OWNER'S MANUAL 2027

READY TO RACE

FREERIDE E

ITEM NO.: 3240393EN



Dear KTM customer,

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

We hope you enjoy your bike and have a safe journey at all times!

Read through this owner's manual carefully, always exercise caution when using the vehicle, and contact an authorized contractual partner if you have any questions.

This Owner's Manual serves as a technical instruction manual, explains important safety matters, and provides an overview of the main functions. This Owner's Manual is only intended for personal use. This Owner's Manual is not intended for commercial use.

The owner's manual contained the latest information for this model series at the time of publication. Slight deviations resulting from continuing development and design of the motorcycles cannot, however, be completely excluded.

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1.1 Conventions

1.1.1 Icons

✓	Indicates a desired result (e.g. of a work step or a function).
✗	Indicates an undesired result (e.g. of a work step or a function).
	All work marked with this symbol requires specialist knowledge and technical understanding. Ensure that this work is carried out or supervised by trained personnel from an authorized contractual partner, and that any special tools required are used.
	Indicates a page reference.
	Indicates information with more details.
	Indicates a tip, e.g. to simplify work.
»	Indicates the result from a test step.
	Indicates the end of an activity, including any rework.

1.1.2 Formatting

Proprietary name	Indicates a proprietary name.
Name ®	Indicates a protected name.
Brand ™	Indicates a brand available on the open market.
Underlined terms	Refer to technical details of the vehicle or indicate technical terms that are explained in the glossary.

1.1.3 Abbreviations

2–pc.	two-part
Part no.	Part number
or	respectively
approx.	circa
etc.	et cetera
poss.	possibly/possible
if necessary	if necessary
cmpl.	complete
min.	at least
no.	number
no fig.	no figure
s.	see
among others	among others/not limited to
and the like	and the like
etc.	et cetera
cf.	compare
e.g.	for example

2.1 Safety instructions

Function of the safety instruction

Safety instruction brings attention to dangers when handling the product. Hazards are classified, named, described, and supplemented with information on how to avoid them.

- If there is a safety instruction before a list of instructions, the danger exists throughout the entire activity.
- If there is a safety instruction immediately before an instruction, the next step presents a danger.

Safety instruction layout

All safety instructions are identified by a signal word and a warning symbol. The combination of signal word and warning symbol determines the degree of danger.



DANGER
Indicates an imminent danger that leads to serious injury or death.



WARNING
Indicates a potentially imminent danger that could lead to serious injury or death.



CAUTION
Indicates a potentially imminent danger that can lead to minor or slight injuries.



NOTE
Indicates a situation that can lead to damage to the product or the product environment.



NOTE
Indicates a situation that can lead to environmental damage.

2.2 Ban on tampering

Modifying the vehicle is prohibited, as otherwise safe operation cannot be guaranteed.

Examples of prohibited tampering

- Opening the rechargeable lithium-ion battery (Powerpack) or the motor.
- Using the vehicle or the rechargeable lithium-ion battery (Powerpack) when proper maintenance has not been performed.
- Using the vehicle or the rechargeable lithium-ion battery (Powerpack) outside of its defined use.
- Using a damaged lithium-ion battery (Powerpack).

2.3 Safe use



DANGER

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

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



DANGER

Risk of injury When the electric motorcycle is turned on, even slight or unintentional twisting of the throttle can cause the motorcycle to accelerate immediately.

– Make sure the vehicle is turned off or is ready to operate before touching the throttle.
– Always keep your hands and any objects away from the throttle while the motorcycle is running.
– Make sure the vehicle is turned off when you are not riding it.
– When stopping or parking the vehicle, make sure the main switch/emergency OFF switch or the ignition is turned off at the ignition lock.

WARNING

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

– Do not touch any parts such as the radiator, motor, shock absorber, or brake system before these parts have cooled down.
– Allow the vehicle parts to cool down before performing any work on the vehicle.

This vehicle is an electric motorcycle. For this reason, follow the safety and care instructions that apply when using an electric motor.

In drive modes in which recuperation is not possible, the vehicle handles similarly to a bicycle with a freewheel. When the throttle grip is closed, the vehicle continues rolling without significant deceleration. The vehicle speed decreases on account of rolling resistance and air resistance.

The rear brake lever is located on the left side of the handlebar. Because this vehicle does not have a manual transmission, there is no clutch.

As with all liquid-cooled vehicles, the operating temperature rises according to use, ambient temperature and cleanliness of the cooling surfaces. If the temperature of the motor, the lithium-ion battery, or the electronics rises above the permissible operating temperature, the power of the vehicle will be reduced considerably. This protects the system against damage from overheating. If power reduction is active, the combination instrument displays the power reduction. When all components have returned to their normal operating temperature, full system power is restored.

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.

Have malfunctions that impair safety promptly eliminated by an authorized contractual partner.

Adhere to the information and warning labels on the vehicle.

2.4 Fall or accident

WARNING

Risk of injury The housing of a damaged rechargeable lithium-ion battery may be live.

– Contact the vehicle manufacturer's customer service immediately if the lithium ion accumulator is severely damaged.

If the vehicle is lying on its side, it switches from ready mode to standby mode after seven seconds. To switch the vehicle back into ready mode, place it in an upright position and press the start button.

After a fall or accident, check the vehicle as usual when preparing for use.

2.5 Protective clothing

WARNING

Risk of injury Missing or inadequate protective clothing increases the risk of injury.

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

2.6 Work on the vehicle, motor, and lithium-ion battery (Powerpack)

WARNING

Risk of injury The vehicle runs quietly, even when it is ready to operate.

The vehicle starts moving in an uncontrolled manner if the throttle grip is accidentally touched while work is being performed on the vehicle.

The high-voltage components of the vehicle are only deactivated if the vehicle is switched off at the main switch.

- Ensure that the vehicle is switched off at the main switch and remains switched off while any work is being performed on the vehicle.
- Remove the Powerpack from the vehicle before you start any work on the vehicle.
- Secure the vehicle against access by unauthorized persons while you are performing work on the vehicle.

WARNING

Risk of injury There is a risk of electric shock when working on live components.

Work on live components requires special training, qualifications, and tools.

- Ensure that all work that is not described and explained is only carried out by specialists who have completed the necessary training.
- Do not open the electric motor or the lithium-ion accumulator.

Unless specified otherwise, the ignition must be switched off during all work (models with ignition lock, models with transponder key) or the engine must be at a standstill (models without ignition lock or transponder key).

Special tools are required for some work. The tools are not part of the vehicle, but can be ordered using the number in parentheses. Example: bearing puller (15112017000)

Unless otherwise noted, normal conditions apply to all tasks and descriptions.

Ambient temperature	20 °C (68.0 °F)
Ambient air pressure	1,013 mbar (14.69 psi)
Relative air humidity	60 ±5 %

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

A thread lock (e.g. **Loctite®**) is required for some screw connections. Observe the manufacturer's specific instructions for use.

If thread lock (e.g. **Precote®**) has already been applied to a new part, do not apply any additional thread lock.

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

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

2.7 Environment

Handling the vehicle responsibly reduces the risk of conflict with other road users and the surrounding area. The future of motorcycling also depends on using motorcycles legally, being environmentally conscious and respecting the rights of others.

When disposing of used oil, other operating and auxiliary fluids, and used components, the laws and regulations of the respective country must be observed.

As motorcycles are not subject to the EU regulations governing the disposal of end-of-life vehicles, there are no legal regulations that pertain to the disposal of an end-of-life motorcycle. More information is available from the authorized contractual partner.

2.8 Owner's manual

Read this owner's manual carefully and in full before riding off for the first time. The owner's manual contains information and tips on how to operate, handle, and service your vehicle, as well as advice on optimum tuning and how to avoid injuries.

Tip
Save this owner's manual on your smartphone, for example, so that you can access it at any time.

An authorized contractual partner will be happy to assist you if you are unsure.

The owner's manual is an important component of the vehicle. If the vehicle is sold, the owner's manual must be downloaded again by the new owner.

The owner's manual can be downloaded multiple times using the QR code or the link on the delivery certificate.

The owner's manual is also available for download from your authorized contractual partner and on the KTM website.

International KTM Website: https://www.ktm.com

A printed copy can be ordered from the following address.

Website for printed copy: https://print.ktm.com

2.9 Fire hazard

WARNING
Fire hazard Massive mechanical damage to the lithium ion accumulator can lead to a short circuit within the cell and spontaneous combustion.
– Contact the vehicle manufacturer's customer service immediately if the lithium ion accumulator is severely damaged.

There is no particular fire hazard for this vehicle when the rechargeable lithium-ion battery (Powerpack) is intact.

However, should the vehicle catch fire, inform the fire department responsible that an electric vehicle with a rechargeable lithium-ion battery is on fire.

2.10 Use definition – intended use

The vehicle is designed and constructed to withstand the usual demands of regular traffic and use on gentle terrain (unpaved roads). This vehicle is not suitable for use on race tracks.

Note
This vehicle is only authorized for operation on public roads in its homologated version.

2.11 Improper use

The vehicle may only be used as intended.

Improper use can result in danger to people, property and the environment.

Any use of the vehicle beyond the intended and defined use constitutes misuse.

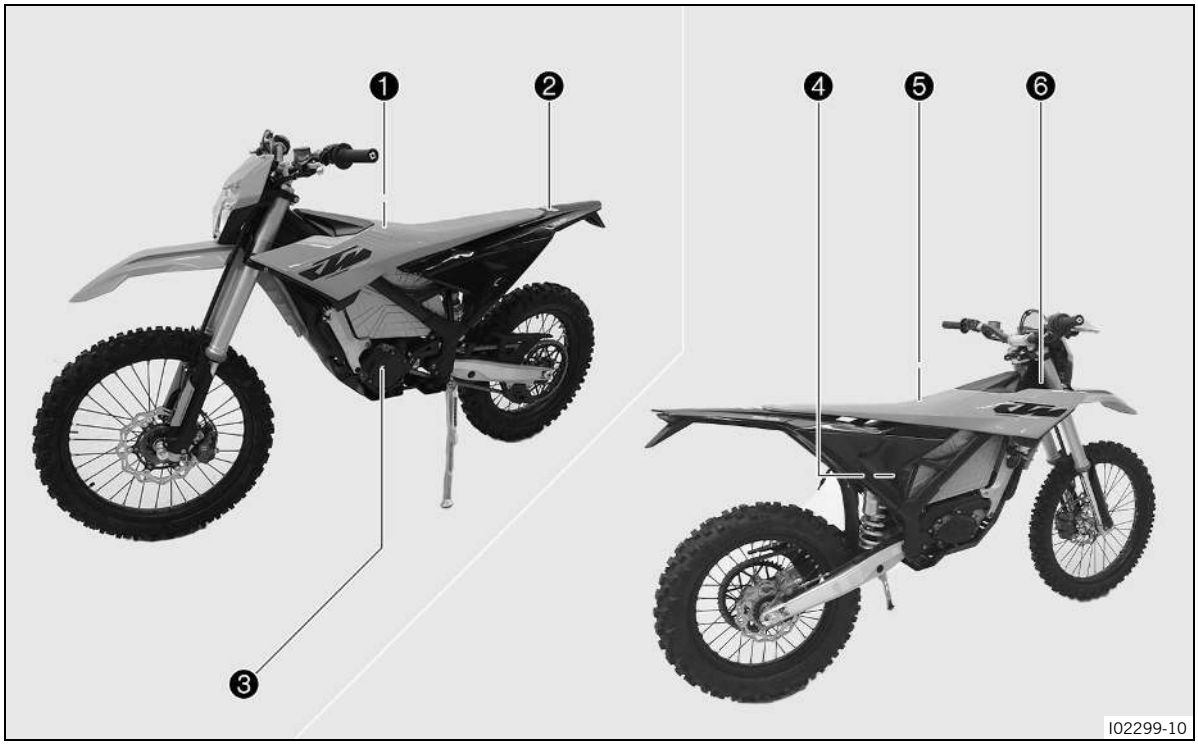
Improper use includes the use of operating and auxiliary materials that do not meet the required specifications for the respective use.

2.12 Safety markings on the motorcycle

2.12.1 Safety instructions and warning labels

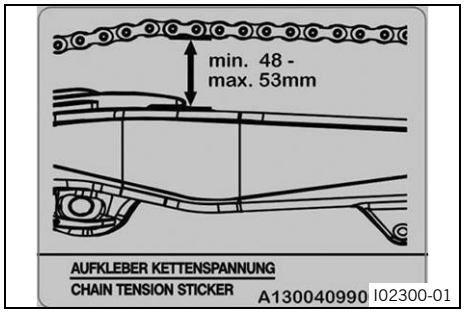
Note

The safety instructions are highlighted in the text. The vehicle has warning labels in prominent locations. Do not remove any warning labels, or else you or others may fail to recognize sources of danger and become injured.



1. Chain tension
2. Preparing for use for the first time
3. High-voltage components
4. Recycling
4. Rechargeable lithium-ion battery
5. Technical information
6. Type label for EU

2.12.2 Label in detail

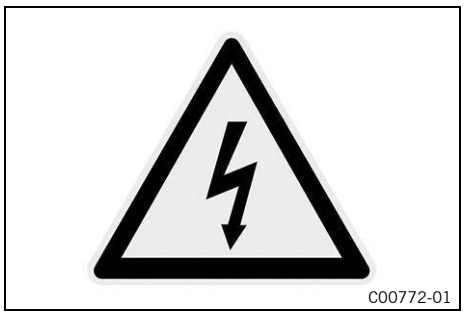


Chain tension



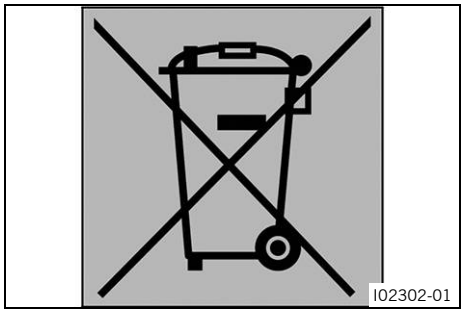
I02301-01

Preparing for use for the first time



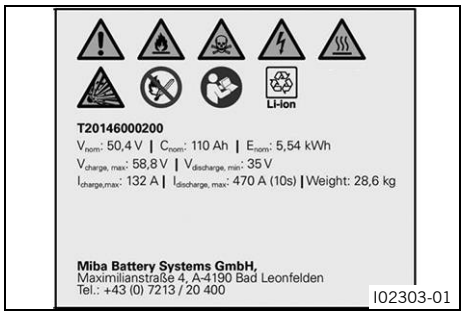
C00772-01

High-voltage components



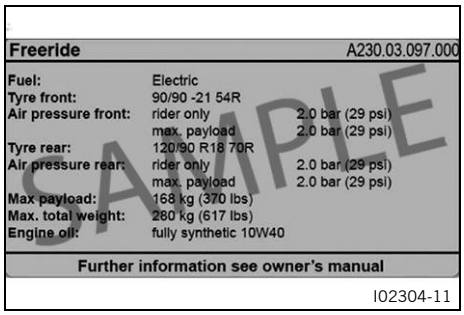
I02302-01

Recycling



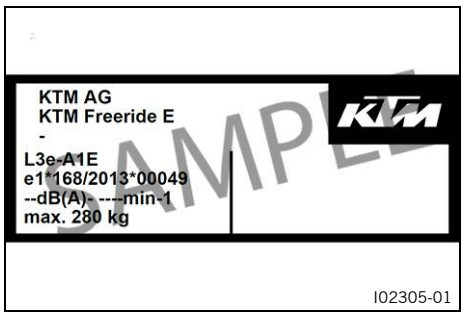
I02303-01

Rechargeable lithium-ion battery



I02304-11

Technical information



Type label for EU

3.1 Manufacturer's warranty, implied warranty

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

3.2 Auxiliary material, operating material

Use operating materials and auxiliary materials in accordance with the operating instructions and specifications.

3.3 Spare parts, accessories

For safety reasons, only spare parts and accessories approved by KTM may be used. They may only be installed by an authorized contractual partner. 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. Authorized contractual partners will be happy to help.

The current **KTM PowerParts** are listed for each vehicle on the KTM website.

International KTM Website: https://www.ktm.com

3.4 Service

A prerequisite for perfect operation and prevention of premature wear is that the service, care, and tuning work on the engine and chassis is properly carried out as described in the owner's manual. An incorrect suspension setting can lead to damage and breakage of chassis components.

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

Please adhere to the prescribed run-in times and service intervals at all times. Strictly adhering to this will ensure a much longer service life for your motorcycle.

The relevant mileage or time interval is whichever occurs first.

A list of services that have already been carried out on the vehicle can be found in the Service area on the international KTM website:

International KTM Website: https://www.ktm.com

Authorized contractual partners will be happy to answer any questions regarding the services performed.

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

3.5 Figures

Some of the figures in this document contain optional extras.

For clarity, some components may be shown disassembled or may not be shown at all. Disassembly is not always absolutely necessary in order to carry out the activities described. The textual information takes precedence.

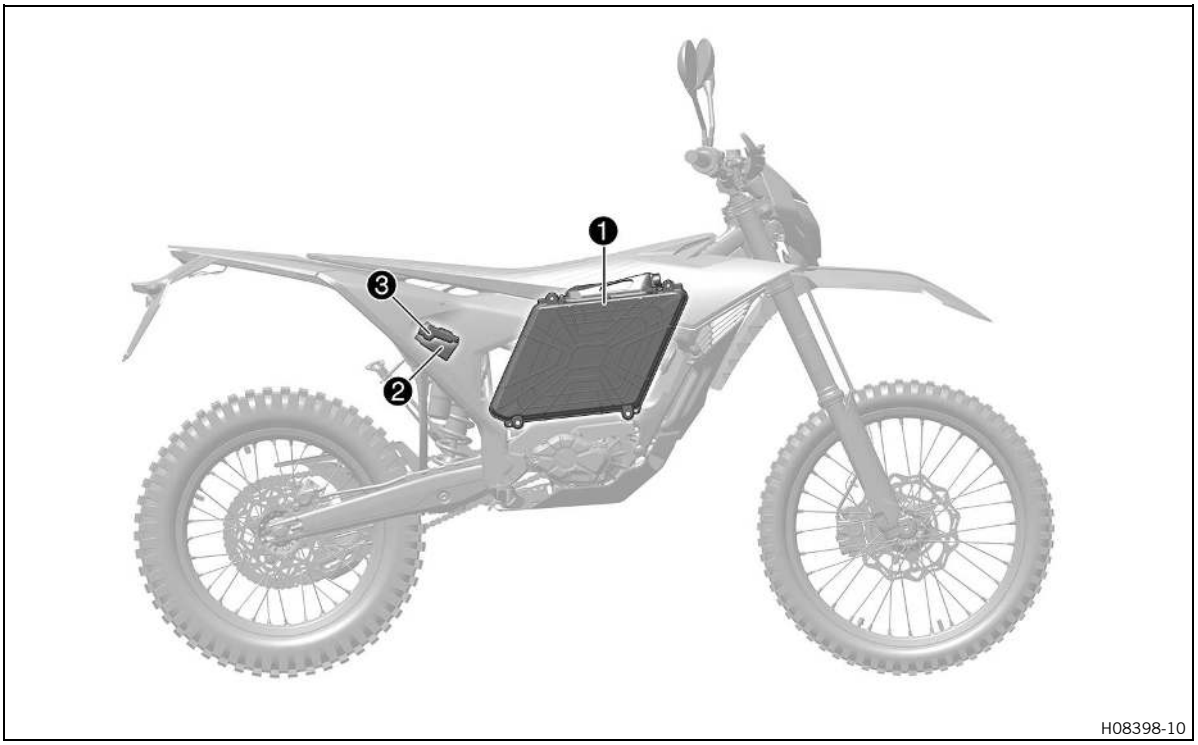
3.6 Customer service

Authorized contractual partners will be happy to answer questions about the vehicle and KTM.

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

International KTM Website: https://www.ktm.com

3.7 Voltage supply



A rechargeable lithium-ion battery ❶ (Powerpack, 50 V) and a 12 V battery ❷ are installed in the vehicle. The 12-V battery is located at the rear, under the seat. OCU ❸ is located next to the 12-V battery.

The Powerpack is located under the seat and is screwed onto the electric motor. The Powerpack can be removed in a few easy steps.

The Powerpack can be charged in the vehicle.

Check the Powerpack for damage to the housing or connector every time it is removed and reinstalled.

The 12-V battery is necessary to operate the vehicle. The vehicle control unit requires the 12-V battery to start the system. If the 12-V battery is faulty, discharged, or disconnected, the vehicle will not start.

3.8 New Powerpack

When using the Powerpack for the first time, the vehicle must be ridden until the Powerpack is completely discharged. The vehicle will initially reduce its output power. When operating in power-reduced mode, the vehicle can still be ridden for a few more minutes before it switches off.

Then charge the Powerpack until the battery charger stops charging at 100%. The charge level indicator on the vehicle shows the progress made. The charging process is only complete when the status LED flashes green, even if 100% has already been displayed on the combination instrument.

3.9 Operation at low temperatures

In order to protect the Powerpack, the motor control reduces the power at low temperatures.

When the temperature of the Powerpack drops to below 0 °C, the motor control unit reduces the power to 50%. The vehicle can be operated without any problems. The Powerpack is not damaged by the power reduction.

The Powerpack heats up when the vehicle is in operation. If the temperature of the Powerpack has risen above 0°C, the engine control unit smoothly transitions to providing full power again.

3.10 Operation at high temperatures

In order to protect the Powerpack, the engine control unit reduces the power at high temperatures.

If the Powerpack gets too hot, the engine control unit reduces the power output depending on the temperature. The combination instrument displays **Bat Hot**. The vehicle can be operated without any problems. The Powerpack is not damaged by the power reduction.

When the temperature of the Powerpack drops, the engine control unit smoothly transitions to providing full power again.

If the engine gets too hot, the engine control unit reduces the power to 50%. The combination instrument displays **Eng Hot**. The vehicle can be operated without any problems. The engine is not damaged by the power reduction.

The engine is cooled when the ignition is switched on. When the temperature of the engine drops, the engine control unit smoothly transitions to providing full power again.

Note

At very high ambient temperatures, the charging process may cause the battery to heat up to close to its maximum operating temperature. This will affect the amount of times it can be recharged.

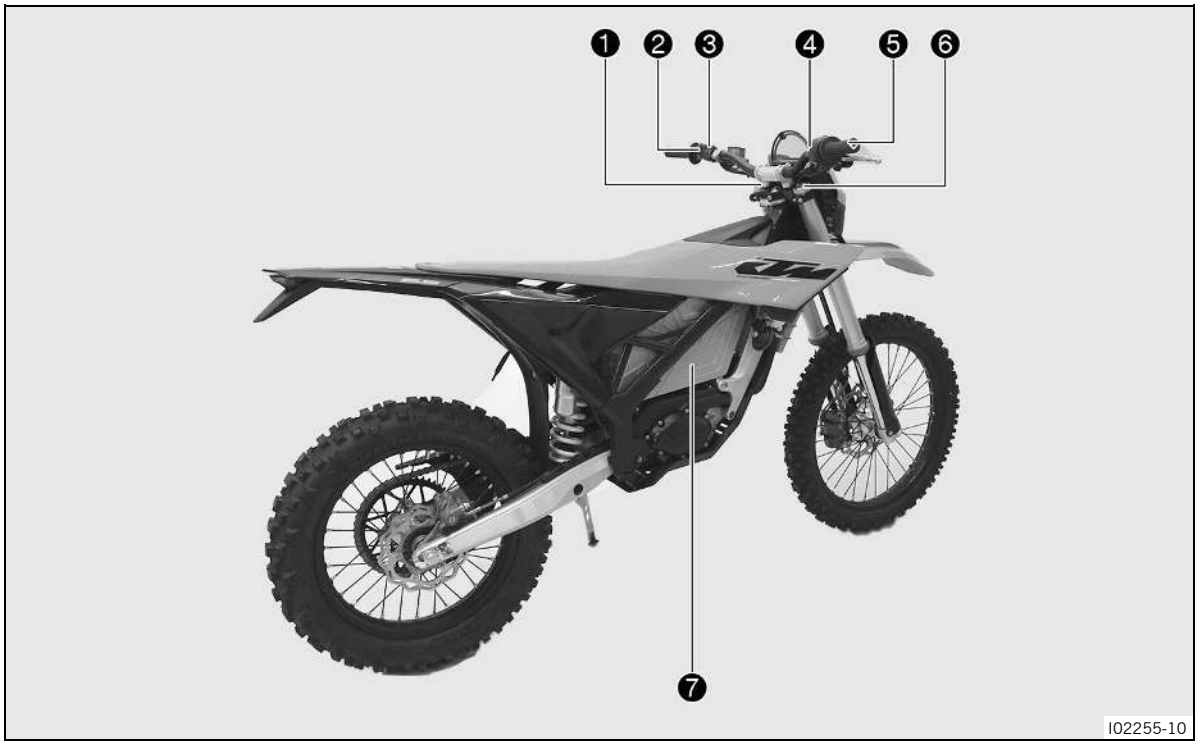
4 View of the vehicle

4.1 View of vehicle, front left (example)



1. Hand brake lever (p. 24)
2. Rear brake lever (p. 24)
3. Shock absorber compression adjustment
4. Shock absorber rebound adjustment
5. Side stand (p. 26)
6. Steering lock (p. 27)

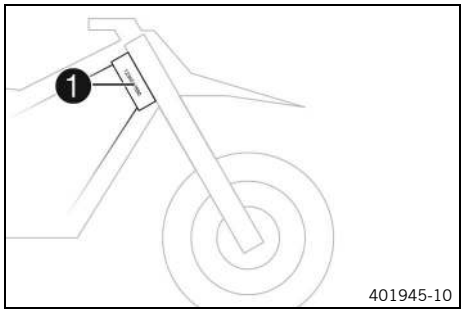
4.2 View of vehicle, rear right (example)



1. Fork compression adjustment
2. Horn button (p. 25)
2. Light switch (p. 26)
2. Turn signal switch (p. 26)
3. Combination switch (p. 28)
4. Main switch (p. 25)
4. Electric starter (p. 25)
5. Throttle grip (p. 24)
6. Fork rebound adjustment
7. PowerPack

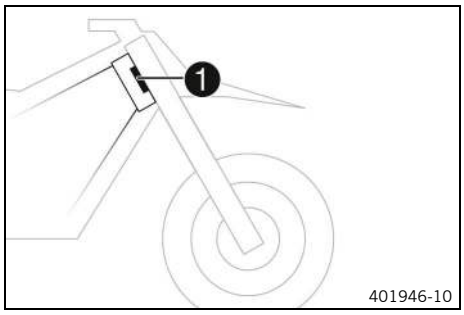
5 Serial number

5.1 Vehicle identification number



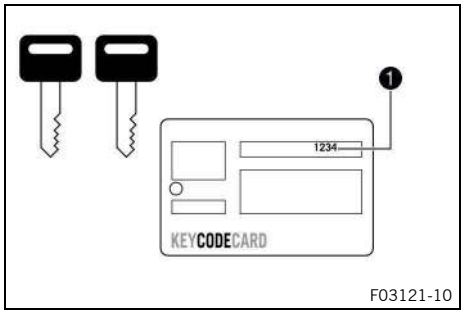
The vehicle identification number ❶ is stamped on the right side of the steering head.

5.2 Type approval label



The type label ❶ is located on the front steering head.

5.3 Key number

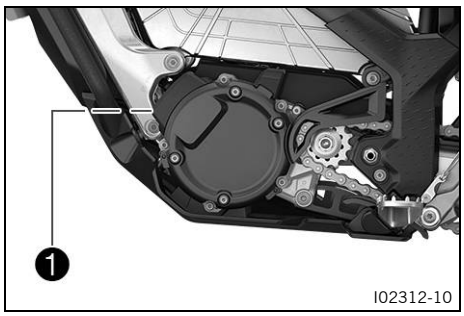


Key number ❶ for the ignition and steering lock is indicated on the key card.

Note

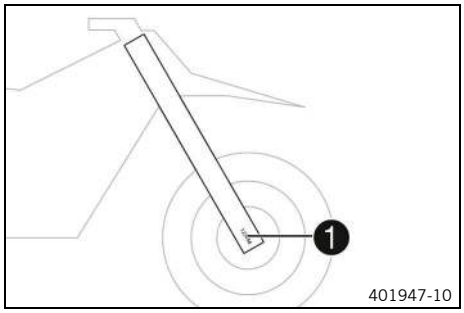
The key number is required to order a spare key and should therefore be kept in a safe place.

5.4 Engine number



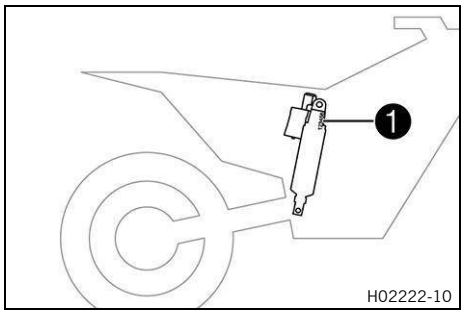
Motor number ❶ is stamped on the front of the engine.

5.5 Fork part number



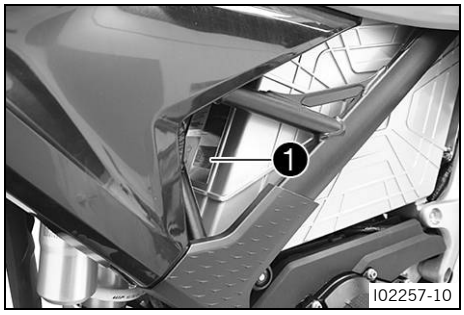
The fork article number ❶ is stamped on the inside of the axle clamp.

5.6 Shock absorber part number



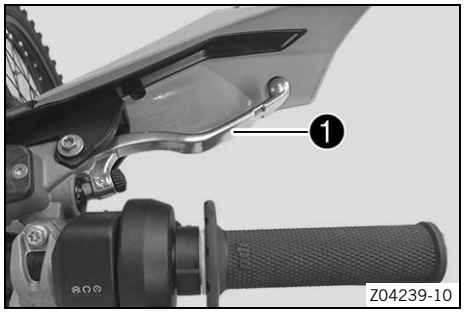
Shock absorber part number ❶ is stamped on the top of the shock absorber above the adjusting ring towards the engine side.

5.7 Battery identification number



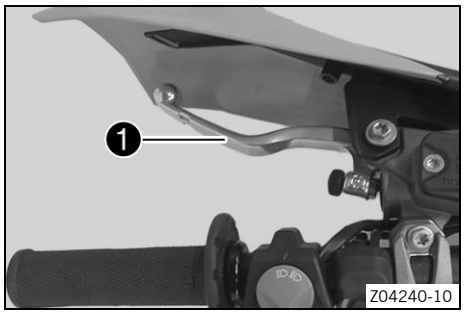
The battery identification number (**BIN**) ❶ is located on a sticker on the LV traction battery.

6.1 Hand brake lever



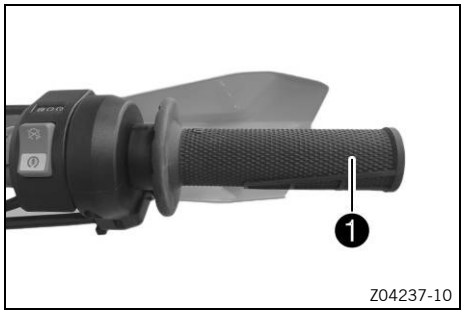
Front brake lever ❶ is fitted on the right side of the handlebar.

6.2 Rear brake lever



The rear brake lever ❶ is fitted on the left side of the handlebar.

6.3 Throttle grip



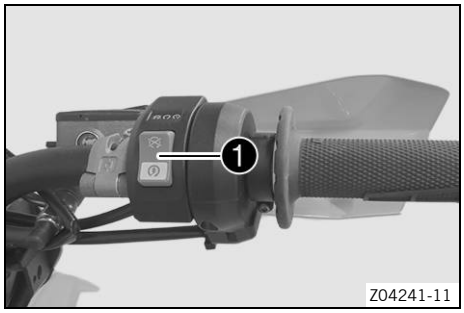
DANGER

Risk of injury When the electric motorcycle is turned on, even slight or unintentional twisting of the throttle can cause the motorcycle to accelerate immediately.

- Make sure the vehicle is turned off or is ready to operate before touching the throttle.
- Always keep your hands and any objects away from the throttle while the motorcycle is running.
- Make sure the vehicle is turned off when you are not riding it.
- When stopping or parking the vehicle, make sure the main switch/emergency OFF switch or the ignition is turned off at the ignition lock.

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

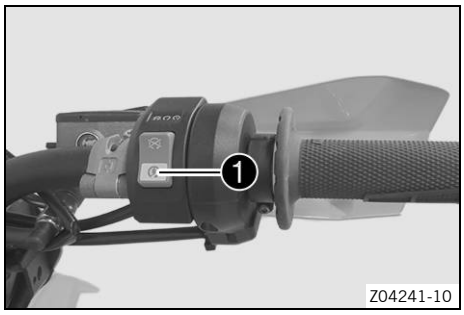
6.4 Main switch



The main switch ❶ is attached to the right side of the handlebar.
The main switch is used as the emergency OFF switch.

Condition		Meaning
	Ignition off	In this position, the vehicle is switched off.
	Ignition on	In this position, the vehicle is ready for operation. The start button is active.

