicle for riding on wet and muddy circuits

- Mount the air filter rain cover.
  Air filter rain cover (79006921000)
  
  Info
  Observe the fitting instructions for KTM PowerParts.

- Mount the steel sprocket.
- Clean the motorcycle. (p. 133)
- Straighten the bent radiator fins carefully.

8.8 Preparing vehicle for high temperatures or slow riding

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

- Clean the chain.
  Chain cleaner (p. 151)
- Clean the radiator fins.
- Straighten the bent radiator fins carefully.
- Check the coolant level. (p. 120)

8.9 Preparing the vehicle for low temperatures or snow

- Mount the air filter rain cover.
  Air filter rain cover (79006921000)
  
  Info
  Observe the fitting instructions for KTM PowerParts.
9.1 Checks and maintenance measures when preparing for use

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

- Check the engine oil level. (p. 129)
- Check the electrical system.
- Check front brake fluid level. (p. 91)
- Check the rear brake fluid level. (p. 96)
- Check the front brake linings. (p. 93)
- Check the rear brake linings. (p. 98)
- Check that the brake system is functioning properly.
- Check the coolant level. (p. 120)
- Check for chain dirt accumulation. (p. 79)
- Check the chain, rear sprocket, engine sprocket, and chain guide. (p. 82)
- Check the chain tension. (p. 80)
- Check tire condition. (p. 105)
- Check tire pressure. (p. 105)
- Check the spoke tension. (p. 106)

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

- Clean the dust boots of the fork legs. (p. 61)
- Bleed the fork legs. (p. 60)
- Check the air filter.
- Check the settings of all controls and ensure that they can be operated smoothly.
- Check all screws, nuts, and hose clamps regularly for tightness.
- Check the fuel level.

9.2 Starting the vehicle

Danger

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

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

Note

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

- Always run the engine warm at a low speed.
– Take the motorcycle off side stand 1 and secure the side stand with rubber strap 2.
– Shift the transmission into neutral.
– Turn the ignition key in the ignition lock to the position ⊕.
– Turn the emergency OFF switch to the position ⊕.

### Condition
Ambient temperature: < 20 °C (< 68 °F)
– Push the cold start button in all the way.

– Press the start button.

#### Info
Press the start button for a maximum of 5 seconds. Wait for 30 seconds before a further attempt at starting. At temperatures below 15 °C (60 °F), several attempts at starting may be necessary to warm-up the lithium-ion battery and thereby increase the starting power. During the starting process, the malfunction indicator lamp lights up.

### 9.3 Starting off

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

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

### 9.4 Shifting, riding

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

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

– Shift into a higher gear when conditions allow (incline, road situation, etc.). To do so, release the throttle while simultaneously pulling the clutch lever, shift into the next gear, release the clutch lever and open the throttle.
– After reaching maximum speed by fully opening the throttle grip, turn the throttle back so it is ¾ open. This will barely reduce the speed, but fuel consumption will be considerably lower.
– Always open the throttle only as much as the engine can handle – abrupt throttle opening increases fuel consumption.
– To shift down, apply the brakes and close the throttle at the same time.
– Pull the clutch lever and shift into a lower gear, release the clutch lever slowly, and either open the throttle or shift again.
– Switch off the engine if running at idle speed or stationary for a long time.

Guideline

\[ \geq 2 \text{ min} \]

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

### 9.5 Braking

**Warning**

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

**Warning**

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

**Warning**

**Danger of accidents** Moisture and dirt impair the brake system.
– Brake carefully several times to dry out and remove dirt from the brake linings and the brake discs.

– On sandy, wet or slippery surfaces, use 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.
– Make use of the braking effect of the engine when driving down long downhill stretches. To do so, shift back one or two gears, but do not overrev the engine. You will need to apply the brakes far less often and the brake system will not overheat.

### 9.6 Stopping, parking

**Warning**

**Risk of misappropriation** People who act without authorization endanger themselves and others.
– Do not leave the vehicle unattended if the engine is running.
– Protect the vehicle against access by unauthorized persons.

**Warning**

**Danger of burns** Some vehicle components become very hot when the vehicle is operated.
– Do not touch any parts such as the exhaust system, radiator, engine, shock absorber, or brake system before the vehicle parts have cooled down.
– Let the vehicle parts cool down before you perform any work on the vehicle.

**Note**

**Fire hazard** Hot vehicle components pose a fire hazard and explosion risk.
– Do not park the vehicle near to materials which are highly flammable or explosive.
– Allow the vehicle to cool down before covering it.
**9 RIDING INSTRUCTIONS**

**Note**

**Material damage**  The vehicle may be damaged by incorrect procedure when parking.
Significant damage may be caused if the vehicle rolls away or falls over.
The components for parking the vehicle are designed only for the weight of the vehicle.

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

- Apply the brakes on the motorcycle.
- Shift the transmission into neutral.
- Turn the ignition key in the ignition lock to the position ✗ while the engine is idling.
- Park the motorcycle on firm ground.

---

**9.7 Transporting**

**Note**

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

- Park the vehicle on a firm and level surface.

**Note**

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

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

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

---

**9.8 Refueling**

**Danger**

**Fire hazard**  Fuel is highly flammable.
The fuel in the fuel tank expands when warm and can escape if overfilled.

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

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

Note

Material damage Inadequate fuel quality causes the fuel filter to quickly become clogged.
In some countries and regions, the available fuel quality and cleanliness may not be sufficient. This will result in problems with the fuel system.
– Refuel only with clean fuel that meets the specified standards. (Your authorized KTM workshop will be glad to help.)

Note

Environmental hazard Improper handling of fuel is a danger to the environment.
– Do not allow fuel to enter the groundwater, the soil, or the sewage system.

– Switch off the engine.
– Open the fuel tank filler cap. (p. 21)
– Fill the fuel tank with fuel up to a maximum of level A.
Guideline

<table>
<thead>
<tr>
<th>Dimension A</th>
<th>35 mm (1.38 in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total fuel tank capacity, approx.</td>
<td>8.5 l (2.25 US gal)</td>
</tr>
</tbody>
</table>
– Close the fuel tank filler cap. (p. 22)
### 10.1 Additional information

Any further work that results from the compulsory work or from the recommended work must be ordered separately and invoiced separately.

Different service intervals may apply in your country, depending on the local operating conditions. Individual service intervals and scopes may change in the course of technical developments. The most up-to-date service schedule can always be found on KTM Dealer.net. Your authorized KTM dealer will be happy to advise you.

### 10.2 Required work

<table>
<thead>
<tr>
<th></th>
<th>every 2,250 km (1,395 mi)</th>
<th>every 1,500 km (930 mi)</th>
<th>every 750 km (465 mi)</th>
<th>after 50 km (31 mi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read out the fault memory using the KTM diagnostics tool.</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check that the electrical system is functioning properly.</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check and charge the battery.</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check the front brake linings. (p. 93)</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check the rear brake linings. (p. 98)</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check the brake discs. (p. 90)</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check the brake lines for damage and leakage.</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check the rear brake fluid level. (p. 96)</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check the free travel of the foot brake lever. (p. 95)</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check the frame. (p. 85)</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check the link fork. (p. 85)</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check the fork bearing for play.</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Checking the shock absorber heim joint for play.</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check tire condition. (p. 105)</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check tire pressure. (p. 105)</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check the wheel bearing for play.</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check the wheel hubs.</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check the rim run-out.</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check the spoke tension. (p. 106)</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check the chain, rear sprocket, engine sprocket, and chain guide. (p. 82)</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check the chain tension. (p. 80)</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Grease all moving parts (e.g. side stand, hand lever, chain, etc.) and check for smooth operation.</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check/correct the fluid level of the hydraulic clutch. (p. 87)</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check front brake fluid level. (p. 91)</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check the free travel of the hand brake lever. (p. 90)</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check the steering head bearing play. (p. 66)</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check the valve clearance.</td>
<td>○ ● •</td>
<td>○ ● •</td>
<td>○ ● •</td>
<td>○ ● •</td>
</tr>
<tr>
<td>Check the clutch.</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Change the cover seal and shaft seal rings of the water pump.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Change the engine oil and oil filter, clean the oil screen. (p. 129)</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
<tr>
<td>Check all hoses (e.g. fuel, cooling, bleeder, drainage hoses, etc.) and sleeves for cracking, tightness, and correct routing.</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
<td>○ ● ● ●</td>
</tr>
</tbody>
</table>
### 10.3 Recommended work

<table>
<thead>
<tr>
<th>Interval</th>
<th>Task Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>every 2,250 km (1,395 mi)</td>
<td>Change the antifreeze and coolant level.</td>
</tr>
<tr>
<td>every 1,500 km (930 mi)</td>
<td>Check the cables for damage and for routing without kinks.</td>
</tr>
<tr>
<td>every 750 km (465 mi)</td>
<td>Check that the throttle cables are undamaged, routed without kinks, and set correctly.</td>
</tr>
<tr>
<td>after 50 km (31 mi)</td>
<td>Clean the air filter and air filter box.</td>
</tr>
<tr>
<td></td>
<td>Change the glass fiber yarn filling of the main silencer.</td>
</tr>
<tr>
<td></td>
<td>Service the fork.</td>
</tr>
<tr>
<td></td>
<td>Perform the shock absorber service.</td>
</tr>
<tr>
<td></td>
<td>Check the tightness of the easily accessible, safety-relevant screws and nuts.</td>
</tr>
<tr>
<td></td>
<td>Check the headlight setting.</td>
</tr>
<tr>
<td></td>
<td>Change the fuel screen.</td>
</tr>
<tr>
<td></td>
<td>Check the fuel pressure.</td>
</tr>
<tr>
<td></td>
<td>Check idle.</td>
</tr>
<tr>
<td></td>
<td>Check that the radiator fan is functioning properly.</td>
</tr>
<tr>
<td></td>
<td>Check the inlet membrane.</td>
</tr>
<tr>
<td></td>
<td>Final check: Check the vehicle is roadworthy and take a test ride.</td>
</tr>
<tr>
<td></td>
<td>Read out the error memory after the test ride using the KTM diagnostics tool.</td>
</tr>
<tr>
<td></td>
<td>Make a service entry in KTM Dealer.net.</td>
</tr>
<tr>
<td>○ One-time interval</td>
<td></td>
</tr>
<tr>
<td>● Periodic interval</td>
<td></td>
</tr>
</tbody>
</table>

#### 10.3 Recommended work

<table>
<thead>
<tr>
<th>Interval</th>
<th>Task Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>every 48 months</td>
<td>Change the front brake fluid.</td>
</tr>
<tr>
<td>every 12 months</td>
<td>Change the rear brake fluid.</td>
</tr>
<tr>
<td>every 6,750 km (4,185 mi)</td>
<td>Change the hydraulic clutch fluid.</td>
</tr>
<tr>
<td>after 1,000 km (620 mi)</td>
<td>Lubricate the steering head bearing.</td>
</tr>
<tr>
<td>after 500 km (310 mi)</td>
<td>Clean the spark arrestor.</td>
</tr>
<tr>
<td></td>
<td>Service the fork.</td>
</tr>
<tr>
<td></td>
<td>Perform the shock absorber service.</td>
</tr>
<tr>
<td></td>
<td>Change the fuel filter.</td>
</tr>
<tr>
<td></td>
<td>Change the coolant.</td>
</tr>
<tr>
<td>○ One-time interval</td>
<td></td>
</tr>
<tr>
<td>● Periodic interval</td>
<td></td>
</tr>
</tbody>
</table>
### 10 SERVICE SCHEDULE

<table>
<thead>
<tr>
<th>Interval</th>
<th>的动作</th>
</tr>
</thead>
<tbody>
<tr>
<td>every 48 months</td>
<td></td>
</tr>
<tr>
<td>every 12 months</td>
<td></td>
</tr>
<tr>
<td>every 6,750 km (4,185 mi)</td>
<td></td>
</tr>
<tr>
<td>after 1,000 km (620 mi)</td>
<td></td>
</tr>
<tr>
<td>after 500 km (310 mi)</td>
<td></td>
</tr>
</tbody>
</table>

Perform engine service including removing and installing the engine. (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. Change the shaft seal rings of the water pump. Check the transmission and the shift mechanism. Check the oil pressure regulator valve. Change the suction pump. Check the force pump and lubrication system. Check the timing assembly. Change the timing chain. Change all engine bearings. Change the freewheel.)

- One-time interval
- Periodic interval
11.1 Checking the basic chassis setting with rider's weight

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

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

Guideline

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

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

11.2 Compression damping of the shock absorber

The compression damping of the shock absorber is divided into two ranges: high-speed and low-speed. High-speed and low-speed refer to the compression speed of the rear wheel suspension and not to the vehicle speed.

The high-speed compression adjuster has an effect, for example, when landing after a jump: the rear wheel suspension compresses quickly.

The low-speed compression adjuster has an effect, for example, when riding over long ground swells: the rear wheel suspension compresses slowly.

These two ranges can be adjusted separately, although the transition between high-speed and low-speed is gradual. Thus, modifications in the high-speed range affect the compression damping in the low-speed range and vice versa.

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

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

The shock absorber is filled with highly compressed nitrogen.

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

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

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

**Caution**

Risk of injury  Parts of the shock absorber will move around if the shock absorber is detached incorrectly.
The shock absorber is filled with highly compressed nitrogen.
– Please follow the description provided. (Your authorized KTM workshop will be glad to help.)

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

– Using an open end wrench, turn adjusting screw 1 clockwise all the way.

**Info**
Do not loosen fitting 2 !

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

**Guideline**

<table>
<thead>
<tr>
<th>High-speed compression damping</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Comfort</td>
<td>2.5 turns</td>
</tr>
<tr>
<td>Standard</td>
<td>2 turns</td>
</tr>
<tr>
<td>Sport</td>
<td>1 turn</td>
</tr>
</tbody>
</table>

**Info**
Turn clockwise to increase damping; turn counterclockwise to reduce damping during compression.
11.5 Adjusting the rebound damping of the shock absorber

**Caution**

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

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

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

**Guideline**

<table>
<thead>
<tr>
<th>Rebound damping</th>
<th>Comfort</th>
<th>Standard</th>
<th>Sport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rebound damping</td>
<td>18 clicks</td>
<td>15 clicks</td>
<td>12 clicks</td>
</tr>
</tbody>
</table>

**Info**

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

11.6 Measuring the dimension of the rear wheel unloaded

**Preparatory work**
- Raise the motorcycle with the lift stand. (p. 60)

**Main work**
- Position the sag gauge in the rear axle and measure the distance to marking SAG on the rear fender.

<table>
<thead>
<tr>
<th>Sag gauge (00029090100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sag gage pin (00029990010)</td>
</tr>
</tbody>
</table>
- Note the value as dimension A.

**Finishing work**
- Remove the motorcycle from the lift stand. (p. 60)
11.7 Checking the static sag of the shock absorber

- Measure dimension A of rear wheel unloaded. (p. 53)
- Hold the motorcycle upright with aid of an assistant.
- Measure the distance again between the rear axle and marking SAG on the rear fender using the sag gage.
- Note the value as dimension B.

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

- Check the static sag.

<table>
<thead>
<tr>
<th>Static sag</th>
<th>37 mm (1.46 in)</th>
</tr>
</thead>
</table>

» If the static sag is less or more than the specified value:
  - Adjust the spring preload of the shock absorber. (p. 55)

11.8 Checking the riding sag of the shock absorber

- Measure dimension A of rear wheel unloaded. (p. 53)
- With another person holding the motorcycle, the rider, wearing full protective clothing, sits on the seat in a normal sitting position (feet on footrests) and bounces up and down a few times.
  ✔ The rear wheel suspension levels out.
- Another person again measures the distance between the rear axle and marking SAG on the rear fender using the sag gage.
- Note the value as dimension C.

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

- Check riding sag.

<table>
<thead>
<tr>
<th>Riding sag</th>
<th>110 mm (4.33 in)</th>
</tr>
</thead>
</table>

» If the riding sag differs from the specified measurement:
  - Adjust the riding sag. (p. 56)
11.9 Adjusting the spring preload of the shock absorber

**Caution**

**Risk of injury** Parts of the shock absorber will move around if the shock absorber is detached incorrectly. The shock absorber is filled with highly compressed nitrogen.
- Please follow the description provided. (Your authorized KTM workshop will be glad to help.)

