SETUP INSTRUCTIONS 2017



1090 Adventure R

Art. no. 3213674en





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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REG.NO. 12 100 6061

KTM Sportmotorcycle GmbH Stallhofnerstraße 3 5230 Mattighofen, Austria

This document is valid for the following models:

1090 Adventure R EU (F9903QD)

1090 Adventure R US (F9975QD)



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.

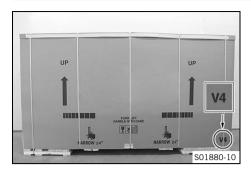
Name® Indicates a protected name.

Brand™ Indicates a brand available on the open market.

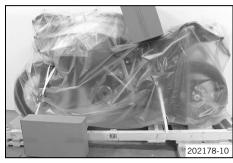
<u>Underlined terms</u> Refer to technical details of the vehicle or indicate technical terms, which

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.



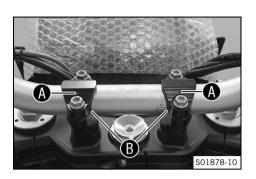
- Remove the right hand guard.
- Position the controls on the right half of the handlebar.
 Tighten the screws.

Guideline



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

- ✓ 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.



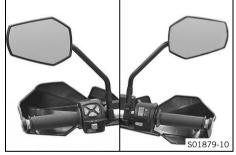
Info

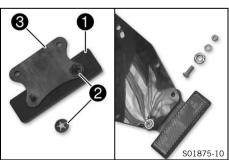
Make sure the cables and wiring are positioned correctly.

Position the handlebar clamps. Tighten the screws evenly.
 Guideline

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

- Check the throttle grip for smooth operation.
- Mount and tighten the rear mirror on both sides.
- Install the wind shield. (
 p. 8)





- Mount reflector **1** with spring washers **2** on holding plate **3**.
- Mount the retaining plate on the license plate holder.



(1090 Adventure R EU)

Mount the license plate holder.



(1090 Adventure R US)

- Bond the reflectors on the right and left side of the reflector holder
- Mount the reflector holder on license plate bracket.
- 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.
- Remove screws **5**.
- Position radiator guard.

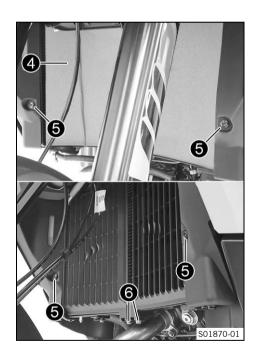


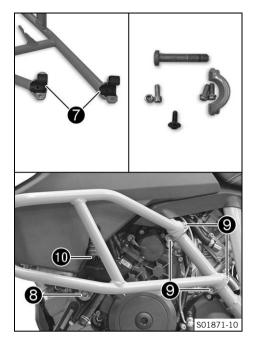
Info

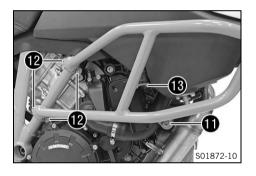
Pay attention to the guides and the holding lugs.

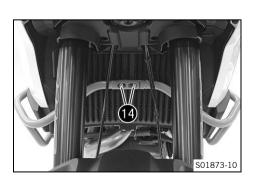
- Mount and tighten screws **5** and **6**. Guideline

Screw, cooler retain-	M6	7 Nm (5.2 lbf ft)
ing bracket		









- Mount the frame protector elements on both sides.
- Position the left crash bar with frame protector and attach the clamp to the frame tube.

i

Info

Cover the components to protect them against damage.

Mount screw 8 but do not tighten yet.

Guideline

Remaining chassis	M10	45 Nm (33.2 lbf ft)
screws		

- Position clamps and mount the new screws **9** but do not tighten them yet.

Guideline

Remaining chassis	M6	10 Nm (7.4 lbf ft)
screws		

- Mount screw 10 but do not tighten yet.

Guideline

Remaining chassis	M6	10 Nm (7.4 lbf ft)
screws		

 Position the right crash bar with frame protector and attach the clamp to the frame tube.



Info

Cover the components to protect them against damage.

- Mount screw 🕕 but do not tighten yet.

Guideline

Remaining chassis	M10	45 Nm (33.2 lbf ft)
screws		

- Position clamps and mount the new screws **1** but do not tighten them yet.

