OWNER'S MANUAL 2017

READY TO RACE
»www.ktm.com

450 Rally Factory Replica

Art. no. 3213487en

DEAR KTM CUSTOMER

Congratulations on your decision to purchase a KTM motorcycle. You are now the owner of a state-of-the-art sports motorcycle that will give you enormous pleasure if you service and maintain it properly.

We hope you enjoy your new vehicle!

Enter the serial numbers of your vehicle below.

Chassis number (📖 p. 12)	Dealer's stamp
Engine number (📖 p. 12)	
Key number (📖 p. 12)	

The Owner's Manual contained the latest information for this model series at the time of going to print. Slight deviations resulting from continuing development and design of the motorcycles can, however, not be completely excluded.

All specifications 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 illustrations and descriptions, misprints, and other errors. The models portrayed partly contain special equipment that does not belong to the regular scope of supply.

REG.NO. 12 100 6061

ISO 9001(12 100 6061)
According to the international quality management standard ISO 9001, KTM uses quality assurance processes that lead to the maximum possible quality of the products.
Issued by: TÜV Management Service

KTM Sportmotorcycle GmbH
5230 Mattighofen, Austria

This document is valid for the following models:

450 Rally Factory Replica (F9399Q8)

3213487en

07/2016

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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).
	All work marked with this symbol requires specialist knowledge and technical understanding. In the interest of your own safety, have these jobs performed by an authorized KTM workshop. There, your motorcycle will be optimally cared for by specially trained experts using the specialist tools required.
	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.

1.2 Formats used

The typographical formats used in this document are explained below.

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

2 SAFETY ADVICE

2.1 Use definition - intended use

KTM sport motorcycles are designed and built to withstand the normal stresses and strains of competitive use. The motorcycles comply with currently valid regulations and categories of the top international motorsport organizations.

Info

The motorcycle is authorized for public road traffic in the homologous (reduced) version only.
In the derestricted version, the motorcycle must be used only on closed off properties remote from public road traffic.
This motorcycle is designed for use in offroad endurance competition and not primarily for use in motocross.

2.2 Safety advice

A number of safety instructions need to be followed to operate the vehicle safely. Therefore, read this manual carefully. The safety instructions are highlighted in the text and are referred to at the relevant passages.

Info

The vehicle has various information and warning labels at prominent locations. Do not remove information/warning labels. If they are missing, you or others may not recognize dangers and may therefore be injured.

2.3 Degrees of risk and symbols

Danger

Indicates a danger that will immediately and invariably lead to fatal or serious permanent injury if the appropriate measures are not taken.

Warning

Indicates a danger that is likely to lead to fatal or serious injury if the appropriate measures are not taken.

Caution

Indicates a danger that may lead to minor injuries if the appropriate measures are not taken.

Note

Indicates a danger that will lead to considerable machine and material damage if the appropriate measures are not taken.

Warning

Indicates a danger that will lead to environmental damage if the appropriate measures are not taken.

2.4 Tampering warning

Tampering with the noise control system is prohibited. Federal law prohibits the following acts or the causing thereof:

1 The removal or rendering inoperative by any person other than for purposes of maintenance, repair, or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use, or

2 the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

Among those acts presumed to constitute tampering are the acts listed below:

1 Removal or puncturing of the main silencer, baffles, header pipes or any other components which conduct exhaust gases.

2 Removal or puncturing of parts of the intake system.

3 Lack of proper maintenance.

4 Replacing moving part of the vehicle, or parts of the exhaust or intake system, with parts other than those specified by the manufacturer.

2.5 Safe operation

Danger

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

- Do not operate the vehicle if you are not fit to ride due to alcohol, drugs or medication.
- Do not operate the vehicle if you are physically or mentally impaired.

Danger

Danger of poisoning Exhaust gases are toxic and inhaling them may result in unconsciousness and death.

- Always make sure there is sufficient ventilation when running the engine.
- Use an effective exhaust extraction system when starting or running the engine in an enclosed space.

Warning

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

- Do not touch any parts such as the exhaust system, radiator, engine, shock absorber, or brake system before the vehicle parts have cooled down.
- Let the vehicle parts cool down before you perform any work on the vehicle.

Only operate the vehicle when it is in perfect technical condition, in accordance with its intended use, and in a safe and environmentally compatible manner.
The vehicle should only be used by trained persons. An appropriate driver's license is needed to ride the vehicle on public roads.
Have malfunctions that impair safety promptly eliminated by an authorized KTM workshop.
Adhere to the information and warning labels on the vehicle.

2.6 Protective clothing

Warning

Risk of injury Missing or poor protective clothing presents an increased safety risk.

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

In the interest of your own safety, KTM recommends that you only operate the vehicle while wearing protective clothing.

2.7 Work rules

Special tools are necessary for certain tasks. The tools are not contained in the vehicle but can be ordered under the number in parentheses. E.g.: bearing puller (15112017000)
During assembly, non-reusable parts (e.g. self-locking screws and nuts, seals and seal rings, O-rings, pins, lock washers) must be replaced by new parts.
In some instances, a thread locker (e.g. **Loctite®**) is required. The manufacturer instructions for use must be followed.
After disassembly, clean the parts that are to be reused and check them for damage and wear. Change damaged or worn parts.
After you complete the repair or service work, check the operating safety of the vehicle.

2.8 Environment

If you use your motorcycle responsibly, you can ensure that problems and conflicts do not occur. To protect the future of the motorcycle sport, make sure that you use your motorcycle legally, display environmental consciousness, and respect the rights of others.
When disposing of used oil, other operating and auxiliary fluids, and used components, comply with the laws and regulations of the respective country.
Because motorcycles are not subject to the EU regulations governing the disposal of used vehicles, there are no legal regulations that pertain to the disposal of an end-of-life motorcycle. Your authorized KTM dealer will be glad to advise you.

2.9 Owner's Manual

It is important that you read this Owner's Manual carefully and completely before making your first trip. The Owner's Manual contains useful information and many tips on how to operate, handle, and maintain your motorcycle. Only then will you find out how to customize the vehicle ideally for your own use and how you can protect yourself from injury.
Keep the Owner's Manual in an accessible place to enable you to refer to it as needed.
If you would like to know more about the vehicle or have questions on the material you read, please contact an authorized KTM dealer.
The Owner's Manual is an important component of the vehicle and must be handed over to the new owner if the vehicle is sold.

3 IMPORTANT NOTES

3.1 Manufacturer and implied warranty

The work specified in the service schedule may only be performed in an authorized KTM workshop and must be recorded in both the Service & Warranty Booklet and in **KTM Dealer.net**, otherwise any warranty coverage will become void. Damage or secondary damage caused by tampering with and/or conversions on the vehicle are not covered by the warranty.
Additional information on the manufacturer or implied warranty and the procedures involved can be found in the Service & Warranty Booklet.

3.2 Operating and auxiliary substances

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.

Use operating and auxiliary substances (such as fuel and lubricants) as specified in the Owner's Manual.

3.3 Spare parts, accessories

For your own safety, only use spare parts and accessory products that are approved and/or recommended by KTM and have them installed by an authorized KTM workshop. KTM accepts no liability for other products and any resulting damage or loss.
Certain spare parts and accessory products are specified in parentheses in the descriptions. Your authorized KTM dealer will be glad to advise you.

The current **KTM PowerParts** for your vehicle can be found on the KTM website.
International KTM Website: http://www.ktm.com

3.4 Service

A prerequisite for perfect operation and prevention of premature wear is that the service, care, and tuning work on the engine and chassis is properly carried out as described in the Owner's Manual. Incorrect adjustment and tuning of the engine and chassis can lead to damage and breakage of components.
Use of the vehicle under difficult conditions, such as on sand or on wet and muddy surfaces, can lead to considerably more rapid wear of components such as the drive train, brake system, or suspension components. For this reason, it may be necessary to inspect or replace parts before the next scheduled service.
It is imperative that you adhere to the stipulated run-in times and service intervals. If you observe these exactly, you will ensure a much longer service life for your motorcycle.

3.5 Figures

The figures contained in the manual may depict special equipment.
In the interest of clarity, some components may be shown disassembled or may not be shown at all. It is not always necessary to disassemble the component to perform the activity in question. Please follow the instructions in the text.

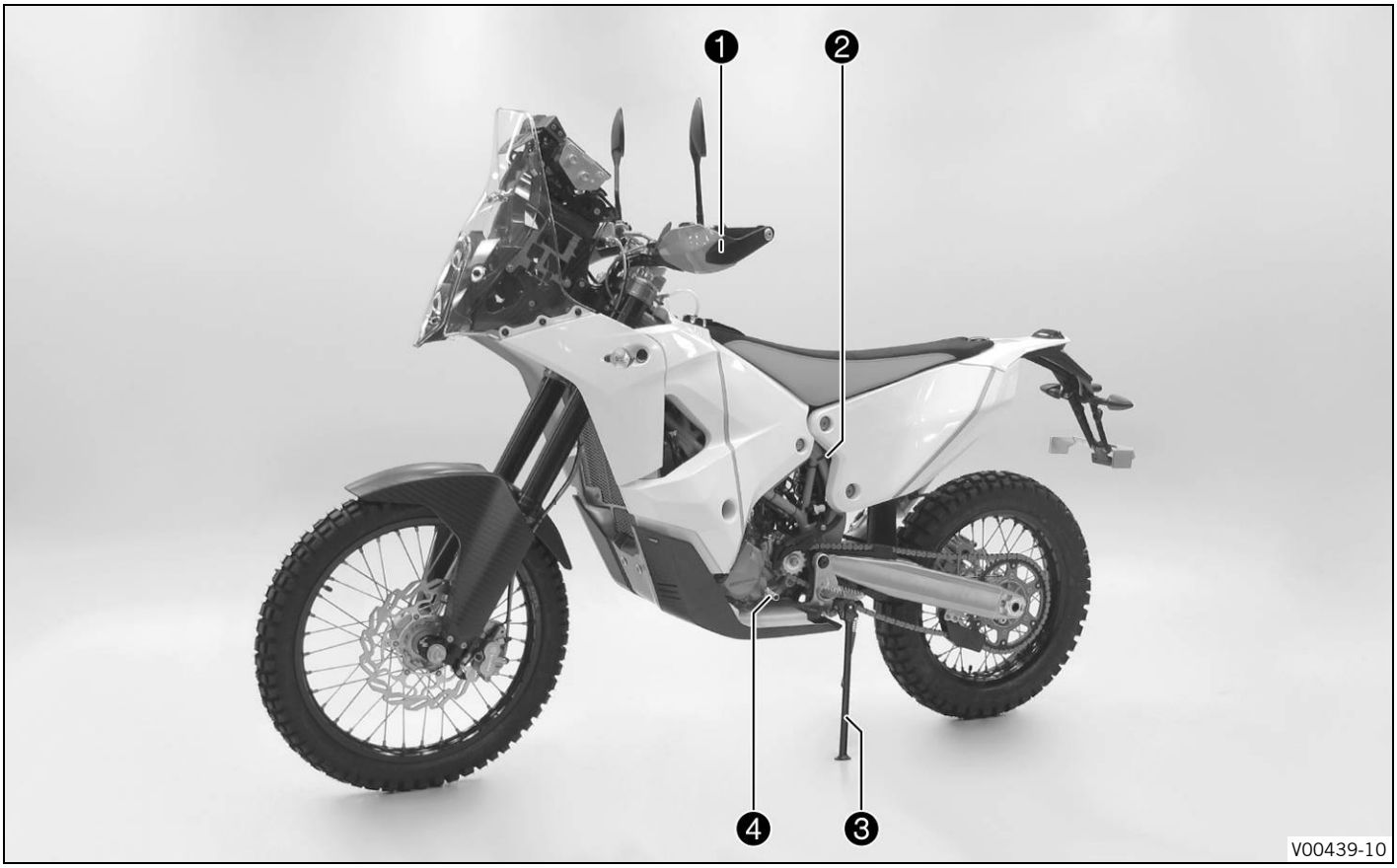
3.6 Customer service

Your authorized KTM dealer will be happy to answer any questions you may have on your vehicle and KTM.

