

450 SMR

Art. no. 3214385en



Perform the work described in these setup instructions before the vehicle is delivered to the customer.

Read the setup instructions in their entirety before beginning work.

These setup instructions were written to correspond to the latest state of this series. We reserve the right to make changes in the interest of technical advancement without at the same time updating this manual. We shall not provide a description of general workshop methods. Likewise, safety rules that apply in a workshop are not specified here. It is assumed that the work will be performed by a fully trained mechanic.

All specifications contained herein are non-binding. KTM Sportmotorcycle GmbH specifically reserves the right to modify or delete technical specifications, prices, colors, forms, materials, services, designs, equipment, etc., without prior notice and without specifying reasons, to adapt these to local conditions, as well as to stop production of a particular model without prior notice. KTM accepts no liability for delivery options, deviations from figures and descriptions, misprints, and other errors. The models portrayed partly contain special equipment that does not belong to the regular scope of supply.

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Issued by: TÜV Management Service

REG.NO. 12 100 6061

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This document is valid for the following models:

450 SMR (F8403U0)



1 MEANS OF REPRESENTATION

1.1 Symbols used

The meaning of specific symbols is described below.



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



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



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



Indicates information with more details or tips.



Indicates the result of a testing step.



Indicates a voltage measurement.



Indicates a current measurement.



Indicates a resistance measurement.



Indicates the end of an activity including potential rework.

1.2 Formats used

The typographical formats used in this document are explained below.

Proprietary name

Indicates a proprietary name.

Name®

Indicates a protected name.

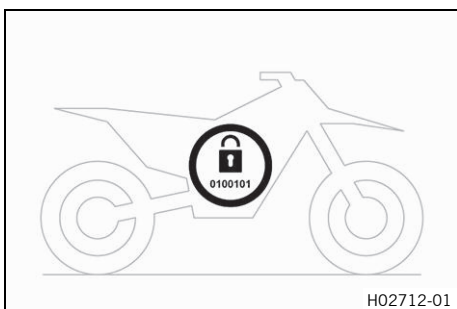
Brand™

Indicates a brand available on the open market.

Underlined terms

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

2.1 Transport mode



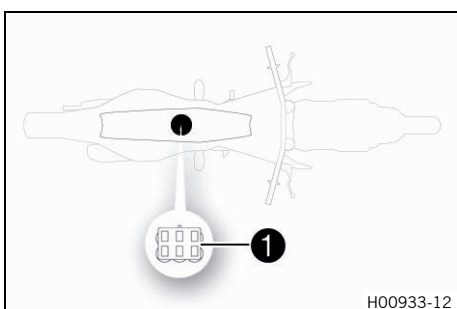
This vehicle was blocked for transport in the software. To operate the vehicle, the vehicle electronics must be enabled. This process is conducted during initial setup in KTM Dealer.net. Enabling ensures that the initial setup in KTM Dealer.net is documented.

Enabling can be performed either temporarily, e.g. for a test ride, or permanently for vehicle handover.

i Info

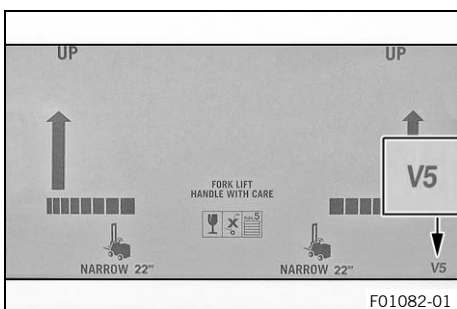
Make sure that the vehicle is permanently enabled before handing it over to the customer.

2.2 Diagnostics connector



The diagnostics connector **1** is located under the seat below the EFI control unit.

2.3 Unpacking and setting up the vehicle



- Remove the box and the plastic packaging.

Guideline

To avoid damaging the vehicle while setting it up, do not remove the protective film on each component until installing the component, and leave it on the vehicle until work has been completed.

- Remove the separate enclosure and unpack it. Check that the scope of supply is complete using the enclosed packing list.

i Info

The procedure for missing components is described in the Customer Service Manual.

- Have a lift stand available.