6.5 Electric starter

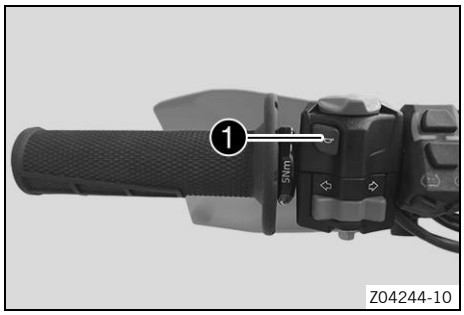


Start button ❶ is fitted on the right side of the handlebar.
The start button is only enabled when the main switch is switched on.
When the start button is pushed, the vehicle switches from standby to ready mode. The combination instrument indicates that the vehicle is ready to ride.
When the start button is pushed again, the vehicle switches back to standby mode.

Note
If the vehicle is not moved for 60 seconds after ready mode is activated and the throttle grip is not twisted open, the vehicle automatically switches back to standby mode.

Condition	Meaning
Electric starter in the basic position	The state of the vehicle is retained.
Electric starter pressed for longer than 0.5 seconds	The status of the vehicle changes from ready to operate to ready to ride.

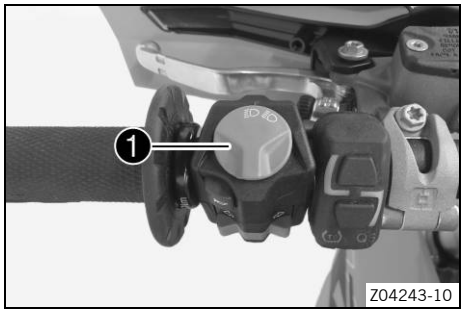
6.6 Horn button



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

Condition	Meaning
Horn buttons in the basic position	No function
Horn buttons pressed	The horn is operated in this position.

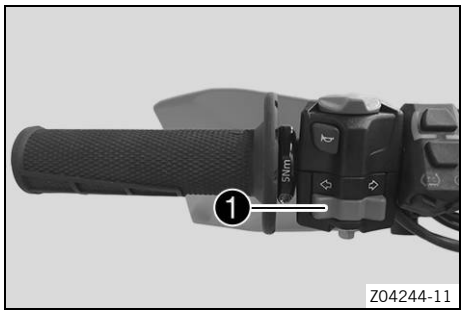
6.7 Light switch



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

Condition		Meaning
	Light switch is in the central position.	In this position, the low beam and tail light are switched on.
	Light switch is turned to the left.	In this position, the high beam and the tail light are switched on.

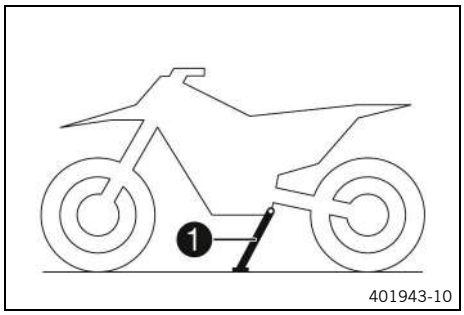
6.8 Turn signal switch



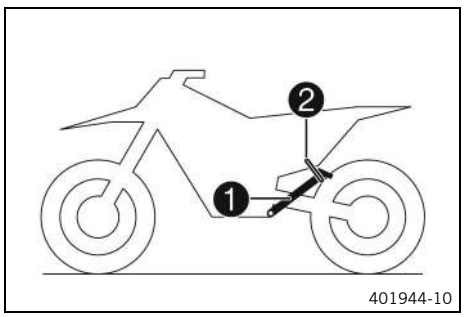
Turn signal switch ❶ is fitted on the left side of the handlebar.

Condition		Meaning
	The turn signal switch is in the central position.	Turn signal off.
	The turn signal switch is turned to the left.	Left turn signal on.
	The turn signal switch is turned to the right.	Right turn signal on.

6.9 Side stand



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

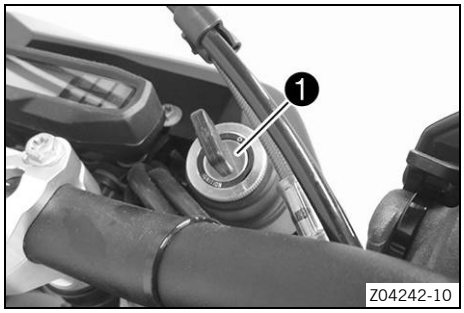


The side stand is used for parking the motorcycle.

Note

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

6.10 Ignition lock

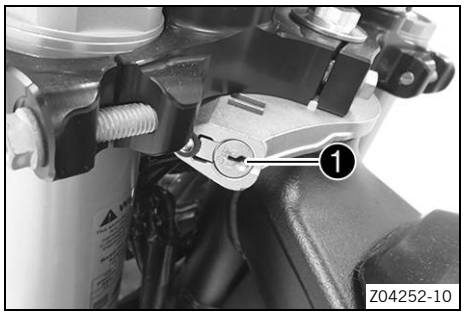


The ignition lock ❶ is on the right behind the headlight mask.

Note
Activate the vehicle with the main switch as soon as the ignition is switched on at the ignition lock.

Condition		Meaning
⊗	Ignition off	In this position, the electric circuit of the 12-V battery is interrupted and the vehicle cannot be activated.
○	Ignition on	In this position, the electric circuit of the 12-V battery is closed and the vehicle can be started.

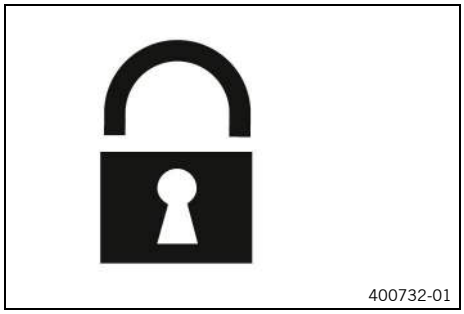
6.11 Steering lock



Steering lock ❶ is fitted on the left side of the steering head.
The steering lock is used to lock the steering. Steering and riding is then no longer possible.

6.12 Locking the steering

NOTE
Material damage The vehicle may be damaged if parked incorrectly.
Damage can occur if the vehicle rolls away or falls over.
The components for parking the vehicle are designed only for the weight of the vehicle.
– Park the vehicle on a firm and level surface.
– Make sure that nobody sits on the vehicle when it is parked on a stand.



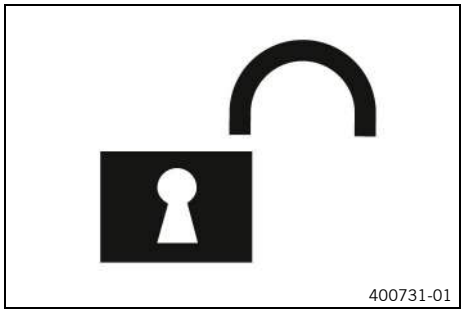
– Park the vehicle.
– Deactivate the vehicle. (p. 44)
– Turn handlebar as far as possible to the right.
– Lubricate the steering lock regularly.

Universal oil spray (p. 145)

– Insert the ignition key in the steering lock, turn it to the left, press it in, and turn it to the right. Remove the ignition key.
✓ Steering is no longer possible.

Note
Never leave the ignition key in the steering lock.

6.13 Unlocking the steering



– Insert the ignition key in the steering lock, turn it to the left, pull it out, and turn it to the right. Remove the ignition key.
✓ The handlebar can now be moved again.

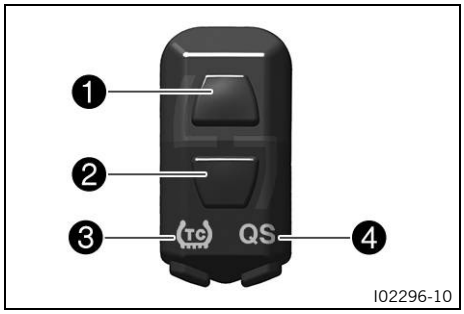
Note
Never leave the ignition key in the steering lock.

6.14 Combination switch

6.14.1 Combination switch

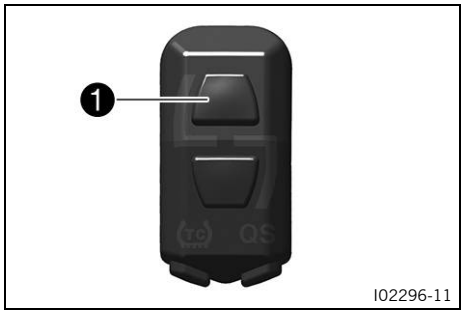
The combination switch is fitted on the left side of the handlebar.

Combination switch overview



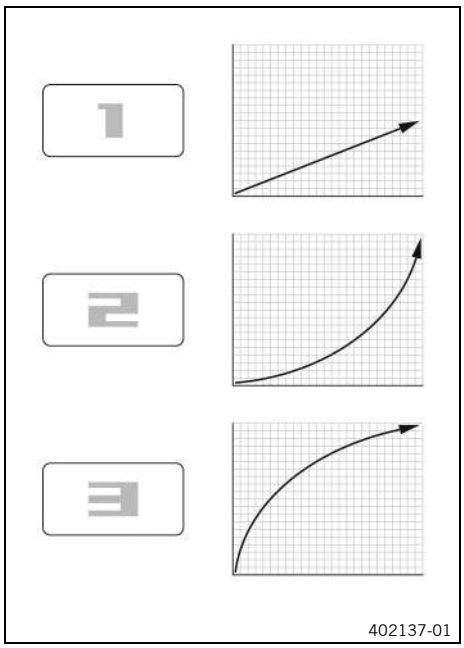
1. Map select switch (p. 28)
2. Recuperation mode button (p. 29)
3. TC button (p. 29)
4. **Quick Select** button (p. 30)

6.14.2 Map select switch



Map select switch 1 determines the ride mode.

Condition	Meaning
The vehicle is in standby mode	The map select switch is active.
The vehicle is in ready mode	The map select switch is active.
All other vehicle conditions	The map select switch is inactive.



On the combination instrument, the selected ride mode is displayed with **1**, **2**, or **3**.

Three drive modes are available. The ride modes define how the vehicle will respond to operation of the throttle grip.

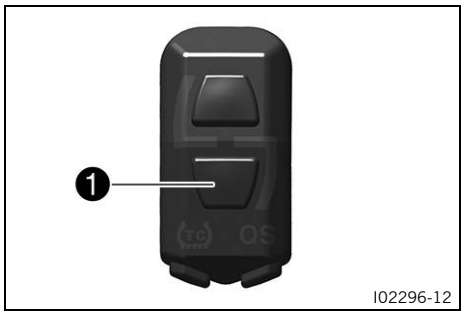
The figures contain approximate values for illustration purposes and do not show the actual response.

Ride mode **1** is Economy: The motor torque is reduced by half.

Ride mode **2** is Standard: The further the throttle grip is twisted open, the more the motor power increases.

Ride mode **3** is Advanced: The greatest increase in power occurs immediately, after which the motor power increases more slowly.

6.14.3 Recuperation mode button



Recuperation mode button ❶ determines the recuperation mode.

Condition	Meaning
The vehicle is in standby mode	The recuperation mode button is active.
The vehicle is in ready mode	The recuperation mode button is active.
All other vehicle conditions	The recuperation mode button is not active.

On the combination instrument, the selected recuperation mode is displayed with **1**, **2** or **3**.

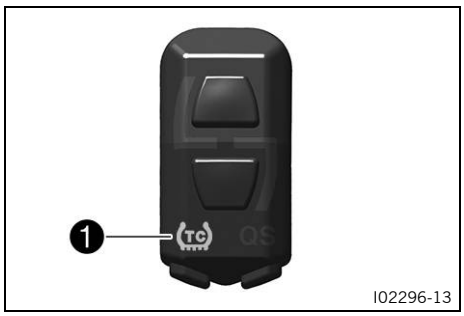
Three recuperation modes are available. The recuperation modes define how the vehicle will respond to operation of the throttle grip.

Recuperation mode **1**: Recuperation is switched off.

Recuperation mode **2**: Recuperation is at low strength.

Recuperation mode **3**: Recuperation is at high strength.

6.14.4 TC button



Traction control can be activated and deactivated using the TC button ❶ on the combination switch.

Depending on the riding mode, different amounts of slip are allowed when the traction control is activated.

Condition	Meaning
TC indicator light does not light up	Traction control deactivated
TC indicator light lights up	Traction control activated

6.14.5 Quick Select button



Press the **Quick Select** button ❶ on the combination switch to activate the saved mapping, recuperation and TC setting.

Press the **Quick Select** button ❶ for 3 seconds to save the current favorite mapping, recuperation and TC setting.

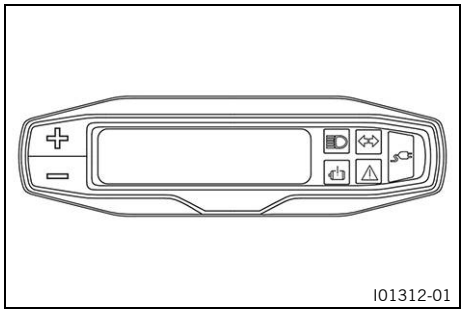
6.14.6 Power reduction

6.14.6.1 Emergency mode



A failure has been detected, and the system is now operating at 30% capacity in emergency mode.

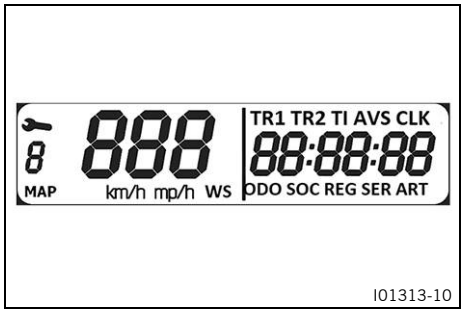
7.1 Combination instrument overview



- Press the **button** + to control different functions.
- Press the **button** — to control different functions.

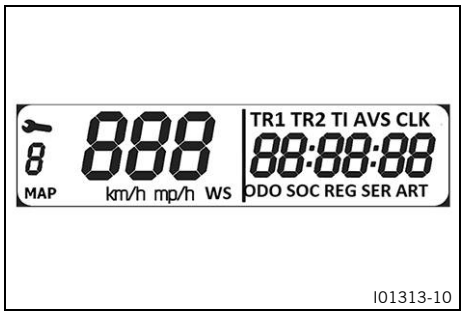
7.2 activation and testing

7.2.1 Activating the combination instrument



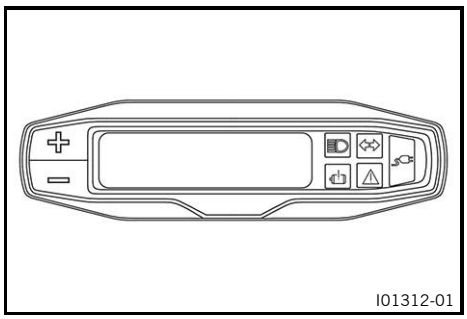
The combination instrument is activated when the ignition is switched on.

7.2.2 Display test



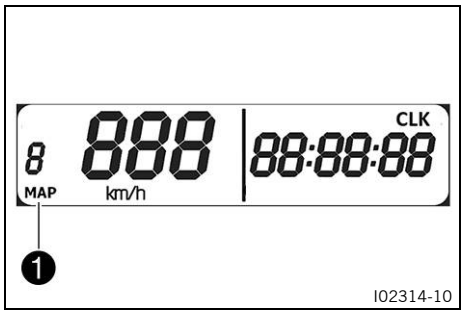
To enable you to check that the display is functioning properly, all display segments light up briefly.

7.3 indicator lamps



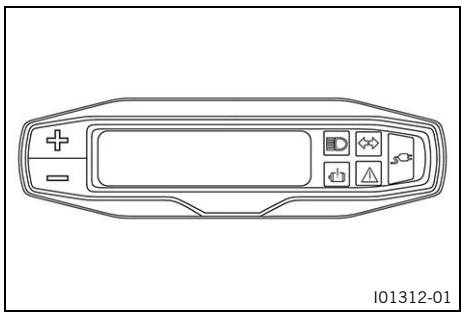
Condition		Meaning
	The high beam indicator light lights up blue.	The high beam is switched on.
	Turn signal indicator light flashes green.	The turn signal is switched on.
	Malfunction indicator lamp lights up yellow	Malfunction indicator light ❶ lights up when the vehicle is switched on and remains lit until the vehicle is switched to ready to ride status. If malfunction indicator light ❶ remains lit when the vehicle is in ready to ride status, there is a malfunction.
	The general warning light lights up yellow.	A safety warning or an error relating to non-drive-related issues has been detected.
	Charging cable indicator light lights up yellow.	Indicates that the charging cable is connected.

7.4 Mapping overview



The selected mapping ❶ is displayed on the left of the display.

7.5 Charging cable indicator light

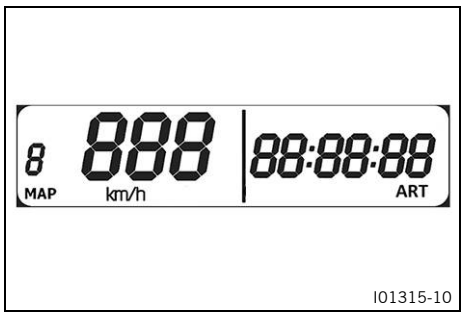


Charging cable indicator light is located on the right of the combination instrument.

Condition	Meaning
Charging cable indicator light flashes 3 times a second	Charging cable is connected. Ready to ride status cannot be activated.
Charging cable indicator light flashes once a second	Vehicle charging
Charging cable indicator light lights up	Charging complete

7.6 Cumulative riding time

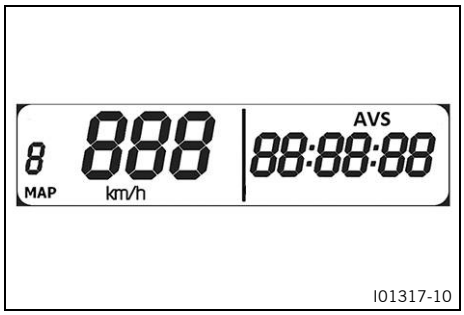
Condition: Motorcycle is stationary



– Press button + briefly until indicator **ART** appears in the bottom right of the display.
  ✓ Shows the cumulative trip time.

7.7 Average speed

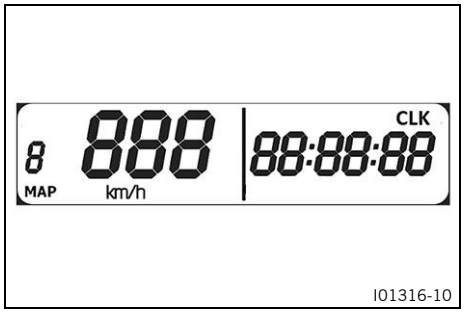
Condition: Motorcycle is stationary



– Press button + briefly until indicator **AVS** appears in the top right of the display.
  ✓ Shows the average speed of **TRIP 1**.
– Press button — for 2–3 seconds.
  ✓ Resets the average speed, **TRIP 1** and **TI**.

7.8 Setting the clock

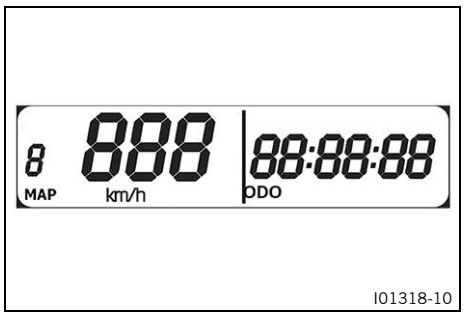
Condition: Motorcycle is stationary



– Press button + briefly until indicator **CLK** appears in the top right of the display.
  ✓ Shows the time
– Briefly press the + **button**.
  ✓ Set the clock format between 12 and 24 hours.
– Press button — for 2–3 seconds.
  ✓ The hour display flashes.
– Set the hour display using the + **button** .
– Press button — briefly.
  ✓ The next segment of the display flashes and can be set using the + **button**.
– Press button — for 2–3 seconds.
  ✓ Time settings are closed.

7.9 ODO

Condition: Motorcycle is stationary

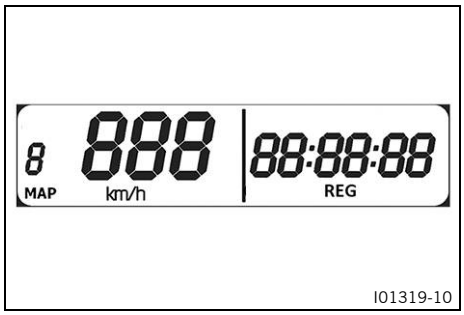


I01318-10

– Press button + briefly until indicator **ODO** appears in the bottom right of the display.
✓ Shows the total distance covered.

7.10 Recuperation mode

Condition: Motorcycle is stationary

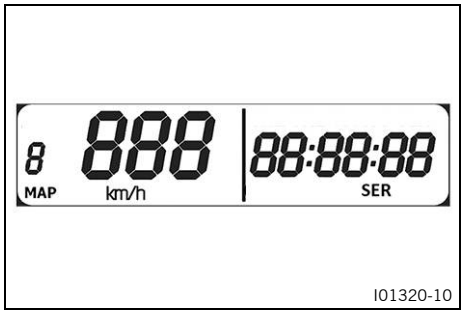


I01319-10

– Press button + briefly until indicator **REG** appears in the bottom right of the display.
✓ Shows the recuperation mapping.

7.11 Set the service.

Condition: Motorcycle is stationary

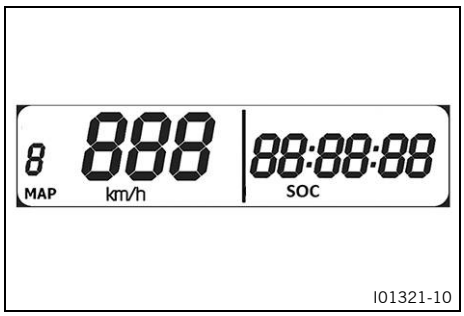


I01320-10

– Press button + briefly until indicator **SER** appears in the bottom right of the display.
– Press button — for 2–3 seconds.
– Use the + **button** to increase the hour display.
– Press button — for 2–3 seconds.
✓ Service settings are closed.

7.12 State of charge

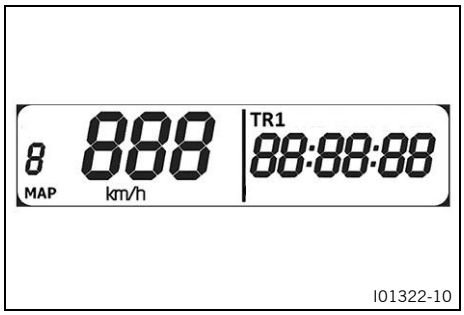
Condition: Motorcycle is stationary



– Press button + briefly until indicator **SOC** appears in the bottom right of the display.
✓ Shows the state of charge in percent.

7.13 Trip 1

Condition: Motorcycle is stationary



– Press button + briefly until indicator **TR1** appears in the top right of the display.

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

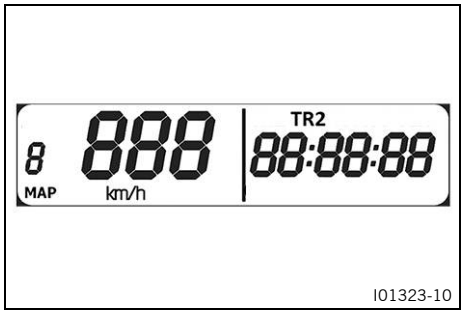
Note
If 999.9 is exceeded, value **TR1** is automatically reset to 0.0.

– Press button — for 2–3 seconds.

Note
Displays of **TR1**, **AVS** and **TI** are reset to 0.0.

7.14 Trip 2

Condition: Motorcycle is stationary



– Press button + briefly until indicator **TR2** appears in the top right of the display.

Note
TR2 (trip master 2) runs constantly and counts up to 999.9.
You can use it to measure the distance covered during trips or the distance between two charging stops.

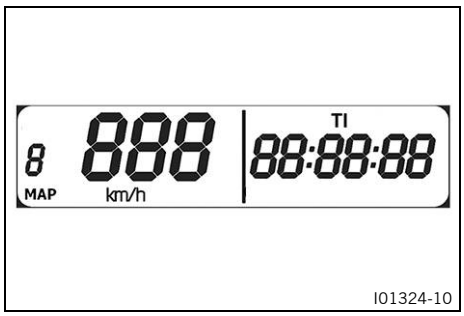
Note
If 999.9 is exceeded, value **TR2** is automatically reset to 0.0.

– Press button — for 2–3 seconds.

Note
The display of **TR2** is set to 0.0.

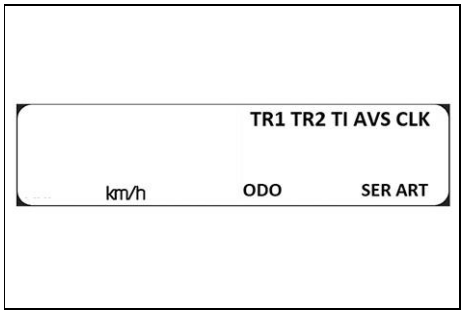
7.15 Trip time

Condition: Motorcycle is stationary



– Press button + briefly until indicator **TI** appears in the top right of the display.
– Press button — for 2–3 seconds.
  ✓ The display of **TI**, **TR1** and **AVS** is reset.

7.16 Setup menu



Condition: Motorcycle is stationary, Function **ODO** is not selected

– Press the +**button** and —**button** for 5 seconds.
– Press button + for 2–3 seconds.

The Setup menu displays the active functions.

Note

Repeatedly press the **button**— briefly until the desired function is reached.

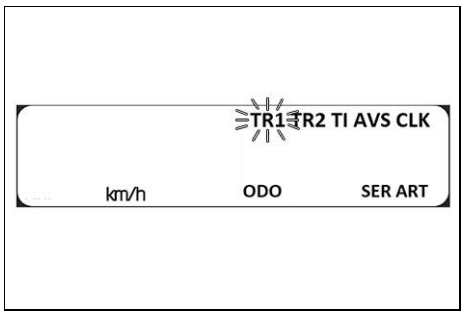
If no button is pressed for 20 seconds, the settings are automatically saved.

Fast flashing means the function is active.

Slow flashing means the function is inactive.

– Press button + briefly.	Activates or deactivates the flashing display
– Press button — briefly.	Changes to the next display

7.16.1 Trip 1

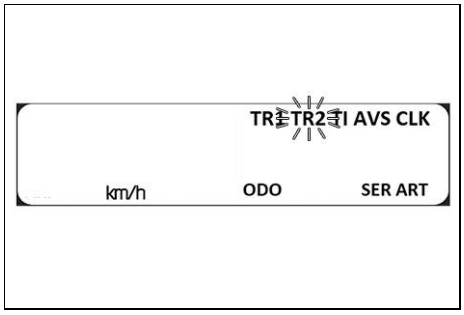


Condition: Motorcycle is stationary

– Press the +**button** and —**button** for 5 seconds.
– Press button — briefly until indicator **TR1** appears in the top right of the display.

Activated or deactivated **TR1**.

7.16.2 Trip 2

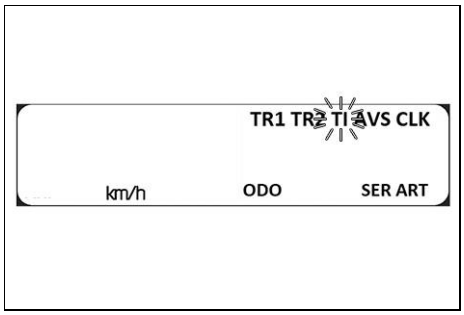


Condition: Motorcycle is stationary

– Press the **+button** and **—button** for 5 seconds.
– Press button **—** briefly until indicator **TR2** appears in the top right of the display.

Activated or deactivated **TR2**.

7.16.3 Trip time

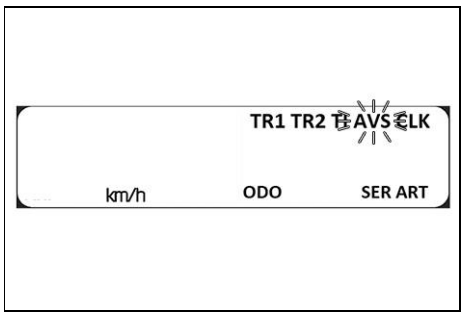


Condition: Motorcycle is stationary

– Press the **+button** and **—button** for 5 seconds.
– Press button **—** briefly until indicator **TI** appears in the top right of the display.

Activated or deactivated **TI**.

7.16.4 Average speed

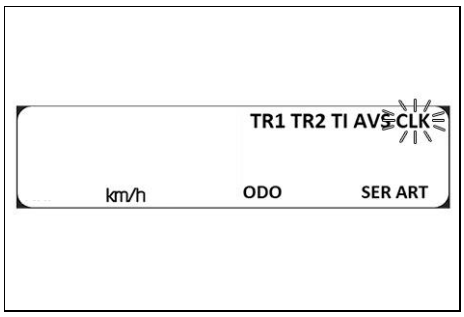


Condition: Motorcycle is stationary

– Press the **+button** and **—button** for 5 seconds.
– Press button **—** briefly until indicator **AVS** appears in the top right of the display.

Activated or deactivated **AVS**.

7.16.5 Clock

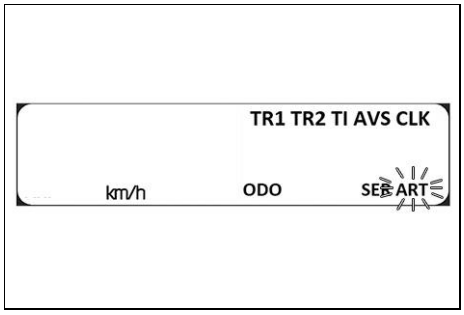


Condition: Motorcycle is stationary

– Press the **+button** and **—button** for 5 seconds.
– Press button **—** briefly until indicator **CLK** appears in the top right of the display.

Activated or deactivated **CLK**.

7.16.6 Accumulated Ride Time

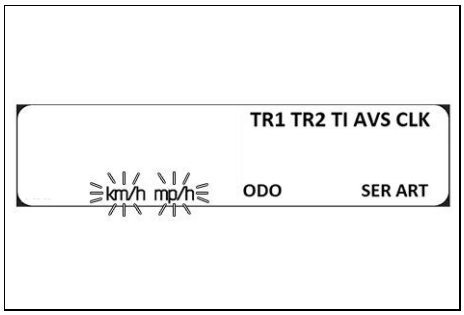


Condition: Motorcycle is stationary

– Press the **+button** and **—button** for 5 seconds.
– Press button **—** briefly until indicator **ART** appears in the bottom right of the display.

Activated or deactivated **ART**.

7.16.7 Adjusting the unit of measurement



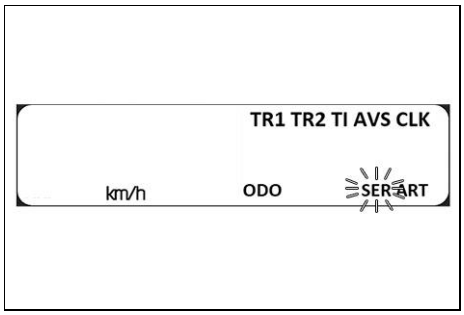
Condition: Motorcycle is stationary

– Press the **+button** and **—button** for 5 seconds.
– Press button **—** briefly until indicator **Km/h** / **Mph** flashes.

In unit mode, you can use the **+** **button** to switch between units of measurement.

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

7.16.8 Service



Condition: Motorcycle is stationary

– Press the **+button** and **—button** for 5 seconds.
– Press button **—** briefly until indicator **SER** appears in the bottom right of the display.

Activated or deactivated **SER**.

8.1 Notes on preparing for first use

DANGER
Danger of accidents A rider who is not fit to ride poses a danger to themself and to others.
– Do not operate the vehicle if you are not fit to ride due to alcohol, drugs, or medication.
– Do not operate the vehicle if you are physically or mentally incapable of doing so.

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

WARNING
Danger of accidents Not adapting the riding style constitutes a major risk.
– Adapt the vehicle speed to the road conditions and your riding ability.

WARNING
Risk of misappropriation People who act without authorization endanger themselves and others.
– Never leave the vehicle unattended.
– Secure the vehicle against unauthorized access.

WARNING
Danger of accidents Total weight and axle loads influence the handling characteristic.
– Do not exceed the maximum permissible total weight or the axle loads.

WARNING
Risk of injury Missing or inadequate protective clothing increases the risk of injury.
– Wear appropriate protective clothing such as helmet, boots, gloves as well as pants and a jacket with protectors on all rides.
– Always wear protective clothing that is in good condition and meets the legal regulations.

– Ensure that the pre–delivery inspection has been carried out by an authorized contractual partner.
  ✓ The delivery certificate is transferred upon vehicle handover.
– Read the entire owner's manual before riding for the first time.
– Get to know the controls.
– Adjust the free travel of the front brake lever. (p. 85)
– Adjust the free travel of the rear brake lever. (p. 91)
– Get used to the handling characteristics of the motorcycle on suitable terrain before undertaking a more challenging ride.

Note
When off-road, it is recommended that you be accompanied by another person with another vehicle so that you can help each other.

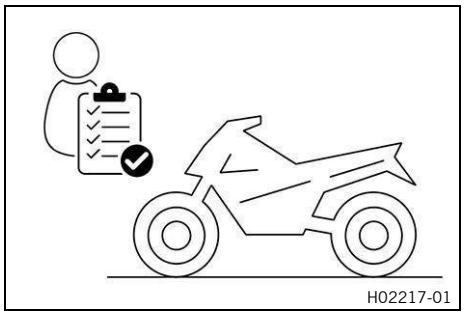
– Also, ride as slowly as possible and in a standing position to get a better feel for the motorcycle.
– Do not make any off-road trips that exceed your ability and experience.
– Hold the handlebar with both hands and keep your feet on the footpegs when riding.
– The maximum permissible overall weight and the maximum permissible axle loads must not be exceeded.

