

690 Duke EU
690 Duke AUS/UK
690 Duke MAL
690 Duke R EU
690 Duke R AUS/UK
690 Duke R MAL

Art. no. 3211953en



KTM

DEAR KTM CUSTOMER

1

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

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

Enter the serial numbers of your vehicle below.

| | |
|---------------------------|----------------|
| Chassis number/type label | Dealer's stamp |
| Engine number (☛ p. 22) | |
| Key number (☛ p. 21) | |

The owner's manual contained the latest information for this model at the time of going to print. Minor differences due to developments in design cannot be ruled out completely.

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According to the international quality management standard ISO 9001, KTM uses quality assurance processes that lead to the maximum possible quality of the products.

Issued by: TÜV Management Service

REG.NO. 12 100 6061

DEAR KTM CUSTOMER

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KTM-Sportmotorcycle AG
5230 Mattighofen, Austria

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1.1 Symbols used

The meaning of specific symbols is described below.



Indicates an expected reaction (e.g. of a work step or a function).



Indicates an unexpected reaction (e.g. of a work step or a function).



All work marked with this symbol requires specialist knowledge and technical understanding. In the interest of your own safety, have these jobs performed by an authorized KTM workshop. There, your motorcycle will be optimally cared for by specially trained experts using the specialist tools required.



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

1.2 Formats used

The typographical formats used in this document are explained below.

Specific name

Identifies a proprietary name.

Name®

Identifies a protected name.

Brand™

Identifies a brand available on the open market.

2.1 Use definition - intended use

KTM sport motorcycles are designed and constructed to meet the normal demands of regular road operation but not for use on race courses or offroad.



Info

The motorcycle is only authorized for operation on public roads in the homologated version.

2.2 Safety advice

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



Info

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

2.3 Degrees of risk and symbols

**Danger**

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

**Warning**

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

**Caution**

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

Note

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

**Warning**

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

2.4 Tampering warning

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

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

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

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

2.5 Safe operation



Danger

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

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



Danger

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

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



Warning

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

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

Only operate the vehicle when it is in perfect technical condition, in accordance with its intended use, and in a safe and environmentally compatible manner.

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.

2.6 Protective clothing



Warning

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

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

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

2.7 Work rules

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

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

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

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

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

2.8 Environment

If you use your motorcycle responsibly, you can ensure that problems and conflicts do not occur. To protect the future of the motorcycle sport, make sure that you use your motorcycle legally, display environmental consciousness, and respect the rights of others.

When disposing of used oil, other operating and auxiliary fluids, and used components, comply with the laws and regulations of the respective country.

Because motorcycles are not subject to the EU regulations governing the disposal of used vehicles, there are no legal regulations that pertain to the disposal of an end-of-life motorcycle. Your authorized KTM dealer will be glad to advise you.

2.9 Owner's Manual

It is important that you read this Owner's Manual carefully and completely before making your first trip. The Owner's Manual contains useful information and many tips on how to operate, handle, and maintain your motorcycle. Only then will you find out how to customize the vehicle ideally for your own use and how you can protect yourself from injury.

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

If you would like to know more about the vehicle or have questions on the material you read, please contact an authorized KTM dealer.

The Owner's Manual is an important component of the vehicle and should be handed over to the new owner if the vehicle is sold.

3.1 Guarantee, warranty

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

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

3.2 Operating and auxiliary substances



Warning

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

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

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

3.3 Spare parts, accessories

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

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

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

International KTM Website: <http://www.ktm.com>

3.4 Service

A prerequisite for perfect operation and prevention of premature wear is that the service, care, and tuning work on the engine and chassis is properly carried out as described in the Owner's Manual. Incorrect adjustment and tuning of the engine and chassis can lead to damage and breakage of components.

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

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

3.5 Figures

The figures contained in the manual may depict special equipment.

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

3.6 Customer service

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

A list of authorized KTM dealers can be found on the KTM website.

International KTM Website: <http://www.ktm.com>

4 VIEW OF VEHICLE

16

4.1 View of vehicle, front left side (example)



C00298-10

4 VIEW OF VEHICLE

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| | |
|---|-------------------------|
| 1 | Clutch lever (👉 p. 25) |
| 2 | Seat |
| 3 | Passenger seat |
| 4 | Handrails (👉 p. 42) |
| 5 | Seat lock (👉 p. 41) |
| 6 | Engine number (👉 p. 22) |
| 7 | Shift lever (👉 p. 43) |
| 8 | Side stand (👉 p. 46) |

4 VIEW OF VEHICLE

18

4.2 View of vehicle, rear right side (example)

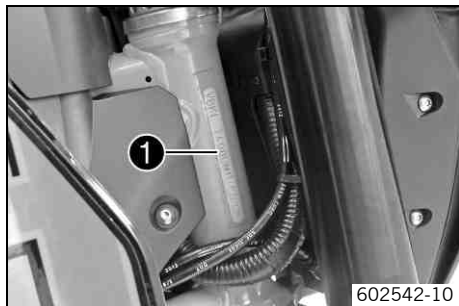


| | |
|----|------------------------------------|
| 1 | Tool set (🔧 p. 41) |
| 1 | Map-Select switch |
| 2 | Light switch (🔧 p. 27) |
| 2 | Headlight flasher switch (🔧 p. 28) |
| 2 | Turn signal switch (🔧 p. 28) |
| 2 | Horn button (🔧 p. 27) |
| 3 | Filler cap |
| 4 | Ignition/steering lock (🔧 p. 30) |
| 5 | Emergency OFF switch (🔧 p. 29) |
| 5 | Electric starter button (🔧 p. 29) |
| 6 | Hand brake lever (🔧 p. 25) |
| 7 | Chassis number/type label |
| 8 | Fuse box |
| 9 | Passenger footrests (🔧 p. 42) |
| 10 | Foot brake lever (🔧 p. 45) |
| 11 | Level viewer, engine oil |

5 SERIAL NUMBERS

20

5.1 Chassis number

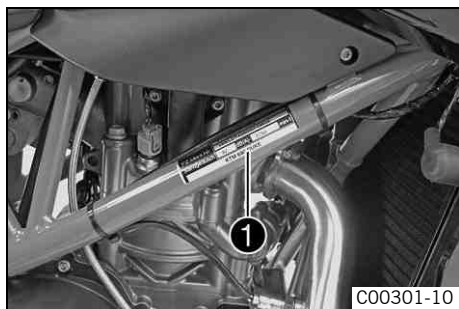


The chassis number ❶ is stamped on the right side of the steering head.

5.2 Type label

(690 Duke EU, 690 Duke MAL, 690 Duke R EU, 690 Duke R MAL)

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

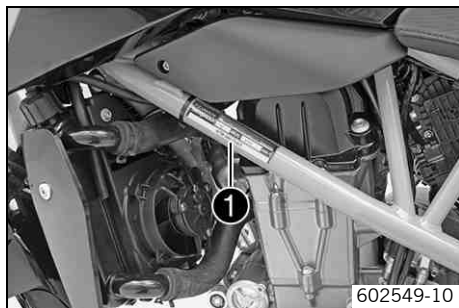


5 SERIAL NUMBERS

21

(690 Duke AUS/UK, 690 Duke R AUS/UK)

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



5.3 Key number

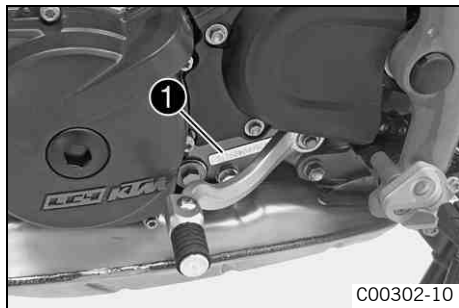
The key number ❶ can be found on the **KEYCODECARD**.



Info

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

5.4 Engine number



(Duke)

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



(Duke R)

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

5.5 Fork part number



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

5.6 Shock absorber part number



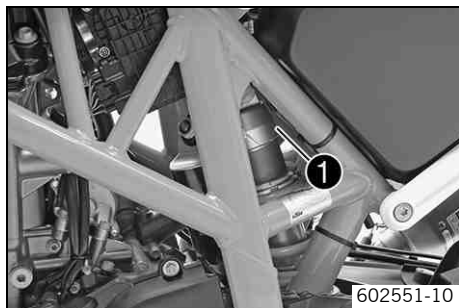
(Duke)

The shock absorber part number ❶ is on the left side of the shock absorber.

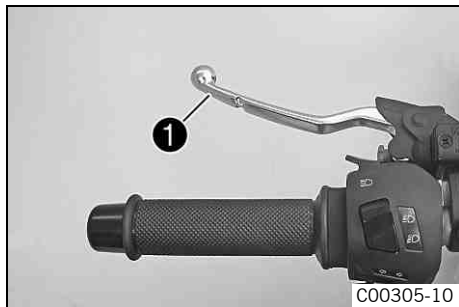
5 SERIAL NUMBERS

(Duke R)

The shock absorber part number ❶ is found on the damper at the rear.

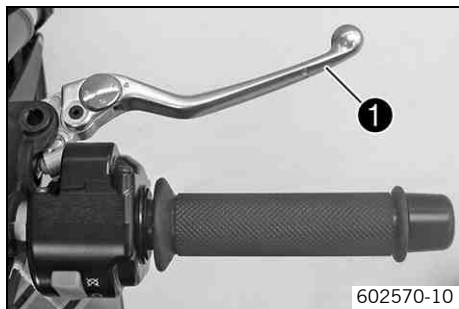


6.1 Clutch lever



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

6.2 Hand brake lever



(Duke)

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

6 CONTROLS

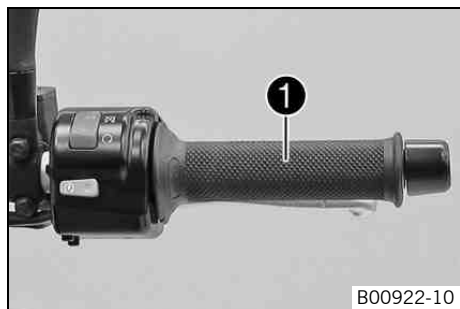
26



(Duke R)

The hand brake lever ❶ is fitted on the right side of the handlebar.
The front brake is engaged using the hand brake lever.

6.3 Throttle grip



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

6.4 Horn button

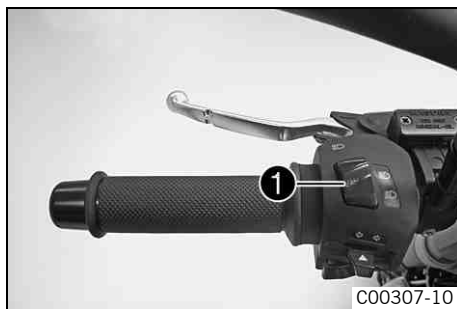


The horn button ❶ is fitted on the left side of the handlebar.

Possible states



- Horn button ❶ in neutral position
- Horn button ❶ pressed – The horn is operated in this position.

6.5 Light switch



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

Possible states

| | |
|---|--|
|  | Low beam on – Light switch is turned downwards. In this position, the low beam and tail light are switched on. |
|  | High beam on – Light switch is turned upwards. In this position, the high beam and the tail light are switched on. |

6.6 Headlight flasher switch



The headlight flasher switch ❶ is fitted on the left side of the handlebar.

Possible states

- Headlight flasher switch in neutral position
- Headlight flasher switch pressed – In this position, the headlight flasher (high beam) is actuated.

6.7 Turn signal switch



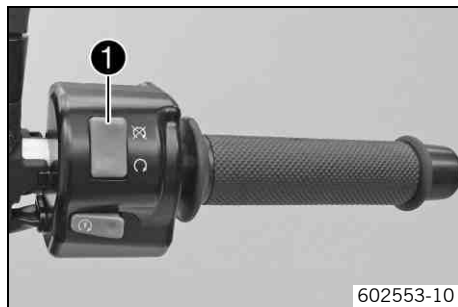
The turn signal switch ❶ is fitted on the left side of the handlebar.

Possible states

| | |
|---|--|
| | Turn signal off |
| ⬅ | Left turn signal on – The turn signal switch is pressed to the left. The turn signal switch automatically returns to the central position after use. |
| ➡ | Right turn signal on – The turn signal switch is pressed to the right. The turn signal switch automatically returns to the central position after use. |

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

6.8 Emergency OFF switch

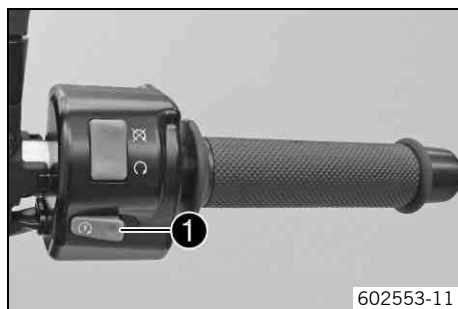


The emergency OFF switch ❶ is fitted on the right side of the handlebar.

Possible states

| | |
|--|---|
| | Emergency OFF switch off – In this position, the ignition circuit is interrupted, a running engine stops, and the engine cannot be started. |
| | Emergency OFF switch on – This position is necessary for operation as the ignition circuit is closed. |

6.9 Electric starter button

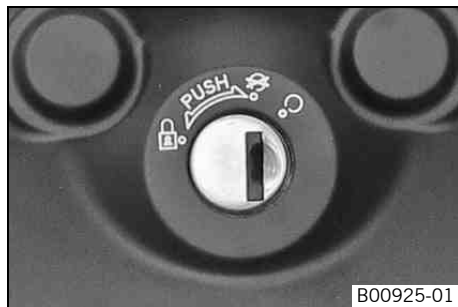


The electric starter button ❶ is fitted on the right side of the handlebar.

Possible states

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

6.10 Ignition/steering lock



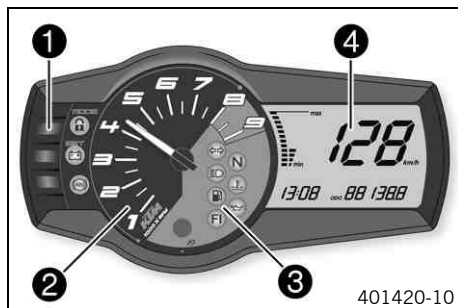
The ignition/steering lock ❶ is located in front of the upper triple clamp.

Possible states

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

6.11 Combination instrument

6.11.1 Overview

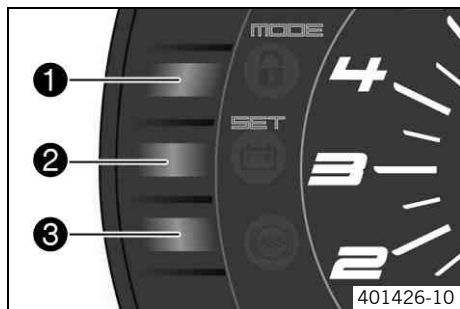


The combination instrument is attached in front of the handlebar.

The combination instrument is divided into 4 function areas.

- ❶ Function buttons (➔ p. 31)
- ❷ Tachometer (➔ p. 31)
- ❸ Indicator lamps (➔ p. 32)
- ❹ Display (➔ p. 33)

6.11.2 function buttons



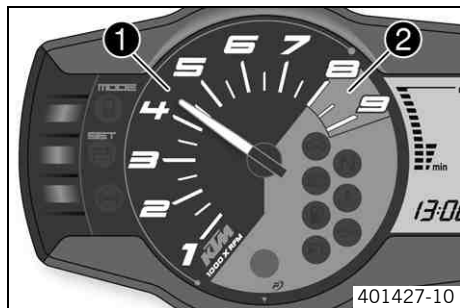
You can change the display mode with the **MODE** button ❶.

Possible display modes are the odometer (**ODO**), trip master 1 (**TRIP 1**), trip master 2 (**TRIP 2**), and gear display (**GEAR**).

Press the **SET** button ❷ to reset the trip master 1 function (**TRIP 1**) and trip master 2 function (**TRIP 2**) to **0.0**.

The ABS can be switched off using button ❸.

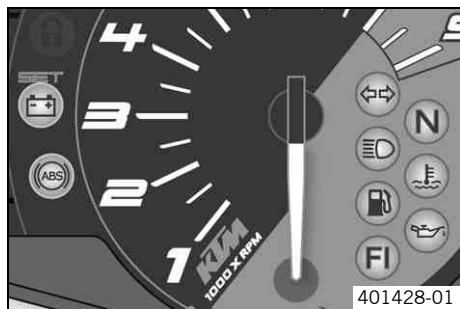
6.11.3 Tachometer



The tachometer ❶ shows the engine speed in revolutions per minute.

The orange marking ❷ marks the over-rev (excessive speed) range of the engine.

6.11.4 Combination instrument - indicator lamps

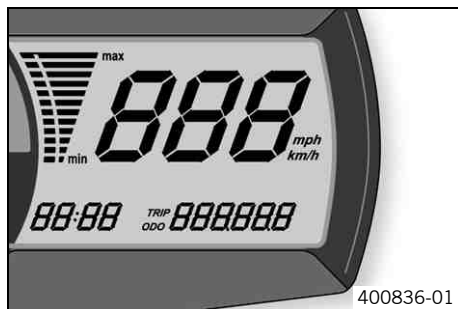


The indicator lamps offer additional information about the operating state of the motorcycle.

Possible states

| | |
|--|---|
| | The turn signal indicator light flashes green simultaneously with the turn signal – The turn signal is switched on. |
| | The idling speed indicator lamp lights up green – The transmission is shifted to idle. |
| | The high beam indicator lamp lights up blue – The high beam is switched on. |
| | The temperature warning lamp lights up red – The coolant temperature has reached a critical value. |
| | The low fuel warning lamp lights up orange – The fuel level has reached the reserve mark. The display switches to TRIP F . |
| | The oil pressure warning lamp lights up red – The oil pressure is too low. |
| | FI warning lamp (MIL) lights up/flashes orange – The OBD (on-board diagnosis) has detected an emission- or safety-critical error. |
| | The battery warning lamp lights up red – The voltage in the vehicle system is too low. |
| | The ABS warning lamp lights up/flashes orange – Status or error messages relating to ABS (antilock brake system). |

6.11.5 Display



400836-01

When you switch on the ignition, all display segments light up for one second as a function check.

LEnGth

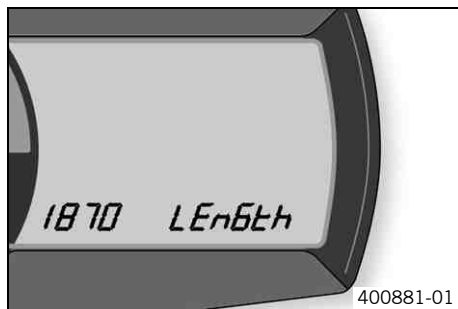
Following the display function check, the **LEnGth** wheel circumference is shown for one second.



Info

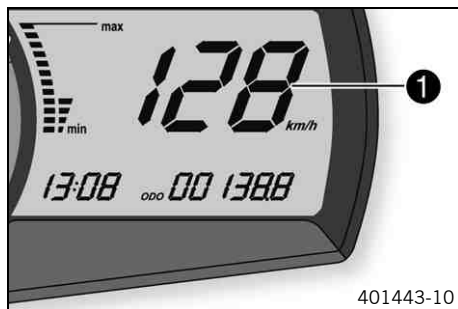
1870 mm corresponds to the circumference of the 17" front wheel with a series production tire.

The display then changes to the last selected mode.



400881-01

6.11.6 Speed display



The speed ❶ is shown in kilometers per hour **km/h** or in miles per hour **mph**.

6.11.7 Setting kilometers or miles

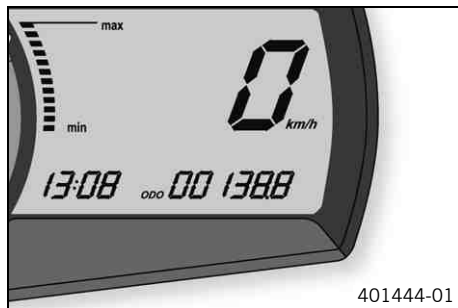



Info

If you change the unit, the value **ODO** is retained and converted accordingly.
Making the setting according to the country.

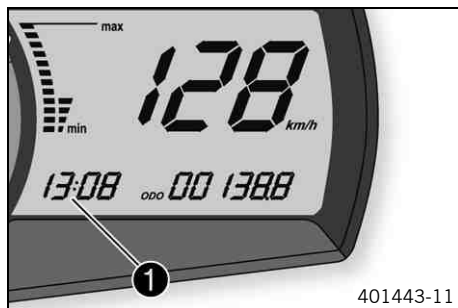
Condition

The motorcycle is stationary.



- Switch on the ignition by turning the ignition key to the position .
- Press the **MODE** button repeatedly until the **ODO** mode is active.
- Keep the **MODE** button pressed until the display mode changes from **km/h** to **mph** or from **mph** to **km/h**.

6.11.8 Time



The time is shown in area ❶ of the display.



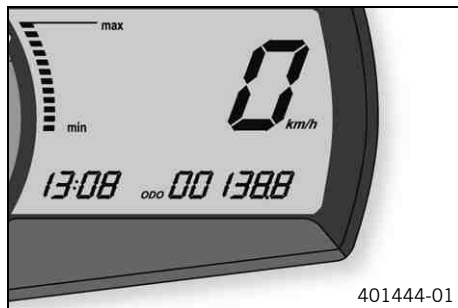
Info

After reconnecting the battery or changing the fuse, the time must be reset.


6.11.9 Setting the clock

Condition

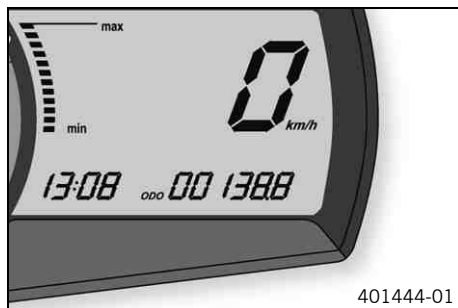
The motorcycle is stationary.



401444-01

- Switch on the ignition by turning the ignition key to the position .
- Press the **MODE** button repeatedly until the **ODO** mode is active.
- Keep the **MODE** button and the **SET** button pressed simultaneously.
 - ✓ The time display begins to flash.
- Press the **MODE** button to set the hour.
- Press the **SET** button to set the minute.
- Keep the **MODE** button and the **SET** button pressed simultaneously.
 - ✓ The time is set.

6.11.10 ODO display



401444-01

In the **ODO** display mode, the total distance traveled is shown in kilometers or miles.



Info

This value is retained, even if the battery is disconnected and/or the fuse blows.

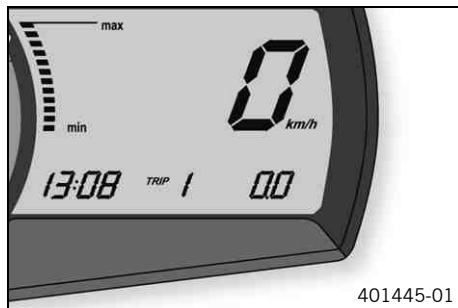
6.11.11 Setting/resetting display TRIP 1




Info

The **TRIP 1** trip counter is always running and counts up to **999.9**.

The trip counter can be used to measure the distance covered during trips or between two refueling stops. After the value **999.9** is reached, the trip counter starts at **0.0** again.



- Switch on the ignition by turning the ignition key to the position .
 - Press the **MODE** button repeatedly until the **TRIP 1** mode is active.
 - Keep the **SET** button pressed.
- ✓ The **TRIP 1** display is set to **0.0**.

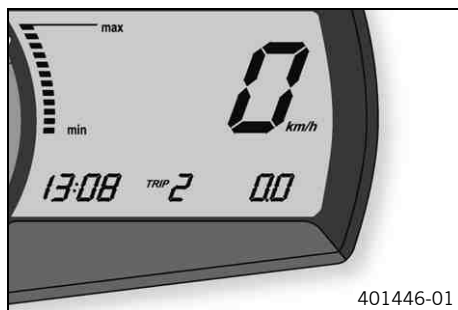
6.11.12 Setting/resetting display TRIP 2




Info

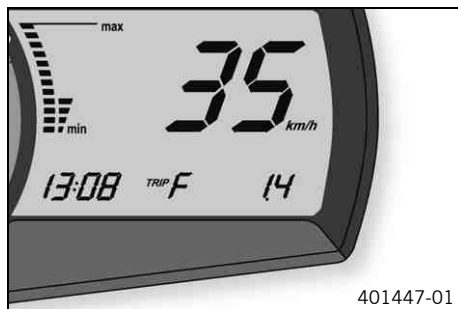
The **TRIP 2** trip counter is always running and counts up to **999.9**.

The trip counter can be used to measure the distance covered during trips or between two refueling stops. After the value **999.9** is reached, the trip counter starts at **0.0** again.



- Switch on the ignition by turning the ignition key to the position .
 - Press the **MODE** button repeatedly until the **TRIP 2** mode is active.
 - Keep the **SET** button pressed.
- ✓ The **TRIP 2** display is set to **0.0**.