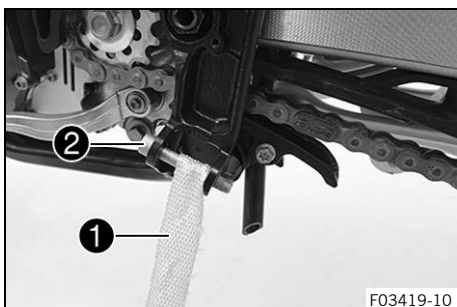
Lift stand (78129955100)

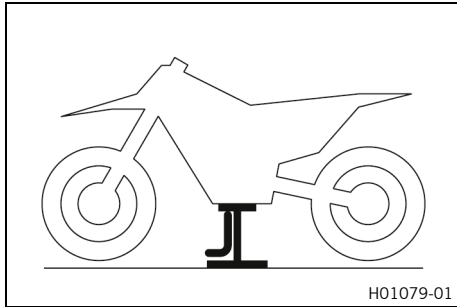
- Carefully loosen and remove tension belt **1** from the footrest brackets on the left and right.

i Info

An assistant prevents the motorcycle from falling over.

- Remove screws **2** from the footrest bracket on the left and right.



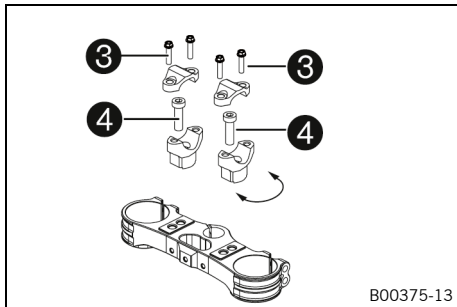


- Together with an assistant, take the vehicle off the pallet.
- Position the vehicle on a lift stand.
- Check the vehicle for transport damage.



Info

The procedure in the event of transport damage is described in the Customer Service Manual.



- Remove screws ③. Take off the handlebar clamps.
- Remove screws ④. Take off handlebar supports.
- Place handlebar supports in required position.



Info

The handlebar supports are longer and higher on one side. Position the left and right handlebar supports evenly.

- Mount and tighten screws ④.

Guideline

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

- Position the handlebar.



Info

Make sure the cables and wiring are positioned correctly. Do not kink the cables and lines.

- Position the handlebar clamps.



Info

The markings on the handlebar should be at the center of the handlebar clamps.

- Mount screws ③, but do not tighten yet.
- First bolt the handlebar clamps with screws ③ onto the longer, higher side of the handlebar supports so that both parts touch.

Guideline

Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)
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- Tighten screws **3** evenly.

Guideline

Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)
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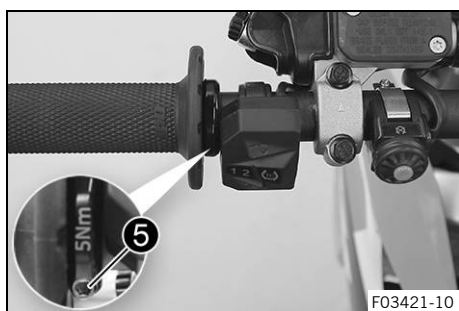
- Check the handlebar position.
 - » If the handlebar position is not adjusted as required by the customer:
 - Adjust the handlebar position. (📖 p. 9)
- Position the controls on the right half of the handlebar.



- Position the controls on the left handlebar half.
- Tighten screw **5**.

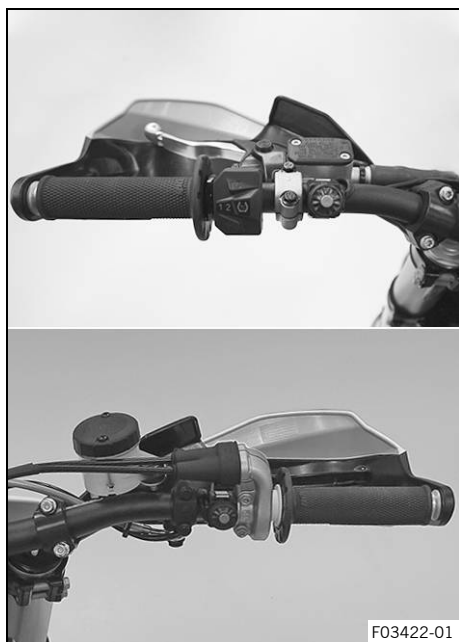
Guideline

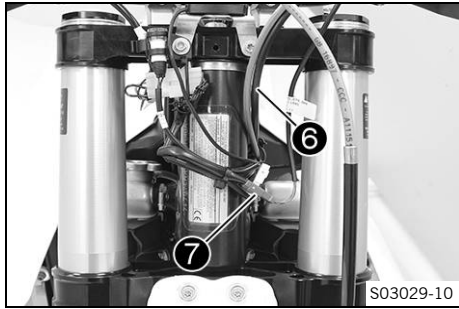
Screw, fixed grip	M4	5 Nm (3.7 lbf ft) Loctite®243™
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- Mount the left hand guard.
- Mount the right hand guard.

i Info
Read the accompanying **KTM PowerParts** fitting instructions.