**Info**

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

---

### Preparatory work
- Raise the motorcycle with the lift stand. (p. 60)
- Remove the shock absorber. (p. 69)
- After removing the shock absorber, clean it thoroughly.

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

**Hook wrench (90129051000)**

**Info**

If the spring cannot be fully released, the spring must be removed to accurately measure the spring length.
- Measure the total spring length while the spring is not under tension.
- Tension the spring by turning adjusting ring 2 to specified dimension A.

**Guideline**

| Spring preload | 8 mm (0.31 in) |

**Info**

Depending on the static sag and/or the riding sag, it may be necessary to increase or decrease the spring preload.
- Tighten screw 1.

**Guideline**

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

---

### Finishing work
- Install the shock absorber. (p. 69)
- Remove the motorcycle from the lift stand. (p. 60)
11 TUNING THE CHASSIS

11.10 Adjusting the riding sag

Preparatory work
– Raise the motorcycle with the lift stand. (p. 60)
– Remove the shock absorber. (p. 69)
– After removing the shock absorber, clean it thoroughly.

Main work
– Choose and mount a suitable spring.

Guideline

<table>
<thead>
<tr>
<th>Weight of rider</th>
<th>Spring rate (N/mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>65 … 75 kg</td>
<td>60 … 66</td>
</tr>
<tr>
<td>75 kg (143 … 165 lb.)</td>
<td>343 … 377 lb/in</td>
</tr>
<tr>
<td>75 kg (165 … 187 lb.)</td>
<td>394 lb/in</td>
</tr>
<tr>
<td>85 kg (187 … 209 lb.)</td>
<td>377 … 411 lb/in</td>
</tr>
</tbody>
</table>

Info
The spring rate is shown on the outside of the spring. Smaller weight differences can be compensated by changing the spring preload.

Finishing work
– Install the shock absorber. (p. 69)
– Remove the motorcycle from the lift stand. (p. 60)
– Check the static sag of the shock absorber. (p. 54)
– Check the riding sag of the shock absorber. (p. 54)
– Adjust the rebound damping of the shock absorber. (p. 53)

11.11 Checking the basic setting of the fork

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

– As with the shock absorber, smaller differences in the rider's weight can be compensated by the spring preload.
– However, if the fork frequently bottoms out (hard end stop on compression), harder springs must be fitted to avoid damage to the fork and frame.
– If the fork feels unusually hard after extended periods of operation, the fork legs need to be bled.
11.12 Adjusting the compression damping of the fork

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

- Turn white adjuster 1 clockwise as far as it will go.

**Info**
Adjuster 1 is located at the upper end of the left fork leg.
The compression damping is located in left fork leg COMP (white adjuster). The rebound damping is located in right fork leg REB (red adjuster).

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

**Guideline**

<table>
<thead>
<tr>
<th>Compression damping</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Comfort</td>
<td>18 clicks</td>
</tr>
<tr>
<td>Standard</td>
<td>15 clicks</td>
</tr>
<tr>
<td>Sport</td>
<td>12 clicks</td>
</tr>
</tbody>
</table>

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

11.13 Adjusting the rebound damping of the fork

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

- Turn red adjuster 1 clockwise as far as it will go.

**Info**
Adjuster 1 is located at the upper end of the right fork leg.
The rebound damping is located in right fork leg REB (red adjuster). The compression damping is located in left fork leg COMP (white adjuster).

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

**Guideline**

<table>
<thead>
<tr>
<th>Rebound damping</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Comfort</td>
<td>18 clicks</td>
</tr>
<tr>
<td>Standard</td>
<td>15 clicks</td>
</tr>
<tr>
<td>Sport</td>
<td>12 clicks</td>
</tr>
</tbody>
</table>
11.14 Handlebar position

On the upper triple clamp, there are 2 holes at a distance of A to each other.

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

The holes on the handlebar supports are placed at a distance of B from the center.

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

The handlebar holders can be mounted in four different positions.

11.15 Adjusting the handlebar position

**Warning**

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

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

- Change the handlebar if the handlebar is damaged or bent.
- Remove screws ①. Take off the handlebar clamps. Remove the handlebar and lay it to one side.

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

- Remove screws ②. Take off the handlebar supports.
- Place the handlebar supports in the required position. Mount and tighten screws ②.

  Guideline
<table>
<thead>
<tr>
<th>Screw, handlebar holder</th>
<th>M10</th>
<th>40 Nm (29.5 lbf ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Loctite®243™</td>
</tr>
</tbody>
</table>

  Info
  Position the left and right handlebar supports evenly.

- Position the handlebar.

  Info
  Make sure the cables and wiring are positioned correctly.

- Position the handlebar clamps. Mount screws ① and tighten evenly.

  Guideline
<table>
<thead>
<tr>
<th>Screw, handlebar clamp</th>
<th>M8</th>
<th>20 Nm (14.8 lbf ft)</th>
</tr>
</thead>
</table>

  Info
  Make sure the gap widths are even.
12.1 Raising the motorcycle with the lift stand

**Note**  
**Danger of damage** The parked vehicle can roll away or fall over.  
– Park the vehicle on a firm and level surface.

– Raise the motorcycle at the frame underneath the engine.

Lift stand (78129955100)

✓ Neither wheel is in contact with the ground.

– Secure the motorcycle against falling over.

12.2 Removing the motorcycle from the lift stand

**Note**  
**Danger of damage** The parked vehicle can roll away or fall over.  
– Park the vehicle on a firm and level surface.

– Remove the motorcycle from the lift stand.

– Remove the lift stand.

– To park the motorcycle, press side stand 1 to the ground with your foot and lean the motorcycle on it.

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

12.3 Bleeding the fork legs

**Preparatory work**  
– Raise the motorcycle with the lift stand. (p. 60)

**Main work**  
– Release bleeder screws 1.

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

– Tighten the bleeder screws.

**Finishing work**  
– Remove the motorcycle from the lift stand. (p. 60)
12.4 Cleaning the dust boots of the fork legs

Preparatory work
- Raise the motorcycle with the lift stand. (p. 60)
- Remove the fork protector. (p. 61)

Main work
- Push dust boots 1 of both fork legs downward.

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

Warning
Danger of accidents Oil or grease on the brake discs reduces the braking effect.
- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.

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

Universal oil spray (p. 152)
- Press the dust boots back into their installation position.
- Remove excess oil.

Finishing work
- Install the fork protector. (p. 62)
- Remove the motorcycle from the lift stand. (p. 60)

12.5 Removing the fork protector

- Remove screws 1 and take off the clamp.
- Remove screws 2 on the left fork leg and take off the left fork protector.
- Remove screws 3 on the right fork leg and take off the right fork protector.
12.6 Installing the fork protector

- Position the fork protector on the left fork leg. Mount and tighten screws 1.
  
  Guideline
  
<table>
<thead>
<tr>
<th>Remaining screws, chassis</th>
<th>M6</th>
<th>10 Nm (7.4 lbf ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Position the brake line, wiring harness, and clamp. Mount and tighten screws 2.

- Position the fork protector on the right fork leg. Mount and tighten screws 3.
  
  Guideline
  
<table>
<thead>
<tr>
<th>Remaining screws, chassis</th>
<th>M6</th>
<th>10 Nm (7.4 lbf ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.7 Removing the fork legs

Preparatory work

- Turn the ignition key in the ignition lock to the position while the engine is idling.
- Remove the headlight mask with the headlight. (p. 113)
- Raise the motorcycle with the lift stand. (p. 60)
- Remove the front wheel. (p. 101)

Main work

- Remove screws 1 and take off the clamp.
- Remove the cable ties.
- Remove screws 2 and take off the brake caliper.
- Hang the brake caliper and the brake line loosely to the side.

- Loosen screws 3. Take out the left fork leg.
- Loosen screws 4. Take out the right fork leg.
12.8 Installing the fork legs

**Main work**
- Position the fork legs.
  - Bleeder screws 1 are positioned toward the front.

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

- Tighten screws 2.
  - Guideline
    | Screw, top triple clamp | M8  | 20 Nm (14.8 lbf ft) |

- Tighten screws 3.
  - Guideline
    | Screw, bottom triple clamp | M8  | 15 Nm (11.1 lbf ft) |

- Position the brake caliper, and mount and tighten screws 4.
  - Guideline
    | Screw, front brake caliper | M8  | 25 Nm (18.4 lbf ft) |

  - Mount the cable ties.
  - Position the brake line, the wiring harness, and the clamp. Mount and tighten screws 5.

**Finishing work**
- Install the front wheel. (p. 102)
- Install the headlight mask with the headlight. (p. 114)
- Check the headlight setting. (p. 115)

12.9 Removing the lower triple clamp

**Preparatory work**
- Turn the ignition key in the ignition lock to the position ◊ while the engine is idling.
- Remove the headlight mask with the headlight. (p. 113)
- Raise the motorcycle with the lift stand. (p. 60)
- Remove the front wheel. (p. 101)
- Remove the fork legs. (p. 62)
- Remove front fender. (p. 68)
- Remove the handlebar cushion.
12 SERVICE WORK ON THE CHASSIS

Main work
– Open the cable holder in front of the left radiator and detach the wiring harness.
– Loosen screw 1.
– Remove screw 2.
– Take off the upper triple clamp with the handlebar and set it aside.

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

– Remove O-ring 3 and protective ring 4.
– Take off the lower triple clamp with the steering stem.
– Remove the upper steering head bearing.

12.10 Installing the lower triple clamp

Main work
– Clean the bearing and sealing elements, check for damage, and grease.

| High viscosity grease (p. 151) |

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

Mount screw 4 but do not tighten yet.

Secure the wiring harness and the clutch line with the cable holder.

Position the fork legs.

Info

The rebound damping is located in right fork leg REB (red adjuster).
The compression damping is located in left fork leg COMP (white adjuster).
Grooves are milled into the side of the upper end of the fork legs. The second milled groove (from the top) must be flush with the upper edge of the upper triple clamp.

Tighten screws 6.
Guideline

| Screw, bottom triple clamp | M8    | 15 Nm (11.1 lbf ft) |

Tighten screw 4.
Guideline

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

Tighten screw 7.
Guideline

| Screw, top steering stem | M8     | 20 Nm (14.8 lbf ft) |

Tighten screws 8.
Guideline

| Screw, top triple clamp | M8     | 20 Nm (14.8 lbf ft) |
Position the brake caliper, and mount and tighten screws 9.

Guideline

<table>
<thead>
<tr>
<th>Screw, front brake caliper</th>
<th>M8</th>
<th>25 Nm (18.4 lbf ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loctite® 243™</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mount the cable ties.

Position the brake line, the wiring harness, and the clamp. Mount and tighten screws 10.

Finishing work

Mount the handlebar cushion.

Install front fender. (p. 68)

Install the front wheel. (p. 102)

Install the headlight mask with the headlight. (p. 114)

Check that the wiring harness, throttle cables, and brake and clutch lines can move freely and are routed correctly.

Check the steering head bearing play. (p. 66)

Remove the motorcycle from the lift stand. (p. 60)

Check the headlight setting. (p. 115)

12.11 Checking the steering head bearing play

Warning

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

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

Info

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

Preparatory work

– Raise the motorcycle with the lift stand. (p. 60)

Main work

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

Play should not be detectable on the steering head bearing.

– If there is detectable play:
  – Adjust the steering head bearing play. (p. 67)

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

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

– If detent positions are detected:
  – Adjust the steering head bearing play. (p. 67)
12.12 Adjusting the steering head bearing play

Preparatory work
- Raise the motorcycle with the lift stand. (p. 60)

Main work
- Loosen screws 1 and 2.
- Loosen and retighten screw 3.

Guideline

<table>
<thead>
<tr>
<th>Screw, top steering head</th>
<th>M20x1.5</th>
<th>12 Nm (8.9 lbf ft)</th>
</tr>
</thead>
</table>
- Using a plastic hammer, tap lightly on the upper triple clamp to avoid stresses.
- Tighten screws 1.

Guideline

<table>
<thead>
<tr>
<th>Screw, top triple clamp</th>
<th>M8</th>
<th>20 Nm (14.8 lbf ft)</th>
</tr>
</thead>
</table>
- Tighten screw 2.

Guideline

<table>
<thead>
<tr>
<th>Screw, top steering stem</th>
<th>M8</th>
<th>20 Nm (14.8 lbf ft)</th>
</tr>
</thead>
</table>

Finishing work
- Check the steering head bearing play. (p. 66)
- Remove the motorcycle from the lift stand. (p. 60)

12.13 Lubricating the steering head bearing

- Remove the lower triple clamp. (p. 63)
- Install the lower triple clamp. (p. 64)
12.14 Removing front fender

**Preparatory work**
- Turn the ignition key in the ignition lock to the position \( \bigcirc \) while the engine is idling.
- Remove the headlight mask with the headlight. (p. 113)

**Main work**
- Remove screws 1.
- Remove screws 2. Remove front fender.

12.15 Installing front fender

**Main work**
- Position front fender. Mount and tighten screws 1.

  **Guideline**
<table>
<thead>
<tr>
<th>Remaining screws, chassis</th>
<th>M6</th>
<th>10 Nm (7.4 lbf ft)</th>
</tr>
</thead>
</table>

- Mount and tighten screws 2.

  **Guideline**
<table>
<thead>
<tr>
<th>Remaining screws, chassis</th>
<th>M6</th>
<th>10 Nm (7.4 lbf ft)</th>
</tr>
</thead>
</table>

**Finishing work**
- Install the headlight mask with the headlight. (p. 114)
- Check the headlight setting. (p. 115)
12.16 Removing the shock absorber

**Preparatory work**
- Raise the motorcycle with the lift stand. (p. 60)

**Main work**
- Remove screw 1 and lower the rear wheel with the link fork as far as possible without blocking the rear wheel. Secure the rear wheel in this position.
- Remove screw 2, push splash protector 3 to the side, and remove the shock absorber.

12.17 Installing the shock absorber

**Main work**
- Push splash protector 1 to the side and position the shock absorber. Mount and tighten screw 2.
  **Guideline**
  | Screw, top shock absorber | M12 | 80 Nm (59 lbf ft) | Loctite®2701™ |
- Mount and tighten screw 3.
  **Guideline**
  | Screw, bottom shock absorber | M12 | 80 Nm (59 lbf ft) | Loctite®2701™ |

**Info**
The heim joint for the shock absorber on the link fork is Teflon coated. It must not be lubricated with grease, nor with any other lubricants. Lubricants dissolve the Teflon coating, thereby drastically reducing the service life.

**Finishing work**
- Remove the motorcycle from the lift stand. (p. 60)

12.18 Removing the seat

- Remove screw 1.
12 SERVICE WORK ON THE CHASSIS

12.19 Mounting the seat

- Mount the front of the seat on the collar bushings of the fuel tank, lower the seat at the rear, and push the seat forward.
- Make sure the seat is locked in correctly.

- Mount and tighten screw 1.

Guideline

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

12.20 Removing the air filter box cover

Condition

The air filter box cover is secured.
- Remove the seat. (p. 69)
- Remove screw 1.
12.21 Installing the air filter box cover

**Condition**
The air filter box cover is secured.
- Insert the air filter box cover in area A and clip it into area B.

**Condition**
The air filter box cover is not secured.
- Insert the air filter box cover in area A and clip it into area B.

**Guideline**

<table>
<thead>
<tr>
<th>Screw, air filter box cover</th>
<th>EJOT PT® K60x20-Z</th>
<th>3 Nm (2.2 lbf ft)</th>
</tr>
</thead>
</table>

- Mount and tighten screw 1.
12.22 Removing the air filter

**Note**

**Engine damage** Unfiltered intake air has a negative effect on the service life of the engine. Dust and dirt will enter the engine without an air filter.

– Never start to use the vehicle without an air filter.

**Note**

**Environmental hazard** Hazardous substances cause environmental damage.

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

**Preparatory work**

– Remove the air filter box cover. (p. 70)

**Main work**

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

– Remove air filter from air filter support.

