

## 1090 Adventure

Art. no. 3213663en



**KTm**



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.

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Issued by: TÜV Management Service

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KTM Sportmotorcycle GmbH

5230 Mattighofen, Austria

This document is valid for the following models:

1090 Adventure EU (F9903QC)

1090 Adventure L EU (F9903QB)

1090 Adventure CN (F9987QC)



## 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.



Denotes a voltage measurement.



Denotes a current measurement.



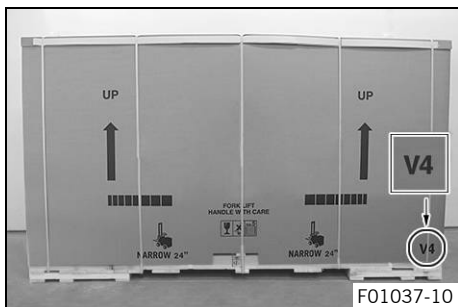
Denotes a resistance measurement.

## 1.2 Formats used

The typographical formats used in this document are explained below.

<b>Proprietary name</b>	Identifies a proprietary name.
<b>Name®</b>	Identifies a protected name.
<b>Brand™</b>	Identifies a trademark.
<b><u>Underlined terms</u></b>	Refer to technical details of the vehicle or indicate technical terms, which are explained in the glossary.

## 2.1 Unpacking and setting up the vehicle



- Remove the straps and box.



- Remove the adhesive tape in the upper area of the motorcycle.



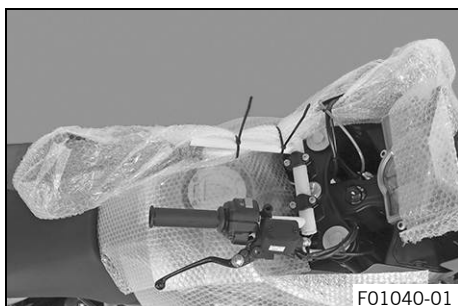
- Roll down the film at the sides.



### Info

To avoid damaging the motorcycle during unpacking, leave the other films on the vehicle until you have finished work on the vehicle.

- Remove the separate enclosure and unpack it. Check the separate enclosure for completeness.
- Check the vehicle for transport damage.



- Remove the controls from the transport holder.
- Remove the screws and handlebar clamps.
- Remove the transport holder.



- Remove the right hand guard.
- Position the controls on the right half of the handlebar. Tighten the screws.

### Guideline

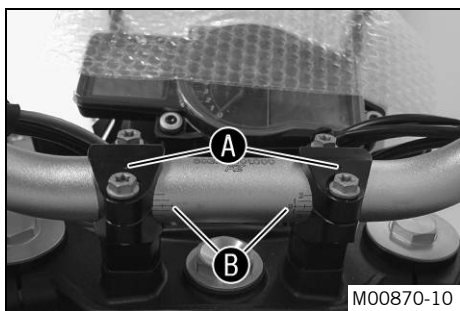
Screw, combination switch, right	M5	3.5 Nm (2.58 lbf ft)
Remaining chassis screws	M6	10 Nm (7.4 lbf ft)

- ✓ The catch on the combination switch engages in the recess of the mirror clamp.

- Mount the right hand guard.

### Guideline

Hand guard screw	M8	15 Nm (11.1 lbf ft)
Hand guard fitting	M6	6 Nm (4.4 lbf ft)



## 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.

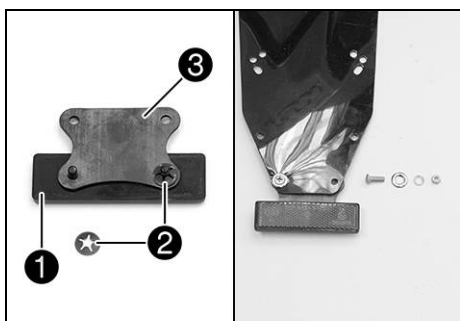
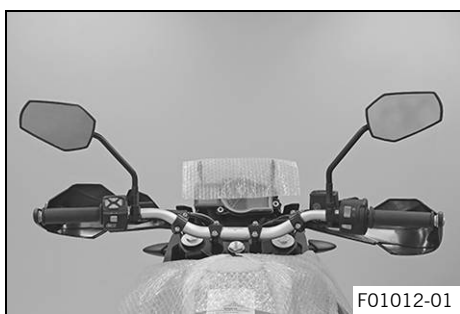
- Position the handlebar clamps. Tighten the screws evenly.