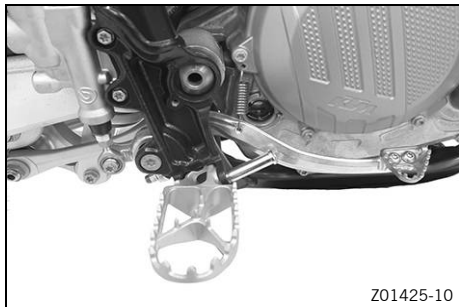




- Remove the start number plate. (📖 p. 10)
- Route cable 6 of the combination switch to the left.
- Remove protection cap and join plug-in connector 7.



- Mount the handlebar cushion.
- Install the start number plate. (📖 p. 11)

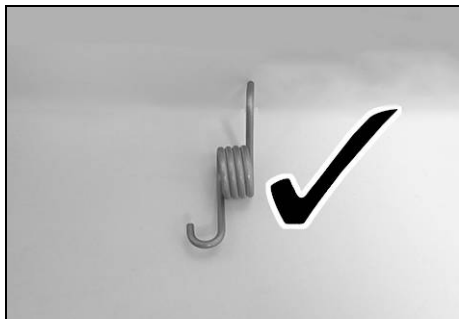


- Position the new footrest and pin.

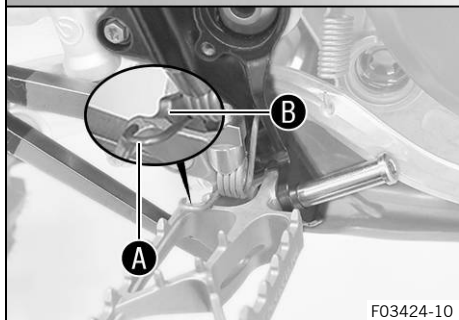


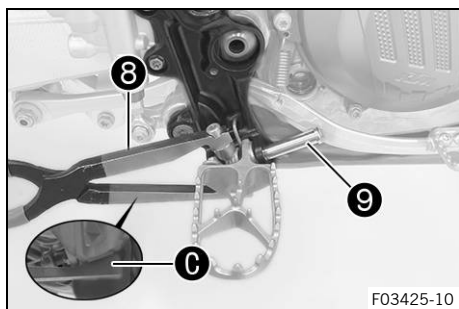
Info

Only insert the pin to the extent that the spring can still be mounted.



- Position spring as shown.
 - ✓ Spring A engages in area B.

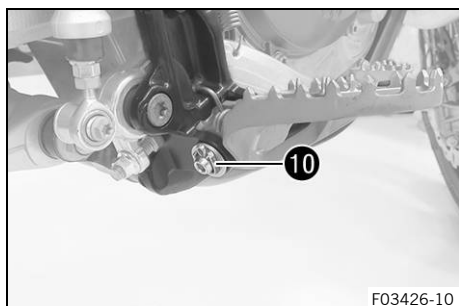




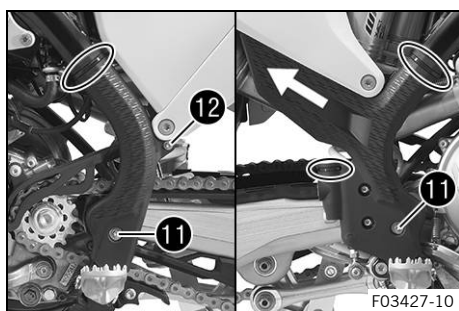
- Press the spring with special tool **8**.

Footrest spring plier (79029083000)

- ✓ The special tool is applied to area **C** on the footrest.
- Mount pin **9**.



- Mount the washer and splint **10**.
- Repeat these steps on the opposite side.



