

690 Duke
690 Duke R

Art. no. 3213436en



KTM

The work described in these setup instructions must be performed 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

REG.NO. 12 100 6061

KTM Sportmotorcycle GmbH
5230 Mattighofen, Austria

This document is valid for the following models:

690 Duke EU (F9703P3, F9703P4)

690 Duke US (F9775P3, F9775P4)

690 Duke CN (F9787P4)

690 Duke R EU (F9703P1)

690 Duke R AU (F9760P1)



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.

Proprietary name	Identifies a proprietary name.
Name[®]	Identifies a protected name.
Brand[™]	Identifies a trademark.
<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 box and the plastic packaging.



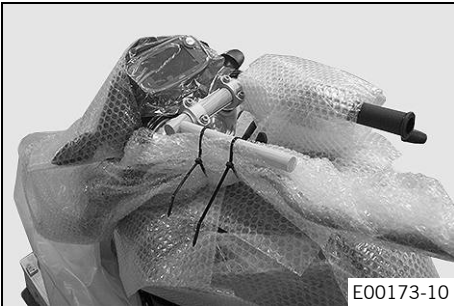
Info

To avoid damaging the motorcycle while mounting the handlebar, leave the film on the fuel tank until all of the work on the motorcycle has been finished.

- Check the vehicle for transport damage.
- Unpack the separate enclosure and check its contents on the basis of the enclosure list.

(690 Duke US)

- Ensure that the reflector is mounted on the license plate holder.
- Remove the controls from the transport holder. Remove the screws and handlebar clamps. Remove the transport holder.



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

Guideline

Screw, throttle grip	M5	3.5 Nm (2.58 lbf ft)
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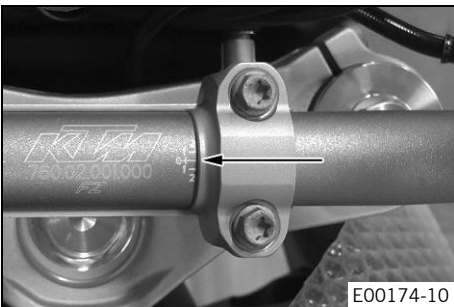


- Position the handlebar.
 - ✓ Marking **0** on the scale on the handlebar is situated in the middle of the handlebar clamp.

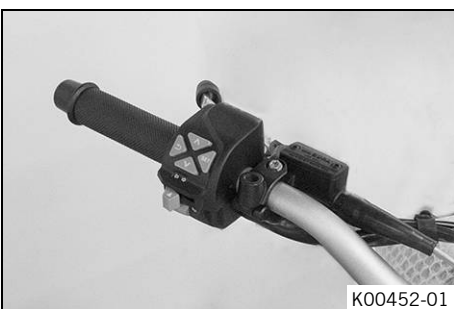
- Position the handlebar clamps. Tighten the screws evenly.

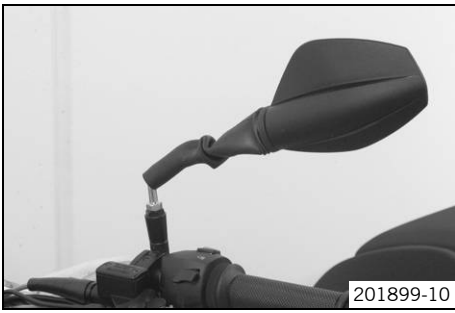
Guideline

Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)
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- Mount and tighten the right handlebar weight.
- Check the throttle grip for smooth operation.
- Position the controls on the left half of the handlebar.
- Position all controls in their exact positions on the handlebar. Tighten all screws.





- Mount and tighten the rear mirror adapter and rear mirror on both sides.



- Mount the footrests with the springs and pins. Secure the pins with the lock rings.

Pliers for footrest spring (58429083000)



- Mount the reflector.
- Remove the protective plastic.
- Carefully loosen and remove the tensioning belt over the swingarm.

i 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.
- Together with an assistant, take the vehicle off the palette.

! Warning

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

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

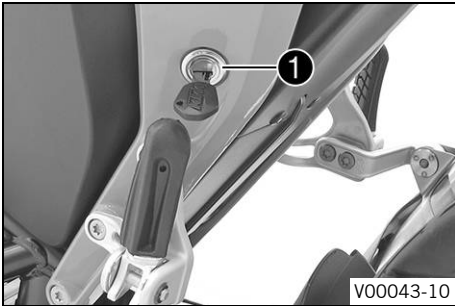
- Fill the battery.

i Info

Read the notes in the battery package.