6.11.13 TRIP F display



If the fuel level drops to the reserve mark, the display automatically changes to **TRIP F** and starts to count from **0.0**, regardless of the previous display mode.



Info

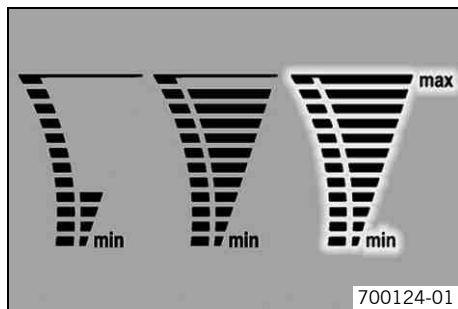
The low fuel warning lamp lights up in parallel to the **TRIP F** display.

6.11.14 GEAR display



In display mode **GEAR**, the gear currently engaged is displayed.

6.11.15 Coolant temperature indicator



The temperature display consists of 12 bars. The more bars that light up, the hotter the coolant. When the upper bar lights up, all bars in the display begin to flash and the temperature warning lamp lights up.

Possible states

- Engine cold – Up to four bars light up.
- Engine warm – Five to eleven bars light up.
- Engine hot – All twelve bars flash.

6.12 Opening the filler cap



Danger

Fire hazard Fuel is highly flammable.

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



Warning

Danger of poisoning Fuel is poisonous and a health hazard.

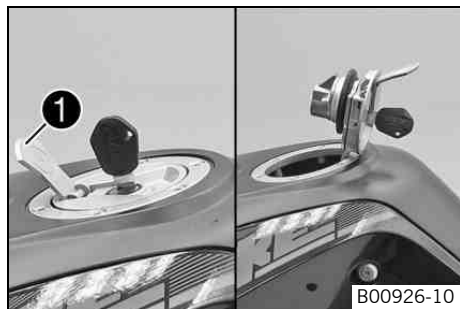
- Avoid contact between fuel and skin, eyes and clothing. Do not inhale fuel vapors. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If fuel is swallowed, contact a doctor immediately. Change clothing that has come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



Warning

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

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



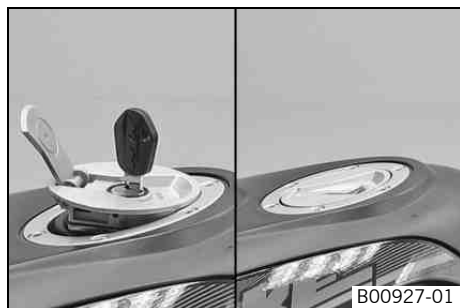
- Lift cover ❶ of the filler cap and insert the ignition key in the lock.

Note

Danger of damage Ignition key breakage.

- To take pressure off of the ignition key, push down on the filler cap. Damaged ignition keys must be replaced.
- Turn the ignition key 90° clockwise.
- Open the filler cap.

6.13 Closing the filler cap



- Fold down the filler cap.
- Turn the ignition key 90° clockwise.
- Press down the filler cap and turn back the ignition key until the lock locks.

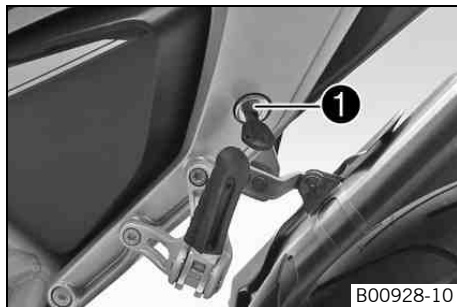


Warning

Fire hazard Fuel is highly flammable, poisonous and harmful to your health.

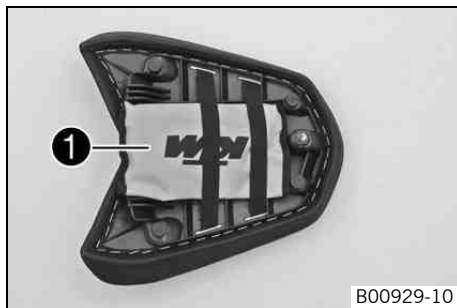
- When closing the filler cap, ensure that it is closed correctly. Change clothing that came into contact with fuel. Immediately clean skin that came into contact with fuel using soap and water.
- Remove the ignition key and close the cover.

6.14 Seat lock



The seat lock ❶ is located on the left side of the vehicle. It can be locked with the ignition key.

6.15 Tool set



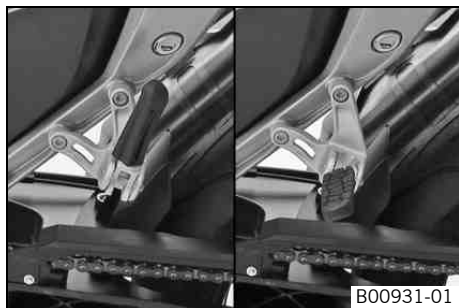
The tool set ❶ is located under the passenger seat.

6.16 Handrails



The handrails ❶ are used for moving the motorcycle around.
When you have a passenger, the passenger can hold on the handrails during the journey.

6.17 Passenger footrests

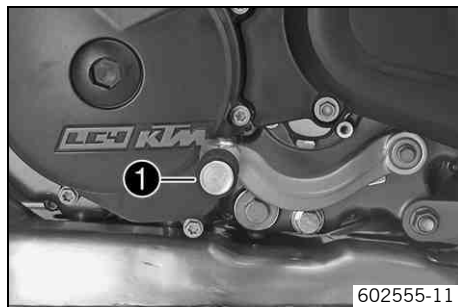


The passenger footrests can be folded up and down.

Possible states

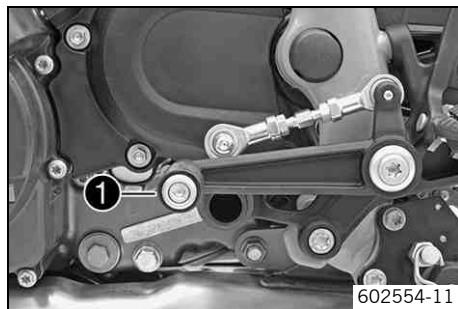
- Passenger footrests folded up – For operation without a passenger.
- Passenger footrests folded down – For operation with a passenger.

6.18 Shift lever



(Duke)

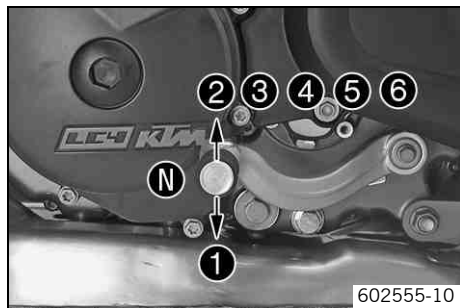
The shift lever ❶ is mounted on the left side of the engine.



(Duke R)

The shift lever ❶ is mounted on the left side of the engine.

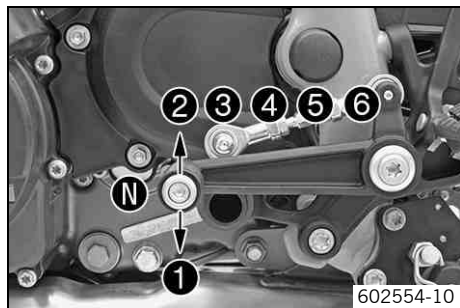
6 CONTROLS



(Duke)

The gear positions can be seen in the figure.

The neutral or idle position is between the first and second gears.

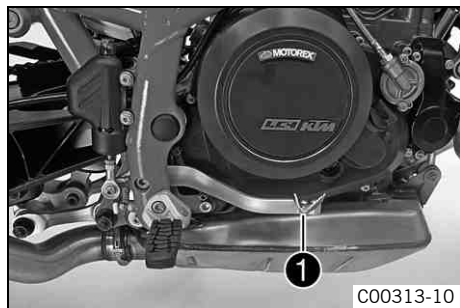


(Duke R)

The gear positions can be seen in the figure.

The neutral or idle position is between the first and second gears.

6.19 Foot brake lever



(Duke)

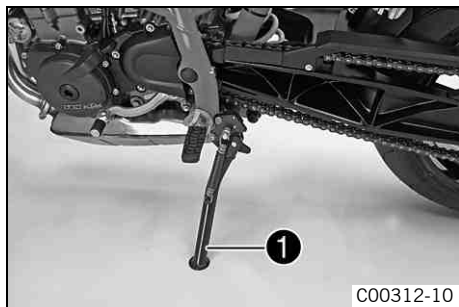
Foot brake lever ❶ is located in front of the right footrest.



(Duke R)

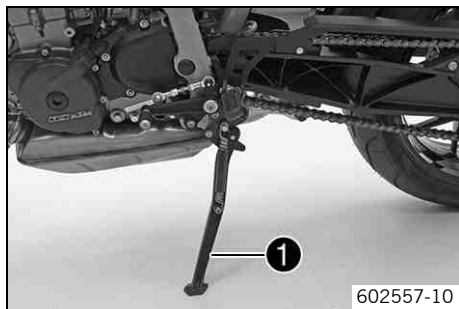
Foot brake lever ❶ is located in front of the right footrest.
The rear brake is engaged with the foot brake lever.

6.20 Side stand



(Duke)

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



(Duke R)

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

The side stand is used for parking the motorcycle.



Info

The side stand must be folded up during motorcycle use.

The side stand is coupled with the safety starting system – see the riding instructions.

Possible states

- Side stand folded out – The vehicle can be supported on the side stand. The safety starting system is active.
- Side stand folded in – This position is mandatory when riding the motorcycle. The safety starting system is inactive.

7.1 Advice on first use



Danger

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

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



Warning

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

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



Warning

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

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



Warning

Danger of accidents Uncontrollable handling characteristic due to non-approved and/or non-recommended tires/wheels.

- Only tires/wheels approved by KTM and with the corresponding speed index should be used.



Warning

Danger of accidents Reduced road grip with new tires.

- New tires have a smooth rolling surface and therefore cannot provide full road grip. The entire rolling surface must be roughened in the first 200 kilometers (124.3 miles) by moderate riding at alternating angles. The full grip levels are not achieved until the tires have been run in.



Warning

Danger of accidents Failure of brake system.

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



Info

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

- Make sure that the pre-delivery inspection work has been carried out by an authorized KTM workshop.
 - ✓ You receive a delivery certificate and the service record at vehicle handover.
- Before your first trip, read the entire operating instructions carefully.
- Get to know the controls.
- Adjust the basic position of the clutch lever. (🔧 p. 87)
- Adjust the basic position of the hand brake lever. (🔧 p. 90)
- Adjust the basic position of the foot brake lever. 🦶 (🔧 p. 97)
- Get used to handling the motorcycle on a suitable piece of land before making a longer trip. Try also to ride as slowly as possible to get a better feel for the vehicle.
- Hold the handlebar firmly with both hands and keep your feet on the footrests when riding.
- Run the engine in. (🔧 p. 48)

7.2 Running in the engine

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

Guideline

| Maximum engine speed | |
|---------------------------------------|-----------|
| During the first: 1,000 km (621.4 mi) | 6,000 rpm |
| After the first: 1,000 km (621.4 mi) | 7,800 rpm |

- Avoid fully opening the throttle!

7.3 Loading the vehicle



Warning

Danger of accidents Unstable handling characteristics.

- Do not exceed the maximum permitted weight and axle loads. The overall weight consists of: motorcycle operational and with a full tank, driver and passenger with protective clothing and helmet, baggage.



Warning

Danger of accidents Unstable handling characteristics due to incorrect mounting of suitcase and/or tank rucksack.

- Mount and secure suitcase and tank rucksack according to the manufacturer's instructions.



Warning

Danger of accidents Unstable handling characteristics at high speed.

- Adapt your speed according to your payload. Ride more slowly if your motorcycle is loaded with cases or other baggage.
Maximum speed with baggage 130 km/h (80.8 mph)



Warning

Danger of accidents Risk of breakage of suitcase system.

- If you have fitted suitcases on your motorcycle, read the manufacturer's specifications concerning the maximum payload.



Warning

Danger of accidents Poor visibility for other road users due to slipped baggage.

- If the tail light is covered, you are less visible to traffic behind you, especially in the dark. Check that your baggage is fixed properly at regular intervals.



Warning

Danger of accidents Changed handling characteristics and longer stopping distance with excessive payload.

- Adapt your speed according to your payload.

**Warning**

Danger of accidents Unstable handling characteristics due to slipped baggage.

- Check the way your baggage is fixed regularly.

**Warning**

Danger of burns A hot exhaust system can burn baggage.

- Fasten your baggage in such a way that it cannot be burned or singed by the hot exhaust system.

-
- If you carry any baggage, make sure it is fixed firmly as close as possible to the center of the vehicle and ensure even weight distribution between the front and rear wheels.
 - Do not exceed the overall maximum permitted weight and the axle loads.

Guideline

| | |
|-------------------------------------|------------------|
| Maximum permissible overall weight | 350 kg (772 lb.) |
| Maximum permissible front axle load | 150 kg (331 lb.) |
| Maximum permissible rear axle load | 220 kg (485 lb.) |

8.1 Performing checks and vehicle care when preparing for use




Info

Before each use, check the state and roadworthiness of the vehicle.
Make sure that the vehicle is in perfect technical condition before use.

- Check the engine oil level. (🔧 p. 146)
- Check the brake fluid level of the front brake. (🔧 p. 92)
- Check the rear brake fluid level. (🔧 p. 100)
- Check the front brake linings. (🔧 p. 95)
- Check the rear brake linings. (🔧 p. 103)
- Check the brake system function.
- Check the coolant level in the compensating tank. (🔧 p. 137)
- Check the chain for dirt. (🔧 p. 80)
- Check the chain tension. (🔧 p. 82)
- Check the tire condition. (🔧 p. 113)
- Check the tire pressure. (🔧 p. 115)
- Check the settings of all controls and ensure that they can be operated smoothly.
- Check that the electrical equipment is functioning correctly.
- Check that baggage is correctly secured.
- Sit on the motorcycle and check the rear mirror setting.
- Check the fuel level.

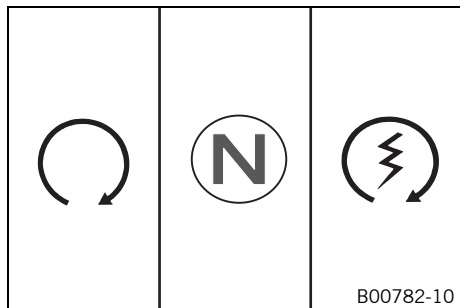
8.2 Starting

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

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

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

- Always warm up the engine at low engine speeds.



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



Info

Do not press the electric starter button until the combination instrument function check is finished.

When starting, **DO NOT** open the throttle. If you open the throttle during the starting procedure, fuel is not injected by the engine management system and the engine cannot start.

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

This motorcycle is equipped with a safety starting system. You can only start the engine if the transmission is in neutral or if the clutch lever is pulled when a gear is engaged. If the side stand is folded out and you shift into gear and release the clutch lever, the engine stops.

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

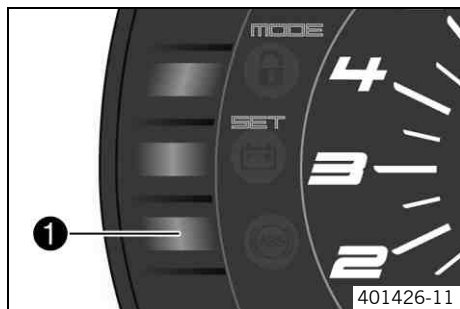
Switching off ABS

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

Condition

Vehicle stationary, engine running.

- Press the ❶ button for 3 - 5 seconds.
 - ✓ The ABS warning lamp starts flashing; ABS is deactivated.



401426-11

8.3 Starting off

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

8.4 Shifting, riding



Warning

Danger of accidents Abrupt load alterations can cause the vehicle to get out of control.

- Avoid abrupt load alterations and sudden braking actions, and adapt your speed to the road conditions.



Warning

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

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



Warning

Danger of accidents Malfunctions caused by incorrect ignition key position.

- Do not change the ignition key position during a journey.



Warning

Danger of accidents Distraction from traffic activity by adjustments to the vehicle.


- Make all adjustments when the vehicle is at a standstill.





Warning


Risk of injury Falling off of the passenger.


- The passenger must be able to hold himself or herself properly on the passenger seat, to hold onto the rider or to hold onto the handrails and place his or her feet onto the passenger footrests. Note the regulations governing the minimum age of passengers in your country.


-  **Warning**
Danger of accidents Danger of accidents caused by dangerous driving.
- Comply with traffic regulations and ride defensively and foresightedly to detect sources of danger early on.

-  **Warning**
Danger of accidents Reduced road grip with cold tires.
- On every journey, take the first miles carefully at moderate speed until the tires reach operating temperature and optimal road grip is ensured.

-  **Warning**
Danger of accidents Reduced road grip with new tires.
- New tires have a smooth rolling surface and therefore cannot provide full road grip. The entire rolling surface must be roughened in the first 200 kilometers (124.3 miles) by moderate riding at alternating angles. The full grip levels are not achieved until the tires have been run in.

-  **Warning**
Danger of accidents Unstable handling characteristics.
- Do not exceed the maximum permitted weight and axle loads. The overall weight consists of: motorcycle operational and with a full tank, driver and passenger with protective clothing and helmet, baggage.

-  **Warning**
Danger of accidents Unstable handling characteristics due to slipped baggage.
- Check the way your baggage is fixed regularly.

-  **Warning**
Danger of accidents Lack of roadworthiness.
- After a fall, check the vehicle as usual before preparing for use.

Note

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

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

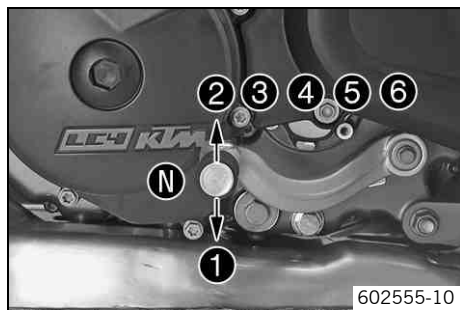
Note

Engine failure Overheating of engine.

- If the coolant temperature warning lamp lights up, stop and switch off the engine. Allow the engine to cool down and check the coolant level in the radiator, and top up if necessary. If you continue with the coolant temperature warning lamp alight, you may have engine failure.

Info

If unusual noises arise during operation, stop immediately, park the vehicle properly, and contact an authorized KTM workshop.



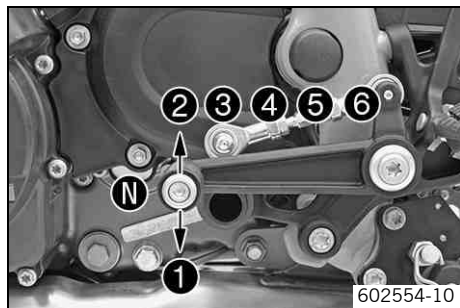
(Duke)

- When conditions allow (incline, road situation, etc.), you can shift into a higher gear.
- Release the throttle while simultaneously pulling the clutch lever, shift into the next gear, release the clutch, and open the throttle.

Info

You can see the positions of the 6 forward gears in the figure. The neutral or idle position is between the first and second gears. First gear is used for starting off or for steep inclines.

The operating temperature is reached when 5 bars of the temperature indicator light up.



(Duke R)

- When conditions allow (incline, road situation, etc.), you can shift into a higher gear.
- Release the throttle while simultaneously pulling the clutch lever, shift into the next gear, release the clutch, and open the throttle.

Info

You can see the positions of the 6 forward gears in the figure. The neutral or idle position is between the first and second gears. First gear is used for starting off or for steep inclines.

The operating temperature is reached when 5 bars of the temperature indicator light up.

- After reaching maximum speed by fully opening the throttle grip, turn the throttle back so it is $\frac{3}{4}$ open. This will barely reduce the speed but fuel consumption will be considerably lower.
- Accelerate only up to a speed suitable for the road surface and weather conditions. Particularly in bends, do not shift, and accelerate very carefully.
- To shift down, brake if necessary and close the throttle at the same time.
- Pull the clutch lever and shift into a lower gear, release the clutch lever slowly, and open the throttle or shift again.
- If the engine stalls (e.g. at a crossroads), just pull the clutch lever and press the electric starter button. You do not have to shift into neutral.
- Switch off the engine if you expect to be standing for a long time.
- If the **FI** warning lamp (**MIL**) lights up during a trip, stop immediately. When you shift to neutral, the **FI** warning lamp (**MIL**) starts to flash.



Info

From the flash rhythm you can deduce a two-digit number, the so-called blink code. The blink code tells you which component is affected by a fault. (Your authorized KTM workshop will be glad to help.)

8.5 Applying the brakes



Warning

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

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



Warning

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

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



Warning

Danger of accidents Failure of brake system.

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



Warning

Danger of accidents Longer stopping distance due to higher overall weight.

- Take the longer stopping distance into account when carrying a passenger and baggage.



Warning

Danger of accidents Delayed brake action on salted roads.

- There may be salt deposits on the brake discs. In order to restore the normal braking efficiency, you will need to remove the deposits from the discs by carefully applying the brakes.



Warning

Danger of accidents Greater stopping distance due to ABS.

- Braking should be appropriate to the driving situation and the road conditions.



Warning

Danger of accidents Excessively forceful braking can cause the wheels to block.

- ABS must be switched on to be effective.



Warning

Danger of accidents Locking of the wheels due to braking action of the engine.

- Pull the clutch during emergency braking, full brake application and when braking on a slippery surface.

-
- When braking, release the throttle and apply the front and rear brakes at the same time.



Info

When ABS is active, you can achieve maximum braking power even on low grip surfaces such as sandy, wet, or slippery terrain without locking of the tires.



Warning

Danger of accidents Road grip is reduced when braking with the motorcycle at an angle or on a laterally inclined surface.

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

8.6 Stopping, parking



Warning

Risk of misappropriation Usage by unauthorized persons.

- Never leave the vehicle while the engine is running. Secure the vehicle against use by unauthorized persons. If you leave the vehicle, lock the steering and remove the ignition key.



Warning

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

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

Note

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

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

Note

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

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

Note

Material damage Damage and destruction of components by excessive load.

- The side stand is designed for the weight of the motorcycle only. Do not sit on the motorcycle when it is supported by the side stand only. The side stand and/or the frame could be damaged and the motorcycle could fall over.

-
- Brake the motorcycle.
 - Shift gear to neutral.

- Switch off the ignition by turning the ignition key to the position ☒.



Info

If the engine is switched off with the emergency OFF switch and the ignition remains switched on at the ignition lock, power continues to flow to most power consumers and the battery will discharge. You should therefore always switch off the engine with the ignition key - the emergency OFF switch is intended for emergencies only.

- Park the motorcycle on a firm surface.
- Swing the side stand forward with your foot as far as it will go and lean the vehicle on it.
- Lock the steering by turning the handlebar fully to the left, pressing down the ignition key to the position ☒ and turning it to the position ☑. To make the steering lock engage more easily, move the handlebar a little to the left and right. Remove the ignition key.

8.7 Transport

Note

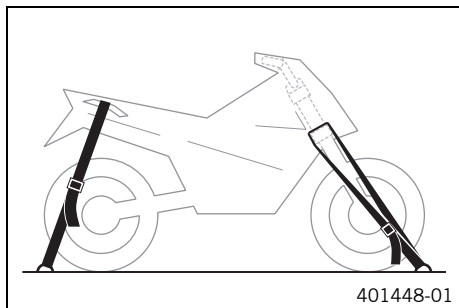
Danger of damage The parked vehicle may roll away or fall over.

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

Note

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

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



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

8.8 Refueling



Danger

Fire hazard Fuel is highly flammable.

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



Warning

Danger of poisoning Fuel is poisonous and a health hazard.

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

Note

Material damage Premature clogging of the fuel filter.

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

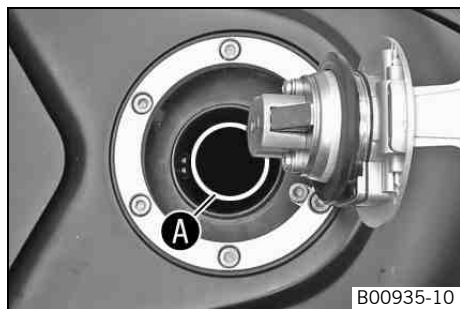
- Only refuel with clean fuel that meets the specified standards.



Warning

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

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



B00935-10

- Switch off the engine.
- Open the filler cap. (☛ p. 39)
- Fill the fuel tank with fuel up to the lower edge **A** of the filler neck.

| | | |
|-----------------------------------|-------------------|--|
| Total fuel tank capacity, approx. | 14 l (3.7 US gal) | Super unleaded (ROZ 95/RON 95/PON 91) (☛ p. 185) |
|-----------------------------------|-------------------|--|

- Close the filler cap. (☛ p. 40)

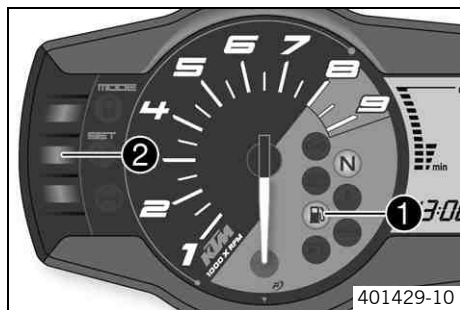
- Press the **SET** button **2** for two seconds.