- Position the left frame protector.
- Insert the right frame protector from below and push it to the rear.
- Mount and tighten screws **11** with washers.

Guideline

Screw, frame protector	M5	3 Nm (2.2 lbf ft)
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- Mount and tighten screw **12**.

Guideline

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

- Mount the cable ties.
- Charge the 12-V battery. (📖 p. 14)
- Unpack and mount the **KTM PowerParts** included in the delivery (optional).



Info

Read the accompanying **KTM PowerParts** fitting instructions.

- Attach the stickers included in the scope of supply (optional).
- Refuel. (📖 p. 17)
- Position all controls in their exact positions on the handlebar. Tighten all screws.
- Remove the remaining film, padding, the corrugated cardboard, and the other packaging material.
- Prepare the vehicle according to the specifications in **KTM Dealer.net** for handover to the customer.

**Info**

Transport mode must be deactivated to be able to start the motorcycle.

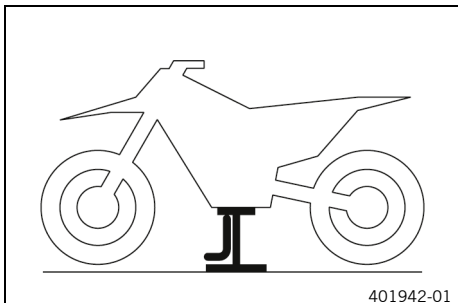


3.1 Raising the motorcycle with a lift stand

Note

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

- Park the vehicle on a firm and level surface.



- Raise the motorcycle at the frame underneath the engine.

Lift stand (78129955100)

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

3.2 Removing the motorcycle from the lift stand

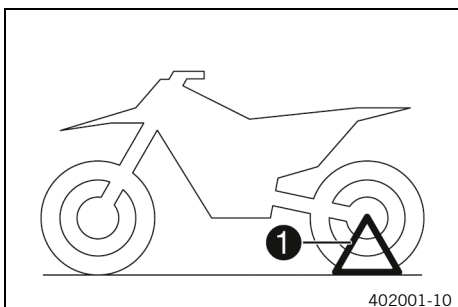
Note

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

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

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

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



- Remove the motorcycle from the lift stand.
- Remove the lift stand.
- To park the motorcycle, insert plug-in stand ① into the left side of the wheel spindle.

i Info
Remove the plug-in stand before riding.

3.3 Adjusting the handlebar position

Preparatory work

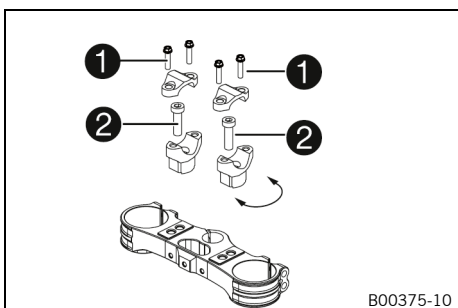
- Remove the handlebar cushion.

Main work

- Remove screws ①. Take off the handlebar clamps. Remove the handlebar and lay it to one side.

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

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



i Info

The handlebar supports are longer and higher on one side.
Position the left and right handlebar supports evenly.

- Mount and tighten screws ②.

Guideline

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

i Info

Make sure the cables and wiring are positioned correctly.

- Position handlebar clamps.
- Mount screws ① but do not tighten yet.
- First bolt the handlebar clamps with screws ① onto the longer, higher side of the handlebar supports so that both parts touch.

Guideline

Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)
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- Tighten screws ① evenly.

Guideline

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

Finishing work

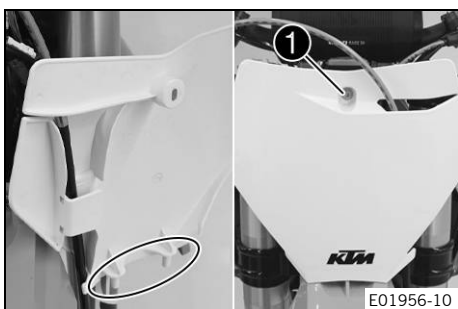
- Mount the handlebar cushion.

3.4 Removing the start number plate



- Remove screw ①. Swivel the start number plate to one side.
- Unhook the start number plate from the brake line and remove it.