12.23 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. 151)

– Insert air filter and position retaining pin 1 in bushing B.

✔ The air filter is correctly positioned.

– Secure the bottom retaining pin with holding tab 2.

**Info**

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

**Finishing work**

– Install the air filter box cover. (p. 71)
12.24 Cleaning the air filter and air filter box

**Note**

Environmental hazard  Hazardous substances cause environmental damage.
- Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

**Info**

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

**Preparatory work**
- Remove the air filter box cover. (p. 70)
- Remove the air filter. (p. 72)

**Main work**
- Wash the air filter thoroughly in special cleaning liquid and allow it to dry properly.
  
  Air filter cleaner (p. 151)

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

- Oil the dry air filter with a high-grade air filter oil.
  
  Oil for foam air filter (p. 151)

- Clean the air filter box.
- Check the intake flange for damage and looseness.

**Finishing work**
- Install the air filter. (p. 72)
- Install the air filter box cover. (p. 71)

12.25 Preparing air filter box cover for securing

**Preparatory work**
- Remove the air filter box cover. (p. 70)

**Main work**
- Drill a hole at marking A.
  
  Guideline

  Diameter 6 mm (0.24 in)

**Finishing work**
- Install the air filter box cover. (p. 71)
12.26 Removing the main silencer

**Warning**

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

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

- Detach spring 1.

  Spring hook (50305017000C1)

- Remove screws 2 and take off the main silencer with the catalytic converter.

12.27 Installing the main silencer

- Position the catalytic converter in the main silencer.

- Position the main silencer. Mount screws 1, but do not tighten yet.

- Attach spring 2.

  Spring hook (50305017000C1)

- Tighten screws 1.

  **Guideline**

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

12.28 Cleaning the spark arrestor

**Warning**

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

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

**Info**

Soot particles accumulate on the screen of the spark arrestor over time. This changes the performance characteristics.
**Preparatory work**

- Remove main silencer. (p. 74)

**Main work**

- Remove screws 1 and take off silencer cap 2 with O-ring 3.

**Info**

- Do not remove the glass fiber yarn filling.

**Caution**

**Danger to health**

- Soot particles irritate the eyes and mucous membranes.
- Wear suitable breathing and eye protection when cleaning the main silencer and carbon screen.

- Clean main silencer sleeve 4 and screen 5 of the spark arrester with compressed air.
- Mount new O-ring 3 on silencer cap 2.

**Guideline**

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

**Finishing work**

- Install the main silencer. (p. 74)
12.29 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 before performing any work on the vehicle.

**Info**

Over time, the fibers of the glass fiber yarn escape and the damper “burns” out. Not only is the noise level higher, but the performance characteristics change.

---

**Preparatory work**

– Remove main silencer. (p. 74)

**Main work**

– Remove screws 1.
– Take off silencer cap 2 with O-ring 3.
– Remove the old glass fiber yarn filling.
– Clean the parts that need to be reinstalled and check for damage.
– Mount the new glass fiber yarn filling 4 in the main silencer.
– Mount the O-ring on the silencer cap.
– Position the silencer cap.
– Mount and tighten all of the screws.

**Guideline**

<table>
<thead>
<tr>
<th>Screws on main silencer</th>
<th>M5</th>
<th>7 Nm (5.2 lbf ft)</th>
</tr>
</thead>
</table>

**Finishing work**

– Install the main silencer. (p. 74)

---

12.30 Removing the fuel tank

**Danger**

Fire hazard  Fuel is highly flammable.

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

– Do not fuel the vehicle in the vicinity of open flames or lit cigarettes.
– Switch off the engine for refueling.
– Make sure that no fuel is spilled; particularly not on hot parts of the vehicle.
– If any fuel is spilled, wipe it off immediately.
– Observe the specifications for refueling.
**Warning**  
**Danger of poisoning** Fuel is poisonous and a health hazard.  
– Avoid skin, eye and clothing contact with fuel.  
– Immediately consult a doctor if you swallow fuel.  
– Do not inhale fuel vapors.  
– In case of skin contact, rinse the affected area with plenty of water.  
– Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.  
– Change your clothing in case of fuel spills on them.  
– Keep fuels correctly in a suitable canister, and out of the reach of children.

### Preparatory work
– Remove the seat. ([p. 69](#))

### Main work
– Unplug connector 1 of the fuel pump.  
– Clean plug-in connection 2 of the fuel line thoroughly with compressed air.

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

– Disconnect the plug-in connection of the fuel line.

#### Info
Remaining fuel may flow out of the fuel line.

– Mount wash cap set 3.  

#### Wash cap set (81212016100)

– Remove screws 4.  
– Hang the horn and horn bracket to one side.

– Remove screw 5 with the rubber bushing.  
– Remove the hose from the fuel tank breather.
12.31 Installing the fuel tank

**Danger**

**Fire hazard**  Fuel is highly flammable.

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

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

**Warning**

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

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

**Main work**

- Check throttle cable routing. (p. 85)
- Position the fuel tank and fit the two spoilers to the sides in front of the radiator bracket.
- Make sure that no cables or throttle cables are trapped or damaged.
SERVICE WORK ON THE CHASSIS

Attach the fuel tank breather hose.
- Mount and tighten screw 1 with the rubber bushing.

Guideline

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

Position the horn with the horn bracket.
- Mount and tighten screws 2.

Guideline

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

Plug in connector 3 for the fuel pump.
- Remove the wash cap set.
- 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!

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

Silicone spray (p. 152)

- Join the 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. 70)

12.32 Checking for chain dirt accumulation

- Check the chain for coarse dirt accumulation.
  - If the chain is very dirty:
    - Clean the chain. (p. 80)
12.33 Cleaning the chain

**Warning**

**Danger of accidents** Lubricants on the tires reduces the road grip.
- Remove lubricants from the tires using a suitable cleaning agent.

**Warning**

**Danger of accidents** Oil or grease on the brake discs reduces the braking effect.
- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.

**Note**

**Environmental hazard** Hazardous substances cause environmental damage.
- Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

---

**Info**

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

**Preparatory work**
- Raise the motorcycle with the lift stand. (p. 60)

**Main work**
- Rinse off loose dirt with a soft jet of water.
- Remove old grease residue with chain cleaner.

Chain cleaner (p. 151)

- After drying, apply chain spray.

Off-road chain spray (p. 151)

**Finishing work**
- Remove the motorcycle from the lift stand. (p. 60)

---

12.34 Checking the chain tension

**Warning**

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

- If the chain is tensioned too much, the chain, engine sprocket, rear sprocket, transmission and rear wheel bearings wear more quickly. Some components may break if overloaded.
- If the chain is too loose, the chain may fall off the engine sprocket or the rear sprocket. As a result, the rear wheel locks or the engine will be damaged.
- Check the chain tension regularly.
- Set the chain tension in accordance with the specification.

**Preparatory work**
- Raise the motorcycle with the lift stand. (p. 60)
Main work
– Pull the chain at the end of the chain sliding piece upward to measure chain tension A.

**Info**
Lower chain section 1 must be taut.
When the chain guard is mounted, it must be possible to pull up the chain at least to the point where it makes contact with chain guard B.
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 the specification:
– Adjust the chain tension. (p. 81)

Finishing work
– Remove the motorcycle from the lift stand. (p. 60)

### 12.35 Adjusting the chain tension

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

If the chain is tensioned too much, the chain, engine sprocket, rear sprocket, transmission and rear wheel bearings wear more quickly. Some components may break if overloaded.
If the chain is too loose, the chain may fall off the engine sprocket or the rear sprocket. As a result, the rear wheel locks or the engine will be damaged.
– Check the chain tension regularly.
– Set the chain tension in accordance with the specification.

**Preparatory work**
– Raise the motorcycle with the lift stand. (p. 60)
– Check the chain tension. (p. 80)
Main work
- Loosen nut 1.
- Loosen nuts 2.
- Adjust the chain tension by turning adjusting screws 3 left and right.

Guideline

<table>
<thead>
<tr>
<th>Chain tension</th>
<th>55 ... 58 mm (2.17 ... 2.28 in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>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 reference marks A. The rear wheel is then correctly aligned.</td>
<td></td>
</tr>
</tbody>
</table>

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

Guideline

<table>
<thead>
<tr>
<th>Nut, rear wheel spindle</th>
<th>M20x1.5</th>
<th>80 Nm (59 lbf ft)</th>
</tr>
</thead>
</table>
| Info
The wide adjustment range of the chain adjusters (32 mm (1.26 in)) enables different secondary ratios with the same chain length. Chain adjusters 4 can be turned by 180°.

Finishing work
- Remove the motorcycle from the lift stand. (p. 60)

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

Preparatory work
- Raise the motorcycle with the lift stand. (p. 60)

Main work
- Shift the transmission into neutral.
- Check the chain, rear sprocket, and engine sprocket for wear.
  - If the chain, rear sprocket or engine sprocket is worn:
    - Change the drivetrain kit.

Info
The engine sprocket, rear sprocket, and chain should always be replaced together.
– Pull on the top section of the chain with the specified weight A.

Guideline

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

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

Info

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

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

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

Info

When a new chain is mounted, 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 lower edge of the chain pins is in line with, or below, the chain sliding guard:
    – Change the chain sliding guard.
  – Check that the chain sliding guard is firmly seated.
  – If the chain sliding guard is loose:
    – Tighten screws on the chain sliding guard.

Guideline

| Screw, chain sliding guard | M6 | 10 Nm (7.4 lbf ft) | Loctite®243™ |
12 SERVICE WORK ON THE CHASSIS

– Check chain sliding piece for wear.
  > If the lower edge of the chain pins is in line with or below the chain sliding piece:
    – Change the chain sliding piece.
  > Check that the chain sliding piece is firmly seated.
  > If the chain sliding piece is loose:
    – Tighten the screw of the chain sliding piece.
    Guideline

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

– Check the chain guide for wear.

<table>
<thead>
<tr>
<th>Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wear can be seen on the front of the chain guide.</td>
</tr>
</tbody>
</table>

  > If the light part of the chain guide is worn:
    – Change the chain guide.

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

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

Finishing work

– Remove the motorcycle from the lift stand. (p. 60)
12.37 Checking the frame

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

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

12.38 Checking the link fork

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

**Info**
Always replace a damaged link fork. Repairing the link fork is not authorized by KTM.

12.39 Checking throttle cable routing

**Preparatory work**
- Remove the seat. (p. 69)
- Remove the fuel tank. (p. 76)

**Main work**
- Check throttle cable routing.
  
  Both throttle cables must be routed, side by side, on the back of the handlebars and above the fuel tank bracket, to the throttle valve body. Both throttle cables must be secured behind the rubber strap of the fuel tank support.
  
  » If the throttle cable routing is not as specified:
    - Correct throttle cable routing.

**Finishing work**
- Install the fuel tank. (p. 78)
12.40 Checking the rubber grip

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

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

If a rubber grip is damaged, worn, or loose:
- Change the rubber grip.

Check that screw 1 is firmly seated.

Guideline

<table>
<thead>
<tr>
<th>Screw, fixed grip</th>
<th>M4</th>
<th>5 Nm (3.7 lbf ft)</th>
<th>Loctite®243™</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diamond A must be located at the top.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.41 Adjusting the basic position of the clutch lever

Adjust the basic position of the clutch lever to your hand size by turning adjusting screw 1.

Info
Turn the adjusting screw clockwise to increase the distance between the clutch lever and the handlebar. Turn the adjusting screw counterclockwise to decrease 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.
12.42 Checking/correcting the fluid level of the hydraulic clutch

**Warning**

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

**Note**

**Environmental hazard** Hazardous substances cause environmental damage.
- Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

**Info**

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

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

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

Only use clean brake fluid from a sealed container.

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

<table>
<thead>
<tr>
<th>Fluid level below container rim</th>
<th>4 mm (0.16 in)</th>
</tr>
</thead>
</table>

- If the fluid level does not meet specifications:
  - Correct the fluid level of the hydraulic clutch.

**Brake fluid DOT 4 / DOT 5.1 (p. 149)**

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

**Info**

Clean up overflowed or spilled brake fluid immediately with water.
12.43 Changing the hydraulic clutch fluid

**Warning**

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

**Note**

**Environmental hazard**  
Hazardous substances cause environmental damage.
- Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

**Info**

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

- Move the hydraulic clutch fluid reservoir mounted on the handlebar into a horizontal position.
- Remove screws 1.
- Take off cover 2 with membrane 3.
- Fill bleeding syringe 4 with the appropriate hydraulic fluid.
  
  **Syringe (503290500000)**
  Brake fluid DOT 4 / DOT 5.1 (p. 149)
- On the clutch slave cylinder, remove the protection cap, remove bleeder screw 5 and mount bleeding syringe 4.
- Now inject fluid into the system until it escapes from the opening 6 of the master cylinder without bubbles.
- Occasionally extract the fluid from the master cylinder reservoir to prevent overflowing.
- Remove the bleeding syringe. Mount and tighten the bleeder screw. Mount the protection cap.
- Correct the fluid level of the hydraulic clutch.

Guideline

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

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

**Info**

Immediately clean up any brake fluid that has overflowed or spilled with water.
13.1 Checking the free travel of the hand brake lever

**Warning**

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

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

– Set the free travel on the hand brake lever in accordance with the specification.

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

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

> If the free travel does not match the specification:

– Adjust the free travel of the handbrake lever. (p. 90)

13.2 Adjusting the free travel of the handbrake lever

– Check the free travel of the hand brake lever. (p. 90)

– Adjust the free travel of the handbrake lever with adjustment screw 1.

**Info**

Turn the adjusting screw clockwise to reduce free travel. The pressure point moves away from the handlebar.

Turn the adjusting screw counterclockwise to increase free travel. The pressure point moves towards 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.

13.3 Checking the brake discs

**Warning**

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

– Make sure that worn-out brake discs are replaced immediately. (Your authorized KTM workshop will be glad to help.)
Check the front and rear brake disc thickness at multiple points for the dimension A.

**Info**

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

<table>
<thead>
<tr>
<th>Brake discs - wear limit</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>front</td>
<td>2.5 mm (0.098 in)</td>
<td></td>
</tr>
<tr>
<td>rear</td>
<td>3.5 mm (0.138 in)</td>
<td></td>
</tr>
</tbody>
</table>

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

Check the front and rear brake discs for damage, cracking, and deformation.
If the brake disc exhibits damage, cracking, or deformation:
- Change the front brake disc.
- Change the rear brake disc.

### 13.4 Checking the front brake fluid level

**Warning**

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

If the brake fluid level drops below the specified marking or the specified value, the brake system is leaking or the brake linings are worn down.
- Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)

**Warning**

**Danger of accidents** Old brake fluid reduces the braking effect.
- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (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 level viewer 1.
- If the brake fluid level has dropped below the marking A:
  - Add the front brake fluid. (p. 92)
13 BRAKE SYSTEM

13.5 Adding the front brake fluid

Warning
Danger of accidents An insufficient brake fluid level will cause the brake system to fail.
If the brake fluid level drops below the specified marking or the specified value, the brake system is leaking or the brake linings are worn down.
– Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)

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

Warning
Danger of accidents Old brake fluid reduces the braking effect.
– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)

Note
Environmental hazard Hazardous substances cause environmental damage.
– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

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

Preparatory work
– Check the front brake linings. (☞ p. 93)

Main work
– Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
– Remove screws 1.
– Take off cover 2 with membrane 3.
– Add brake fluid to level A.

Guideline

<table>
<thead>
<tr>
<th>Level A (brake fluid level below reservoir rim)</th>
<th>5 mm (0.2 in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brake fluid DOT 4 / DOT 5.1 (☞ p. 149)</td>
<td></td>
</tr>
</tbody>
</table>
Position the cover with the membrane. Mount and tighten the screws.

**Info**
Immediately clean up any brake fluid that has overflowed or spilled with water.

### 13.6 Checking the front brake linings

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

Check the brake linings for minimum thickness $A$. Minimum thickness $A \geq 1 \text{ mm (} \geq 0.04 \text{ in)}$

- If the minimum thickness is less than specified:
  – Change the brake linings of the front brake. (p. 93)
- Check the brake linings for damage and cracking.
  – If damage or cracking is visible:
    – Change the brake linings of the front brake. (p. 93)

### 13.7 Changing the brake linings of the front brake

**Warning**
**Danger of accidents** Incorrect servicing will cause the brake system to fail.
– Ensure that service work and repairs are performed professionally. (Your authorized KTM workshop will be glad to help.)