Maximum permissible total weight	280 kg (617.3 lb)
Maximum permissible front axle load	110 kg (242.5 lb)

Maximum permissible rear axle load	170 kg (374.8 lb)

9.1 checks and maintenance measures when preparing for use

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

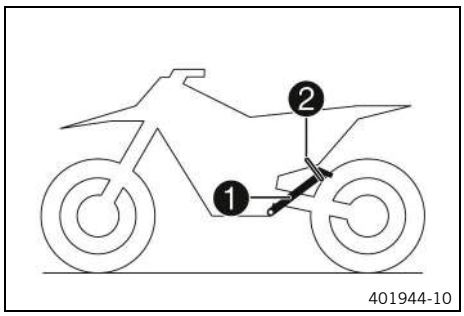

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- Check the throttle grip, main switch, Powerpack, and electric motor for external damage.
- Check the electrical system.
- Check the brake fluid level for the front brake. (p. 86)
- Check the brake fluid level for the rear brake. (p. 92)
- Check that the brake pads of the front brake are secured. (p. 88)
- Check that the brake pads of the rear brake are secured. (p. 94)
- Check that the brake system is functioning properly.
- Check the coolant level. (p. 119)
- Check the chain for dirt. (p. 78)
- Check the chain, rear sprocket, engine sprocket, and chain guide. (p. 81)
- Check the chain tension. (p. 79)
- Check the tire condition. (p. 100)
- Check the tire pressure. (p. 101)
- Check the spoke tension. (p. 102)

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

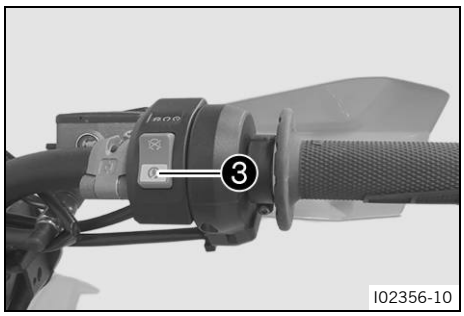
- Clean the dust boots of the fork legs. (p. 62)
- Bleed the fork legs. (p. 60)
- Check the fork air pressure.
- Check the settings of all controls and ensure that they can be operated smoothly.
- Check all screws, nuts, and hose clamps for a tight fit.
- Check the state of charge of the Powerpack.

9.2 Starting the vehicle



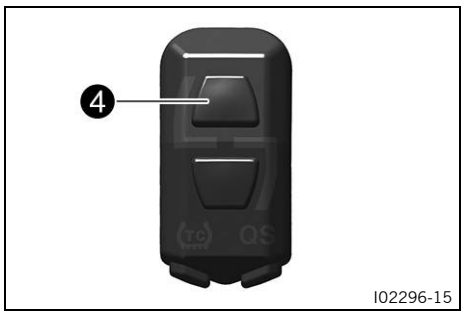
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- Take the motorcycle off side stand ❶ and secure the side stand with rubber strap ❷.
- Turn the ignition key in the ignition lock to position ◯.



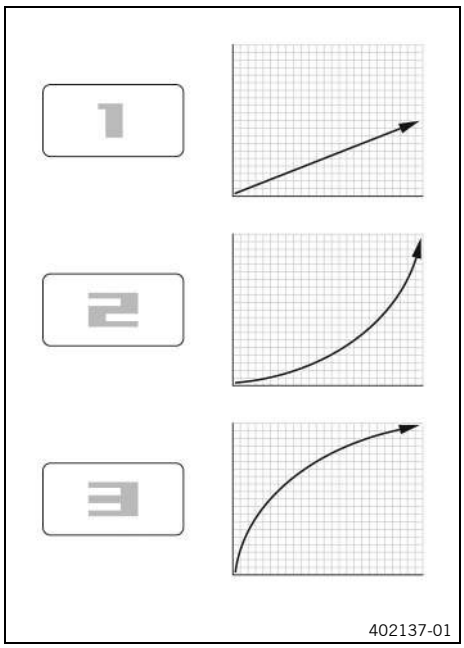
– Push main switch ❸ into position ◯.

✓ The vehicle is ready for operation and **OFF** is displayed on the combination instrument.



– Use ride mode button ❹ to select a ride mode.

Note
The last mode used is already selected.



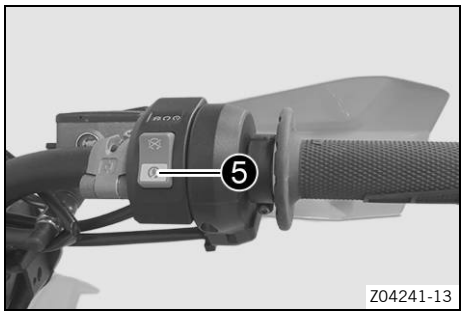
– Select one of the driving modes.

Note
On the combination instrument, the selected ride mode is displayed with **1**, **2**, or **3**.
Three drive modes are available. The ride modes define how the vehicle will respond to operation of the throttle grip.
The figures contain approximate values for illustration purposes and do not show the actual response.

Note
Ride mode **1** is Economy: The motor torque is reduced.

Note
Ride mode **2** is Standard: The further the throttle grip is twisted open, the more the motor power increases.

Note
Ride mode **3** is Advanced: The greatest increase in power occurs immediately, after which the motor power increases more slowly.



– Press electric starter ❺ for longer than 0.5 seconds.

✓ The vehicle is ready to ride and **GO** is displayed on the combination instrument.

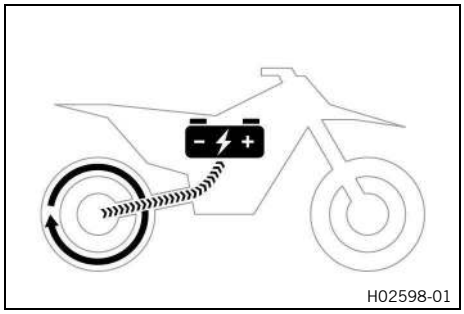
✓ The vehicle responds to the throttle grip.

9.3 Starting off

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

– First familiarize yourself with the new riding and handling characteristic of this vehicle.
– Turn the throttle grip carefully. The absence of motor noise belies the actual power of the vehicle.

9.4 Recuperation



In Recuperation mode (p. 29) **2** and **3**, the Powerpack is charged by the electric motor when the throttle is fully closed during coasting.
The recuperation function provides a greater motor braking effect in recuperation mode **2** and **3**.
The recuperation effect increases with the motor speed.

Note
The recuperation function is not available in recuperation mode **1**.

9.5 Braking.

WARNING
Danger of accidents A spongy pressure point on the front or rear brake reduces the brake action.
– Do not drive the vehicle if the brake system has a spongy pressure point.

WARNING
Danger of accidents Braking with excessive force locks the wheels.
– Adapt your braking to the riding situation and the road conditions.

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

Note
The rear brake lever is located on the left side of the handlebar.

– To brake release the throttle and apply the front and rear brakes at the same time.
– On sandy, wet, or slippery surfaces, use mostly the rear brake if possible.
– Try to complete the braking procedure before riding into a curve.

9.6 Stop, park

WARNING

Risk of misappropriation People who act without authorization endanger themselves and others.

– Never leave the vehicle unattended.
– Secure the vehicle against unauthorized access.

WARNING

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

– Do not touch any parts such as the radiator, motor, shock absorber, or brake system before these parts have cooled down.
– Allow the vehicle parts to cool down before performing any work on the vehicle.

NOTE

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

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

NOTE

Material damage The vehicle may be damaged if parked incorrectly.

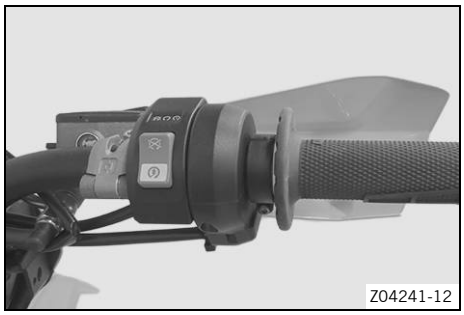
Damage can occur if the vehicle rolls away or falls over.

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

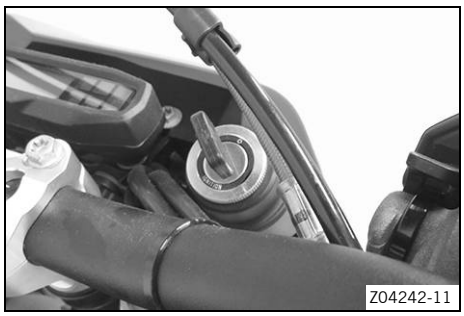
– Park the vehicle on a firm and level surface.
– Make sure that nobody sits on the vehicle when it is parked on a stand.

– Brake the motorcycle.
– Deactivate the vehicle. (p. 44)
– Park the motorcycle on its side stand on a firm surface.
– Lock the steering. (p. 27)

9.7 Deactivating the vehicle



– Push the main switch into position ⊗.



– Turn the ignition key in the ignition lock to position ⊗ while the vehicle is deactivated. Remove the ignition key.

9.8 Transportation

NOTE

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

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

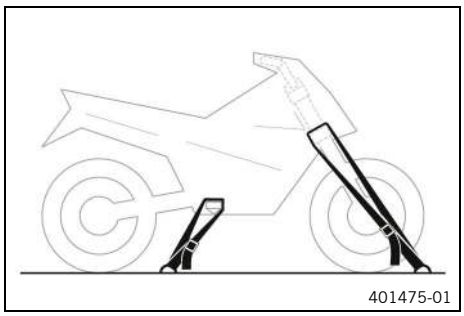
NOTE

Material damage The vehicle may be damaged if parked incorrectly.

Damage can occur if the vehicle rolls away or falls over.

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

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



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

10.1 Service schedule

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

Different service intervals may apply in your country, depending on the local operating conditions.

Individual service intervals and scopes may change in the course of technical developments. The most up-to-date service schedule is available for authorized contractual partners for the electronic proof of service. Your authorized contractual partner will be happy to advise you.

	After one operating hour	Every 45 operating hours	Every 90 operating hours	Every 24 months
Read out the fault memory using the diagnostics tool.	○	●	●	●
Check that the electrical equipment is functioning properly.	○	●	●	
Check and charge the 12 V battery.		●	●	
Check and charge the Powerpack.	○	●	●	
Check that the brake pads of the front brake are secured. (p. 88)		●	●	
Check that the brake pads of the rear brake are secured. (p. 94)		●	●	
Check the brake discs. (p. 85)		●	●	
Check the brake lines for damage and tightness.		●	●	
Check the brake fluid level for the front brake. (p. 86)		●		
Change the brake fluid for the front brake.			●	●
Check the brake fluid level for the rear brake. (p. 92)		●		
Change the brake fluid for the rear brake.			●	●
Check the free travel of the brake levers.		●	●	
Change the gear oil. (p. 126)	○	●	●	
Check all hoses and bellows for cracking, leakage and incorrect routing.	○	●	●	
Check the cables for damage and that there are no kinks in the routing.		●	●	
Check the frame. (p. 84)		●	●	
Check the swingarm. (p. 84)		●	●	
Check the swingarm bearing for play.		●	●	
Check the heim joint on the shock absorber for play.		●	●	
Check the tire condition. (p. 100)	○	●	●	
Check the tire pressure. (p. 101)	○	●	●	
Check the wheel bearing for play.		●	●	
Check the hubs.		●	●	
Check the rim run-out.	○	●	●	
Check the spoke tension. (p. 102)	○	●	●	
Check the chain, rear sprocket, engine sprocket, and chain guide. (p. 81)		●	●	
Check the chain tension. (p. 79)	○	●	●	
Grease all moving parts (e.g. side stand, hand lever, chain, etc.) and check for smooth operation.	○	●	●	
Carry out fork service.		●	●	
Service the shock absorber.		●	●	

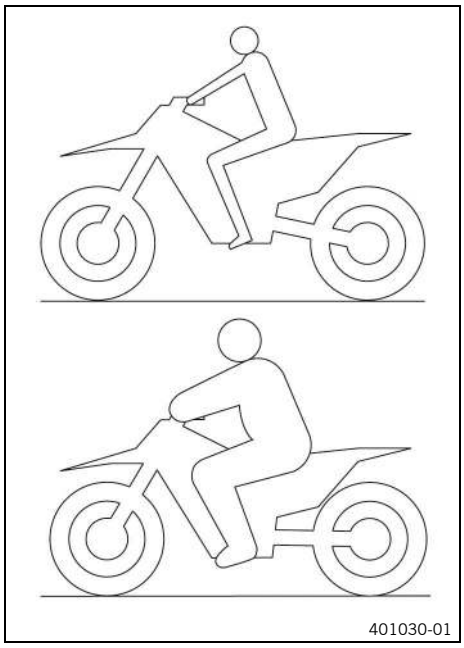
	After one operating hour	Every 45 operating hours	Every 90 operating hours	Every 24 months
Check the tightness of the safety-relevant screws and nuts which are easily accessible.	○	●	●	
Check the Powerpack fitting for the specified tightening torque. HV 1	○	●	●	
Check the headlight adjustment. (p. 110)	○	●	●	
Check the steering head bearing play. (p. 67)	○	●	●	
Lubricate the steering head bearing. (p. 69)			●	●
Check the frost protection and coolant level. (p. 118)	○	●	●	
Change the coolant.				●
Final check: Check the vehicle is roadworthy and take a test ride.	○	●	●	●
Read out the fault memory after the test ride using the diagnostics tool.	○	●	●	●
Make an electronic service entry in the contractual partner portal.	○	●	●	●

○ One-time interval

● Periodic interval

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

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



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

Standard rider's weight	75 kg ... 85 kg (165.3 lb ... 187.4 lb)

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

11.2 Air suspension

The fork is equipped with air suspension.
In this system, the suspension is located in the left fork leg and damping in the right fork leg.
As fork springs are no longer required, a significant weight advantage is achieved when compared to conventional forks. The response on slightly uneven surfaces is significantly improved.

In normal driving mode, suspension is provided exclusively by an air cushion. A steel spring is located in the left fork leg as an end stop.

Note
If the fork frequently bottoms out, then the fork air pressure must be increased to avoid damage to the fork and frame.

The air pressure in the fork can be quickly adjusted to the rider's weight, surface conditions, and the rider's preference using a fork air pump. The fork does not have to be dismantled. The time-consuming mounting of harder or softer fork springs is not required.
If the air chamber loses air due to a damaged seal, the fork will still not sag. In this case the air is retained in the fork. The suspension travel is maintained as far as possible. The damping becomes harder, and the riding comfort is reduced.

As with a conventional fork, the damping can be adjusted in rebound and compression stages.
The rebound adjustment is located at the upper end of the right fork leg.
The compression adjuster is located at the lower end of the right fork leg.

11.3 Compression damping of the shock absorber

The compression damping of the shock absorber is divided into two ranges: high-speed and low-speed.

High-speed and low-speed refer to the compression speed of the rear wheel suspension and not to the vehicle speed.

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

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

These two ranges can be adjusted separately, although the transition between high-speed and low-speed is floating. As a result, changes in the high-speed range affect the compression damping in the low-speed range and vice versa.

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

CAUTION

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

The shock absorber is filled with highly compressed nitrogen.

– Please follow the description provided.

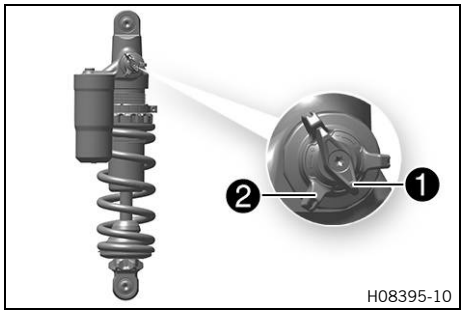
Note

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

Preparatory work

– Raise the motorcycle with a lift stand. (p. 60)
– Remove the seat. (p. 73)
– Remove side cover. (p. 75)
– Remove the seat support. (p. 75)
– Remove the shock absorber. (p. 71)

Main work



– Turn adjusting screw ❶ clockwise up to the last perceptible click.

Note

Do not loosen fitting ❷!

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

Low-speed compression damping	
Comfort	18 clicks
Standard	15 clicks
Sport	12 clicks

Note

Turning clockwise increases damping; turning anticlockwise reduces damping.

Reworking

– Install the shock absorber. (p. 72)
– Mount the seat support. (p. 76)
– Install the side cover. (p. 75)
– Install the seat. (p. 74)
– Remove the motorcycle from the lift stand. (p. 60)

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

CAUTION

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

– Please follow the description provided.

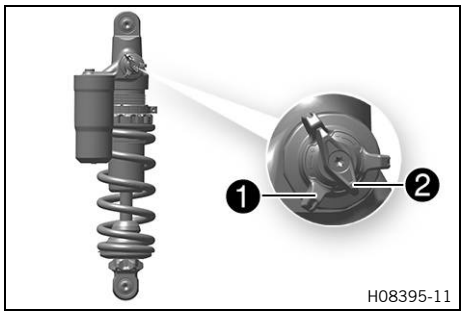
Note

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

Preparatory work

– Raise the motorcycle with a lift stand. (p. 60)
– Remove the seat. (p. 73)
– Remove side cover. (p. 75)
– Remove the seat support. (p. 75)
– Remove the shock absorber. (p. 71)

Main work



– Turn adjusting screw ❶ clockwise all the way.

Note

Do not loosen fitting ❷!

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

High-speed compression damping	
Comfort	2.5 turns (900°)
Standard	2 turns (720°)
Sport	1.5 turns (540°)

Note

Turning clockwise increases damping; turning anticlockwise reduces damping.

Reworking

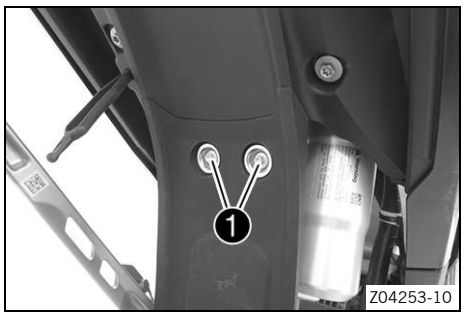
– Install the shock absorber. (p. 72)
– Mount the seat support. (p. 76)
– Install the side cover. (p. 75)
– Install the seat. (p. 74)
– Remove the motorcycle from the lift stand. (p. 60)

11.6 Adjusting the rebound damping of the shock absorber

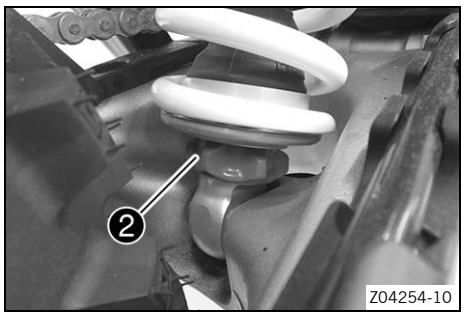
CAUTION

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

– Please follow the description provided.



– Loosen screws 1.
– Take off the splash protection.

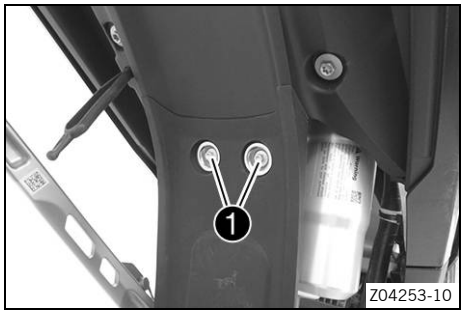


– Turn adjuster 2 clockwise up to the last perceptible click.
– Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

Rebound damping	
Comfort	18 clicks
Standard	15 clicks
Sport	12 clicks

Note

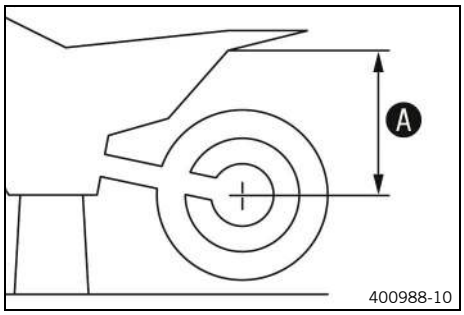
Turn clockwise to increase damping; turn counterclockwise to reduce damping during rebound of the shock absorber.



– Position the splash protection.
– Mount studs 1.

Remaining screws on chassis	
EJOT PT® – K60×25 – Z	2 Nm (1.5 ft·lb$_f$)

11.7 Measuring the dimension of the unloaded rear wheel



Preparatory work

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

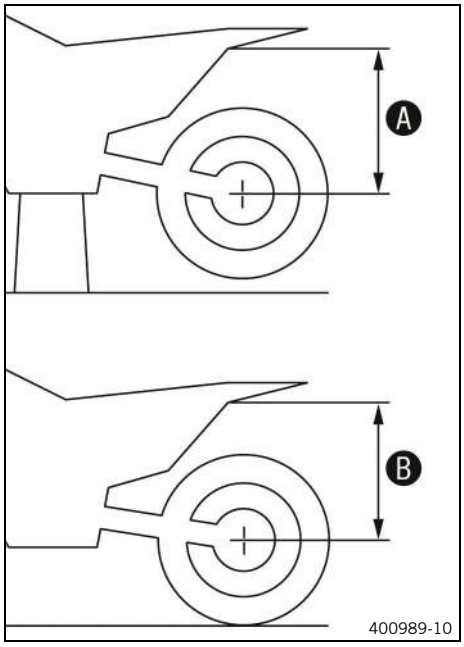
Main work

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

Reworking

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

11.8 Checking the static sag of the shock absorber



– Determine rear wheel dimension A. (p. 52)
– Hold the motorcycle upright with aid of an assistant.
– Measure the distance between rear axle and fixed point again.
– Note the value as dimension B.

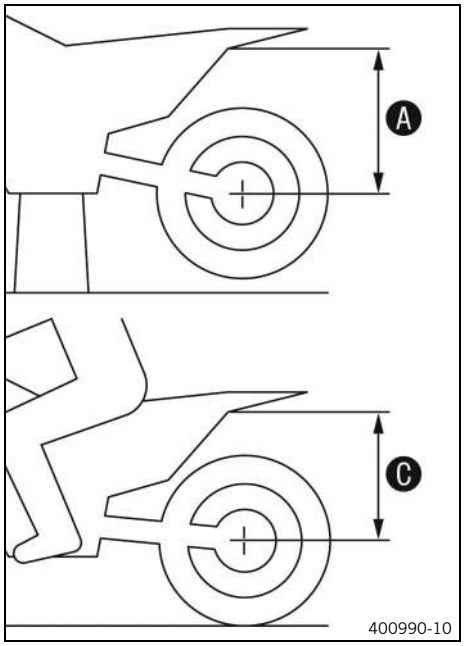
Note
The static sag is the difference between measurements A and B.

– Check the static sag.

Static sag	30 mm (1.18 in)

» If the static sag is more or less than the specified value:
– Adjust the preload for the shock absorber. (p. 53)

11.9 Checking the rider sag of the shock absorber



– Determine rear wheel dimension A. (p. 52)
– With another person holding the motorcycle, the rider, wearing full protective clothing, sits on the seat in a normal sitting position (feet on footrests) and bounces up and down a few times.
  ✓ The rear wheel suspension levels out.
– Another person now measures the distance between the rear axle and the fixed point.
– Note the value as dimension C.

Note
The rider sag is the difference between measurements A and C.

– Check the rider sag.

Rider sag	100 mm (3.94 in)

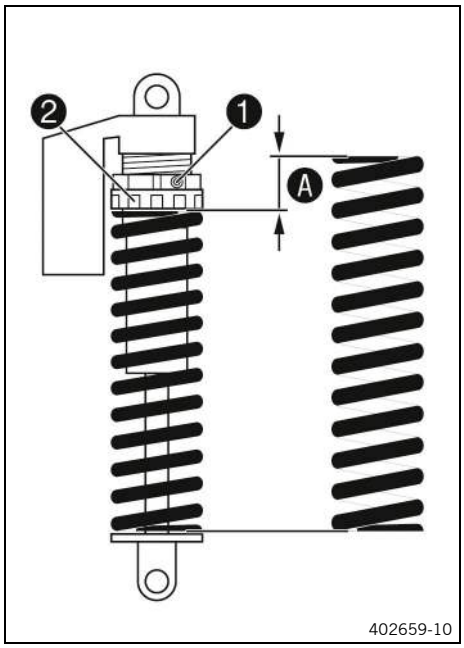
» If the rider sag differs from the specified measurement:
  – Adjust the rider sag. (p. 54)

11.10 Adjusting the preload for the shock absorber

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

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

Preparatory work
– Raise the motorcycle with a lift stand. (p. 60)
– Remove the seat. (p. 73)
– Remove side cover. (p. 75)
– Remove the seat support. (p. 75)
– Remove the shock absorber. (p. 71)
– After removing the shock absorber, clean it thoroughly.



Main work

– Loosen screw ❶.
– Turn adjusting ring ❷ until the spring is no longer under tension.

Hook wrench (90129051000)

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

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

Preload	9 mm (0.35 in)

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

– Tighten screw ❶.

Screw, shock absorber adjusting ring	
M5	5 Nm (3.7 ft·lb$_f$)

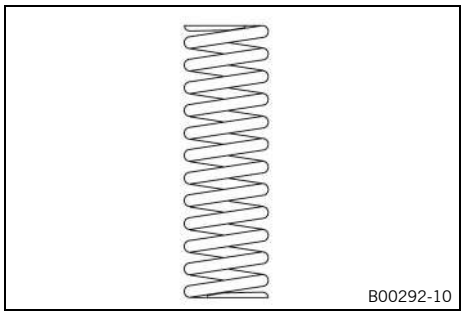
Reworking

– Install the shock absorber. 📖 (p. 72)
– Mount the seat support. 📖 (p. 76)
– Install the side cover. 📖 (p. 75)
– Install the seat. 📖 (p. 74)
– Remove the motorcycle from the lift stand. 📖 (p. 60)

11.11 Adjusting the rider sag

Preparatory work

– Raise the motorcycle with a lift stand. 📖 (p. 60)
– Remove the seat. 📖 (p. 73)
– Remove side cover. 📖 (p. 75)
– Remove the seat support. 📖 (p. 75)
– Remove the shock absorber. 📖 (p. 71)
– After removing the shock absorber, clean it thoroughly.



Main work

– Select and mount a suitable spring.

Spring rate	
Weight of rider: 55 kg ... 65 kg (121.3 lb ... 143.3 lb)	70 N/mm (399.7 lb_f/in)
Weight of rider: 65 kg ... 75 kg (143.3 lb ... 165.3 lb)	75 N/mm (428.3 lb_f/in)
Weight of rider: 75 kg ... 85 kg (165.3 lb ... 187.4 lb)	80 N/mm (456.8 lb_f/in)
Weight of rider: 85 kg ... 95 kg (187.4 lb ... 209.4 lb)	85 N/mm (485.4 lb_f/in)
Weight of rider: 95 kg ... 105 kg (209.4 lb ... 231.5 lb)	90 N/mm (513.9 lb_f/in)

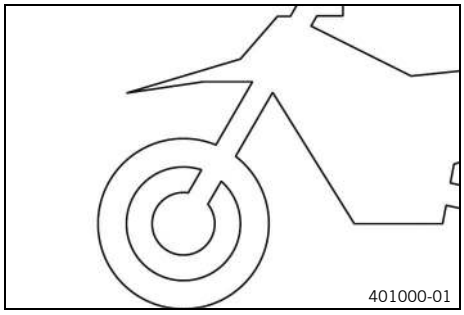
Note
The spring rate is shown on the outside of the spring.
Smaller weight differences can be compensated by changing the spring preload.

Reworking

– Install the shock absorber. (p. 72)
– Mount the seat support. (p. 76)
– Install the side cover. (p. 75)
– Install the seat. (p. 74)
– Remove the motorcycle from the lift stand. (p. 60)
– Check the static sag of the shock absorber. (p. 52)
– Check the rider sag of the shock absorber. (p. 53)
– Adjust the rebound damping of the shock absorber. (p. 51)

11.12 Checking the basic setting of the fork

Note
For various reasons, no exact rider sag can be determined for the fork.



– Smaller differences in the rider's weight can be compensated for by the fork air pressure.
– However, if the fork frequently bottoms out (hard end stop on compression), the fork air pressure must be increased, within the specified values, to avoid damage to the fork and frame.

11.13 Adjusting the fork air pressure

WARNING

Danger of accidents Modifications to the suspension settings that are not properly coordinated can impair the handling and overload components.

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

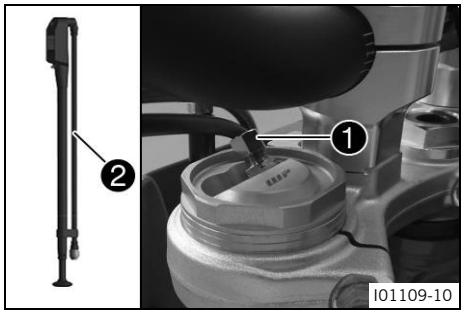
Note

The air suspension is located in the left fork leg. The rebound damping is located in the right fork leg.

Preparatory work

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

Main work



– Remove protection cap ❶.

Check or adjust the air pressure 5 minutes, at the earliest, after the end of the ride and under the same conditions.

– Push together fork airpump ❷ fully.

Fork air pump (79412966100)

Note

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

– Connect the fork air pump to the left fork leg.

Read the accompanying instructions.

✓ The fork airpump switches on automatically.
✓ A little air escapes from the fork leg when connecting.

Note

This is due to the volume of the hose and is not due to a defect in the fork air pump or the fork.

– Adjust the air pressure as specified.

Do not set the air pressure outside the specified range.

Air pressure	
Comfort	4.2 bar (60.9 psi)
Standard	4.5 bar (65.3 psi)
Sport	4.8 bar (69.6 psi)

Gradual change of the air pressure in steps by	0.2 bar (2.9 psi)
Minimum air pressure	4 bar (58 psi)

Maximum air pressure	8 bar (116 psi)

– Disconnect the fork air pump from the left fork leg.
  ✓ When disconnecting, excess pressure will escape from the hose – the fork leg does not lose any air.
  ✓ The fork pump airpump switches off automatically after 80 seconds.
– Mount the protection cap.

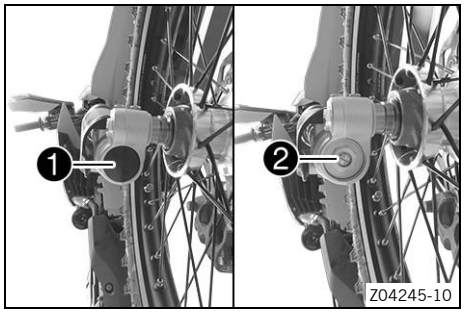
Only mount the protection cap by hand.

Reworking

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

11.14 Adjusting the compression damping of the fork

Note
The hydraulic compression damping determines the fork suspension behavior.



– Remove protection cap ❶.

Note
Adjuster ❷ is located at the lower end of the right fork leg.

– Turn adjuster ❷ clockwise with a screwdriver until it stops.
– Turn counterclockwise by the number of clicks corresponding to the fork type.

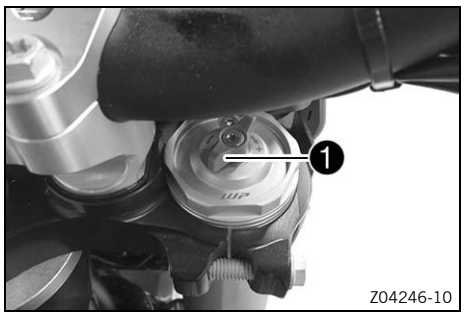
Compression damping	
Comfort	17 clicks
Standard	12 clicks
Sport	7 clicks

Note
Turning clockwise increases damping; turning counterclockwise reduces damping during compression.

– Mount protection cap ❶.

11.15 Adjusting the rebound damping of the fork

Note
The hydraulic rebound damping determines the fork suspension behavior.



– Turn red adjuster ❶ clockwise as far as it will go.

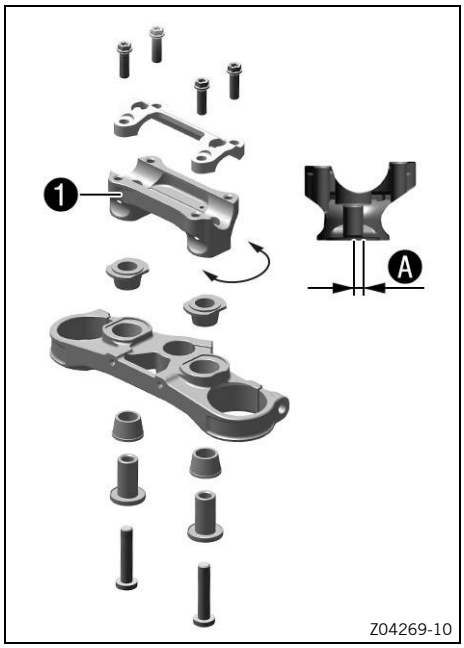
Note
Adjuster ❶ is located at the upper end of the right fork leg.

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

Rebound damping	
Comfort	21 clicks
Standard	16 clicks
Sport	11 clicks

Note
Turning clockwise increases damping; turning anticlockwise reduces damping on rebound.