✓ The low fuel warning lamp **1** switches off. **TRIP F** is set to 0 and the previous display mode appears.









Info

If you do not press the **SET** button **2**, the reset takes place automatically after about three minutes.



















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9.1 Service schedule

| | K10N | K100A | K200A |
|--|------|-------|-------|
| Check the functioning of the electrical equipment. | • | • | • |
| Read out the fault memory using the KTM diagnostics tool.  | • | • | • |
| Check the measured service values with the KTM diagnostics tool.  | | • | • |
| Change the engine oil and filter, clean the oil screens.  (🔧 p. 146) | • | • | • |
| Check the front brake linings. (🔧 p. 95) | • | • | • |
| Check the rear brake linings. (🔧 p. 103) | • | • | • |
| Check the brake discs. (🔧 p. 91) | • | • | • |
| Check the brake lines for damage and leakage. | • | • | • |
| Check the rear brake fluid level. (🔧 p. 100) | • | • | • |
| Check the free travel of the foot brake lever. (🔧 p. 96) | • | • | • |
| Check the shock absorber and fork for leaks. | • | • | • |
| Check the swingarm bearing.  | | • | • |
| Check the wheel bearing for play.  | | • | • |
| Check the tire condition. (🔧 p. 113) | • | • | • |
| Check the tire pressure. (🔧 p. 115) | • | • | • |
| Check the chain, rear sprocket and engine sprocket. (🔧 p. 85) | | • | • |
| Check the chain tension. (🔧 p. 82) | • | • | • |
| Grease all moving parts (e.g., side stand, hand lever, chain, ...) and check for smooth operation.  | • | • | • |
| Clean the dust boots of the fork legs. | | • | • |
| Check the brake fluid level of the front brake. (🔧 p. 92) | • | • | • |
| Check the steering head bearing play. | • | • | • |
| Change the spark plugs. | | | • |

9 SERVICE SCHEDULE

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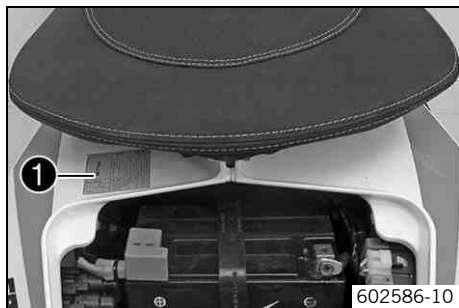
| | K10N | K100A | K200A |
|---|------|-------|-------|
| Check the valve clearance.  | | • | • |
| Check all hoses (e.g. fuel, cooling, bleeder, drainage, etc.) and sleeves for cracking, leaks, and incorrect routing.  | | | • |
| Check the antifreeze and coolant level. ( p. 135) | • | • | • |
| Check the cables for damage and routing without sharp bends.  | | • | • |
| Change the air filter. Clean the air filter box.  | | • | • |
| Check the fuel pressure.  | | • | • |
| Check the CO adjustment with the KTM diagnostics tool.  | | • | • |
| Check/rectify the fluid level of the hydraulic clutch. ( p. 88) | | • | • |
| Check the screws and nuts for tightness.  | • | • | • |
| Change the front brake fluid.  | | | • |
| Change the rear brake fluid.  | | | • |
| Check the clutch.  | | | • |
| Check the headlight setting. ( p. 133) | • | • | • |
| Check that the radiator fan is functioning properly.  | • | • | • |
| Final check: Check the vehicle for roadworthiness and take a test ride. | • | • | • |
| Read out the fault memory using the KTM diagnostics tool after a test ride.  | • | • | • |
| Make the service entry in KTM DEALER.NET and in the service record.  | • | • | • |

K10N: Once after 1,000 km (621.4 mi)

K100A: Every 10,000 km (6,214 mi) or annually

K200A: Every 20,000 km (12,428 mi) or every 2 years

10.1 Fork/shock absorber (Duke R)



The fork and the shock absorber offer many options of adapting the chassis to your riding style and the payload.



Info

To help you adapt the vehicle, we have summarized our findings in Table ❶. You can find the table on the subframe under the passenger seat.

These adjustments should be understood as a guideline and should always be the basis of your own personal chassis adaptation. Do not change the adjustments at random or by more than $\pm 40\%$, since otherwise the riding characteristics could deteriorate, particularly at high speeds.

10.2 Adjusting the compression damping of the fork (Duke R)



Info

The hydraulic compression damping determines the fork suspension behavior.



- Turn the white adjusting screw ❶ all the way clockwise.



Info

Adjusting screw ❶ is located at the upper end of the left fork leg. The compression damping is located in the left fork leg **COMP** (white adjusting screw). The rebound damping is located in the right fork leg **REB** (red adjusting screw).

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

Guideline

| Compression damping | |
|---------------------|-----------|
| Comfort | 17 clicks |
| Standard | 12 clicks |
| Sport | 7 clicks |
| Full payload | 7 clicks |



Info

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

10.3 Adjusting the rebound damping of the fork (Duke R)



Info

The hydraulic rebound damping determines the fork suspension behavior.

- Turn the red adjusting screw ❶ all the way clockwise.



Info

Adjusting screw ❶ is located at the upper end of the right fork leg. The rebound damping is located in the right fork leg **REB** (red adjusting screw). The compression damping is located in the left fork leg **COMP** (white adjusting screw).

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



Guideline

| Rebound damping | |
|-----------------|-----------|
| Comfort | 17 clicks |
| Standard | 12 clicks |
| Sport | 7 clicks |
| Full payload | 7 clicks |



Info

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

10.4 Compression damping of the shock absorber

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

10.5 Adjusting the high-speed compression damping of the shock absorber (Duke R)



Caution

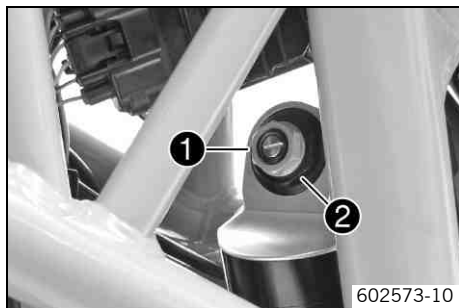
Danger of accidents Disassembly of pressurized parts can lead to injury.

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



Info

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



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



Info

Do not loosen fitting ❷!

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

Guideline

| Compression damping, high-speed | |
|---------------------------------|-----------|
| Comfort | 2 turns |
| Standard | 1.5 turns |
| Sport | 1 turn |
| Full payload | 1 turn |



Info

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

10.6 Adjusting the low-speed compression damping of the shock absorber (Duke R)



Caution

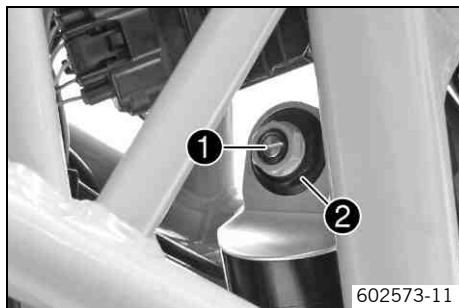
Danger of accidents Disassembly of pressurized parts can lead to injury.

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



Info

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



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



Info

Do not loosen fitting ❷!

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

Guideline

| Compression damping, low-speed | |
|--------------------------------|-----------|
| Comfort | 20 clicks |
| Standard | 15 clicks |
| Sport | 10 clicks |
| Full payload | 10 clicks |



Info

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

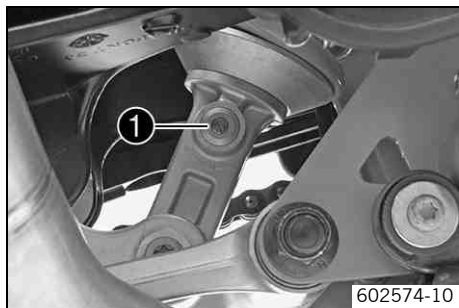
10.7 Adjusting the rebound damping of the shock absorber (Duke R)



Caution

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

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



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

Guideline

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



Info

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

10.8 Adjusting the spring preload of the shock absorber 🛠️



Warning

Danger of accidents Modifications to the suspension settings can seriously alter the vehicle's ride behavior.

- Following modifications, ride slowly at first to get the feel of the new ride behavior.





Info

The spring preload defines the initial situation of the spring process on the shock absorber. The best spring preload setting is achieved when it is set for the weight of the rider and that of any baggage and a passenger, thus ensuring an ideal compromise between maneuverability and stability.

Preparatory work (Duke R)

- Raise the motorcycle with the work stand.

- Remove the main silencer. 
- Remove the shock absorber. 

Main work (Duke)

- Adjust the spring preload by turning adjustment unit **1**.

Guideline

| | |
|---------------------|----------|
| Spring preload | |
| Standard | 4 clicks |
| Hook wrench (T106S) | |



Info

The spring preload can be set to 10 different positions.

(Duke R)

- Release retaining ring **1**.

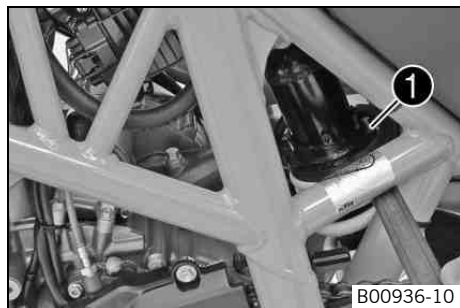
| |
|---------------------|
| Hook wrench (T106S) |
|---------------------|

- Turn adjusting ring **2** to adjust the spring preload.



Guideline

| | |
|----------------|-----------------|
| Spring preload | |
| Comfort | 11 mm (0.43 in) |
| Standard | 11 mm (0.43 in) |
| Sport | 11 mm (0.43 in) |
| Full payload | 11 mm (0.43 in) |

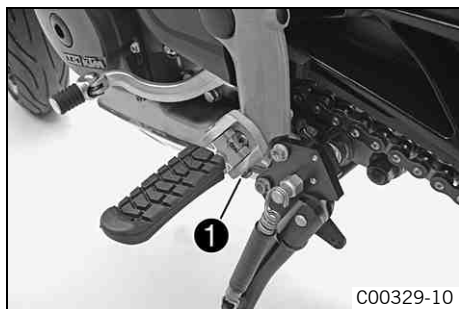
- Tighten retaining ring **1**.



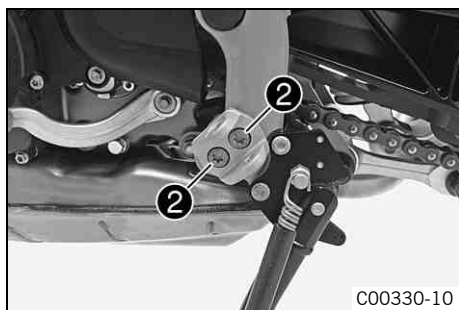
Finishing work (Duke R)

- Install the shock absorber. 
- Install the main silencer. 
- Remove the motorcycle from the work stand.

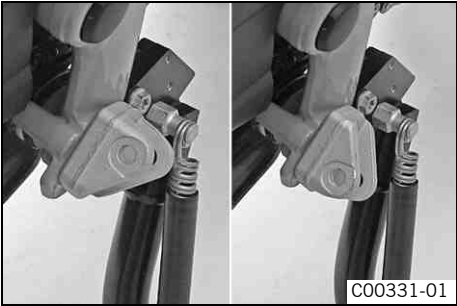
10.9 Adjusting the footrests



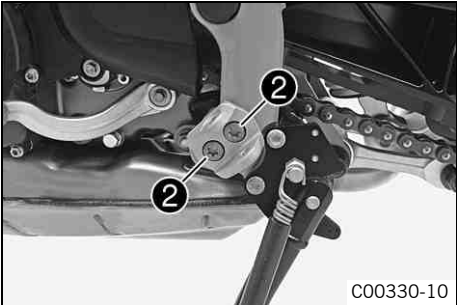
- Remove lock ring ❶.
- Remove the pin of the rider's footrest. Take off the rider's footrest with the spring.



- Remove screws ❷.



- Adjust the footrest bracket to the desired position.



- Mount and tighten screws ❷.

Guideline

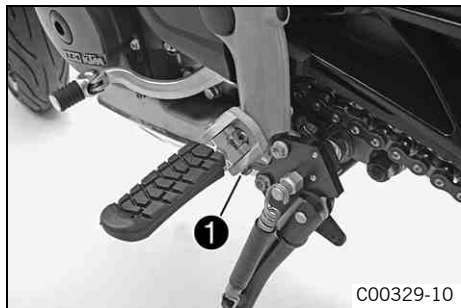
| | | | |
|-------------------------------|----|------------------------|---------------|
| Screw, front footrest bracket | M8 | 25 Nm (18.4 lbf ft) | Loctite® 243™ |
|-------------------------------|----|------------------------|---------------|



- Mount the rider's footrest with the spring and pin.

10 TUNING THE CHASSIS

75



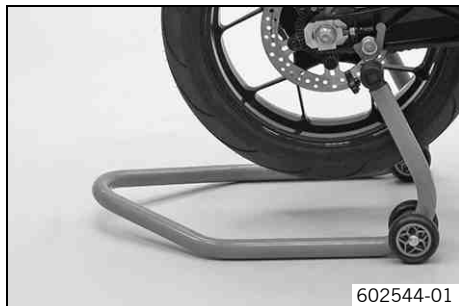
- Mount lock ring ❶.
- Repeat the operations on the opposite side.

11.1 Raising the motorcycle with the rear wheel stand

Note

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

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



- Mount the support of the wheel stand.
- Insert the adapter in the rear wheel stand.

| |
|-----------------------|
| Adapter (61029055120) |
|-----------------------|

| |
|--------------------------------|
| Rear wheel stand (61029055400) |
|--------------------------------|

- Stand the motorcycle upright, align the lifting gear with the swingarm and the adapters, and lift the motorcycle.

11.2 Taking the motorcycle off of the rear wheel stand

Note

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

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



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

11.3 Raising the motorcycle with the front wheel stand

Note

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

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

Preparatory work

- Raise the motorcycle with the rear wheel stand. (🔧 p. 76)

Main work

- Move the handlebar to the straight-ahead position. Attach the lifting gear to the steering stem.

| |
|-----------------------|
| Adapter (61029955620) |
|-----------------------|

| |
|---------------------------------|
| Front wheel stand (61029055500) |
|---------------------------------|



Info

Always raise the rear of the motorcycle first.



- Raise the front of the motorcycle.

11.4 Taking the motorcycle off of the front wheel stand

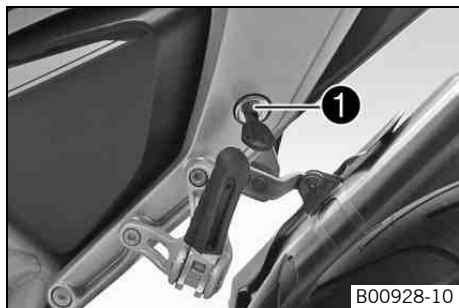
Note

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

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

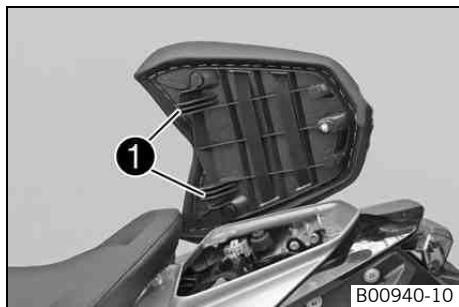
- Secure the motorcycle against falling over.
- Remove the front wheel stand.

11.5 Removing the passenger seat



- Insert the ignition key in seat lock ❶ and turn it clockwise.
- Raise the rear of the passenger seat, push it towards the rear, and remove it upward.
- Remove the ignition key from the seat lock.

11.6 Mounting the passenger seat



- Hook catches **1** of the passenger seat onto the storage compartment, lower the rear, and simultaneously push forward.
- Press down the passenger seat until it clicks into place.



Warning

Danger of accidents The passenger seat can come loose from the anchoring if it is not mounted correctly.

- After mounting the passenger seat, check that it is locked correctly by pulling up.
-
- Finally, check that the passenger seat is correctly mounted.

11.7 Removing the passenger seat cover (Duke R)



- Insert the ignition key in seat lock **1** and turn it clockwise.
- Raise the rear of the passenger seat cover, push it toward the rear, and remove it upward.
- Remove the ignition key from the seat lock.

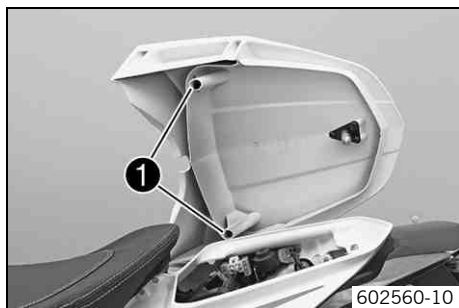
11.8 Mounting the passenger seat cover (Duke R)



Warning

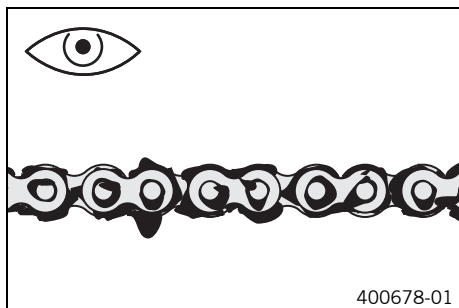
Danger of accidents Accident risk caused by the presence of a passenger.

- If the passenger seat cover is mounted, the vehicle is not suitable for transporting a passenger. Do not ride with a passenger.



- Hook catches ❶ of the passenger seat cover onto the storage compartment, lower the rear, and simultaneously push forward.
- Press down the passenger seat cover until it clicks into place.
- Finally, check that the passenger seat cover is correctly mounted.

11.9 Checking the chain for dirt



- Check the chain for heavy soiling.
 - » If the chain is very dirty:
 - Clean the chain. (🔧 p. 81)

11.10 Cleaning the chain



Warning

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

- Remove oil and grease with a suitable cleaning material.



Warning

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

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



Warning

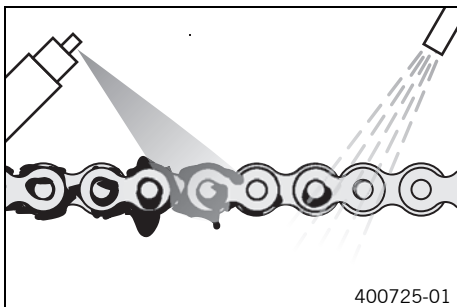
Environmental hazard Hazardous substances cause environmental damage.

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



Info

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



- Clean the chain regularly.
- Rinse off loose dirt with a soft jet of water.
- Remove old grease remains with chain cleaner.

Chain cleaner (🔧 p. 187)

- After drying, apply chain spray.

Chain lube for road use (🔧 p. 187)

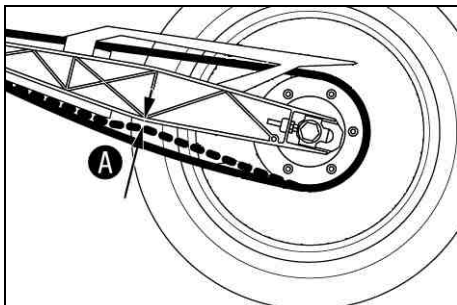
11.11 Checking the chain tension



Warning

Danger of accidents Danger caused by incorrect chain tension.

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



- Lean the motorcycle on the side stand.
- Shift gear to neutral.
- Push the chain upwards near the vertical rib of the swingarm and measure the chain tension **A**.

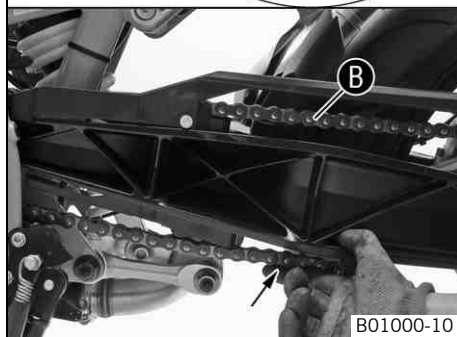


Info

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

| | |
|---------------|---------------|
| Chain tension | 5 mm (0.2 in) |
|---------------|---------------|

- » If the chain tension does not meet specifications:
 - Adjust the chain tension. (🔧 p. 83)



11.12 Adjusting the chain tension



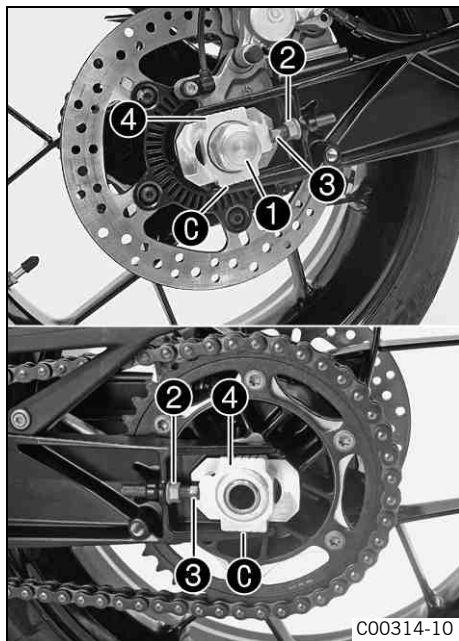
Warning

Danger of accidents Danger caused by incorrect chain tension.

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

Preparatory work

- Check the chain tension. (👉 p. 82)



Main work

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

Guideline

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

i Info

The upper chain section must be taut.

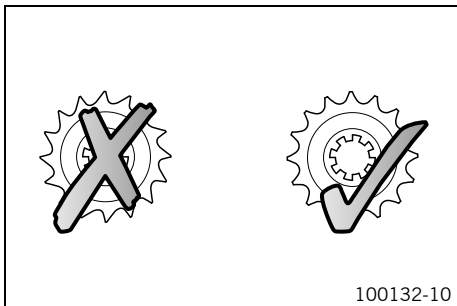
Chain wear is not always even. Repeat this measurement at different chain positions.

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

Guideline

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

11.13 Checking the chain, rear sprocket and engine sprocket

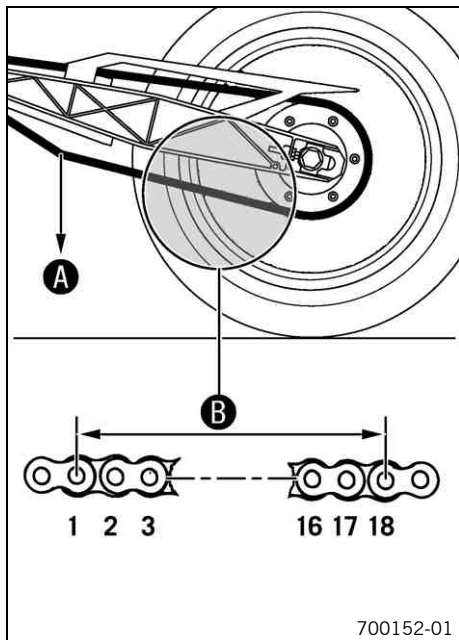


- Check the rear sprocket and engine sprocket for wear.
 - » If the rear sprocket and engine sprocket are worn:
- Replace the rear sprocket or engine sprocket. 🛠️



Info

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



- Shift gear to neutral.
- Pull the lower chain section with specified weight **A**.

Guideline


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

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

i Info

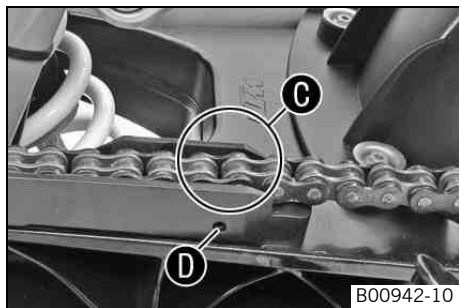
Chain wear is not always even. Repeat this measurement at different chain positions.


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

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

i Info

When the chain is replaced, the rear sprocket and engine sprocket should also be changed.
New chains wear out faster on old, worn sprockets.
For safety reasons, the chain has no chain joint.



- Check the chain sliding guard for wear.
 - » If drill hole **D** becomes visible on the chain sliding guard in area **C**:
 - Replace the chain sliding guard. 
- Check that the chain sliding guard is firmly seated.
 - » If the chain sliding guard is loose:
 - Tighten the chain sliding guard.