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

**Warning**
**Danger of accidents** Old brake fluid reduces the braking effect.
– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)
**Warning**

**Danger of accidents**  Oil or grease on the brake discs reduces the braking effect.
- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.

**Warning**

**Danger of accidents**  Brake linings which have not been approved alter the braking efficiency.

Not all brake linings are tested and approved for KTM motorcycles. The structure and friction coefficient of the brake linings, and thus their brake power, may vary greatly from that of original brake linings. If brake linings are used that differ from the original equipment, compliance with the original homologation is not guaranteed. In this case, the vehicle no longer corresponds to its condition at delivery and the manufacturer warranty shall be void.
- Only use brake linings approved and recommended by KTM.

**Note**

**Environmental hazard**  Hazardous substances cause environmental damage.
- Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

**Info**

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

- Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
- Remove screws 1.
- Take off cover 2 with membrane 3.
- Manually press the brake caliper toward the brake disc to push back the brake pistons. Ensure that brake fluid does not flow out of the brake fluid reservoir; extract some if necessary.

**Info**

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

- Remove cotter pin 4, pull out pin 5, and remove the brake linings.
- Clean the brake caliper and the brake caliper bracket.
13.8 Checking the free travel of foot brake lever

**Warning**

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

If there is no free travel on the foot brake lever, pressure builds up in the brake system on the rear brake.
- Set the free travel on the foot brake lever in accordance with the specification.

- Disconnect spring 1.
- Move the foot brake lever back and forth between the end stop and the contact to the foot brake cylinder piston and check free travel A.

**Guideline**

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

- If the free travel does not meet specifications:
13 BRAKE SYSTEM

– Adjust the basic position of the foot brake lever. (p. 96)
– Reconnect spring 1.

### 13.9 Adjusting the basic position of the foot brake lever

**Warning**

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

If there is no free travel on the foot brake lever, pressure builds up in the brake system on the rear brake.
– Set the free travel on the foot brake lever in accordance with the specification.

– Detach spring 1.
– Loosen nut 4 and, with push rod 5, turn it back until you have maximum free travel.
– To adjust the basic position of the foot brake lever to individual requirements, loosen nut 2 and turn screw 3 accordingly.

**Info**

The range of adjustment is limited.

– Turn push rod 5 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)
- **Nut, foot brake lever stop**: M8 20 Nm (14.8 lbf ft)
- **Remaining nuts, chassis**: M6 10 Nm (7.4 lbf ft)

– Hold screw 3 and tighten nut 2.

– Hold push rod 5 and tighten nut 4.

– Attach spring 1.

### 13.10 Checking the rear brake fluid level

**Warning**

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

If the brake fluid level drops below the specified marking or the specified value, the brake system is leaking or the brake linings are worn down.
– Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)
**Warning**

**Danger of accidents**  Old brake fluid reduces the braking effect.
- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)
- Stand the vehicle upright.
- Check the brake fluid level in level viewer 1 .
  - If the brake fluid level has dropped below marking A :
    - Add rear brake fluid. ▼ ( p. 97)

### 13.11 Adding rear brake fluid ▼

**Warning**

**Danger of accidents**  An insufficient brake fluid level will cause the brake system to fail.
- If the brake fluid level drops below the specified marking or the specified value, the brake system is leaking or the brake linings are worn down.
- Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)

**Warning**

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

**Warning**

**Danger of accidents**  Old brake fluid reduces the braking effect.
- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)

**Note**

**Environmental hazard**  Hazardous substances cause environmental damage.
- Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

**Info**

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

Preparatory work
– Check the rear brake linings. (p. 98)

Main work
– Stand the vehicle upright.
– Remove screw cap 1 with membrane 2 and the O-ring.
– Add brake fluid to level A.

Brake fluid DOT 4 / DOT 5.1 (p. 149)
– Mount the screw cap with the membrane and the O-ring.

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

13.12 Checking the rear brake linings

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

– Check the brake linings for minimum thickness A.

Minimum thickness A $\geq 1$ mm ($\geq 0.04$ in)

$>$ If the minimum thickness is less than specified:
– Change the rear brake linings. (p. 98)
– Check the brake linings for damage and cracking.
$>$ If damage or cracking is visible:
– Change the rear brake linings. (p. 98)

13.13 Changing the rear brake linings

Warning
Danger of accidents  Incorrect servicing will cause the brake system to fail.
– Ensure that service work and repairs are performed professionally. (Your authorized KTM workshop will be glad to help.)
Warning
Skin irritation  Brake fluid causes skin irritation.
–  Keep brake fluid out of the reach of children.
–  Wear suitable protective clothing and safety glasses.
–  Do not allow brake fluid to come into contact with the skin, the eyes or clothing.
–  Consult a doctor immediately if brake fluid has been swallowed.
–  Rinse the affected area with plenty of water in the event of contact with the skin.
–  Rinse eyes thoroughly with water immediately and consult a doctor if brake fluid comes into contact with the eyes.
–  If brake fluid spills on to your clothing, change the clothing.

Warning
Danger of accidents  Old brake fluid reduces the braking effect.
–  Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)

Warning
Danger of accidents  Oil or grease on the brake discs reduces the braking effect.
–  Always keep the brake discs free of oil and grease.
–  Clean the brake discs with brake cleaner when necessary.

Warning
Danger of accidents  Brake linings which have not been approved alter the braking efficiency.
Not all brake linings are tested and approved for KTM motorcycles. The structure and friction coefficient of the brake linings, and thus their brake power, may vary greatly from that of original brake linings. If brake linings are used that differ from the original equipment, compliance with the original homologation is not guaranteed. In this case, the vehicle no longer corresponds to its condition at delivery and the manufacturer warranty shall be void.
–  Only use brake linings approved and recommended by KTM.

Note
Environmental hazard  Hazardous substances cause environmental damage.
–  Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

Info
Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and brake lines are not designed for DOT 5 brake fluid.
Avoid contact between brake fluid and painted parts. Brake fluid attacks paint.
Only use clean brake fluid from a sealed container.
–  Stand the vehicle upright.
–  Remove screw cap 1 with membrane 2 and the O-ring.
–  Press the brake piston back into the basic position and ensure that brake fluid does not flow out of the brake fluid reservoir; extract some if necessary.

Info
Make sure that you do not press the brake caliper against the spokes when pushing back the brake piston.
- Remove cotter pin 3, pull out pin 4, and remove the brake linings.
- Clean the brake caliper and brake caliper bracket.

- Check that spring plate 5 in the brake caliper and sliding plate 6 in the brake caliper bracket are seated properly.

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

   **Info**
   Always change the brake linings in pairs.

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

- Add brake fluid to level A.

   **Brake fluid DOT 4 / DOT 5.1 (p. 149)**

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

   **Info**
   Clean up overflowed or spilled brake fluid immediately with water.
14.1 Removing the front wheel

Preparatory work
– Raise the motorcycle with the lift stand. (p. 60)

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

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

– Loosen screw 1 by several rotations.
– Loosen screws 2.
– Press on screw 1 to push the wheel spindle out of the axle clamp.
– Remove screw 1.

**Warning**
**Danger of accidents** Damaged brake discs reduce the braking effect.
– Always lay the wheel down in such a way that the brake disc is not damaged.
– Hold front wheel and remove wheel spindle. Take front wheel out of the fork.

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

– Remove spacers 3.
### 14.2 Installing the front wheel

**Warning**

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

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

- Check the wheel bearing for damage and wear.
  - If the wheel bearing is damaged or worn:
    - Change front wheel bearing.
- Clean and grease shaft seal rings and contact surface of the spacers.
  - Long-life grease (p. 151)
- Clean and grease the wheel spindle.
  - Long-life grease (p. 151)
- Insert the spacers.
- Position the front wheel and insert the wheel spindle.
  - The brake linings are correctly positioned.
- Mount and tighten screw.
  
  **Guideline**
  
  | Screw, front wheel spindle | M20x1.5 | 35 Nm (25.8 lbf ft) |

  - Operate the hand brake lever several times until the brake linings are seated correctly against the brake disc.
  - Remove the motorcycle from the lift stand. (p. 60)
  - Operate the front brake and compress the fork a few times firmly.
  - The fork legs straighten.
- Tighten screws.
  
  **Guideline**
  
  | Screw, fork stub | M8 | 15 Nm (11.1 lbf ft) |

### 14.3 Removing the rear wheel

**Preparatory work**

- Raise the motorcycle with the lift stand. (p. 60)
Main work
– Manually press the brake caliper toward the brake disc to push back the brake piston.

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

– Remove nut 1.
– Take off chain adjuster 2. Pull out wheel spindle 3 far enough to allow the rear wheel to be pushed forward.
– Push the rear wheel forward as far as possible. Remove the chain from the rear sprocket.

Info
Cover the components to protect them against damage.

Warning
Danger of accidents Damaged brake discs reduce the braking effect.
– Always lay the wheel down in such a way that the brake disc is not damaged.

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

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

– Remove spacers 4.

14.4 Installing the rear wheel

Warning
Danger of accidents Oil or grease on the brake discs reduces the braking effect.
– Always keep the brake discs free of oil and grease.
– Clean the brake discs with brake cleaner when necessary.
Main work
- Check the wheel bearing for damage and wear.
  » If the wheel bearing is damaged or worn:
    - Change the rear wheel bearing.
  » Clean and grease shaft seal rings 1 and contact surface A of the spacers.

Long-life grease (p. 151)
- Insert the spacers.
- Clean and grease the wheel spindle.
  Long-life grease (p. 151)
- Position rear wheel and insert wheel spindle 2.
  ✓ The brake linings are correctly positioned.
- Mount the chain.

Position chain adjuster 3. Mount nut 4, but do not tighten it yet.
- Make sure that chain adjusters 3 are fitted correctly on adjusting screws 5.
- Check the chain tension. (p. 80)
- Tighten nut 4.

Guideline

| Nut, rear wheel spindle | M20x1.5 | 80 Nm (59 lbf ft) |

Info
The wide adjustment range of the chain adjusters (32 mm (1.26 in)) enables different secondary ratios with the same chain length.
Chain adjusters 3 can be turned by 180°.

- Operate 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. 60)
14.5 Checking the tire condition

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

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

Info
Adhere to the legally required minimum tread depth.

<table>
<thead>
<tr>
<th>Minimum tread depth</th>
<th>≥ 2 mm (≥ 0.08 in)</th>
</tr>
</thead>
</table>

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

- Check tire age.

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

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

14.6 Checking tire pressure

Info
Low tire pressure leads to abnormal wear and overheating of the tire.
Correct tire pressure ensures optimal riding comfort and maximum tire service life.
– Remove protection cap.
– Check tire pressure when the tires are cold.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Offroad tire pressure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>front</td>
<td>1.0 bar (15 psi)</td>
<td></td>
</tr>
<tr>
<td>rear</td>
<td>1.0 bar (15 psi)</td>
<td></td>
</tr>
</tbody>
</table>

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Street tire pressure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>front</td>
<td>1.8 bar (26 psi)</td>
<td></td>
</tr>
<tr>
<td>rear</td>
<td>1.8 bar (26 psi)</td>
<td></td>
</tr>
</tbody>
</table>

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

### 14.7 Checking spoke tension

**Warning**

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

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

– Check spoke tension regularly, and in particular on a new vehicle. (Your authorized KTM workshop will be glad to help.)

– Strike each spoke briefly using a screwdriver blade.

**Info**

The frequency of the sound depends on the spoke length and spoke diameter.

If you hear different tone frequencies from different spokes of equal length and diameter, this is an indication of different spoke tensions.

You should hear a high note.

– If the spoke tension differs:
  – Correct the spoke tension.
  – Check the spoke torque.

**Guideline**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Spoke nipple, front wheel</td>
<td>M4.5</td>
<td>6 Nm (4.4 lbf ft)</td>
</tr>
<tr>
<td>Spoke nipple, rear wheel</td>
<td>M4.5</td>
<td>6 Nm (4.4 lbf ft)</td>
</tr>
</tbody>
</table>

Torque wrench kit (58429094000)
15.1 Removing the 12-V battery

**Note**

*Environmental hazard* 12 V batteries contain environmentally hazardous materials.

- Do not dispose of 12 V batteries as household waste.
- Dispose of 12 V batteries at a collection point for used batteries.

**Note**

*Environmental hazard* Hazardous substances cause environmental damage.

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

---

**Preparatory work**

- Turn the ignition key in the ignition lock to the position while the engine is idling.
- Remove the seat. (p. 69)

**Main work**

**Warning**

*Risk of injury* 12 V batteries contain harmful substances.

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

- Disconnect negative cable 1 from the 12-V battery.
- Pull back positive terminal cover 2 and disconnect the positive cable from the 12-V battery.
- Pull off starter relay 3 and fuse box 4 from the battery compartment and hang to the side.
15 ELECTRICAL SYSTEM

15.2 Installing the 12-V battery

Main work

- Insert the 12-V battery into the battery compartment with the terminals facing forward and secure with holding bracket 1.

12-V battery (HJTZ5S-FP-C) (p. 145)

- Mount and tighten screw 2.

Guideline

<table>
<thead>
<tr>
<th>Remaining screws, chassis</th>
<th>M6</th>
<th>10 Nm (7.4 lbf ft)</th>
</tr>
</thead>
</table>

- Mount relays 3 and attach wiring harness 4.

- Mount starter relay 5 and fuse box 6.
Connect the positive cable to the 12-V battery.

Guideline

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
<th>Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw, battery terminal</td>
<td>M5</td>
<td>2.5 Nm (1.84 lbf ft)</td>
</tr>
</tbody>
</table>

- Screw, battery terminal

Guideline

- Slide positive terminal cover over the positive terminal.
- Connect negative cable to the 12-V battery.

Guideline

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
<th>Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw, battery terminal</td>
<td>M5</td>
<td>2.5 Nm (1.84 lbf ft)</td>
</tr>
</tbody>
</table>

Finishing work
- Mount the seat. (p. 70)

15.3 Charging the 12-V battery

Note

Environmental hazard 12 V batteries contain environmentally hazardous materials.
- Do not dispose of 12 V batteries as household waste.
- Dispose of 12 V batteries at a collection point for used batteries.

Note

Environmental hazard Hazardous substances cause environmental damage.
- Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

Info

Even if there is no load on the 12-V battery, it discharges each day. The charging level and the method of charging are very important for the service life of the 12-V battery. Rapid recharging with a high charging current shortens the service life of the battery. If the 12-V battery is depleted by repeated starting, the 12-V battery must be charged immediately. If the 12-V battery is left in a discharged state for an extended period, it will become deeply discharged and suffer a loss of capacity, destroying the battery.

Preparatory work
- Turn the ignition key in the ignition lock to the position while the engine is idling.
- Remove the seat. (p. 69)
- Remove the 12-V battery. (p. 107)
Main work

**Warning**

**Risk of injury** 12 V batteries contain harmful substances.

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

- Check the battery voltage.
  - Battery voltage: < 9 V
    - Do not charge the 12 V battery.
    - Replace the 12 V battery and dispose of the old 12 V battery properly.
  - If the specifications have been met:
    - Battery voltage: ≥ 9 V
      - Connect a battery charger to the 12-V battery. Switch on the battery charger.

**Guideline**

<table>
<thead>
<tr>
<th>Maximum charging voltage</th>
<th>14.4 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum charging current</td>
<td>3.0 A</td>
</tr>
<tr>
<td>Maximum charging time</td>
<td>24 h</td>
</tr>
<tr>
<td>Recharge the 12-V battery regularly when the motorcycle is not being used</td>
<td>6 months</td>
</tr>
<tr>
<td>Ideal charging and storage temperature of the lithium-ion battery</td>
<td>10 ... 20 °C (50 ... 68 °F)</td>
</tr>
</tbody>
</table>

**Battery charger (79629974000)**

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

This battery charger is only suitable for lithium iron phosphate batteries. Read the accompanying KTM PowerParts instructions.
If the charging current, charging voltage, or charging time is exceeded, the 12 V battery will be destroyed. If the 12-V battery is left in a discharged state for an extended period, it will become deeply discharged and suffer a loss of capacity, destroying the battery. The 12-V battery is maintenance-free. Never remove cover 1.