11.16 Handlebar position



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

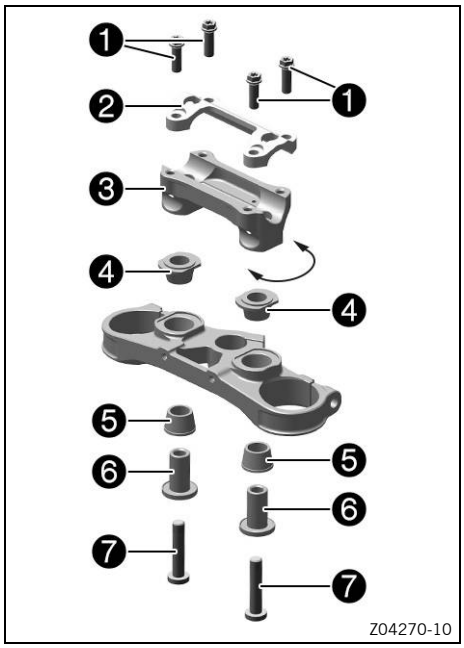
Hole distance A	3.5 mm (0.138 in)

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

11.17 Adjusting the handlebar position

WARNING
Danger of accidents A repaired handlebar poses a safety risk.
If the handlebar is bent or straightened, the material becomes fatigued. The handlebar may break as a result.
– Change the handlebar if the handlebar is damaged or bent.

Preparatory work
– Remove the handlebar pad.



Main work

– Remove screws ❶. Take off handlebar clamp ❷. Remove the handlebar and lay it to one side.

Protect the components against damage by covering them.
Do not kink the cables or lines.

– Remove screws ❼ and bushings ❻. Take off handlebar support ❸.
– Position the rubber bushings ❹ and ❺.
– Place the handlebar mount in the required position.

Note
The handlebar mount is longer and higher on one side.

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

Screw, handlebar mount	
M10	40 Nm (29.5 ft·lb$_f$) **Loctite® 243**

– Position the handlebar.

Make sure the cables and wiring are positioned correctly.

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

Screw, handlebar clamp	
M8	20 Nm (14.8 ft·lb$_f$)

Reworking

– Mount the handlebar pad.

12.1 Raising the motorcycle with a lift stand

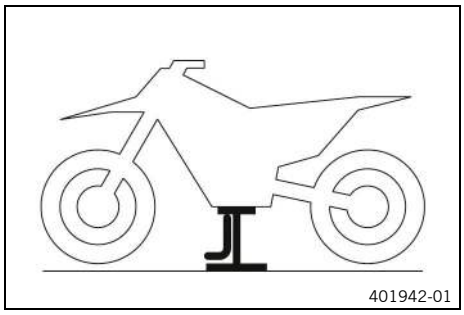
NOTE

Material damage The vehicle may be damaged if parked incorrectly.

Damage can occur if the vehicle rolls away or falls over.

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

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


401942-01

– Use the engine guard underneath the engine to raise the vehicle.

Lift stand (78129955100)

✓ Neither wheel is in contact with the ground.
– Secure the motorcycle against falling over.

12.2 Removing the motorcycle from the lift stand

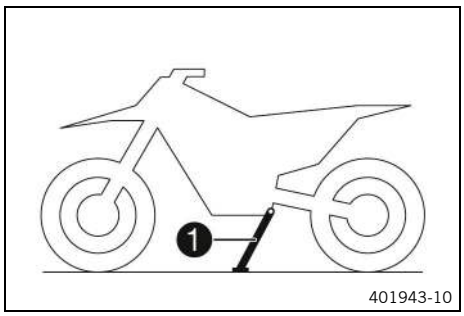
NOTE

Material damage The vehicle may be damaged if parked incorrectly.

Damage can occur if the vehicle rolls away or falls over.

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

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



401943-10

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

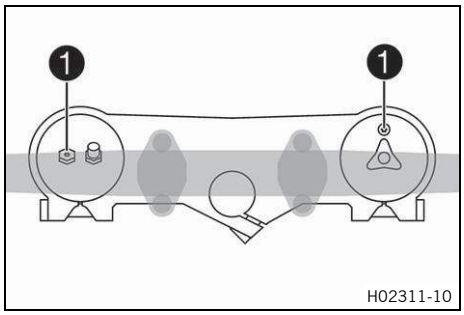
Note

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

12.3 Bleeding the fork legs

Preparatory work

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



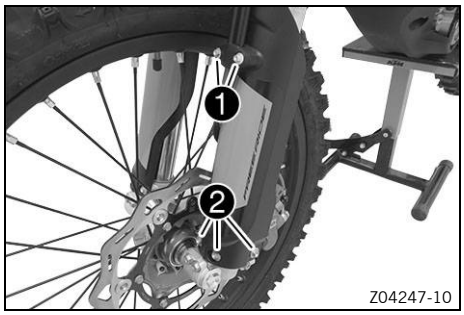
Main work

– Loosen bleeder screw ❶.
  ✓ Any excess pressure escapes from the inner fork.
– Tighten the bleeder screw.

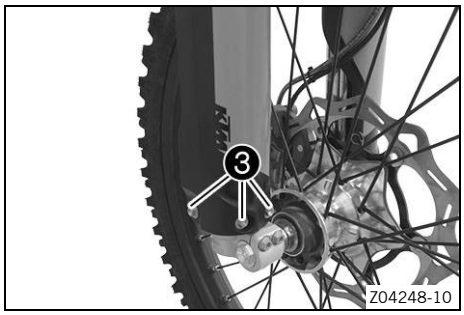
Reworking

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

12.4 Removing the fork protector

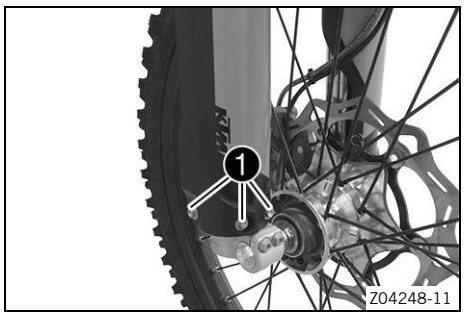


– Remove screws ❶. Take off the clamp.
– Remove screws ❷ on the left fork leg. Take off the fork protector.



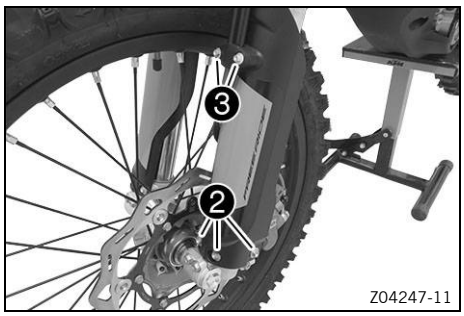
– Remove screws ❸ on the right fork leg. Take off the fork protector.

12.5 Installing the fork protector



– Position the fork protector on the right fork leg. Mount and tighten screws ❶.

Remaining screws on chassis	
M6	10 Nm (7.4 ft·lb$_f$)



– Position the fork protector on the left fork leg. Mount and tighten screws ❷.

Remaining screws on chassis	
M6	10 Nm (7.4 ft·lb$_f$)

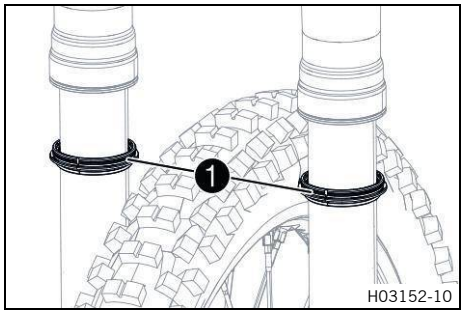
– Position the brake line, the wiring harness, and the clamp. Mount and tighten screws ❸.

12.6 Cleaning the dust boots of the fork legs

Preparatory work

– Raise the motorcycle with a lift stand. 📖 (p. 60)
– Remove the fork protector. 📖 (p. 61)

Main work



– Push dust boots ❶ of both fork legs downward.

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

WARNING
Danger of accidents Oil, grease or wax on the brake discs reduces the brake action.
– Always keep the brake discs free of oil, fat and wax.
– Clean the brake discs with brake cleaner when necessary.

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

Universal oil spray 📖 (p. 145)

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

Reworking

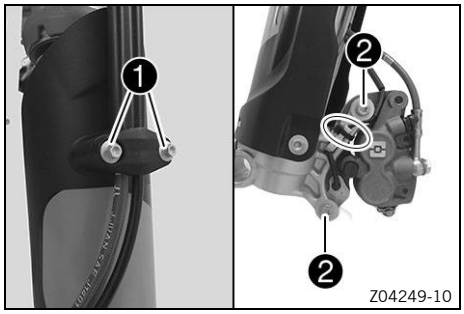
– Install the fork protector. 📖 (p. 61)
– Remove the motorcycle from the lift stand. 📖 (p. 60)

12.7 Removing the fork legs

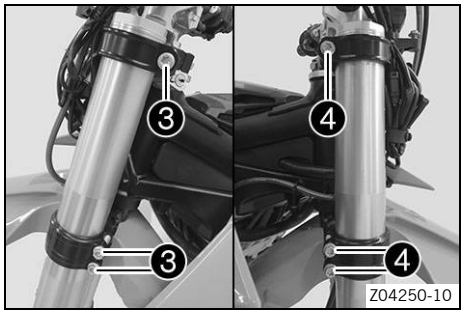
Preparatory work

– Raise the motorcycle with a lift stand. (p. 60)
– Remove the front wheel. (p. 97)
– Remove the headlight mask with the headlight. (p. 108)

Main work



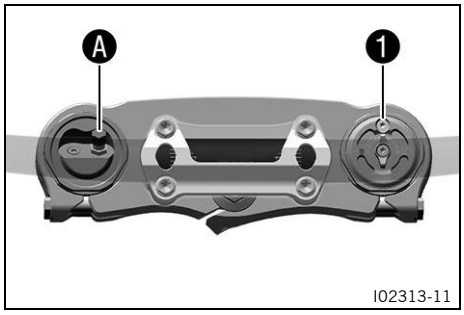
– Remove screws ❶ and take off the clamp.
– Remove the cable tie(s) and disconnect plug-in connector.
– Remove screws ❷ and take off the brake caliper.
– Allow the brake caliper and the brake line to hang loosely to the side.



– Loosen screws ❸. Take out the left fork leg.
– Loosen screws ❹. Take out the right fork leg.

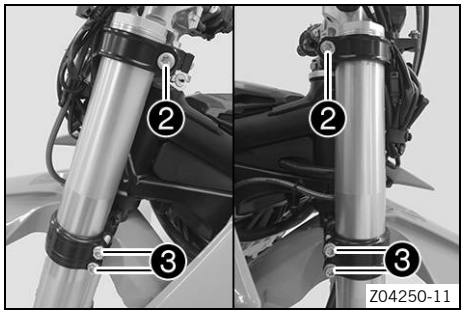
12.8 Installing the fork legs

Main work



– Position the fork legs.
  ✓ Bleeder screw ❶ is positioned toward the front.
  ✓ Valve Ⓐ of the left fork leg faces the front.

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

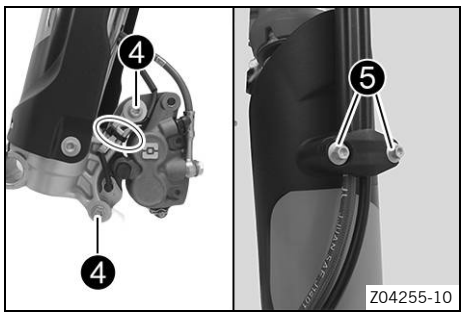


– Tighten screws ❷.

Screw, top triple clamp	
M8	22 Nm (16.2 ft·lb$_f$)

– Tighten screws ❸.

Screw, bottom triple clamp	
M8	18 Nm (13.3 ft·lb$_f$)



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

Screw, front brake caliper	
M8	25 Nm (18.4 ft·lb$_f$) **Loctite® 243**

– Position the brake line, the wiring harness, and the clamp. Mount and tighten screws ❺.
– Join plug-in connector and mount the cable tie(s).

Reworking

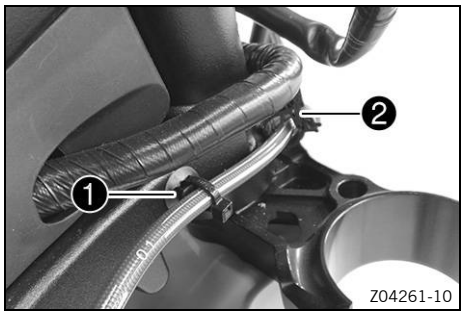
– Install the front wheel. 📖 (p. 97)
– Remove the motorcycle from the lift stand. 📖 (p. 60)
– Install the headlight mask with the headlight. 📖 (p. 109)
– Check the headlight adjustment. 📖 (p. 110)

12.9 Removing the lower triple clamp

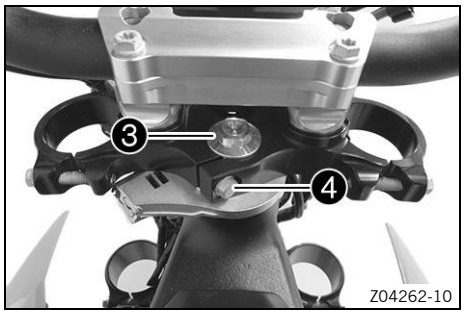
Preparatory work

– Raise the motorcycle with a lift stand. 📖 (p. 60)
– Remove the front wheel. 📖 (p. 97)
– Remove the headlight mask with the headlight. 📖 (p. 108)
– Remove the fork legs. 📖 (p. 63)

Main work



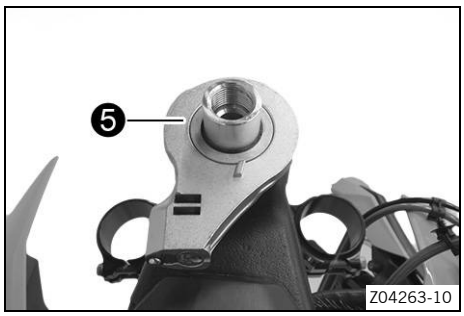
– Remove cable tie(s) ❶.
– Open holder ❷ and detach the wiring harness and brake line.



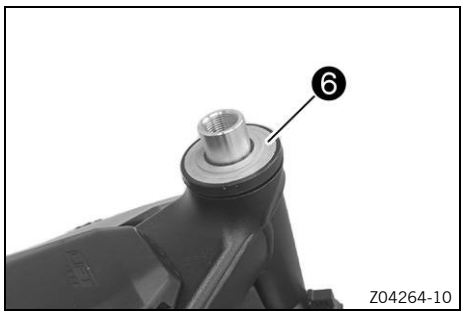
– Remove screw ❹.
– Remove screw ❸.
– Take off the upper triple clamp with the handlebar and set it aside.

Note

Protect the components against damage by covering them.
Do not kink the cables or lines.

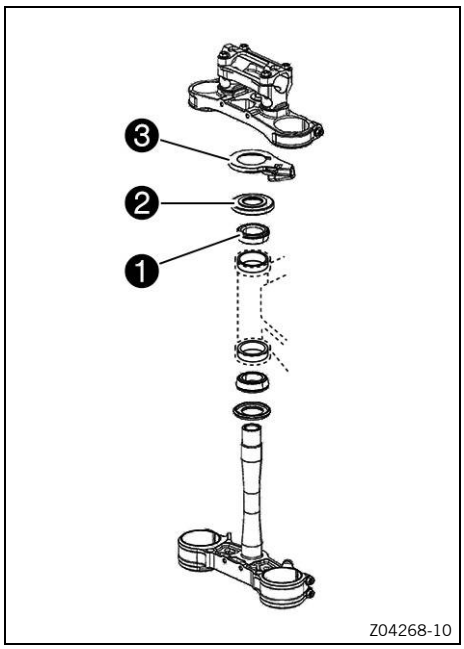


– Remove steering lock ❺.



– Remove protective ring ❻.
– Take off the lower triple clamp with the steering stem.
– Remove the upper steering head bearing.

12.10 Installing the lower triple clamp

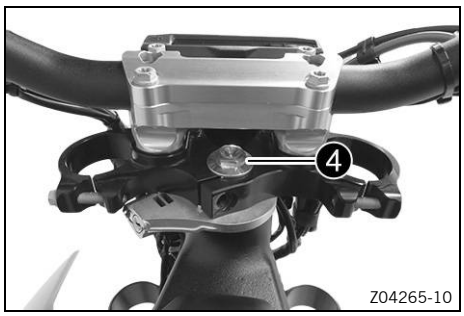


Main work

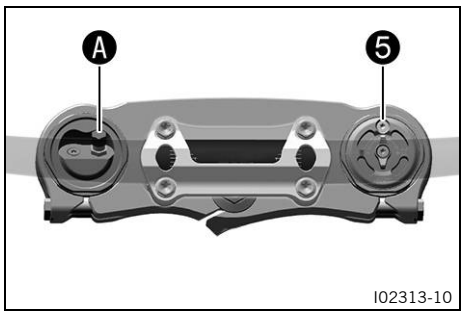
– Clean the bearing and sealing elements, check for damage, and grease.

High viscosity grease 📖 (p. 145)

– Insert the lower triple clamp with the steering stem. Mount the upper steering head bearing.
– Check whether upper steering head seal ❶ is correctly positioned.
– Push protective ring ❷ and steering lock ❸ onto the steering stem.

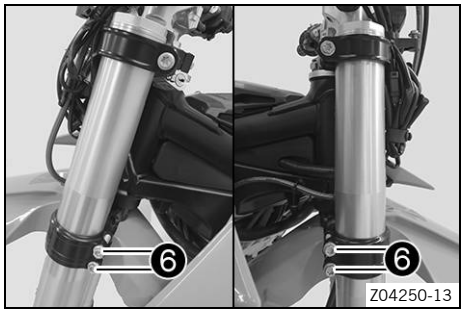


– Position the upper triple clamp and handlebar.
– Mount screw ❹, but do not tighten it yet.
– Position the rear wheel brake line and wiring harness.



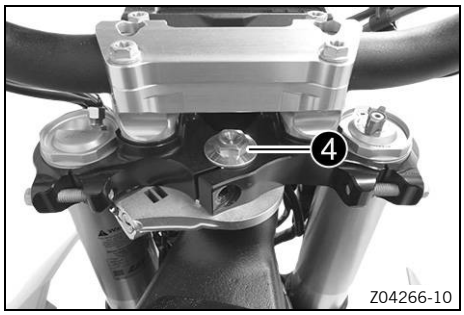
– Position the fork legs.
  ✓ Bleeder screw ❺ points forward.
  ✓ Valve Ⓐ of the left fork leg faces the front.

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



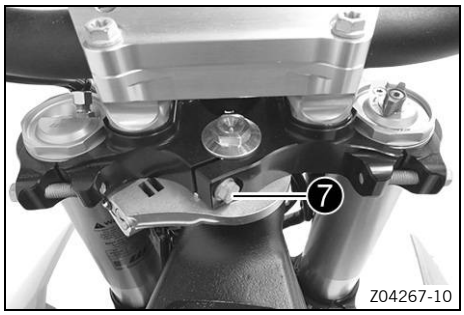
– Tighten screws ❻.

Screw, bottom triple clamp	
M8	18 Nm (13.3 ft·lb$_f$)



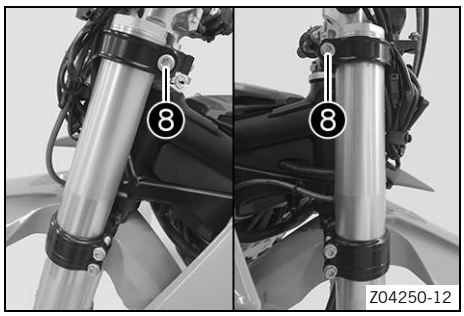
– Tighten screw ❹.

Screw, top steering head	
M20×1.5	12 Nm (8.9 ft·lb$_f$)



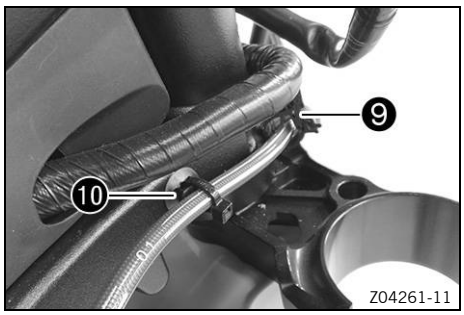
– Mount and tighten screw ❼.

Screw, upper steering stem	
M8	20 Nm (14.8 ft·lb$_f$) **Loctite® 243**

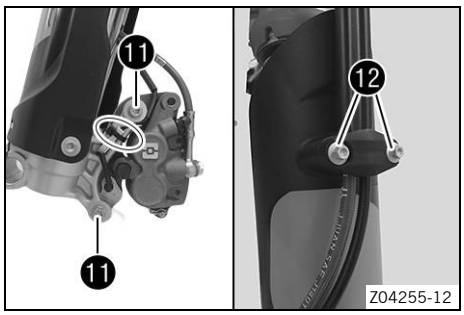


– Tighten screws ❽.

Screw, top triple clamp	
M8	22 Nm (16.2 ft·lb$_f$)



– Attach the brake line and wiring harness. Close holder ❾.
– Mount cable tie(s) ❿.



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

Screw, front brake caliper	
M8	25 Nm (18.4 ft·lb$_f$) **Loctite® 243**

– Position the brake line, the wiring harness, and the clamp. Mount and tighten screws ⓬.
– Join plug-in connector and mount the cable tie(s).

Reworking

– Install the front top fender. 📖 (p. 70)
– Install the headlight mask with the headlight. 📖 (p. 109)
– Install the front wheel. 📖 (p. 97)
– Check that the cable and brake lines are routed correctly.
– Check the steering head bearing play. 📖 (p. 67)
– Remove the motorcycle from the lift stand. 📖 (p. 60)
– Check the headlight adjustment. 📖 (p. 110)

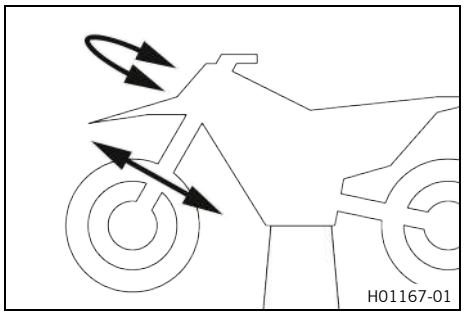
12.11 Checking the steering head bearing play

WARNING

Danger of accidents Incorrect steering head bearing play can impair the handling characteristic and damage components.

– Correct incorrect steering head bearing play immediately.

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



Preparatory work

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

Main work

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

Play should not be detectable on the steering head bearing.

» If there is detectable play:
– Adjust the steering head bearing play. (p. 68)

– Move the handlebar back and forth over the entire steering range.

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

» If detent positions are detected:
– Adjust the steering head bearing play. (p. 68)
» If detent positions can still be detected:
– Change the steering head bearing.

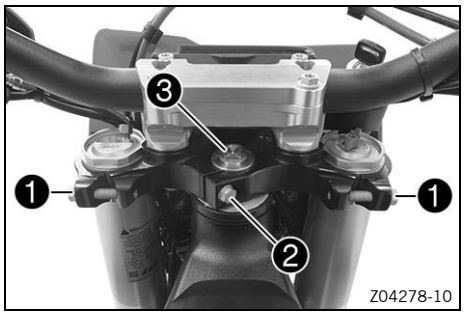
Reworking

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

12.12 Adjusting the steering head bearing play

Preparatory work

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



Main work

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

Screw, top steering head	
M20×1.5	12 Nm (8.9 ft·lb$_f$)

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

Screw, top triple clamp	
M8	22 Nm (16.2 ft·lb$_f$)

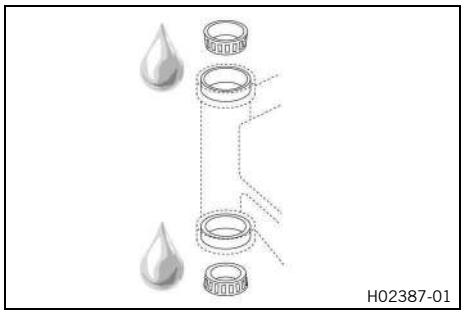
– Mount and tighten screw ❷.

Screw, upper steering stem	
M8	20 Nm (14.8 ft·lb$_f$) **Loctite® 243**

Reworking

– Check the steering head bearing play. (p. 67)
– Remove the motorcycle from the lift stand. (p. 60)

12.13 Lubricating the steering head bearing



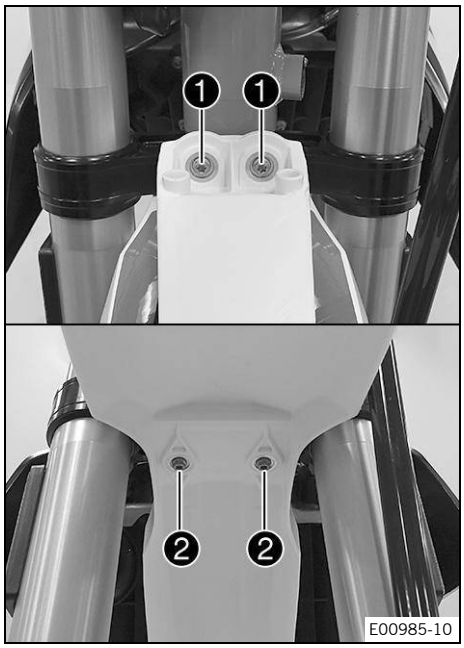
– Remove the lower triple clamp. (p. 64)
– Install the lower triple clamp. (p. 65)

Note
The steering head bearing is cleaned and lubricated in the course of removal and installation of the lower triple clamp.

12.14 Removing the front top fender

Preparatory work

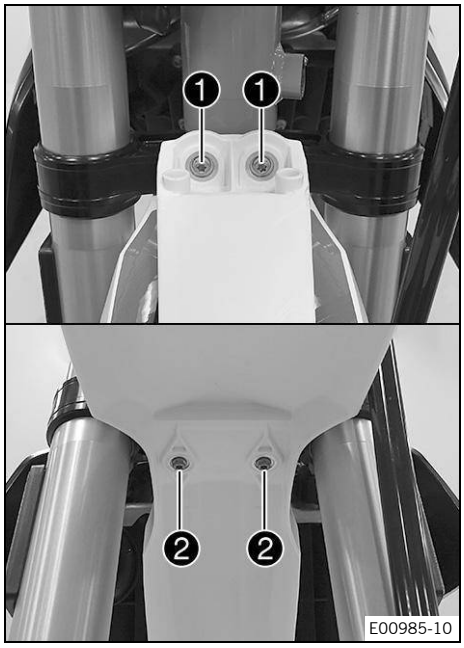
– Remove the headlight mask with the headlight. (p. 108)



Main work

– Remove screws ❶.
– Remove screws ❷.
– Remove the front fender.

12.15 Installing the front top fender



Main work

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

Remaining screws on chassis	
M6	10 Nm (7.4 ft·lb$_f$)

– Mount and tighten screws ❷.

Remaining screws on chassis	
M6	10 Nm (7.4 ft·lb$_f$)

Reworking

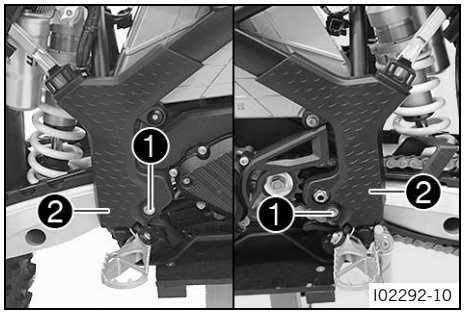
– Install the headlight mask with the headlight. (p. 109)
– Check the headlight adjustment. (p. 110)

12.16 Removing the shock absorber

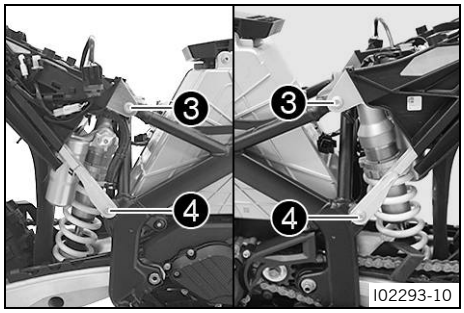
Preparatory work

– Raise the motorcycle with a lift stand. (p. 60)
– Remove the seat. (p. 73)
– Remove side cover. (p. 75)
– Remove the seat support. (p. 75)

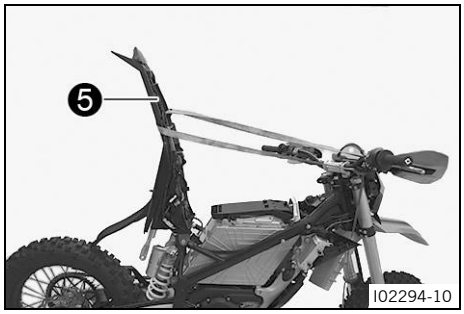
Main work



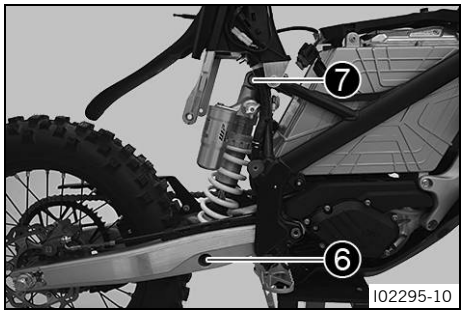
– Remove screws ❶.
– Remove frame protector ❷ on both sides.



– Loosen screws ❸.
– Remove screws ❹.

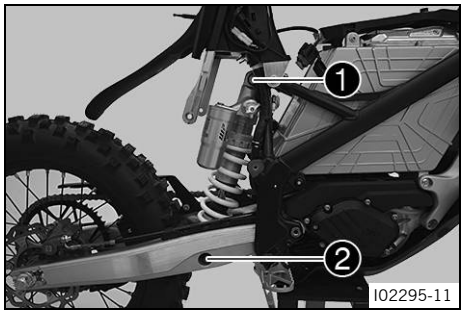


– Pivot subframe ❺ up and secure it.



– Remove screw ❻ and lower the rear wheel with the link fork as far as possible without blocking the rear wheel. Secure the rear wheel in this position.
– Remove screw ❼ and the shock absorber.

12.17 Installing the shock absorber



Main work

– Position the shock absorber.

– Mount and tighten screw ❶.

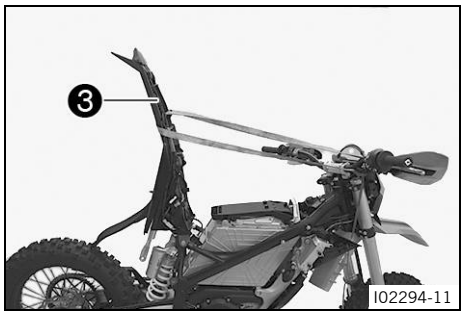
Top shock absorber screw	
M12	60 Nm (44.3 ft·lb$_f$) **Loctite® 2701**

– Mount and tighten screw ❷.

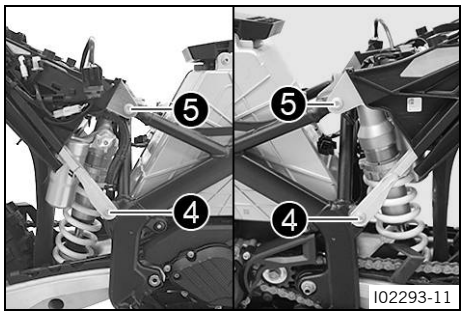
Bottom shock absorber screw	
M12	60 Nm (44.3 ft·lb$_f$) **Loctite® 2701**

Note

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



– Position subframe ❸.

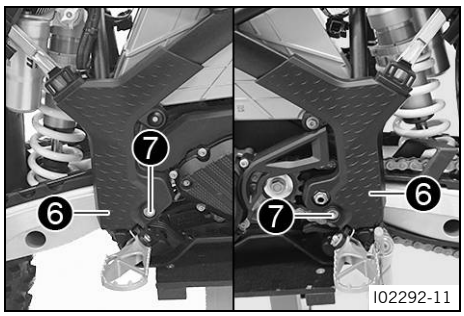


– Mount and tighten screws ❹.

Subframe screw	
M8	30 Nm (22.1 ft·lb$_f$) **Loctite® 243**

– Tighten screws ❺.

Subframe screw	
M8	30 Nm (22.1 ft·lb$_f$) **Loctite® 243**



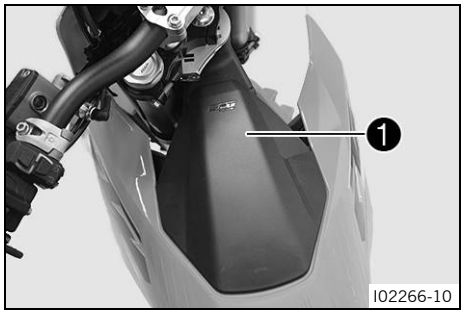
– Position frame protectors ❻ on both sides.
– Mount and tighten screws ❼.

Screw, frame protector	
M6	5 Nm (3.7 ft·lb$_f$)

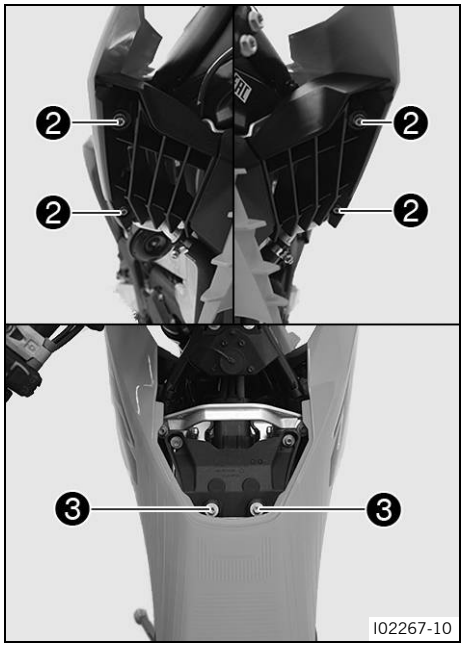
Reworking

– Mount the seat support. 📖 (p. 76)
– Install the side cover. 📖 (p. 75)
– Install the seat. 📖 (p. 74)
– Remove the motorcycle from the lift stand. 📖 (p. 60)

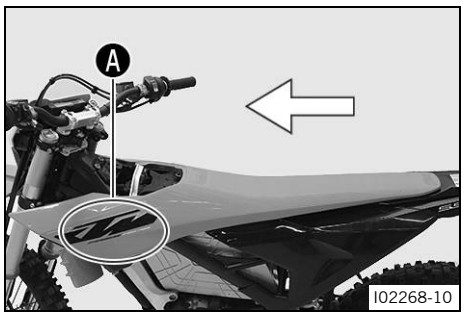
12.18 Removing the seat



– Remove cover ❶.