Guideline

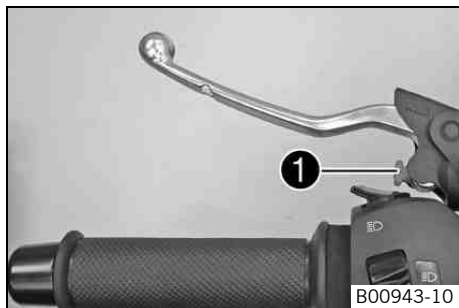
| | | | |
|----------------------------|----|-----------------------|---------------|
| Screw, chain sliding guard | M6 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
|----------------------------|----|-----------------------|---------------|

11.14 Adjusting the basic position of the clutch lever



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 force.
 Do not make any adjustments while riding!



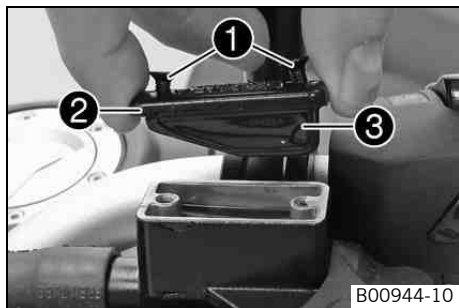
- Adjust the basic position of the clutch lever to your hand size by turning adjusting screw **1**.

11.15 Checking/rectifying the fluid level of the hydraulic clutch



Info

The fluid level rises with increasing wear of the clutch facing discs.
Do not use brake fluid.



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

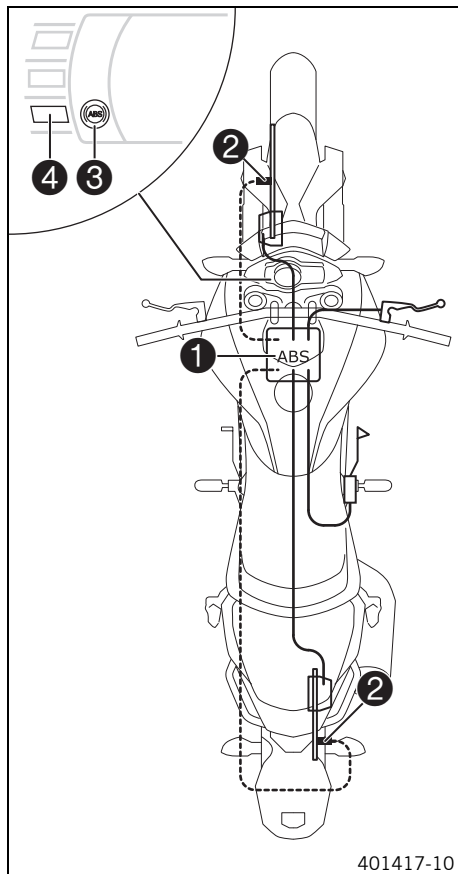
| | |
|---------------------------------|----------------|
| Fluid level below container rim | 4 mm (0.16 in) |
|---------------------------------|----------------|

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

| |
|---------------------------------|
| Hydraulic fluid (15) (🔧 p. 185) |
|---------------------------------|

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

12.1 ABS/antilock brake system



The ABS unit ❶, which consists of a hydraulic unit, ABS control unit, and return pump, is installed under the seat. A wheel speed sensor ❷ is located at the front and rear wheels.



Warning

Danger of accidents Functional limitations of the ABS

- The rear wheel may only be spun with the front brake applied (burn out) if the ABS is switched off.
- If the vehicle has been modified, such as shortened or lengthened spring deflections, different rim diameters, different tires, the wrong tire air pressure, different brake linings, etc., the ABS will not function optimally. Optimal functioning of the ABS is only ensured if the brake system only contains spare parts and tires that have been approved and/or recommended by KTM.
- Service work and repairs must be performed properly. (Your authorized KTM workshop will be glad to help.)

The ABS is a safety system that prevents locking of the wheels when driving straight ahead without the influence of lateral forces.



Warning

Danger of accidents Rolling over of the vehicle

- It is not always possible to prevent rolling over of the vehicle in extreme riding situations (e. g. luggage loaded with a high center of gravity, varying road surfaces, steep descents, full braking without disengaging the gear). Adapt your riding style to the road conditions and your riding ability.

The ABS operates with two independent brake circuits (front and rear brakes). During normal operation, the brake system operates like a conventional brake system without ABS. When the ABS control unit detects a locking tendency in a wheel, ABS begins regulating the brake pressure. The regulating process causes a slight pulsing of the hand and foot brake levers.

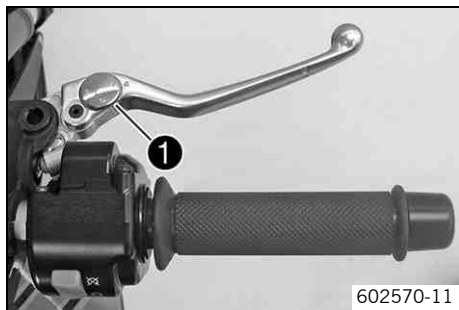
ABS warning lamp ❸ must light up after the ignition is switched on and go out after starting off. If it does not go out after starting off or if it lights up while riding, this indicates a fault in the ABS system. In this case, the ABS is no longer enabled and the wheels may lock during braking. The brake system itself stays functional; only ABS control is not available.

The ABS warning lamp may also light up if the rotating speeds of the front and rear wheels differ greatly under extreme riding conditions, for example when making wheelies or if the rear wheel spins. This causes the ABS to switch off.

To reenale the ABS, the vehicle must be stopped and the ignition switched off. The ABS is reenabled when the vehicle is switched on again. The ABS warning lamp goes out when you start off.

Button ❹ can be used to switch ABS off manually (see Starting).

12.2 Adjusting the basic position of the hand brake lever



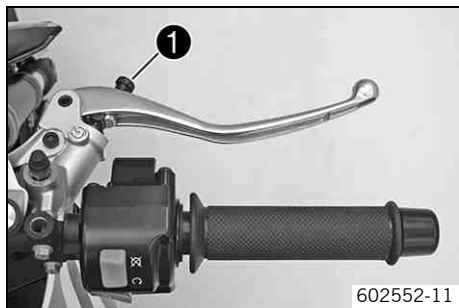
(Duke)

- Adjust the basic position of the hand brake lever to your hand size by turning adjusting wheel ❶.



Info

Pull the hand brake lever forward and turn the adjusting wheel. Do not make any adjustments while riding.



(Duke R)

- Adjust the basic position of the hand brake lever to your hand size by turning adjusting wheel ❶.



Info

Pull the hand brake lever forward and turn the adjusting wheel. Do not make any adjustments while riding.

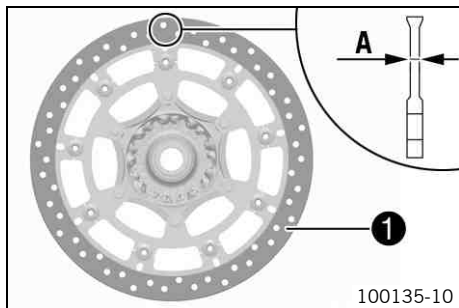
12.3 Checking the brake discs



Warning

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

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



- Check the thickness of the front and rear brake discs in several places to ensure that it conforms to measurement A.



Info

Wear reduces the thickness of the brake disc at the contact surface ❶ of the brake disc.

| Brake discs - wear limit | |
|--------------------------|-------------------|
| Front | 4.2 mm (0.165 in) |
| Rear | 4.5 mm (0.177 in) |

- » If the brake disc thickness is less than the specified value:

- Replace the brake disc.
- Check the front and rear brake discs for damage, cracks, and deformation.
 - » If damage, cracks, or deformation are visible on the brake disc:
- Replace the brake disc.

12.4 Checking the brake fluid level of the front brake



Warning

Danger of accidents Brake system failure.

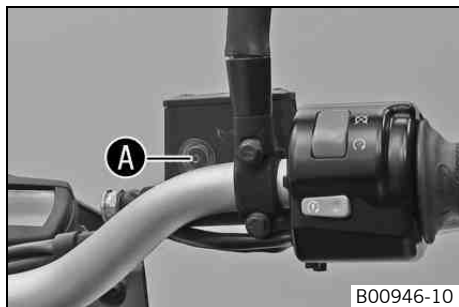
- If the brake fluid level drops below the specified marking or the specified value, this is an indication that the brake system is leaking or that the brake linings are completely worn down. Check the brake system and do not continue riding. (Your authorized KTM workshop will be glad to help.)



Warning

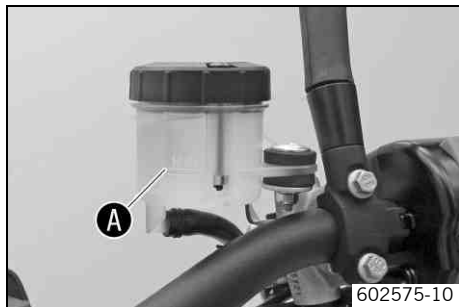
Danger of accidents Reduced braking efficiency due to old brake fluid.

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



(Duke)

- Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
- Check the brake fluid level in the viewer.
 - » If the brake fluid has dropped below marking **A**:
 - Add front brake fluid. 🛠️ (🔧 p. 93)



(Duke R)

- Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
- Check the brake fluid level in the viewer.
 - » If the brake fluid has dropped below marking **A**:
 - Add front brake fluid. 🛠️ (📖 p. 93)

12.5 Adding front brake fluid 🛠️



Warning

Danger of accidents Brake system failure.

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



Warning

Skin irritation Brake fluid can cause skin irritation on contact.

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



Warning

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

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



Warning

Environmental hazard Hazardous substances cause environmental damage.

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



Info

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

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

Use only clean brake fluid from a sealed container.

Preparatory work

- Check the front brake linings. (🔧 p. 95)

Main work

(Duke)

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

Guideline

Level A (brake fluid level below container rim)

5 mm (0.2 in)

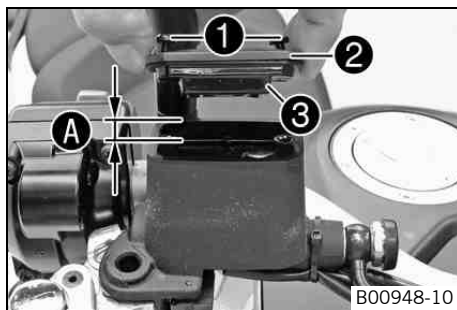
Brake fluid DOT 4 / DOT 5.1 (🔧 p. 183)

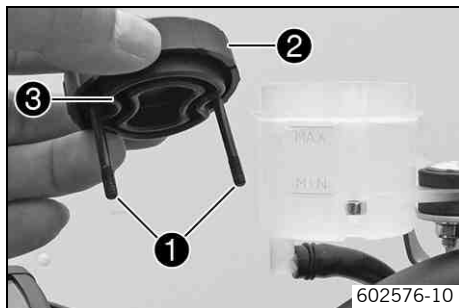
- Position the cover with the membrane. Mount and tighten the screws.



Info

Clean up overflowed or spilt brake fluid immediately with water.





(Duke R)

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

Brake fluid DOT 4 / DOT 5.1 (🔧 p. 183)

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



Info

Clean up overflowed or spilt brake fluid immediately with water.

12.6 Checking the front brake linings



Warning

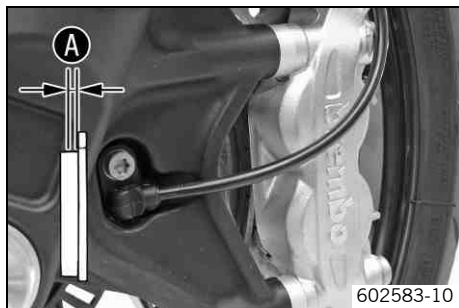
Danger of accidents Reduced braking efficiency caused by worn brake linings.

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

Note

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

- If the brake linings are not changed in time, the steel brake lining carriers grind on the brake disc. The braking effect is greatly reduced and the brake discs are destroyed. Check the brake linings regularly.



(Duke)

- Check the brake linings for minimum thickness **A**.

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

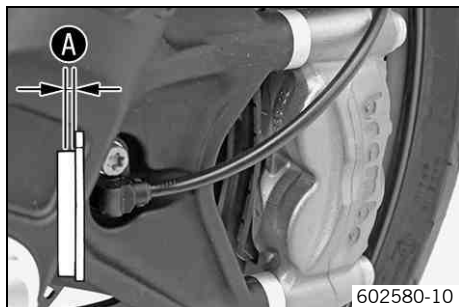
- » If the minimum thickness is less than specified:

- Change the front brake linings.

- Check the brake linings for damage and cracking.

- » If there is damage or cracking:

- Change the front brake linings.



(Duke R)

- Check the brake linings for minimum thickness **A**.

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

- » If the minimum thickness is less than specified:

- Change the front brake linings.

- Check the brake linings for damage and cracking.

- » If there is damage or cracking:

- Change the front brake linings.

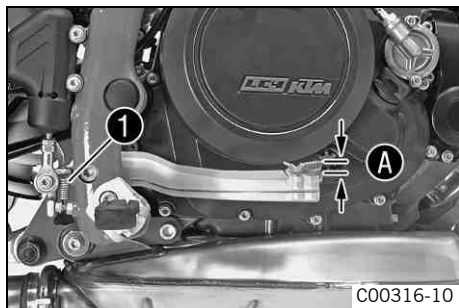
12.7 Checking the free travel of foot brake lever



Warning

Danger of accidents Brake system failure.

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



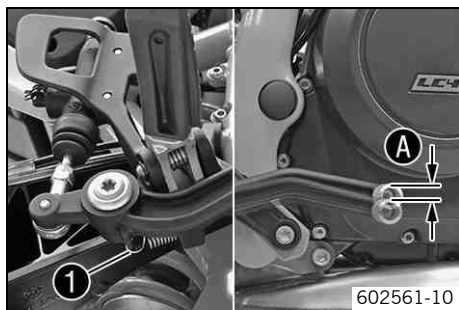
(Duke)

- Disconnect spring ❶.
- 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 ❷.

Guideline

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

- » If the free travel does not equal the specification:
 - Adjust the basic position of the foot brake lever. 🛠️ (📖 p. 97)
- Attach spring ❶.



(Duke R)

- Disconnect spring ❶.
- 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 ❷.

Guideline

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

- » If the free travel does not equal the specification:
 - Adjust the basic position of the foot brake lever. 🛠️ (📖 p. 97)
- Attach spring ❶.

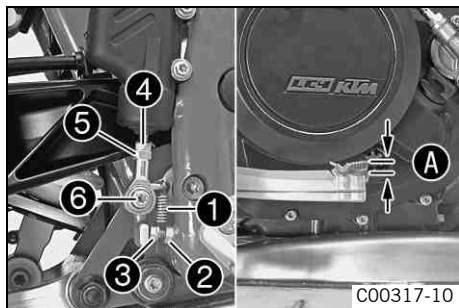
12.8 Adjusting the basic position of the foot brake lever 🛠️



Warning

Danger of accidents Brake system failure.

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



(Duke)

- Disconnect spring ❶.
- Remove screw ❸.
- Loosen nut ❹ and turn it back with ball joint ❺ until the maximum amount of free travel is reached.
- To adjust the basic position of the foot brake lever to individual requirements, loosen nut ❷ and turn screw ❹ accordingly.



Info

The range of adjustment is limited.

- Turn ball joint ❺ as required until free travel A is reached. If necessary, adjust the basic position of the foot brake lever.

Guideline

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

- Hold screw ❸ and tighten nut ❷.

Guideline

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

- Hold ball joint ❺ and tighten nut ❹.

Guideline

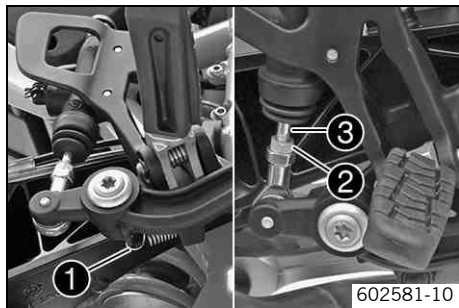
| | | |
|---------------------------------|----|-------------------|
| Nut, push rod, foot brake lever | M6 | 6 Nm (4.4 lbf ft) |
|---------------------------------|----|-------------------|

- Mount and tighten screw ❸.

Guideline

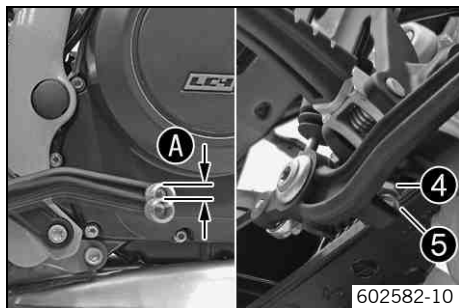
| | | | |
|--|----|--------------------|---------------|
| Screw, ball joint of push rod on foot brake cylinder | M6 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
|--|----|--------------------|---------------|

- Attach spring ❶.



(Duke R)

- Disconnect spring ①.
- Loosen nut ② and screw in push rod ③ until you have maximum free travel.



- To adjust the basic position of the foot brake lever to individual requirements, loosen nut ④ and turn screw ⑤ accordingly.



Info

The range of adjustment is limited.

- Turn push rod ③ accordingly until you have free travel ④. If necessary, adjust the basic position of the foot brake lever.

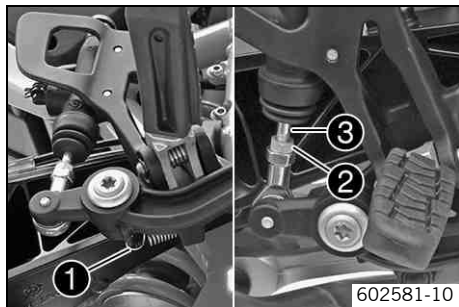
Guideline

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

- Hold screw ④ and tighten nut ⑤.

Guideline

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



- Hold push rod ③ and tighten nut ②.

Guideline

| | | |
|---------------------------------|----|-------------------|
| Nut, push rod, foot brake lever | M6 | 6 Nm (4.4 lbf ft) |
|---------------------------------|----|-------------------|

- Attach spring ①.

12.9 Checking rear brake fluid level



Warning

Danger of accidents Failure of the brake system.

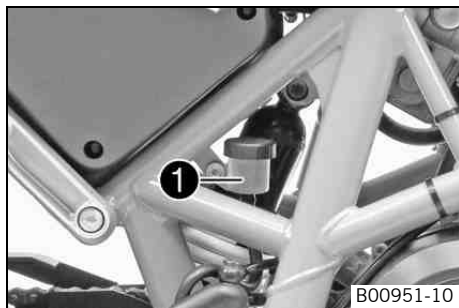
- If the brake fluid level falls below the **MIN** mark, this indicates a leakage in the brake system or worn-out brake linings. Check the brake system and do not continue riding. (Your authorized KTM workshop will be glad to help.)



Warning

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

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



- Stand the vehicle upright.
- Check the brake fluid level in the brake fluid reservoir.
 - » If the fluid level reaches the **MIN** marking ❶:
 - Add rear brake fluid. 🛠️ (🔧 p. 101)

12.10 Adding rear brake fluid 🛠️



Warning

Danger of accidents Failure of the brake system.

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



Warning

Skin irritation Brake fluid can cause skin irritation on contact.

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



Warning

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

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



Warning

Environmental hazard Hazardous substances cause environmental damage.

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



Info

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

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

Use only clean brake fluid from a sealed container.

Preparatory work

- Check the rear brake linings. (🔧 p. 103)

Main work

- Stand the vehicle upright.
- Remove screw cap ❶ with the washer and membrane ❷.
- Add brake fluid to the **MAX** mark.

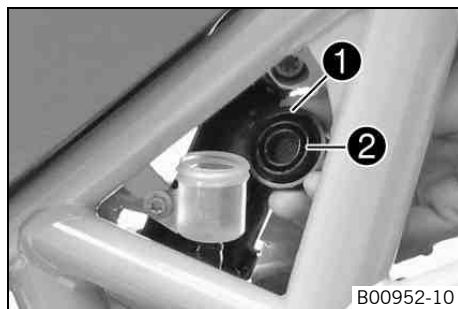
Brake fluid DOT 4 / DOT 5.1 (🔧 p. 183)

- Mount the screw cap with the washer and membrane.



Info

Clean up overflowed or spilt brake fluid immediately with water.



12.11 Checking the rear brake linings



Warning

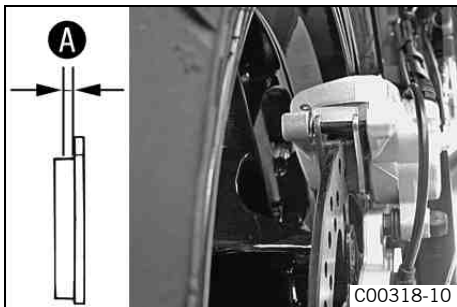
Danger of accidents Reduced braking efficiency caused by worn brake linings.

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

Note

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

- If the brake linings are not changed in time, the steel brake lining carriers grind on the brake disc. The braking effect is greatly reduced and the brake discs are destroyed. Check the brake linings regularly.



- Check the brake linings for minimum thickness **A**.

| | |
|----------------------------|---|
| Minimum thickness A | $\geq 1 \text{ mm } (\geq 0.04 \text{ in})$ |
|----------------------------|---|

- » If the minimum thickness is less than specified:

- Change the rear brake linings.

- Check the brake linings for damage and cracking.

- » If there is wear or tearing:

- Change the rear brake linings.

13.1 Removing the front wheel 🛠

Preparatory work

- Raise the motorcycle with the rear wheel stand. (🔧 p. 76)
- Raise the motorcycle with the front wheel stand. (🔧 p. 77)

Main work

(Duke)

- Remove screw ❶ and pull wheel speed sensor ❷ out of the hole.
- Remove screws ❸ and spacers ❹.
- Press back the brake linings with a light lateral tilting of the brake caliper on the brake disc. Pull the brake caliper carefully back from the brake disc and hang it to one side.



Info

Do not pull the hand brake lever while the brake caliper is removed.

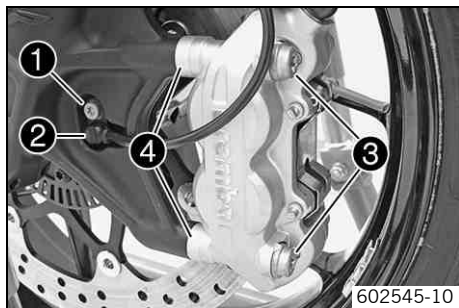
(Duke R)

- Remove screw ❶ and pull wheel speed sensor ❷ out of the hole.
- Remove screws ❸ and spacers ❹.
- Press back the brake linings with a light lateral tilting of the brake caliper on the brake disc. Pull the brake caliper carefully back from the brake disc and hang it to one side.

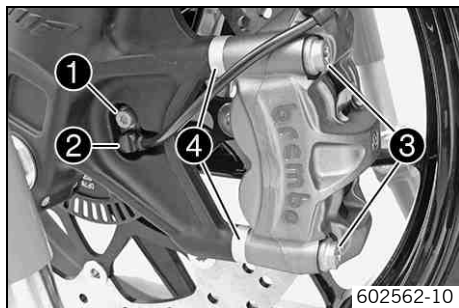


Info

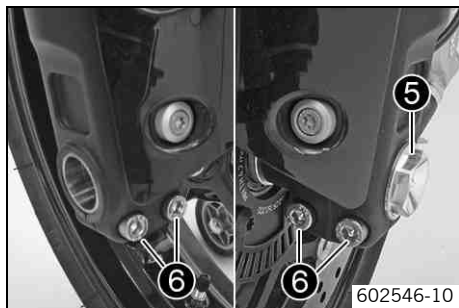
Do not pull the hand brake lever while the brake caliper is removed.



602545-10



602562-10



- Loosen screws ⑤ and ⑥.
- Unscrew screw ⑤ about six turns and press your hand on the screw to push the wheel spindle out of the axle clamp. Remove screw ⑥.



Warning

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

- Always lay the wheel down in such a way that the brake discs are not damaged.
- Holding the front wheel, withdraw the wheel spindle. Take the front wheel out of the fork.

13.2 Installing the front wheel



Warning

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

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

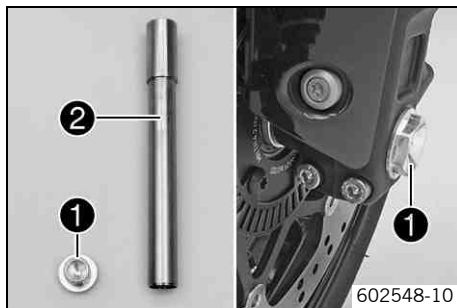


- Check the wheel bearing for damage and wear.
 - » If the wheel bearing is damaged or worn:
 - Replace the wheel bearing.
- Clean, grease, and mount the left and right spacers and the shaft seal rings.