### Guideline

Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)
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- ✓ Markings **A** face backwards.
- ✓ Handlebar scale markings **B** are located centrally between the handlebar clamps.

- Check the throttle grip for smooth operation.
- Mount and tighten the rear mirror on both sides.
- Install the wind shield. (📖 p. 6)



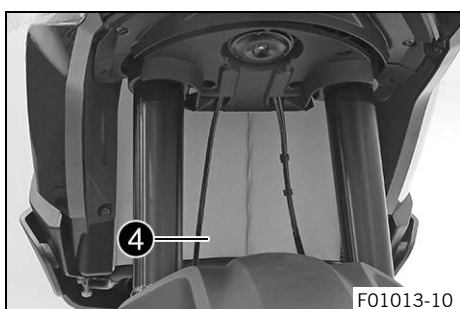
- Mount reflector **1** with spring washers **2** on holding plate **3**.
- Mount the retaining plate on the license plate holder.
- Mount the license plate holder.
- Carefully loosen and remove the tension belt over the swingarm.



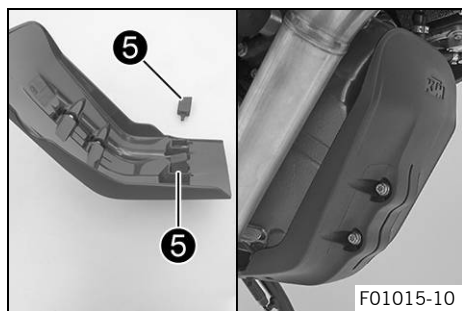
## Info

An assistant prevents the motorcycle from falling over.

- Carefully loosen and remove the tension belts around the lower triple clamp.
- ✓ The vehicle is released at the front.
- Take the vehicle off the palette together with an assistant.



- Remove radiator shield **4**.



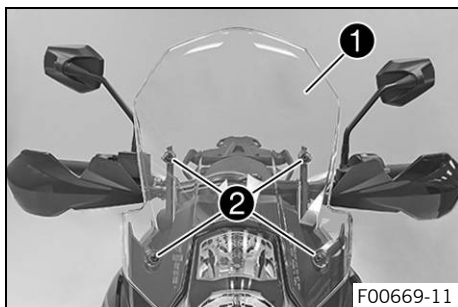
- Mount rubber dampers **5** on the engine guard.
- Position the engine guard. Mount and tighten the screws with the distance sleeves.

Guideline

Screw, engine guard	M6	10 Nm (7.4 lbf ft)
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- Remove the seat. (📖 p. 6)
- Remove spare key and **KEYCODECARD** under the seat and keep in a safe place for the handover.
- Recharge the battery. (📖 p. 6)
- Remove the remaining films.
- Check the headlight setting. (📖 p. 9)
- Refuel. (📖 p. 12)
- Prepare the vehicle according to the specifications in the **KTM Dealer.net** for handover to the customer.

## 3.1 Installing the wind shield

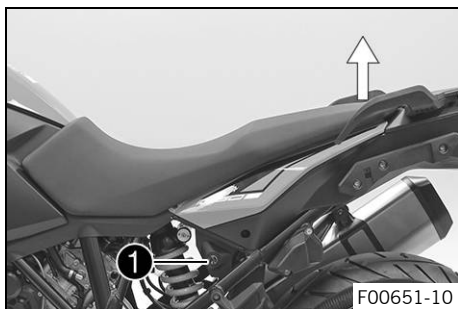


- Position wind shield ①.
- Mount and tighten screws ②.