A list of authorized KTM dealers can be found on the KTM website.
International KTM Website: http://www.ktm.com

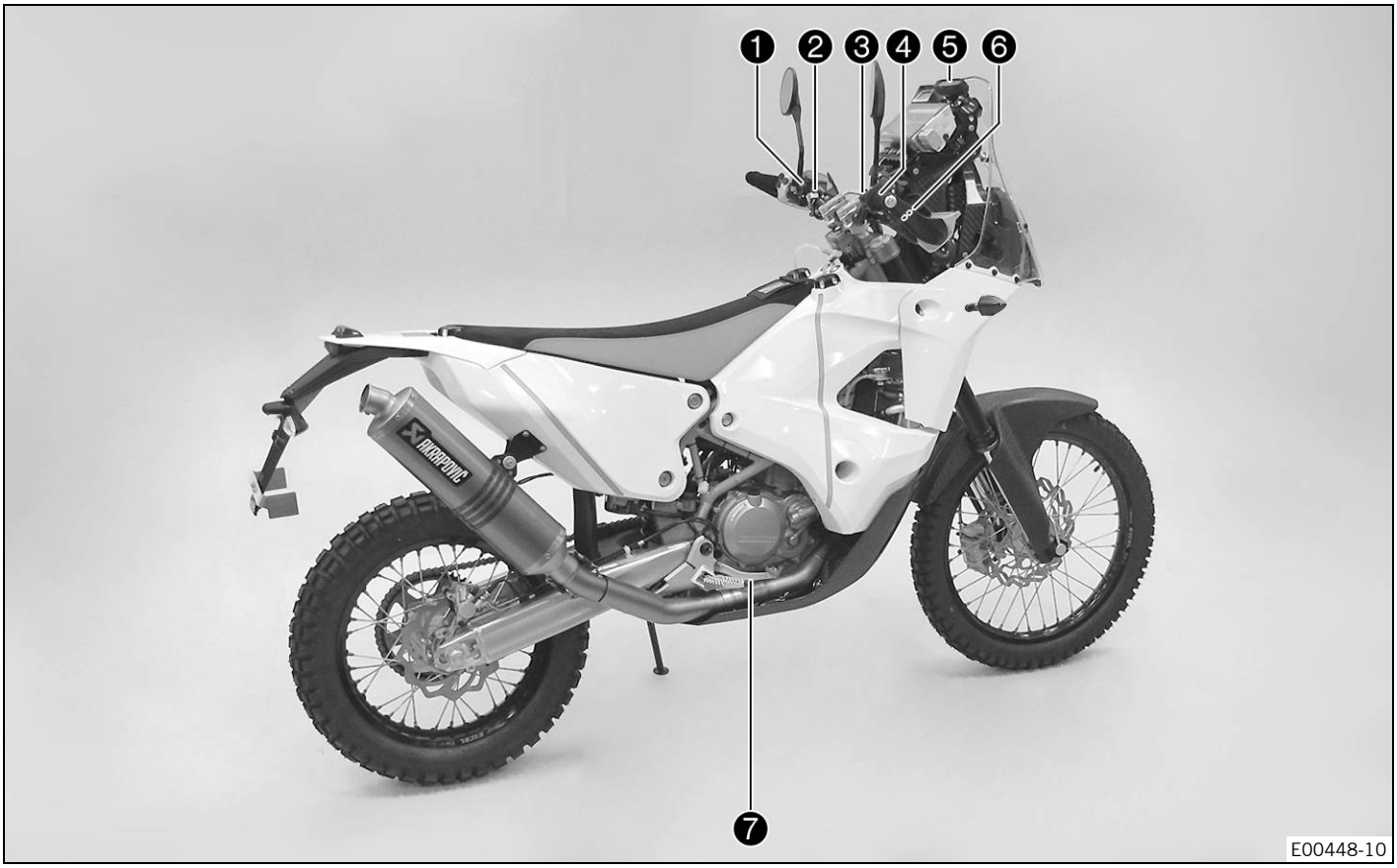
4 VIEW OF VEHICLE

4.1 View of vehicle, front left side



1	Clutch lever (📖 p. 14)
2	Seat release strap
3	Side stand (📖 p. 19)
4	Shift lever (📖 p. 18)

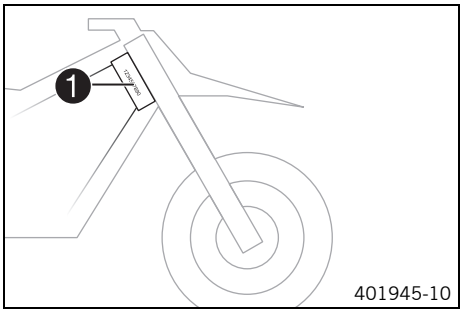
4.2 View of vehicle, rear right side



1	Kill switch (📖 p. 14)
1	Light switch (📖 p. 14)
1	Turn signal switch (📖 p. 15)
1	Horn button (📖 p. 15)
2	Fuel pump switch (📖 p. 16)
3	Electric starter button (📖 p. 15)
4	Throttle grip (📖 p. 14)
5	Speedometer overview (📖 p. 21)
6	Hand brake lever (📖 p. 14)
7	Foot brake lever (📖 p. 18)

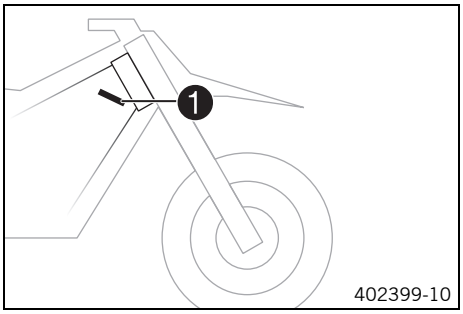
5 SERIAL NUMBERS

5.1 Chassis number



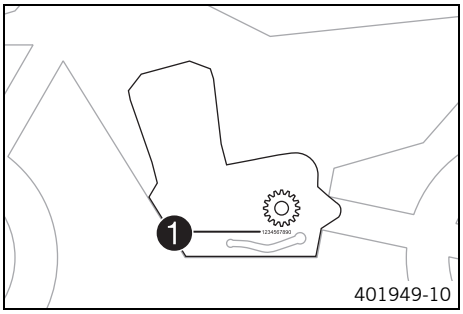
Chassis number ❶ is embossed in the steering head at the right.

5.2 Type label



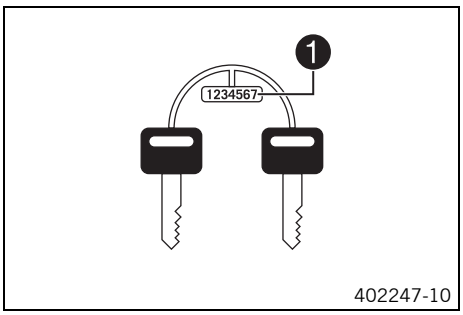
Type label ❶ is fixed to the right of the steering head.

5.3 Engine number



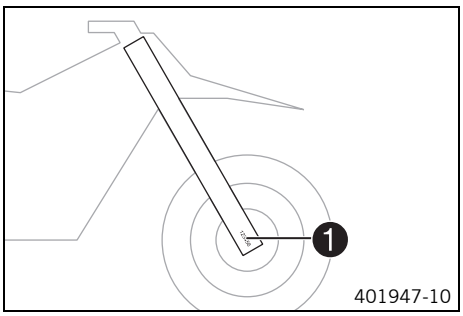
The engine number ❶ is stamped on the left side of the engine under the engine sprocket.

5.4 Key number



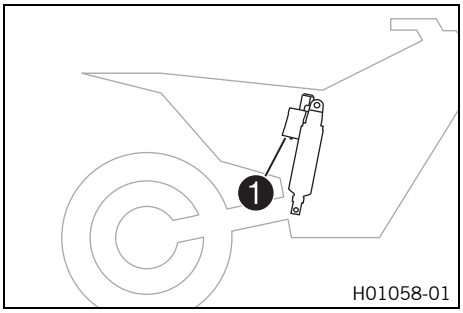
The key number ❶ for the steering lock is stamped onto the key connector.

5.5 Fork part number



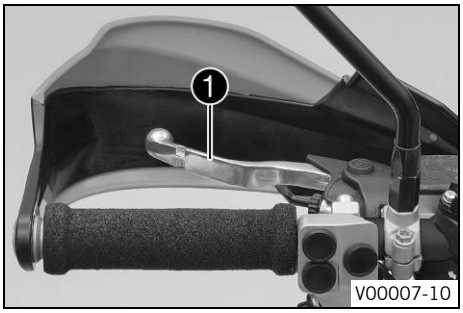
The fork part number ❶ is stamped on the inner side of the fork stub.

5.6 Shock absorber article number



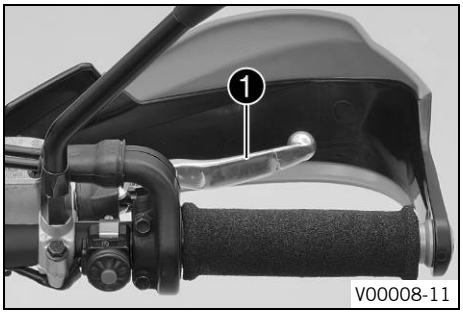
The shock absorber article number ❶ is located on the bottom of the shock absorber compensating tank.

6.1 Clutch lever



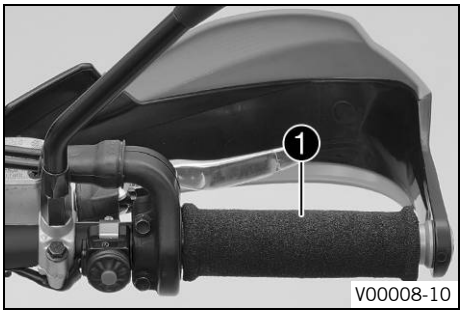
The clutch lever ❶ is fitted on the left side of the handlebar.
The clutch is hydraulically operated and self-adjusting.

6.2 Hand brake lever



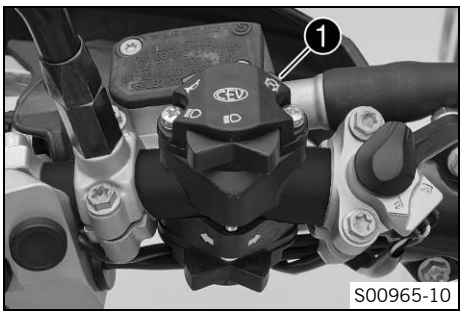
The hand brake lever ❶ is fitted on the right side of the handlebar.
The hand brake lever operates the front brake.

6.3 Throttle grip



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

6.4 Kill switch

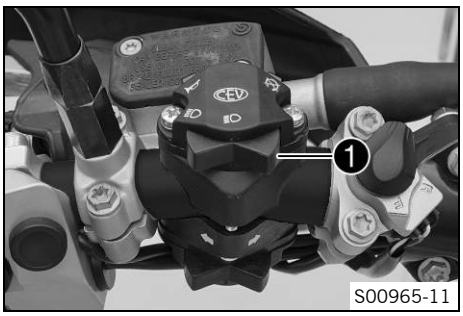


The kill switch ❶ is fitted on the left side of the handlebar.

Possible states

- Kill switch ⊠ in basic position – In this position, the ignition circuit is closed, and the engine can be started.
- Kill switch ⊠ pressed – In this position, the ignition circuit is interrupted, a running engine stops, and a non-running engine will not start.

6.5 Light switch

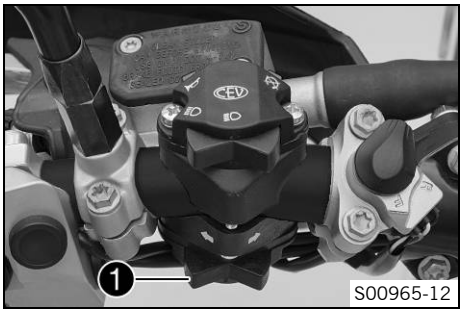


Light switch ❶ is fitted on the left side of the handlebar.

Possible states

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

6.6 Turn signal switch

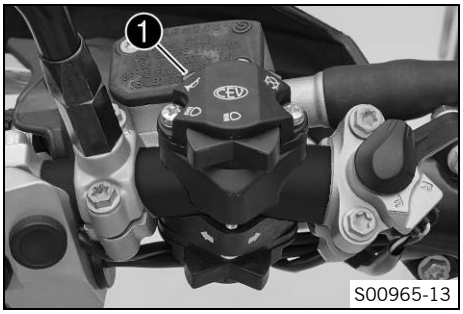


The turn signal switch ❶ is fitted on the left side of the handlebar.

Possible states

	Turn signal off – Turn signal switch is in the central position.
⇦	Turn signal, left, on – Turn signal switch turned to the left.
⇨	Turn signal, right, on – Turn signal switch turned to the right.

6.7 Horn button

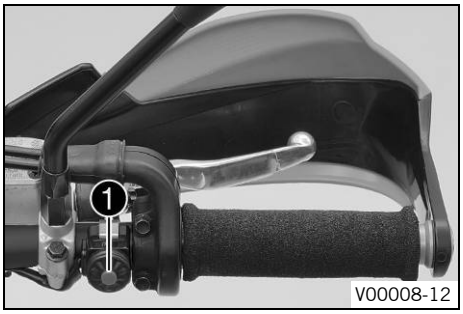


The horn button ❶ is fitted on the left side of the handlebar.

Possible states

- Horn button in neutral position
- Horn button pressed – The horn is operated in this position.

6.8 Electric starter button



The electric starter button ❶ is fitted on the right side of the handlebar.

Possible states

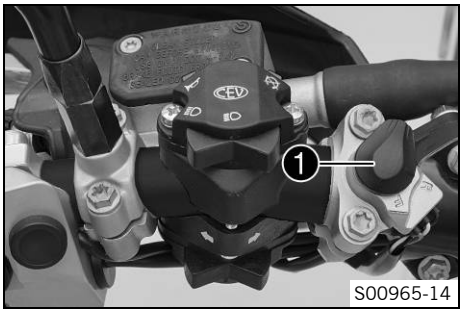
- Electric starter button in basic position
- Electric starter button pressed – In this position, the electric starter is actuated.

6.9 Indicator lamps overview

Possible states

	The left low fuel warning lamp lights up orange – The fuel level of the two front fuel tanks has reached the reserve mark.
	The oil pressure warning lamp lights up red – The oil pressure is too low.
FI	Optional **FI** warning lamp (**MIL**) lights up/flashes orange – The OBD has detected an emission- or safety-critical fault.
⇦⇨	Turn signal indicator lamp flashes green – The turn signal is switched on.
	The high beam indicator lamp lights up blue – The high beam is switched on.
	The right low fuel warning lamp lights up orange – The fuel level of the rear fuel tank has reached the reserve mark.

6.10 Fuel pump switch



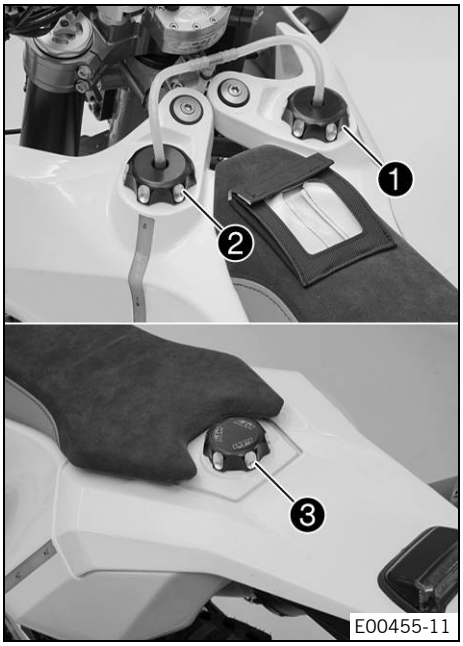
The fuel pump switch ❶ is fitted on the left side of the handlebar.