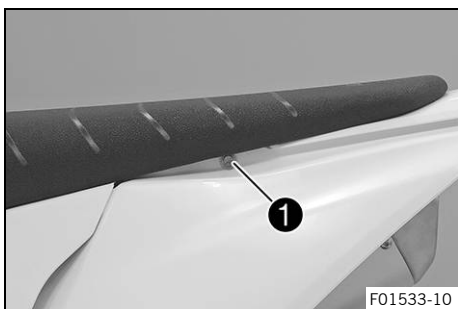
3.5 Installing the start number plate



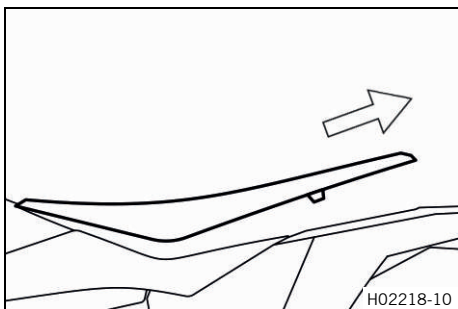
- Position the brake line in holders on the start number plate.
- Position the start number plate. Mount and tighten screw ①.
- ✓ The holding lugs engage in the fender.



3.6 Removing the seat



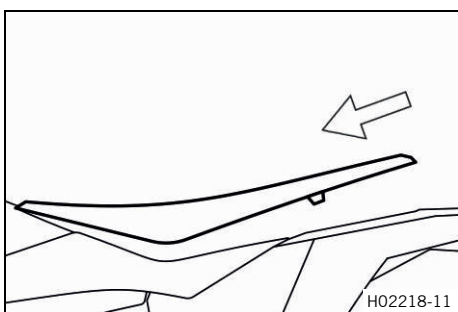
- Remove screw ①.



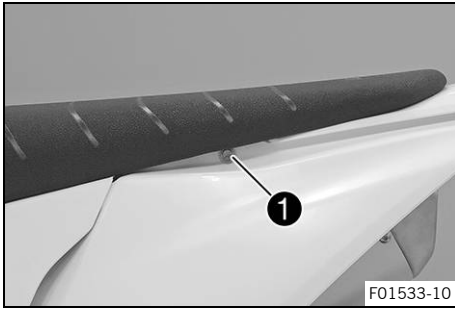
- Raise the rear of the seat, pull the seat back, and lift it off.



3.7 Mounting the seat



- Mount the front of the seat on the collar bushing of the fuel tank and the rear in the bracket.
- Push the seat forward.
- Make sure the seat is latched in place correctly.



- Mount and tighten screw ①.

Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
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3.8 Removing the 12-V battery



Warning

Risk of injury 12 V batteries contain harmful substances.

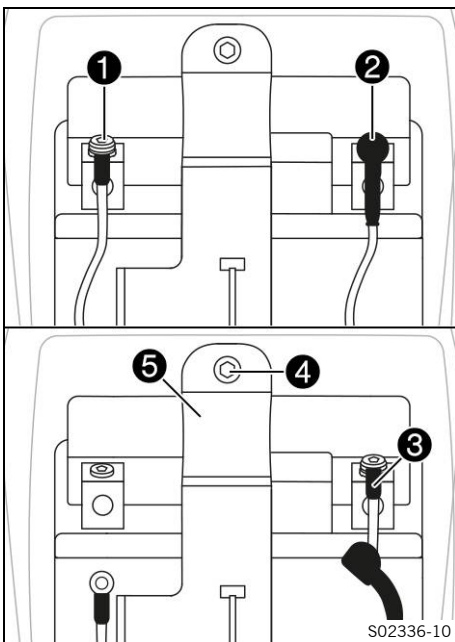
- Keep 12 V batteries out of the reach of children.
- Keep sparks and open flames away from 12 V batteries.
- Only charge 12 V batteries in well-ventilated rooms.
- Maintain a minimum clearance from inflammable materials when charging 12 V batteries.
Minimum clearance 1 m (3 ft)
- Do not charge deeply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