Guideline

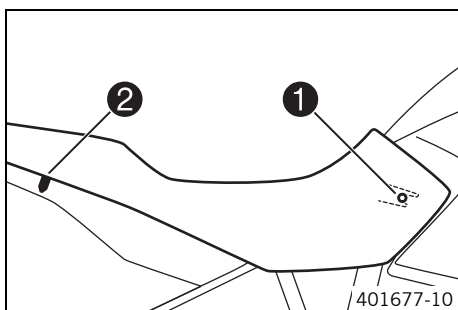
Screw, wind shield	M5	3.5 Nm (2.58 lbf ft)
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## 3.2 Removing the seat



- Insert the ignition key in the seat lock ① and turn it clockwise by 45°.
- Raise the rear of the seat, pull the seat back, and lift it off.
- Remove the ignition key.

## 3.3 Mounting the seat



- Hook the catch ① of the seat onto the fuel tank and lower the rear while pushing it forward.
- Insert the locking pin ② into the lock housing and push down the rear of the seat until the locking pin engages with an audible click.
- Finally, check that the seat is correctly mounted.

## 3.4 Recharging the battery



### Warning

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

- Keep batteries out of the reach of children.
- Wear suitable protective clothing and safety glasses.
- Avoid contact with battery acid and battery gases.
- Keep sparks or open flames away from the battery.
- Only charge batteries in well-ventilated rooms.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes with water for at least 15 minutes and consult a doctor immediately if battery acid and battery gases get into the eyes.



### Warning

**Environmental hazard** Batteries contain environmentally-hazardous materials.

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



### Warning

**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 battery, it discharges steadily.

The charging level and the method of charging are very important for the service life of the battery.

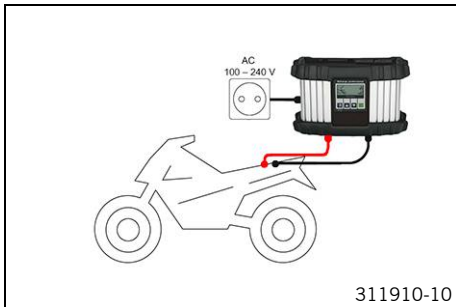
Rapid recharging with a high charging current shortens the service life of the battery.

If the charging current, charging voltage, and charging time are exceeded, the battery will be destroyed.

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

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

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

**Preparatory work**

- Switch off the ignition by turning the black ignition key to the position **OFF** ☒.
- Remove the seat. (📖 p. 6)
- Remove the battery. (📖 p. 7)

**Main work**

- Connect the battery charger to the battery. Set the battery charger.

**Alternative 1**

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

**Alternative 2**

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

**Alternative 3**

Battery charger **XCharge-professional** GB (00029095052)

**Alternative 4**

Battery charger **XCharge-professional** CH (00029095053)

**Info**

Follow the instructions of the charger and the manual.

- Disconnect the battery charger after charging the battery.

**Guideline**

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

Charge the battery regularly when the motorcycle is not in use

3 months

**Finishing work**

- Install the battery. (📖 p. 8)
- Mount the seat. (📖 p. 6)
- Set the time and date.

### 3.5 Removing the battery

**Warning**

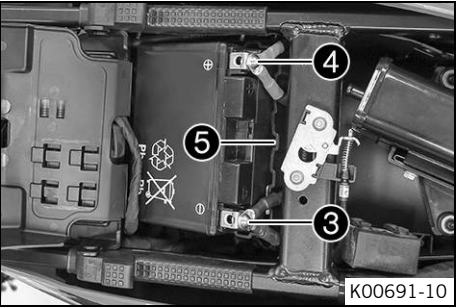
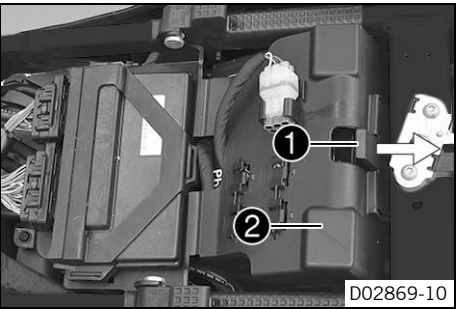
**Risk of injury** Battery acid and battery gases cause serious chemical burns.