Possible states

F	FRONT – In this position, the fuel pump of the two front fuel tanks is active. Only the front fuel tanks empty out.
R	REAR – In this position, the fuel pump of the rear fuel tank is active. Only the rear tank empties out.

The fuel pump switch controls the fuel pumps of both front fuel tanks and the rear fuel tank.

6.11 Fuel tank



This model has three separate fuel tanks controlled by a fuel pump switch. Two fuel tanks are located in front of the seat and one fuel tank is located beneath the seat.
The right fuel tank is filled via filler cap ❶ and the left fuel tank is filled via filler cap ❷.
The rear fuel tank is filled via filler cap ❸.

6.12 Opening the filler caps

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

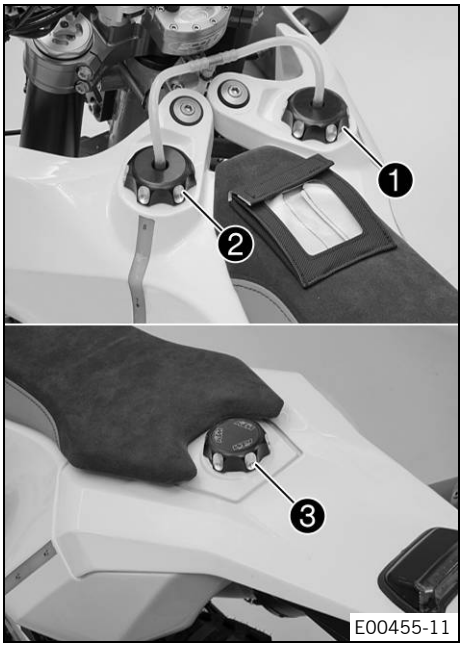
Danger of poisoning Fuel is poisonous and a health hazard.

- 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

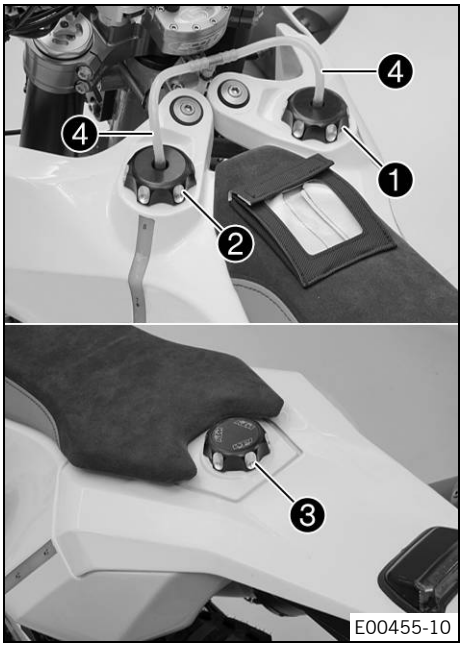
Environmental hazard Improper handling of fuel is a danger to the environment.

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



– Turn filler caps ❶, ❷ and ❸ counterclockwise and lift off.

6.13 Closing the filler caps

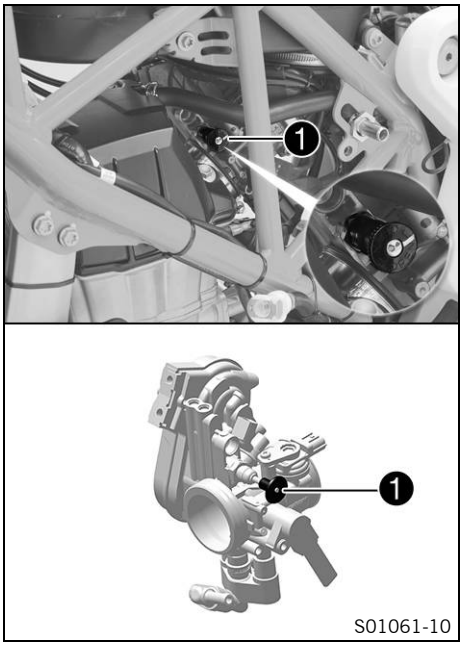


– Mount filler caps ❶, ❷, and ❸ and turn clockwise until the fuel tanks are tightly closed.

Info

Route fuel tank breather hoses ❹ without kinks.

6.14 Idle speed adjusting screw

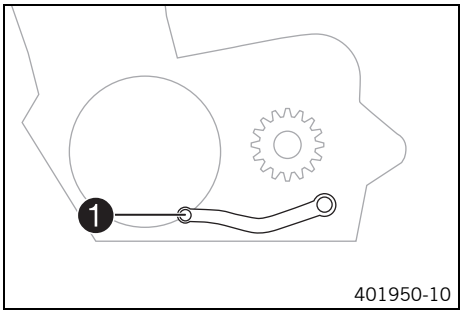


The idle speed adjusting screw ❶ is located at the top left of the throttle valve body.
The idle speed adjusting screw is only easily accessible when the left fuel tank is removed.
The idle speed adjusting screw has two functions.
Turning it controls the idle speed.
Pulling it out all the way raises the idle speed during a cold start.

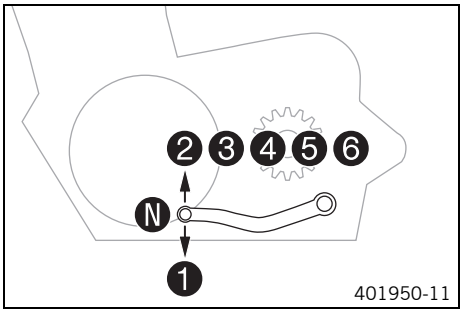
Possible states

- RPM increase activated – Idle speed adjusting screw is pulled out all the way.
- RPM increase deactivated – Idle speed adjusting screw is pushed in all the way.

6.15 Shift lever

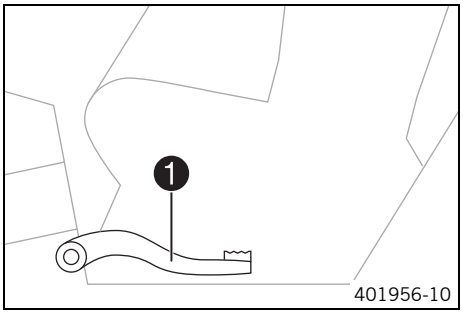


The shift lever ❶ is mounted on the left side of the engine.



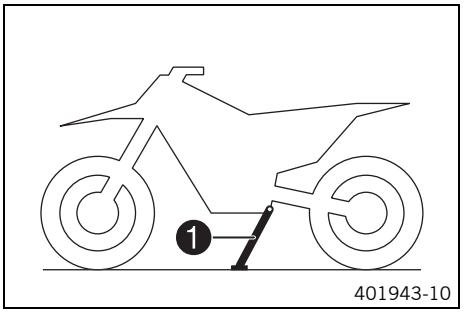
The gear positions can be seen in the photograph.
The neutral or idle position is between the first and second gears.

6.16 Foot brake lever

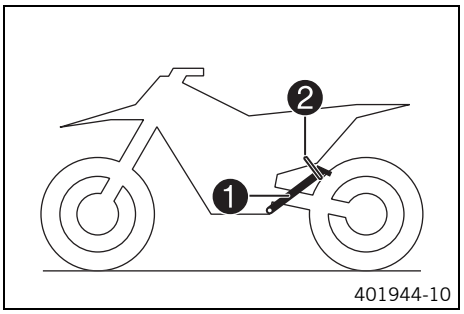


Foot brake lever ❶ is located in front of the right footrest.
The rear brake is engaged with the foot brake lever.

6.17 Side stand



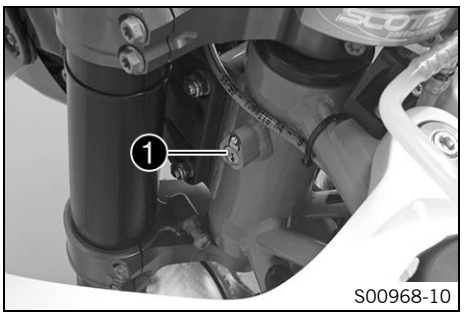
The side stand ❶ is on the left side of the vehicle.



The side stand is used to park the motorcycle.

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

6.18 Steering lock

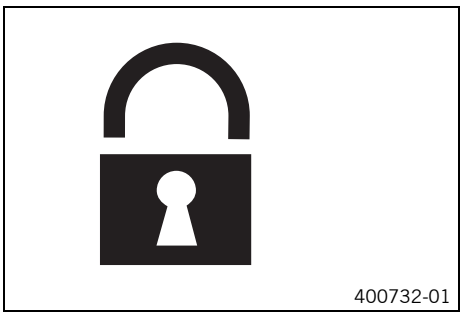


The steering lock ❶ is fitted on the left of the steering head.
The steering lock is used to lock the steering. Steering, and therefore riding, is no longer possible.

6.19 Locking the steering

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

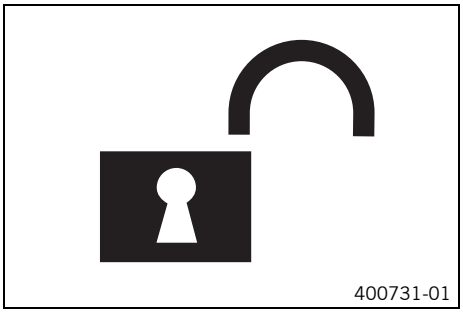
– Park the vehicle on a firm and level surface.



– Park the vehicle.
– Turn the handlebar as far as possible to the right.
– Insert the key in the steering lock, turn it to the left, press it in, and turn it to the right. Remove the key.
  ✓ Steering is no longer possible.

Info
Never leave the key in the steering lock.

6.20 Unlocking the steering


400731-01

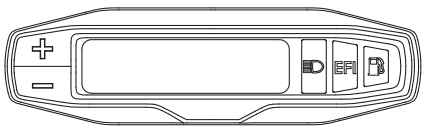
– Insert the key in the steering lock, turn it to the left, pull it out, and turn it to the right. Remove the key.

✓ You can now steer the bike again.

Info
Never leave the key in the steering lock.

7 SPEEDOMETER

7.1 Speedometer overview

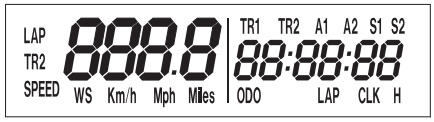


401761-01

– Press the button + to control different functions.
– Press the button − to control different functions.

Info
When the vehicle is delivered, only the **SPEED/H** and **SPEED/ODO** display modes are activated.

7.2 Activation and test



400313-01

Activating the speedometer
The speedometer is activated when one of the buttons is pressed or an impulse comes from the wheel speed sensor.

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

400314-01

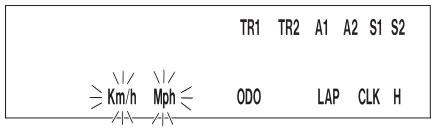
WS (wheel size)
After the display function check, the wheel size **WS** is displayed briefly.

Info
The number 2205 equals the circumference of the 21" front wheel with standard tires.

The display then changes to the last selected mode.

7.3 Kilometers or miles, setting

Info
If you change the unit, the value **ODO** is retained and converted accordingly.
The values **TR1**, **TR2**, **A1**, **A2** and **S1** are cleared when the unit of measure is changed.



400329-01

Condition
The motorcycle is stationary.

– Repeatedly press the button + briefly until **H** appears at the bottom right of the display.
– Press the button + for 2–3 seconds.
  ✓ The Setup menu is displayed and the active functions are shown.
– Repeatedly press the button + briefly until **Km/h**/**Mph** flashes.

Setting the Km/h
  – Press the button +.

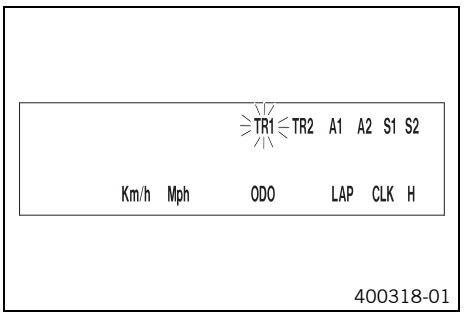
Setting the Mph
  – Press the button −.

– Wait 3–5 seconds
  ✓ The settings are stored.

Info
If no button is actuated for 10–12 seconds or there is no signal from the wheel speed sensor, then the settings are automatically stored and the Setup menu is closed.

7.4 Setting the speedometer functions

Info
When the vehicle is delivered, only the **SPEED/H** and **SPEED/ODO** display modes are activated.



Condition
The motorcycle is stationary.

– Repeatedly press the button + briefly until **H** appears at the bottom right of the display.
– Press the button + for 2–3 seconds.
✓ The Setup menu is displayed and the active functions are shown.

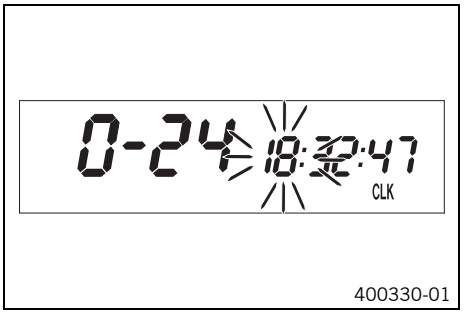
Info
If no button is pressed for 10–12 seconds, the settings are automatically stored.
If no button is pressed for 20 seconds, or if no impulse comes from the wheel speed sensor, the settings are automatically saved and the setup menu is closed.

– Repeatedly press the button + briefly until the desired function flashes.
✓ The selected function flashes.