Preparatory work

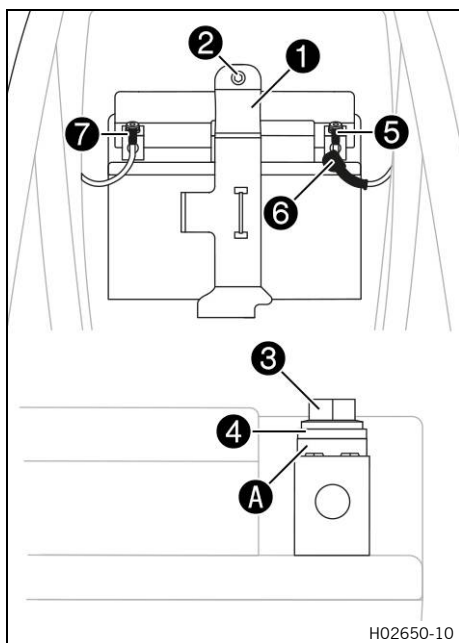
- Remove the seat. (📖 p. 11)

Main work

- Hang the voltage regulator to the side.
- Disconnect negative cable ① from the 12-V battery.
- Pull back positive terminal cover ② and disconnect positive cable ③ from the 12-V battery.
- Remove screw ④.
- Pull holding bracket ⑤ forward and take out the 12 V battery upwards.



3.9 Installing the 12 V battery



Main work

- Position the 12 V battery in the battery compartment with the terminals facing forward, and secure with holding bracket ①.

12 V battery (HJTZ5S-FP-C)

- Mount and tighten screw ②.

Guideline

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

Contact disks **A** must be mounted under screws ③ and cable sockets ④ with the claws toward the battery terminal.

- Connect positive cable ⑤ to the 12 V battery.

Guideline

Screw, battery terminal	M5	2.5 Nm (1.84 lbf ft)
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- Slide positive terminal cover ⑥ over the positive terminal.
- Connect negative cable ⑦ to the 12 V battery.

Guideline

Screw, battery terminal	M5	2.5 Nm (1.84 lbf ft)
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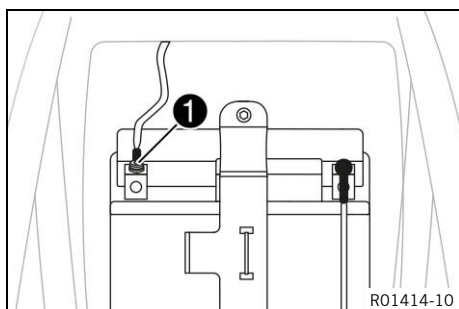
- Position the voltage regulator.

Finishing work

- Mount the seat. (📖 p. 11)



3.10 Disconnecting the negative cable of the 12-V battery



Preparatory work

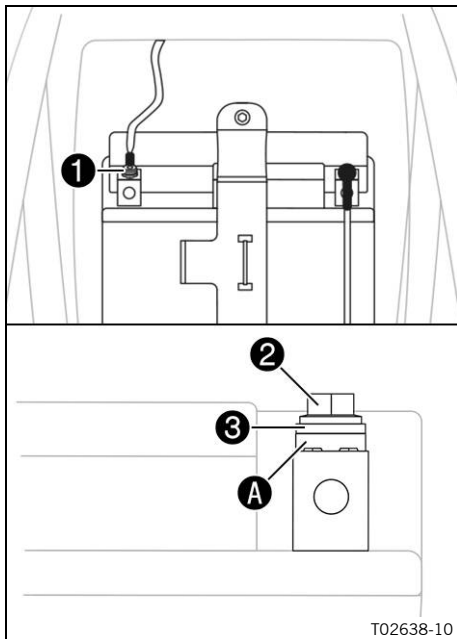
- Remove the seat. (📖 p. 11)

Main work

- Disconnect negative cable ① from the 12-V battery.



3.11 Connecting the negative cable of the 12 V battery



Main work

- Connect negative cable ① of the 12 V battery.

Guideline

Screw, battery terminal	M5	2.5 Nm (1.84 lbf ft)
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Contact disk **A** must be mounted under screw **②** and cable lug **③** with the claws toward the battery terminal.

Finishing work

- Mount the seat. (📖 p. 11)

3.12 Charging the 12-V battery



Warning

Risk of injury 12 V batteries contain harmful substances.

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



Note

Environmental hazard 12 V batteries contain environmentally hazardous materials.