- Keep batteries out of the reach of children.
- Wear suitable protective clothing and safety glasses.
- Avoid contact with battery acid and battery gases.
- Keep sparks or open flames away from the battery.
- Only charge batteries in well-ventilated rooms.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes with water for at least 15 minutes and consult a doctor immediately if battery acid and battery gases get into the eyes.

**Caution**

**Danger of accidents** Electronic components and safety devices will be damaged if the battery is discharged or missing.

- Never operate the vehicle with a discharged battery or without a battery.




Preparatory work

- Switch off the ignition by turning the black ignition key to the position **OFF** ☒.
- Remove the seat. (📖 p. 6)


Main work

- Pull locking mechanism ❶ in the direction of the arrow.
- Fold open cover ❷.
- Disconnect negative cable ❸ from the battery.
- Disconnect positive cable ❹ from the battery.
- Take the battery and battery case ❺ out of the battery compartment.

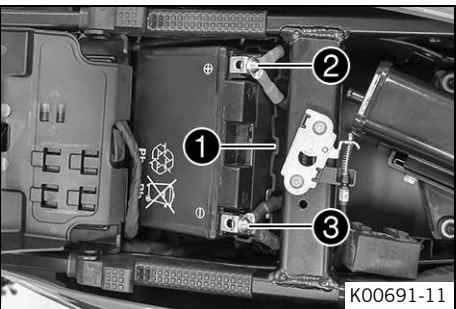
3.6 Installing the battery

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

- Keep batteries out of the reach of children.
- Wear suitable protective clothing and safety glasses.
- Avoid contact with battery acid and battery gases.
- Keep sparks or open flames away from the battery.
- Only charge batteries in well-ventilated rooms.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes with water for at least 15 minutes and consult a doctor immediately if battery acid and battery gases get into the eyes.

**Caution**  
**Danger of accidents** Electronic components and safety devices will be damaged if the battery is discharged or missing.

- Never operate the vehicle with a discharged battery or without a battery.



Main work

- Position the battery in battery case ❶.

Guideline

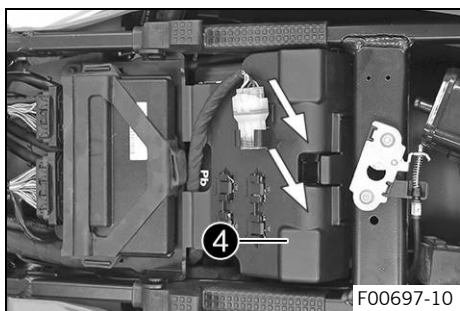
The even side of the battery case must be opposite the poles.		
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- Position the battery and battery case in the battery compartment.
- Position the positive cable ❷ and mount and tighten the screw.

Guideline		
Screw, battery terminal	M6	4.5 Nm (3.32 lbf ft)

- Position the negative cable ❸ and mount and tighten the screw.

Guideline		
Screw, battery terminal	M6	4.5 Nm (3.32 lbf ft)

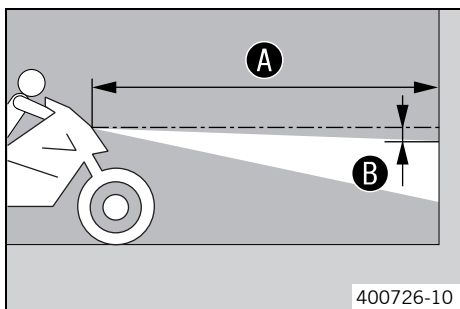


- Close the cover ④ and push down slightly.
- ✓ The cover engages with an audible click.