Activating the function
– Press the button +.
✓ The symbol continues to appear in the display and the next function appears.

Deactivating a function
– Press the button −.
✓ The symbol disappears in the display and the next function appears.

7.5 Setting the clock



Condition
The motorcycle is stationary.

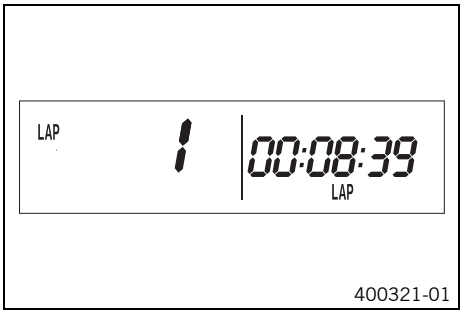
– Repeatedly press the button + briefly until **CLK** appears at the bottom right of the display.
– Press the button + for 2–3 seconds.
✓ The hour display flashes.
– Set the hour display with the button + and/or button −.
– Wait 3–5 seconds
✓ The next segment of the display flashes and can be set.
– You can set the following segments in the same way as the hours by pressing the button + and the button −.

Info
The seconds can only be set to zero.
If no button is actuated for 15-20 seconds or there is no signal from the wheel speed sensor, then the settings are automatically stored and the Setup menu is closed.

7.6 Viewing the lap time

Info
This function can only be opened if lap times have actually been timed.

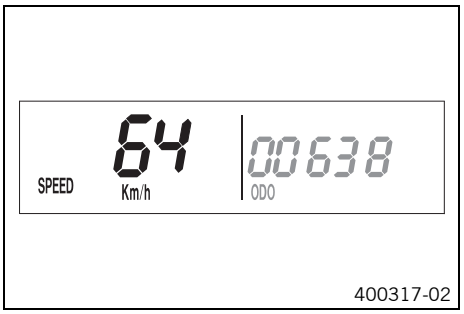
Condition
The motorcycle is stationary.



– Repeatedly press the button + briefly until **LAP** appears at the bottom right of the display.
– Briefly press the button +.
✓ **LAP 1** appears on the left side of the display.
– The laps 1–10 can be viewed with the button −.
– Press and hold the button + for 3–5 seconds to clear the lap times.
– Briefly press the button +.
✓ Next display mode

Info
When a signal from the wheel speed sensor arrives, the left side of the display changes back to the **SPEED** mode.

7.7 Display mode SPEED (speed)



– Repeatedly press the button + briefly until **SPEED** appears on the left side of the display.

The current speed is displayed in the **SPEED** display mode.
The current speed can be displayed in **Km/h** or **Mph**.

Info
Making the setting according to the country.
When an impulse comes from the front wheel, the left side of the speedometer display changes to the **SPEED** mode and the current speed is shown.

7.8 Display mode SPEED/H (service hours)

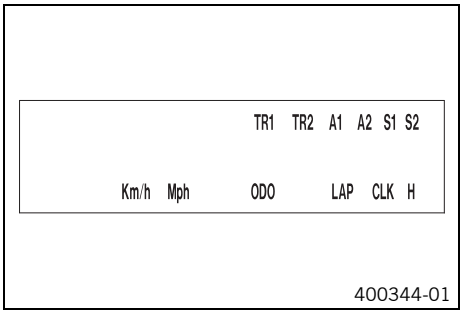
Condition
• The motorcycle is stationary.
– Repeatedly press the button + briefly until **H** appears at the bottom right of the display.

In display mode **H**, the service hours of the engine are displayed.
The service hour counter stores the total traveling time.

Info
The service hour counter is necessary for ensuring that service work is carried out at the right intervals.
If the speedometer is in **H** display mode at the start of the journey, it automatically changes to the **ODO** display mode.
The **H** display mode is suppressed during the journey.

Press the button + for 2–3 seconds.	The display changes to the Setup menu of the speedometer functions.
Briefly press the button +.	Next display mode
Press the button − for 2–3 seconds.	No function
Briefly press the button −.	No function

7.9 Setup menu



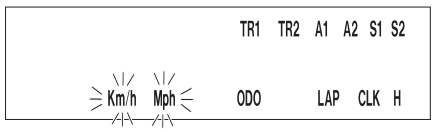
Condition
• The motorcycle is stationary.
– Repeatedly press the button + briefly until **H** appears at the bottom right of the display.
– Press the button + for 2–3 seconds.

The Setup menu displays the active functions.

Info
Repeatedly press the button + briefly until the desired function is opened.
If no button is pressed for 20 seconds, the settings are automatically stored.

Briefly press the button +.	Activates the flashing display and changes to the next display
Press the button + for 2–3 seconds.	No function
Briefly press the button −.	Deactivates the flashing display and changes to the next display
Press the button − for 2–3 seconds.	No function
Wait 3–5 seconds	Changes to the next display without changes
Wait 10–12 seconds	Setup menu starts, stores the settings, and changes to **H** or **ODO**.

7.10 Setting the unit of measurement



400329-01

Condition

- The motorcycle is stationary.

– Repeatedly press the button + briefly until **H** appears at the bottom right of the display.
– Press the button + for 2–3 seconds.
– Repeatedly press the button + briefly until **Km/h**/**Mph** flashes.

In measurement unit mode, you can change the unit of measurement.

Info
If no button is pressed for 5 seconds, the settings are automatically stored.

Briefly press the button +.	Starts selection, activates **Km/h** display
Press the button + for 2–3 seconds.	No function
Briefly press the button −.	Activates **Mph** display
Press the button − for 2–3 seconds.	No function
Wait 3–5 seconds	Changes to the next display, changes from selection to the Setup menu
Wait 10–12 seconds	Saves and closes the Setup menu

7.11 Display mode SPEED/CLK (time)

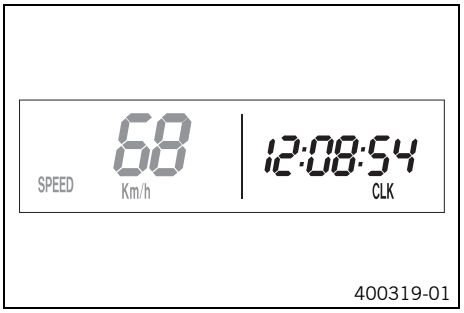
400319-01

– Repeatedly press the button + briefly until **CLK** appears at the bottom right of the display.

The time is shown in display mode **CLK**.

Press the button + for 2–3 seconds.	The display changes to the Setup menu of the clock.
Briefly press the button +.	Next display mode
Press the button − for 2–3 seconds.	No function
Briefly press the button −.	No function

7.12 Setting the clock



Condition

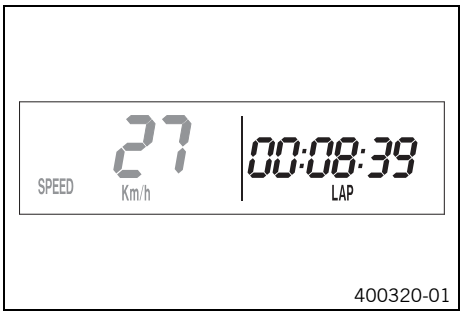
- The motorcycle is stationary.

– Repeatedly press the button + briefly until **CLK** appears at the bottom right of the display.

– Press the button + for 2–3 seconds.

Press the button + for 2–3 seconds.	Increases the value
Briefly press the button +.	Increases the value
Press the button − for 2–3 seconds.	Reduces the value
Briefly press the button −.	Reduces the value
Wait 3–5 seconds	Changes to the next value
Wait 10–12 seconds	Closes the SETUP menu

7.13 Display mode SPEED/LAP (lap time)



– Repeatedly press the button + briefly until **LAP** appears at the bottom right of the display.

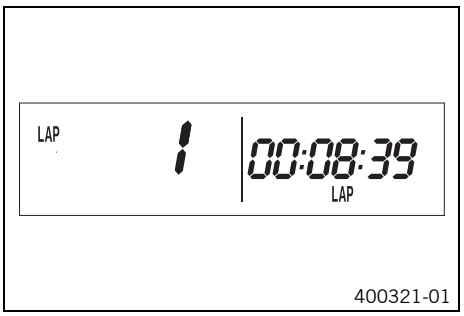
In the **LAP** display mode, up to 10 lap times can be timed with the stop watch.

Info

If the lap time continues running after the button − is pressed, 9 memory locations are occupied.
Lap 10 must be timed using the button +.

Press the button + for 2–3 seconds.	The stop watch and the lap time are reset.
Briefly press the button +.	Next display mode
Press the button − for 2–3 seconds.	Stops the clock.
Briefly press the button −.	Starts the stop watch or stop the current lap time measurement, stores it and the stop watch starts the next lap.

7.14 Viewing the lap time



Condition

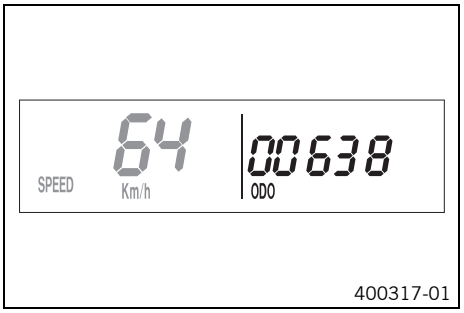
- The motorcycle is stationary.

– Repeatedly press the button + briefly until **LAP** appears at the bottom right of the display.

– Briefly press the button +.

Press the button + for 2–3 seconds.	The stop watch and the lap time are reset.
Briefly press the button +.	Select a lap from 1–10
Press the button − for 2–3 seconds.	No function
Briefly press the button −.	View the next lap time.

7.15 Display mode SPEED/ODO (odometer)

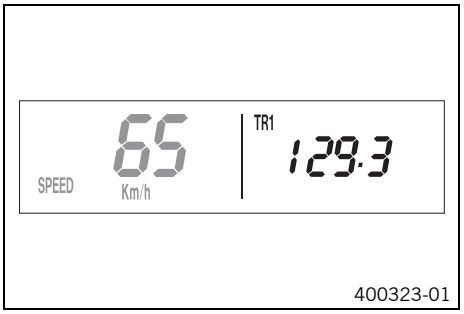


– Repeatedly press the button + briefly until **ODO** appears at the bottom right of the display.

The total traveled distance is shown in display mode **ODO**.

Press the button + for 2–3 seconds.	No function
Briefly press the button +.	Next display mode
Press the button − for 2–3 seconds.	No function
Briefly press the button −.	No function

7.16 Display mode SPEED/TR1 (trip master 1)



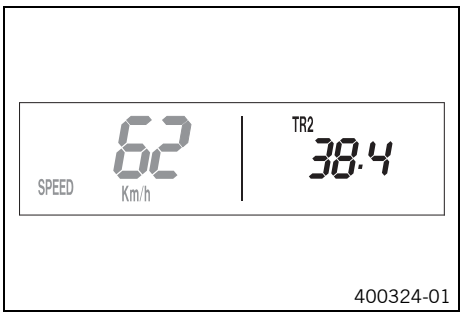
– Repeatedly press the button + briefly until **TR1** appears at the top right of the display.

TR1 (trip master 1) runs constantly and counts up to 999.9.
You can use it to measure trips or the distance between refueling stops.
TR1 is coupled with **A1** (average speed 1) and **S1** (stop watch 1).

Info
If 999.9 is exceeded, the values of **TR1**, **A1** and **S1** are automatically reset to 0.0.

Press the button + for 2–3 seconds.	Displays of **TR1**, **A1** and **S1** are reset to 0.0.
Briefly press the button +.	Next display mode
Press the button − for 2–3 seconds.	No function
Briefly press the button −.	No function

7.17 Display mode SPEED/TR2 (trip master 2)

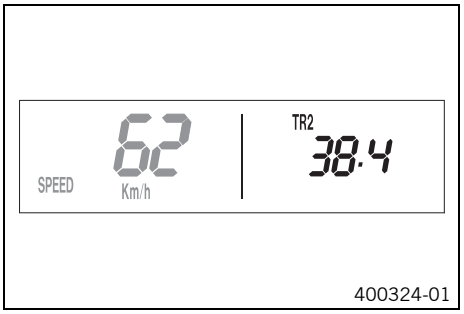


– Repeatedly press the button + briefly until **TR2** appears at the top right of the display.

TR2 (trip master 2) runs constantly and counts up to 999.9.

Press the button + for 2–3 seconds.	Clears the values **TR2** and **A2**.
Briefly press the button +.	Next display mode
Press the button − for 2–3 seconds.	Reduces value of **TR2**.
Briefly press the button −.	Reduces value of **TR2**.

7.18 Setting TR2 (trip master 2)



Condition

- The motorcycle is stationary.

– Repeatedly press the button + briefly until **TR2** appears at the top right of the display.

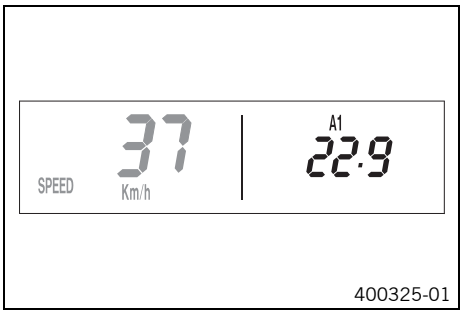
– Press the button − for 2–3 seconds until **TR2** flashes.

The displayed value can be set manually with the button + and the button −. This is a very practical function when riding using the road book.

Info
The **TR2** value can also be corrected manually during the journey with the button + and the button −.
If 999.9 is exceeded, the value of **TR2** is automatically reset to 0.0.