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

**Finishing work**
- Install the 12-V battery. (p. 108)
- Mount the seat. (p. 70)

## 15.4 Changing the main fuse

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

**Info**  
The main fuse protects all power consumers of the vehicle.

**Preparatory work**
- Turn the ignition key in the ignition lock to the position while the engine is idling.
- Remove the seat. (p. 69)

**Main work**
- Pull starter relay 1 from the holder.
15 ELECTRICAL SYSTEM

- Take off protection caps 2.
- Remove faulty main fuse 3.

**Info**
A faulty fuse has a burned-out fuse wire A.
A spare fuse 4 is located in the starter relay.

- Install a new main fuse.
  Fuse (58011109120) (p. 145)
- Check that the electrical system is functioning properly.

**Tip**
Insert a spare fuse so that it is available if needed.
- Mount the protection caps.
- Mount the starter relay onto the holder and route the cable.

**Finishing work**
- Mount the seat. (p. 70)

15.5 Changing the fuses of individual power consumers

**Info**
The fuse box containing the fuses of individual power consumers is located under the seat.

**Preparatory work**
- Turn the ignition key in the ignition lock to the position ☒ while the engine is idling.
- Remove the seat. (p. 69)

**Main work**
- Open fuse box cover 1.
- Remove faulty fuse.

**Guideline**

<table>
<thead>
<tr>
<th>Fuse 1</th>
<th>10 A</th>
<th>EFI control unit, lambda sensor, combination instrument, electronic fuel injection, diagnostics connector, evaporate emission control system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuse 2</td>
<td>10 A</td>
<td>high beam, low beam, position light, tail light, license plate lamp</td>
</tr>
<tr>
<td>Fuse 3</td>
<td>10 A</td>
<td>radiator fan, horn, brake light, turn signal</td>
</tr>
<tr>
<td>Fuse 4</td>
<td>5 A</td>
<td>fuel pump</td>
</tr>
<tr>
<td>Fuses</td>
<td>res</td>
<td>10 A</td>
</tr>
</tbody>
</table>

**Info**
A faulty fuse has a burned-out fuse wire A.
15.6 Removing the headlight mask with the headlight

Preparatory work
- Turn the ignition key in the ignition lock to the position ☑ while the engine is idling.

Main work
- Detach the brake line and wiring harness from the headlight mask.
- Loosen rubber straps 1. Slide the headlight mask up and swing it forward.
- Detach plug-in connectors 2 and take off the headlight mask with the headlight.
15.7 Installing the headlight mask with the headlight

**Main work**
- Join plug-in connectors ①.

- Position the headlight mask and secure it with rubber straps ②.
  - The holding lugs engage in the fender.
- Position the brake line and wiring harness in the brake line guide.

**Finishing work**
- Check the headlight setting. (p. 115)

15.8 Changing the headlight bulb

**Note**

**Damage to reflector**  Grease on the reflector reduces the light intensity.
Grease on the bulb will evaporate due to the heat and be deposited on the reflector.
- Clean and degrease the bulbs before mounting.
- Do not touch the bulbs with your bare hands.

**Preparatory work**
- Turn the ignition key in the ignition lock to the position ⑧ while the engine is idling.
- Remove the headlight mask with the headlight. (p. 113)

**Main work**
- Turn protection cap ① together with the underlying bulb socket counterclockwise all the way and remove it.
- Pull bulb socket ② of the position light out of the reflector.
15.9 Checking the headlight setting

- Park the vehicle on a horizontal surface in front of a light-colored wall and make a mark at the height of the center of the low beam headlight.
- Make another mark at a distance \( B \) under the first marking.
  
  **Guideline**
  
  \[
  \text{Distance } B \quad 5 \text{ cm (2 in)}
  \]
- Position the vehicle vertically at a distance \( A \) away from the wall.
  
  **Guideline**
  
  \[
  \text{Distance } A \quad 5 \text{ m (16 ft)}
  \]
- The rider now sits down on the motorcycle.
- Switch on the low beam.
- Check the headlight setting.
  
  The boundary between light and dark must be exactly on the lower mark for a motorcycle with rider.
  
  » If the boundary between light and dark does not meet specifications:
  
  - Adjust the headlight range. (p. 115)

15.10 Adjusting the headlight range

**Preparatory work**

- Check the headlight setting. (p. 115)
Main work
- Loosen screw 1.
- Adjust the headlight range by pivoting the headlight.

Guideline
The boundary between light and dark must be exactly on the lower mark for a motorcycle with rider (instructions on how to apply the mark: Checking the headlight setting).

Info
- A change in weight on the vehicle may require a correction of the headlight range.

- Tighten screw 1.

15.11 Changing the turn signal bulb

Note
Damage to reflector  Grease on the reflector reduces the light intensity. Grease on the bulb will evaporate due to the heat and be deposited on the reflector.
- Clean and degrease the bulbs before mounting.
- Do not touch the bulbs with your bare hands.

Main work
- Remove the screw and carefully take off turn signal glass 1.
- Press the turn signal bulb 2 carefully into the socket, turn it counterclockwise by about 30°, and pull it out of the socket.

Info
- Do not touch the reflector with your fingers and keep it free from grease.

- Press the new turn signal bulb carefully into the socket and turn it clockwise until it stops.

Turn signal (RY10W / socket BAU15s) (§ p. 145)

- Position the turn signal glass.
- Insert the screw and first turn counterclockwise until it engages in the thread with a small jerk. Tighten the screw lightly.

Finishing work
- Check that the turn signal system is functioning properly.
15.12 Changing the combination instrument battery

Preparatory work
- Turn the ignition key in the ignition lock to the position while the engine is idling.
- Remove the headlight mask with the headlight. (p. 113)

Main work
- Remove screws with the washers.
- Pull the combination instrument upward out of the holder.
- Using a coin, turn protection cap all the way counterclockwise and take it off.
- Remove combination instrument battery.
- Insert the combination instrument with the label facing upward.
- Check the O-ring of the protection cap for correct seating.
- Position protection cap and turn all the way clockwise using a coin.
- Press any button on the combination instrument.
- The combination instrument is activated.
- Position the combination instrument in the holder.
- Mount and tighten the screws with washers.

Finishing work
- Install the headlight mask with the headlight. (p. 114)
- Check the headlight setting. (p. 115)
- Set the kilometers or miles. (p. 26)
- Set the combination instrument. (p. 27)
- Set the clock. (p. 28)
Diagnostics connector 1 is located under the seat.
16.1 Cooling system

Water pump 1 in the engine ensures forced circulation of the coolant. The pressure resulting from the warming of the cooling system is regulated by a valve in radiator cap 2. 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. Additional cooling is provided by the radiator fan, which is activated at high temperature.

16.2 Checking the antifreeze and coolant level

Warning

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

– Do not open the radiator, the radiator hoses or other cooling system components if the engine or the cooling system are at operating temperature.
– Allow the cooling system and the engine to cool down before you open the radiator, the radiator hoses or other components of the cooling system.
– In the event of scalding, rinse the area affected immediately with lukewarm water.

Warning

Danger of poisoning  Coolant is toxic and a health hazard.

– Keep coolant out of the reach of children.
– Do not allow coolant to come into contact with the skin, the eyes and clothing.
– Consult a doctor immediately if coolant is swallowed.
– Rinse the affected area immediately with plenty of water in the event of contact with the skin.
– Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
– Change clothing if coolant spills onto your clothing.

Condition

The engine is cold.

– Stand the motorcycle upright on a horizontal surface.
– Remove the radiator cap.
– Check the antifreeze in the coolant.

\[-25 \ldots -45 ^\circ C (~-13 \ldots -49 ^\circ F)\]

» If the antifreeze in the coolant does not match the specified value:
  – Correct the antifreeze in the coolant.
– Check the coolant level in the radiator.

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

» If the coolant level does not match the specified value:
  – Correct the coolant level.
16.3 Checking the coolant level

**Warning**

**Danger of scalding** During motorcycle operation, the coolant gets very hot and is under pressure.
- Do not open the radiator, the radiator hoses or other cooling system components if the engine or the cooling system are at operating temperature.
- Allow the cooling system and the engine to cool down before you open the radiator, the radiator hoses or other components of the cooling system.
- In the event of scalding, rinse the area affected immediately with lukewarm water.

**Warning**

**Danger of poisoning** Coolant is toxic and a health hazard.
- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.

**Condition**

The engine is cold.
- Stand the motorcycle upright on a horizontal surface.
- Remove the radiator cap.
- Check the coolant level in the radiator.

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

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

**Warning**

**Danger of scalding** During motorcycle operation, the coolant gets very hot and is under pressure.
- Do not open the radiator, the radiator hoses or other cooling system components if the engine or the cooling system are at operating temperature.
- Allow the cooling system and the engine to cool down before you open the radiator, the radiator hoses or other components of the cooling system.
- In the event of scalding, rinse the area affected immediately with lukewarm water.
Warning

Danger of poisoning  Coolant is toxic and a health hazard.
- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.

Condition

The engine is cold.
- Position the motorcycle upright.
- Place an appropriate container under the water pump cover.
- Remove screw 1. Take off radiator cap 2.
- Completely drain the coolant.
- Mount and tighten screw 1 with a new seal ring.

Guideline

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

16.5 Refilling coolant

Warning

Danger of poisoning  Coolant is toxic and a health hazard.
- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.

Main work
- Make sure that the screw 1 is tightened.
- Stand the vehicle upright.
- Pour coolant in up to measurement A above the radiator fins.

Guideline

| 10 mm (0.39 in) |

| Coolant 1.2 l (1.3 qt.) |

- Refit the radiator cap.

Finishing work
- Take a short test ride.
- Check the coolant level. (p. 120)
16.6 Changing the coolant

**Warning**

**Danger of scalding**  During motorcycle operation, the coolant gets very hot and is under pressure.
- Do not open the radiator, the radiator hoses or other cooling system components if the engine or the cooling system are at operating temperature.
- Allow the cooling system and the engine to cool down before you open the radiator, the radiator hoses or other components of the cooling system.
- In the event of scalding, rinse the area affected immediately with lukewarm water.

**Warning**

**Danger of poisoning**  Coolant is toxic and a health hazard.
- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.

**Condition**

The engine is cold.

**Main work**

- Position the motorcycle upright.
- Place an appropriate container under the water pump cover.
- Remove screw 1. Take off radiator cap 2.
- Completely drain the coolant.

- Mount and tighten screw 1 with a new seal ring.

**Guideline**

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

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

**Guideline**

| 10 mm (0.39 in) |

- Mount radiator cap 2.

**Finishing work**

- Go for a short test ride.
- Check the coolant level. (p. 120)
17.1 Checking the throttle cable play

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

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

If the throttle cable play does not meet specifications:
- Adjust the throttle cable play. (p. 123)

- Push the cold start button in all the way.

When the throttle grip is turned forward, the cold start button returns to its original position.

- If the cold start button does not return to its original position:
  - Adjust the throttle cable play. (p. 123)

**Danger**

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

- Start the engine and let it run at idle speed. Move the handlebar to and fro over the entire steering range.

The idle speed must not change.

- If the idle speed changes:
  - Adjust the throttle cable play. (p. 123)

17.2 Adjusting the throttle cable play

**Info**

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

**Preparatory work**

- Remove the seat. (p. 69)
- Remove the fuel tank. (p. 76)
- Check throttle cable routing. (p. 85)
Main work
- Move the handlebar to the straight-ahead position.
- Push back sleeve 1.
- Loosen nut 2.
- Turn adjusting screw 3 in as far as possible.
- Loosen nut 4.
- Push cold start button 6 all the way to the stop.
- Turn adjusting screw 5 so that the cold start button moves to the basic position when the throttle grip is turned to the front.
- Tighten nut 4.
- Turn adjusting screw 3 so that there is play in the throttle cable at the throttle grip.

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

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

Finishing work
- Check the throttle cable play. (p. 123)

17.3 Adjusting the characteristic map of the throttle response

Info
On the throttle grip, the characteristic map of the throttle response is changed by changing the guide plate.
A guide plate with a different characteristic map is supplied.

Main work
- Push back sleeve 1.
- Remove screws 2 and half-shells 3.
- Detach the throttle cables and take off the grip tube.
- Remove guide plate 4 from handle tube 5.
- Position the required guide plate on the grip tube.

Guideline

<table>
<thead>
<tr>
<th>The label OUTSIDE must be visible. Marking A must be positioned at marking B.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grey guide plate (79002014000)</td>
</tr>
<tr>
<td>Alternative 1</td>
</tr>
<tr>
<td>Black guide plate (79002014100)</td>
</tr>
</tbody>
</table>

Info

The gray guide plate opens the throttle valve more slowly.
The black guide plate opens the throttle valve more quickly.
The gray guide plate is mounted upon delivery.

- Clean the outside of the handlebar and the inside of the grip tube. Mount the grip tube on the handlebar.
- Attach the throttle cables to the guide plate and route correctly.
- Position half-shells 3, mount and tighten screws 2.

Guideline

<table>
<thead>
<tr>
<th>Screw, throttle grip</th>
<th>M6</th>
<th>5 Nm (3.7 lbf ft)</th>
</tr>
</thead>
</table>

- Slide on sleeve 1 and check the throttle grip for ease of movement.

Finishing work

- Check the throttle cable play. (p. 123)

17.4 Adjusting the idle speed

Warning

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

- The cold start button is deactivated – The cold start button is in its basic position. (p. 22)

**Danger**

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

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

- Set the idle speed by turning idle speed adjusting screw 1.

**Guideline**

<table>
<thead>
<tr>
<th>Idle speed</th>
<th>1,950 ... 2,050 rpm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tachometer (45129075000)</td>
<td></td>
</tr>
</tbody>
</table>

**Info**

- Turning counterclockwise lowers the idle speed.
- Turning clockwise raises the idle speed.

### 17.5 Teaching the throttle valve position

**Info**

If the control unit detects that the throttle valve position at idle speed needs to be retaught, then the malfunction indicator lamp flashes 2x per second.

**Danger**

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

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

- Allow the vehicle to run at idle speed.

- The malfunction indicator lamp stops flashing once teaching is completed.

**Info**

If the engine becomes too hot, perform a cool-down ride at medium revs.

Then do not switch off the engine after this, but leave it running at idle speed until teaching is completed.
17.6 Checking the basic position of the shift lever

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

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

| Gap between the shift lever and the top of the 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. 127)

17.7 Adjusting the basic position of the shift lever

- Remove screw 1 with the washers and take off shift lever 2.

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

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

- Mount the screw with the washers and tighten.

| Screw, shift lever | M6 | 14 Nm (10.3 lbf ft) | Loctite®243™ |
18.1 Changing the fuel screen

**Danger**

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

**Warning**

**Danger of poisoning**  
Fuel is poisonous and a health hazard.  
– Avoid skin, eye and clothing contact with fuel.  
– Immediately consult a doctor if you swallow fuel.  
– Do not inhale fuel vapors.  
– In case of skin contact, rinse the affected area with plenty of water.  
– Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.  
– Change your clothing in case of fuel spills on them.

**Note**

**Environmental hazard**  
Improper handling of fuel is a danger to the environment.  
– Do not allow fuel to enter the groundwater, the soil, or the sewage system.

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

Info

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

– Disconnect the plug-in connection of the fuel line.

Info

– Remaining fuel may flow out of the fuel hose.

– Pull fuel screen 2 out of the connecting piece.  
– Insert the new fuel screen all the way into the connecting piece.  
– Spray silicone spray onto a lint-free cleaning cloth and lightly lubricate the O-ring of the quick-release coupling.

Silicone spray (p. 152)

– Join the plug-in connection of the fuel line.
Danger

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

- Start the engine and check the response.