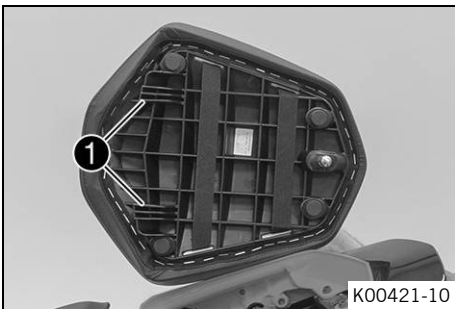
- Recharge the battery. (📖 p. 5)
- Install the battery. (📖 p. 6)
- Refuel. (📖 p. 7)
- Prepare the vehicle according to the specifications in the **KTM Dealer.net** for hand-over to the customer.
- Set the kilometers or miles. (📖 p. 7)

3.1 Removing the passenger seat



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

3.2 Mounting the passenger seat



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



Warning

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

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

- Finally, check that the passenger seat is correctly mounted.

3.3 Recharging the battery



Warning

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

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



Warning

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

- Do not dispose of batteries with the household waste. Dispose of a defective battery in an environmentally friendly manner. Give the battery to your authorized KTM dealer or dispose of it at a collection point for used batteries.



Warning

Environmental hazard Hazardous substances cause environmental damage.

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



Info

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

The 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.

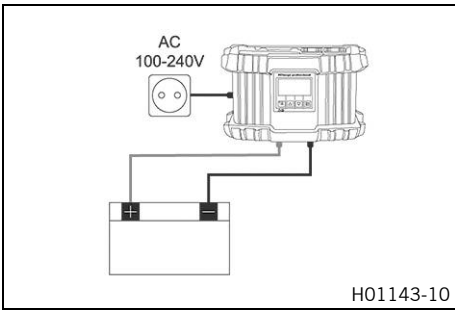
If the battery is depleted from starting the vehicle repeatedly, the battery must be charged immediately.

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 ignition key to the position ☒.
- Remove the passenger seat. (📖 p. 5)
- Disconnect the negative cable of the battery.



Main work

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

Battery charger XCharge-professional EU (00029095050)
Battery charger XCharge-professional US (00029095051)
Battery charger XCharge-professional GB (00029095052)
Battery charger XCharge-professional CH (00029095053)



Info

Follow the charger's instructions exactly.

- Switch off the battery charger after charging and disconnect from the battery.

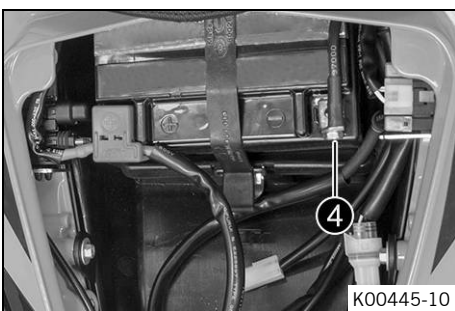
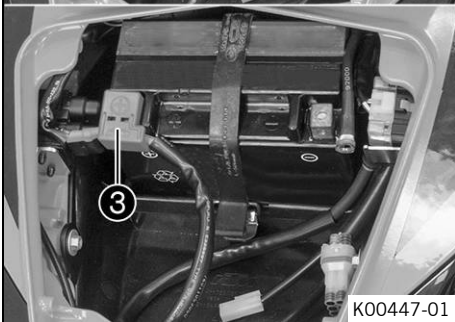
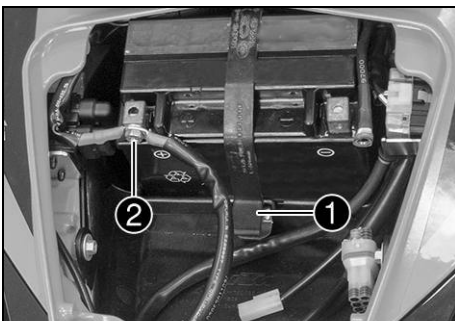
Guideline

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

- Connect the negative cable of the battery.
- Mount the passenger seat. (📖 p. 5)
- Set the time and date. (📖 p. 7)

3.4 Installing the battery



Main work

- Position the battery in the battery holder.

Battery (CBTX9-BS)

✓ The battery terminals face opposite the direction of travel.

- Reconnect rubber band **1**.
- Connect both positive cables **2** to the battery.

Guideline

Screw, battery terminal	M6	2 Nm (1.5 lbf ft)
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- Mount positive terminal cover **3**.

- Connect negative cable **4** to the battery.