Press the button + for 2–3 seconds.	Increases value of **TR2**.
Briefly press the button +.	Increases value of **TR2**.
Press the button − for 2–3 seconds.	Reduces value of **TR2**.
Briefly press the button −.	Reduces value of **TR2**.
Wait 10–12 seconds	Saves and closes the Setup menu

7.19 Display mode SPEED/A1 (average speed 1)

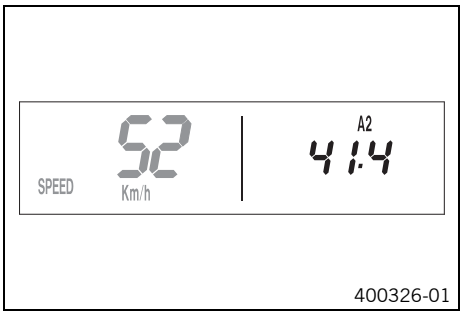


– Repeatedly press the button + briefly until **A1** appears at the top right of the display.

A1 (average speed 1) shows the average speed calculated using **TR1** (trip master 1) and **S1** (stop watch 1).
The calculation of this value is activated by the first impulse of the wheel speed sensor and ends 3 seconds after the last impulse.

Press the button + for 2–3 seconds.	Displays of **TR1**, **A1** and **S1** are reset to 0.0.
Briefly press the button +.	Next display mode
Press the button − for 2–3 seconds.	No function
Briefly press the button −.	No function

7.20 Display mode SPEED/A2 (average speed 2)



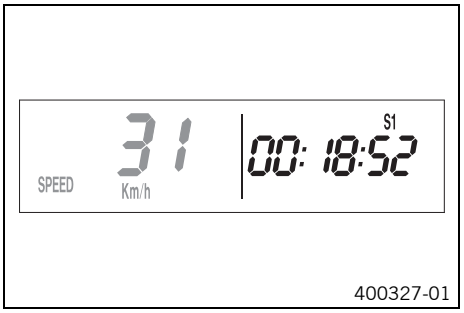
– Repeatedly press the button + briefly until **A2** appears at the top right of the display.

A2 (average speed 2) shows the average speed on the basis of the current speed if the stop watch **S2** (stop watch 2) is running.

Info
The displayed value can differ from the actual average speed if **S2** was not stopped after the ride.

Briefly press the button +.	Next display mode
Press the button + for 2–3 seconds.	No function
Press the button − for 2–3 seconds.	No function
Briefly press the button −.	No function

7.21 Display mode SPEED/S1 (stop watch 1)

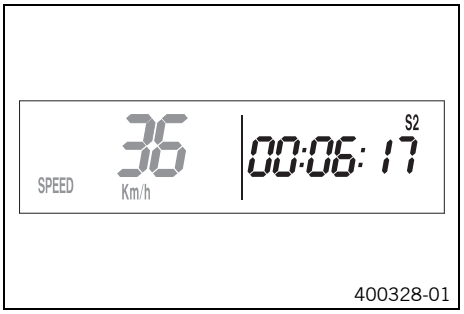


– Repeatedly press the button + briefly until **S1** appears at the top right of the display.

S1 (Stop watch 1) shows the riding time based on **TR1** and continues running as soon as an impulse arrives from the wheel speed sensor.
The calculation of this value starts with the first impulse from the wheel speed sensor and ends 3 seconds after the last impulse.

Press the button + for 2–3 seconds.	Displays of **TR1**, **A1** and **S1** are reset to 0.0.
Briefly press the button +.	Next display mode
Press the button − for 2–3 seconds.	No function
Briefly press the button −.	No function

7.22 Display mode SPEED/S2 (stop watch 2)



– Repeatedly press the button + briefly until **S2** appears at the top right of the display.

S2 (Stop watch 2) is a manual stop watch.
If **S2** is running in the background, the display **S2** flashes on the speedometer.

Press the button + for 2–3 seconds.	The displays of **S2** and **A2** are set to 0,0.
Briefly press the button +.	Next display mode
Press the button − for 2–3 seconds.	No function
Briefly press the button −.	Starts or stops **S2**.

7.23 Table of functions

Display	**Press the button + for 2–3 seconds.**	**Briefly press the button +.**	**Press the button − for 2–3 seconds.**	**Briefly press the button −.**	**Wait 3–5 seconds**	**Wait 10–12 seconds**
Display mode **SPEED/H** (service hours)	The display changes to the Setup menu of the speedometer functions.	Next display mode	No function	No function		
Setup menu	No function	Activates the flashing display and changes to the next display	No function	Deactivates the flashing display and changes to the next display	Changes to the next display without changes	Setup menu starts, stores the settings, and changes to **H** or **ODO**.
Setting the unit of measurement	No function	Starts selection, activates **Km/h** display	No function	Activates **Mph** display	Changes to the next display, changes from selection to the Setup menu	Saves and closes the Setup menu
Display mode **SPEED/CLK** (time)	The display changes to the Setup menu of the clock.	Next display mode	No function	No function		
Setting the clock	Increases the value	Increases the value	Reduces the value	Reduces the value	Changes to the next value	Closes the SETUP menu

Display	Press the button + for 2–3 seconds.	Briefly press the button +.	Press the button − for 2–3 seconds.	Briefly press the button −.	Wait 3–5 seconds	Wait 10–12 seconds
Display mode **SPEED/LAP** (lap time)	The stop watch and the lap time are reset.	Next display mode	Stops the clock.	Starts the stop watch or stop the current lap time measurement, stores it and the stop watch starts the next lap.		
Viewing the lap time	The stop watch and the lap time are reset.	Select a lap from 1–10	No function	View the next lap time.		
Display mode **SPEED/ODO** (odometer)	No function	Next display mode	No function	No function		
Display mode **SPEED/TR1** (trip master 1)	Displays of **TR1**, **A1** and **S1** are reset to 0.0.	Next display mode	No function	No function		
Display mode **SPEED/TR2** (trip master 2)	Clears the values **TR2** and **A2**.	Next display mode	Reduces value of **TR2**.	Reduces value of **TR2**.		
Setting **TR2** (trip master 2)	Increases value of **TR2**.	Increases value of **TR2**.	Reduces value of **TR2**.	Reduces value of **TR2**.		Saves and closes the Setup menu
Display mode **SPEED/A1** (average speed 1)	Displays of **TR1**, **A1** and **S1** are reset to 0.0.	Next display mode	No function	No function		
Display mode **SPEED/A2** (average speed 2)	No function	Next display mode	No function	No function		
Display mode **SPEED/S1** (stop watch 1)	Displays of **TR1**, **A1** and **S1** are reset to 0.0.	Next display mode	No function	No function		
Display mode **SPEED/S2** (stop watch 2)	The displays of **S2** and **A2** are set to 0,0.	Next display mode	No function	Starts or stops **S2**.		

7.24 Table of conditions and menu activation

Display	The motorcycle is stationary.	Menu can be activated
Display mode **SPEED/H** (service hours)	•	
Setup menu	•	
Setting the unit of measurement	•	
Setting the clock	•	
Display mode **SPEED/LAP** (lap time)		•
Viewing the lap time	•	
Display mode **SPEED/TR1** (trip master 1)		•
Display mode **SPEED/TR2** (trip master 2)		•
Setting **TR2** (trip master 2)	•	
Display mode **SPEED/A1** (average speed 1)		•
Display mode **SPEED/A2** (average speed 2)		•
Display mode **SPEED/S1** (stop watch 1)		•
Display mode **SPEED/S2** (stop watch 2)		•

8.1 Advice on first use

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

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

Warning
Risk of injury Missing or poor protective clothing presents an increased safety risk.

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

Warning
Danger of crashing Different tire tread patterns on the front and rear wheel impair the handling characteristic.
Different tire tread patterns can make the vehicle significantly more difficult to control.

– Make sure that only tires with a similar tire tread pattern are fitted to the front and rear wheel.

Warning
Danger of accidents An unadapted riding style impairs the handling characteristic.

– Adapt your riding speed to the road conditions and your riding ability.

Warning
Danger of accidents The vehicle is not designed to carry passengers.

– Do not ride with a passenger.

Warning
Danger of accidents The brake system fails in the event of overheating.
If the foot brake lever is not released, the brake linings drag continuously.

– Take your foot off the foot brake lever when you are not braking.

Warning
Danger of accidents Total weight and axle loads influence the handling characteristic.

– Do not exceed the maximum permissible overall weight or the axle loads.

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

– Do not leave the vehicle unattended if the engine is running.
– Protect the vehicle against access by unauthorized persons.

Info
When using your motorcycle, remember that others may feel disturbed by excessive noise.

– Make sure that the pre-delivery inspection work has been carried out by an authorized KTM workshop.
  ✓ You receive a delivery certificate and the service booklet at vehicle handover.
– Before your first trip, read the entire Owner's Manual carefully.
– Get to know the controls.
– Adjust the basic position of the clutch lever. (📖 p. 68)
– Adjust the free travel of the handbrake lever. (📖 p. 73)
– Adjust the free travel of the foot brake lever. 🔧 (📖 p. 78)
– Adjust the basic position of the shift lever. 🔧 (📖 p. 96)
– Get used to handling the motorcycle on a suitable piece of land before undertaking a more challenging trip.

Info
Offroad, you should be accompanied by another person on another machine so that you can help each other.

– Try also to ride as slowly as possible and in a standing position to get a better feeling for the motorcycle.

– Do not make any off-road trips that exceed your ability and experience.
– Hold the handlebar firmly with both hands and keep your feet on the footrests when riding.
– If you carry luggage, make sure you secure it firmly as close as possible to the center of the vehicle and ensure even weight distribution between the front and rear wheels.

Info
Motorcycles react sensitively to any changes of weight distribution.

– Do not exceed the maximum permissible weight and the maximum permissible axle loads.

Guideline

Maximum permissible overall weight	400 kg (882 lb.)
Maximum permissible front axle load	190 kg (419 lb.)
Maximum permissible rear axle load	250 kg (551 lb.)

– Run in the engine. (📖 p. 31)

8.2 Running in the engine

– During the running-in phase, do not exceed the specified engine speed and engine performance.

Guideline

Maximum engine speed	
During the first operating hour	7,000 rpm
Maximum engine performance	
During the first 3 operating hours	≤ 75 %

– Avoid fully opening the throttle!

9 RIDING INSTRUCTIONS

9.1 Checks and maintenance when preparing for use

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

- Check the engine oil level. (p. 98)
- Check the electrical system.
- Check the front brake fluid level. (p. 74)
- Check the rear brake fluid level. (p. 78)
- Check the front brake linings. (p. 75)
- Check the rear brake linings. (p. 79)
- Check that the brake system is functioning properly.
- Check the coolant level. (p. 93)
- Check the chain for dirt accumulation. (p. 62)
- Check the chain, rear sprocket, engine sprocket, and chain guide. (p. 64)
- Check the chain tension. (p. 63)
- Check the tire condition. (p. 86)
- Check the tire air pressure. (p. 86)
- Check the spoke tension. (p. 87)
- Clean the dust boots of the fork legs. (p. 47)
- Bleed the fork legs. (p. 46)
- Check the air filter.
- Check the fuel filter.
- Check the settings of all controls and ensure that they can be operated smoothly.
- Check all screws, nuts, and hose clamps regularly for tightness.
- Check the fuel reserves.

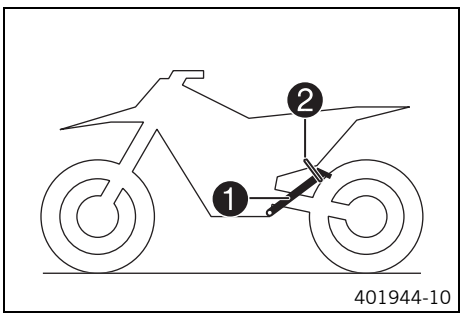
9.2 Starting

Danger
Danger of poisoning Exhaust gases are toxic and inhaling them may result in unconsciousness and death.

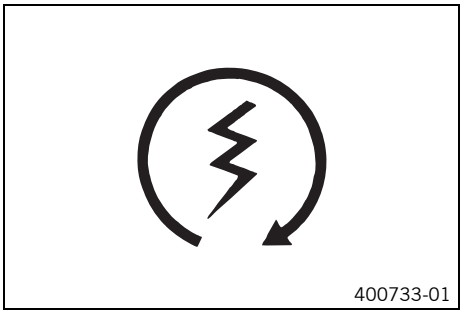
- Always make sure there is sufficient ventilation when running the engine.
- Use an effective exhaust extraction system when starting or running the engine in an enclosed space.

Note
Engine damage High revving speed with a cold engine negatively impacts the lifespan of the engine.

- Always run the engine warm at a low speed.



- Take the motorcycle off side stand ❶ and secure the side stand with rubber band ❷.
- Shift gear to neutral.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Condition

Ambient temperature: < 20 °C (< 68 °F)

– Pull the idle speed adjusting screw all the way out.

– Press the electric starter button.

Info

Press the electric starter button for at most 5 seconds. Wait for a least 5 seconds before trying again.
At temperatures below 15 °C (60 °F), several attempts at starting may be necessary to warm-up the lithium-ion battery and thereby increase the starting power.
When starting **FI** warning lamp lights up briefly as a function check.

9.3 Starting off

Info

While riding, the side stand must be folded up and secured with the rubber band.

– Pull the clutch lever, shift into first gear, release the clutch lever slowly and at the same time open the throttle gently.

9.4 Shifting, riding

Warning

Danger of accidents If you change down at high engine speed, the rear wheel blocks and the engine races.

– Do not change into a low gear at high engine speed.

Info

If you hear unusual noises while riding, stop immediately, switch off the engine, and contact an authorized KTM workshop.
First gear is used for starting off or for steep inclines.

– When conditions allow (incline, road situation, etc.), you can shift into a higher gear. To do so, release the throttle while simultaneously pulling the clutch lever, shift into the next gear, release the clutch, and open the throttle.

– After reaching maximum speed by fully opening the throttle grip, turn the throttle back so it is ¾ open. This will barely reduce the speed but fuel consumption will be considerably lower.

– Always open the throttle only as much as the engine can handle – abrupt throttle opening increases fuel consumption.