Guideline

Remaining chassis	M6	10 Nm (7.4 lbf ft)
screws		

- Mount screw 13 but do not tighten yet.

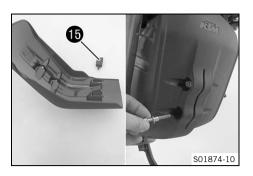
Guideline

Remaining chassis	M6	10 Nm (7.4 lbf ft)
screws		

- Mount and tighten screws 14 with nuts.
 - $\checkmark \;\;$ The crash bars are equally aligned with each other.
- Tighten all the screws of the crash bar.

Guideline

Remaining chassis screws	M6	10 Nm (7.4 lbf ft)
Remaining chassis screws	M10	45 Nm (33.2 lbf ft)

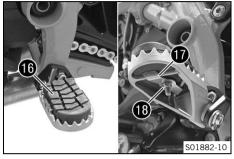




 Position the engine guard. Mount and tighten the screws with the distance sleeves.

Guideline

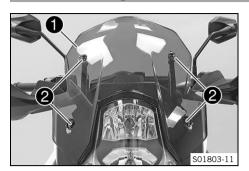
Screw, engine guard	M6	10 Nm (7.4 lbf ft)
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- Position footrest rubber 16.
- Mount locking plate $\mathbf{17}$ and nut $\mathbf{18}$.
- Tighten nut 18.
- Repeat the operation on the opposite side.
- Remove the seat. (🕮 p. 8)
- Remove spare key and KEYCODECARD under the seat and keep in a safe place for the handover.
- Remove the remaining films.
- Refuel. (♥ p. 16)
- Prepare the vehicle according to the specifications in the KTM Dealer.net for handover to the customer.

7

3.1 Installing the wind shield



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

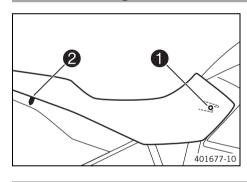
Screw, wind shield	M5	3.5 Nm
		(2.58 lbf ft)

3.2 Removing the seat



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

3.3 Mounting the seat



- Hook catch of the seat onto the fuel tank and lower the rear while pushing it forward.
- Insert locking pin **2** into the lock housing and push down the rear of the seat until the locking pin engages with a click.
- 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.



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.



- Switch off the ignition by turning the black ignition key to the position $\mathbf{OFF} \boxtimes$.
- Remove the battery. (🕮 p. 10)



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



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

Alternative 2

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

Alternative 3

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

Alternative 4

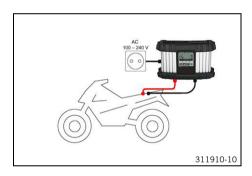
CH battery charger **XCharge-professional** (00029095053)



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. 11)
- Mount the seat. (
 p. 8)
- 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

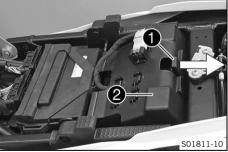
discharged or missing.

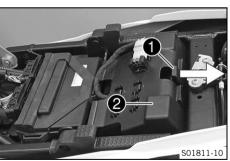
Never operate the vehicle with a discharged battery or without a battery.

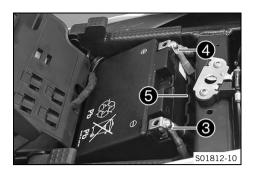
Preparatory work

- Switch off the ignition by turning the black ignition key to the position **OFF** \boxtimes .
- Remove the seat. (
 p. 8)

- Pull locking mechanism 1 in the direction of the arrow.
- Fold open cover 2.







- Disconnect negative cable 3 from the battery.
- Disconnect positive cable 4 from the battery.
- Take the battery and battery case 6 out of the battery compartment.

3.6 Installing the battery



Warning

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

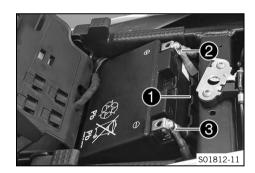
- Keep batteries out of the reach of children.
- Wear suitable protective clothing and safety glasses.
- Avoid contact with battery acid and battery gases.
- Keep sparks or open flames away from the battery.
- Only charge batteries in well-ventilated rooms.
- Rinse the affected area immediately with 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 1.

Guideline

The even side of the battery case must be opposite the poles.

- Position the battery and battery case in the battery compartment
- Position the positive cable 2 and mount and tighten the screw.