Long-life grease (p. 188)

13 WHEELS, TIRES

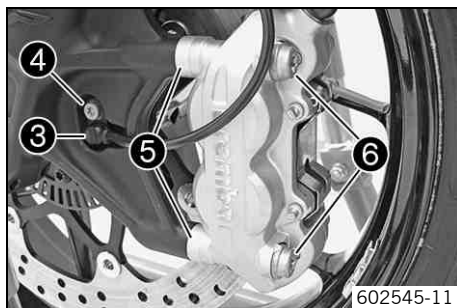
106



- Clean screw ❶ and wheel spindle ❷.
- Lift the front wheel into the fork, position it, and insert the wheel spindle.
✓ The arrow on the spoke points in the direction of motion.
- Mount and tighten screw ❶.

Guideline

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



(Duke)

- Insert wheel speed sensor ❸ into the hole. Mount and tighten screw ❹.

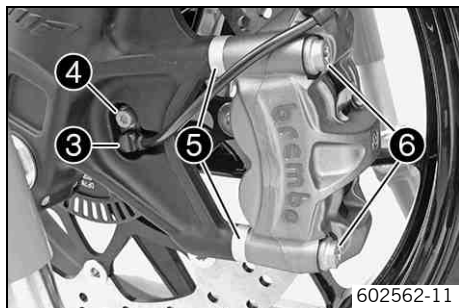
Guideline

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

- Position the brake caliper and check that the brake linings are seated correctly.
- Position spacers ❺. Mount screws ❻ but do not tighten yet.
- Operate the hand brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point. Fix the hand brake lever in the activated position.
✓ The brake calipers straighten.
- Tighten screws ❻.

Guideline

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



(Duke R)

- Insert wheel speed sensor ③ into the hole. Mount and tighten screw ④.

Guideline

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

- Position the brake caliper and check that the brake linings are seated correctly.
- Position spacers ⑤. Mount screws ⑥ but do not tighten yet.
- Operate the hand brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point. Fix the hand brake lever in the activated position.

✓ The brake calipers straighten.

- Tighten screws ⑥.

Guideline

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

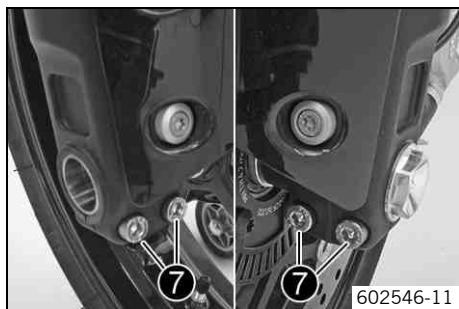
- Remove the fixation of the hand brake lever.
- Take the motorcycle off of the front wheel stand. (☛ p. 78)
- Take the motorcycle off of the rear wheel stand. (☛ p. 76)
- Pull the front brake and compress the fork forcefully a few times.

✓ The fork legs straighten.

- Tighten screws ⑦.


Guideline

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



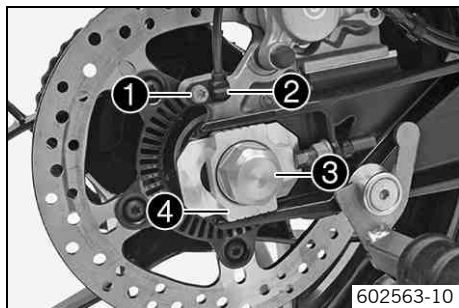
13.3 Removing the rear wheel

Preparatory work

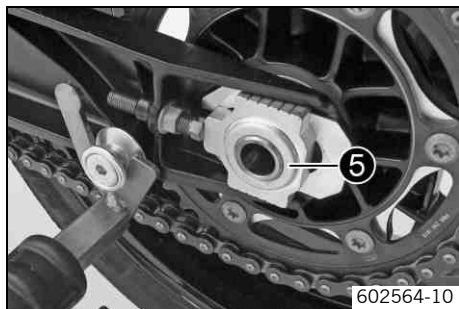
- Raise the motorcycle with the rear wheel stand. ( p. 76)

Main work

- Remove screw **1** and pull wheel speed sensor **2** out of the hole.
- Remove nut **3**. Remove chain adjuster **4**.



- Pull out wheel spindle **5** to the point where the chain adjuster is no longer in contact with the adjusting screw.





- Push the rear wheel forward as far as possible and take the chain off the rear sprocket.
- Withdraw the wheel spindle.
- Pull the rear wheel back until the brake caliper support is suspended freely between the brake disc and rim.

**Warning**

Danger of accidents Reduced braking efficiency due to damaged brake discs.

- Always lay down the wheel in such a way that the brake discs are not damaged.
-
- Take the rear wheel carefully out of the swingarm without damaging the rim and/or brake disc.

**Info**

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

13.4 Installing the rear wheel

**Warning**

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


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

**Warning**

Danger of accidents No braking effect when operating the rear brake.

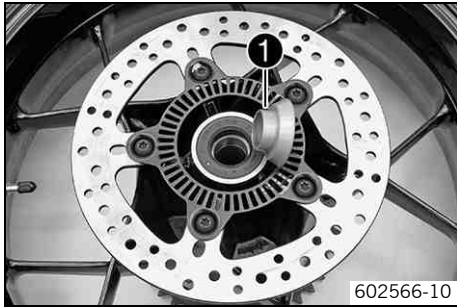
- After installing the rear wheel, always operate the foot brake until the pressure point is reached.

Main work

- Check the rear hub rubber dampers.  ( p. 112)

13 WHEELS, TIRES

110



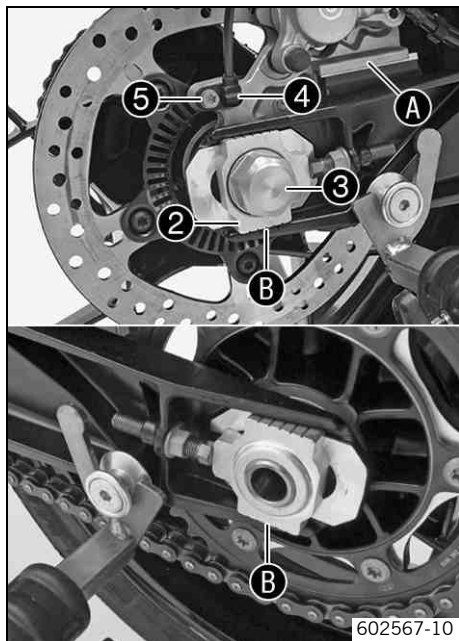
- Check the wheel bearing for damage and wear.
 - » If the wheel bearing is damaged or worn:
 - Replace the wheel bearing. 🛠️
- Remove bushing ❶. Clean and grease the mating surfaces of the bushings and the shaft seal rings.

Long-life grease (🛠️ p. 188)

- Install the bushing.
- Clean and grease the thread of the wheel spindle and nut.

Long-life grease (🛠️ p. 188)

- Clean the fixing locations on the brake caliper support and swingarm.



602567-10

- Engage the counter bearing of the brake caliper support **A** and swingarm. Carefully lift the rear wheel into the swingarm and engage the brake disc. Lay the chain on the rear sprocket and mount the wheel spindle.
- Mount chain adjuster **2** and nut **3**.



Info

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

- Push the rear wheel forward so that the chain adjusters are in contact with the adjusting screws, and tighten the nut.

Guideline

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

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

- Insert wheel speed sensor **4** into the hole. Mount and tighten screw **5**.

Guideline

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

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

Finishing work




- Take the motorcycle off of the rear wheel stand. (🔧 p. 76)
- Check the chain tension. (🔧 p. 82)

13.5 Checking the rear hub rubber dampers




Info


The engine power is transmitted from the rear sprocket to the rear wheel via 6 rubber dampers. They eventually wear out during operation. If the rubber dampers are not changed in time, the rear sprocket carrier and the rear hub will be damaged.

Preparatory work

- Raise the motorcycle with the rear wheel stand. ( p. 76)
- Remove the rear wheel. (  p. 108)

Main work


- Check bearing .
 - » If the bearing is damaged or worn:
 - Replace the bearings. ()
- Check rubber dampers  of the rear hub for damage and wear.
 - » If the rubber dampers of the rear hub are damaged or worn:
 - Change all rubber dampers in the rear hub.

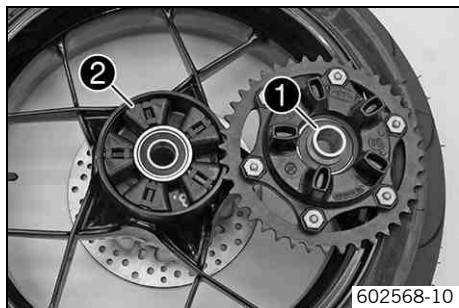
- Lay the rear wheel on a workbench with the rear sprocket facing upwards and insert the wheel spindle in the hub.
- To check play  A, hold the rear wheel tight and try to rotate the rear sprocket.

Info

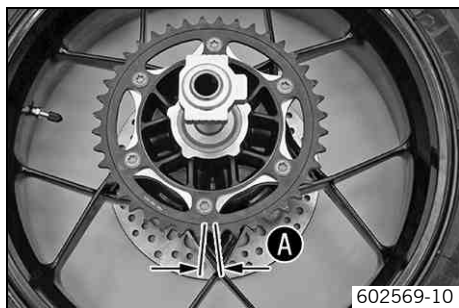
Measure the play on the outside of the rear sprocket.

| | |
|------------------------------------|-------------------|
| Play in rubber dampers, rear wheel | ≤ 5 mm (≤ 0.2 in) |
|------------------------------------|-------------------|

- » If play  A is larger than the specified value:




602568-10



602569-10

- Change all rubber dampers in the rear hub.

Finishing work

- Install the rear wheel.  (🔧 p. 109)
- Take the motorcycle off of the rear wheel stand. (🔧 p. 76)
- Check the chain tension. (🔧 p. 82)

13.6 Checking the tire condition



Warning

Danger of accidents Uncontrollable vehicle handling in the event of a flat tire.

- In the interest of safety, replace damaged or worn tires immediately. (Your authorized KTM workshop will be glad to help.)



Warning

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

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



Warning

Danger of accidents Uncontrollable handling characteristic due to non-approved and/or non-recommended tires/wheels.

- Only tires/wheels approved by KTM and with the corresponding speed index should be used.



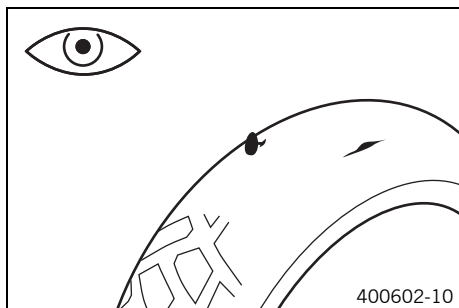
Warning

Danger of accidents Reduced road grip with new tires.

- New tires have a smooth rolling surface and therefore cannot provide full road grip. The entire rolling surface must be roughened in the first 200 kilometers (124.3 miles) by moderate riding at alternating angles. The full grip levels are not achieved until the tires have been run in.

Info

The type, condition and air pressure of the tires all have a major impact on the riding behavior of the motorcycle. Worn tires have a negative effect on riding behavior, especially on wet surfaces.



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

Info

Note local national regulations concerning the minimum tread depth.

| | |
|---------------------|---|
| Minimum tread depth | $\geq 2 \text{ mm } (\geq 0.08 \text{ in})$ |
|---------------------|---|

- » If the tread depth is less than the minimum permissible depth:
 - Change the tires.
- Check the age of the tires.

Info

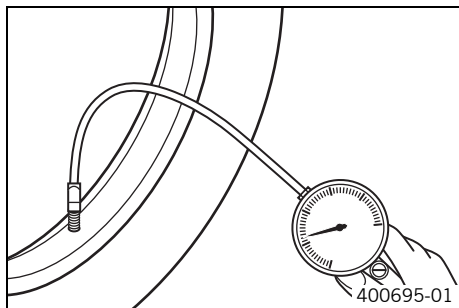
The tire's date of manufacture is usually part of the tire markings and is indicated by the last four digits of the **DOT** marking. The first two digits refer to the week of manufacture and last two digits refer to the year of manufacture. KTM recommends that the tires are changed regardless of the actual wear, at the latest after 5 years.

- » If a tire is more than 5 years old:
 - Change the tires.

13.7 Checking the tire pressure

Info

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



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

| Tire air pressure, solo | |
|-------------------------|------------------|
| Front | 2.0 bar (29 psi) |
| Rear | 2.0 bar (29 psi) |

| Tire air pressure with passenger / fully loaded | |
|---|------------------|
| Front | 2.0 bar (29 psi) |
| Rear | 2.2 bar (32 psi) |

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

14.1 Removing the battery 🔧



Warning

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

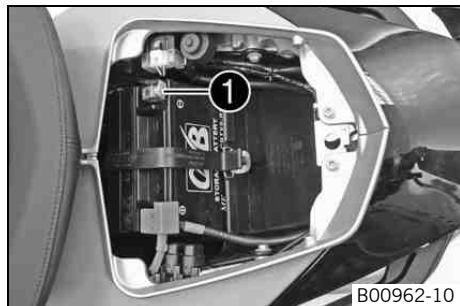
- Keep batteries out of the reach of children.
- Wear suitable protective clothing and goggles.
- Avoid contact with battery acid and battery gases.
- Keep the battery away from sparks or open flames. Charge only in well-ventilated areas.
- In the event of skin contact, rinse with large amounts of water.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

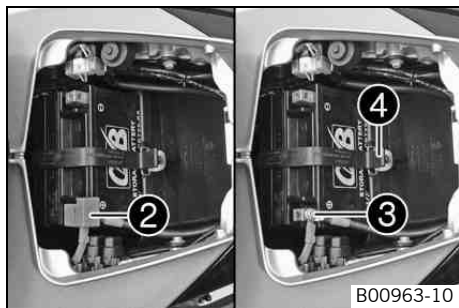
Preparatory work

- Switch off all power consumers and switch off the engine.
- Remove the passenger seat. (🔧 p. 78)

Main work

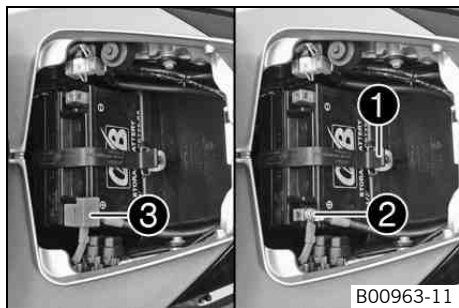
- Disconnect the negative cable ❶ of the battery.





- Remove positive terminal cover ②.
- Disconnect the positive cable ③ of the battery.
- Detach rubber band ④.
- Pull the battery up and out of the battery holder.

14.2 Installing the battery 🛠️



Main work

- Position the battery in the battery holder.

Info

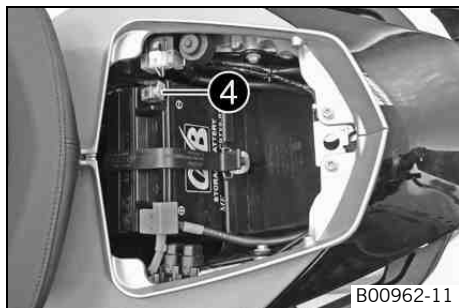
The terminals of the battery must face in the direction of travel.

- Attach rubber band ①.
- Reconnect the positive cable ② of the battery.

Guideline

| | | |
|-------------------------|----|-------------------|
| Screw, battery terminal | M6 | 2 Nm (1.5 lbf ft) |
|-------------------------|----|-------------------|

- Position positive terminal cover ③.



- Connect the negative cable ④ of the battery.

Guideline

| | | |
|-------------------------|----|-------------------|
| Screw, battery terminal | M6 | 2 Nm (1.5 lbf ft) |
|-------------------------|----|-------------------|

Finishing work

- Mount the passenger seat. (🔧 p. 79)
- Set the clock. (🔧 p. 35)

14.3 Recharging the battery 🔧



Warning

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

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



Warning

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

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



Warning

Environmental hazard Hazardous substances cause environmental damage.

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



Info

Even when there is no load on the battery, it discharges steadily.

The charge state and the type of charge are very important for the service life of the battery.

Rapid recharging with a high charging current shortens the battery's service life.

If the charging current, charging voltage, and charging time are exceeded, electrolyte escapes through the safety valves. This reduces the battery capacity.

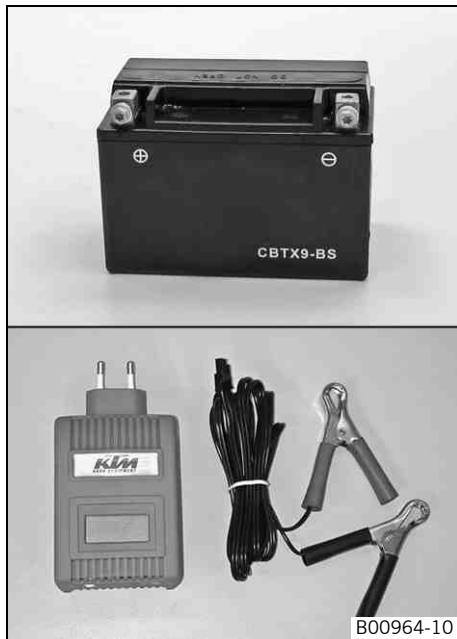
If the battery is depleted from starting the vehicle repeatedly, the battery must be charged immediately.

If the battery is left in a discharged state for an extended period, it will become over-discharged and sulfate, destroying the battery.

The battery is maintenance-free, i.e., the acid level does not have to be checked.

Preparatory work

- Switch off all power consumers and switch off the engine.
- Remove the passenger seat. (🔧 p. 78)
- Disconnect the negative cable of the battery to avoid damage to the motorcycle's electronics.



Main work

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

Battery charger (58429074000)

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



Info

Never remove lid ❶.

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

Guideline

The charge current, charge voltage, and charge time must not be exceeded.

Charge the battery regularly when the motorcycle is not in use

3 months

Finishing work

- Mount the passenger seat. (🔧 p. 79)
- Set the clock. (🔧 p. 35)

14.4 Changing the main fuse



Warning

Fire hazard The electrical system can be overloaded if the wrong fuses are used.

- Use only fuses with the prescribed amperage. Never by-pass or repair fuses.



Info

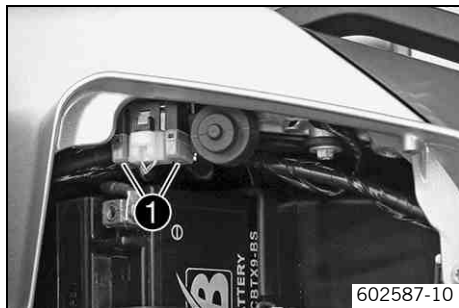
The main fuse protects all power consumers of the vehicle. The main fuse is under the passenger seat.

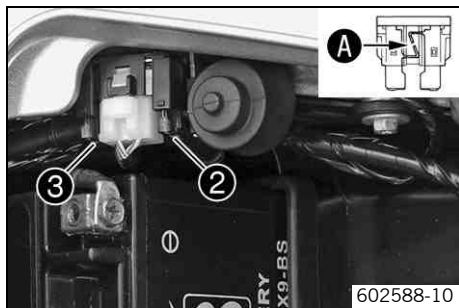
Preparatory work

- Switch off all power consumers and switch off the engine.
- Remove the passenger seat. (🔧 p. 78)

Main work

- Remove protection covers ❶.





- Remove the faulty main fuse ②.

Info

A defective fuse is indicated by a burned-out fuse wire ①.
A reserve fuse ③ is located in the starter relay.

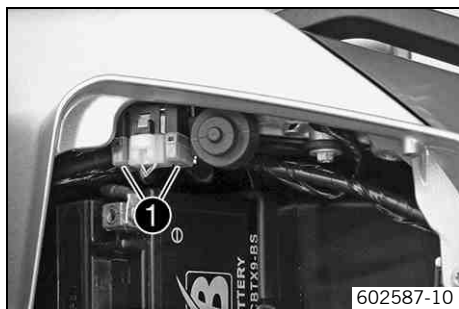
- Install a new main fuse.

Fuse (58011109130) (☛ p. 174)

Tip

Insert a new replacement fuse into the starter relay to have it available when needed.

- Attach the protection covers ①.



Finishing work

- Mount the passenger seat. (☛ p. 79)
- Set the clock. (☛ p. 35)

14.5 Changing the ABS fuses



Warning

Fire hazard The electrical system can be overloaded if the wrong fuses are used.

- Use only fuses with the prescribed amperage. Never by-pass or repair fuses.



Info

Two fuses for the ABS are located under the passenger seat. These fuses protect the return pump and the hydraulic unit of the ABS. The third fuse, which protects the ABS control unit, is located in the fuse box.

Preparatory work

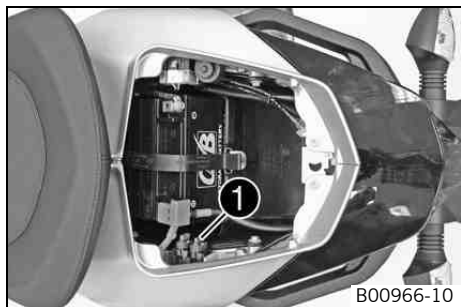
- Switch off all power consumers and switch off the engine.
- Remove the passenger seat. (🔧 p. 78)

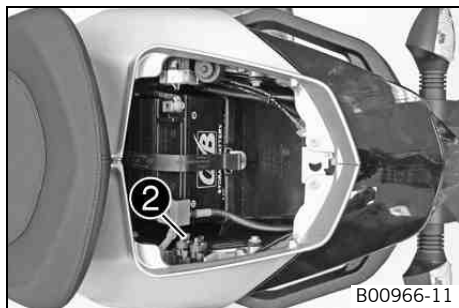
To change the fuse of the ABS hydraulic unit:

- Take off the protection cover and remove fuse ①.
- Insert a new fuse.

Fuse (58011109115) (🔧 p. 174)

- Mount the protection cover.





To change the fuse of the ABS return pump:

- Take off the protection cover and remove fuse ②.
- Insert a new fuse.

Fuse (58011109125) (☛ p. 174)

- Mount the protection cover.

Finishing work

- Mount the passenger seat. (☛ p. 79)

14.6 Changing the fuses of individual power consumers



Info

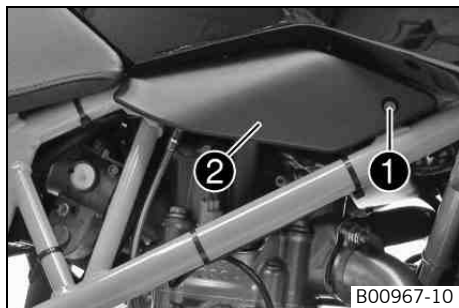
The fuse box containing the fuses of individual power consumers is located on the right under the fuel tank.

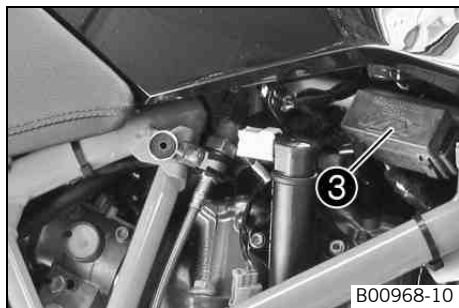
Preparatory work

- Switch off all power consumers and switch off the engine.

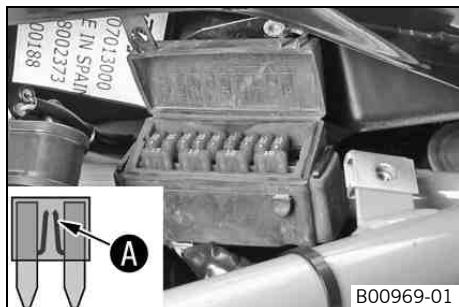
Main work

- Remove screw ①.
- Take off cover ②.





- Open fuse box cover ③.



- Remove the defective fuse.

Guideline

| |
|---|
| Fuse 1 - 10 A - ignition, combination instrument, clock, EFI control unit, alarm system (optional) |
| Fuse 2 - 10 A - ignition, combination instrument, EFI control unit |
| Fuse 3 - 10 A - fuel pump |
| Fuse 4 - 10 A - radiator fan |
| Fuse 5 - 10 A - horn, brake light, turn signal, alarm system (optional) |
| Fuse 6 - 15 A - high beam, low beam, parking light, tail light, license plate lamp |
| Fuse 7 - 10 A - for auxiliary equipment (permanent positive) |
| Fuse 8 - 10 A - for auxiliary equipment (accessories connected with ignition switch) |
| Fuse 9 - 10 A - ABS |
| Fuse 10 - not used |
| Fuse SPARE - 10 A/15 A - spare fuses |



Info

A defective fuse is indicated by a burned-out fuse wire ①.



Warning

Fire hazard The electrical system can be overloaded if the wrong fuses are used.

- Use only fuses with the prescribed amperage. Never by-pass or repair fuses.