## Finishing work

- Mount the seat. (📖 p. 6)
- Set the time and date.

## 3.7 Checking the headlight setting



- Park the vehicle on a horizontal surface in front of a light-colored wall and make a mark at the height of the center of the low beam headlight.
- Make another mark at a distance ② under the first mark.

### Guideline

Distance ②	5 cm (2 in)
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- Position the vehicle perpendicular to the wall at a distance ① from the wall and switch on the low beam.

### Guideline

Distance ①	5 m (16 ft)
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- The rider, with luggage and passenger if applicable, now mounts the motorcycle.
- Check the headlight setting.

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

- » If the boundary between light and dark does not meet specifications:
  - Adjust the headlight range. (📖 p. 9)

## 3.8 Adjusting the headlight range

### Preparatory work

- Check the headlight setting. (📖 p. 9)
- Remove the bottom triple clamp cover. (📖 p. 10)

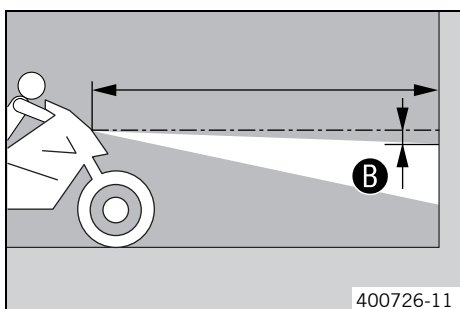
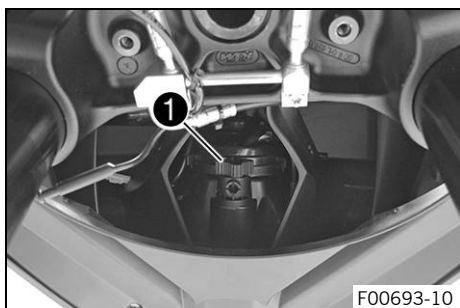
### Main work

- Turn adjusting screw ① to adjust the headlight range.



### Info

Turn clockwise to increase the headlight range; turn counterclockwise to reduce the headlight range.  
If you have a payload, you may have to correct the headlight range.



- Set the headlight to marking ②.

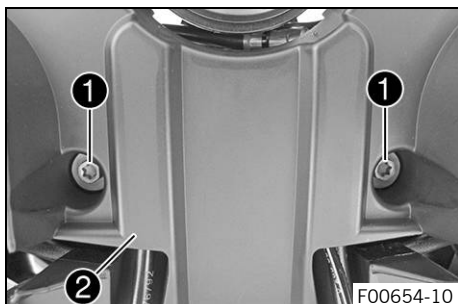
### Guideline

The light-dark boundary must lie exactly on the lower mark ② when the motorcycle is ready to operate with the rider mounted along with any luggage and a passenger if applicable.

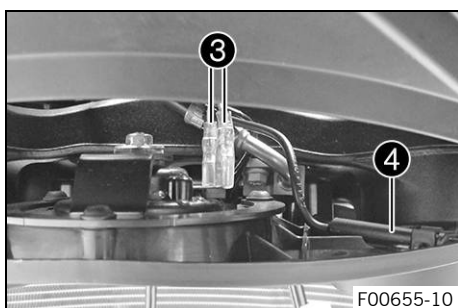
## Finishing work

- Install the bottom triple clamp cover. (📖 p. 10)

## 3.9 Removing the bottom triple clamp cover

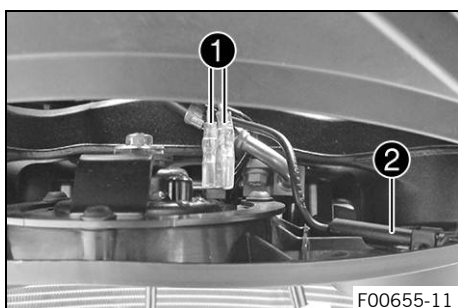


- Remove screws ①.
- Lower the triple clamp cover ② slightly.