### 18.2 Checking the engine oil level

**Preparatory work**
- Stand the motorcycle upright on a horizontal surface.

**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 lower edge A and the middle of the level viewer B.

* If the engine oil is not up to the lower edge A of the level viewer:
  - Add engine oil. (◆ p. 132)

### 18.3 Changing the engine oil and oil filter, cleaning the oil screen◆

**Warning**

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

**Note**

**Environmental hazard**  Hazardous substances cause environmental damage.
- Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

**Info**
- Drain the engine oil with the engine at operating temperature.

**Preparatory work**
- Park the motorcycle on a level surface.
Main work
– Position an appropriate container under the engine.
– Remove oil drain plug 1 with the magnet and seal ring.

Info
Do not remove screws 2.

– Remove screw plug 3 with oil screen 4 and the O-rings.
– Allow the engine oil to drain completely.
– Thoroughly clean the parts and the sealing surfaces.

– Position oil screen 4 with the O-rings on a pin wrench.
– Position the pin wrench through the drill hole of the screw plug in the opposite section of the engine case.
– Push the oil screen all the way into the engine case.

– Mount and tighten screw plug 3 with the O-ring.
Guideline

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

– Mount and tighten 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) |

– Remove screws 5. Remove the oil filter cover with the O-ring.
- Pull oil filter 6 out of the oil filter housing.

**Lock ring plier (51012011000)**

- Allow the engine oil to drain completely.
- Thoroughly clean the parts and the sealing surface.

- Lay the motorcycle on its right side and fill the oil filter housing approx. ⅓ full with engine oil.
- Place the oil filter into the oil filter housing.
- Oil the O-ring of the oil filter cover and mount it together with 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.
- Remove filler plug 8 from the clutch cover together with the O-ring, and fill up with engine oil.

<table>
<thead>
<tr>
<th>Engine oil</th>
<th>1.0 l (1.1 qt.)</th>
<th>Engine oil (SAE 10W/50)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(p. 149)</td>
</tr>
</tbody>
</table>

**Info**

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

- Mount and tighten the filler plug together with the O-ring.

**Danger**

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

- Start the engine and check for leaks.

**Finishing work**

- Check the engine oil level. (p. 129)
18.4 Adding engine oil

**Info**
To little engine oil or poor-quality engine oil will result in premature wear of the engine.

---

**Main work**
- Remove oil filler plug 1 with the O-ring from the clutch cover.
- Fill engine oil to the middle A of the level viewer.

Engine oil (SAE 10W/50) (p. 149)

---

**Info**
In order to achieve optimal engine performance, it is not advisable to mix different engine oils. We recommended changing the engine oil when necessary.

- Mount and tighten the filler plug together with the O-ring.

---

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

---

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

**Finishing work**
- Check the engine oil level. (p. 129)
19.1 Cleaning the motorcycle

**Note**

**Material damage** Components become damaged or destroyed if a pressure cleaner is used incorrectly. The high pressure forces water into the electrical components, connectors, throttle cables, and bearings, etc. Pressure which is too high causes malfunctions and destroys components.

- Do not direct the water jet directly on to electrical components, connectors, throttle cables or bearings.
- Maintain a minimum distance between the nozzle of the pressure cleaner and the component.
  
  Minimum clearance 60 cm (23.6 in)

**Note**

**Environmental hazard** Hazardous substances cause environmental damage.

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

**Info**

To maintain the value and appearance of the motorcycle over a long period, clean it regularly. 

*Avoid direct sunshine when cleaning the motorcycle.*

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

**Motorcycle cleaner** ([p. 151](#))

**Info**

- Use warm water containing normal motorcycle cleaner and a soft sponge.
- Never apply motorcycle cleaner to a dry vehicle; always rinse the vehicle with water first.

- After rinsing the motorcycle with a gentle spray of water, allow it to dry thoroughly.
- Remove the closure of the exhaust system.

**Warning**

**Danger of accidents** Moisture and dirt impair the brake system.

- Brake carefully several times to dry out and remove dirt from the brake linings and the brake discs.

- After cleaning, ride the vehicle a short distance until the engine warms up.

**Info**

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

- After the motorcycle has cooled down, lubricate all moving parts and pivot points.
- Clean the chain. ([p. 80](#))
– Treat bare metal (except for brake discs and the exhaust system) with a corrosion inhibitor.

Preserving materials for paints, metal and rubber (p. 151)

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

Special cleaner for glossy and matte paint finishes, metal and plastic surfaces (p. 152)

– Lubricate the steering lock.

Universal oil spray (p. 152)

– Grease the ignition switch.

Universal oil spray (p. 152)

19.2 Checks and maintenance steps for winter operation

Info
If you use the vehicle in winter, you must expect salt on the roads. You should therefore take precautions against aggressive road salt.

If the vehicle was operated in road salt, clean it with cold water after riding. Warm water would enhance the corrosive effects of salt.

– Clean the motorcycle. (p. 133)
– Clean brake system.

Info
After EVERY trip on salted roads, thoroughly clean the brake calipers and brake linings, after they have cooled down and without removing them, with cold water and dry them carefully.

After riding on salted roads, thoroughly clean the vehicle with cold water and dry it well.

– Treat the engine, link fork, and all other bare or zinc-plated parts (except the brake discs) with a wax-based corrosion inhibitor.

Info
Corrosion inhibitor must not come in contact with the brake discs as this would greatly reduce the braking force.

– Clean the chain. (p. 80)
Warning

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

Info

If you plan to garage the motorcycle for a longer period, perform the following steps or have them performed.
Before storing the motorcycle, check all parts for function and wear. If service, repairs, or replacements are necessary, you should do this during the storage period (less workshop overload). In this way, you can avoid long workshop waiting times at the start of the new season.

- When refueling for the last time before taking the motorcycle out of service, add fuel additive.

  Fuel additive (p. 151)

- Refuel. (p. 46)
- Clean the motorcycle. (p. 133)
- Change the engine oil and oil filter, clean the oil screen. (p. 129)
- Check the antifreeze and coolant level. (p. 119)
- Check tire pressure. (p. 105)
- Remove the 12-V battery. (p. 107)
- Charge the 12-V battery. (p. 109)

Guideline

| Storage temperature of the 12-V battery without direct sunlight | 0 ... 35 °C (32 ... 95 °F) |

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

Info

KTM recommends jacking up the motorcycle.

- Raise the motorcycle with the lift stand. (p. 60)
- Preferably cover the motorcycle with a tarp or similar cover that is permeable to air. Do not use non-porous materials since they prevent humidity from escaping, thus causing corrosion.
Avoid running the engine for a short time only. Since the engine cannot warm up properly, the water vapor produced during combustion condenses and causes valves and the exhaust system to rust.

20.2 Preparing for use after storage

- Remove the motorcycle from the lift stand. (p. 60)
- Install the 12-V battery. (p. 108)
- Perform checks and maintenance measures when preparing for use. (p. 43)
- Take a test ride.
<table>
<thead>
<tr>
<th>Faults</th>
<th>Possible cause</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>The engine cannot be cranked (starter motor)</td>
<td>Operating error</td>
<td>– Carry out start procedure. ((\text{p. 43}))</td>
</tr>
<tr>
<td>12-V battery discharged</td>
<td>– Charge the 12-V battery. ((\text{p. 109}))</td>
<td>– Check charging voltage.</td>
</tr>
<tr>
<td></td>
<td>– Check the open-circuit current.</td>
<td>– Check the stator winding of the alternator.</td>
</tr>
<tr>
<td>Main fuse blown</td>
<td>– Change the main fuse. ((\text{p. 111}))</td>
<td></td>
</tr>
<tr>
<td>Starter relay defective</td>
<td>– Check the starter relay.</td>
<td></td>
</tr>
<tr>
<td>Starter motor defective</td>
<td>– Check the starter motor.</td>
<td></td>
</tr>
</tbody>
</table>

<p>| The engine turns but does not start | Operating error | – Carry out start procedure. ((\text{p. 43})) |
| The quick-release coupling of the fuel line is not joined | – Join the quick-release coupling of the fuel line. | |
| Fuse 1 blown | – Change the fuses of individual power consumers. ((\text{p. 112})) | |
| Fuse 4 blown | – Change the fuses of individual power consumers. ((\text{p. 112})) | |
| Idle speed is not set correctly | – Adjust the idle speed. ((\text{p. 125})) | |
| Spark plug oily or wet | – Clean and dry the spark plug or replace if necessary. | |
| Plug gap of spark plug too wide | – Adjust plug gap. | Guideline Spark plug electrode gap 1.0 mm (0.039 in) |
| Ignition system defective | – Check the ignition system. | |
| Short-circuit cable in wiring harness frayed, switch-off button or emergency OFF switch faulty | – Check the wiring harness. (visual check) | – Check the electrical system. |
| Error in the electronic fuel injection | – Read out the fault memory using the KTM diagnostics tool. | |
| Engine does not speed up | Error in the electronic fuel injection | – Read out the fault memory using the KTM diagnostics tool. | |
| Ignition system defective | – Ignition coil - check the secondary winding. | – Check the spark plug connector. |
| | – Check the stator winding of the alternator. | |
| Engine has too little power | Air filter heavily contaminated | – Clean the air filter and air filter box. ((\text{p. 73})) |
| Fuel filter is very dirty | – Change the fuel filter. | |
| Fuel screen is very dirty | – Change the fuel screen. ((\text{p. 128})) | |
| Error in the electronic fuel injection | – Read out the fault memory using the KTM diagnostics tool. | |
| Exhaust system leaky, deformed or too little glass fiber yarn filling in the main silencer | – Check exhaust system for damage. | – Change the glass fiber yarn filling of the main silencer. ((\text{p. 76})) |
| Valve clearance too little | – Adjust the valve clearance. | |</p>
<table>
<thead>
<tr>
<th>Faults</th>
<th>Possible cause</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine has too little power</td>
<td>Ignition system defective</td>
<td>– Ignition coil - check the secondary winding.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Check the spark plug connector.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Check the stator winding of the alternator.</td>
</tr>
<tr>
<td></td>
<td>Lack of fuel</td>
<td>– Refuel. (p. 46)</td>
</tr>
<tr>
<td>The engine dies during the trip</td>
<td>Fuse 1 blown</td>
<td>– Change the fuses of individual power consumers. (p. 112)</td>
</tr>
<tr>
<td></td>
<td>Fuse 4 blown</td>
<td>– Change the fuses of individual power consumers. (p. 112)</td>
</tr>
<tr>
<td>Engine overheats</td>
<td>Coolant level low in cooling system</td>
<td>– Check the cooling system for leaks.</td>
</tr>
<tr>
<td></td>
<td>Insufficient airflow</td>
<td>– Switch off engine when stationary.</td>
</tr>
<tr>
<td></td>
<td>Radiator fins very dirty</td>
<td>– Clean radiator fins.</td>
</tr>
<tr>
<td></td>
<td>Foam formation in cooling system</td>
<td>– Drain the coolant. (p. 120)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Refill the coolant. (p. 121)</td>
</tr>
<tr>
<td></td>
<td>Bent radiator hose</td>
<td>– Change the radiator hose.</td>
</tr>
<tr>
<td></td>
<td>Thermostat defective</td>
<td>– Check the thermostat.</td>
</tr>
<tr>
<td></td>
<td>Defect in radiator fan system</td>
<td>Guideline Opening temperature: 70 °C (158 °F)</td>
</tr>
<tr>
<td>Malfunction indicator lamp lights up or flashes</td>
<td>Error in the electronic fuel injection</td>
<td>– Check wiring for damage and electrical plug-in connectors for corrosion and damage.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Read out the fault memory using the KTM diagnostics tool.</td>
</tr>
<tr>
<td>High oil consumption</td>
<td>Engine vent hose bent</td>
<td>– Route the vent hose without bends or replace it if necessary.</td>
</tr>
<tr>
<td></td>
<td>Engine oil level too high</td>
<td>– Check the engine oil level. (p. 129)</td>
</tr>
<tr>
<td></td>
<td>Engine oil too thin (low viscosity)</td>
<td>– Change the engine oil and oil filter, clean the oil screen. (p. 129)</td>
</tr>
<tr>
<td></td>
<td>Piston and cylinder worn</td>
<td>– Measure the piston/cylinder mounting clearance.</td>
</tr>
<tr>
<td>12-V battery discharged</td>
<td>The 12-V battery is not being charged by the alternator</td>
<td>– Check charging voltage.</td>
</tr>
<tr>
<td></td>
<td>Undesired power consumer</td>
<td>– Check the open-circuit current.</td>
</tr>
<tr>
<td>Values in combination instrument deleted (time, stop watch, lap times)</td>
<td>The combination instrument battery is empty</td>
<td>– Change combination instrument battery. (p. 117)</td>
</tr>
<tr>
<td>The high beam, low beam, tail light, position light, and license plate lamp are not working</td>
<td>Fuse 2 blown</td>
<td>– Change the fuses of individual power consumers. (p. 112)</td>
</tr>
<tr>
<td>The horn, brake light, turn signal, and radiator fan (optional) are not working</td>
<td>Fuse 3 blown</td>
<td>– Change the fuses of individual power consumers. (p. 112)</td>
</tr>
</tbody>
</table>
### Blink Code 22

**Info**
The blink codes are only displayed by the derestricted version of the vehicle.

<table>
<thead>
<tr>
<th>Blink code for malfunction indicator lamp</th>
<th>Error level condition</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="BLINK CODE 22" /> 02a Malfunction indicator lamp flashes 2x per second</td>
<td>Teaching of throttle valve position required</td>
</tr>
<tr>
<td><img src="image" alt="BLINK CODE 22" /> 02 Malfunction indicator lamp flashes 2x short</td>
<td>Crankshaft speed sensor – circuit fault</td>
</tr>
</tbody>
</table>
| ![BLINK CODE 22](image) 06 Malfunction indicator lamp flashes 6x short | Throttle valve position sensor circuit A – input signal too low  
Throttle valve position sensor circuit A – input signal too high |
| ![BLINK CODE 22](image) 09 Malfunction indicator lamp flashes 9x short | Induction manifold pressure sensor, cylinder 1 – input signal too low  
Induction manifold pressure sensor cylinder 1 – input signal too high |
| ![BLINK CODE 22](image) 12 Malfunction indicator lamp flashes 1x long, 2x short | Coolant temperature sensor – input signal too low  
Coolant temperature sensor – input signal too high |
| ![BLINK CODE 22](image) 13 Malfunction indicator lamp flashes 1x long, 3x short | Intake air temperature sensor – input signal too low  
Intake air temperature sensor – input signal too high |
| ![BLINK CODE 22](image) 15 Malfunction indicator lamp flashes 1x long, 5x short | Rollover sensor (A/D type) - input signal too low  
Rollover sensor (A/D type) - input signal too high |
<p>| <img src="image" alt="BLINK CODE 22" /> 21 Malfunction indicator lamp flashes 2x long, 1x short | Battery voltage – input voltage too high |</p>
<table>
<thead>
<tr>
<th>Blink code for malfunction indicator lamp</th>
<th>🔄</th>
</tr>
</thead>
<tbody>
<tr>
<td>22 Malfunction indicator lamp flashes 2x long, 2x short</td>
<td>🔄</td>
</tr>
<tr>
<td>Error level condition</td>
<td>Gear position sensor - input voltage too high</td>
</tr>
<tr>
<td></td>
<td>Gear position sensor - input voltage too low</td>
</tr>
<tr>
<td>Blink code for malfunction indicator lamp</td>
<td>🔄</td>
</tr>
<tr>
<td>33 Malfunction indicator lamp flashes 3x long, 3x short</td>
<td>🔄</td>
</tr>
<tr>
<td>Error level condition</td>
<td>Injector cylinder 1 - circuit fault</td>
</tr>
<tr>
<td>Blink code for malfunction indicator lamp</td>
<td>🔄</td>
</tr>
<tr>
<td>37 Malfunction indicator lamp flashes 3x long, 7x short</td>
<td>🔄</td>
</tr>
<tr>
<td>Error level condition</td>
<td>Ignition coil 1, cylinder 1 - circuit fault</td>
</tr>
<tr>
<td>Blink code for malfunction indicator lamp</td>
<td>🔄</td>
</tr>
<tr>
<td>41 Malfunction indicator lamp flashes 4x long, 1x short</td>
<td>🔄</td>
</tr>
<tr>
<td>Error level condition</td>
<td>Fuel pump relay - short circuit to ground or open circuit</td>
</tr>
<tr>
<td></td>
<td>Fuel pump controller – input signal too low</td>
</tr>
</tbody>
</table>
### 23.1 Engine