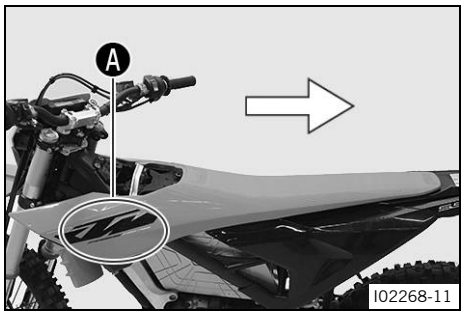


– Remove screws ❷.
– Remove screws ❸.

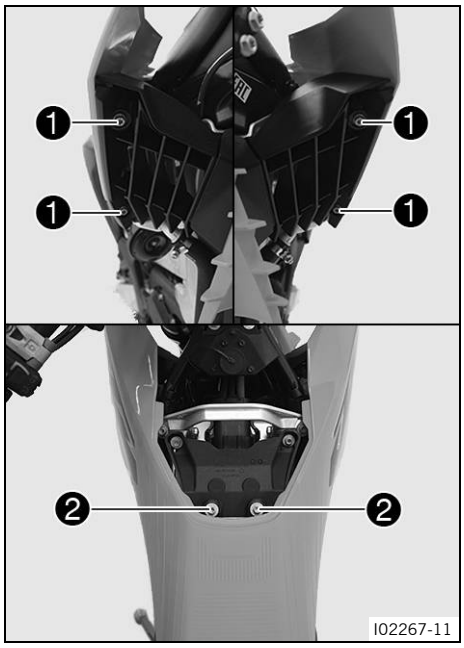


– Remove the seat from the rubber bushings in area Ⓐ.
– Remove the seat forward and upward.

12.19 Installing the seat



– Push the seat back and position it.
– Press spoiler in area Ⓐ into brackets on both sides.

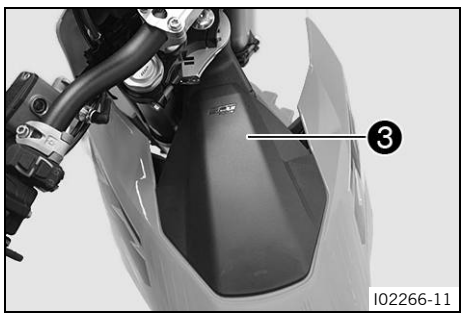


– Mount and tighten screws ❶.

Screw, spoiler attachment	
M6	6 Nm (4.4 ft·lb$_f$)

– Mount and tighten screws ❷.

Screw, seat on battery handle	
M6	5 Nm (3.7 ft·lb$_f$)



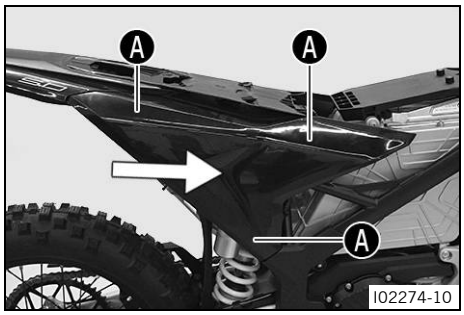
– Mount cover ❸.

12.20 Removing side cover

Preparatory work

– Remove the seat. (p. 73)

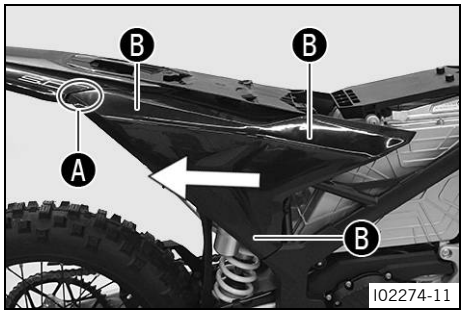
Main work



– Pull off the side cover in areas Ⓐ and push it sideways and forward.
– Take off the side cover.
– Repeat these steps on the opposite side.

12.21 Installing the side cover

Main work



– Attach the side cover in area Ⓐ and engage it in areas Ⓑ.
– Repeat these steps on the opposite side.

Reworking

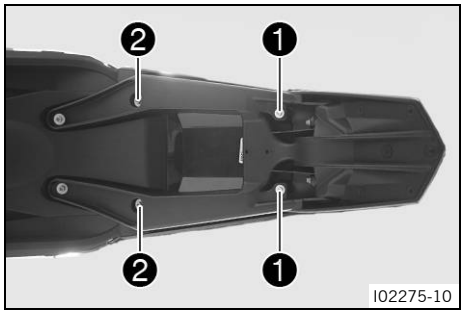
– Install the seat. (p. 74)

12.22 Removing the seat support

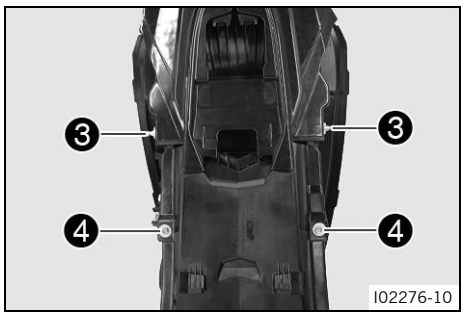
Preparatory work

– Remove the seat. (p. 73)
– Remove side cover. (p. 75)

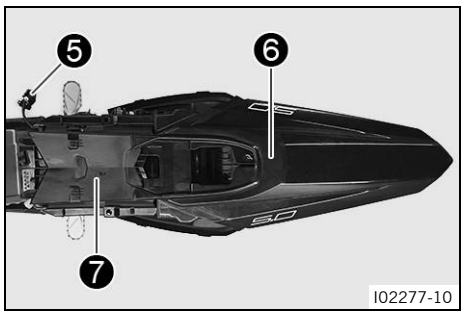
Main work



– Remove screws ❶.
– Remove screws ❷.



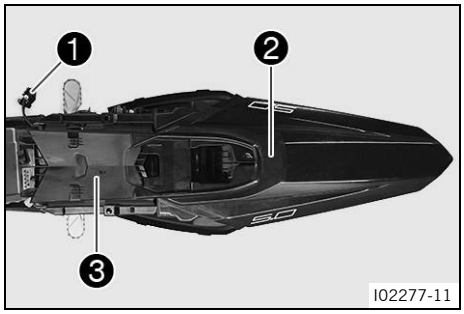
– Remove screws ❸.
– Remove screws ❹.



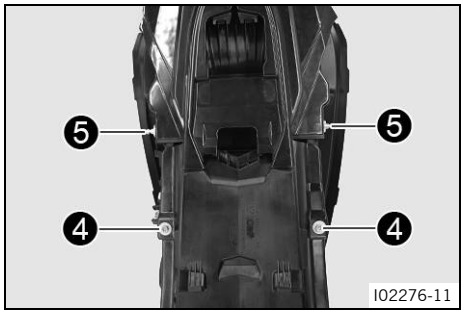
– Remove plug ❺.
– Remove rear fender ❻.
– Remove seat support ❼.

12.23 Mounting the seat support

Main work



– Mount connector ❶.
– Position seat support ❷.
– Position rear fender ❸.

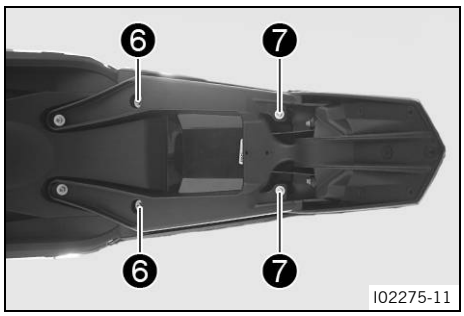


– Mount and tighten screws ❹.

Screw, seat support	
M6	5 Nm (3.7 ft·lb$_f$)

– Mount and tighten screws ❺.

Screw, rear fender on subframe	
M6	5 Nm (3.7 ft·lb$_f$)



– Mount and tighten screws ❻.

Screw, lower rear panel on rear of subframe	
M6	10 Nm (7.4 ft·lb$_f$)

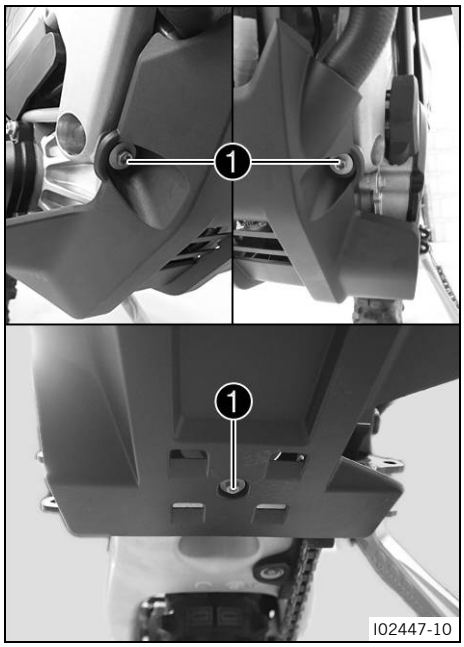
– Mount and tighten screws ❼.

Screw, license plate holder	
M6	5 Nm (3.7 ft·lb$_f$)

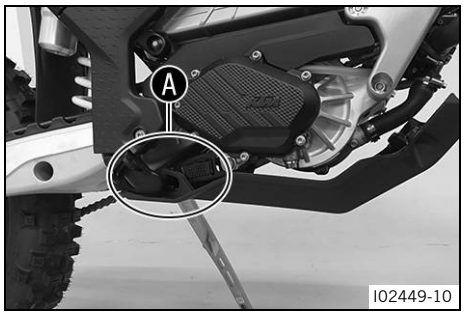
Reworking

– Install the side cover. (p. 75)
– Install the seat. (p. 74)

12.24 Removing the skid plate

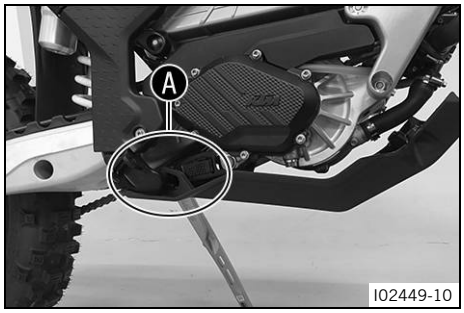


– Remove screws ❶.

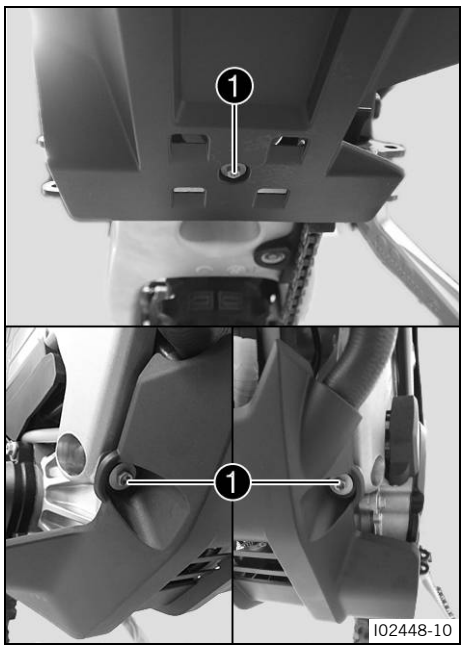


– Unhook and remove the engine guard in area Ⓐ on both sides.

12.25 Installing the skid plate



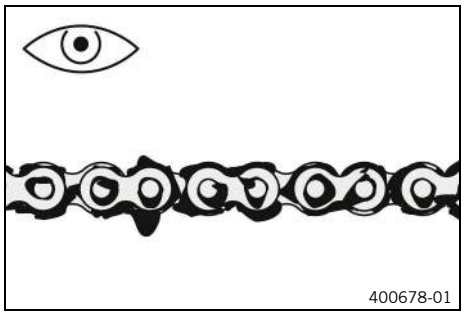
– Hook the engine guard into place in area Ⓐ at the rear of the frame on both sides and swivel it upward at the front.



– Mount and tighten screws ❶.

Screw, engine guard	
M6	5 Nm (3.7 ft·lb$_f$)

12.26 Checking the chain for dirt



– Check the chain for coarse dirt accumulation.
  » If the chain is very dirty:
    – Clean the chain. (p. 79)

12.27 Cleaning the chain

WARNING

Danger of accidents Oil, grease or wax on the brake discs reduces the brake action.

– Always keep the brake discs free of oil, fat and wax.
– Clean the brake discs with brake cleaner when necessary.

WARNING

Danger of accidents Lubricants on the tires reduces the road grip.

– Remove lubricants from the tires using a suitable cleaning agent.

NOTE

Environmental hazard Hazardous substances cause environmental damage.

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

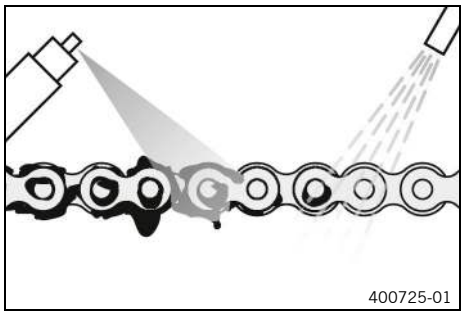
Note

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

Preparatory work

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

Main work



– Rinse off the loose dirt with a gentle jet of water.
– Remove old grease residues with a chain cleaner.

Chain cleaner (p. 147)

– After drying, apply chain spray.

Off-road chain spray (p. 145)

Reworking

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

12.28 Checking the chain tension

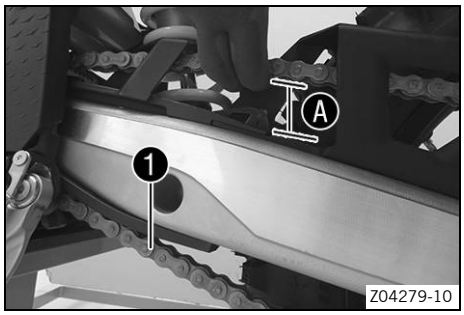
WARNING

Danger of accidents Incorrect chain tension can damage components and result in an accident.

If the chain is tension is too high, the chain, front sprocket, rear sprocket, transmission, and rear wheel bearings wear more quickly. Some components may break if overloaded.

If the chain is too loose, the chain may fall off the front sprocket or the rear sprocket. This can damage the rear wheel or the engine.

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



Preparatory work

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

Main work

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

Chain tension	48 mm ... 53 mm (1.89 in ... 2.09 in)

Note

Lower chain section 1 must be taut.

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

» If the chain tension does not meet the specification:
  – Adjust the chain tension. (p. 80)

Reworking

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

12.29 Adjusting the chain tension

WARNING

Danger of accidents Incorrect chain tension can damage components and result in an accident.

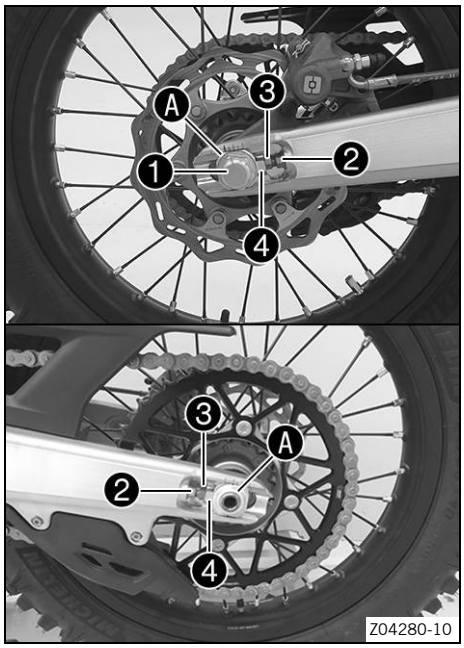
If the chain is tension is too high, the chain, front sprocket, rear sprocket, transmission, and rear wheel bearings wear more quickly. Some components may break if overloaded.

If the chain is too loose, the chain may fall off the front sprocket or the rear sprocket. This can damage the rear wheel or the engine.

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

Preparatory work

– Raise the motorcycle with a lift stand. (p. 60)
– Check the chain tension. (p. 79)



Main work

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

Chain tension	48 mm ... 53 mm (1.89 in ... 2.09 in)
Turn adjusting screws ❸ on the left and right so that the markings on the left and right chain adjusters are in the same position relative to reference marks Ⓐ. The rear wheel is then correctly aligned.	

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

Nut, wheel spindle, rear	
M20×1.5	80 Nm (59.0 ft·lb$_f$)

Note

The wide adjustment range of the chain adjusters enables different secondary ratios with the same chain length.

Chain adjusters ❹ can be turned by 180°.

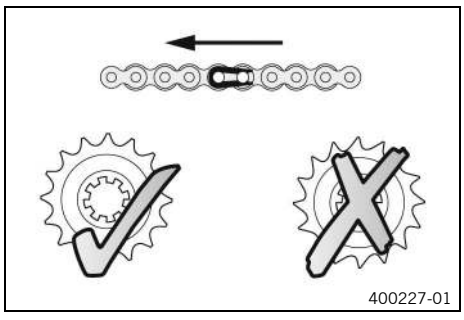
Reworking

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

12.30 Checking the chain, rear sprocket, front sprocket, and chain guide

Preparatory work

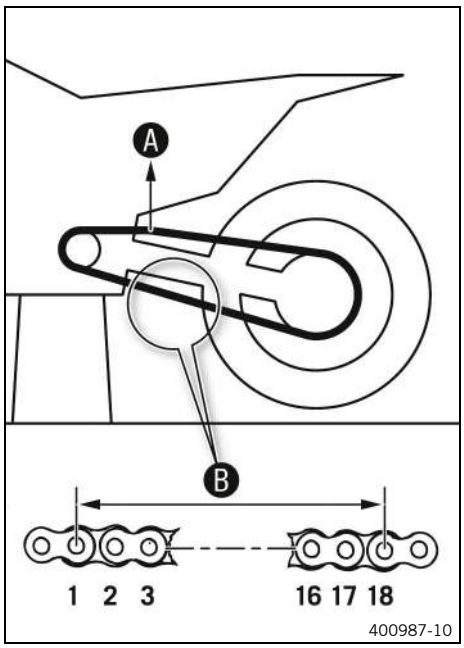
– Raise the motorcycle with a lift stand. (p. 60)



Main work

– Check the chain, rear sprocket, and front sprocket for wear.
  » If the chain, rear sprocket or engine sprocket is worn:
    – Change the drivetrain kit.

Always replace the front sprocket, rear sprocket, and chain together.



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

Weight, chain wear measurement	10 kg ... 15 kg (22.0 lb ... 33.1 lb)

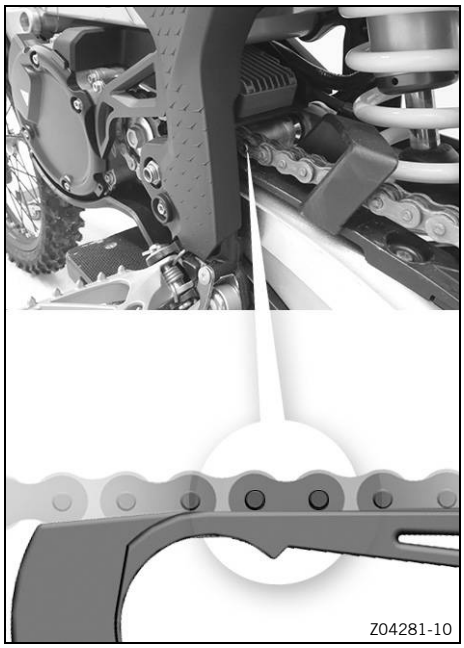
– Measure distance Ⓑ of chain rollers in the lower chain section.

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

Note
Chain wear is not always even, so repeat this measurement at different positions on the chain.

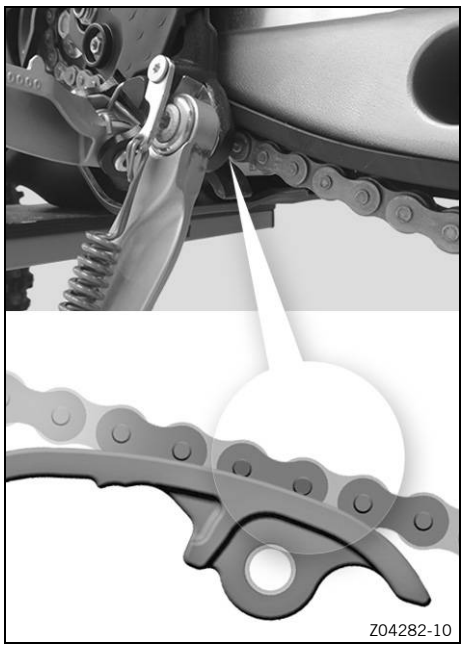
» If distance Ⓑ is greater than the specified measurement:
– Change the drivetrain kit.

Always replace the front sprocket, rear sprocket, and chain together.



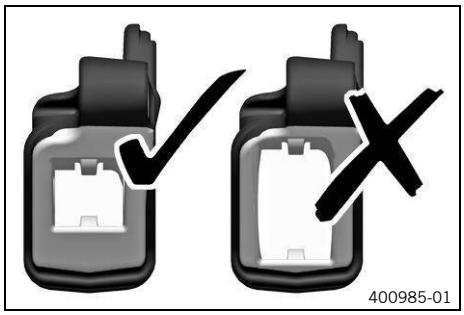
– Check the chain slider at the top for wear.
» If the lower edge of the chain pins is in line with, or below, the chain slider:
– Change the chain slider.
– Check that the chain slider is firmly seated.
» If the chain slider is loose:
– Tighten the screws of the chain slider.

Remaining screws on chassis	
M6	10 Nm (7.4 ft·lb$_f$)



– Check the chain slider for wear.
  » If the lower edge of the chain pins is in line with or below the chain slider:
    – Change the chain slider.
– Check that the chain slider is firmly seated.
  » If the chain slider is loose:
    – Tighten the screws of the chain slider.

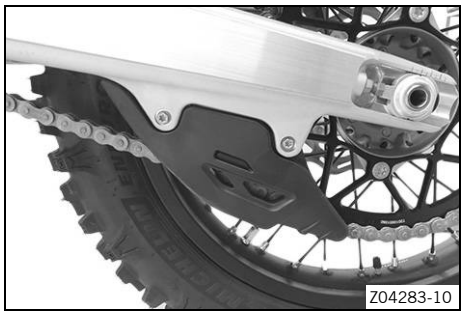
Screw, chain slider	
M8	15 Nm (11.1 ft·lb$_f$)



– Check the chain guide for wear.

Note
Wear can be seen on the front of the chain guide.

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



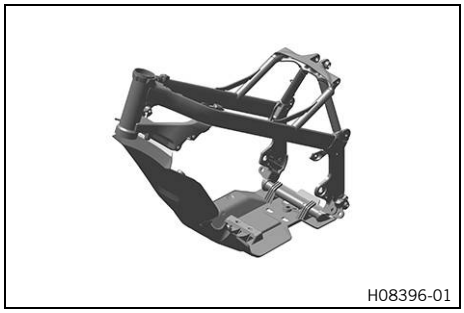
– Check that the chain guide is firmly seated.
  » If the chain guide is loose:
    – Tighten the fitting on the chain guide.

Remaining screws on chassis	
M6	10 Nm (7.4 ft·lb$_f$)
Remaining nuts on chassis	
M6	10 Nm (7.4 ft·lb$_f$)

Reworking

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

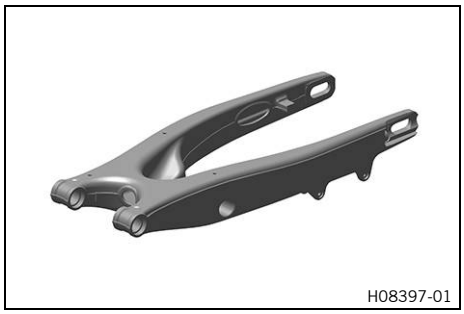
12.31 Checking the frame


H08396-01

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

Repairs on the frame are not permitted.

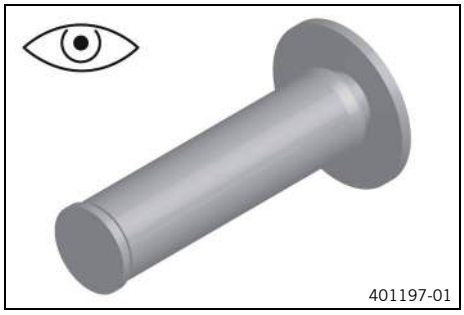
12.32 Checking the swingarm


H08397-01

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

Repairs on the swingarm are not permitted.

12.33 Checking the hand grip


401197-01

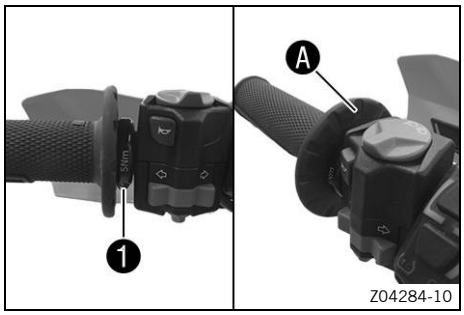
– Check the hand grips on the handlebar for damage, wear, and that they are firmly seated.

Note

The hand grips are vulcanized onto a sleeve on the left and onto the grip tube of the throttle grip on the right. The left sleeve is clamped onto the handlebar.

The hand grip can only be replaced with the sleeve or the gas pipe.

  » If a rubber grip is damaged, worn, or loose:
    – Replace the hand grip.



Z04284-10

– Check that screw 1 is firmly seated.

Screw, fixed grip	
M4	5 Nm (3.7 ft·lb$_f$)

Diamond A must be positioned visibly as shown in the figure.

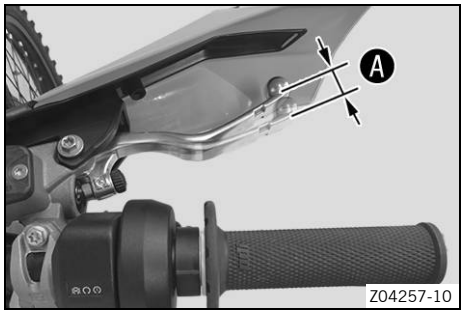
13.1 Checking the free travel of the front brake lever

WARNING

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

If there is no free travel on the brake lever, pressure builds up in the brake system.

– Set the free travel on the brake lever as specified.



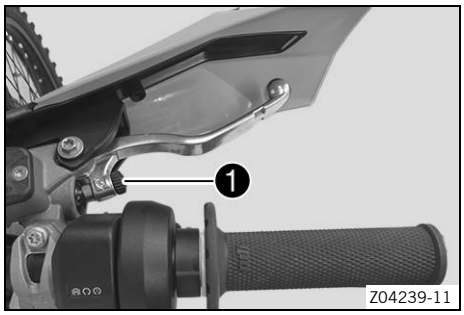
– Push the front brake lever to the handlebar and check free travel Ⓐ.

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

» If the free travel does not meet the specifications:

– Adjust the free travel of the front brake lever.
(p. 85)

13.2 Adjusting the free travel of the front brake lever



– Adjust the free travel of the front brake lever using adjusting screw ❶.

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

Note

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

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

The range of adjustment is limited.

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

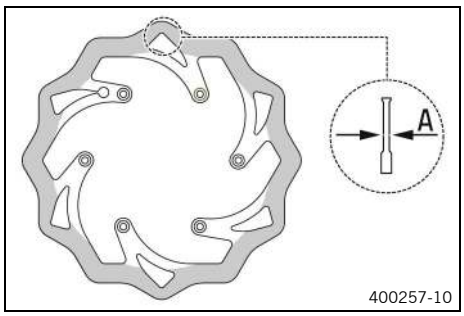
Do not make any adjustments while riding.

13.3 Checking the brake discs

WARNING

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

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



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

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

Note
Wear reduces the thickness of the brake discs at the contact surface of the brake pads.

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

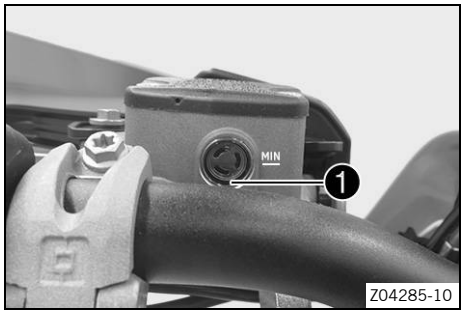
– Check the front and rear brake discs for damage, cracks, and deformation.

» If the brake disc shows signs of damage, cracks, or deformation:
  – Change the brake discs of the front brake.
  – Change the brake discs on the rear brake.

13.4 Checking the brake fluid level for the front brake

WARNING
Danger of accidents Brake fluid which is too old or of the wrong type impairs the function of the brake system.
– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.
– Make sure that only clean, approved brake fluid from a tightly sealed container is used.

WARNING
Danger of accidents An insufficient brake fluid level will cause the brake system to fail.
If the brake fluid level drops below the specified marking or the specified value, the brake system has a leak or the brake pads are worn down.
– Have the brake system checked and make sure that the problem has been eliminated before the vehicle is used again.



– Move the brake fluid reservoir attached to the right of the handlebar to a horizontal position.
– Check the brake fluid level in level viewer ❶.

» If the brake fluid level is below the **MIN** marking:
  – Add brake fluid for the front brake. (p. 87)

13.5 Adding brake fluid for the front brake

WARNING

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

– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.
– Make sure that only clean, approved brake fluid from a tightly sealed container is used.

WARNING

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

If the brake fluid level drops below the specified marking or the specified value, the brake system has a leak or the brake pads are worn down.

– Have the brake system checked and make sure that the problem has been eliminated before the vehicle is used again.

WARNING

Danger of accidents Unsuitable brake fluid damages the brake system.

DOT 5 brake fluid attacks seals and brake lines. DOT 5 brake fluid is silicone-based and purple in color.

– Do not use DOT 5 brake fluid.

WARNING

Health hazard Brake fluid is a harmful substance.

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

NOTE

Environmental hazard Hazardous substances cause environmental damage.

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

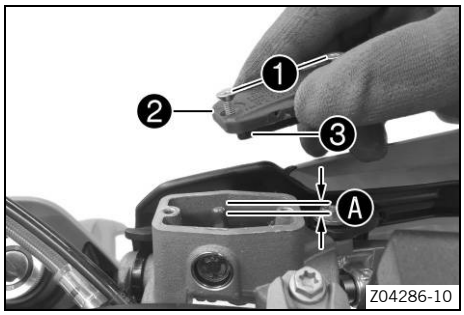
Note

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

Only use clean brake fluid from a sealed container.

Preparatory work

– Check that the brake pads of the front brake are secured.
(p. 88)



Main work

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

Level Ⓐ (brake fluid level below reservoir rim)	5 mm (0.20 in)

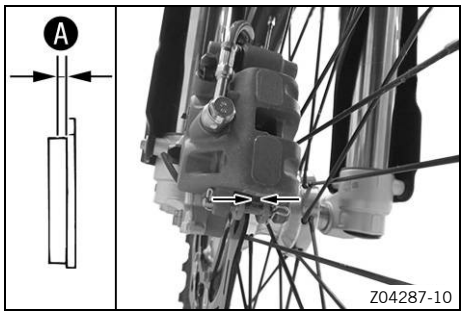
Brake fluid DOT 5.1 (p. 146)

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

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

13.6 Checking that the brake pads of the front brake are secured

WARNING
Danger of accidents Worn brake pads reduce the brake action.
– Make sure that worn brake pads are replaced immediately.



– Check the brake linings for lining thickness Ⓐ.

Minimum thickness Ⓐ	≥ 1 mm (≥ 0.04 in)

» If the minimum thickness is less than specified:
– Change the front brake pads. (p. 88)
– Check the brake linings for damage and cracking.
» If damage or wear is encountered:
– Change the front brake pads. (p. 88)
– Check that the brake pads are secured.
» If the brake pads are not secured correctly:
– Secure brake pads, replace with new parts if necessary.

13.7 Changing the brake pads of the front brake

WARNING
Danger of accidents Brake pads which have not been approved alter the braking action.
– Only use brake pads approved and recommended by the vehicle manufacturer.

WARNING
Danger of accidents Incorrect servicing will cause the brake system to fail.
– Ensure that service work and repairs are performed professionally.

WARNING

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

– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.
– Make sure that only clean, approved brake fluid from a tightly sealed container is used.

WARNING

Danger of accidents Oil, grease or wax on the brake discs reduces the brake action.

– Always keep the brake discs free of oil, fat and wax.
– Clean the brake discs with brake cleaner when necessary.

WARNING

Danger of accidents Unsuitable brake fluid damages the brake system.

DOT 5 brake fluid attacks seals and brake lines. DOT 5 brake fluid is silicone-based and purple in color.

– Do not use DOT 5 brake fluid.

WARNING

Health hazard Brake fluid is a harmful substance.