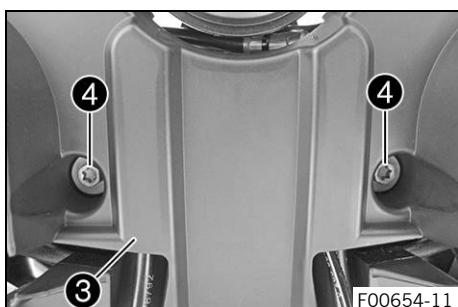


- Disconnect plugs ③ of the horn.
- Detach temperature sensor ④.
- Remove the triple clamp cover.

## 3.10 Installing the bottom triple clamp cover



- Plug in connectors ① of the horn.
- Attach temperature sensor ②.



- Position the triple clamp cover ③.
- Mount and tighten screws ④.

Guideline

Remaining chassis screws	M6	10 Nm (7.4 lbf ft)
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## 3.11 Opening the 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 refuel 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.

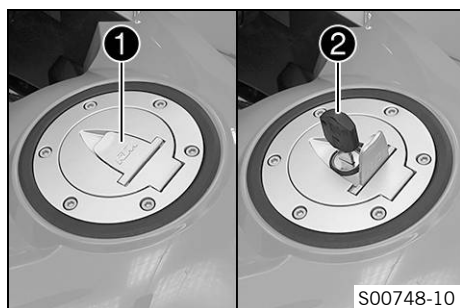
- Avoid skin, eye and clothing contact with fuel.
- Immediately consult a doctor if you swallow fuel.
- Do not inhale fuel vapors.
- In case of skin contact, rinse the affected area with plenty of water.
- Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.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



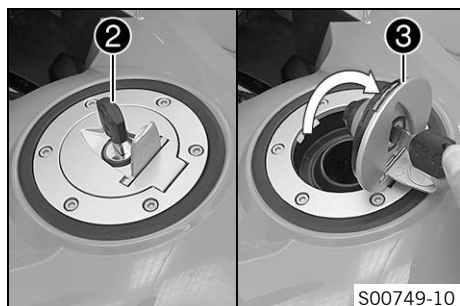
## Warning

**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.



- Lift cover 1 of the filler cap and insert ignition key 2 in the fuel tank lock.

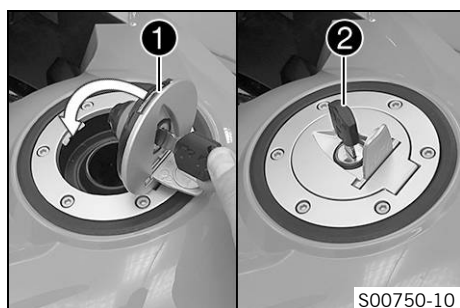


## Note

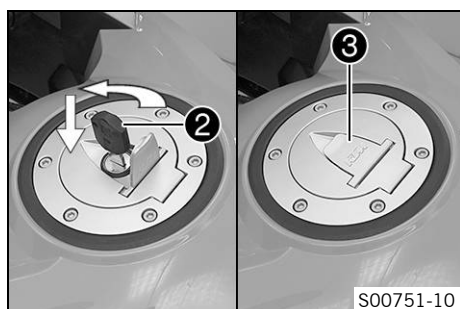
**Danger of damage** The ignition key may break if overloaded. Damaged ignition keys must be replaced.

- Push down on the filler cap to take pressure off the ignition key.
- Turn ignition key 2 clockwise.
- Fold open filler cap 3.

## 3.12 Closing the filler cap



- Fold down filler cap 1.
- Turn ignition key 2 clockwise.



- Push down the filler cap and turn the ignition key 2 counterclockwise until the tank lock closes.