- Use spare fuses with the correct rating only.

| |
|-------------------------------|
| Fuse (75011088010) (☛ p. 174) |
|-------------------------------|

| |
|-------------------------------|
| Fuse (75011088015) (☛ p. 174) |
|-------------------------------|



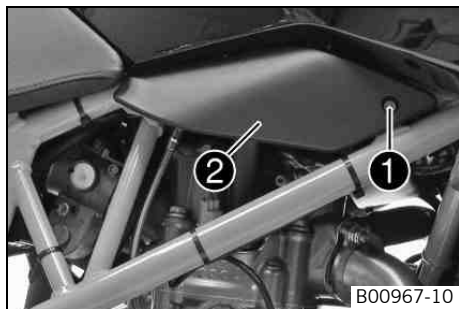
Tip

Replace the spare fuse in the fuse box so that it is available if needed.

- Check that the power consumer is functioning properly.
- Close the fuse box cover.
- Position cover ❷.
- Mount and tighten screw ❶.

Guideline

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



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14.7 Removing the headlight mask with the headlight

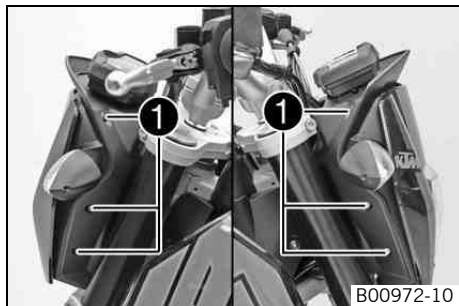
Preparatory work

- Switch off all power consumers and switch off the engine.

Main work

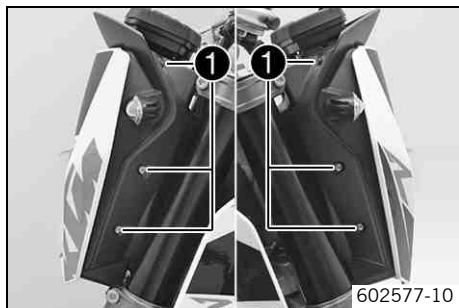
(Duke)

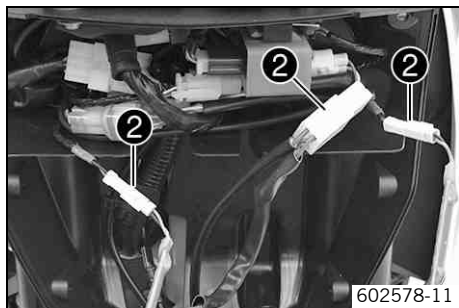
- Remove screws ❶.



(Duke R)

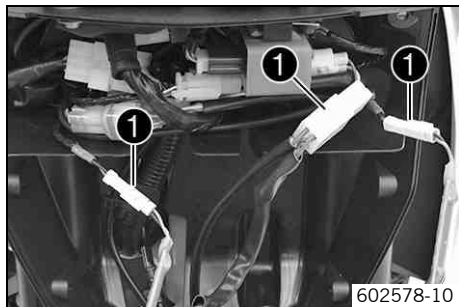
- Remove screws ❶.





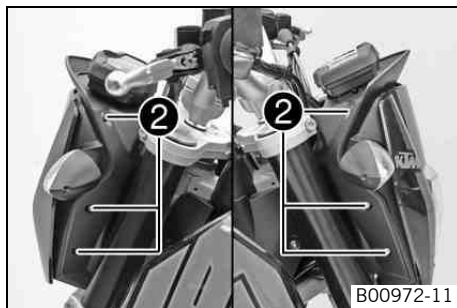
- Fold the headlight mask forward.
- Disconnect plug ❷.
- Set down the headlight mask.

14.8 Refitting the headlight mask with the headlight



Main work

- Plug in connector ❶.



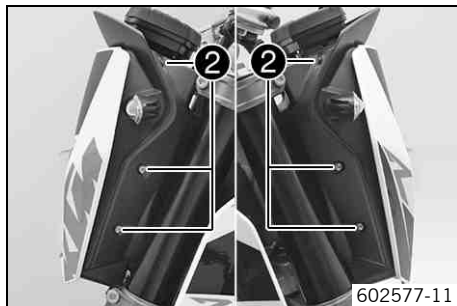
(Duke)

- Position the headlight mask.
- Mount and tighten screws 2.

Guideline

| | | |
|---------------------------|------|-------------------|
| Screw, headlight | EJOT | 2 Nm (1.5 lbf ft) |
| Remaining screws, chassis | M5 | 5 Nm (3.7 lbf ft) |

- Check that the lighting is functioning properly.



(Duke R)

- Position the headlight mask.
- Mount and tighten screws 2.

Guideline

| | | |
|---------------------------|------|-------------------|
| Screw, headlight | EJOT | 2 Nm (1.5 lbf ft) |
| Remaining screws, chassis | M5 | 5 Nm (3.7 lbf ft) |

- Check that the lighting is functioning properly.

Finishing work

- Check the headlight setting. (🔧 p. 133)

14.9 Changing the headlight bulb

Note

Damage to reflector Reduced brightness.

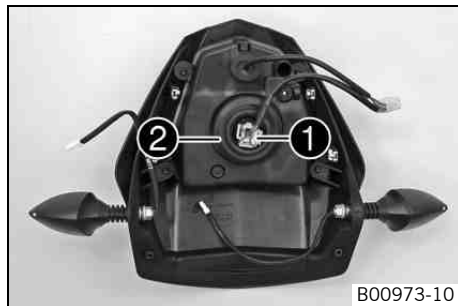
- Grease on the lamp will evaporate due to the heat and be deposited on the reflector. Clean the lamp and keep it free of grease before mounting.

Preparatory work

- Switch off all power consumers and switch off the engine.
- Remove the headlight mask with the headlight. (🔧 p. 127)

Main work

- Disconnect connector ❶.
- Take off protection cap ❷.



- Detach retaining clamp ❸.
- Remove bulb ❹.
- Position the new bulb in the headlight housing.

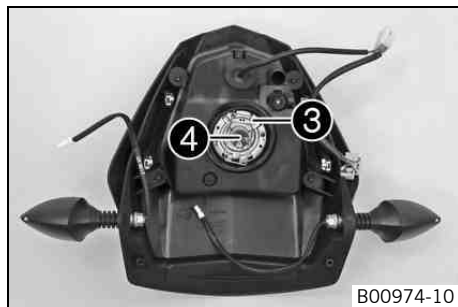
Headlight (H4 / socket P43t) (🔧 p. 174)

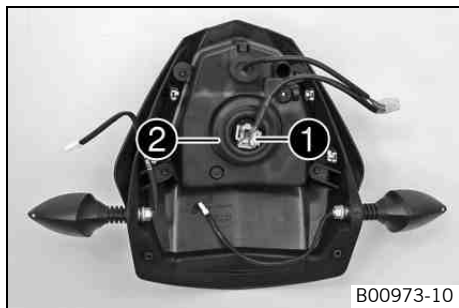


Info

Insert the headlight bulb so that the catches latch into the recesses.

- Attach retaining clamp ❸.





- Mount protection cap ②.
- Plug in connector ①.

Finishing work

- Refit the headlight mask with the headlight. (🔧 p. 128)
- Check the headlight setting. (🔧 p. 133)

14.10 Changing the parking light bulb

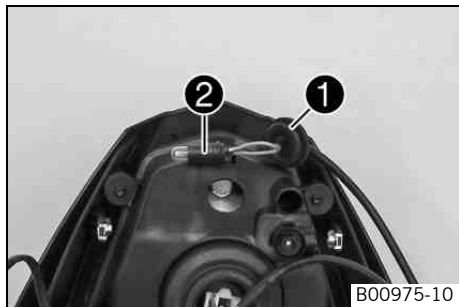
Note

Damage to reflector Reduced brightness.

- Grease on the lamp will evaporate due to the heat and be deposited on the reflector. Clean the lamp and keep it free of grease before mounting.

Preparatory work

- Switch off all power consumers and switch off the engine.
- Remove the headlight mask with the headlight. (🔧 p. 127)



Main work

- Pull cable sleeve ❶ and the socket of parking light ❷ carefully out of the housing.
- Remove the bulb.
- Position a new light bulb in the socket.

Parking light (W5W / socket W2.1x9.5d) (🔧 p. 174)

- Carefully position socket ❷ with the bulb in the housing.
- Mount cable sleeve ❶.

Finishing work

- Refit the headlight mask with the headlight. (🔧 p. 128)
- Check the headlight setting. (🔧 p. 133)

14.11 Changing the turn signal bulb (Duke)

Note

Damage to reflector Reduced brightness.

- Grease on the lamp will evaporate due to the heat and be deposited on the reflector. Clean the lamp and keep it free of grease before mounting.



- Remove the screw on the rear of the turn signal housing.
- Remove turn signal glass ❶.
- Press the bulb carefully into the socket, turn it counterclockwise by about 30°, and pull it out of the socket.



Info

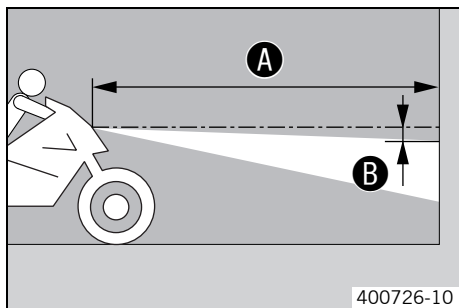
Do not touch the reflector with your fingers, and keep it free from grease.

- Press the new bulb carefully into the socket and turn it clockwise all the way.

Turn signal (RY10W / socket BAU15s) (☛ p. 174)

- Position the turn signal glass.
- Insert the screw and turn it counterclockwise first until it engages in the thread with a light jerk. Tighten the screw slightly.
- Check that the turn signal system is functioning properly.

14.12 Checking the headlight setting



- Position the vehicle upright on a horizontal surface in front of a light wall and make a mark at the height of the center of the low beam headlight.
- Make another mark at a distance ❷ under the first mark.

Guideline

| | |
|------------|-------------|
| Distance ❷ | 5 cm (2 in) |
|------------|-------------|

- Position the vehicle vertically at a distance ❶ in front of the wall and switch on the low beam.

Guideline

| | |
|------------|-------------|
| Distance ❶ | 5 m (16 ft) |
|------------|-------------|

- The rider, with luggage and passenger if applicable, now mounts the motorcycle.

- Check the headlight setting.

The light-dark boundary must lie exactly on the lower mark when the motorcycle is ready to operate with the rider mounted along with any luggage and a passenger if applicable.

- » If the boundary between light and dark does not meet specifications:
 - Adjust the headlight range. (🔧 p. 134)

14.13 Adjusting the headlight range

Preparatory work

- Check the headlight setting. (🔧 p. 133)

Main work

- Adjust the beam distance of the headlight by turning screw ❶.

Guideline

For a motorcycle with rider, and with luggage and a passenger if applicable, the light/dark boundary must be exactly on the lower mark (applied in: Checking the headlight setting).



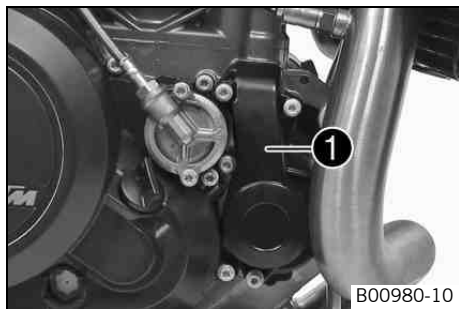
Info

Turn counterclockwise to increase the headlight range; turn clockwise to reduce the headlight range.

If you have a payload, you may have to correct the headlight range.



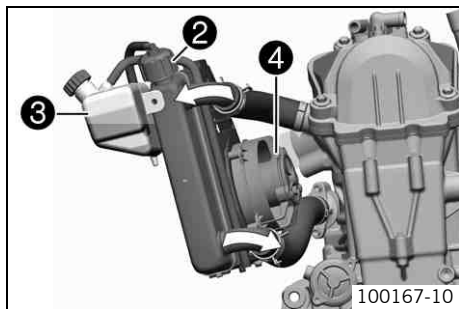
15.1 Cooling system



The water pump ❶ in the engine forces the coolant to flow.

The pressure in the cooling system resulting from heat is regulated by a valve in the radiator cap ❷. The heat expansion causes the surplus coolant to flow into the compensating tank ❸. When the temperature falls, this surplus coolant is sucked back into the cooling system. This permits the specified coolant temperature without causing any malfunctions.

125 °C (257 °F)



Cooling takes place by means of the air stream and a radiator fan ❹, which is controlled by a thermoswitch.

The lower the speed, the less the cooling effect. Dirty cooling fins also reduce the cooling effect.

15.2 Checking the antifreeze and coolant level



Warning

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

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



Warning

Danger of poisoning Coolant is poisonous and a health hazard.

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

Condition

The engine is cold.

Preparatory work

- Stand the motorcycle upright on a horizontal surface.

Main work

- Remove radiator cap ❶ and plug ❷ from the compensating tank.
- Check the coolant antifreeze.

-25... -45 °C (-13... -49 °F)

» If the coolant antifreeze does not meet specifications:

- Correct the coolant antifreeze.

- Check the coolant level in the compensating tank.

The coolant level must be at marking **MIN**.

» If the coolant in the compensating tank is not at the required level, but the tank is not empty:

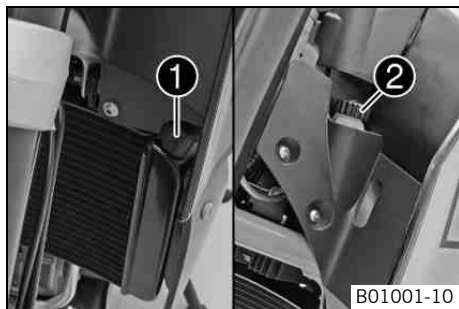
- Add coolant to the **MIN** marking.


Alternative 1

Coolant (☞ p. 183)

Alternative 2




Coolant (mixed ready to use) (☞ p. 183)



- » If there is no coolant in the compensating tank:
 - Check the cooling system for leaks. 

**Info**

Do not start up the motorcycle!

- Fill/bleed the cooling system.  ( p. 140)
- Mount cap  of the compensating tank.
- Check the coolant level in the radiator.


The radiator must be completely filled.




- » If the coolant level does not meet specifications:
 - Correct the coolant level and find out the cause of the loss.

Alternative 1

Coolant ( p. 183)

Alternative 2

Coolant (mixed ready to use) ( p. 183)

- » If you had to add more coolant than the specified amount:
 - > 0.50 l (> 0.53 qt.)
 - Fill/bleed the cooling system.  ( p. 140)
- Mount radiator cap .

15.3 Checking the coolant level in the compensating tank

**Warning**

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

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



Warning

Danger of poisoning Coolant is poisonous and a health hazard.

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

Condition

The engine is cold.

The radiator is completely full.

Preparatory work

- Park the motorcycle on a horizontal surface.

Main work

- Check the coolant level in the compensating tank ❶.

The coolant level must be at marking **MIN**.

- » If the coolant in the compensating tank is not at the required level, but the tank is not empty:
 - Remove the compensating tank cap.
 - Add coolant to the **MIN** marking.

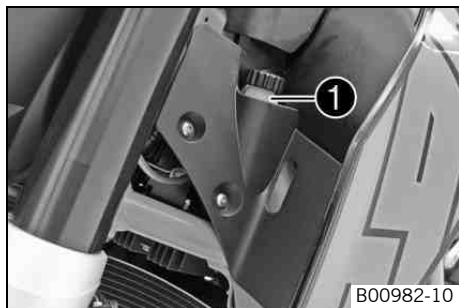
Alternative 1

Coolant (☞ p. 183)

Alternative 2

Coolant (mixed ready to use) (☞ p. 183)

- Mount the cap of the compensating tank.
- » If there is no coolant in the compensating tank:
 - Check the cooling system for leaks. 🔧



**Info**

Do not start up the motorcycle!

- Fill/bleed the cooling system. 🛠️ (📖 p. 140)

15.4 Draining the coolant 🛠️

**Warning**

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

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

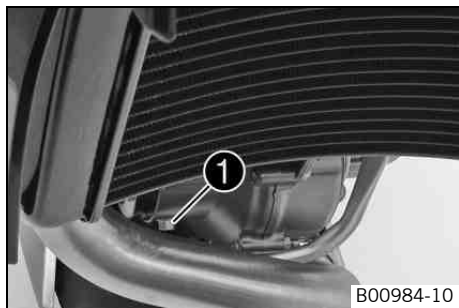
**Warning**

Danger of poisoning Coolant is poisonous and a health hazard.

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

Condition

The engine is cold.



- Stand the motorcycle upright.
- Place a suitable container under the engine.
- Remove screw ❶. Remove the radiator cap.
- Completely drain the coolant.
- Mount screw ❶ with a new seal ring and tighten it.

Guideline

| | | |
|--------------------------------|-------|------------------------|
| Plug, drain hole of water pump | M10x1 | 15 Nm (11.1 lbf ft) |
|--------------------------------|-------|------------------------|

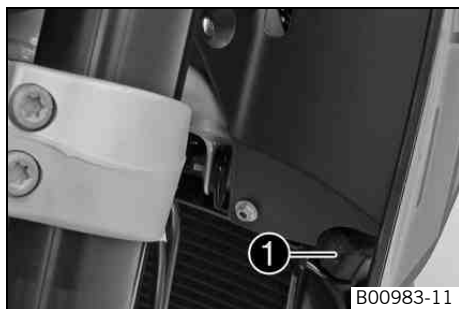
15.5 Filling/bleeding the cooling system 🛠️



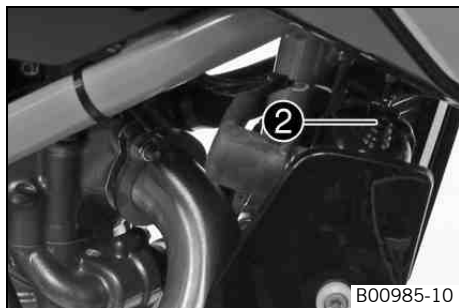
Warning

Danger of poisoning Coolant is poisonous and a health hazard.

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



- Remove radiator cap ❶.



- Remove bleeder screw ②.
- Tilt the vehicle slightly to the right.
- Pour in coolant until it emerges without bubbles at the vent hole, and then mount and tighten bleeder screw ② immediately.

Alternative 1

Coolant (☛ p. 183)

Alternative 2

Coolant (mixed ready to use) (☛ p. 183)

- Fill the radiator completely with coolant. Mount radiator cap ①.
- Lean the vehicle on the side stand.
- Check the coolant level in the compensating tank. (☛ p. 137)

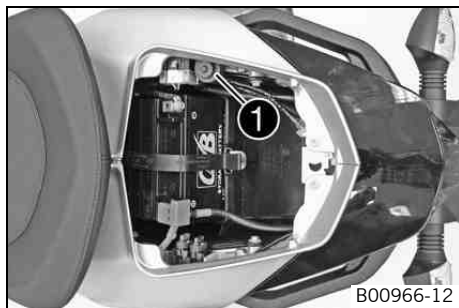


Danger

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

- When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in an enclosed space without an effective exhaust extraction system.
-
- Start the engine and run it until the 5th bar of the temperature indicator lights up.
 - Stop the engine and allow it to cool down.
 - When the engine is cool, check the coolant level in the radiator and, if necessary, add coolant.
 - Check the coolant level in the compensating tank. (☛ p. 137)

16.1 Setting the engine characteristics



Preparatory work

- Switch off the ignition by turning the ignition key to the position \otimes .
- Remove the passenger seat. (☛ p. 78)

Main work

- Pull off the **Map-Select** switch with holder 1 from the retaining bracket.
- Pull the **Map-Select** switch out of the holder.



- Turn the adjusting wheel until the desired number is aligned with marking 2.

Set the Map-Select switch to Soft.

- Set the adjusting wheel to position 1.
 - ✓ Soft – Homologated performance with very gentle response

Set the Map-Select switch to Advanced.

- Set the adjusting wheel to position 2.
 - ✓ Advanced – Homologated performance with very direct response

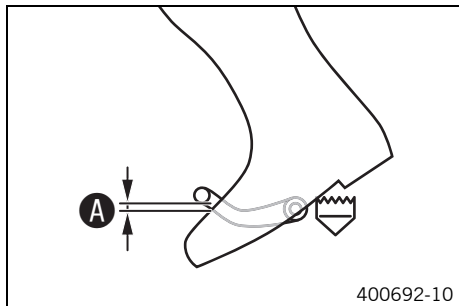
Set the Map-Select switch to Standard.

- Set the adjusting wheel to position 3, 4, 5, 6, 7, 8, 9 or 0.
 - ✓ Standard – Homologated performance with balanced response
- Position the **Map-Select** switch in the holder.
- Push the **Map-Select** switch with the holder into the retaining bracket.

Finishing work

- Mount the passenger seat. (☛ p. 79)

16.2 Checking the basic position of the shift lever

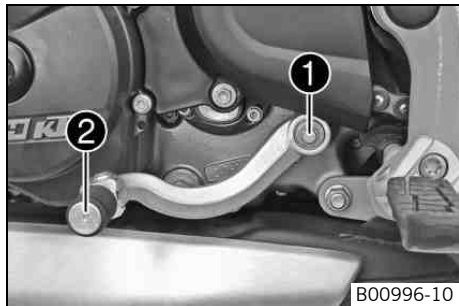


- Sit on the vehicle in the riding position and determine distance **A** between the upper edge of your boot and the shift lever.

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

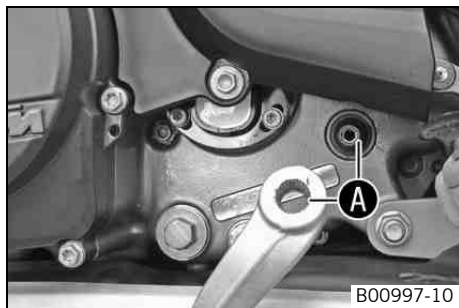
- » If the distance does not meet specifications:
 - Adjust the basic position of the shift lever. 🛠️ (📖 p. 143)

16.3 Adjusting the basic position of the shift lever 🛠️



(Duke)

- Remove screw **1** 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 the gearing.

i Info

The range of adjustment is limited.

The shift lever must not come into contact with any other vehicle components during the shift procedure.

- Mount and tighten the screw.

Guideline

| | | | |
|--------------------|----|------------------------|--------------|
| Screw, shift lever | M6 | 14 Nm (10.3 lbf ft) | Loctite® 222 |
|--------------------|----|------------------------|--------------|

(Duke R)

- Loosen nut **1**, holding the threaded rod **2**.

i Info

Nut **1** has a left-handed thread.

- Loosen nut **3**, holding the threaded rod **2**.
- Turn threaded rod **2** to adjust the shift lever.

i Info

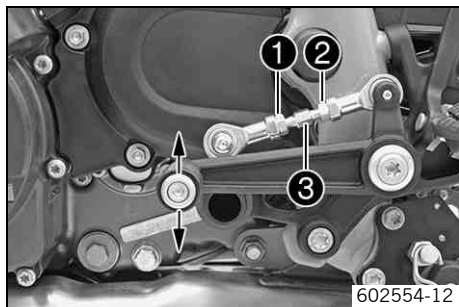
The range of adjustment is limited.

The shift lever must not come into contact with any other vehicle components during the shift procedure.

- Tighten nut **3**, holding the threaded rod **2**.

Guideline

| | | |
|-----------------|----|-------------------|
| Shift rods, nut | M6 | 6 Nm (4.4 lbf ft) |
|-----------------|----|-------------------|



- Tighten nut ❶, holding the threaded rod ❷.

Guideline

| | | |
|-----------------|------|-------------------|
| Shift rods, nut | M6LH | 6 Nm (4.4 lbf ft) |
|-----------------|------|-------------------|

17.1 Checking the engine oil level



Info

The engine oil level must be checked at normal engine operating temperature.

Condition

The engine is at operating temperature.

- Stand the motorcycle upright on a horizontal surface.
- Check the engine oil level.

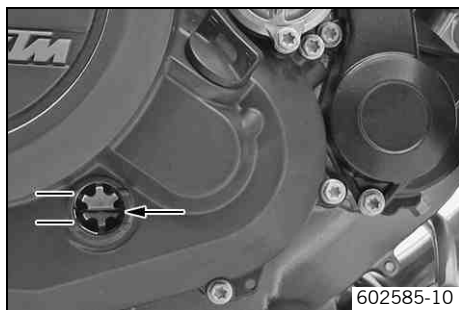


Info

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

The engine oil must be between the lower and upper edge of the oil level viewer.

- » If the engine oil level is not at the specified level:
 - Add the engine oil. (🔧 p. 151)



17.2 Changing the engine oil and filter, cleaning the oil screens 🛠️



Warning

Danger of scalding Engine oil and gear oil get very hot when the motorcycle is ridden.

- Wear appropriate protective clothing and safety gloves. In case of burns, rinse immediately with lukewarm water.



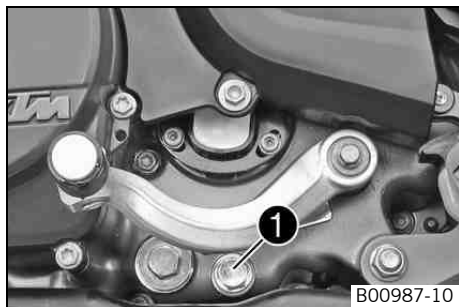
Warning

Environmental hazard Hazardous substances cause environmental damage.