– To shift down, apply the brakes and close the throttle at the same time.

– Pull the clutch lever and shift into a lower gear, release the clutch lever slowly and open the throttle or shift again.

– Switch off the engine if you expect to be standing for a long time.

Guideline

≥ 2 min

– Avoid frequent and longer slipping of the clutch. This heats the engine oil, the engine, and the cooling system.

– Ride with a lower engine speed instead of with a high engine speed and a slipping clutch.

9.5 Braking

Warning

Danger of accidents Excessively forceful application of the brakes blocks the wheels.

– Adjust application of the brakes to the respective riding situation and riding surface conditions.

Warning

Danger of accidents A spongy pressure point on the front or rear brake reduces braking efficiency.

– Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)

Warning

Danger of accidents Moisture and dirt impair the brake system.

– Brake carefully several times to dry out and remove dirt from the brake linings and the brake discs.

– On sandy, wet or slippery surfaces, use the rear brake.
– Braking should always be completed before you go into a bend. Change down to a lower gear appropriate to your road speed.
– On long downhill stretches, use the braking effect of the engine. To do so, shift back one or two gears, but do not overrev the engine. You will need to apply the brakes far less often and the brake system will not overheat.

9.6 Stopping, parking

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

– Do not leave the vehicle unattended if the engine is running.
– Protect the vehicle against access by unauthorized persons.

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

– Do not touch any parts such as the exhaust system, radiator, engine, shock absorber, or brake system before the vehicle parts have cooled down.
– Let the vehicle parts cool down before you perform any work on the vehicle.

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.

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

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

– Apply the brakes on the motorcycle.
– Shift gear to neutral.
– Park the motorcycle on firm ground.

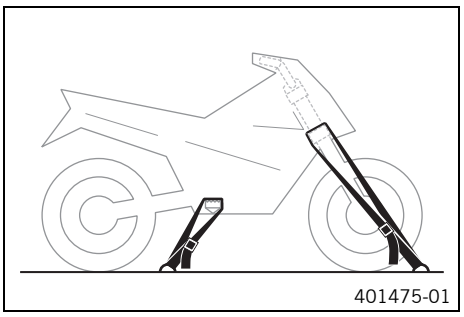
9.7 Transport

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

– Park the vehicle on a firm and level surface.

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

– Do not park the vehicle near to materials which are highly flammable or explosive.
– Allow the vehicle to cool down before covering it.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– Switch off the engine.
– Use tension belts or other suitable devices to secure the motorcycle against accidents or falling over.

9.8 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.

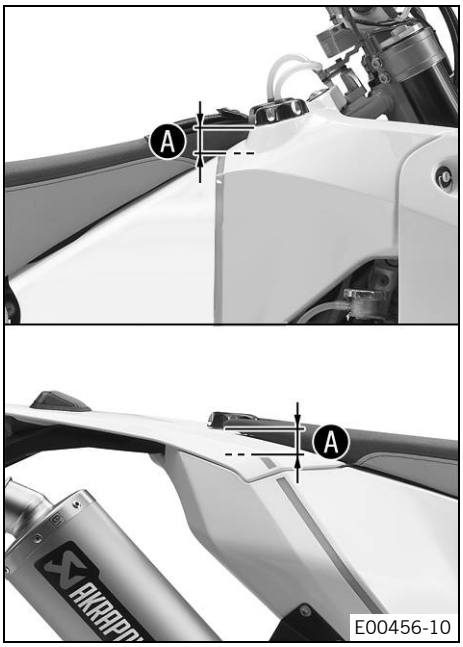
In some countries and regions, the available fuel quality and cleanliness may not be sufficient. This will result in problems with the fuel system.

- Refuel only with clean fuel that meets the specified standards. (Your authorized KTM workshop will be glad to help.)

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 caps. (📖 p. 16)
- Fill the fuel tank with fuel up to measurement A.

Guideline

Measurement of A	45 mm (1.77 in)

Fuel tank capacity		
Fuel tank half, front left, approx.	7.5 l (1.98 US gal)	Super unleaded (ROZ 95/RON 95/PON 91) (📖 p. 132)
Fuel tank half, front right, approx.	7.5 l (1.98 US gal)	Super unleaded (ROZ 95/RON 95/PON 91) (📖 p. 132)
Rear fuel tank, approx.	18.0 l (4.76 US gal)	Super unleaded (ROZ 95/RON 95/PON 91) (📖 p. 132)
Total fuel capacity, approx.	33.0 l (8.72 US gal)	Super unleaded (ROZ 95/RON 95/PON 91) (📖 p. 132)

- Close the filler caps. (📖 p. 17)

10.1 Service schedule

	Once after 1 operating hour	Every 10 operating hours/after every race	Every 20 operating hours	Every 30 operating hours
Read out the fault memory using the KTM diagnostics tool. 🔧	○	●	●	●
Check that the electrical equipment is functioning properly.	○	●	●	●
Check and charge the battery. 🔧		●	●	●
Check the front brake linings. (📖 p. 75)		●	●	●
Check the rear brake linings. (📖 p. 79)		●	●	●
Check the brake discs. (📖 p. 73)		●	●	●
Check the brake lines for damage and leakage.		●	●	●
Check the rear brake fluid level. (📖 p. 78)		●	●	●
Check the free travel of the foot brake lever. (📖 p. 78)		●	●	●
Check the frame and swingarm. 🔧		●	●	●
Check the swingarm bearing. 🔧			●	
Check the heim joints at the top of the shock absorber. 🔧		●	●	●
Check the shock absorber linkage. 🔧		●	●	●
Conduct a minor fork service. 🔧		●	●	●
Conduct a major fork service. 🔧				●
Check the tire condition. (📖 p. 86)	○	●	●	●
Check the tire air pressure. (📖 p. 86)	○	●	●	●
Check the wheel bearing for play. 🔧		●	●	●
Check the wheel hubs. 🔧		●	●	●
Check the rim run-out. 🔧	○	●	●	●
Check the spoke tension. (📖 p. 87)	○	●	●	●
Check the chain, rear sprocket, engine sprocket, and chain guide. (📖 p. 64)		●	●	●
Check the chain tension. (📖 p. 63)	○	●	●	●
Lubricate all moving parts (e.g., hand lever, chain, ...) and check for smooth operation. 🔧		●	●	●
Check/correct the fluid level of the hydraulic clutch. (📖 p. 68)		●	●	●
Check the front brake fluid level. (📖 p. 74)		●	●	●
Check the free travel on the hand brake lever. (📖 p. 73)		●	●	●
Check the steering head bearing play. (📖 p. 51)	○	●	●	●
Check the valve clearance. 🔧	○			●
Check the clutch and damping elements in the clutch basket. 🔧		●	●	●
Change the engine oil and oil filter and clean the oil screens. 🔧 (📖 p. 98)	○	●	●	●
Change the absorbing elements in the outer clutch hub. 🔧		●	●	●
Check all hoses (e.g. fuel, cooling, bleeder, drainage, etc.) and sleeves for cracking, leaks, and incorrect routing. 🔧	○	●	●	●
Check the antifreeze and coolant level. (📖 p. 92)	○	●	●	●
Check the cables for damage and routing without sharp bends. 🔧		●	●	●
Check that the cables are undamaged, routed without sharp bends and set correctly.	○	●	●	●
Clean the air filter and air filter box.		●	●	●
Clean the fuel filter of the fuel tank. 🔧			●	
Change the glass fiber yarn filling of the main silencer. 🔧 (📖 p. 58)		●	●	●
Check the screws and nuts for tightness. 🔧	○	●	●	●
Check the fuel pressure. 🔧		●	●	●
Adjust the idle speed. 🔧 (📖 p. 96)	○	●	●	●
Check that the radiator fan is functioning properly. 🔧		●	●	●
Final check: Check the vehicle for roadworthiness and take a test ride.	○	●	●	●
Read out the error memory after the test ride using the KTM diagnostics tool. 🔧	○	●	●	●
Make the service entry in the **KTM Dealer.net** and in the Service and Warranty Booklet. 🔧	○	●	●	●

○ One-time interval
• Periodic interval

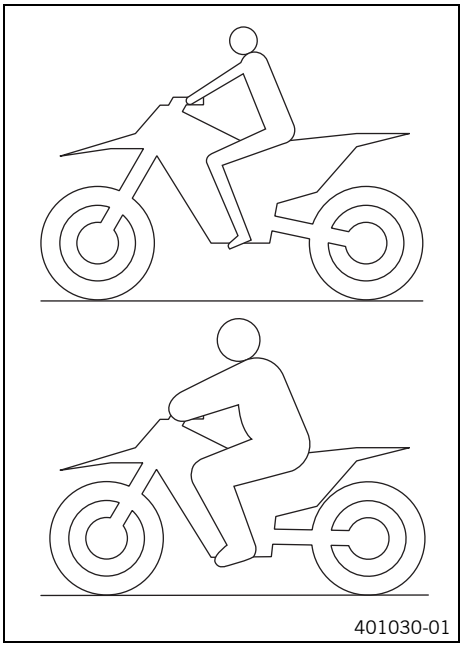
10.2 Service work (as additional order)

	Once after 20 operating hours	Every 40 operating hours	Every 50 operating hours	Every 100 operating hours	Annually	after every race
Change the front brake fluid. 🔧					•	•
Change the rear brake fluid. 🔧					•	•
Change the hydraulic clutch fluid. 🔧 (📖 p. 69)					•	•
Grease the steering head bearing. 🔧 (📖 p. 53)		•			•	
Service the shock absorber. 🔧	○	•				
Change the spark plug and spark plug connector. 🔧		•				
Change the piston. 🔧			•	•		
Check/measure the cylinder. 🔧			•	•		
Check the cylinder head. 🔧			•	•		
Change the valves, valve springs and valve spring seats. 🔧				•		
Check the camshaft and rocker arm. 🔧			•	•		
Change the connecting rod, conrod bearing and crank pin. 🔧			•	•		
Change the shaft seal rings of the water pump. 🔧			•	•		
Check the transmission and shift mechanism. 🔧			•	•		
Check the oil pressure regulator valve. 🔧			•	•		
Change the suction pump. 🔧			•	•		
Check the pressure pump and lubrication system. 🔧			•	•		
Replace the timing chain. 🔧			•	•		
Check the timing assembly. 🔧			•	•		
Change all engine bearings. 🔧			•	•		

○ One-time interval
• Periodic interval

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

Info
When adjusting the basic chassis setting, first adjust the shock absorber and then the fork.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– For optimal motorcycle riding characteristics and to avoid damage to forks, shock absorbers, swingarm and frame, the basic settings of the suspension components must match the rider's weight.
– As delivered, KTM offroad motorcycles are adjusted for a standard rider weight (with full protective clothing).

Guideline

Standard rider weight	75... 85 kg (165... 187 lb.)

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

11.2 Compression damping of the shock absorber

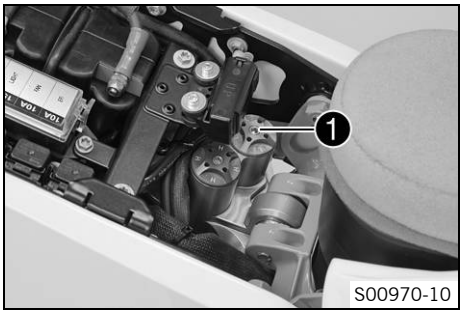
The compression damping of the shock absorber is divided into two ranges: high-speed and low-speed.
High-speed and low-speed refer to the compression speed of the rear wheel suspension and not to the vehicle speed.
The high-speed setting, for example, has an effect on the landing after a jump: the rear wheel suspension compresses more quickly.
The low-speed setting, for example, has an effect when riding over long ground swells: the rear wheel suspension compresses more slowly.
These two ranges can be adjusted separately, although the transition between high-speed and low-speed is gradual. Thus, changes in the high-speed range affect the compression damping in the low-speed range and vice versa.

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

Caution
Risk of injury Parts of the shock absorber will fly off if the shock absorber is disassembled incorrectly.
The shock absorber is filled with highly compressed nitrogen.

– Please follow the description provided. (Your authorized KTM workshop will be glad to help.)

Info
The low-speed setting can be seen during the slow to normal compression of the shock absorber.



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Preparatory work
– Remove the seat. (📖 p. 56)

Main work
– Turn adjusting screw ❶ clockwise up to the last perceptible click.
– Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

Guideline

Compression damping, low-speed	
Standard	12 clicks

Info
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

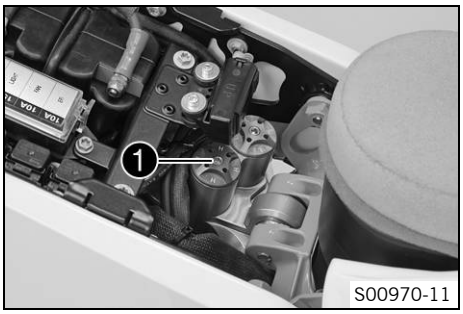
Finishing work
– Mount the seat. (📖 p. 56)

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

Caution
Risk of injury Parts of the shock absorber will fly off if the shock absorber is disassembled incorrectly.
The shock absorber is filled with highly compressed nitrogen.

– Please follow the description provided. (Your authorized KTM workshop will be glad to help.)

Info
The high-speed setting can be seen during the fast compression of the shock absorber.



Preparatory work
– Remove the seat. (📖 p. 56)

Main work
– Turn adjusting screw ❶ clockwise all the way.
– Turn counterclockwise by the number of turns corresponding to the shock absorber type.