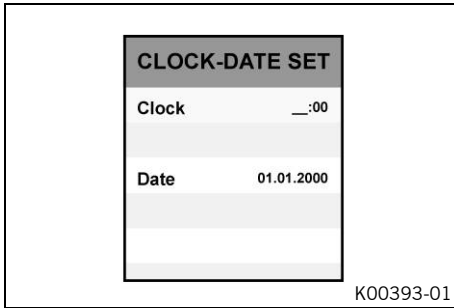
Guideline

Screw, battery terminal	M6	2 Nm (1.5 lbf ft)
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Finishing work

- Mount the passenger seat. (📖 p. 5)
- Set the time and date. (📖 p. 7)

3.5 Set the time and date

**Condition**

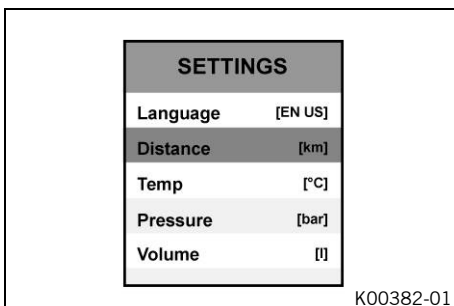
The motorcycle is stationary.

- Press the **UP** or **DOWN** button until the "**Settings**" menu appears on the display. Pressing the **SET** button opens the menu.
- Press the **UP** or **DOWN** button until the "**Clock-date set**" menu is marked on the display. Pressing the **SET** button again sets the unit of measure.
- Press the **SET** button.
 - ✓ The hour next to "**Clock**" flashes.
- Press the **UP** or **DOWN** button until the current hour is set.
- Press the **SET** button.
 - ✓ The minute next to "**Clock**" flashes.
- Press the **UP** or **DOWN** button until the current minute is set.
- Press the **SET** button.
 - ✓ The day next to "**Date**" flashes.
- Press the **UP** or **DOWN** button until the current day is set.
- Press the **SET** button.
 - ✓ The month next to "**Date**" flashes.
- Press the **UP** or **DOWN** button until the current month is set.
- Press the **SET** button.
 - ✓ The year next to "**Date**" flashes.
- Press the **UP** or **DOWN** button until the current year is set.
- Press the **BACK** button.
 - ✓ Time and date are saved.

3.6 Setting the kilometers or miles

**Info**

If the unit is changed, the value is retained and converted accordingly. Make the setting according to the country.

**Condition**

The motorcycle is stationary.

- Press the **UP** or **DOWN** button until the "**Settings**" menu appears on the display. Pressing the **SET** button opens the menu.
- Press the **UP** or **DOWN** button until "**Distance**" is marked on the display. Pressing the **SET** button again sets the unit of measure.
- Select kilometers "**km**" or miles "**mi**" for the distance.

3.7 Refueling

**Danger**

Fire hazard Fuel is highly flammable.

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

**Warning**

Danger of poisoning Fuel is poisonous and a health hazard.

- Fuel must not come into contact with the skin, eyes, or clothing. Do not breathe in the fuel vapors. If contact occurs with the eyes, rinse with water immediately and contact a physician. Immediately clean contaminated areas on the skin with soap and water. If fuel is swallowed, contact a physician immediately. Change clothing that is contaminated with fuel.

Note

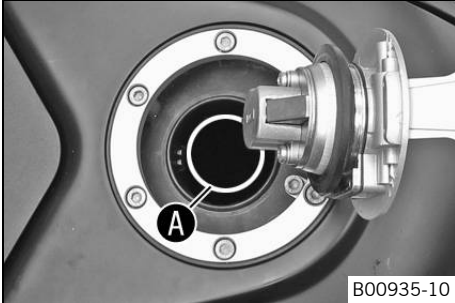
Material damage Premature clogging of the fuel filter.

- In some countries and regions, the available fuel quality and cleanliness may not be sufficient. This will result in problems with the fuel system.
- Only refuel with clean fuel that meets the specified standards.

 **Warning**

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

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



- Switch off the engine.
- Open the filler cap. (📖 p. 8)
- Fill the fuel tank with fuel up to the lower edge **A** of the filler neck.

Total fuel tank capacity, approx.	14 l (3.7 US gal)	Super unleaded (ROZ 95/RON 95/PON 91) (📖 p. 12)
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- Close the filler cap. (📖 p. 9)

3.8 Opening the filler cap

 **Danger**

Fire hazard Fuel is highly flammable.

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

 **Warning**

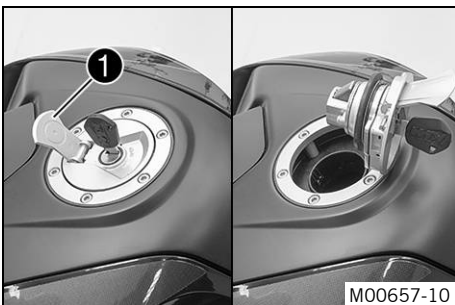
Danger of poisoning Fuel is poisonous and a health hazard.