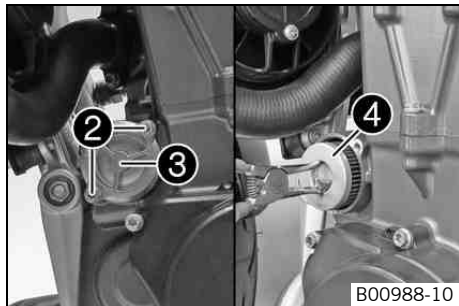
- Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

**Info**

Drain the engine oil only when the engine is warm.

**Main work**

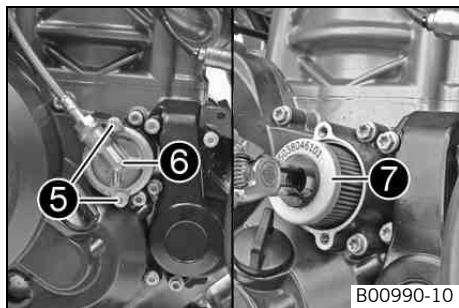
- Stand the motorcycle on its side stand on a horizontal surface.
- Place a suitable container under the engine.
- Remove the oil drain plug ❶ with the magnet and seal ring.
- Completely drain the engine oil.
- Thoroughly clean the oil drain plug with a magnet.



- Remove screws ❷. Remove the oil filter cover ❸ with the O-ring.
- Pull oil filter ❹ out of the oil filter housing.

Circlip pliers reverse (51012011000)

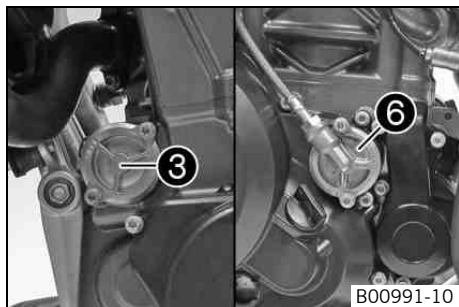
- Completely drain the engine oil.
- Thoroughly clean the parts and sealing area.



- Remove screws 5. Remove the oil filter cover 6 with the O-ring.
- Pull oil filter 7 out of the oil filter housing.

| |
|--------------------------------------|
| Circlip pliers reverse (51012011000) |
|--------------------------------------|

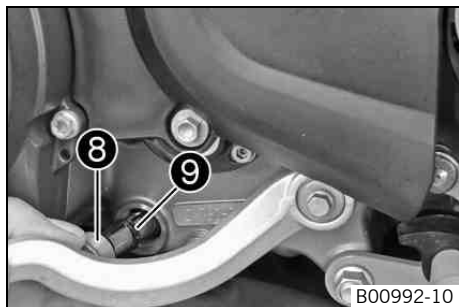
- Completely drain the engine oil.
- Thoroughly clean the parts and sealing area.



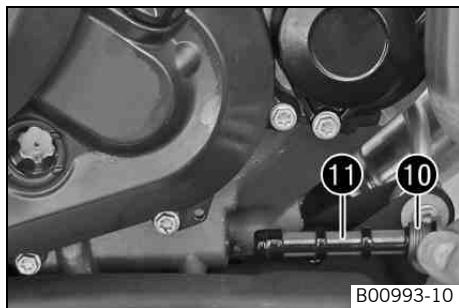
- Insert the oil filter.
- Oil the O-rings of the oil filter covers. Mount oil filter covers 3 and 6.
- Mount and tighten the screws.

Guideline

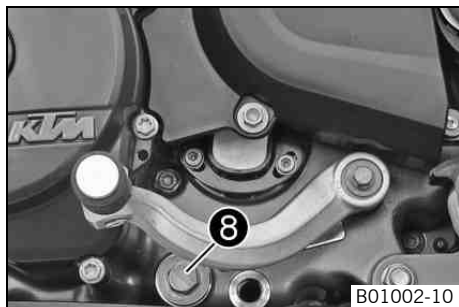
| | | |
|-------------------------|-------|-------------------|
| Screw, oil filter cover | M5x16 | 6 Nm (4.4 lbf ft) |
|-------------------------|-------|-------------------|



- Remove screw plug 8 with oil screen 9 and the O-rings.
- Completely drain the remaining engine oil.
- Thoroughly clean the parts and sealing area.



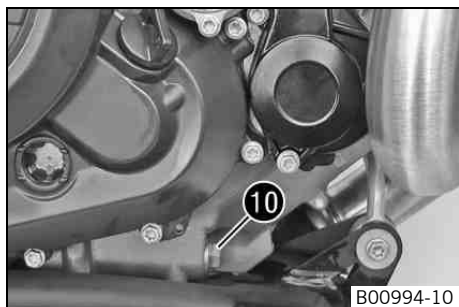
- Remove screw plug 10 with oil screen 11 and the O-rings.
- Completely drain the remaining engine oil.
- Thoroughly clean the parts and sealing area.



- Position the oil screen with the O-rings.
- Mount and tighten screw plug 8 with the O-ring.

Guideline

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



- Position the oil screen with the O-rings.
- Mount and tighten screw plug 10 with the O-ring.

Guideline

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

- Mount and tighten the oil drain plug with magnet and seal ring.

Guideline

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



Info

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

- Remove the oil filler plug 12 with the O-ring from the clutch cover and fill up with engine oil.

| | | | |
|------------|------------------|---|--|
| Engine oil | 1.70 l (1.8 qt.) | Engine oil (SAE 10W/60) (00062010035) (☛ p. 184) | |
| | | Alternative engine oil | Engine oil (SAE 10W/50) (☛ p. 184) |

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



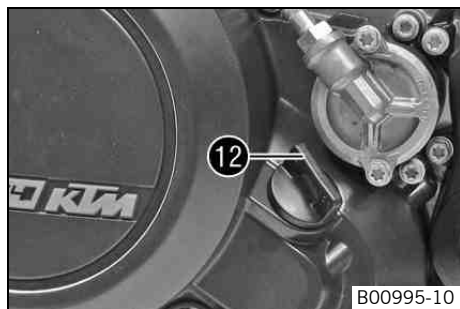
Danger

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

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

Finishing work

- Check the engine oil level. (☛ p. 146)

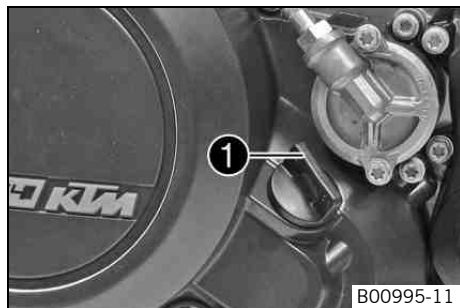


17.3 Adding engine oil



Info

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



Main work

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

| |
|--|
| Engine oil (SAE 10W/60) (00062010035) (☞ p. 184) |
|--|

| |
|------------------------------------|
| Engine oil (SAE 10W/50) (☞ p. 184) |
|------------------------------------|



Info

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

If appropriate, change the engine oil.

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



Danger

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

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

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

Finishing work

- Check the engine oil level. (☞ p. 146)

18.1 Cleaning the motorcycle

Note

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

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



Warning

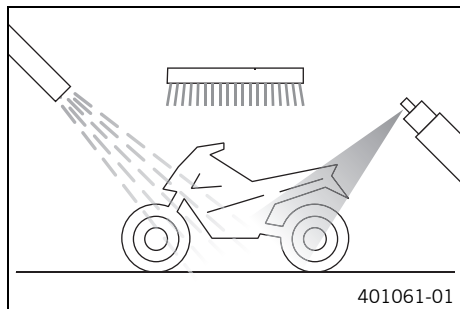
Environmental hazard Hazardous substances cause environmental damage.

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



Info

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



- Seal the exhaust system to keep water out.
- First remove coarse dirt particles with a gentle spray of water.
- Spray very dirty areas with a normal motorcycle cleaner and then clean with a brush.

Motorcycle cleaner (🔧 p. 188)



Info

Use warm water containing normal motorcycle cleaner and a soft sponge. Never apply motorcycle cleaner to a dry vehicle; always rinse the vehicle with water first.

If the vehicle was operated in road salt, clean it with cold water. Warm water enhances the corrosive effects of salt.

- After rinsing the motorcycle with a gentle spray of water, allow it to dry thoroughly.
- Remove the closure of the exhaust system.

**Warning**

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

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

- After cleaning, ride 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 off, lubricate all moving parts and bearings.
- Clean the chain. (🔧 p. 81)
- Treat bare metal parts (except for brake discs and exhaust system) with anti-corrosion materials.

Cleaning and preserving materials for metal, rubber and plastic (🔧 p. 187)

- Treat all painted parts with a mild paint polish.

High-luster polish for paint (🔧 p. 187)

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

Paint cleaner and polish for high-gloss and matte finishes, bare metal and plastic surfaces (🔧 p. 188)

- Lubricate the ignition/steering lock.

Universal oil spray (🔧 p. 188)

18.2 Checks and maintenance steps for winter operation



Info

If you use the motorcycle 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. 152)
- Clean the brake system.



Info

After **EVERY** trip on salted roads, thoroughly wash the brake calipers and brake linings with cold water and dry carefully. This should be done after the parts are cooled down and while they are installed.

After use on salted roads, clean the motorcycle thoroughly with cold water and dry it properly.

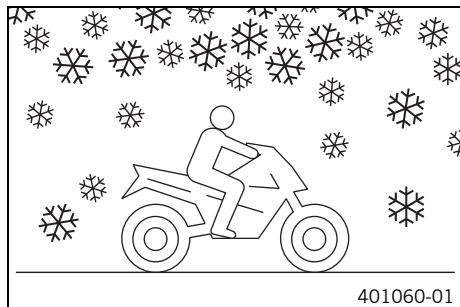
- Treat the engine, the swingarm, and all other bare or galvanized parts (except brake discs) with a wax-based anti-corrosion substance.



Info

To prevent serious reduction of the braking efficiency, make sure no anti-corrosion substance gets on to the brake discs.

- Clean the chain. (🔧 p. 81)



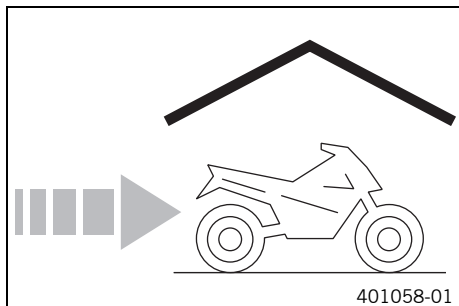
19.1 Storage



Info

If you want to garage the motorcycle for a longer period, take the following actions.

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.



- Make sure the tank is as empty as possible so that you can fill up with fresh fuel when you put the motorcycle back into operation.
- Clean the motorcycle. (🔧 p. 152)
- Change the engine oil and filter, clean the oil screens. 🛢️ (🔧 p. 146)
- Check the antifreeze and coolant level. (🔧 p. 135)
- Check the tire pressure. (🔧 p. 115)
- Remove the battery. 🛢️ (🔧 p. 116)
- Recharge the battery. 🛢️ (🔧 p. 118)

Guideline

| | |
|---|--------------------------|
| Storage temperature of battery without direct sunshine. | 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 rear wheel stand. (🔧 p. 76)
- Raise the motorcycle with the front wheel stand. (🔧 p. 77)

- Cover the motorcycle with a porous sheet or blanket.

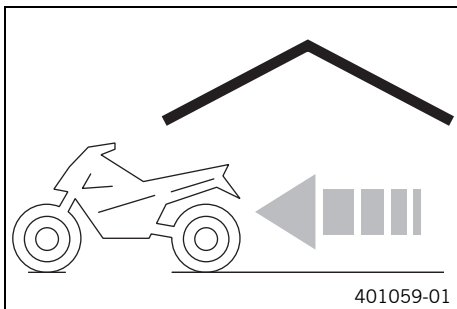


Info

Do not use non-porous materials since they prevent humidity from escaping, thus causing corrosion.

Avoid running the engine for a short time only. Since the engine cannot warm up properly, the water vapor produced during combustion condenses and causes valves and exhaust system to rust.

19.2 Preparing for use after storage













- Take the motorcycle off of the front wheel stand. (🔧 p. 78)
- Take the motorcycle off of the rear wheel stand. (🔧 p. 76)
- Recharge the battery. 🔌 (🔧 p. 118)
- Install the battery. 🔌 (🔧 p. 117)
- Set the clock. (🔧 p. 35)
- Refuel. (🔧 p. 62)
- Perform checks and vehicle care when preparing for use. (🔧 p. 51)
- Take a test ride.






| Faults | Possible cause | Action |
|---|---|--|
| Engine does not crank when the electric starter button is pressed | Operating error | – Carry out the start procedure. (☛ p. 52) |
| | Battery is discharged | – Recharge the battery. 🛠️ (☛ p. 118) |
| | Fuse 1 , 2 or 3 blown | – Change the fuses of individual power consumers. (☛ p. 124) |
| | Main fuse burned out | – Change the main fuse. (☛ p. 121) |
| | No ground connection present | – Check the ground connection. |
| Engine turns only if the clutch lever is drawn | The vehicle is in gear | – Shift gear to neutral. |
| | The vehicle is in gear and the side stand is folded out | – Shift gear to neutral. |
| Engine turns but does not start | Operating error | – Carry out the start procedure. (☛ p. 52) |
| | Fuse 3 blown | – Change the fuses of individual power consumers. (☛ p. 124) |
| | Coupling of fuel hose connection not connected | – Reconnect coupling of fuel hose connection. |
| | Defect in fuel injection system | – Read out the fault memory using the KTM diagnostics tool. 🛠️ |
| | Throttle opened while starting | – When starting, DO NOT open the throttle – Carry out the start procedure. (☛ p. 52) |
| Engine has too little power | Air filter is very dirty | – Remove the air filter. 🛠️ – Install the air filter. 🛠️ |
| | Fuel filter is very dirty | – Check the fuel pressure. 🛠️ |
| | Defect in fuel injection system | – Read out the fault memory using the KTM diagnostics tool. 🛠️ |
| | Map-Select switch incorrectly adjusted | – Set the engine characteristics. (☛ p. 142) |






| Faults | Possible cause | Action |
|--|---|---|
| Engine overheats | Too little coolant in cooling system | <ul style="list-style-type: none"> – Check the cooling system for leakage. – Check the coolant level in the compensating tank. (☞ p. 137) |
| | Radiator fins very dirty | <ul style="list-style-type: none"> – Clean radiator fins. |
| | Foam formation in cooling system | <ul style="list-style-type: none"> – Drain the coolant. 🛠 (☞ p. 139) – Fill/bleed the cooling system. 🛠 (☞ p. 140) |
| | Buckled or damaged radiator hose | <ul style="list-style-type: none"> – Change the radiator hose. 🛠 |
| | Thermostat is faulty | <ul style="list-style-type: none"> – Check the thermostat. 🛠 |
| | Fuse 4 blown | <ul style="list-style-type: none"> – Change the fuses of individual power consumers. (☞ p. 124) |
| | Defect in radiator fan system | <ul style="list-style-type: none"> – Check the radiator fan system. 🛠 |
| FI warning lamp (MIL) lights/flashes | Defect in fuel injection system | <ul style="list-style-type: none"> – Read out the fault memory using the KTM diagnostics tool. 🛠 |
| N The idle indicator lamp does not light up when the transmission is in neutral | Gear position sensor not programmed | <ul style="list-style-type: none"> – Read out the fault memory using the KTM diagnostics tool. 🛠 |
| Engine dies during the trip | Lack of fuel | <ul style="list-style-type: none"> – Refuel. (☞ p. 62) |
| | Fuse 1 , 2 or 3 blown | <ul style="list-style-type: none"> – Change the fuses of individual power consumers. (☞ p. 124) |
| The ABS warning lamp lights up | ABS fuse is blown | <ul style="list-style-type: none"> – Change the ABS fuses. (☞ p. 123) |
| | Large difference in wheel speeds of the front and rear wheels | <ul style="list-style-type: none"> – Stop the vehicle, switch off the ignition, and start it again. |
| | Malfunction in ABS | <ul style="list-style-type: none"> – Read out the ABS fault memory using the KTM diagnostics tool. 🛠 |
| High oil consumption | Engine vent hose bent | <ul style="list-style-type: none"> – Route the vent hose without bends or change it if necessary. |






| Faults | Possible cause | Action |
|---|---|--|
| High oil consumption | Engine oil level too high | – Check the engine oil level. (☞ p. 146) |
| | Engine oil too thin (low viscosity) | – Change the engine oil and filter, clean the oil screens. 🛠️ (☞ p. 146) |
| Headlight and parking light are not functioning | Fuse 6 blown | – Change the fuses of individual power consumers. (☞ p. 124) |
| Turn signal, brake light, and horn are not functional | Fuse 5 blown | – Change the fuses of individual power consumers. (☞ p. 124) |
| Time is not (correctly) displayed | Fuse 1 blown | – Change the fuses of individual power consumers. (☞ p. 124) – Set the clock. (☞ p. 35) |
| Battery discharged | Ignition not switched off when vehicle was parked | – Recharge the battery. 🛠️ (☞ p. 118) |
| | Battery is not charged by alternator | – Check the charging voltage. 🛠️ – Check the quiescent current. 🛠️ |
| Combination instrument shows nothing on the display | Fuse 1 or 2 blown | – Change the fuses of individual power consumers. (☞ p. 124) – Set the clock. (☞ p. 35) |






| | |
|-------------------------------------|---|
| Blink code of FI warning lamp (MIL) |  02 FI warning lamp (MIL) flashes 2x short |
| Error level condition | Crankshaft position sensor - circuit fault |
| Blink code of FI warning lamp (MIL) |  09 FI warning lamp (MIL) flashes 9x short |
| Error level condition | Manifold absolute pressure sensor cylinder 1 - input signal too low |
| | Manifold absolute pressure sensor cylinder 1 - input signal too high |
| Blink code of FI warning lamp (MIL) |  12 FI warning lamp (MIL) flashes 1x long, 2x short |
| Error level condition | Engine coolant temperature sensor - input signal too low |
| | Engine coolant temperature sensor - input signal too high |
| Blink code of FI warning lamp (MIL) |  13 FI warning lamp (MIL) flashes 1x long, 3x short |
| Error level condition | Intake air temperature sensor - input signal too low |
| | Intake air temperature sensor - input signal too high |
| Blink code of FI warning lamp (MIL) |  14 FI warning lamp (MIL) flashes 1x long, 4x short |
| Error level condition | Ambient air pressure sensor - input signal too low |
| | Ambient air pressure sensor - input signal too high |


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|-------------------------------------|--|
| Blink code of FI warning lamp (MIL) |  15 FI warning lamp (MIL) flashes 1x long, 5x short |
| Error level condition | Rollover sensor - input signal too low Rollover sensor - input signal too high |
| Blink code of FI warning lamp (MIL) |  17 FI warning lamp (MIL) flashes 1x long, 7x short |
| Error level condition | Lambda sensor cylinder 1, sensor 1 - circuit fault |
| Blink code of FI warning lamp (MIL) |  22 FI warning lamp (MIL) flashes 2x long, 2x short |
| Error level condition | Gear position sensor - circuit fault |
| Blink code of FI warning lamp (MIL) |  24 FI warning lamp (MIL) flashes 2x long, 4x short |
| Error level condition | System voltage - circuit fault |
| Blink code of FI warning lamp (MIL) |  25 FI warning lamp (MIL) flashes 2x long, 5x short |
| Error level condition | Side stand switch - circuit fault |

| | |
|-------------------------------------|--|
| Blink code of FI warning lamp (MIL) |  27 FI warning lamp (MIL) flashes 2x long, 7x short |
| Error level condition | SVCC circuit - tracking error |
| Blink code of FI warning lamp (MIL) |  33 FI warning lamp (MIL) flashes 3x long, 3x short |
| Error level condition | Injector cylinder 1 - circuit fault |
| Blink code of FI warning lamp (MIL) |  37 FI warning lamp (MIL) flashes 3x long, 7x short |
| Error level condition | Ignition coil 1, cylinder 1 - circuit fault |
| Blink code of FI warning lamp (MIL) |  39 FI warning lamp (MIL) flashes 3x long, 9x short |
| Error level condition | Ignition coil 2, cylinder 1 - circuit fault |
| Blink code of FI warning lamp (MIL) |  41 FI warning lamp (MIL) flashes 4x long, 1x short |
| Error level condition | Fuel pump relay - short circuit to ground or open circuit |
| | Fuel pump relay - input signal too high |

| | |
|-------------------------------------|---|
| Blink code of FI warning lamp (MIL) |  45 FI warning lamp (MIL) flashes 4x long, 5x short |
| Error level condition | Lambda sensor heater cylinder 1, sensor 1 - short circuit to ground or open circuit |
| | Lambda sensor heater cylinder 1, sensor 1 - input signal too high |
| Blink code of FI warning lamp (MIL) |  65 FI warning lamp (MIL) flashes 6x long, 5x short |
| Error level condition | E²PROM Fault |
| Blink code of FI warning lamp (MIL) |  82 FI warning lamp (MIL) flashes 8x long, 2x short |
| Error level condition | Throttle position sensor circuit A - input signal too high |
| | Throttle position sensor circuit A - input signal too low |
| Blink code of FI warning lamp (MIL) |  83 FI warning lamp (MIL) flashes 8x long, 3x short |
| Error level condition | Accelerator position sensor - input signal too low |
| | Accelerator position sensor - input signal too high |
| Blink code of FI warning lamp (MIL) |  84 FI warning lamp (MIL) flashes 8x long, 4x short |
| Error level condition | Throttle position sensor circuit A and B - plausibility fault |

| | |
|-------------------------------------|---|
| Blink code of FI warning lamp (MIL) |  85 FI warning lamp (MIL) flashes 8x long, 5x short |
| Error level condition | Accelerator position sensor circuit A - input signal too low Accelerator position sensor circuit A - input signal too high |
| Blink code of FI warning lamp (MIL) |  86 FI warning lamp (MIL) flashes 8x long, 6x short |
| Error level condition | Accelerator position sensor circuit B - input signal too high |
| Blink code of FI warning lamp (MIL) |  87 FI warning lamp (MIL) flashes 8x long, 7x short |
| Error level condition | Accelerator position sensor circuit A and B - plausibility fault |
| Blink code of FI warning lamp (MIL) |  88 FI warning lamp (MIL) flashes 8x long, 8x short |
| Error level condition | DBW throttle valve - stuck open |
| Blink code of FI warning lamp (MIL) |  89 FI warning lamp (MIL) flashes 8x long, 9x short |
| Error level condition | DBW return spring - stuck open |

| | |
|-------------------------------------|--|
| Blink code of FI warning lamp (MIL) |  90 FI warning lamp (MIL) flashes 9x long |
| Error level condition | DBW throttle actuator control internal motor - stuck in inactive DBW throttle actuator control internal motor - stuck in active |
| Blink code of FI warning lamp (MIL) |  92 FI warning lamp (MIL) flashes 9x long, 2x short |
| Error level condition | DBW throttle actuator control IC - stuck open |
| Blink code of FI warning lamp (MIL) |  93 FI warning lamp (MIL) flashes 9x long, 3x short |
| Error level condition | CPU mutual - surveillance error |
| Blink code of FI warning lamp (MIL) |  94 FI warning lamp (MIL) flashes 9x long, 4x short |
| Error level condition | DBW stopping - control A |
| Blink code of FI warning lamp (MIL) |  95 FI warning lamp (MIL) flashes 9x long, 5x short |
| Error level condition | DBW stopping - control B |

| | |
|-------------------------------------|---|
| Blink code of FI warning lamp (MIL) | <div data-bbox="443 126 507 188"></div> 96 FI warning lamp (MIL) flashes 9x long, 6x short |
| Error level condition | System voltage - input signal too low |
| | System voltage - input signal too high |

22.1 engine

| | |
|-------------------------|---|
| Design | 1-cylinder 4-stroke engine, water-cooled |
| Displacement | 690 cm ³ (42.11 cu in) |
| Stroke | 84.5 mm (3.327 in) |
| Bore | 102 mm (4.02 in) |
| Compression ratio | 12.6:1 |
| Control | OHC, 4 valves controlled via rocker arm, chain drive |
| Valve diameter, intake | 40 mm (1.57 in) |
| Valve diameter, exhaust | 34 mm (1.34 in) |
| Valve play, cold | 0.07... 0.13 mm (0.0028... 0.0051 in) |
| Crankshaft bearing | 2 roller bearings |
| Conrod bearing | Needle bearing |
| Piston pin bearing | Piston pin with DLC coating |
| Pistons | Forged light alloy |
| Piston rings | 1 L-ring, 1 tapered compression piston ring, 1 oil scraper ring |
| Engine lubrication | Semi-dry sump lubrication system with two rotor pumps |
| Primary transmission | 36:79 |
| Clutch | APTCTM antihopping clutch in oil bath/hydraulically operated |
| Transmission | 6-gear, claw shifted |
| Transmission ratio | |
| 1st gear | 14:35 |
| 2nd gear | 16:28 |
| 3rd gear | 21:28 |
| 4th gear | 21:23 |

| | |
|--------------------------|---|
| 5th gear | 23:22 |
| 6th gear | 23:20 |
| Mixture preparation | Electronic fuel injection |
| Ignition | Contactless controlled fully electronic ignition with digital ignition adjustment |
| Alternator | 12 V, 224 W |
| Spark plug | |
| Inside spark plug | NGK LKAR8BI-9 |
| Outside spark plug | NGK LMAR7A-9 |
| Spark plug electrode gap | 0.9 mm (0.035 in) |
| Cooling | Water cooling, permanent circulation of coolant by water pump |
| Idle speed | 1,550... 1,650 rpm |
| Starting aid | Electric starter, automatic decompressor |