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



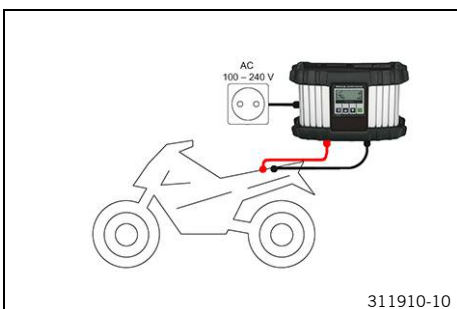
Note

Environmental hazard Hazardous substances cause environmental damage.

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

i Info

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



Preparatory work

- Remove the seat. (📖 p. 11)
- Disconnect the negative cable of the 12-V battery. (📖 p. 13)

Main work

- Connect a battery charger to the 12-V battery. Adjust the battery charger.

EU battery charger **XCharge-professional** (00029095050)

Alternative 1

US battery charger **XCharge-professional** (00029095051)

Alternative 2

UK battery charger **XCharge-professional** (00029095052)

i Info

Follow the instructions of the charger and the manual.

- Disconnect the battery charger after charging the 12-V battery.
- Guideline

The charging current, charging voltage, and charging time must not be exceeded.	
Recharge the 12-V battery regularly when the motorcycle is not being used	3 months

Finishing work

- Connect the negative cable of the 12 V battery. (📖 p. 14)
- Mount the seat. (📖 p. 11)



3.13 Opening fuel tank filler cap



Danger

Fire hazard Fuel is highly flammable.

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

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



Warning

Danger of poisoning Fuel is poisonous and a health hazard.

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



Note

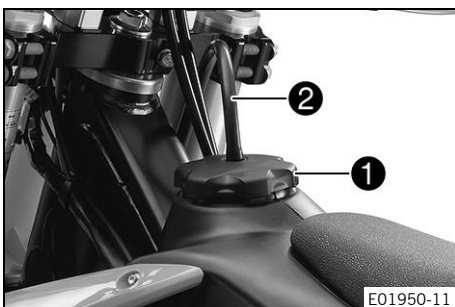
Environmental hazard Improper handling of fuel is a danger to the environment.

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



- Turn fuel tank filler cap ① counterclockwise and lift it off.

3.14 Closing the fuel tank filler cap



- Mount fuel tank filler cap ① and turn it clockwise until the fuel tank is tightly closed.



Info

Route fuel tank breather hose ② without kinks.

3.15 Refueling



Danger

Fire hazard Fuel is highly flammable.

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

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



Warning

Danger of poisoning Fuel is poisonous and a health hazard.

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

Note

Material damage Inadequate fuel quality causes the fuel filter to quickly become clogged.

In some countries and regions, the available fuel quality and cleanliness may not be sufficient. This will result in problems with the fuel system.

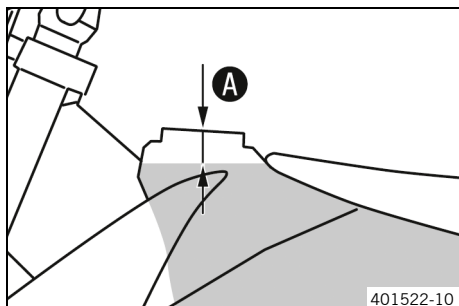
- Refuel only with clean fuel that meets the specified standards.



Note

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

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



- Switch off the engine.
- Open fuel tank filler cap. (📖 p. 16)
- Fill the fuel tank with fuel up to measurement **A**.

Guideline

Measurement of A	35 mm (1.38 in)
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Super unleaded (ROZ 95) (📖 p. 20)	6.8 l (1.8 US gal)
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- Close the fuel tank filler cap. (📖 p. 16)