## Warning

**Fire hazard** Fuel is highly flammable, toxic and a health hazard.

- Check the filler cap is locked correctly after closing.
- Change your clothing in case of fuel spills on them.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Remove ignition key 2 and close cover 3.

3.13 Refueling



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

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

- Do not refuel 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.

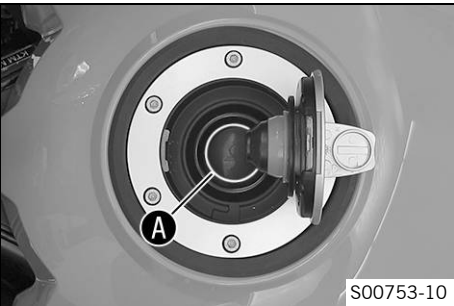
In some countries and regions, the available fuel quality and cleanliness may not be sufficient. This will result in problems with the fuel system.

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



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

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



- Switch off the engine.
- Open the filler cap. (📖 p. 10)
- Fill the fuel tank with fuel up to the lower edge **A** of the filler neck.

Total fuel tank capacity, approx.	23 l (6.1 US gal)	Super unleaded (ROZ 95/RON 95/PON 91) (📖 p. 15)
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- Close the filler cap. (📖 p. 11)

## 4.1 Chassis tightening torques

Screw, combination switch, left	M4	2 Nm (1.5 lbf ft)	–
Screw, side stand switch	M4	2 Nm (1.5 lbf ft)	–
Rear fairing screw	M5x12	3.5 Nm (2.58 lbf ft)	–
Rear fairing screw	M5x17	3.5 Nm (2.58 lbf ft)	–
Remaining nuts, chassis	M5	5 Nm (3.7 lbf ft)	–
Remaining screws, chassis	M5	5 Nm (3.7 lbf ft)	–
Screw brake line holder on frame	M5	2 Nm (1.5 lbf ft)	–
Screw, brake line holder on swingarm	M5	5 Nm (3.7 lbf ft)	–
Screw, cable channel	M5	5 Nm (3.7 lbf ft)	–
Screw, cable guide, wheel speed sensor, rear	M5	3 Nm (2.2 lbf ft)	–
Screw, chain sliding guard	M5	5 Nm (3.7 lbf ft)	–
Screw, combination switch, right	M5	3.5 Nm (2.58 lbf ft)	–
Screw, cover part	M5	3.5 Nm (2.58 lbf ft)	–
Screw, filler cap	M5	3 Nm (2.2 lbf ft)	–
Screw, foot brake lever stub	M5	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, fuel level sensor	M5	3 Nm (2.2 lbf ft)	–
Screw, heat guard on main silencer	M5	4 Nm (3 lbf ft)	–
Screw, wind shield	M5	3.5 Nm (2.58 lbf ft)	–
Ground fitting on frame	M6	6 Nm (4.4 lbf ft)	–
Hand guard fitting	M6	6 Nm (4.4 lbf ft)	–
Nut, ABS unit fixation	M6	8 Nm (5.9 lbf ft)	–
Remaining chassis nuts	M6	10 Nm (7.4 lbf ft)	–
Remaining chassis screws	M6	10 Nm (7.4 lbf ft)	–
Screw, ball joint of push rod on foot brake cylinder	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, battery terminal	M6	4.5 Nm (3.32 lbf ft)	–
Screw, brake line holder on bottom triple clamp	M6	10 Nm (7.4 lbf ft)	–
Screw, cable channel	M6	5 Nm (3.7 lbf ft)	–
Screw, chain guide	M6	5 Nm (3.7 lbf ft)	–
Screw, clutch assembly	M6	5 Nm (3.7 lbf ft)	–
Screw, cooler retaining bracket	M6	7 Nm (5.2 lbf ft)	–
Screw, cover part	M6	6 Nm (4.4 lbf ft)	–
Screw, engine guard	M6	10 Nm (7.4 lbf ft)	–
Screw, exhaust clamp	M6	8 Nm (5.9 lbf ft)	–
Screw, foot brake cylinder	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, front brake disc	M6	14 Nm (10.3 lbf ft)	Loctite® 243™
Screw, fuel pump	M6	6 Nm (4.4 lbf ft)	–
Screw, fuel tank	M6	10 Nm (7.4 lbf ft)	–
Screw, fuel tap	M6	6 Nm (4.4 lbf ft)	–
Screw, headlight	M6	5 Nm (3.7 lbf ft)	–
Screw, lower rear part	M6	6 Nm (4.4 lbf ft)	–
Screw, magnetic holder on side stand	M6	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, rear brake disc	M6	14 Nm (10.3 lbf ft)	Loctite® 243™
Screw, retaining bracket, angle sensor	M6	10 Nm (7.4 lbf ft)	–
Screw, voltage regulator	M6	6 Nm (4.4 lbf ft)	–
Screw, wheel speed sensor, front	M6	10 Nm (7.4 lbf ft)	–
Screw, wheel speed sensor, rear	M6	10 Nm (7.4 lbf ft)	–
Angle valve	M8	4 Nm (3 lbf ft)	–
Hand guard screw	M8	15 Nm (11.1 lbf ft)	–