Guideline

Compression damping, high-speed	
Standard	34 clicks

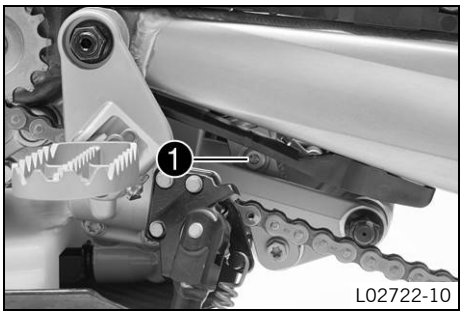
Info
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

Finishing work
– Mount the seat. (📖 p. 56)

11.5 Adjusting the rebound damping of the shock absorber

Caution
Risk of injury Parts of the shock absorber will fly off if the shock absorber is disassembled incorrectly.
The shock absorber is filled with highly compressed nitrogen.

– Please follow the description provided. (Your authorized KTM workshop will be glad to help.)



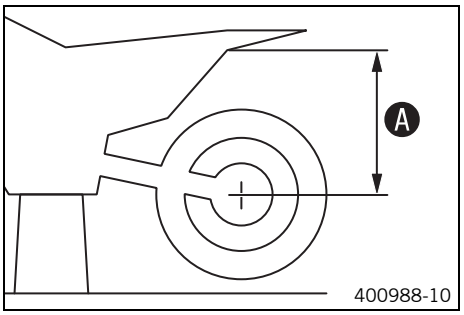
– Turn adjusting screw ❶ clockwise up to the last perceptible click.
– Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

Guideline

Rebound damping	
Standard	18 clicks

Info
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

11.6 Measuring the unloaded rear wheel sag



Preparatory work

– Raise the motorcycle with a lift stand. (📖 p. 46)

Main work

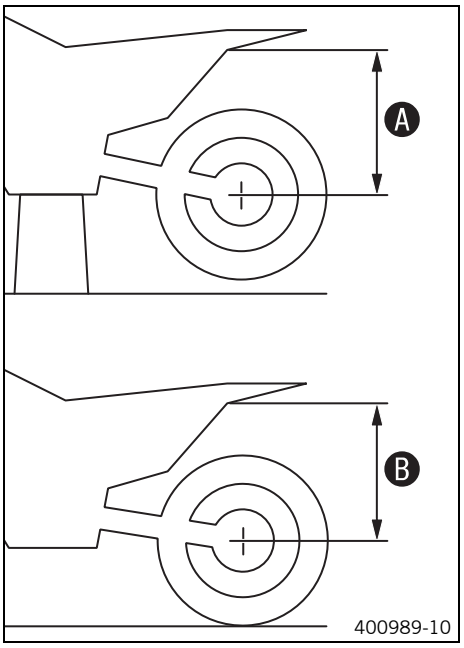
– Measure the vertical distance between the rear axle and a fixed point such as a marking on the side cover.

– Note down the value as dimension Ⓐ.

Finishing work

– Remove the motorcycle from the lift stand. (📖 p. 46)

11.7 Checking the static sag of the shock absorber



Condition

The fuel tanks are half full.

– Measure distance Ⓐ of rear wheel unloaded. (📖 p. 40)

– Hold the motorcycle upright with the aid of an assistant.

– Measure the distance between the rear axle and the fixed point again.

– Note down the value as dimension Ⓑ.

Info

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

– Check the static sag.

Static sag	35 mm (1.38 in)

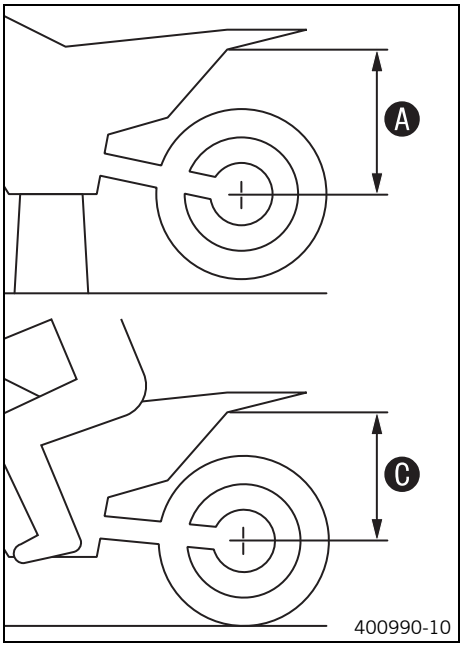
» If the static sag is less or more than the specified value:

– Adjust the spring preload of the shock absorber. 🔧 (📖 p. 41)

11.8 Checking the riding sag of the shock absorber

Condition

The fuel tanks are half full.



– Measure distance A of rear wheel unloaded. (📖 p. 40)
– With another person holding the motorcycle, the rider, wearing full protective clothing, sits on the seat in a normal sitting position (feet on footrests) and bounces up and down a few times.
✔ The rear wheel suspension levels out.
– Another person now measures the distance between the rear axle and a fixed point.
– Note down the value as dimension C.

Info
The riding sag is the difference between measurements A and C.

– Check the riding sag.

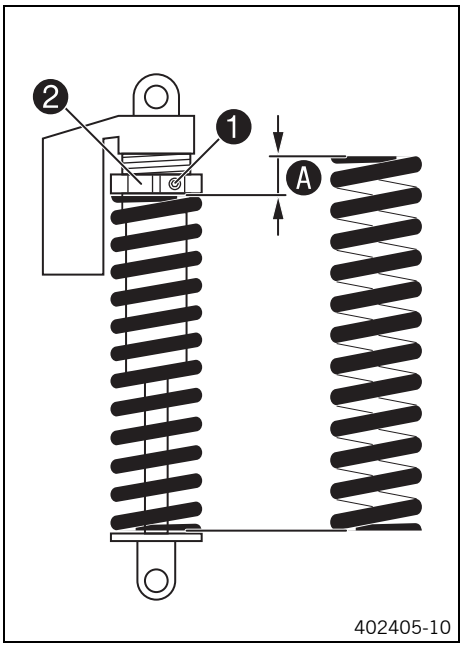
Riding sag	100 mm (3.94 in)

» If the riding sag differs from the specified measurement:
– Adjust the riding sag. 🔧 (📖 p. 42)

11.9 Adjusting the spring preload of the shock absorber 🔧

Caution
Risk of injury Parts of the shock absorber will fly off if the shock absorber is disassembled incorrectly.
The shock absorber is filled with highly compressed nitrogen.
– Please follow the description provided. (Your authorized KTM workshop will be glad to help.)

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



Preparatory work
– Raise the motorcycle with a lift stand. (📖 p. 46)
– Remove the seat. (📖 p. 56)
– Remove the main silencer. (📖 p. 58)
– Remove the shock absorber. 🔧 (📖 p. 53)
– After removing the shock absorber, clean it thoroughly.

Main work
– Loosen screw 1.
– Turn adjusting ring 2 until the spring is no longer under tension.

Hook wrench (T106S)

– Measure the overall spring length when not under tension.
– Tighten the spring by turning adjusting ring 2 to measurement A.
Guideline

Spring preload	
Standard	12 mm

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

– Tighten screw 1.
Guideline

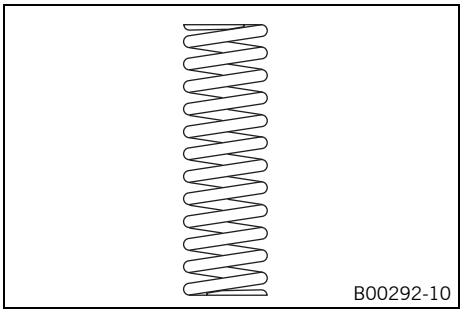
Screw, shock absorber adjusting ring	M5	5 Nm (3.7 lbf ft)

Finishing work
– Install the shock absorber. 🔧 (📖 p. 54)
– Install the main silencer. (📖 p. 58)

– Mount the seat. (📖 p. 56)
– Remove the motorcycle from the lift stand. (📖 p. 46)

11.10 Adjusting the riding sag 🔧

Preparatory work
– Raise the motorcycle with a lift stand. (📖 p. 46)
– Remove the seat. (📖 p. 56)
– Remove the main silencer. (📖 p. 58)
– Remove the shock absorber. 🔧 (📖 p. 53)
– After removing the shock absorber, clean it thoroughly.


B00292-10

Main work
– Choose and mount a suitable spring.

Guideline

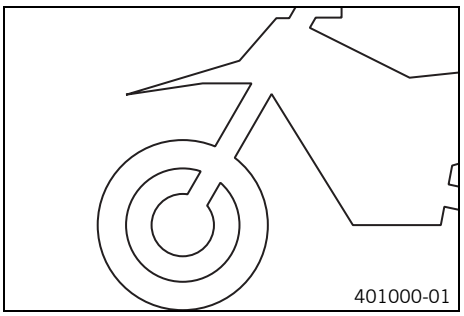
Spring rate	
Weight of rider (soft): 65... 75 kg (143... 165 lb.)	51 N/mm (291 lb/in)
Weight of rider (standard): 75... 85 kg (165... 187 lb.)	54 N/mm (308 lb/in)
Weight of rider (hard): 85... 95 kg (187... 209 lb.)	57 N/mm (325 lb/in)

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

Finishing work
– Install the shock absorber. 🔧 (📖 p. 54)
– Install the main silencer. (📖 p. 58)
– Mount the seat. (📖 p. 56)
– Remove the motorcycle from the lift stand. (📖 p. 46)
– Check the static sag of the shock absorber. (📖 p. 40)
– Check the riding sag of the shock absorber. (📖 p. 40)
– Adjust the rebound damping of the shock absorber. (📖 p. 39)

11.11 Checking the basic setting of the fork

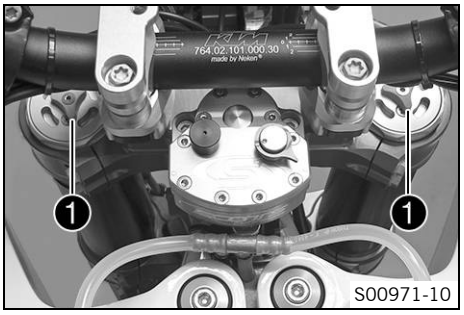
Info
For various reasons, no exact riding sag can be determined for the forks.


401000-01

– As with the shock absorber, small differences in the rider's weight can be compensated by the spring preload.
– However, if the fork is often overloaded (hard end stop on compression), harder springs must be fit to avoid damage to the fork and frame.

11.12 Adjusting the compression damping of the fork

Info
The hydraulic compression damping determines the fork suspension behavior.



– Turn adjusting screws ❶ clockwise all the way.

Info
Adjusting screws ❶ are located at the top end of the fork legs.
Make the same adjustment on both fork legs.

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

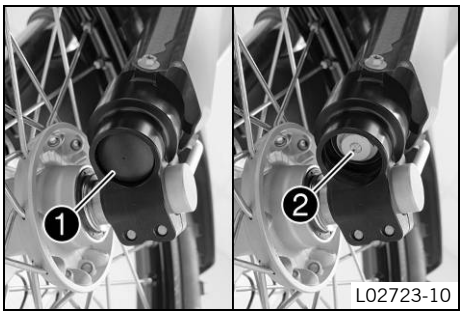
Guideline

Compression damping	
Standard	10 clicks

Info
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

11.13 Adjusting the rebound damping of the fork

Info
The hydraulic rebound damping determines the fork suspension behavior.



– Take off protection caps ❶.
– Turn adjusting screws ❷ clockwise all the way.

Info
Adjusting screws ❷ are located at the bottom end of the fork legs.
Make the same adjustment on both fork legs.

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

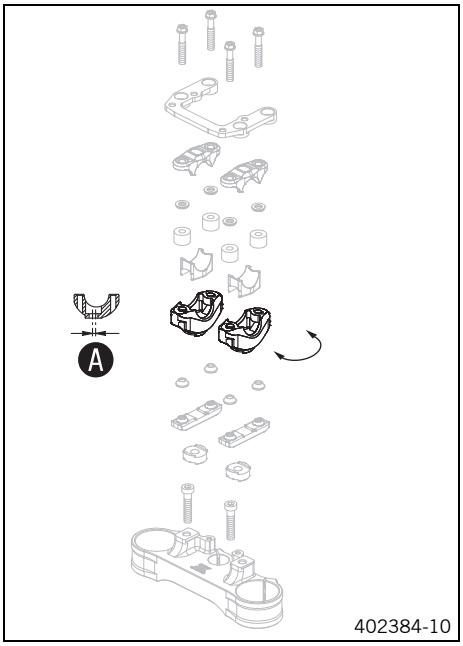
Guideline

Rebound damping	
Standard	20 clicks

Info
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

– Mount protection caps ❶.

11.14 Handlebar position



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

Distance Ⓐ between holes	3.5 mm (0.138 in)

The handlebar supports can be turned by 180°. In this way, the handlebar can be mounted in the position that is most comfortable for the rider.
The handlebar supports can also be mounted at two different heights (with and without a spacer).

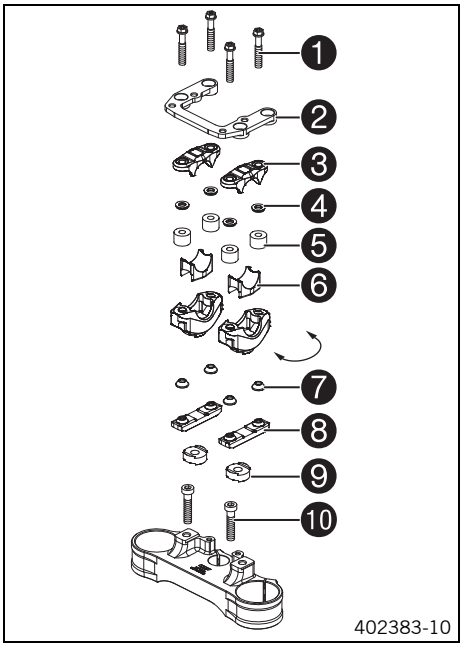
11.15 Adjusting the handlebar position

Warning

Danger of accidents A repaired handlebar poses a safety risk.

If the handlebar is bent or straightened, the material becomes fatigued. The handlebar may break as a result.