4 TECHNICAL DATA

4.1 Chassis tightening torques

Screw, air filter box	EJOT PT® K70x25	5 Nm (3.7 lbf ft)	
Screw, combination switch	EJOT PT® K50x18	2 Nm (1.5 lbf ft)	
Screw, intake air temperature sensor	EJOT DELTA PT® 45x12-Z	0.7 Nm (0.52 lbf ft)	
Fitting, start button	M3	0.4 Nm (0.3 lbf ft)	
Fitting, stop button	M3	0.4 Nm (0.3 lbf ft)	
Fitting, inlet sleeve to throttle valve body	M4	2.8 Nm (2.07 lbf ft)	
Screw, fixed grip	M4	5 Nm (3.7 lbf ft)	Loctite®243™
Screw, service hour counter	M4	0.8 Nm (0.59 lbf ft)	
Spoke nipple, front wheel	M4.5	6 Nm (4.4 lbf ft)	
Spoke nipple, rear wheel	M4.5	6 Nm (4.4 lbf ft)	
Remaining nuts, chassis	M5	5 Nm (3.7 lbf ft)	
Remaining screws, chassis	M5	5 Nm (3.7 lbf ft)	
Screw, battery terminal	M5	2.5 Nm (1.84 lbf ft)	
Screw, frame protector	M5	3 Nm (2.2 lbf ft)	
Screw, shock absorber adjusting ring	M5	5 Nm (3.7 lbf ft)	
Nut, cable on starter motor	M6	4 Nm (3 lbf ft)	
Remaining nuts, chassis	M6	10 Nm (7.4 lbf ft)	
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)	
Screw, ball joint of push rod on foot brake cylinder	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, chain sliding guard	M6	6 Nm (4.4 lbf ft)	Loctite®243™
Screw, front brake disc	M6	14 Nm (10.3 lbf ft)	Loctite®243™
Screw, indicator lamp bracket	M6	5 Nm (3.7 lbf ft)	
Screw, rear brake disc	M6	14 Nm (10.3 lbf ft)	Loctite®243™
Screw, throttle grip	M6	5 Nm (3.7 lbf ft)	
Fuel connection on fuel tank	M8	15 Nm (11.1 lbf ft)	
Nut, foot brake lever stop	M8	20 Nm (14.8 lbf ft)	
Nut, rear sprocket screw	M8	35 Nm (25.8 lbf ft)	Loctite®2701™
Nut, rim lock	M8	12 Nm (8.9 lbf ft)	
Remaining nuts, chassis	M8	25 Nm (18.4 lbf ft)	
Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)	
Screw, bottom triple clamp	M8	12 Nm (8.9 lbf ft)	
Screw, chain sliding piece	M8	15 Nm (11.1 lbf ft)	
Screw, engine brace	M8x20	25 Nm (18.4 lbf ft)	Loctite®243™
Screw, engine brace	M8x15	25 Nm (18.4 lbf ft)	Loctite®2701™
Screw, fork stub	M8	15 Nm (11.1 lbf ft)	

Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)
Screw, manifold	M8	15 Nm (11.1 lbf ft)
Screw, subframe bottom	M8x18	30 Nm (22.1 lbf ft) Loctite®2701™
Screw, subframe top	M8x20	35 Nm (25.8 lbf ft) Loctite®2701™
Screw, top steering stem	M8	20 Nm (14.8 lbf ft) Loctite®243™
Screw, top triple clamp	M8	17 Nm (12.5 lbf ft)
Engine carrying screw	M10	60 Nm (44.3 lbf ft)
Remaining nuts, chassis	M10	45 Nm (33.2 lbf ft)
Remaining screws, chassis	M10	45 Nm (33.2 lbf ft)
Screw, bottom shock absorber	M10	60 Nm (44.3 lbf ft) Loctite®2701™
Screw, front brake caliper	M10	45 Nm (33.2 lbf ft) Loctite®243™
Screw, handlebar support	M10	40 Nm (29.5 lbf ft) Loctite®243™
Screw, top shock absorber	M10	60 Nm (44.3 lbf ft) Loctite®2701™
Nut, fuel pump	M12	15 Nm (11.1 lbf ft)
Nut, angle lever to link fork	M14x1.5	60 Nm (44.3 lbf ft)
Nut, frame on linkage lever	M14x1.5	60 Nm (44.3 lbf ft)
Nut, linkage lever on angle lever	M14x1.5	60 Nm (44.3 lbf ft)
Nut, fork pivot	M16x1.5	100 Nm (73.8 lbf ft)
Screw, front wheel spindle	M20x1.5	35 Nm (25.8 lbf ft)
Screw, top steering head	M20x1.5	12 Nm (8.9 lbf ft)
Screw-in fitting, cooling system	M24x1.5	18 Nm (13.3 lbf ft) Loctite®243™
Nut, rear wheel spindle	M25x1.5	80 Nm (59 lbf ft)

Super unleaded (ROZ 95)

Standard/classification

- DIN EN 228 (ROZ 95)

Guideline

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



Info

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

**READY TO
RACE**



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03/2021



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REG. NO. 12 100 6061

Photo: Mitterbauer/KISKA/KTM