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

NOTE

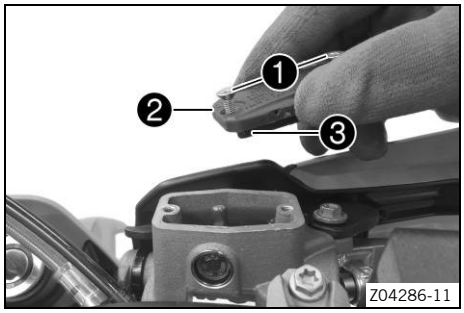
Environmental hazard Hazardous substances cause environmental damage.

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

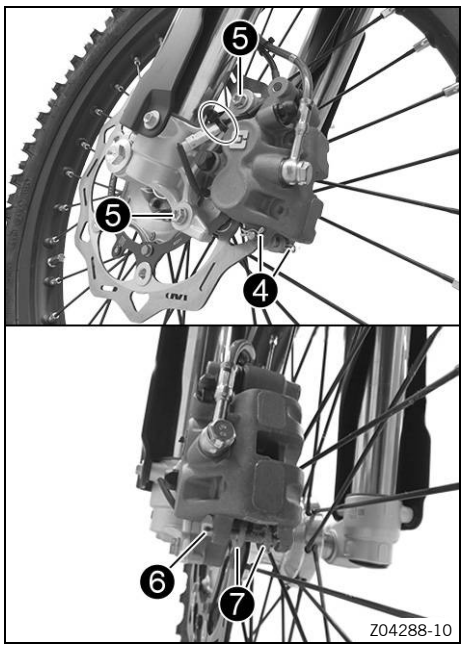
Note

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

Only use clean brake fluid from a sealed container.



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



– Remove cotter pin 4.
– Remove the cable tie(s) and disconnect plug-in connector.
– Remove screws 5.
– Manually press the brake caliper toward the brake disc to push back the brake pistons. Ensure that brake fluid does not flow out of the brake fluid reservoir; extract some if necessary.

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

– Remove pin 6.
– Remove brake linings 7 and the retainer spring.
– Press the brake piston back to its basic position and make sure that no brake fluid overflows from the brake reservoir, extract some brake fluid if necessary.
– Clean the brake caliper.
– Check the brake discs. (p. 85)
– Position the retainer spring.
– Put the new brake pads in position.

Note
Always replace brake pads in sets.

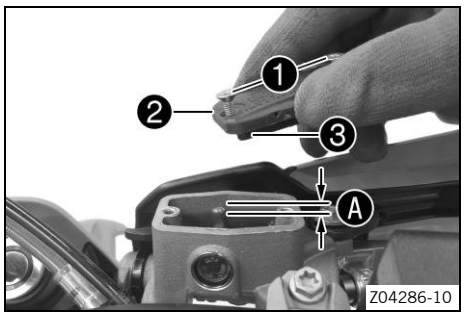
– Mount pin 6.

Note
To make it easier to mount the stud, push the brake pads upward against the retaining spring.
Make sure the brake pads and retaining spring are properly seated.

– Mount cotter pins 4.
– Position the brake caliper. Mount screws 5, but do not tighten yet.
– Operate the front brake lever several times until the brake linings are in contact with the brake disc and there is a pressure point. Secure the front brake lever in the activated position.
  ✓ The brake caliper straightens.
– Tighten screws 5.

Screw, front brake caliper	
M8	25 Nm (18.4 ft·lb$_f$) **Loctite® 243**

– Join plug-in connector and mount the cable tie(s).
– Remove the means of securing the front brake lever.



– Correct the brake fluid up to level Ⓐ.

Level Ⓐ (brake fluid level below reservoir rim)	5 mm (0.20 in)

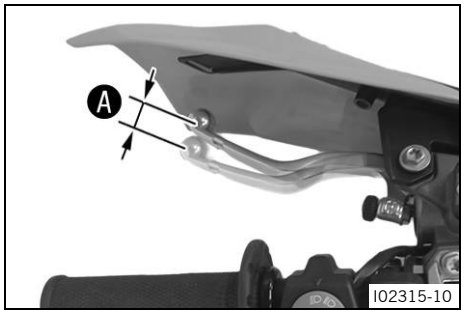
Brake fluid DOT 5.1 (p. 146)

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

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

13.8 Checking the free travel of the rear brake lever

WARNING
Danger of accidents The brake system fails in the event of overheating.
If there is no free travel on the brake lever, pressure builds up in the brake system.
– Set the free travel on the brake lever as specified.

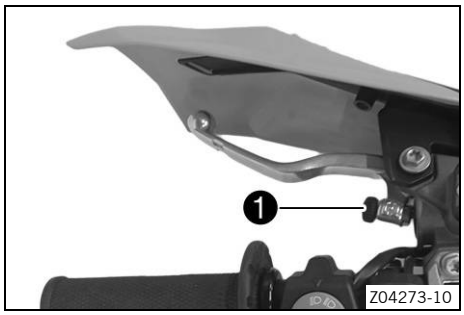


– Push the rear brake lever to the handlebar and check free travel Ⓐ.

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

» If the free travel does not meet the specifications:
– Adjust the free travel of the rear brake lever. (p. 91)

13.9 Adjusting the free travel of the rear brake lever



– Adjust the free travel of the rear brake lever using adjusting screw ❶.

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

Note
Turn the adjusting screw clockwise to reduce free travel. The pressure point moves away from the handlebar.
Turn the adjusting screw counterclockwise to increase free travel. The pressure point moves towards the handlebar.
The range of adjustment is limited.
Only turn the adjusting screw by hand, and do not use force.
Do not make any adjustments while riding.

13.10 Checking the brake fluid level for the rear brake

WARNING

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

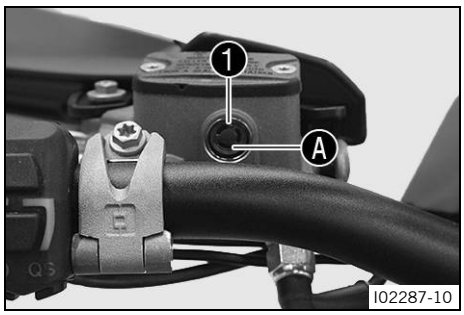
– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.
– Make sure that only clean, approved brake fluid from a tightly sealed container is used.

WARNING

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

If the brake fluid level drops below the specified marking or the specified value, the brake system has a leak or the brake pads are worn down.

– Have the brake system checked and make sure that the problem has been eliminated before the vehicle is used again.



– Move the brake fluid reservoir attached to the left of the handlebar to a horizontal position.
– Check the brake fluid level in level viewer 1.
  » If the brake fluid level has dropped below **MIN** marking A:
    – Add brake fluid for the rear brake. (p. 92)

13.11 Adding brake fluid for the rear brake

WARNING

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

– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.
– Make sure that only clean, approved brake fluid from a tightly sealed container is used.

WARNING

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

If the brake fluid level drops below the specified marking or the specified value, the brake system has a leak or the brake pads are worn down.

– Have the brake system checked and make sure that the problem has been eliminated before the vehicle is used again.

WARNING

Danger of accidents Unsuitable brake fluid damages the brake system.

DOT 5 brake fluid attacks seals and brake lines. DOT 5 brake fluid is silicone-based and purple in color.

– Do not use DOT 5 brake fluid.

WARNING

Health hazard Brake fluid is a harmful substance.

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

NOTE

Environmental hazard Hazardous substances cause environmental damage.

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

Note

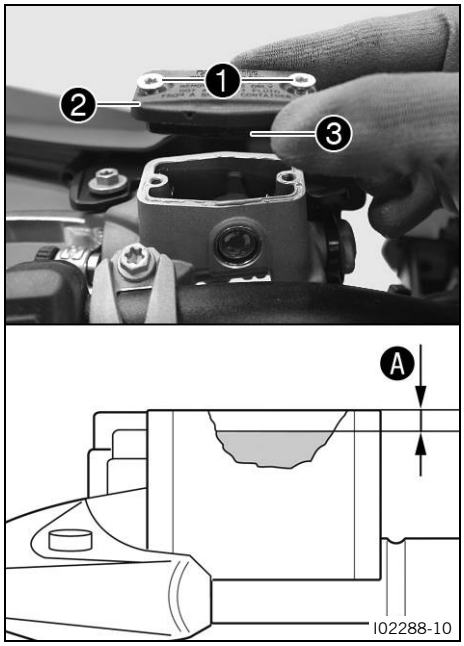
Avoid contact between brake fluid and painted parts. Brake fluid corrodes paint.

Only use clean brake fluid from a sealed container.

Preparatory work

- Check that the brake pads of the rear brake are secured. (p. 94)

Main work



- Move the brake fluid reservoir attached to the left of the handlebar to a horizontal position.
- Remove screws 1.
- Take off cover 2 with membrane 3.
- Add brake fluid to level A.

Level A (brake fluid level below reservoir rim)	5 mm (0.20 in)

Brake fluid DOT 5.1 (p. 146)

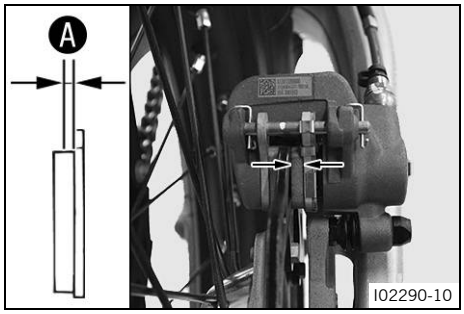
- Position the cover with diaphragm. Mount and tighten the screws.

Note

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

13.12 Checking that the brake pads of the rear brake are secured

WARNING
Danger of accidents Worn brake pads reduce the brake action.
– Make sure that worn brake pads are replaced immediately.



– Check the brake linings for lining thickness Ⓐ.

Minimum thickness Ⓐ	≥ 1 mm (≥ 0.04 in)

» If the minimum thickness is less than specified:
– Change the rear brake pads. (p. 94)
– Check the brake linings for damage and cracking.
» If damage or wear is encountered:
– Change the rear brake pads. (p. 94)
– Check that the brake pads are secured.
» If the brake pads are not secured correctly:
– Secure brake pads, replace with new parts if necessary.

13.13 Changing the rear brake pads

WARNING
Danger of accidents Brake pads which have not been approved alter the braking action.
– Only use brake pads approved and recommended by the vehicle manufacturer.

WARNING
Danger of accidents Incorrect servicing will cause the brake system to fail.
– Ensure that service work and repairs are performed professionally.

WARNING
Danger of accidents Brake fluid which is too old or of the wrong type impairs the function of the brake system.
– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.
– Make sure that only clean, approved brake fluid from a tightly sealed container is used.

WARNING
Danger of accidents Oil, grease or wax on the brake discs reduces the brake action.
– Always keep the brake discs free of oil, fat and wax.
– Clean the brake discs with brake cleaner when necessary.

WARNING
Danger of accidents Unsuitable brake fluid damages the brake system.
DOT 5 brake fluid attacks seals and brake lines. DOT 5 brake fluid is silicone-based and purple in color.
– Do not use DOT 5 brake fluid.

WARNING

Health hazard Brake fluid is a harmful substance.

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

NOTE

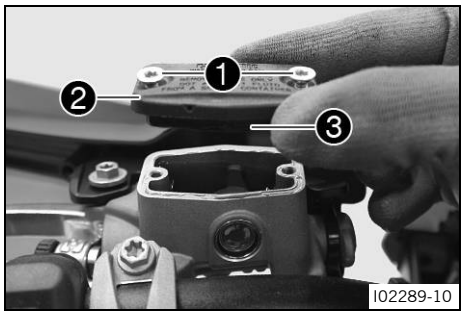
Environmental hazard Hazardous substances cause environmental damage.

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

Note

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

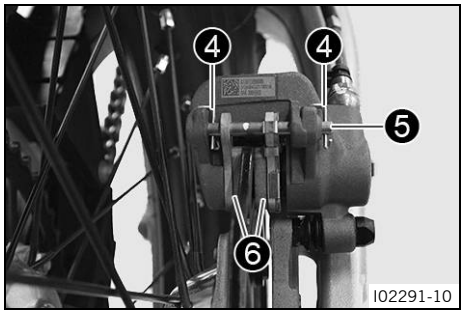
Only use clean brake fluid from a sealed container.



– Move the brake fluid reservoir attached to the left of the handlebar to a horizontal position.
– Remove screws ❶.
– Take off cover ❷ with membrane ❸.
– Manually press the brake caliper toward the brake disc to push back the brake pistons. Ensure that brake fluid does not flow out of the brake fluid reservoir; extract some if necessary.

Note

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

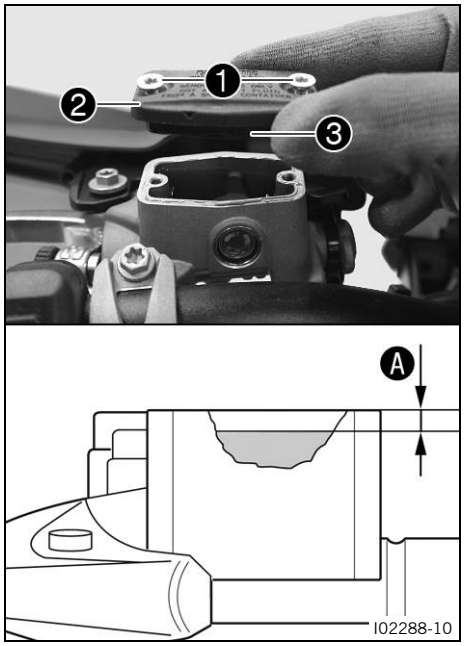


– Remove cotter pin ❹.
– Remove pin ❺.
– Remove brake linings ❻ and the retainer spring.
– Press the brake piston back to its basic position and make sure that no brake fluid overflows from the brake reservoir, extract some brake fluid if necessary.
– Clean the brake caliper.
– Check the brake discs. (p. 85)
– Position the retainer spring.
– Put the new brake pads in position.

Note

Always replace brake pads in sets.

– Mount pin ❺.



Note

To make it easier to mount the pin, push the brake linings upwards against the retainer spring.

Make sure the brake pads and retaining spring are properly seated.

– Mount cotter pins 4.
– Operate the rear brake lever several times until the brake linings are in contact with the brake disc and there is a pressure point.
– Correct brake fluid level to marking A.

Level A (brake fluid level below reservoir rim)	5 mm (0.20 in)

Brake fluid DOT 5.1 (p. 146)

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

Note

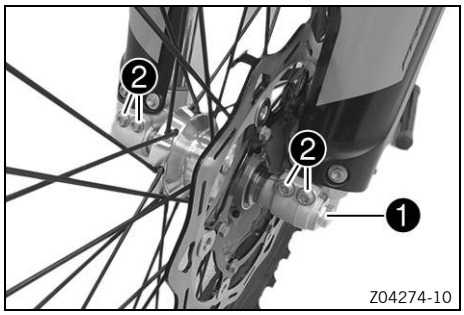
Immediately clean up any brake fluid that has overflowed or spilled with water.

14.1 Removing the front wheel

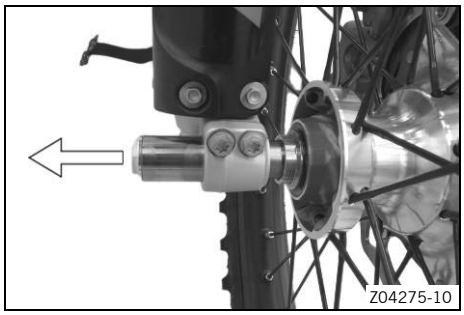
Preparatory work

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

Main work



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



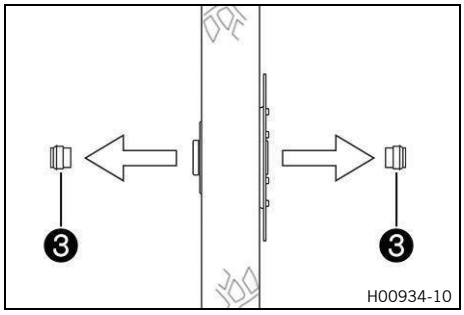
WARNING

Danger of accidents Damaged brake discs reduce the braking action.

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

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

Do not operate the front brake lever when the front wheel is removed.



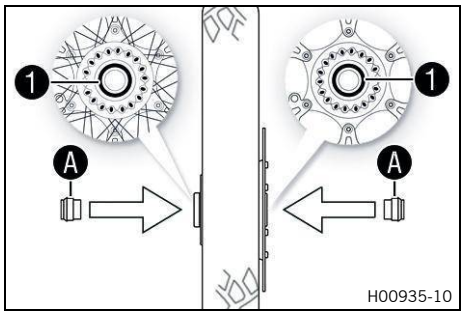
– Remove spacers ❸.

14.2 Installing the front wheel

WARNING

Danger of accidents Oil, grease or wax on the brake discs reduces the brake action.

– Always keep the brake discs free of oil, fat and wax.
– Clean the brake discs with brake cleaner when necessary.

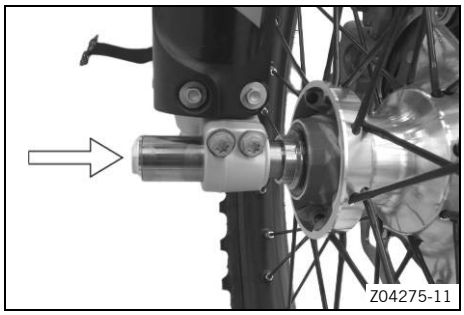


Main work

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

Long-life grease (p. 145)

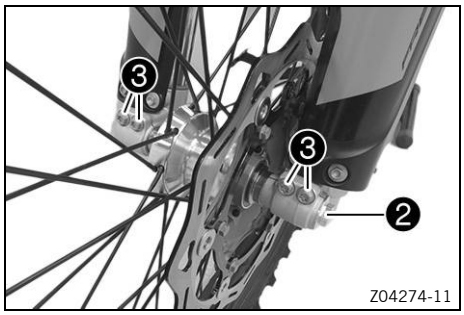
– Insert spacers.



– Clean and lightly grease the wheel spindle.

Long-life grease (p. 145)

– Position the front wheel and insert the wheel spindle.
  ✓ The brake pads are positioned correctly.



– Mount and tighten screw ❷.

Screw, wheel spindle, front	
M20×1.5	35 Nm (25.8 ft·lb$_f$)

– Operate the front brake lever several times until the brake linings are in contact with the brake disc.
– Remove the motorcycle from the lift stand. (p. 60)
– Operate the front brake and compress the fork a few times firmly.
  ✓ The fork legs straighten.
– Tighten screws ❸.

Screw, fork shoe	
M8	15 Nm (11.1 ft·lb$_f$)

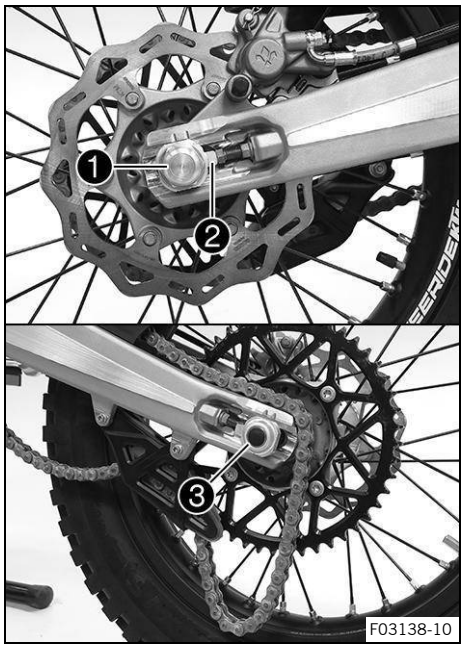
Reworking

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

14.3 Removing the rear wheel

Preparatory work

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



Main work

– Remove nut ❶.
– Take off chain adjuster ❷.

Pull out wheel spindle ❸ far enough to allow the rear wheel to be pushed forward.

– Push the rear wheel forward as far as possible. Remove the chain from the rear sprocket.

Protect the components against damage by covering them.

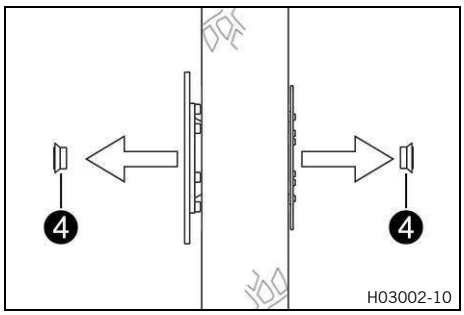
WARNING

Danger of accidents Damaged brake discs reduce the braking action.

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

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

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



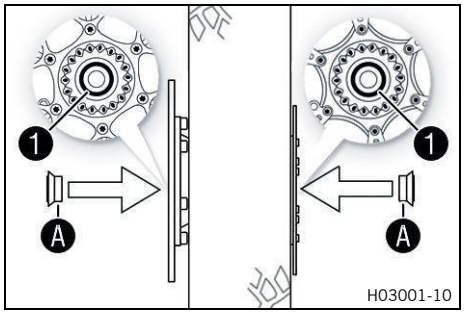
– Remove spacers ❹.

14.4 Installing the rear wheel

WARNING

Danger of accidents Oil, grease or wax on the brake discs reduces the brake action.

– Always keep the brake discs free of oil, fat and wax.
– Clean the brake discs with brake cleaner when necessary.



Main work

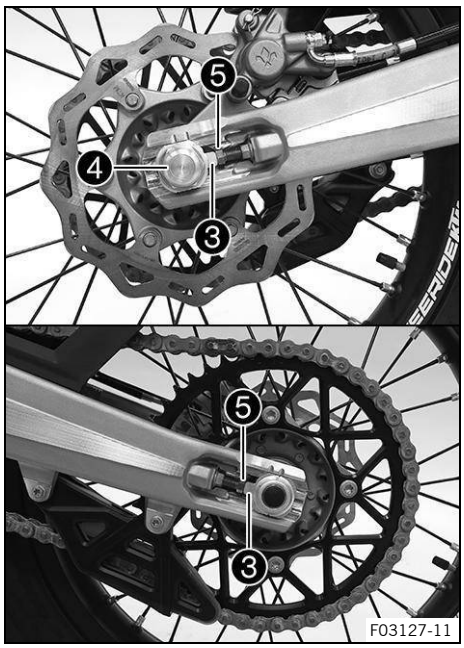
– Check the wheel bearing for damage and wear.
  » If the wheel bearing is damaged or worn:
    – Change the rear wheel bearing.
– Clean and grease radial shaft seal ❶ and contact surfaces Ⓐ on the spacers.

Long-life grease (p. 145)

– Insert spacers.



– Position the rear wheel.
  ✓ The brake pads are positioned correctly.
– Insert wheel spindle ❷.
– Attach the chain.



– Position chain adjuster ❸. Mount nut ❹, but do not tighten yet.
– Make sure that chain adjusters ❸ are fitted correctly on adjusting screws ❺.
– Check the chain tension. (p. 79)
– Tighten nut ❹.

Nut, wheel spindle, rear	
M20×1.5	80 Nm (59.0 ft·lb$_f$)

Note
The wide adjustment range of the chain adjusters enables different secondary ratios with the same chain length.
Chain adjusters ❸ can be turned by 180°.

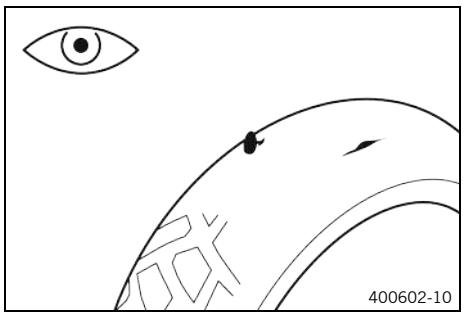
– Operate the rear brake lever several times until the brake linings are in contact with the brake disc and there is a pressure point.

Reworking

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

14.5 Checking the tire condition

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

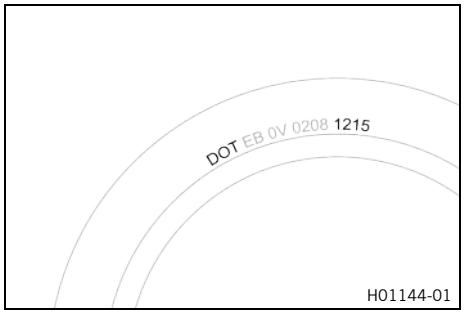


– Check the front and rear tires for cuts, embedded objects, and other damage.
  » If the tires have cuts, run-in objects, or other damage:
    – Change the tires.
– Check the tread depth.

Minimum tread depth	≥ 2 mm (≥ 0.08 in)

Note
Observe the minimum profile depth required by national law.

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



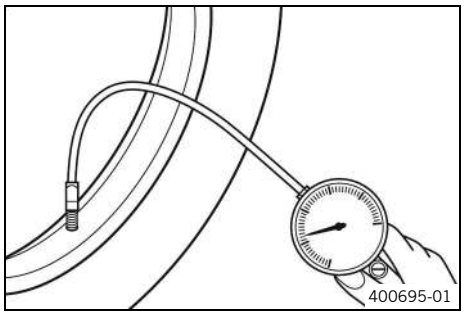
– Check the tire age.

Note
The tire's date of manufacture is usually part of the tire markings and is indicated by four digits. The first two digits indicate the week of manufacture and the last two digits the year of manufacture.
KTM recommends that the tires be changed after 5 years at the latest, regardless of the actual state of wear.

  » If the tires are older than five years:
    – Change the tires.

14.6 Checking the tire pressure

Note
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.

Off-road tire pressure	
front	0.9 bar (13.1 psi)
rear	0.7 bar (10.2 psi)

Street tire pressure	
front	2 bar (29 psi)
rear	2 bar (29 psi)

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

14.7 Checking the spoke tension

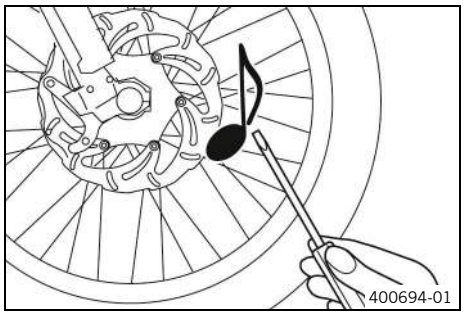
WARNING

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

If the spokes are too tight, they can break due to being overloaded.

Loose spokes can cause lateral or radial run-out in the wheel and other spokes will loosen as a result.

– Check the spoke tension regularly, especially on a new vehicle.



– Briefly tap each spoke with a screwdriver.

You should hear a high-pitched sound.

Note

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

If spokes of equal length and diameter vibrate with a different tone, this is an indication that the spoke tensions differ.

» If the spoke tension differs:

– Correct the spoke tension.

– Check the spoke torque.

Spoke nipple	
M4,5	6 Nm (4.4 ft·lb$_f$)

Torque wrench kit (58429094000)

15.1 Removing the 12-V battery

WARNING

Risk of injury 12–V batteries contain harmful substances.

- Keep 12–V batteries out of the reach of children.
- Keep the battery away from sparks or open flames.
- Only charge batteries in well-ventilated rooms.
- Maintain a minimum distance from flammable materials when charging 12-V batteries.

Minimum distance	1 m (3 ft – 3 in)

- Do not charge deeply discharged 12– V batteries if the charge is already below the minimum voltage.

Minimum voltage before starting charging	9 V

- Dispose of 12 V batteries correctly if they have less than the minimum voltage.

NOTE

Environmental hazard 12–V batteries contain environmentally-hazardous materials.

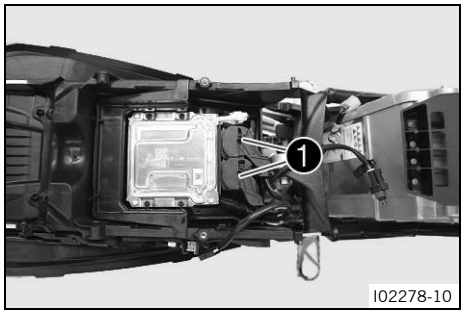
- Do not dispose of 12–V batteries as household waste.
- Dispose of 12–V batteries at a collection point for used batteries.

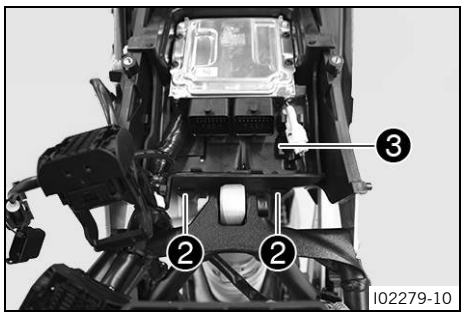
Preparatory work

- Remove the seat. (p. 73)
- Remove side cover. (p. 75)
- Remove the seat support. (p. 75)

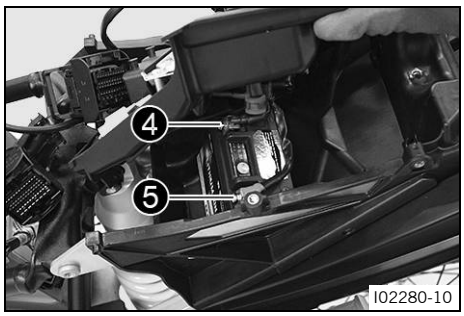
Main work

- Unplug connector ❶.





- Release catches ❷ of electrical compartment ❸.
- Hang electrical compartment ❸ to the side.



– Disconnect negative cable ❹ from the 12 V battery.
– Disconnect positive cable ❺ from the 12-V battery.
– Pull the 12-V battery upwards and out of the battery compartment.

15.2 Installing the 12-V battery

WARNING

Risk of injury 12–V batteries contain harmful substances.

– Keep 12–V batteries out of the reach of children.
– Keep the battery away from sparks or open flames.
– Only charge batteries in well-ventilated rooms.
– Maintain a minimum distance from flammable materials when charging 12-V batteries.

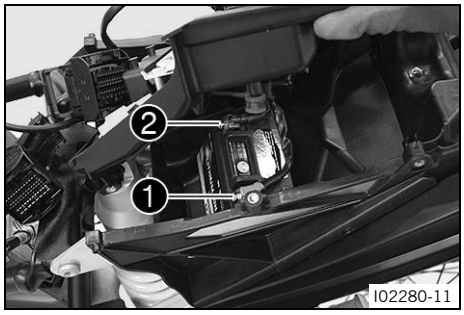
Minimum distance	1 m (3 ft – 3 in)

– Do not charge deeply discharged 12– V batteries if the charge is already below the minimum voltage.

Minimum voltage before starting charging	9 V

– Dispose of 12 V batteries correctly if they have less than the minimum voltage.

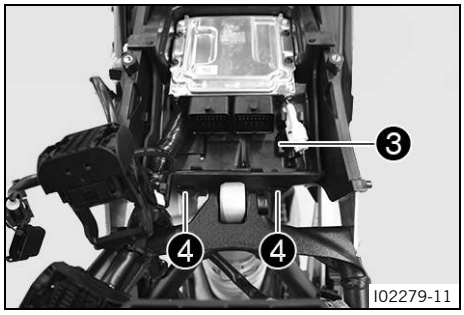
Main work



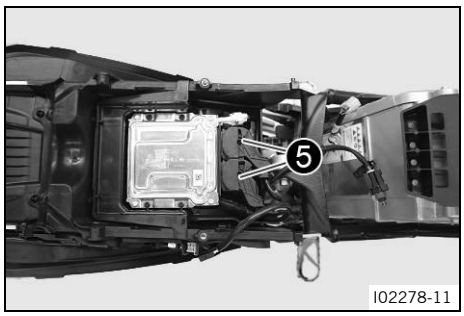
– Position the 12-V battery in the battery compartment.

12-V battery (LFP01) (p. 144)

– Position positive cable ❶ and mount and tighten the screw.
– Position negative cable ❷ and mount and tighten the screw.



– Position electrical compartment ❸.
– Allow catches ❹ to engage.



– Plug in connector ❺.

Reworking

– Mount the seat support. (p. 76)
– Install the side cover. (p. 75)
– Install the seat. (p. 74)

15.3 Charging the 12 V battery

WARNING

Risk of injury 12–V batteries contain harmful substances.

– Keep 12–V batteries out of the reach of children.
– Keep the battery away from sparks or open flames.
– Only charge batteries in well-ventilated rooms.
– Maintain a minimum distance from flammable materials when charging 12-V batteries.

Minimum distance	1 m (3 ft – 3 in)

– Do not charge deeply discharged 12– V batteries if the charge is already below the minimum voltage.

Minimum voltage before starting charging	9 V

– Dispose of 12 V batteries correctly if they have less than the minimum voltage.

NOTE

Environmental hazard 12–V batteries contain environmentally-hazardous materials.

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

Note

Even when there is no load on the 12 V battery, it discharges steadily each day.

The state of charge and the method of charging are very important for the service life of the 12 V battery.

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

If the charging current, charging voltage, or charging time is exceeded, the 12 V battery will be destroyed.

If the 12 V battery is flat, it must be charged immediately.

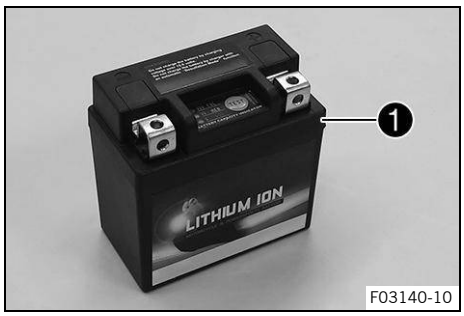
If the 12 V battery is left in a discharged state for an extended period, it will become deeply discharged and suffer a loss of capacity, destroying the battery.

The 12 V battery is maintenance-free.

Note

The 12 V battery is recharged by the Powerpack while the vehicle is in operation.

When the Powerpack is charging in the vehicle, the 12 V battery is also charged.



Preparatory work

– Remove the seat. (p. 73)
– Remove side cover. (p. 75)
– Remove the seat support. (p. 75)
– Remove the 12-V battery. (p. 103)

Main work

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

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

Battery charger (58429074000)

Note
Never remove cover 1.