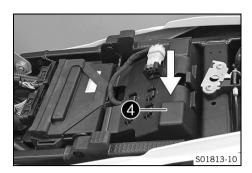
Guideline

Screw, battery termi-	M6	4.5 Nm
nal		(3.32 lbf ft)

 Position the negative cable 3 and mount and tighten the screw.

Guideline

Screw, battery termi-	M6	4.5 Nm
nal		(3.32 lbf ft)

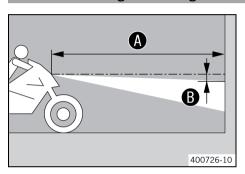


- Close the cover **4** and push down slightly.
 - ✓ The cover engages with an audible click.

Finishing work

- Mount the seat. (
 p. 8)
- Set the time and date.

3.7 Checking the headlight setting



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

 Guideline

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

Distance A 5 m (16 ft)

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

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

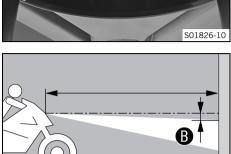
- » If the boundary between light and dark does not meet specifications:

3.8 Adjusting the headlight range

Preparatory work

- Check the headlight setting. (🕮 p. 12)
- Remove the bottom triple clamp cover. (p. 13)





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 **B**.
 Guideline

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

Finishing work

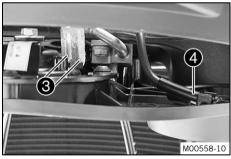
- Install the bottom triple clamp cover. (
p. 14)

3.9 Removing the bottom triple clamp cover

400726-11



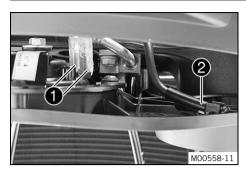
- Remove screws 1.
- Lower triple clamp cover 2 slightly.



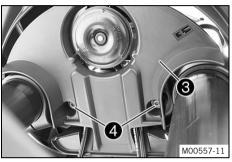
- Disconnect plugs 3 of the horn.
- Detach temperature sensor 4.
- Remove the triple clamp cover.

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3.10 Installing the bottom triple clamp cover



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



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

Remaining chassis	M6	10 Nm (7.4 lbf ft)
screws		

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.

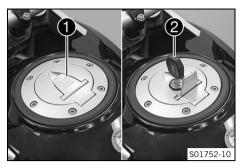
- Avoid skin, eye and clothing contact with fuel.
- Immediately consult a doctor if you swallow fuel.
- Do not inhale fuel vapors.
- In case of skin contact, rinse the affected area with plenty of water.
- Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.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



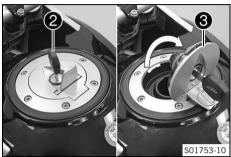
Warning

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.

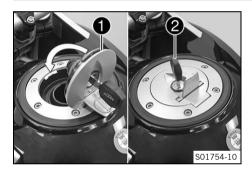


Note

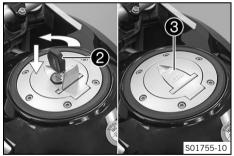
Danger of damage The ignition key may break if overloaded. Damaged ignition keys must be replaced.

- 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.

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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. 14)
- Fill the fuel tank with fuel up to the lower edge of the filler neck.

Total fuel tank	23	Super unleaded
capacity, approx.	(6.1 US gal)	(ROZ 95/RON
		95/PON 91)
		(🕮 p. 20)

- Close the filler cap. (🕮 p. 15)