- Fuel must not come into contact with the skin, eyes, or clothing. Do not breathe in the fuel vapors. If contact occurs with the eyes, rinse with water immediately and contact a physician. Immediately clean contaminated areas on the skin with soap and water. If fuel is swallowed, contact a physician immediately. Change clothing that has been contaminated with fuel. Store fuel properly in a suitable canister and keep away from children.

 **Warning**

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

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



- Lift cover **1** of the filler cap and insert the ignition key in the lock.

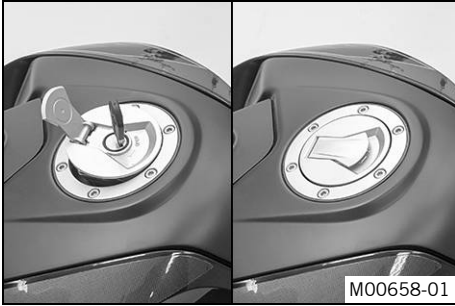
Note

Danger of damage Ignition key breakage.

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

- Turn the ignition key 90° clockwise.
- Open the filler cap.

3.9 Closing the filler cap



- Fold down the filler cap.
- Turn the ignition key 90° clockwise.
- Push down the filler cap and turn the ignition key counterclockwise until the lock closes.



Warning

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

- After closing the filler cap, ensure that it is locked properly. Change clothing that has been contaminated with fuel. Immediately clean contaminated areas on the skin with soap and water.
-
- Remove the ignition key and close the cover.

4.1 chassis tightening torques

Screw, headlight	EJOT	2 Nm (1.5 lbf ft)	–
Screw, side stand switch	M4	2 Nm (1.5 lbf ft)	Loctite® 243™
Remaining screws, chassis	M5	5 Nm (3.7 lbf ft)	–
Retaining clamp, brake line	M5	3 Nm (2.2 lbf ft)	–
SAS valve screw on frame	M5	4 Nm (3 lbf ft)	–
Screw, air filter box	M5	3 Nm (2.2 lbf ft)	–
Screw, cable on starter motor	M5	3 Nm (2.2 lbf ft)	–
Screw, combination instrument	M5	4 Nm (3 lbf ft)	–
Screw, combination switch, left	M5	3.5 Nm (2.58 lbf ft)	–
Screw, combination switch, right	M5	3.5 Nm (2.58 lbf ft)	–
Screw, foot brake lever stub (Duke)	M5	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, fuel level sensor	M5	3 Nm (2.2 lbf ft)	–
Screw, headlight mask	M5	4 Nm (3 lbf ft)	–
Screw, heat guard (Duke)	M5	5 Nm (3.7 lbf ft)	Loctite® 243™
Screw, plastic clamp of brake line on fork leg	M5	2 Nm (1.5 lbf ft)	–
Double-sided grub screw	M6	6 Nm (4.4 lbf ft)	Loctite® 243™
Nut, push rod, foot brake lever	M6	6 Nm (4.4 lbf ft)	–
Remaining nuts, chassis	M6	10 Nm (7.4 lbf ft)	–
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)	–
Screw, angle sensor	M6	5 Nm (3.7 lbf ft)	–
Screw, ball joint of push rod on foot brake cylinder	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, battery terminal	M6	2 Nm (1.5 lbf ft)	–
Screw, brake assembly	M6	5 Nm (3.7 lbf ft)	–
Screw, brake fluid reservoir of rear brake	M6	5 Nm (3.7 lbf ft)	–
Screw, chain guard	M6	4 Nm (3 lbf ft)	Loctite® 243™
Screw, chain sliding guard	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, clutch assembly	M6	5 Nm (3.7 lbf ft)	–
Screw, control unit holder	M6	3 Nm (2.2 lbf ft)	–
Screw, exhaust pipe clamp	M6	8 Nm (5.9 lbf ft)	Copper paste
Screw, foot brake cylinder	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, foot brake lever stub (Duke R)	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, fuel pump	M6	6 Nm (4.4 lbf ft)	–
Screw, fuel spoiler	M6	3 Nm (2.2 lbf ft)	–
Screw, lower radiator bracket	M6	5 Nm (3.7 lbf ft)	–
Screw, magnetic holder on side stand	M6	5 Nm (3.7 lbf ft)	Loctite® 243™
Screw, seat lock	M6	10 Nm (7.4 lbf ft)	Loctite® 222™
Screw, shift lever (Duke R)	M6	14 Nm (10.3 lbf ft)	Loctite® 243™
Screw, tail light cover	M6	8 Nm (5.9 lbf ft)	–
Screw, voltage regulator	M6	8 Nm (5.9 lbf ft)	–
Screw, wheel speed sensor	M6	6 Nm (4.4 lbf ft)	–
Shift rods, nut (Duke R)	M6	6 Nm (4.4 lbf ft)	–
Shift rods, nut (Duke R)	M6LH	6 Nm (4.4 lbf ft)	–
Nut, manifold on cylinder head	M8	20 Nm (14.8 lbf ft)	Copper paste
Nut, rear sprocket screw	M8	35 Nm (25.8 lbf ft)	Loctite® 2701™
Remaining nuts, chassis	M8	25 Nm (18.4 lbf ft)	–
Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)	–
Screw, bottom triple clamp	M8	12 Nm (8.9 lbf ft)	–
Screw, foot brake lever (Duke R)	M8	20 Nm (14.8 lbf ft)	–