Remaining chassis nuts	M8	25 Nm (18.4 lbf ft)	–
Remaining chassis screws	M8	25 Nm (18.4 lbf ft)	–
Screw, bottom triple clamp	M8	12 Nm (8.9 lbf ft)	–
Screw, exhaust clamp	M8	25 Nm (18.4 lbf ft)	–
Screw, foot brake lever	M8	25 Nm (18.4 lbf ft)	Loctite® 243™
Screw, fork stub	M8	15 Nm (11.1 lbf ft)	–
Screw, front footrest bracket	M8	25 Nm (18.4 lbf ft)	Loctite® 243™
Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)	–
Screw, ignition lock	M8	25 Nm (18.4 lbf ft)	Loctite® 243™
Screw, rear footrest bracket	M8	25 Nm (18.4 lbf ft)	Loctite® 243™
Screw, steering damper	M8	25 Nm (18.4 lbf ft)	Loctite® 243™
Screw, steering damper clamp	M8	12 Nm (8.9 lbf ft)	–
Screw, steering stem	M8	20 Nm (14.8 lbf ft)	–
Screw, suitcase hook	M8	20 Nm (14.8 lbf ft)	Loctite® 243™
Screw, top triple clamp	M8	15 Nm (11.1 lbf ft)	–
Remaining chassis nuts	M10	45 Nm (33.2 lbf ft)	–
Remaining chassis screws	M10	45 Nm (33.2 lbf ft)	–
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, side stand	M10	35 Nm (25.8 lbf ft)	Loctite® 243™
Screw, side stand bracket	M10	45 Nm (33.2 lbf ft)	Loctite® 243™
Banjo bolt, brake line	M10x1	25 Nm (18.4 lbf ft)	–
Nut, rear sprocket screw	M10x1.25	50 Nm (36.9 lbf ft)	Loctite® 243™
Lambda sensor	M12x1.25	25 Nm (18.4 lbf ft)	–
Screw, bottom shock absorber	M14x1.5	80 Nm (59 lbf ft)	Thread greased
Screw, top shock absorber	M14x1.5	80 Nm (59 lbf ft)	Thread greased
Nut, swingarm pivot	M19x1.5	130 Nm (95.9 lbf ft)	Thread greased
Screw, steering head, top	M22x1.5	18 Nm (13.3 lbf ft)	–
Nut, rear wheel spindle	M25x1.5	90 Nm (66.4 lbf ft)	Thread greased
Screw, front wheel spindle	M25x1.5	45 Nm (33.2 lbf ft)	Thread greased



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

### Standard/classification

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

### Guideline

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



### Info

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

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KTM Group Partner



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