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Design</strong></td>
<td>1-cylinder 4-stroke engine, water-cooled</td>
</tr>
<tr>
<td><strong>Displacement</strong></td>
<td>349.7 cm³ (21.34 cu in)</td>
</tr>
<tr>
<td><strong>Stroke</strong></td>
<td>57.5 mm (2.264 in)</td>
</tr>
<tr>
<td><strong>Bore</strong></td>
<td>88 mm (3.46 in)</td>
</tr>
<tr>
<td><strong>Compression ratio</strong></td>
<td>13.5:1</td>
</tr>
<tr>
<td><strong>Idle speed</strong></td>
<td>1,950 ... 2,050 rpm</td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td>DOHC, four valves controlled via cam lever, drive via timing chain</td>
</tr>
<tr>
<td><strong>Valve diameter, intake</strong></td>
<td>36.3 mm (1.429 in)</td>
</tr>
<tr>
<td><strong>Valve diameter, exhaust</strong></td>
<td>29.1 mm (1.146 in)</td>
</tr>
<tr>
<td><strong>Valve clearance</strong></td>
<td></td>
</tr>
<tr>
<td>Intake at: 20 °C (68 °F)</td>
<td>0.10 ... 0.15 mm (0.0039 ... 0.0059 in)</td>
</tr>
<tr>
<td>Exhaust at: 20 °C (68 °F)</td>
<td>0.13 ... 0.18 mm (0.0051 ... 0.0071 in)</td>
</tr>
<tr>
<td><strong>Crankshaft bearing</strong></td>
<td>2 cylinder bearings</td>
</tr>
<tr>
<td><strong>Conrod bearing</strong></td>
<td>Plain bearing</td>
</tr>
<tr>
<td><strong>Piston pin bearing</strong></td>
<td>Bearing bush</td>
</tr>
<tr>
<td><strong>Pistons</strong></td>
<td>Forged light alloy</td>
</tr>
<tr>
<td><strong>Piston rings</strong></td>
<td>1 compression ring, 1 oil scraper ring</td>
</tr>
<tr>
<td><strong>Engine lubrication</strong></td>
<td>Pressure circulation lubrication with 2 trochoidal pumps</td>
</tr>
<tr>
<td><strong>Primary transmission</strong></td>
<td>24:73</td>
</tr>
<tr>
<td><strong>Clutch</strong></td>
<td>Multidisc clutch in oil bath/hydraulically activated</td>
</tr>
<tr>
<td><strong>Transmission ratio</strong></td>
<td></td>
</tr>
<tr>
<td>first-gear</td>
<td>14:32</td>
</tr>
<tr>
<td>second-gear</td>
<td>16:26</td>
</tr>
<tr>
<td>third-gear</td>
<td>20:25</td>
</tr>
<tr>
<td>fourth-gear</td>
<td>22:23</td>
</tr>
<tr>
<td>fifth-gear</td>
<td>25:22</td>
</tr>
<tr>
<td>sixth-gear</td>
<td>26:20</td>
</tr>
<tr>
<td><strong>Alternator</strong></td>
<td>12 V, 200 W</td>
</tr>
<tr>
<td><strong>Ignition</strong></td>
<td>Contactless controlled fully electronic ignition with digital ignition adjustment</td>
</tr>
<tr>
<td><strong>Spark plug</strong></td>
<td>NGK LMAR9A1-10</td>
</tr>
<tr>
<td><strong>Spark plug electrode gap</strong></td>
<td>1.0 mm (0.039 in)</td>
</tr>
<tr>
<td><strong>Cooling</strong></td>
<td>Water cooling, permanent circulation of coolant by water pump</td>
</tr>
<tr>
<td><strong>Starting aid</strong></td>
<td>Starter motor</td>
</tr>
</tbody>
</table>
## 23.2 Engine tightening torques

<table>
<thead>
<tr>
<th>Component</th>
<th>Thread Size</th>
<th>Torque (Nm)</th>
<th>Loctite®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nozzle, crank chamber ventilation</td>
<td>M4</td>
<td>2 Nm (1.5 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Oil nozzle for alternator cooling</td>
<td>M4</td>
<td>2 Nm (1.5 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Oil nozzle for balancer shaft lubrication</td>
<td>M4</td>
<td>2 Nm (1.5 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Oil nozzle for clutch lubrication</td>
<td>M4</td>
<td>2 Nm (1.5 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Oil nozzle for conrod bearing lubrication</td>
<td>M4</td>
<td>2 Nm (1.5 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Oil nozzle for main bearing lubrication</td>
<td>M4</td>
<td>2 Nm (1.5 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Screw, oil jet for piston cooling</td>
<td>M4</td>
<td>2.5 Nm (1.84 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Locking screw for bearing</td>
<td>M5</td>
<td>6 Nm (4.4 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Oil channel screw plug in alternator cover</td>
<td>M5</td>
<td>2 Nm (1.5 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Oil nozzle for cam lever lubrication</td>
<td>M5</td>
<td>3 Nm (2.2 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Oil nozzle, piston cooling</td>
<td>M5</td>
<td>2 Nm (1.5 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Screw, bearing bolt, oil pump idler gear</td>
<td>M5</td>
<td>6 Nm (4.4 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Screw, clutch spring retainer</td>
<td>M5</td>
<td>6 Nm (4.4 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Screw, crankshaft speed sensor</td>
<td>M5</td>
<td>6 Nm (4.4 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Screw, gear position sensor</td>
<td>M5</td>
<td>5 Nm (3.7 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Screw, locking lever</td>
<td>M5</td>
<td>6 Nm (4.4 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Screw, oil pump cover</td>
<td>M5</td>
<td>6 Nm (4.4 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Screw, stator</td>
<td>M5</td>
<td>6 Nm (4.4 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Nut, cylinder head</td>
<td>M6</td>
<td>10 Nm (7.4 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Nut, water pump impeller</td>
<td>M6</td>
<td>6 Nm (4.4 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Screw, alternator cover</td>
<td>M6</td>
<td>10 Nm (7.4 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Screw, clutch cover</td>
<td>M6</td>
<td>10 Nm (7.4 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Screw, clutch slave cylinder</td>
<td>M6</td>
<td>10 Nm (7.4 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Screw, engine case</td>
<td>M6</td>
<td>10 Nm (7.4 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Screw, EVAP connection</td>
<td>M6</td>
<td>5 Nm (3.7 lbf ft)</td>
<td>2701™</td>
</tr>
<tr>
<td>Screw, exhaust flange</td>
<td>M6</td>
<td>10 Nm (7.4 lbf ft)</td>
<td>243™</td>
</tr>
<tr>
<td>Part Description</td>
<td>Thread Size</td>
<td>Torque Value</td>
<td>Fastener Type</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>-------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Screw, guide rail</td>
<td>M6</td>
<td>10 Nm (7.4 lbf ft)</td>
<td>Loctite®243™</td>
</tr>
<tr>
<td>Screw, oil filter cover</td>
<td>M6</td>
<td>10 Nm (7.4 lbf ft)</td>
<td></td>
</tr>
<tr>
<td>Screw, shift drum locating</td>
<td>M6</td>
<td>10 Nm (7.4 lbf ft)</td>
<td>Loctite®243™</td>
</tr>
<tr>
<td>Screw, shift lever</td>
<td>M6</td>
<td>14 Nm (10.3 lbf ft)</td>
<td>Loctite®243™</td>
</tr>
<tr>
<td>Screw, starter motor</td>
<td>M6</td>
<td>10 Nm (7.4 lbf ft)</td>
<td></td>
</tr>
<tr>
<td>Screw, timing chain failure protection</td>
<td>M6</td>
<td>10 Nm (7.4 lbf ft)</td>
<td>Loctite®243™</td>
</tr>
<tr>
<td>Screw, valve cover</td>
<td>M6</td>
<td>8 Nm (5.9 lbf ft)</td>
<td></td>
</tr>
<tr>
<td>Screw, water pump cover</td>
<td>M6</td>
<td>10 Nm (7.4 lbf ft)</td>
<td></td>
</tr>
<tr>
<td>Stud, cylinder head</td>
<td>M6</td>
<td>10 Nm (7.4 lbf ft)</td>
<td></td>
</tr>
<tr>
<td>Screw, auto decompression</td>
<td>M7x1</td>
<td>15 Nm (11.1 lbf ft)</td>
<td>Loctite®243™</td>
</tr>
<tr>
<td>Screw, camshaft bearing bridge</td>
<td>M7x1</td>
<td>15 Nm (11.1 lbf ft)</td>
<td></td>
</tr>
<tr>
<td>Crankshaft clamp screw plug</td>
<td>M8</td>
<td>10 Nm (7.4 lbf ft)</td>
<td>Loctite®243™</td>
</tr>
<tr>
<td>Screw, tensioning rail</td>
<td>M8</td>
<td>15 Nm (11.1 lbf ft)</td>
<td>Loctite®243™</td>
</tr>
<tr>
<td>Screw, engine sprocket</td>
<td>M10</td>
<td>60 Nm (44.3 lbf ft)</td>
<td>Loctite®243™</td>
</tr>
<tr>
<td>Plug, oil channel</td>
<td>M10x1</td>
<td>15 Nm (11.1 lbf ft)</td>
<td>Loctite®243™</td>
</tr>
<tr>
<td>Screw plug, cam lever axis</td>
<td>M10x1</td>
<td>10 Nm (7.4 lbf ft)</td>
<td>Loctite®243™</td>
</tr>
<tr>
<td>Screw, rotor</td>
<td>M10x1</td>
<td>70 Nm (51.6 lbf ft)</td>
<td>Collar and thread oiled / cone degreased</td>
</tr>
<tr>
<td>Screw, unlocking of timing chain tensioner</td>
<td>M10x1</td>
<td>8 Nm (5.9 lbf ft)</td>
<td></td>
</tr>
<tr>
<td>Spark plug</td>
<td>M10x1</td>
<td>12 Nm (8.9 lbf ft)</td>
<td></td>
</tr>
<tr>
<td>Coolant temperature sensor</td>
<td>M10x1.25</td>
<td>12 Nm (8.9 lbf ft)</td>
<td></td>
</tr>
<tr>
<td>Nut, cylinder head</td>
<td>M10x1.25</td>
<td>10 Nm (7.4 lbf ft)</td>
<td>Loctite®243™</td>
</tr>
<tr>
<td>Stud, cylinder head</td>
<td>M10x1.25</td>
<td>20 Nm (14.8 lbf ft)</td>
<td>Loctite®243™</td>
</tr>
<tr>
<td>Oil drain plug with magnet</td>
<td>M12x1.5</td>
<td>20 Nm (14.8 lbf ft)</td>
<td></td>
</tr>
<tr>
<td>Screw plug, oil pressure control valve</td>
<td>M12x1.5</td>
<td>20 Nm (14.8 lbf ft)</td>
<td></td>
</tr>
<tr>
<td>Oil drain plug</td>
<td>M14x1.5</td>
<td>15 Nm (11.1 lbf ft)</td>
<td></td>
</tr>
</tbody>
</table>

Tightening sequence:
- Tighten diagonally.
- 1st tightening stage: 5 Nm (3.7 lbf ft)
- 2nd tightening stage: 14 Nm (10.3 lbf ft)
- Lubricated with engine oil.

- 1st tightening stage: 10 Nm (7.4 lbf ft)
- 2nd tightening stage: 30 Nm (22.1 lbf ft)
- 3rd tightening stage: 180°

Crankshaft clamp screw plug
- M8
- 10 Nm (7.4 lbf ft)

Screw, tensioning rail
- M8
- 15 Nm (11.1 lbf ft)

Screw, engine sprocket
- M10
- 60 Nm (44.3 lbf ft)

Plug, oil channel
- M10x1
- 15 Nm (11.1 lbf ft)

Screw plug, cam lever axis
- M10x1
- 10 Nm (7.4 lbf ft)

Screw, rotor
- M10x1
- 70 Nm (51.6 lbf ft)

Screw, unlocking of timing chain tensioner
- M10x1
- 8 Nm (5.9 lbf ft)

Spark plug
- M10x1
- 12 Nm (8.9 lbf ft)

Coolant temperature sensor
- M10x1.25
- 12 Nm (8.9 lbf ft)

Nut, cylinder head
- M10x1.25
- Tightening sequence:
  - 1st tightening stage: 10 Nm (7.4 lbf ft)
  - 2nd tightening stage: 30 Nm (22.1 lbf ft)
  - 3rd tightening stage: 180°

Stud, cylinder head
- M10x1.25
- 20 Nm (14.8 lbf ft)

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

Screw plug, oil pressure control valve
- M12x1.5
- 20 Nm (14.8 lbf ft)

Oil drain plug
- M14x1.5
- 15 Nm (11.1 lbf ft)
### 23 TECHNICAL DATA

#### 23.3 Capacities

**23.3.1 Engine oil**

| Engine oil | 1.0 l (1.1 qt.) | Engine oil (SAE 10W/50) (p. 149) |

**23.3.2 Coolant**

| Coolant | 1.2 l (1.3 qt.) | Coolant (p. 149) |

**23.3.3 Fuel**

| Total fuel tank capacity, approx. | 8.5 l (2.25 US gal) | Super unleaded (ROZ 95/RON 95/PON 91) (p. 150) |

| Fuel reserve, approx. | 1.5 l (1.6 qt.) |

### 23.4 Chassis

| Frame | Central tube frame made of chrome molybdenum steel tubing |

| Fork | WPXPLDR 5348 |

| Suspension travel |  |

| front | 292 mm (11.5 in) |

| rear | 310 mm (12.2 in) |

| Fork offset | 22 mm (0.87 in) |

| Shock absorber | WP XPLDR 5746 |

| Brake system | Disc brakes, floating brake calipers |

| Brake discs - diameter |  |

| front | 260 mm (10.24 in) |

| rear | 220 mm (8.66 in) |

| Brake discs - wear limit |  |

| front | 2.5 mm (0.098 in) |

| rear | 3.5 mm (0.138 in) |

| Offroad tire pressure |  |

| front | 1.0 bar (15 psi) |

| rear | 1.0 bar (15 psi) |

| Street tire pressure |  |

| front | 1.8 bar (26 psi) |

| rear | 1.8 bar (26 psi) |

| Final drive | 14:52 |
23.5 Electrical system

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-V battery</td>
<td>HJTZ5S-FP-C</td>
</tr>
<tr>
<td>Combination instrument battery</td>
<td>CR 2430</td>
</tr>
<tr>
<td>Fuse</td>
<td>75011088005 (5 A)</td>
</tr>
<tr>
<td>Fuse</td>
<td>75011088010 (10 A)</td>
</tr>
<tr>
<td>Fuse</td>
<td>58011109120 (20 A)</td>
</tr>
<tr>
<td>Headlight</td>
<td>HS1 / socket PX43t (12 V 35/35 W)</td>
</tr>
<tr>
<td>Position light</td>
<td>W5W / socket W2.1x9.5d (12 V 5 W)</td>
</tr>
<tr>
<td>Indicator lamps</td>
<td>W2.3W / socket W2x4.6d (12 V 2.3 W)</td>
</tr>
<tr>
<td>Turn signal</td>
<td>RY10W / socket BAU15s (12 V 10 W)</td>
</tr>
<tr>
<td>Brake/tail light</td>
<td>LED</td>
</tr>
<tr>
<td>License plate lamp</td>
<td>LED</td>
</tr>
</tbody>
</table>

23.6 Tires

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front tire</td>
<td>90/90 - 21 M/C 54S M+S TT Continental TKC 80</td>
</tr>
<tr>
<td>Rear tire</td>
<td>120/90 - 18 M/C 65R M+S TT Continental TKC 80</td>
</tr>
</tbody>
</table>