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

Note
These chargers are only suitable for lithium iron phosphate batteries. Read the accompanying **KTM PowerParts** instructions.

Reworking

– Install the 12-V battery. (p. 104)
– Mount the seat support. (p. 76)
– Install the side cover. (p. 75)
– Install the seat. (p. 74)

15.4 Changing the main fuse

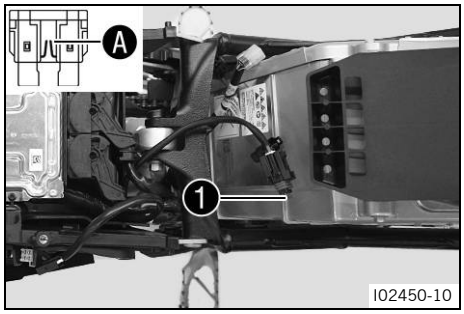
WARNING

Fire hazard Incorrect fuses overload the electrical system.

– Use only fuses with the prescribed amperage.
– Do not bypass or repair fuses.

Note

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



Preparatory work

– Remove the seat. (p. 73)
– Remove side cover. (p. 75)
– Remove the seat support. (p. 75)

Main work

– Remove the protection caps.
– Remove faulty main fuse 1.

Note

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

– Insert the main fuse.

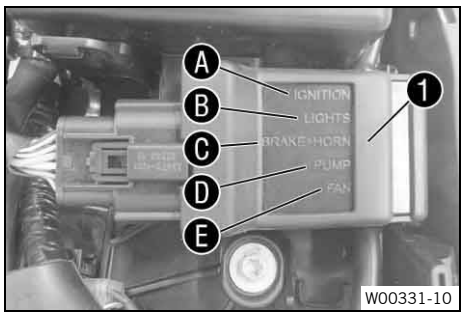
Fuse (58011109115) (p. 144)

– Check that the electrical equipment is functioning properly.
– Mount the protection caps.

Reworking

– Mount the seat support. (p. 76)
– Install the side cover. (p. 75)
– Install the seat. (p. 74)

15.5 OCU



The **OCU** 1 is next to the 12-V battery in the electrical compartment.

The **OCU** replaces conventional fuses and relays.

All outputs are switched independently of the signals of the voltage regulator and ECU.

The outputs are deactivated individually in the event of overcurrent.

This enables easy error detection because the status of each output is indicated via LED lights.

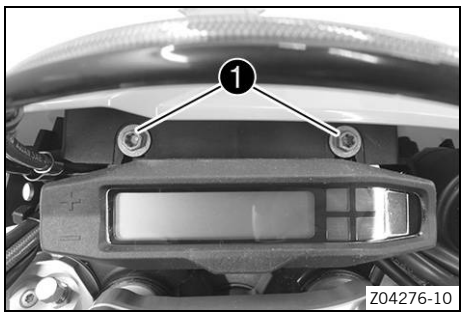
The **OCU** monitors the electronics system completely independently.

As soon as an indicated error is rectified, the status light of the **OCU** changes from red to green.

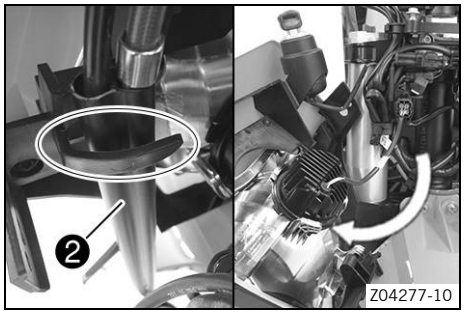
overview

A	Ignition
B	Light
C	Brake light + horn
D	Water pump
E	Not in use; continuously lights up red

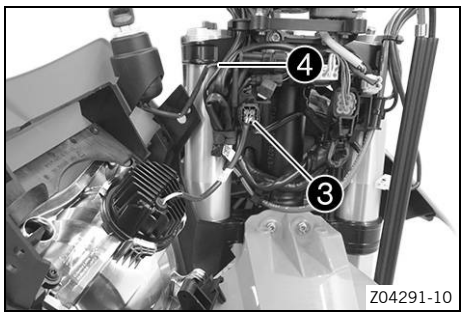
15.6 Removing the headlight mask with the headlight



– Loosen screws ❶. Slide the headlight mask forward and swing it forward.



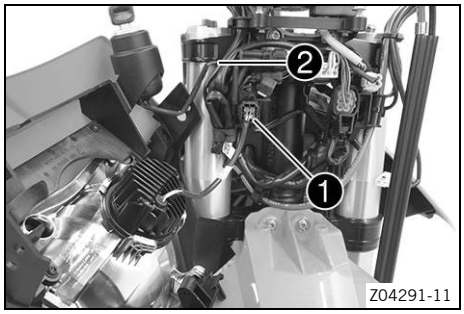
– Detach the brake line and wiring harness ❷.



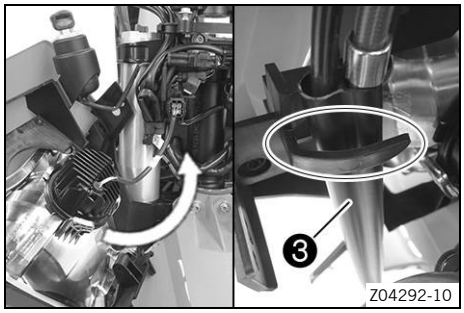
– Disconnect the plug-in connector ❸ of the headlight and the plug-in connector ❹ of the ignition lock.

15.7 Installing the headlight mask with the headlight

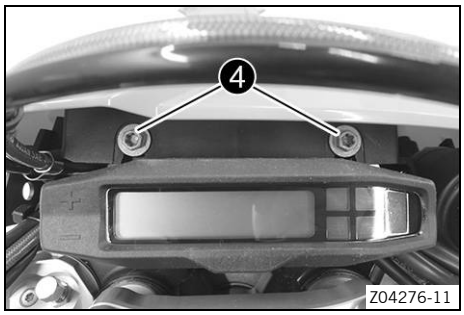
Main work



– Connect plug-in connector ❶ of the headlight and plug-in connector ❷ of the ignition lock.



– Attach the brake line and wiring harness ❸.
– Position the headlight mask.
  ✓ The holding lugs on the headlight mask engage in the fender.



– Mount and tighten screws ❹.

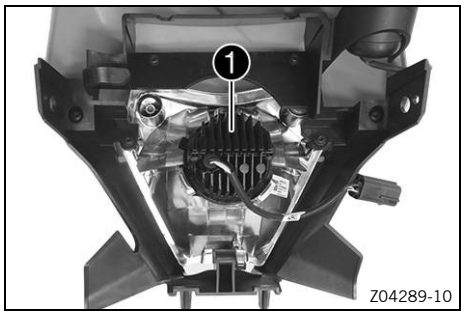
Reworking

– Check the headlight adjustment. (p. 110)

15.8 Changing the headlight bulb

Preparatory work

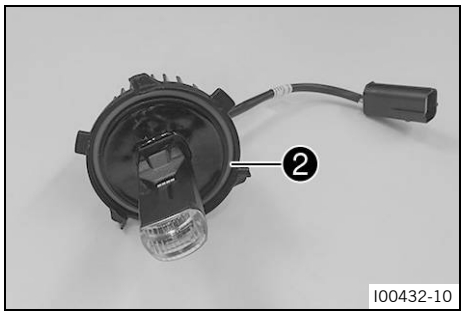
– Remove the headlight mask with the headlight. (p. 108)



Main work

– Turn LED unit ❶ counterclockwise all the way and take it out of the reflector.

Only touch the LED unit on the cooling element.



– Insert the LED unit into the reflector and turn it clockwise all the way.

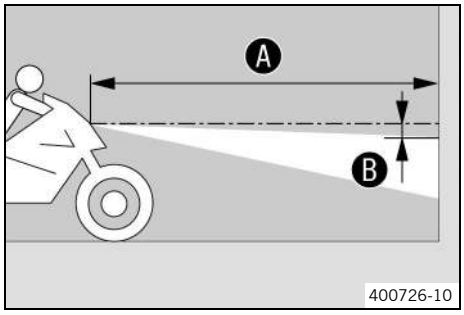
Ensure that O-ring ❷ is seated properly.

Headlight (LED) 📖 (p. 144)

Reworking

– Install the headlight mask with the headlight. 📖 (p. 109)
– Check the headlight adjustment. 📖 (p. 110)

15.9 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 Ⓑ under the first marking.

Distance Ⓑ	5 cm (2.0 in)

– Position the vehicle vertically a distance Ⓐ away from the wall.

Distance Ⓐ	5 m (16 ft – 5 in)

– The rider now sits down on the motorcycle with a full set of protective clothing.
– Turn the ignition key in the ignition lock to position ◯.
– Push the main switch into position ◯.
– Switch on the low beam.
– Check the headlight adjustment.

The boundary between light and dark must be exactly on the lower marking for a motorcycle with rider.

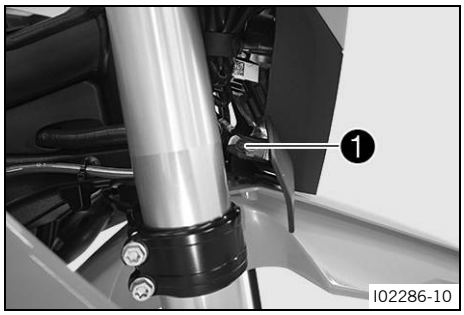
» If the boundary between light and dark does not meet specifications:
  – Adjust headlight range. (p. 111)

15.10 Adjusting the headlight range

Preparatory work

– Check the headlight adjustment. (p. 110)

Main work



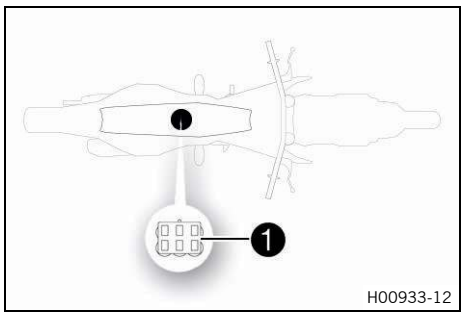
– Loosen screw 1.
– Adjust the headlight range by pivoting the headlight.

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

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

– Tighten screw 1.

15.11 Diagnostic connection



Diagnostic connection 1 is located under the front rider's seat.

16.1 Removing the Powerpack

WARNING

Risk of injury There is a risk of electric shock when working on live components.

Work on live components requires special training, qualifications, and tools.

– Ensure that all work that is not described and explained is only carried out by specialists who have completed the necessary training.
– Do not open the electric motor or the lithium-ion accumulator.

NOTE

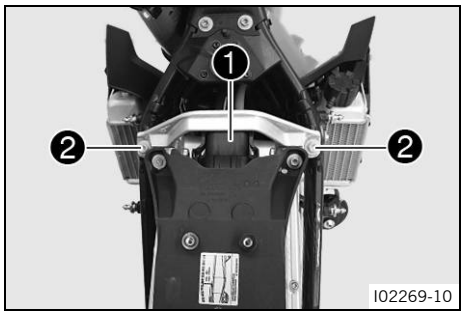
Environmental hazard The lithium ion accumulator contains elements and components that are harmful to the environment.

– Do not dispose of the traction battery in household waste.
– Dispose of the traction battery properly and in compliance with the applicable regulations.

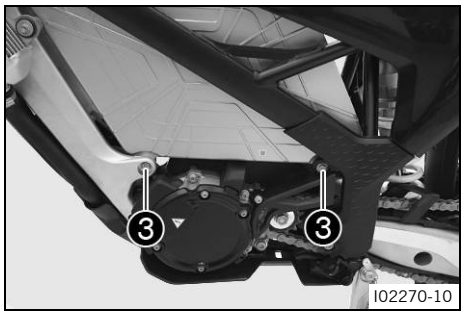
Preparatory work

– Remove the seat. (p. 73)

Main work



– Remove plug ❶.
– Remove screws ❷.



– Remove screws ❸.

NOTE

Material damage Components damaged or destroyed by water or dirt.

– Place the Powerpack on a clean and dry surface.

– Remove the Powerpack from the top.

Note

The Powerpack is very heavy. A second person can help with removal.

16.2 Installing the Powerpack

CAUTION

Risk of injury The Powerpack is heavy.

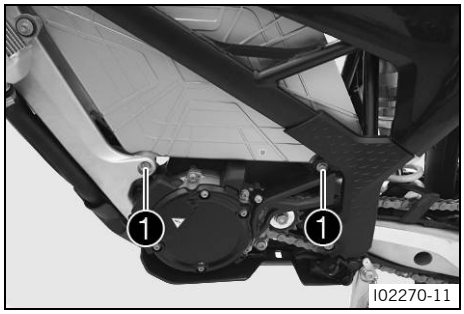
The Powerpack must rest flush on the frame after installation.

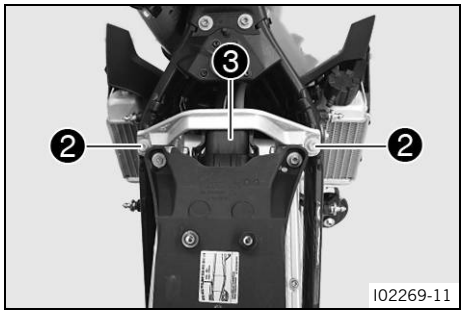
– Only lift the Powerpack by the carry handle.
– Make sure no one gets caught when removing or installing the Powerpack.

NOTE

Material damage Components damaged or destroyed by water or dirt.

– Before installing the Powerpack, check the discharge plug on the wiring harness and the discharge socket on the Powerpack for cleanliness and damage.
– Check the battery discharge plug form ring.
– Clean the battery discharge plug and the battery discharge socket without using water or compressed air if the battery discharge plug or the battery discharge socket is dirty.
– After cleaning, spray silicone spray onto the battery discharge plug form ring.





Main work

– Position the Powerpack in the vehicle.

Note

The Powerpack is very heavy. A second person can help with installation.

– Tighten screws ❶.

Screw, battery on engine bearer	
M8	25 Nm (18.4 ft·lb$_f$)

– Tighten screws ❷.

Screw, battery on frame	
M8	25 Nm (18.4 ft·lb$_f$)

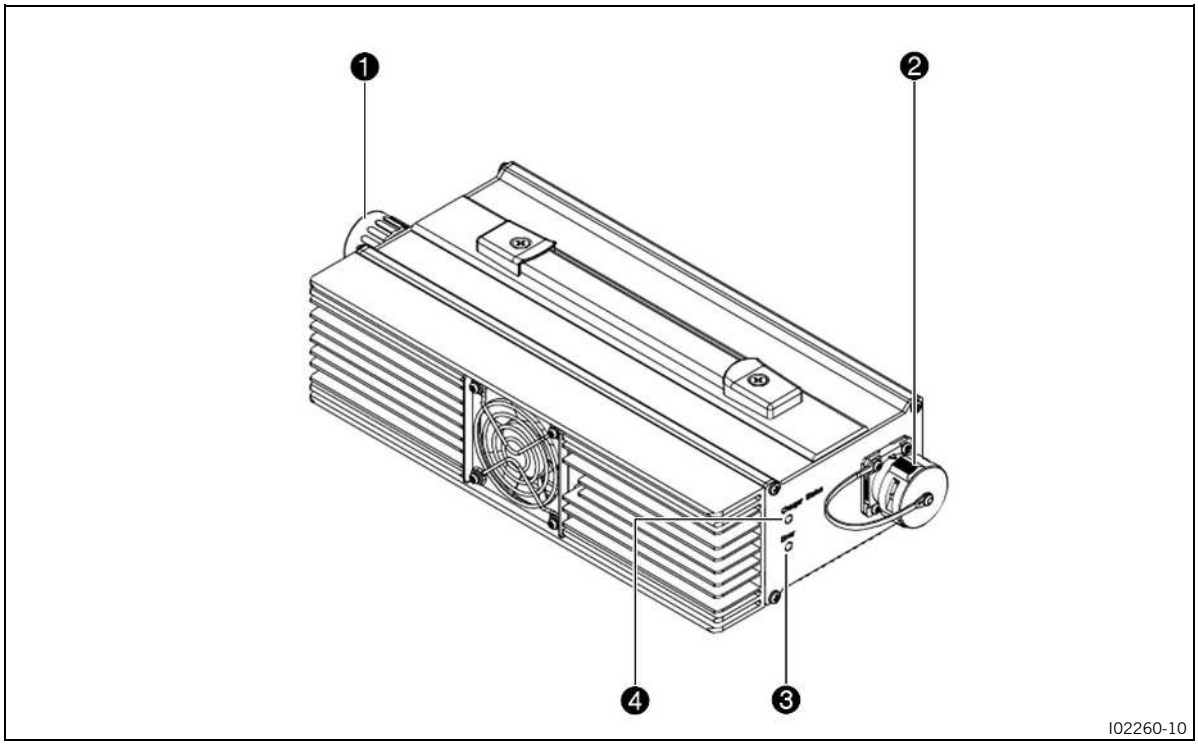
– Plug in connector ❸.

Make sure that the socket connector is properly locked into the battery.

Reworking

– Install the seat. (p. 74)

16.3 Overview of the battery charger for the Powerpack



1 Power cable connection
2 Motorcycle connection
3 LED status
4 LED malfunction

16.4 Positioning the battery charger

WARNING

Risk of injury There is a risk of electric shock in a moist environment.

The battery charger is not waterproof.

– Only use the battery charger in dry conditions.
– Ensure that no fluids flow or drip onto the battery charger.

WARNING

Risk of injury There is a risk of electric shock if the battery charger or the cables have been manipulated or damaged.

The battery charger does not contain any parts which require maintenance.

– Do not modify the battery charger or the cables.
– Only use original cables.
– Do not open the housing of the charger.
– Do not insert any objects into the battery charger housing from the outside.
– Do not use the battery charger if cables, plugs, or parts of the battery charger have been damaged or are soiled.

WARNING

Risk of injury If the battery charger is used incorrectly, its intrinsic safety cannot be guaranteed.

The charger is only suitable for use with the vehicle's traction battery.

– Only use the charger with the vehicle's traction battery.
– Only operate the battery charger using household sockets with a ground conductor.
– Do not use any additional adapters or extensions.
– Follow the applicable safety instructions of the power connection.

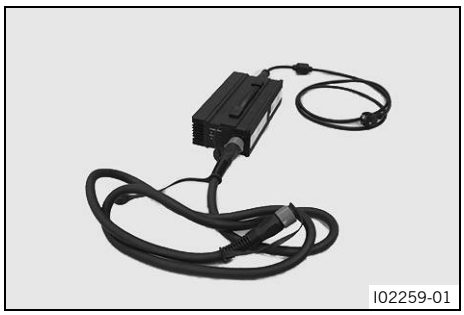
Note

The battery charger contains sensitive electronics and must be handled with appropriate care.

The battery charger may be damaged or destroyed if it is dropped, knocked or otherwise subject to mechanical overload.

When transporting the battery charger, ensure appropriate means of securing the cargo.

Damage caused due to improper handling or improper transport is excluded from the manufacturer warranty.



– Place the battery charger on a firm, level, and horizontal surface.
– Ensure the battery charger is adequately ventilated.

Free space at the front and rear side of the battery charger	≥ 20 cm (≥ 7.9 in)

– Use the battery charger in the temperature range permitted.

Ambient temperature	−15 °C ... 40 °C (5.0 °F ... 104.0 °F)

– Ensure that the power plug for the battery charger always remains easily accessible.

16.5 Charging the Powerpack

NOTE

Material damage The voltage supply will be damaged if overloaded.

– Ensure that the power outlet can supply the steady current required and is protected by a suitable fuse.

NOTE

Environmental hazard The lithium ion accumulator contains elements and components that are harmful to the environment.

– Do not dispose of the traction battery in household waste.
– Dispose of the traction battery properly and in compliance with the applicable regulations.

Note

Do not activate the vehicle while the battery charger is connected to the Powerpack.

To guarantee the maximum capacity of the Powerpack, discharge the Powerpack completely every 20 charging cycles and then recharge it completely. If this process is not carried out, then the vehicle may switch off due to a charging level which is too low without reducing power beforehand.

If the temperature of the Powerpack exceeds the permissible value during charging, the charging power is reduced in line with the temperature.

After the temperature of the Powerpack returns to the permissible range, charging is resumed automatically.

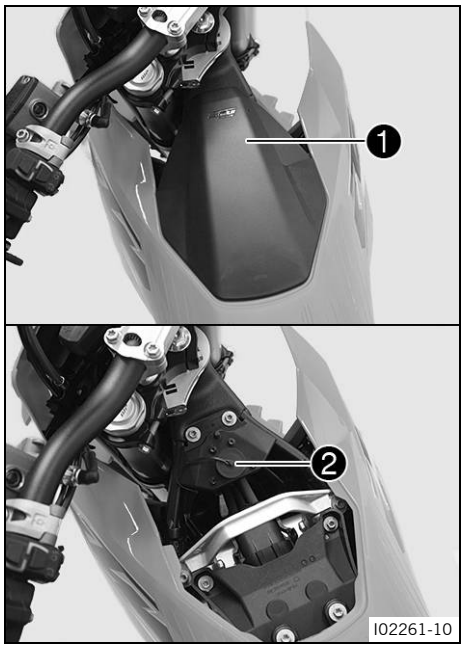
16 Powerpack charger

Preparatory work

– Position the battery charger. (p. 114)

Main work

– Remove cover ❶.

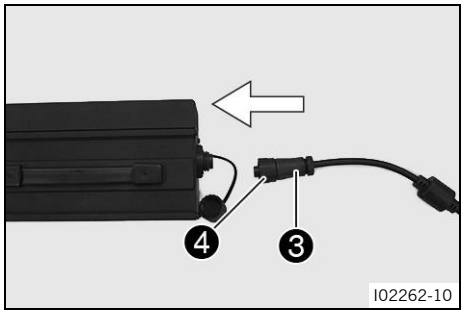


WARNING

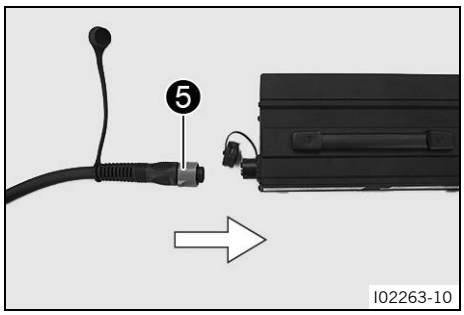
Risk of injury The intrinsic safety of the traction battery is only guaranteed if the original charger is used.

– Only use the original charger to charge the traction battery.

– Remove charging socket protection cap ❷.

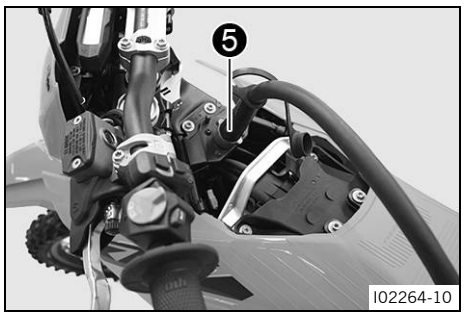


– Connect mains plug ❸ to the battery charger.
– Tighten plug ❹.
– Connect the power plug for the battery charger to the mains connection.



– Connect charging cable ❺ to the battery charger.

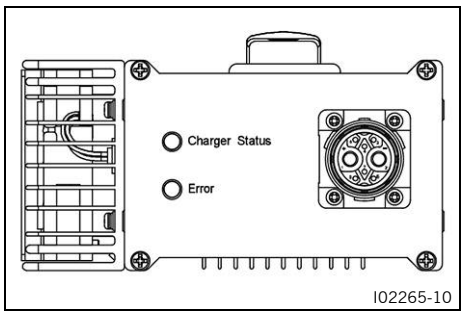
The label must face up.
A click can be heard.



– Connect charging cable ❺ to the motorcycle.

The label must face up.
A click can be heard.

– The charging process is started.



– Monitor the state of charge of the Powerpack using the LED.

Note

The status LED lights up green – the battery charger is in standby mode.

The status LED flashes orange – the battery charger is charging.

The status LED flashes green – the motorcycle is fully charged.

The status LED does not light up – check the AC connection.

Note

The error LED lights up red – an error has occurred.

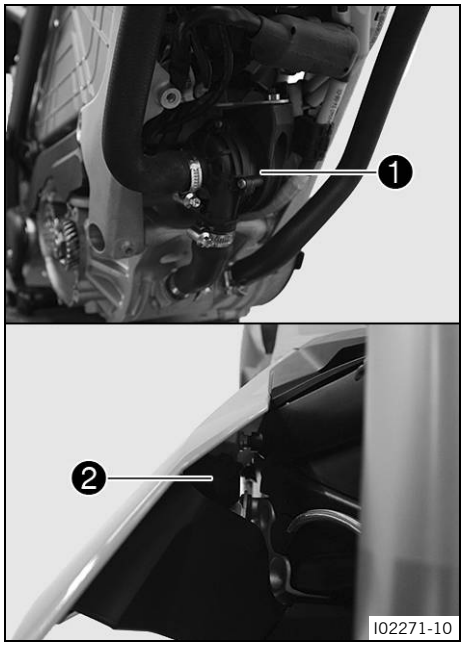
– Disconnect the battery charger power plug from the mains connection.

– Disconnect the charging cable of battery charger ❺ from the motorcycle.

Turn the handle counterclockwise and pull on the structured part of the plug.
Do not pull on the cable.

– Mount the protection caps.

17.1 Cooling system



If the engine temperature exceeds the specified value, water pump ❶ starts pumping coolant through the cooling circuit.

50 °C (122.0 °F)

The volume flow rate of the pump increases as the engine temperature increases.

The pressure in the cooling system increases with the temperature of the coolant. A safety valve is contained in radiator cap ❷. This ensures that operating the vehicle at the specified coolant temperature will not result in a risk of malfunctions.

65 °C (149.0 °F)

The coolant is cooled by the air stream.

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

17.2 Checking the frost protection and coolant level

WARNING

Health hazard Coolant is harmful to health.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with skin, eyes, or clothing.
- Consult a doctor immediately if coolant has been ingested.
- Rinse the affected area immediately with plenty of water in the event of contact with skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant comes into contact with eyes.
- If coolant spills on to your clothing, change the clothing.
- Store coolant properly in a suitable container and keep out of the reach of children.

WARNING

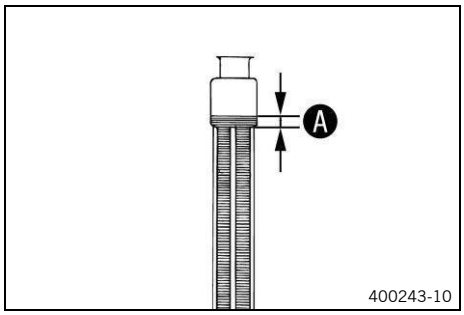
Danger of scalding The coolant heats up and is under high pressure when the vehicle is operated.

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

Condition: The engine is cold

Preparatory work

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



Main work

– Take off the radiator cap.
– Check the frost protection in the coolant.

−45 °C ... −25 °C (−49.0 °F ... −13.0 °F)

» If the frost protection in the coolant does not match the specified value:
– Correct the frost protection in the coolant.

– Check the coolant level in the radiator.

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

» If the coolant level does not meet specifications:
– Correct the coolant level.

Coolant	
Coolant (p. 146) Antifreeze protection to at least: −25 °C (−13.0 °F)	0.7 l (0.18 liq. gal_{US})

– Mount the radiator cap.

Reworking

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

17.3 Checking the coolant level

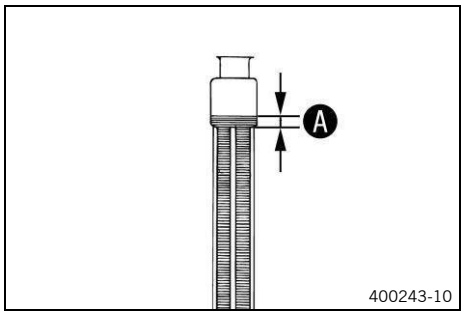
WARNING
Health hazard Coolant is harmful to health.
– Keep coolant out of the reach of children.
– Do not allow coolant to come into contact with skin, eyes, or clothing.
– Consult a doctor immediately if coolant has been ingested.
– Rinse the affected area immediately with plenty of water in the event of contact with skin.
– Rinse eyes thoroughly with water and consult a doctor immediately if coolant comes into contact with eyes.
– If coolant spills on to your clothing, change the clothing.
– Store coolant properly in a suitable container and keep out of the reach of children.

WARNING
Danger of scalding The coolant heats up and is under high pressure when the vehicle is operated.
– Do not open the radiator, the radiator hoses, or other cooling system components if the engine or the cooling system are at operating temperature.
– Allow the cooling system and the engine to cool down before you open the radiator, the radiator hoses, or other components of the cooling system.
– In the event of scalding, rinse the area affected immediately with lukewarm water.

Condition: The engine is cold

Preparatory work

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



Main work

– Remove the radiator cap.
– Check the coolant level in the radiator.

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

» If the coolant level does not meet the specifications:
– Correct the coolant level.

Coolant	
Coolant (p. 146) Antifreeze protection to at least: −25 °C (−13.0 °F)	0.7 l (0.18 liq. gal_{US})

– Mount the radiator cap.

Reworking

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

17.4 Draining the coolant

WARNING

Health hazard Coolant is harmful to health.

– Keep coolant out of the reach of children.
– Do not allow coolant to come into contact with skin, eyes, or clothing.
– Consult a doctor immediately if coolant has been ingested.
– Rinse the affected area immediately with plenty of water in the event of contact with skin.
– Rinse eyes thoroughly with water and consult a doctor immediately if coolant comes into contact with eyes.
– If coolant spills on to your clothing, change the clothing.
– Store coolant properly in a suitable container and keep out of the reach of children.

WARNING

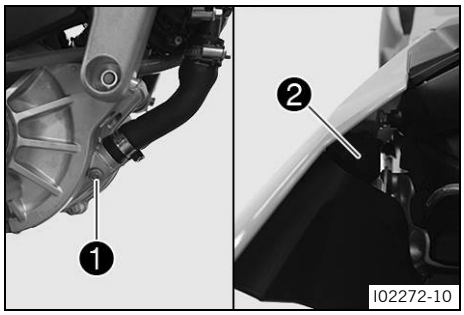
Danger of scalding The coolant heats up and is under high pressure when the vehicle is operated.

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

Condition: The engine is cold

Preparatory work

– Remove the skid plate. (p. 77)



Main work

– Stand the motorcycle upright.
– Place an appropriate container under the motorcycle.
– Remove screw ❶ with the sealing ring.
– Remove radiator cap ❷.
– Completely drain the coolant.
– Mount screw ❶ with the new sealing ring and tighten.

Coolant drain plug	
M6	8 Nm (5.9 ft·lb$_f$) **Loctite® 243**

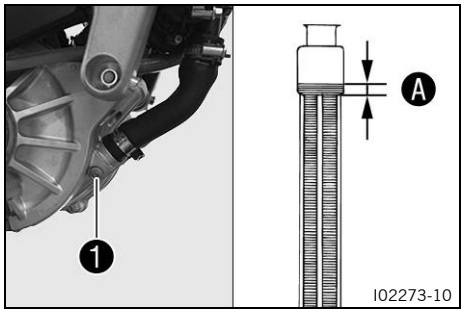
17.5 Refilling the coolant

WARNING

Health hazard Coolant is harmful to health.

– Keep coolant out of the reach of children.
– Do not allow coolant to come into contact with skin, eyes, or clothing.
– Consult a doctor immediately if coolant has been ingested.
– Rinse the affected area immediately with plenty of water in the event of contact with skin.
– Rinse eyes thoroughly with water and consult a doctor immediately if coolant comes into contact with eyes.
– If coolant spills on to your clothing, change the clothing.
– Store coolant properly in a suitable container and keep out of the reach of children.

Condition: The engine is cold



Main work

– Make sure that screw ❶ is tightened.
– Stand the motorcycle upright.
– Pour coolant in up to level Ⓐ above the radiator fins.

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

Coolant	
Coolant (p. 146) Antifreeze protection to at least: −25 °C (−13.0 °F)	0.7 l (0.18 liq. gal$_{US}$)

– Mount the radiator cap.

Reworking

– Check the transmission and cooling system for leaks.
– Go for a short test ride and check the motor has no leaks.
– Install the skid plate. (p. 78)
– Check the coolant level. (p. 119)
– Remove the motorcycle from the lift stand. (p. 60)

17.6 Changing the coolant

WARNING

Health hazard Coolant is harmful to health.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with skin, eyes, or clothing.
- Consult a doctor immediately if coolant has been ingested.
- Rinse the affected area immediately with plenty of water in the event of contact with skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant comes into contact with eyes.
- If coolant spills on to your clothing, change the clothing.
- Store coolant properly in a suitable container and keep out of the reach of children.

WARNING

Danger of scalding The coolant heats up and is under high pressure when the vehicle is operated.