22.2 Engine tightening torques

| | | | |
|---|-------|----------------------|---------------|
| Screw, membrane fixation | M3 | 2 Nm (1.5 lbf ft) | Loctite® 243™ |
| Hose clamp, intake flange | M4 | 2.5 Nm (1.84 lbf ft) | – |
| Oil nozzle for conrod bearing lubrication | M4 | 2 Nm (1.5 lbf ft) | Loctite® 243™ |
| Locking screw for bearing | M5 | 6 Nm (4.4 lbf ft) | Loctite® 243™ |
| Remaining screws, engine | M5 | 6 Nm (4.4 lbf ft) | – |
| Screw, breather cover on valve cover | M5 | 6 Nm (4.4 lbf ft) | Loctite® 243™ |
| Screw, clutch spring | M5x25 | 6 Nm (4.4 lbf ft) | – |
| Screw, cover plate for oil return line | M5 | 6 Nm (4.4 lbf ft) | – |
| Screw, gear position sensor | M5x16 | 6 Nm (4.4 lbf ft) | Loctite® 243™ |

| | | | |
|--|-------|-----------------------------|---------------|
| Screw, oil filter cover | M5x16 | 6 Nm (4.4 lbf ft) | – |
| Screw, oil pump cover, top | M5 | 6 Nm (4.4 lbf ft) | Loctite® 243™ |
| Chain securing guide | M6 | 5 Nm (3.7 lbf ft) | – |
| Cylinder head screw | M6x25 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Plug, vacuum connection | M6 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Remaining screws, engine | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, alternator cover | M6x25 | 10 Nm (7.4 lbf ft) | – |
| Screw, alternator cover (chain shaft through-hole) | M6x25 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, autodecompression | M6 | 3... 4 Nm (2.2... 3 lbf ft) | Loctite® 243™ |
| Screw, axial lock of camshaft | M6 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, clutch cover | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, clutch slave cylinder | M6x20 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, clutch slave cylinder | M6x35 | 10 Nm (7.4 lbf ft) | – |
| Screw, crankshaft position sensor | M6x16 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, cylinder | M6 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, engine case | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, ignition coil | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, locking lever | M6x20 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, oil pump cover, bottom | M6 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, rocker arm shaft | M6x30 | 12 Nm (8.9 lbf ft) | – |
| Screw, shift drum locating | M6x30 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, shift lever | M6 | 14 Nm (10.3 lbf ft) | Loctite® 222 |
| Screw, starter motor | M6x20 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |

| | | | |
|---|---------|--|----------------------------|
| Screw, stator | M6 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, thermostat case | M6x20 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, timing chain guide rail | M6x30 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, timing chain tensioning rail | M6x30 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, valve cover | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, water pump cover | M6x30 | 10 Nm (7.4 lbf ft) | – |
| Screw, water pump impeller | M6x15 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Oil jet, piston cooling | M6x0.75 | 4 Nm (3 lbf ft) | Loctite® 243™ |
| Screw plug, crankshaft clamp | M8 | 20 Nm (14.8 lbf ft) | – |
| Stud, exhaust flange | M8 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Cylinder head screw | M10 | Tightening sequence: Tighten diagonally, beginning with the rear screw on the timing chain shaft. Step 1 15 Nm (11.1 lbf ft) Step 2 30 Nm (22.1 lbf ft) Step 3 45 Nm (33.2 lbf ft) Step 4 60 Nm (44.3 lbf ft) | Lubricated with engine oil |
| Oil line for oil pressure sensor | M10x1 | 10 Nm (7.4 lbf ft) | – |
| Oil pressure sensor | M10x1 | 10 Nm (7.4 lbf ft) | – |
| Plug, drain hole of water pump | M10x1 | 15 Nm (11.1 lbf ft) | – |
| Screw plug, oil channel | M10x1 | 15 Nm (11.1 lbf ft) | Loctite® 243™ |
| Screw plug, oil channel, for oil radiator | M10x1 | 15 Nm (11.1 lbf ft) | – |

| | | | |
|---|-----------|----------------------|---------------|
| Screw, unlocking of timing chain tensioner | M10x1 | 10 Nm (7.4 lbf ft) | – |
| Spark plug outside | M10x1 | 11 Nm (8.1 lbf ft) | – |
| Spark plug inside | M12x1.25 | 18 Nm (13.3 lbf ft) | – |
| Coolant temperature sensor on cylinder head | M12x1.5 | 12 Nm (8.9 lbf ft) | – |
| Oil drain plug with magnet | M12x1.5 | 20 Nm (14.8 lbf ft) | – |
| Oil pressure regulator valve plug | M12x1.5 | 20 Nm (14.8 lbf ft) | – |
| Screw plug, oil channel | M14x1.5 | 15 Nm (11.1 lbf ft) | Loctite® 243™ |
| Engine case stud | M16x1.5 | 25 Nm (18.4 lbf ft) | Loctite® 243™ |
| Rotor nut | M18x1.5 | 100 Nm (73.8 lbf ft) | – |
| Nut, engine sprocket | M20x1.5 | 80 Nm (59 lbf ft) | Loctite® 243™ |
| Nut, inner clutch hub | M20x1.5 | 100 Nm (73.8 lbf ft) | Loctite® 243™ |
| Nut, primary gear | M20LHx1.5 | 90 Nm (66.4 lbf ft) | Loctite® 243™ |
| Plug, oil screen | M20x1.5 | 15 Nm (11.1 lbf ft) | – |
| Plug, timing chain tensioner | M20x1.5 | 25 Nm (18.4 lbf ft) | – |
| Plug, oil thermostat | M24x1.5 | 15 Nm (11.1 lbf ft) | – |
| Screw in alternator cover | M24x1.5 | 8 Nm (5.9 lbf ft) | – |

22.3 Capacities

22.3.1 Engine oil

| | | | |
|------------|------------------|--|------------------------------------|
| Engine oil | 1.70 l (1.8 qt.) | Engine oil (SAE 10W/60) (00062010035) (☞ p. 184) | |
| | | Alternative engine oil | Engine oil (SAE 10W/50) (☞ p. 184) |

22.3.2 Coolant

| | | |
|---------|-------------------|---|
| Coolant | 1.20 l (1.27 qt.) | Coolant (☛ p. 183) |
| | | Coolant (mixed ready to use) (☛ p. 183) |

22.3.3 Fuel

| | | |
|-----------------------------------|-------------------|--|
| Total fuel tank capacity, approx. | 14 l (3.7 US gal) | Super unleaded (ROZ 95/RON 95/PON 91) (☛ p. 185) |
|-----------------------------------|-------------------|--|

22.4 Chassis

| | |
|----------------------------|---|
| Frame | Lattice frame made of chrome molybdenum steel tubing, powder-coated |
| Fork (Duke) | WP Suspension Up Side Down 4357 ROMA |
| Fork (Duke R) | WP Suspension 4357 ROTA SPLIT |
| Shock absorber (Duke) | WP Suspension 4618 with Pro-Lever linkage |
| Shock absorber (Duke R) | WP Suspension 4618 with Pro-Lever deflector |
| Suspension travel (Duke) | |
| Front | 135 mm (5.31 in) |
| Rear | 135 mm (5.31 in) |
| Suspension travel (Duke R) | |
| Front | 150 mm (5.91 in) |
| Rear | 150 mm (5.91 in) |
| Brake system | |
| Front | Disc brake with radially screwed four-piston brake caliper, floating brake disc |
| Rear | Disc brake with single-piston brake caliper, floating |

| | |
|---|-----------------------------|
| Brake discs - diameter | |
| Front | 320 mm (12.6 in) |
| Rear | 240 mm (9.45 in) |
| Brake discs - wear limit | |
| Front | 4.2 mm (0.165 in) |
| Rear | 4.5 mm (0.177 in) |
| Tire air pressure, solo | |
| Front | 2.0 bar (29 psi) |
| Rear | 2.0 bar (29 psi) |
| Tire air pressure with passenger / fully loaded | |
| Front | 2.0 bar (29 psi) |
| Rear | 2.2 bar (32 psi) |
| Secondary drive ratio | 16:40 |
| Chain | 5/8 x 1/4" (520) X-ring |
| Steering head angle | 63.5° |
| Wheelbase (Duke) | 1,447±15 mm (56.97±0.59 in) |
| Wheelbase (Duke R) | 1,451±15 mm (57.13±0.59 in) |
| Seat height unloaded (Duke) | 835 mm (32.87 in) |
| Seat height unloaded (Duke R) | 865 mm (34.06 in) |
| Ground clearance unloaded (Duke) | 175 mm (6.89 in) |
| Ground clearance unloaded (Duke R) | 190 mm (7.48 in) |
| Weight without fuel, approx. | 150 kg (331 lb.) |
| Maximum permissible front axle load | 150 kg (331 lb.) |
| Maximum permissible rear axle load | 220 kg (485 lb.) |
| Maximum permissible overall weight | 350 kg (772 lb.) |

| | | |
|---------|-------------|---|
| Battery | CBTX9-BS | Battery voltage: 12 V Nominal capacity: 8 Ah Maintenance-free |
| Fuse | 58011109115 | 15 A |
| Fuse | 58011109125 | 25 A |
| Fuse | 58011109130 | 30 A |
| Fuse | 75011088015 | 15 A |
| Fuse | 75011088010 | 10 A |

22.5 Electrical system

| | | |
|---------------------------------------|------------------------|-----------------|
| Headlight | H4 / socket P43t | 12 V 60/55 W |
| Parking light | W5W / socket W2.1x9.5d | 12 V 5 W |
| Instrument lights and indicator lamps | LED | |
| Turn signal (Duke) | RY10W / socket BAU15s | 12 V 10 W |
| Turn signal (Duke R) | LED | |
| Brake/tail light | LED | |
| License plate lamp | LED | |

22.6 Tires

| Front tires | Rear tires |
|--|--|
| 120/70 ZR 17 M/C 58W TL Michelin Pilot Power | 160/60 ZR 17 M/C 69W TL Michelin Pilot Power |
| Additional information is available in the Service section under: http://www.ktm.com | |

22.7 Fork

22.7.1 Duke

| | |
|--|---|
| Fork part number | 05.18.7L.19 |
| Fork | WP Suspension Up Side Down 4357 ROMA |
| Spring rate | |
| Medium (standard) | 6.0 N/mm (34.3 lb/in) |
| Fork length | 816 mm (32.13 in) |
| Fork oil per fork leg | 480 ml (16.23 fl. oz.) |
| Fork oil (SAE 4) (48601166S1) (☛ p. 185) | |

22.7.2 Duke R

| | |
|---------------------|--------------------------------------|
| Fork part number | 05.18.8M.11 |
| Fork | WP Suspension 4357 ROTA SPLIT |
| Compression damping | |
| Comfort | 17 clicks |
| Standard | 12 clicks |
| Sport | 7 clicks |

| | |
|--|-------------------------|
| Full payload | 7 clicks |
| Rebound damping | |
| Comfort | 17 clicks |
| Standard | 12 clicks |
| Sport | 7 clicks |
| Full payload | 7 clicks |
| Spring length with preload spacer(s) | 303 mm (11.93 in) |
| Spring rate | |
| Medium (standard) | 6.5 N/mm (37.1 lb/in) |
| Air chamber length | 80±20 mm (3.15±0.79 in) |
| Fork length | 831 mm (32.72 in) |
| Fork oil per fork leg | 534 ml (18.05 fl. oz.) |
| Fork oil (SAE 4) (48601166S1) (🔍 p. 185) | |

22.8 Shock absorber

22.8.1 Duke

| | |
|----------------------------|---|
| Shock absorber part number | 01.18.7L.19 |
| Shock absorber | WP Suspension 4618 with Pro-Lever linkage |
| Spring preload | |
| Standard | 4 clicks |
| Static sag | 20 mm (0.79 in) |
| Riding sag | 45 mm (1.77 in) |
| Fitted length | 364 mm (14.33 in) |

22.8.2 Duke R

| | |
|---------------------------------|---|
| Shock absorber part number | 15.18.7M.11 |
| Shock absorber | WP Suspension 4618 with Pro-Lever deflector |
| Compression damping, high-speed | |
| Comfort | 2 turns |
| Standard | 1.5 turns |
| Sport | 1 turn |
| Full payload | 1 turn |
| Compression damping, low-speed | |
| Comfort | 20 clicks |
| Standard | 15 clicks |
| Sport | 10 clicks |
| Full payload | 10 clicks |
| Rebound damping | |
| Comfort | 20 clicks |
| Standard | 15 clicks |
| Sport | 10 clicks |
| Full payload | 10 clicks |
| Spring preload | |
| Comfort | 11 mm (0.43 in) |
| Standard | 11 mm (0.43 in) |
| Sport | 11 mm (0.43 in) |
| Full payload | 11 mm (0.43 in) |
| Spring rate | |

| | |
|----------------------|--|
| Soft | 70 N/mm (400 lb/in) |
| Medium (standard) | 75 N/mm (428 lb/in) |
| Spring length | 185 mm (7.28 in) |
| Gas pressure | 10 bar (145 psi) |
| Static sag | 25 mm (0.98 in) |
| Riding sag | 60... 65 mm (2.36... 2.56 in) |
| Fitted length | 370 mm (14.57 in) |
| Shock absorber fluid | Shock absorber oil (SAE 2.5) (50180342S1) (🔧 p. 185) |

22.9 Chassis tightening torques

| | | | |
|--|------|----------------------|---------------|
| Screw, combination instrument | EJOT | 1 Nm (0.7 lbf ft) | – |
| Screw, headlight | EJOT | 2 Nm (1.5 lbf ft) | – |
| Screw, headlight mask | EJOT | 1 Nm (0.7 lbf ft) | – |
| Screw, side stand switch | M4 | 2 Nm (1.5 lbf ft) | Loctite® 243™ |
| Remaining screws, chassis | M5 | 5 Nm (3.7 lbf ft) | – |
| Retaining clamp, brake line | M5 | 3 Nm (2.2 lbf ft) | – |
| Screw, air filter box | M5 | 3 Nm (2.2 lbf ft) | – |
| Screw, cable on starter motor | M5 | 3 Nm (2.2 lbf ft) | – |
| Screw, foot brake lever stub (Duke) | M5 | 6 Nm (4.4 lbf ft) | Loctite® 243™ |
| Screw, fuel level sensor | M5 | 3 Nm (2.2 lbf ft) | – |
| Screw, fuel pump | M5 | 4 Nm (3 lbf ft) | – |
| Screw, heat guard | M5 | 5 Nm (3.7 lbf ft) | Loctite® 243™ |
| Screw, light switch mount and emergency OFF switch | M5 | 3.5 Nm (2.58 lbf ft) | – |

| | | | |
|--|----|----------------------|----------------------|
| Screw, plastic clamp of brake line on fork leg | M5 | 2 Nm (1.5 lbf ft) | – |
| Screw, pressure regulator | M5 | 4 Nm (3 lbf ft) | – |
| Bolt, headlight mask | M6 | 6.3 Nm (4.65 lbf ft) | Loctite® 243™ |
| Chain guard | M6 | 4 Nm (3 lbf ft) | Loctite® 243™ |
| Double-sided grub screw | M6 | 6 Nm (4.4 lbf ft) | Loctite® 243™ |
| Nut, push rod, foot brake lever | M6 | 6 Nm (4.4 lbf ft) | – |
| Remaining nuts, chassis | M6 | 10 Nm (7.4 lbf ft) | – |
| Remaining screws, chassis | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, ball joint of push rod on foot brake cylinder | M6 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, battery terminal | M6 | 2 Nm (1.5 lbf ft) | – |
| Screw, brake fluid reservoir of rear brake | M6 | 5 Nm (3.7 lbf ft) | – |
| Screw, chain sliding guard | M6 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, control unit holder | M6 | 3 Nm (2.2 lbf ft) | – |
| Screw, exhaust pipe clamp | M6 | 8 Nm (5.9 lbf ft) | Copper paste |
| Screw, foot brake cylinder | M6 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, foot brake lever stub (Duke R) | M6 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, fuel spoiler | M6 | 3 Nm (2.2 lbf ft) | – |
| Screw, lower radiator bracket | M6 | 5 Nm (3.7 lbf ft) | – |
| Screw, magnetic holder on side stand | M6 | 10 Nm (7.4 lbf ft) | Loctite® 243™ |
| Screw, seat lock | M6 | 10 Nm (7.4 lbf ft) | Loctite® 222 |
| Screw, tail light cover | M6 | 8 Nm (5.9 lbf ft) | – |
| Screw, voltage regulator | M6 | 8 Nm (5.9 lbf ft) | – |
| Shift rods, nut | M6 | 6 Nm (4.4 lbf ft) | – |

| | | | |
|---|-------|--|----------------------|
| Shift rods, nut | M6LH | 6 Nm (4.4 lbf ft) | – |
| Main silencer holder (Duke R) | M8x40 | 25 Nm (18.4 lbf ft) | – |
| Main silencer holder (Duke R) | M8x60 | 25 Nm (18.4 lbf ft) | – |
| Nut, manifold on cylinder head | M8 | 20 Nm (14.8 lbf ft) | Copper paste |
| Nut, rear sprocket screw | M8 | 35 Nm (25.8 lbf ft) | Loctite® 2701 |
| Remaining nuts, chassis | M8 | 25 Nm (18.4 lbf ft) | – |
| Remaining screws, chassis | M8 | 25 Nm (18.4 lbf ft) | – |
| Screw, bottom triple clamp | M8 | 12 Nm (8.9 lbf ft) | – |
| Screw, exhaust system | M8 | 25 Nm (18.4 lbf ft) | – |
| Screw, footrest bracket, rear | M8x30 | 25 Nm (18.4 lbf ft) | Loctite® 243™ |
| Screw, footrest bracket, rear | M8x50 | 25 Nm (18.4 lbf ft) | Loctite® 243™ |
| Screw, fork stub | M8 | 15 Nm (11.1 lbf ft) | – |
| Screw, front brake disc | M8 | 30 Nm (22.1 lbf ft) | Loctite® 243™ |
| Screw, front footrest bracket | M8 | 25 Nm (18.4 lbf ft) | Loctite® 243™ |
| Screw, handlebar clamp | M8 | 20 Nm (14.8 lbf ft) | – |
| Screw, handrail | M8x30 | Countersunk screw 18 Nm (13.3 lbf ft) | Loctite® 243™ |
| Screw, handrail | M8x20 | Countersunk screw 25 Nm (18.4 lbf ft) | Loctite® 243™ |
| Screw, handrail | M8x45 | Countersunk screw 45 Nm (33.2 lbf ft) | Loctite® 243™ |
| Screw, handrail, cover | M8x20 | 18 Nm (13.3 lbf ft) | Loctite® 243™ |
| Screw, ignition lock (tamper-proof screw) | M8 | | Loctite® 243™ |
| Screw, license plate holder | M8 | 18 Nm (13.3 lbf ft) | Loctite® 243™ |

| | | | |
|---|----------|----------------------|---------------|
| Screw, linkage bracket, front engine fixing arm | M8 | 25 Nm (18.4 lbf ft) | Loctite® 243™ |
| Screw, main silencer clamp (Duke R) | M8 | 15 Nm (11.1 lbf ft) | – |
| Screw, main silencer fixation | M8 | 25 Nm (18.4 lbf ft) | – |
| Screw, rear brake disc | M8 | 30 Nm (22.1 lbf ft) | Loctite® 243™ |
| Screw, side stand bracket | M8 | 25 Nm (18.4 lbf ft) | Loctite® 243™ |
| Screw, spring holder on side stand bracket | M8 | 25 Nm (18.4 lbf ft) | Loctite® 243™ |
| Screw, top triple clamp | M8 | 17 Nm (12.5 lbf ft) | – |
| Engine carrying screw | M10 | 45 Nm (33.2 lbf ft) | Loctite® 243™ |
| Remaining nuts, chassis | M10 | 45 Nm (33.2 lbf ft) | – |
| Remaining screws, chassis | M10 | 45 Nm (33.2 lbf ft) | – |
| Screw, foot brake lever | M10 | 25 Nm (18.4 lbf ft) | – |
| Screw, handlebar support | M10 | 20 Nm (14.8 lbf ft) | – |
| Screw, side stand | M10 | 35 Nm (25.8 lbf ft) | Loctite® 243™ |
| Screw, subframe | M10 | 45 Nm (33.2 lbf ft) | Loctite® 243™ |
| Banjo bolt, brake line | M10x1 | 22 Nm (16.2 lbf ft) | – |
| Banjo bolt, pressure modulator | M10x1 | 20 Nm (14.8 lbf ft) | – |
| Screw, bottom shock absorber | M10x1.25 | 50 Nm (36.9 lbf ft) | Loctite® 243™ |
| Screw, front brake caliper | M10x1.25 | 45 Nm (33.2 lbf ft) | Loctite® 243™ |
| Screw, top shock absorber | M10x1.25 | 50 Nm (36.9 lbf ft) | Loctite® 243™ |
| Lambda sensor | M12x1.25 | 25 Nm (18.4 lbf ft) | – |
| Nut, frame to linkage lever | M14x1.5 | 100 Nm (73.8 lbf ft) | – |
| Nut, linkage lever on swingarm | M14x1.5 | 100 Nm (73.8 lbf ft) | – |
| Nut, linkage lever to rocker arm | M14x1.5 | 100 Nm (73.8 lbf ft) | – |

| | | | |
|------------------------------------|---------|----------------------|---|
| Nut, swingarm pivot | M16x1.5 | 100 Nm (73.8 lbf ft) | – |
| Screw, steering head | M20x1.5 | 40 Nm (29.5 lbf ft) | – |
| Adjusting ring of swingarm bearing | M24x1.5 | 25 Nm (18.4 lbf ft) | – |
| Screw, front wheel spindle | M24x1.5 | 45 Nm (33.2 lbf ft) | – |
| Nut, rear wheel spindle | M25x1.5 | 90 Nm (66.4 lbf ft) | – |
| Nut, steering head | M28x1 | 12 Nm (8.9 lbf ft) | – |

Brake fluid DOT 4 / DOT 5.1

According to

- DOT

Guideline

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

Supplier

Castrol

- **RESPONSE BRAKE FLUID SUPER DOT 4**

Motorex®

- **Brake Fluid DOT 5.1**

Coolant

Guideline

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

Mixture ratio

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

Coolant (mixed ready to use)

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

Supplier

Motorex®

- **COOLANT G48**

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

According to

- JASO T903 MA (☛ p. 189)
- SAE (☛ p. 189) (SAE 10W/60)
- KTM LC4 2007+

Guideline

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

Synthetic engine oil

Supplier

Motorex®

- **Cross Power 4T**

Engine oil (SAE 10W/50)

According to

- JASO T903 MA (☛ p. 189)
- SAE (☛ p. 189) (SAE 10W/50)

Guideline

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

Fully synthetic engine oil

Supplier

Motorex®

- **Power Synt 4T**

Fork oil (SAE 4) (48601166S1)

According to

- SAE (☛ p. 189) (SAE 4)

Guideline

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

Hydraulic fluid (15)

According to

- ISO VG (15)

Guideline

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

Supplier

Motorex®

- Hydraulic Fluid 75

Shock absorber oil (SAE 2.5) (50180342S1)

According to

- SAE (☛ p. 189) (SAE 2.5)

Guideline

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

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

According to

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

Guideline

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



Info

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

Chain cleaner

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Chain Clean**

Chain lube for road use

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Chainlube Road**

Cleaning and preserving materials for metal, rubber and plastic

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Protect & Shine**

High-luster polish for paint

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Moto Polish**

Long-life grease

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Bike Grease 2000**

Motorcycle cleaner

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Moto Clean 900**

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

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Clean & Polish**

Universal oil spray

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Joker 440 Synthetic**

JASO T903 MA

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

SAE

The SAE viscosity classes were defined by the Society of Automotive Engineers and are used for classifying oils according to their viscosity. The viscosity describes only one property of oil and says nothing about quality.

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KTM-Sportmotorcycle AG
5230 Mattighofen/Austria
<http://www.ktm.com>



Photo: Mitterbauer/KTM