Screw, footrest bracket, rear	M8x30	25 Nm (18.4 lbf ft)	Loctite® 243™
Screw, footrest bracket, rear	M8x50	25 Nm (18.4 lbf ft)	Loctite® 243™
Screw, fork stub	M8	15 Nm (11.1 lbf ft)	–
Screw, front brake disc	M8	30 Nm (22.1 lbf ft)	Loctite® 2701™
Screw, front footrest bracket	M8	25 Nm (18.4 lbf ft)	Loctite® 243™
Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)	–
Screw, handrail	M8x30	Countersunk screw 18 Nm (13.3 lbf ft)	Loctite® 243™
Screw, handrail, cover	M8x20	18 Nm (13.3 lbf ft)	Loctite® 243™
Screw, ignition lock (tamper-proof screw)	M8		Loctite® 243™
Screw, license plate holder	M8	18 Nm (13.3 lbf ft)	Loctite® 243™
Screw, linkage bracket, front engine fixing arm	M8	25 Nm (18.4 lbf ft)	Loctite® 243™
Screw, main silencer clamp (Duke R)	M8	15 Nm (11.1 lbf ft)	–
Screw, main silencer fastening (Duke)	M8	25 Nm (18.4 lbf ft)	–
Screw, rear brake disc	M8	30 Nm (22.1 lbf ft)	Loctite® 2701™
Screw, side stand bracket	M8	25 Nm (18.4 lbf ft)	Loctite® 243™
Screw, spring holder on side stand bracket	M8	25 Nm (18.4 lbf ft)	Loctite® 243™
Screw, top triple clamp	M8	17 Nm (12.5 lbf ft)	–
Engine carrying screw	M10	45 Nm (33.2 lbf ft)	Loctite® 243™
Remaining nuts, chassis	M10	45 Nm (33.2 lbf ft)	–
Remaining screws, chassis	M10	45 Nm (33.2 lbf ft)	–
Screw, foot brake lever (Duke)	M10	25 Nm (18.4 lbf ft)	–
Screw, handlebar support	M10	20 Nm (14.8 lbf ft)	–
Screw, side stand	M10	35 Nm (25.8 lbf ft)	Loctite® 243™
Screw, subframe	M10	45 Nm (33.2 lbf ft)	Loctite® 243™
Banjo bolt, brake line	M10x1	25 Nm (18.4 lbf ft)	–
Screw, bottom shock absorber	M10x1.25	50 Nm (36.9 lbf ft)	Loctite® 243™
Screw, front brake caliper	M10x1.25	45 Nm (33.2 lbf ft)	Loctite® 243™
Screw, top shock absorber	M10x1.25	50 Nm (36.9 lbf ft)	Loctite® 243™
Lambda sensor	M12x1.25	25 Nm (18.4 lbf ft)	–
Nut, frame to linkage lever	M14x1.5	100 Nm (73.8 lbf ft)	–
Nut, linkage lever on swingarm	M14x1.5	100 Nm (73.8 lbf ft)	–
Nut, linkage lever to rocker arm	M14x1.5	100 Nm (73.8 lbf ft)	–
Nut, swingarm pivot	M16x1.5	100 Nm (73.8 lbf ft)	–
Screw, steering head	M20x1.5	40 Nm (29.5 lbf ft)	–
Adjusting ring of swingarm bearing	M24x1.5	25 Nm (18.4 lbf ft)	–
Screw, front wheel spindle	M24x1.5	45 Nm (33.2 lbf ft)	–
Nut, rear wheel spindle	M25x1.5	90 Nm (66.4 lbf ft)	–
Nut, steering head	M28x1	12 Nm (8.9 lbf ft)	–

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).



3213436en

02/2016