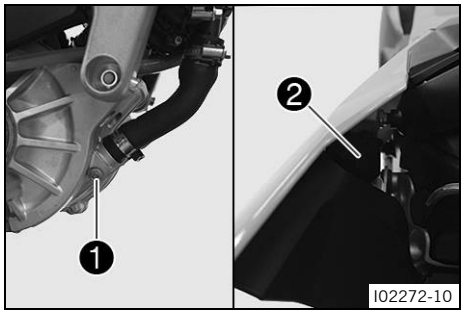
- Do not open the radiator, the radiator hoses, or other cooling system components if the engine or the cooling system are at operating temperature.
- Allow the cooling system and the engine to cool down before you open the radiator, the radiator hoses, or other components of the cooling system.
- In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

Condition: The engine is cold

Preparatory work

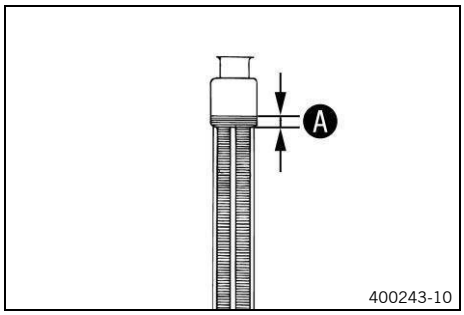
- Remove the skid plate. (p. 77)

Main work



- Stand the motorcycle upright.
- Place an appropriate container under the motorcycle.
- Remove screw 1 with the sealing ring.
- Remove radiator cap 2.
- Completely drain the coolant.
- Mount screw 1 with the new sealing ring and tighten.

Coolant drain plug	
M6	8 Nm (5.9 ft·lb$_f$) **Loctite® 243**



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

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

Coolant	
Coolant (p. 146) Antifreeze protection to at least: −25 °C (−13.0 °F)	0.7 l (0.18 liq. gal$_{US}$)

- Mount the radiator cap.

Reworking

– Go for a short test ride.
– Check the transmission and cooling system for leaks.
– Check the coolant level. (p. 119)
– Remove the motorcycle from the lift stand. (p. 60)
– Install the skid plate. (p. 78)

18.1 Selecting the ride mode

Condition

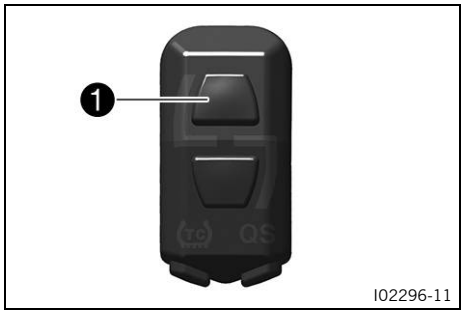
+ Motorcycle is stationary
+ The motorcycle is ready to operate.

or:

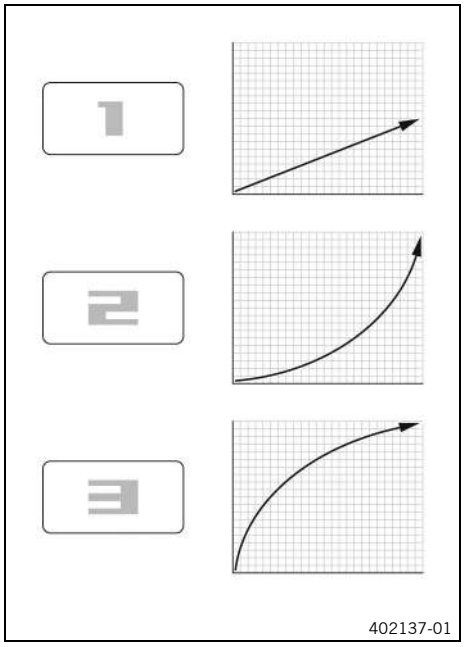
+ Motorcycle is stationary
+ The motorcycle is ready to ride.

or:

+ Motorcycle is moving
+ The throttle grip is in the basic position



– Press ride mode button ❶.



– Select one of the driving modes.

Note

On the combination instrument, the selected ride mode is displayed with **1**, **2**, or **3**.

Three drive modes are available. The ride modes define how the vehicle will respond to operation of the throttle grip.

The figures contain approximate values for illustration purposes and do not show the actual response.

Note

Ride mode **1** is Economy: The motor torque is reduced by half.

Note

Ride mode **2** is Standard: The further the throttle grip is twisted open, the more the motor power increases.

Note

Ride mode **3** is Advanced: The greatest increase in power occurs immediately, after which the motor power increases more slowly.

18.2 Selecting the recuperation mode

Condition

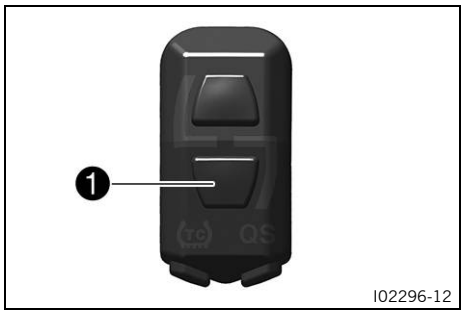
+ Motorcycle is stationary
+ The motorcycle is ready to operate.

or:

+ Motorcycle is stationary
+ The motorcycle is ready to ride.

or:

+ Motorcycle is moving



– Press recuperation mode button ❶.
– Select one of the recuperation modes.

Note
On the combination instrument, the selected recuperation mode is displayed with **1**, **2** or **3**.
Three recuperation modes are available. The recuperation modes define how the vehicle will respond to operation of the throttle grip.

Note
Recuperation mode **1**: Recuperation is switched off.

Note
Recuperation mode **2**: Recuperation is at low strength.

Note
Recuperation mode **3**: Recuperation is at full strength.

– The recuperation function provides a greater motor braking effect in recuperation mode **2** and **3**.
– The recuperation effect increases with the motor speed.

19.1 Changing the gear oil

WARNING

Danger of scalding Gear oil becomes hot when the motorcycle is operating.

– Wear suitable protective clothing and safety gloves.
– If you have been scalded, hold the burn under lukewarm water immediately.

NOTE

Environmental hazard Hazardous substances cause environmental damage.

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

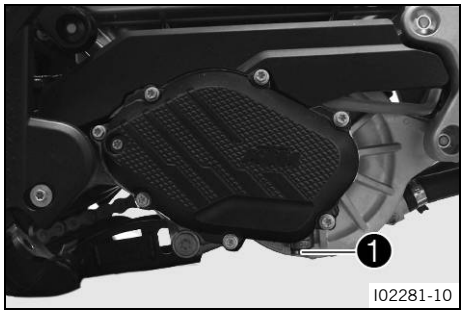
Note

Drain the gear oil while the motor is warm.

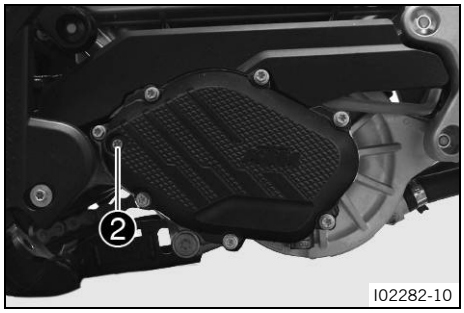
Preparatory work

– Stand the motorcycle on a level surface using the side stand.
– Remove the skid plate. (p. 77)

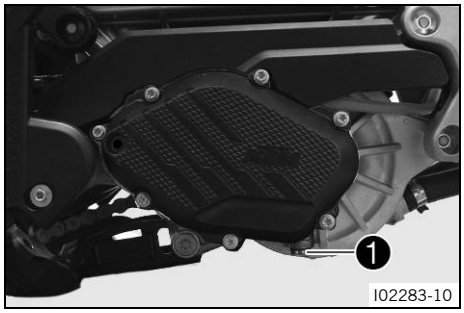
Main work



– Position an appropriate container under the engine.
– Remove oil drain plug ❶ with the magnet and seal ring.



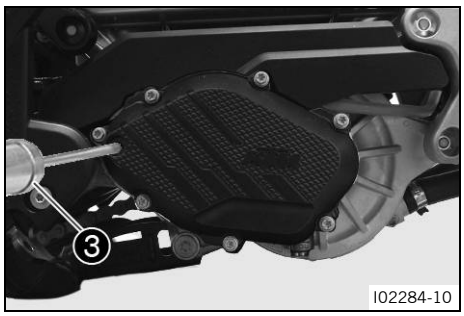
– Remove screw plug ❷ with the seal ring.
– Let the gear oil drain fully.



– Mount the oil drain plug ❶ with the magnet and seal ring and tighten it.

Oil drain plug with magnet	
M12×1.5	20 Nm (14.8 ft·lb$_f$)

– Place the motorcycle on its left side with the aid of an assistant.

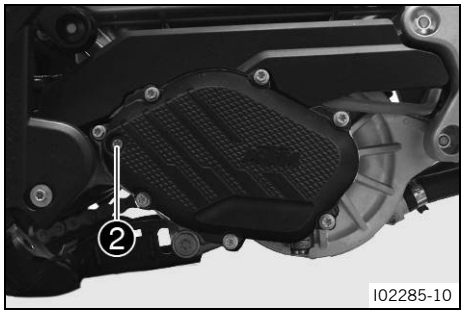


– Fill special tool ❸ with the specified quantity of gear oil.

Oil filler syringe (58429048000)	
engine oil	
Engine oil (SAE 15W/50) 📖 (p. 145) Partially synthetic	0.16 l (0.042 liq. gal_{US})

– Fill the gear oil using the special tool.
– Wipe away any excess gear oil.

Note
The screw plug is not used for checking the oil level.



– Mount and tighten screw plug ❷ with the seal ring.

Oil plug	
M8×20	10 Nm (7.4 $ft{\cdot}lb_f$)

– Stand the motorcycle upright.

Reworking

– Install the skid plate. 📖 (p. 78)
– Go for a short test ride and check the motor has no leaks.

20.1 Cleaning the motorcycle

DANGER

Risk of injury When the electric motorcycle is turned on, even slight or unintentional twisting of the throttle can cause the motorcycle to accelerate immediately.

– Make sure the vehicle is turned off or is ready to operate before touching the throttle.
– Always keep your hands and any objects away from the throttle while the motorcycle is running.
– Make sure the vehicle is turned off when you are not riding it.
– When stopping or parking the vehicle, make sure the main switch/emergency OFF switch or the ignition is turned off at the ignition lock.

NOTE

Material damage The vehicle and the power pack cannot be cleaned with a high-pressure cleaner.

The high pressure forces water into the electrical components, connectors, bearings, etc. As a result, components may be damaged or destroyed.

– Never clean the vehicle and the Powerpack with a high-pressure cleaner or a powerful jet of water.

NOTE

Material damage Water or dirt damage or destroy components.

– Always mount the protection cap after you have removed the Powerpack.
– Do not point the jet of water toward the battery discharge plug, even if the protection cap has been mounted.

NOTE

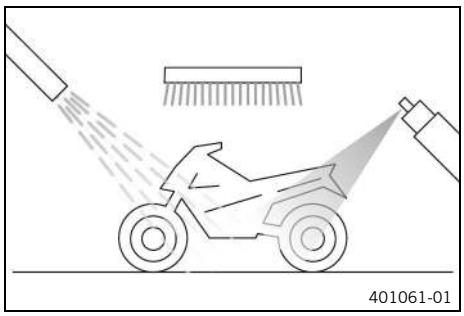
Environmental hazard Hazardous substances cause environmental damage.

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

Note

To maintain the value and appearance of the motorcycle over a long period, clean it regularly.

Avoid direct sunshine when cleaning the motorcycle.



– Remove the coarse dirt particles with a gentle water jet.
– Spray the heavily soiled parts with a standard commercial motorcycle cleaner and clean using a brush.

Environmentally neutral universal cleaning agent
(p. 147)

Note

Use warm water containing standard motorcycle cleaner and a soft sponge.

Never apply motorcycle cleaner to a dry vehicle; always rinse the vehicle with water first.

– After rinsing the motorcycle with a gentle spray of water, allow it to dry thoroughly.

WARNING

Danger of accidents Moisture and dirt impair the brake system.

– Brake carefully several times to dry out and remove dirt from the brake pads and the brake discs.

– Lubricate all sliding points and pivot points.
– Clean the chain. (p. 79)
– Treat bare metal (except for brake discs) with a corrosion inhibitor.

  Preserving materials (p. 147)

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

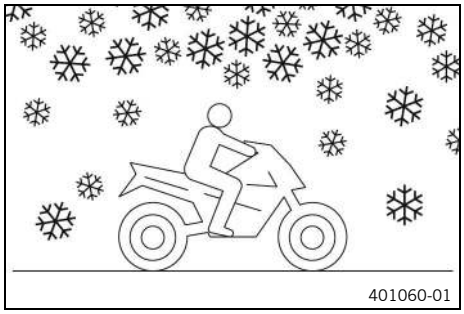
  Cleaning agents for plastics, glass, lacquers, metals, windshields and visors (p. 147)

– Oil the steering lock.

  Universal oil spray (p. 145)

20.2 Checks and maintenance steps for winter operation

Note
If you use the motorcycle in winter, salt can be expected 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.


401060-01

– Clean the motorcycle. (p. 128)
– Clean brake system.

Note
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 riding on salted roads, thoroughly clean the motorcycle with cold water and dry it well.

– Treat the engine, swingarm, and all other bare or zinc-plated parts (except the brake discs) with a wax-based anticorrosive.

Note
Corrosion inhibitor must not come in contact with the brake discs as this would greatly reduce the braking force.

– Clean the chain. (p. 79)

21.1 Storage

DANGER

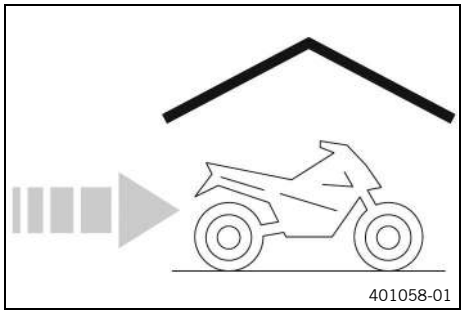
Risk of injury When the electric motorcycle is turned on, even slight or unintentional twisting of the throttle can cause the motorcycle to accelerate immediately.

- Make sure the vehicle is turned off or is ready to operate before touching the throttle.
- Always keep your hands and any objects away from the throttle while the motorcycle is running.
- Make sure the vehicle is turned off when you are not riding it.
- When stopping or parking the vehicle, make sure the main switch/emergency OFF switch or the ignition is turned off at the ignition lock.

Note

If the vehicle will not be ridden for an extended period, additional steps are recommended.

Have service work, repairs or conversions performed outside the motorcycling season, if possible. This allows you to avoid long waiting periods when the next season starts.



- Empty the Powerpack to a state of charge below 30%.
- Check all motorcycle parts for function and wear.
- Remove the Powerpack. (p. 112)

The service life of the Powerpack must not exceed 1 year.	
Ideal storage temperature for the Powerpack, away from direct sunlight	10 °C ... 20 °C (50.0 °F ... 68.0 °F)

Note

Never store the Powerpack at higher temperatures as this would greatly accelerate the aging process.

- Remove the 12-V battery. (p. 103)
- Charge the 12 V battery. (p. 105)

Storage temperature of the 12–V battery without direct sunlight	0 °C ... 35 °C (32.0 °F ... 95.0 °F)

- Clean the motorcycle. (p. 128)
- Check the frost protection and coolant level. (p. 118)
- Check the tire pressure. (p. 101)
- Store the vehicle in a dry location that is not subject to large fluctuations in temperature.

Note

If the vehicle is placed on a lift stand, the tires and spring elements will be relieved of weight.

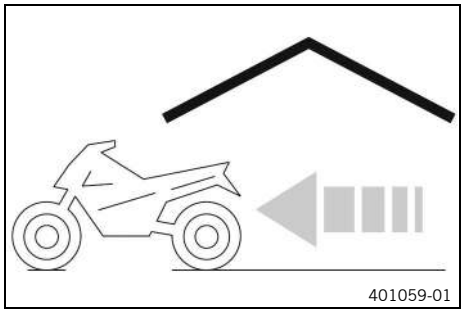
- Raise the motorcycle with a lift stand. (p. 60)
- Cover the vehicle with a tarpaulin or similar cover that is permeable to air.

Note

Do not use any non-porous materials, as moisture cannot escape and corrosion can occur.

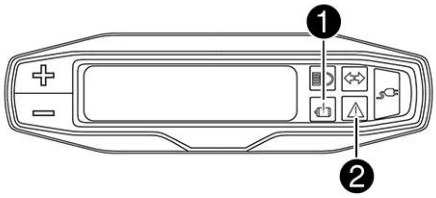
21.2 Preparing for use after storage

Note
If the Powerpack has not been used for more than six months, start by discharging the Powerpack until the vehicle switches off. Then fully charge the Powerpack.



- Remove the motorcycle from the lift stand. (p. 60)
- Install the 12-V battery. (p. 104)
- Install the Powerpack. (p. 113)
- Perform checks and maintenance measures when preparing for use. (p. 41)
- Take a test ride.

22.1 Malfunction indicator lamp



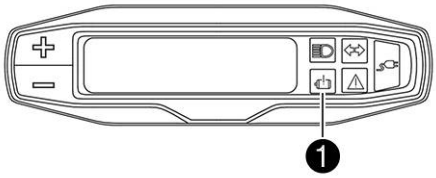
I02249-11

Malfunction indicator light ❶ is located in the combination instrument.

General warning light ❷ is located in the combination instrument.

Condition		Meaning
	Malfunction indicator lamp lights up yellow	Malfunction indicator light ❶ lights up when the vehicle is switched on and remains lit until the vehicle is switched to ready to ride status. If malfunction indicator light ❶ remains lit when the vehicle is in ready to ride status, there is a malfunction.
	The general warning light lights up yellow.	A safety warning or an error relating to non-drive-related issues has been detected.

22.2 Vehicle troubleshooting



I02249-10

Drive-related malfunctions are indicated by the yellow malfunction indicator light ❶.



Tip

The first step to take in case of any malfunction is to switch off the vehicle at the main switch, wait for 15 seconds, and then switch the vehicle back on.

If a malfunction is not eliminated by the steps specified here, an authorized contractual partner will be happy to help you.

22.2.1 Vehicle troubleshooting

Cause	Finding	Remedy
Fault with the lighting system or horn.	Error in the circuit, OCU LED **B** or **C** lights up red.	– Check the electrical system.

23.1 Engine

23.1.1 Technical data - engine

Design	Permanent magnet synchronous motor with an internal-rotor design
Primary transmission	1:3.577
Cooling	Liquid cooling, circulation of coolant by water pump in response to engine temperature
Nominal power	8.3 kW (11.13 hp)
Maximum electric power	19.2 kW (25.75 hp)
Maximum torque	37.6 Nm (27.73 ft·lb_f)
Maximum engine speed	12,000 rpm (200.00 Hz)

23.1.2 Capacities - engine

engine oil	
Engine oil (SAE 15W/50) (p. 145) Partially synthetic	0.16 l (0.042 liq. gal_{US})

23.2 Chassis

23.2.1 Technical data - chassis

Frame	Perimeter, steel-aluminum composite frame
Suspension travel:	
front	250 mm (9.84 in)
rear	250 mm (9.84 in)
Triple clamp offset	32.5 mm (1.280 in)
Brake system	Disc brakes, floating brake calipers
Brake discs - diameter	
front	260 mm (10.24 in)
rear	220 mm (8.66 in)
Brake disc wear limit	
front	2.5 mm (0.098 in)
rear	3.5 mm (0.138 in)
Street tire pressure	

front	2 bar (29 psi)
rear	2 bar (29 psi)
Final drive	13:50
Chain	5/8 x 1/4" X–ring
Steering head angle	65.6° (1.145 rad)
Wheelbase	1,455 ±10 mm (57.28 ±0.39 in)
Ground clearance unloaded	360 mm (14.17 in)
Seat Height unloaded	910 mm (35.83 in)
Homologated weight with Powerpack approx.	112 kg (246.9 lb)
Maximum permissible front axle load	110 kg (242.5 lb)
Maximum permissible rear axle load	170 kg (374.8 lb)
Maximum permissible total weight	280 kg (617.3 lb)

23.2.2 Technical data - tires

Tire front	Rear tire
90/90 - 21 M/C 54R TT Michelin Enduro Medium	**120/90 - 18 M/C 65R TL** Michelin Enduro Medium
The tires specified represent one of the possible series production tires. For alternative manufacturers, if any, contact an authorized manufacturer or qualified tire dealership. If local road approval regulations apply, these and the respective technical specifications must be observed.	

23.3 Electrics

23.3.1 Battery

12-V battery	LFP01	Battery voltage: 12 V Nominal capacity: 2.0 Ah Maintenance-free
Air-cooled lithium-ion battery (Powerpack)	A13071001000	End of charging voltage: 58.8 V Voltage (nominal): 50 V Capacity: 5.5 kWh (19,800 kJ) Weight: 29 kg (63.9 lb) Approx. charging time: 20% to 80%: 360 min Approx. charging duration, 0 % to 100 %: 480 min Maintenance-free

Battery charger for Powerpack	T20145075000	Nominal voltage: 110 V ... 240 V Grid frequency: 50 Hz ... 60 Hz (3,000 rpm ... 3,600 rpm) Power: 660 W (0.885 hp)

23.3.2 Fuse

Fuse	58011109115	15 A

23.3.3 Lamps

Headlight	LED
Parking light	LED
Turn signal	LED
Brake/tail light	LED
License plate lighting	LED

23.4 Fork

23.4.1 Technical data - fork

Fork part number	A130C140Y206000

Fork	**WP Suspension XACT**
Compression damping	
Comfort	17 clicks
Standard	12 clicks
Sport	7 clicks
Rebound damping	
Comfort	21 clicks
Standard	16 clicks
Sport	11 clicks
Air pressure	
Comfort	4.2 bar (60.9 psi)
Standard	4.5 bar (65.3 psi)
Sport	4.8 bar (69.6 psi)
Fork length	845 mm (33.27 in)

23.4.2 Capacities - fork

Oil capacity, right outer assembly	
Fork oil (48601166S1) (SAE 4) (p. 145)	380 ±10 ml (12.85 ±0.34 fl. oz_{US})

Oil capacity, left outer assembly	
Fork oil (48601166S1) (SAE 4) (p. 145)	100 ±20 ml (3.38 ±0.68 fl. oz_{US})
Grease capacity, left cartridge	
Special grease (00062010053) (p. 146)	5 g (0.18 oz)

23.5 Shock absorber

23.5.1 Technical data - shock absorber

Shock absorber part number	A130C440Y305000

Shock absorber	**WP PDS**
Low-speed compression damping	
Comfort	18 clicks
Standard	15 clicks
Sport	12 clicks
High-speed compression damping	
Comfort	2.5 turns (900°)
Standard	2 turns (720°)
Sport	1.5 turns (540°)
Rebound damping	
Comfort	18 clicks
Standard	15 clicks
Sport	12 clicks
Preload	9 mm (0.35 in)
Spring rate	
Weight of rider: 55 kg ... 65 kg (121.3 lb ... 143.3 lb)	70 N/mm (399.7 lb_f/in)
Weight of rider: 65 kg ... 75 kg (143.3 lb ... 165.3 lb)	75 N/mm (428.3 lb_f/in)
Weight of rider: 75 kg ... 85 kg (165.3 lb ... 187.4 lb)	80 N/mm (456.8 lb_f/in)
Weight of rider: 85 kg ... 95 kg (187.4 lb ... 209.4 lb)	85 N/mm (485.4 lb_f/in)
Weight of rider: 95 kg ... 105 kg (209.4 lb ... 231.5 lb)	90 N/mm (513.9 lb_f/in)
Spring length	190 mm (7.48 in)
Gas assisted	10 bar (145 psi)
Static sag	30 mm (1.18 in)

Rider sag	100 mm (3.94 in)
Installation position	374 mm (14.72 in)

23.5.2 Capacities - shock absorber

Oil capacity, shock absorber	
Shock absorber oil (50180751S1) (SAE 2.5) (p. 146)	Fill to the maximum mark

23.6 Tightening torque

23.6.1 Engine tightening torques

Screw, gear cover M6	10 Nm (7.4 ft·lb$_f$)
Bleed screw, coolant M6	8 Nm (5.9 ft·lb$_f$) **Loctite® 243**
Coolant drain plug M6	8 Nm (5.9 ft·lb$_f$) **Loctite® 243**
Screw, housing vent M6	4 Nm (3.0 ft·lb$_f$)
Screw, voltage regulator holder M6	8 Nm (5.9 ft·lb$_f$)
Screw, DC/DC converter M6	5 Nm (3.7 ft·lb$_f$)
Screw, electric motor M6	10 Nm (7.4 ft·lb$_f$)
Oil plug M8×20	10 Nm (7.4 ft·lb$_f$)
Screw, front sprocket M10	60 Nm (44.3 ft·lb$_f$) **Loctite® 243**
Oil drain plug with magnet M12×1.5	20 Nm (14.8 ft·lb$_f$)
Ventilation membrane M12	0.7 Nm (0.52 ft·lb$_f$)
Nut, primary gear M14LH×1.25	60 Nm (44.3 ft·lb$_f$) **Loctite® 2701**

23.6.2 Chassis tightening torques

Screw, radiator hoses clip	2.4 Nm (1.77 ft·lb$_f$)
Remaining screws on chassis M4	3 Nm (2.2 ft·lb$_f$)

Remaining nuts on chassis M4	3 Nm (2.2 ft·lb$_f$)
Screw, throttle twist grip M4	3 Nm (2.2 ft·lb$_f$)
Screw, fixed grip M4	5 Nm (3.7 ft·lb$_f$)
Screw, main switch M4	4.5 Nm (3.32 ft·lb$_f$)
Remaining screws on chassis M5	5 Nm (3.7 ft·lb$_f$)
Remaining nuts on chassis M5	5 Nm (3.7 ft·lb$_f$)
Screw, battery terminal M5	2.5 Nm (1.84 ft·lb$_f$)
Screw, cable cover on engine M5	6 Nm (4.4 ft·lb$_f$)
Adjusting screw, headlight M5	3 Nm (2.2 ft·lb$_f$)
Nut, stud M5	6 Nm (4.4 ft·lb$_f$)
Screw, shock absorber adjusting ring M5	5 Nm (3.7 ft·lb$_f$)
Remaining screws on chassis M6	10 Nm (7.4 ft·lb$_f$)
Remaining nuts on chassis M6	10 Nm (7.4 ft·lb$_f$)
Screw, front brake disc M6	14 Nm (10.3 ft·lb$_f$) **Loctite® 243**
Screw, rear brake disc M6	14 Nm (10.3 ft·lb$_f$) **Loctite® 243**
Screw, spoiler attachment M6	6 Nm (4.4 ft·lb$_f$)
Clamp, brake M6	6 Nm (4.4 ft·lb$_f$)
Clamp, mirror M6	6 Nm (4.4 ft·lb$_f$)
Brake line guide screw on swingarm M6	4.5 Nm (3.32 ft·lb$_f$)
Screw, chain sliding guard on link fork M6	6 Nm (4.4 ft·lb$_f$)
Screw, seat on battery handle M6	5 Nm (3.7 ft·lb$_f$)
Screw, frame protector M6	5 Nm (3.7 ft·lb$_f$)
Screw, seat support M6	5 Nm (3.7 ft·lb$_f$)

Screw, rear fender on subframe M6	5 Nm (3.7 ft·lb$_f$)
Screw, license plate holder M6	5 Nm (3.7 ft·lb$_f$)
Screw, lower rear panel on rear of subframe M6	10 Nm (7.4 ft·lb$_f$)
Screw, lower rear panel on front of subframe M6	5 Nm (3.7 ft·lb$_f$)
Screw, battery handle on seat support M6	5 Nm (3.7 ft·lb$_f$)
Screw, battery handle on frame M6	3 Nm (2.2 ft·lb$_f$)
Screw, water pump holder M6	3 Nm (2.2 ft·lb$_f$)
Screw, headlight M6	3 Nm (2.2 ft·lb$_f$)
Screw, horn M6	6 Nm (4.4 ft·lb$_f$)
Screw, connector board incl. combination instrument M6	6 Nm (4.4 ft·lb$_f$)
Nut, stud M6	10 Nm (7.4 ft·lb$_f$)
Screw, engine guard M6	5 Nm (3.7 ft·lb$_f$)
Screw, handlebar clamp M8	20 Nm (14.8 ft·lb$_f$)
Screw, fork shoe M8	15 Nm (11.1 ft·lb$_f$)
Nut, rim lock M8	10 Nm (7.4 ft·lb$_f$)
Screw, upper steering stem M8	20 Nm (14.8 ft·lb$_f$) **Loctite® 243**
Screw, bottom triple clamp M8	18 Nm (13.3 ft·lb$_f$)
Screw, top triple clamp M8	22 Nm (16.2 ft·lb$_f$)
Screw, front brake caliper M8	25 Nm (18.4 ft·lb$_f$) **Loctite® 243**
Screw, rear brake caliper M8	25 Nm (18.4 ft·lb$_f$) **Loctite® 243**
Nut, rear sprocket screw M8	35 Nm (25.8 ft·lb$_f$)
Remaining screws on chassis M8	25 Nm (18.4 ft·lb$_f$)

Remaining nuts on chassis M8	25 Nm (18.4 ft·lb$_f$)
Screw, side stand attachment M8	33 Nm (24.3 ft·lb$_f$) **Loctite® 2701**
Subframe screw M8	30 Nm (22.1 ft·lb$_f$) **Loctite® 243**
Screw, chain slider M8	15 Nm (11.1 ft·lb$_f$)
Screw, wheel speed sensor M8	4.5 Nm (3.32 ft·lb$_f$)
Screw, engine holder M8	25 Nm (18.4 ft·lb$_f$)
Screw, battery on frame M8	25 Nm (18.4 ft·lb$_f$)
Screw, battery on engine bearer M8	25 Nm (18.4 ft·lb$_f$)
Engine bracket screw on frame M10	45 Nm (33.2 ft·lb$_f$)
Screw, handlebar mount M10	40 Nm (29.5 ft·lb$_f$) **Loctite® 243**
Remaining screws on chassis M10	45 Nm (33.2 ft·lb$_f$)
Footrest bracket screw M10	45 Nm (33.2 ft·lb$_f$) **Loctite® 243**
Remaining nuts on chassis M10	45 Nm (33.2 ft·lb$_f$)
Screw, engine on rear frame M10	40 Nm (29.5 ft·lb$_f$)
Screw, engine on rear frame M10	40 Nm (29.5 ft·lb$_f$)
Top shock absorber screw M12	60 Nm (44.3 ft·lb$_f$) **Loctite® 2701**
Bottom shock absorber screw M12	60 Nm (44.3 ft·lb$_f$) **Loctite® 2701**
Nut, swingarm pivot M14×1.5	75 Nm (55.3 ft·lb$_f$)
Nut, 12 V socket M18	3 Nm (2.2 ft·lb$_f$)
Screw, top steering head M20×1.5	12 Nm (8.9 ft·lb$_f$)
Screw, wheel spindle, front M20×1.5	35 Nm (25.8 ft·lb$_f$)

Nut, wheel spindle, rear M20×1.5	80 Nm (59.0 ft·lb$_f$)
Nut, ignition lock M24×1	2.5 Nm (1.84 ft·lb$_f$)
Spoke nipple M4,5	6 Nm (4.4 ft·lb$_f$)
Combination switch screw **EJOT PT®** – K50×18	2 Nm (1.5 ft·lb$_f$)

24.1 Recycling



I02045-10

Further information is available at the following website.
Recycling information website: https://www.quefairedemesdechets.fr

A Technical terms

BIN	Battery identification number	Serial number of the traction battery, which is linked to the vehicle identification number.
OCU	Offroad vehicle system control unit	Motorcycle control unit without CAN bus interface for supplying power to other control units and consumers such as lights and signaling devices, the water pump and sensors

B Electrics

12-V battery (LFP01)

Product code	
• LFP01	
Properties	
• Battery voltage	12 V
• Nominal capacity	2.0 Ah
• Maintenance-free	

Headlight (LED)

Product code
• LED

Fuse (58011109115)

Product code
• 58011109115
Properties
• 15 A

C Operating supplies

Off-road chain spray

Recommended supplier

MOTOREX®

- **CHAINLUBE OFF ROAD**

Fork oil

Order details

- 48601166S1

Standards

- SAE 4 → SAE

Universal oil spray

Recommended supplier

MOTOREX®

- **JOKER 440 SYNTHETIC**

Long-life grease

Recommended supplier

MOTOREX®

- **Bike Grease 2000**

Engine oil

Recommended supplier

MOTOREX®

- **FORMULA 4T**

Standards

→ JASO T903 MA2

- SAE 15W/50 → SAE

Properties

- Partially synthetic

High viscosity grease

Recommended supplier

SKF®

- **LGHB 2**

Special grease

Order details

- 00062010053

Recommended supplier

Klüber Lubrication®

- **Klüberfood NH1 34–401**

Shock absorber oil

Order details

- 50180751S1

Standards

• SAE 2.5	→ SAE

Brake fluid DOT 5.1

Recommended supplier

MOTOREX®

- **BRAKE FLUID DOT 5.1**

Standards

→ DOT

Coolant

Recommended supplier

MOTOREX®

- **COOLANT M3.0**

Properties

• Antifreeze protection to at least	−25 °C (−13.0 °F)

D Cleaning agents

Chain cleaner

Recommended supplier
MOTOREX®
• CHAIN CLEAN

Preserving materials

Recommended supplier
MOTOREX®
• MOTO PROTECT

Cleaning agents for plastics, glass, lacquers, metals, windshields and visors

Recommended supplier
MOTOREX®
• QUICK CLEANER

Environmentally neutral universal cleaning agent

Recommended supplier
MOTOREX®
• MOTO CLEAN UNIVERSAL

E Icons

E.1 Symbol colors

E.1.1 Yellow and orange symbols

Yellow and orange symbols indicate a malfunction status that requires prompt intervention. Active driving aids are also represented by yellow or orange symbols.

	Charging cable indicator light lights up yellow.
	The general warning light lights up yellow.
	Malfunction indicator lamp lights up yellow

E.1.2 Green and blue symbols

Green and blue symbols convey information.

	Turn signal indicator light flashes green.
	The high beam indicator light lights up blue.

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