4

4.1 Chassis tightening torques

ISO 10V2	12 Nm (8.9 lbf ft)
	Loctite®2701™
M4	2 Nm (1.5 lbf ft)
M4	2 Nm (1.5 lbf ft)
M5x12	3.5 Nm (2.58 lbf ft)
M5x17	3.5 Nm (2.58 lbf ft)
M5	5 Nm (3.7 lbf ft)
M5	5 Nm (3.7 lbf ft)
M5	2 Nm (1.5 lbf ft)
M5	5 Nm (3.7 lbf ft)
M5	5 Nm (3.7 lbf ft)
M5	3 Nm (2.2 lbf ft)
M5	5 Nm (3.7 lbf ft)
M5	3.5 Nm (2.58 lbf ft)
M5	3.5 Nm (2.58 lbf ft)
M5	3 Nm (2.2 lbf ft)
M5	6 Nm (4.4 lbf ft)
	Loctite®243™
M5	3 Nm (2.2 lbf ft)
M5	4 Nm (3 lbf ft)
M5	3.5 Nm (2.58 lbf ft)
M5	5 Nm (3.7 lbf ft)
M6	6 Nm (4.4 lbf ft)
M6	6 Nm (4.4 lbf ft)
M6	8 Nm (5.9 lbf ft)
M6	10 Nm (7.4 lbf ft)
M6	10 Nm (7.4 lbf ft)
M6	6 Nm (4.4 lbf ft) Loctite®243™
M6	10 Nm (7.4 lbf ft)
	Loctite®243™
M6	4.5 Nm (3.32 lbf ft)
M6	5 Nm (3.7 lbf ft)
M6	5 Nm (3.7 lbf ft)
M6	5 Nm (3.7 lbf ft)
M6	7 Nm (5.2 lbf ft)
M6	6 Nm (4.4 lbf ft)
M6	10 Nm (7.4 lbf ft)
M6	8 Nm (5.9 lbf ft)
M6	10 Nm (7.4 lbf ft)
	Loctite®243™
M6	14 Nm (10.3 lbf ft) Loctite®243™
	M4 M5x12 M5x17 M5 M6 M6

,,		55 (6613 .51 11)	Loctite®243™
Nut, rear sprocket screw	M10x1.25	50 Nm (36.9 lbf ft)	
Banjo bolt, brake line	M10x1	25 Nm (18.4 lbf ft)	LUGIIIE~243.'''
Screw, side stand bracket	M10	45 Nm (33.2 lbf ft)	Loctite®243™
Screw, side stand	M10	35 Nm (25.8 lbf ft)	Loctite®243™
Screw, handlebar support	M10	40 Nm (29.5 lbf ft)	Loctite®243™
Screw, front brake caliper	M10	45 Nm (33.2 lbf ft)	Loctite®243™
Remaining chassis nuts Remaining chassis screws	M10 M10	45 Nm (33.2 lbf ft) 45 Nm (33.2 lbf ft)	
Screw, top triple clamp	M8	20 Nm (14.8 lbf ft)	
Screw, suitcase hook	M8		Loctite®243™
Screw, steering stem	M8	20 Nm (14.8 lbf ft) 20 Nm (14.8 lbf ft)	
Screw, steering damper clamp	M8	12 Nm (8.9 lbf ft)	
			Loctite®243™
Screw, rear footrest bracket Screw, steering damper	M8 M8	25 Nm (18.4 lbf ft) 25 Nm (18.4 lbf ft)	Loctite®243™
screw)	MO		Loctite®243™
Screw, ignition lock (tamper-proof	M8	25 Nm (18.4 lbf ft)	
Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)	LUCINE 243***
Screw, front footrest bracket	M8	25 Nm (18.4 lbf ft)	Loctite®243™
Screw, fork stub	M8	15 Nm (11.1 lbf ft)	
Screw, foot brake lever	M8	25 Nm (18.4 lbf ft)	Loctite®243™
Screw, exhaust clamp	M8	25 Nm (18.4 lbf ft)	
Screw, bottom triple clamp	M8	12 Nm (8.9 lbf ft)	
Remaining chassis screws	M8	25 Nm (18.4 lbf ft)	
Remaining chassis nuts	M8	25 Nm (18.4 lbf ft)	
Hand guard screw	M8	15 Nm (11.1 lbf ft)	
Screw, wheel speed sensor, rear	M6	10 Nm (7.4 lbf ft)	
Screw, wheel speed sensor, front	M6	10 Nm (7.4 lbf ft)	
Screw, voltage regulator	M6	6 Nm (4.4 lbf ft)	
Screw, retaining bracket, angle sensor	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, rear brake disc	M6	14 Nm (10.3 lbf ft)	Loctite®243™
Screw, magnetic holder on side stand	M6	6 Nm (4.4 lbf ft)	Loctite®243™
Screw, lower rear part	M6	6 Nm (4.4 lbf ft)	
Screw, headlight	M6	5 Nm (3.7 lbf ft)	
Screw, fuel tap	M6	6 Nm (4.4 lbf ft)	
Screw, fuel tank	M6	10 Nm (7.4 lbf ft)	
Screw, fuel pump	M6	6 Nm (4.4 lbf ft)	

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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