The tires specified represent one of the possible series production tires. Additional information is available in the Service section under: http://www.ktm.com
# 23.7 Fork

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fork article number</td>
<td>14.18.8T.67</td>
</tr>
<tr>
<td>Fork</td>
<td>WPXPLOR 5348</td>
</tr>
<tr>
<td>Compression damping Comfort</td>
<td>18 clicks</td>
</tr>
<tr>
<td>Standard</td>
<td>15 clicks</td>
</tr>
<tr>
<td>Sport</td>
<td>12 clicks</td>
</tr>
<tr>
<td>Rebound damping Comfort</td>
<td>18 clicks</td>
</tr>
<tr>
<td>Standard</td>
<td>15 clicks</td>
</tr>
<tr>
<td>Sport</td>
<td>12 clicks</td>
</tr>
<tr>
<td>Spring length with preload spacer(s)</td>
<td>474 mm (18.66 in)</td>
</tr>
<tr>
<td>Spring rate Comfort</td>
<td>4.0 N/mm (22.8 lb/in)</td>
</tr>
<tr>
<td>Standard</td>
<td>4.2 N/mm (24 lb/in)</td>
</tr>
<tr>
<td>Sport</td>
<td>4.4 N/mm (25.1 lb/in)</td>
</tr>
<tr>
<td>Fork length</td>
<td>928 mm (36.54 in)</td>
</tr>
<tr>
<td>Fork oil per fork leg</td>
<td>625 ± 10 ml (21.13 ± 0.34 fl. oz.)</td>
</tr>
</tbody>
</table>

# 23.8 Shock absorber

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shock absorber article number</td>
<td>12.18.7T.69</td>
</tr>
<tr>
<td>Shock absorber</td>
<td>WP XPLOR 5746</td>
</tr>
<tr>
<td>Low-speed compression damping Comfort</td>
<td>18 clicks</td>
</tr>
<tr>
<td>Standard</td>
<td>15 clicks</td>
</tr>
<tr>
<td>Sport</td>
<td>12 clicks</td>
</tr>
<tr>
<td>High-speed compression damping Comfort</td>
<td>2.5 turns</td>
</tr>
<tr>
<td>Standard</td>
<td>2 turns</td>
</tr>
<tr>
<td>Sport</td>
<td>1 turn</td>
</tr>
<tr>
<td>Rebound damping Comfort</td>
<td>18 clicks</td>
</tr>
<tr>
<td>Standard</td>
<td>15 clicks</td>
</tr>
<tr>
<td>Sport</td>
<td>12 clicks</td>
</tr>
<tr>
<td>Spring preload</td>
<td>8 mm (0.31 in)</td>
</tr>
<tr>
<td>Spring rate</td>
<td>60 ... 66 N/mm (343 ... 377 lb/in)</td>
</tr>
<tr>
<td>Weight of rider: 65 ... 75 kg (143 ... 165 lb.)</td>
<td>63 ... 69 N/mm (360 ... 394 lb/in)</td>
</tr>
<tr>
<td>Weight of rider: 85 ... 95 kg (187 ... 209 lb.)</td>
<td>66 ... 72 N/mm (377 ... 411 lb/in)</td>
</tr>
<tr>
<td>Spring length</td>
<td>225 mm (8.86 in)</td>
</tr>
<tr>
<td>Gas pressure</td>
<td>10 bar (145 psi)</td>
</tr>
<tr>
<td>Static sag</td>
<td>37 mm (1.46 in)</td>
</tr>
<tr>
<td>Riding sag</td>
<td>110 mm (4.33 in)</td>
</tr>
</tbody>
</table>
### Fitted length

| Fitted length | 415 mm (16.34 in) |

| Damper oil | Shock absorber fluid (SAE 2.5) (50180751S1) († p. 150) |

### 23.9 Chassis tightening torques

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Torque Value</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remaining screws, chassis</td>
<td>2 Nm (1.5 lbf ft)</td>
<td>EJOT PT® K60x25-Z</td>
</tr>
<tr>
<td>Screw, active carbon filter</td>
<td>5 Nm (3.7 lbf ft)</td>
<td>-</td>
</tr>
<tr>
<td>Screw, air filter box cover</td>
<td>3 Nm (2.2 lbf ft)</td>
<td>EJOT PT® K60x20-Z</td>
</tr>
<tr>
<td>Screw, pressure regulator</td>
<td>2.3 Nm (1.7 lbf ft)</td>
<td>EJOT PT® K60x25-Z</td>
</tr>
<tr>
<td>Screw, seat fixing</td>
<td>2.5 Nm (1.84 lbf ft)</td>
<td>EJOT EJOFORM PT® K60x23/18</td>
</tr>
<tr>
<td>Screw, emergency OFF switch</td>
<td>1 Nm (0.7 lbf ft)</td>
<td>M4</td>
</tr>
<tr>
<td>Screw, fixed grip</td>
<td>5 Nm (3.7 lbf ft)</td>
<td>M4</td>
</tr>
<tr>
<td>Spoke nipple, front wheel</td>
<td>6 Nm (4.4 lbf ft)</td>
<td>M4.5</td>
</tr>
<tr>
<td>Spoke nipple, rear wheel</td>
<td>6 Nm (4.4 lbf ft)</td>
<td>M4.5</td>
</tr>
<tr>
<td>Remaining nuts, chassis</td>
<td>5 Nm (3.7 lbf ft)</td>
<td>M5</td>
</tr>
<tr>
<td>Remaining screws, chassis</td>
<td>5 Nm (3.7 lbf ft)</td>
<td>M5</td>
</tr>
<tr>
<td>Screw, battery terminal</td>
<td>2.5 Nm (1.84 lbf ft)</td>
<td>M5</td>
</tr>
<tr>
<td>Screw, intake air temperature sensor</td>
<td>2.7 Nm (1.99 lbf ft)</td>
<td>M5</td>
</tr>
<tr>
<td>Screw, light switch</td>
<td>1 Nm (0.7 lbf ft)</td>
<td>M5</td>
</tr>
<tr>
<td>Screw, spoiler on fuel tank</td>
<td>2 Nm (1.5 lbf ft)</td>
<td>M5x12</td>
</tr>
<tr>
<td>Screw, turn signal switch</td>
<td>1 Nm (0.7 lbf ft)</td>
<td>M5</td>
</tr>
<tr>
<td>Nut, starter motor</td>
<td>4 Nm (3 lbf ft)</td>
<td>M6</td>
</tr>
<tr>
<td>Remaining nuts, chassis</td>
<td>10 Nm (7.4 lbf ft)</td>
<td>M6</td>
</tr>
<tr>
<td>Remaining screws, chassis</td>
<td>10 Nm (7.4 lbf ft)</td>
<td>M6</td>
</tr>
<tr>
<td>Screw, ball joint of push rod on foot brake cylinder</td>
<td>10 Nm (7.4 lbf ft)</td>
<td>M6</td>
</tr>
<tr>
<td>Screw, chain sliding guard</td>
<td>10 Nm (7.4 lbf ft)</td>
<td>M6</td>
</tr>
<tr>
<td>Screw, front brake disc</td>
<td>14 Nm (10.3 lbf ft)</td>
<td>M6</td>
</tr>
<tr>
<td>Screw, rear brake disc</td>
<td>14 Nm (10.3 lbf ft)</td>
<td>M6</td>
</tr>
<tr>
<td>Screw, throttle grip</td>
<td>5 Nm (3.7 lbf ft)</td>
<td>M6</td>
</tr>
<tr>
<td>Fuel connection on fuel pump</td>
<td>15 Nm (11.1 lbf ft)</td>
<td>M8</td>
</tr>
<tr>
<td>Nut, foot brake lever stop</td>
<td>20 Nm (14.8 lbf ft)</td>
<td>M8</td>
</tr>
<tr>
<td>Nut, rear sprocket screw</td>
<td>35 Nm (25.8 lbf ft)</td>
<td>M8</td>
</tr>
<tr>
<td>Nut, rim lock</td>
<td>12 Nm (8.9 lbf ft)</td>
<td>M8</td>
</tr>
<tr>
<td>Remaining nuts, chassis</td>
<td>25 Nm (18.4 lbf ft)</td>
<td>M8</td>
</tr>
<tr>
<td>Remaining screws, chassis</td>
<td>25 Nm (18.4 lbf ft)</td>
<td>M8</td>
</tr>
<tr>
<td>Screw, bottom triple clamp</td>
<td>15 Nm (11.1 lbf ft)</td>
<td>M8</td>
</tr>
<tr>
<td>Screw, chain sliding piece</td>
<td>15 Nm (11.1 lbf ft)</td>
<td>M8</td>
</tr>
<tr>
<td>Screw, engine brace on engine</td>
<td>25 Nm (18.4 lbf ft)</td>
<td>M8x20</td>
</tr>
</tbody>
</table>

Loctite® 243™

Loctite® 2701™

Loctite® 243™
<table>
<thead>
<tr>
<th>Part Description</th>
<th>Size</th>
<th>Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw, engine brace on frame</td>
<td>M8x15</td>
<td>25 Nm (18.4 lbf ft)</td>
</tr>
<tr>
<td>Screw, fork stub</td>
<td>M8</td>
<td>15 Nm (11.1 lbf ft)</td>
</tr>
<tr>
<td>Screw, front brake caliper</td>
<td>M8</td>
<td>25 Nm (18.4 lbf ft)</td>
</tr>
<tr>
<td>Screw, manifold on cylinder head brace</td>
<td>M8</td>
<td>15 Nm (11.1 lbf ft)</td>
</tr>
<tr>
<td>Screw, side stand attachment</td>
<td>M8</td>
<td>33 Nm (24.3 lbf ft)</td>
</tr>
<tr>
<td>Screw, subframe bottom</td>
<td>M8</td>
<td>30 Nm (22.1 lbf ft)</td>
</tr>
<tr>
<td>Screw, subframe top</td>
<td>M8</td>
<td>35 Nm (25.8 lbf ft)</td>
</tr>
<tr>
<td>Screw, top steering stem</td>
<td>M8</td>
<td>20 Nm (14.8 lbf ft)</td>
</tr>
<tr>
<td>Screw, top triple clamp</td>
<td>M8</td>
<td>20 Nm (14.8 lbf ft)</td>
</tr>
<tr>
<td>Engine attachment bolt</td>
<td>M10</td>
<td>60 Nm (44.3 lbf ft)</td>
</tr>
<tr>
<td>Remaining nuts, chassis</td>
<td>M10</td>
<td>45 Nm (33.2 lbf ft)</td>
</tr>
<tr>
<td>Remaining screws, chassis</td>
<td>M10</td>
<td>45 Nm (33.2 lbf ft)</td>
</tr>
<tr>
<td>Screw, handlebar holder</td>
<td>M10</td>
<td>40 Nm (29.5 lbf ft)</td>
</tr>
<tr>
<td>Nut, fuel pump fixation</td>
<td>M12</td>
<td>15 Nm (11.1 lbf ft)</td>
</tr>
<tr>
<td>Screw, bottom shock absorber</td>
<td>M12</td>
<td>80 Nm (59 lbf ft)</td>
</tr>
<tr>
<td>Screw, top shock absorber</td>
<td>M12</td>
<td>80 Nm (59 lbf ft)</td>
</tr>
<tr>
<td>SAS valve</td>
<td>M16</td>
<td>15 Nm (11.1 lbf ft)</td>
</tr>
<tr>
<td>Nut, fork pivot</td>
<td>M16x1.5</td>
<td>100 Nm (73.8 lbf ft)</td>
</tr>
<tr>
<td>Nut, rear wheel spindle</td>
<td>M20x1.5</td>
<td>80 Nm (59 lbf ft)</td>
</tr>
<tr>
<td>Screw, front wheel spindle</td>
<td>M20x1.5</td>
<td>35 Nm (25.8 lbf ft)</td>
</tr>
<tr>
<td>Screw, top steering head</td>
<td>M20x1.5</td>
<td>12 Nm (8.9 lbf ft)</td>
</tr>
<tr>
<td>Screw-in fitting, cooling system</td>
<td>M24x1.5</td>
<td>18 Nm (13.3 lbf ft)</td>
</tr>
</tbody>
</table>
Brake fluid DOT 4 / DOT 5.1

Standard/classification
- DOT

Guideline
- Use only brake fluid that complies with the specified standard (see specifications on the container) and that exhibits the corresponding properties.

Recommended supplier
Castrol
- REACT PERFORMANCE DOT 4

MOTOREX®
- Brake Fluid DOT 5.1

Coolant

Guideline
- Only use high-grade, silicate-free coolant with corrosion inhibitor additive for aluminum motors. Low grade and unsuitable antifreeze causes corrosion, deposits and frothing.
- Do not use pure water as only coolant is able to meet the requirements needed in terms of corrosion protection and lubrication properties.
- Only use coolant that complies with the requirements stated (see specifications on the container) and that has the relevant properties.

<table>
<thead>
<tr>
<th>Antifreeze protection to at least</th>
<th>−25 °C (−13 °F)</th>
</tr>
</thead>
</table>

The mixture ratio must be adjusted to the necessary antifreeze protection. Use distilled water if the coolant needs to be diluted.

The use of premixed coolant is recommended.

Observe the coolant manufacturer specifications for antifreeze protection, dilution and miscibility (compatibility) with other coolants.

Recommended supplier
MOTOREX®
- COOLANT M3.0

Engine oil (SAE 10W/50)

Standard/classification
- JASO T903 MA2 (p. 153)
- SAE (p. 153) (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.

Recommended supplier
MOTOREX®
- Cross Power 4T
**Fork oil (SAE 4) (48601166S1)**

**Standard/classification**
- SAE (p. 153) (SAE 4)

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

**Shock absorber fluid (SAE 2.5) (50180751S1)**

**Standard/classification**
- SAE (p. 153) (SAE 2.5)

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

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

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

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

---

**Info**

Do not use fuel containing methanol (e.g. M15, M85, M100) or more than 10% ethanol (e.g. E15, E25, E85, E100).
<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
<th>Recommended Supplier</th>
<th>Supplier Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air filter cleaner</td>
<td></td>
<td></td>
<td>MOTOREX®</td>
</tr>
<tr>
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Silicone spray
Recommended supplier
MOTOREX®
– Silicone Spray

Special cleaner for glossy and matte paint finishes, metal and plastic surfaces
Recommended supplier
MOTOREX®
– Quick Cleaner

Universal oil spray
Recommended supplier
MOTOREX®
– Joker 440 Synthetic
JASO T903 MA2

Different technical development directions required a separate specification for motorcycles – the JASO T903 MA2 standard. Earlier, engine oils from the automobile industry were used for motorcycles because there was no separate motorcycle specification. Whereas long service intervals are demanded for automobile engines, the focus for motorcycle engines is on high performance at high engine speeds. In most motorcycle engines, the transmission and clutch are lubricated with the same oil. The JASO T903 MA2 standard meets these special requirements.

SAE

The SAE viscosity classes were defined by the Society of Automotive Engineers and are used for classifying oils according to their viscosity. The viscosity describes only one property of oil and says nothing about quality.
<p>| OBD   | On-board diagnosis | Vehicle system, which monitors the specified parameters of the vehicle electronics |</p>
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# 29 LIST OF SYMBOLS

## 29.1 Yellow and orange symbols

Yellow and orange symbols indicate an error condition that requires prompt intervention. Active driving aids are also represented by yellow or orange symbols.

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<th>Description</th>
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<td><img src="image" alt="Malfunction indicator lamp" /></td>
<td>Malfunction indicator lamp lights up/flashes yellow – The OBD has detected an error in the vehicle electronics. Come safely to a halt, and contact an authorized KTM workshop.</td>
</tr>
<tr>
<td><img src="image" alt="Fuel level warning lamp" /></td>
<td>The fuel level warning lamp lights up yellow – The fuel level has reached the reserve mark.</td>
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## 29.2 Green and blue symbols

Green and blue symbols reflect information.

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<td>The high beam indicator lamp lights up blue – The high beam is switched on.</td>
</tr>
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<td><img src="image" alt="Turn signal indicator lamp" /></td>
<td>Turn signal indicator lamp flashes green – The turn signal is switched on.</td>
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