– Change the handlebar if the handlebar is damaged or bent.



– Remove the four screws ❶. Take off bracket ❷.
– Take off handlebar clamps ❸ with rubber washers ❹ and elastomers ❺.
– Fix the handlebar onto the instrument support with cable ties.

Info

Protect the motorcycle and its attachments against damage by covering them.
Do not bend the cables and lines.

– Remove the lower shells ❻.
– Remove the clamp bar ❽ with the rubber cones ❼.
– Remove the two screws ❿. Take off the handlebar supports.
– Place the handlebar supports in the required position. Mount and tighten the two screws ❿.

Guideline

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

Condition

Spacer ❾ fitted:

Use a M10x35 screw

Condition

without a spacer ❾:

Use a M10x25 screw

Info

Position the left and right handlebar supports evenly.

– Fit the rubber cones ❼ and clamp bar ❽.
– Fit the lower shells ❻.
– Position the handlebar.

Info
Make sure cables and wiring are positioned correctly.

– Position the handlebar clamps ❸ with rubber washers ❹ and elastomers ❺.

Elastomer kit green - soft quality (SXS05125203)
Elastomer kit yellow - medium quality (standard) (SXS05125204)
Elastomer kit red - hard quality (SXS05125205)

Info
The elastomers are available in different versions.

– Position bracket ❷.
– Mount and evenly tighten the four screws ❶.

Guideline

Screw, handlebar clamp	M8	16 Nm (11.8 lbf ft)

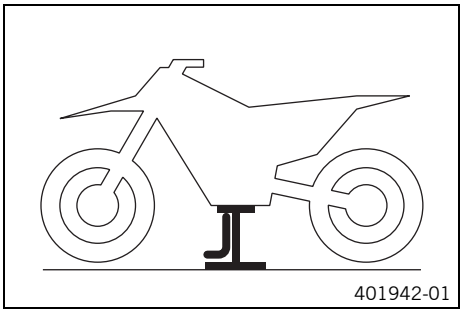
Info
Make sure the gap width is even.

12.1 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.


401942-01

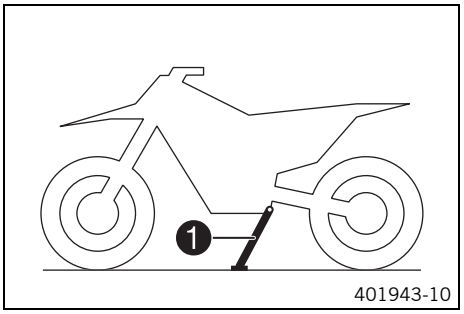
– Use the engine guard underneath the engine to raise the vehicle.
  ✓ Neither wheel is in contact with the ground.
– Secure the motorcycle against falling over.

12.2 Removing the motorcycle from the lift stand

Note

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

– Park the vehicle on a firm and level surface.

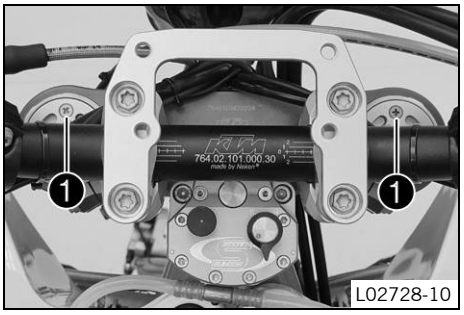


401943-10

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

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

12.3 Bleeding the fork legs



L02728-10

Preparatory work
– Raise the motorcycle with a lift stand. (📖 p. 46)

Main work
– Release bleeder screws ❶.
  ✓ Any excess pressure escapes from the interior of the fork.
– Tighten the bleeder screws.

Finishing work
– Remove the motorcycle from the lift stand. (📖 p. 46)

12.4 Cleaning the dust boots of the fork legs

Preparatory work

– Raise the motorcycle with a lift stand. (📖 p. 46)
– Remove the front fender. (📖 p. 55)

Main work

– Push dust boots ❶ of both fork legs downward.

Info

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

Warning

Danger of accidents Oil or grease on the brake discs reduces the braking effect.

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

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

Universal oil spray (📖 p. 134)

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

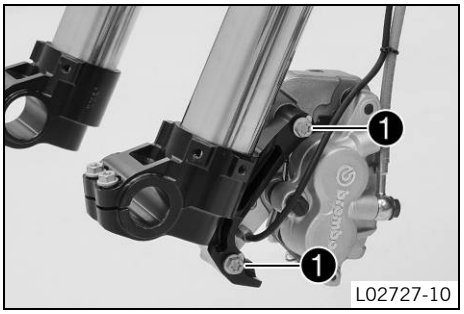
Finishing work

– Install the front fender. (📖 p. 56)
– Remove the motorcycle from the lift stand. (📖 p. 46)

12.5 Removing the fork legs 🔧

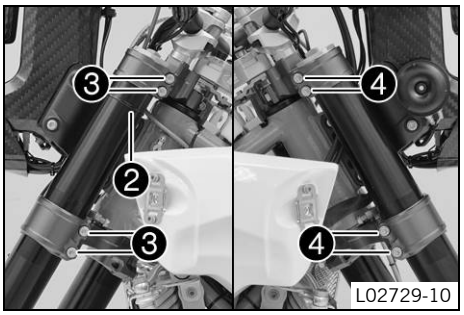
Preparatory work

– Raise the motorcycle with a lift stand. (📖 p. 46)
– Remove the front wheel. 🔧 (📖 p. 82)
– Remove the front fender. (📖 p. 55)
– Remove the trim. (📖 p. 70)



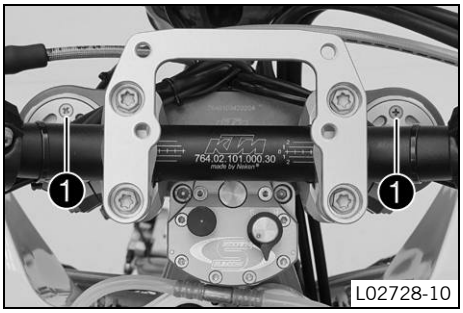
Main work

– Remove screws ❶.
– Allow the brake caliper and brake line to hang loosely to the side.



– Remove cable tie(s) ❷.
– Loosen screws ❸. Take out the left fork leg.
– Loosen screws ❹. Take out the right fork leg.

12.6 Installing the fork legs

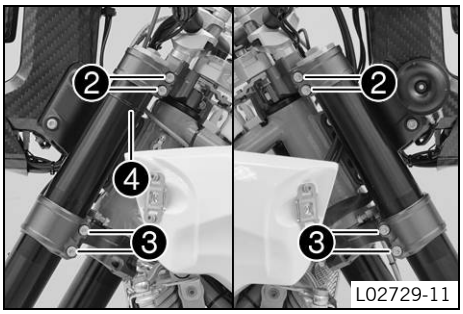


Main work

– Position the fork legs.

✓ Bleeder screws ❶ are positioned toward the front.

Info
The upper triple clamp must be flush with the upper edge of the fork legs.



– Tighten screws ❷.

Guideline

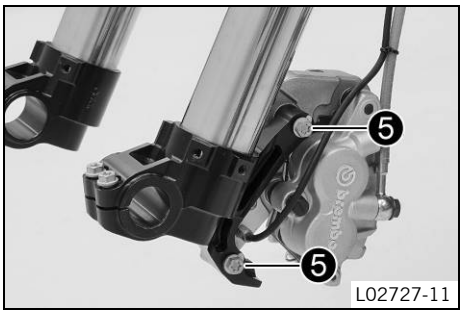
Screw, top triple clamp	M8	17 Nm (12.5 lbf ft)

– Tighten screws ❸.

Guideline

Screw, bottom triple clamp	M8	12 Nm (8.9 lbf ft)

– Secure the brake line with cable tie(s) ❹.



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

Guideline

Screw, front brake caliper	M8	30 Nm (22.1 lbf ft)	**Loctite® 243™**

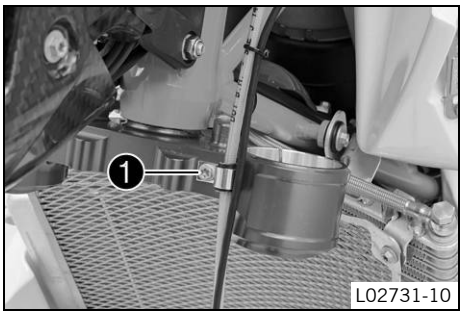
Finishing work

– Mount the trim. (📖 p. 71)
– Install the front fender. (📖 p. 56)
– Mount the front wheel. (📖 p. 82)

12.7 Removing the lower triple clamp

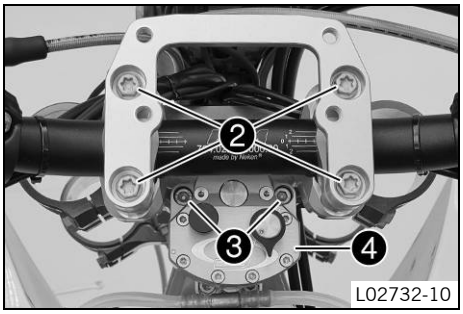
Preparatory work

– Raise the motorcycle with a lift stand. (📖 p. 46)
– Remove the front wheel. (📖 p. 82)
– Remove the front fender. (📖 p. 55)
– Remove the trim. (📖 p. 70)
– Remove the fork legs. (📖 p. 47)

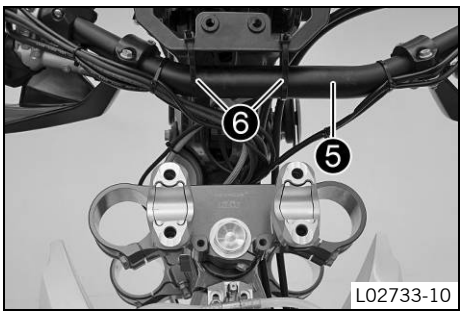


Main work

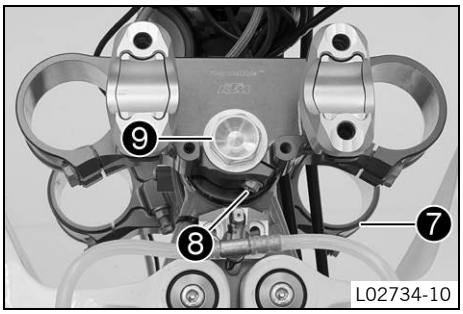
– Remove screw ❶.
– Allow the brake caliper and brake line to hang loosely to the side.



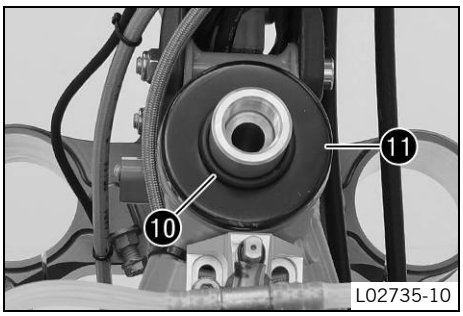
– Remove screws ❷ and take off the retaining plate with the handlebar clamps.
– Remove screws ❸ and take off steering damper ❹.



– Fix handlebar ❺ onto the instrument support with cable tie(s) ❻.

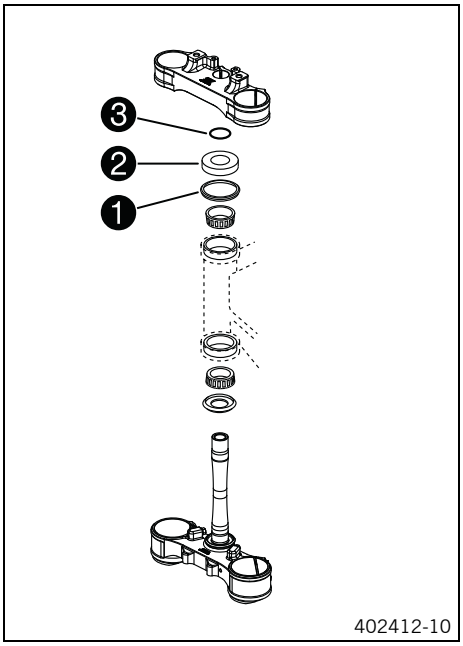


– Secure lower triple clamp ❼ against falling out.
– Loosen screw ❽.
– Remove screw ❾.



– Remove O-ring ❿. Remove protective ring ⓫ and take off the seal ring beneath it.
– Remove the lower triple clamp with the steering stem.
– Take out the upper steering head bearing.

12.8 Installing the lower triple clamp

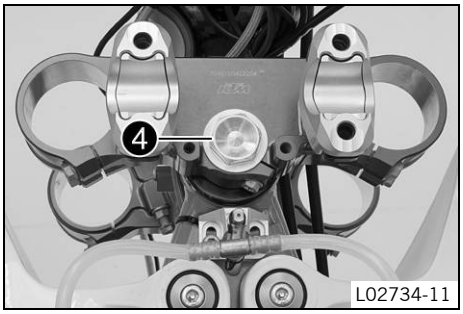


Main work

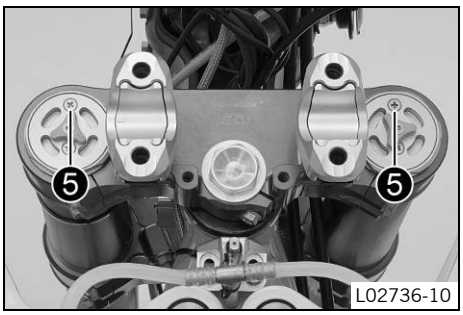
– Clean the bearing and sealing elements, check for damage, and grease.

High viscosity grease (📖 p. 133)

– Insert the lower triple clamp with the steering stem. Mount the upper steering head bearing.
– Check whether upper steering head seal ❶ is correctly positioned.
– Slide on protective ring ❷ and O-ring ❸.



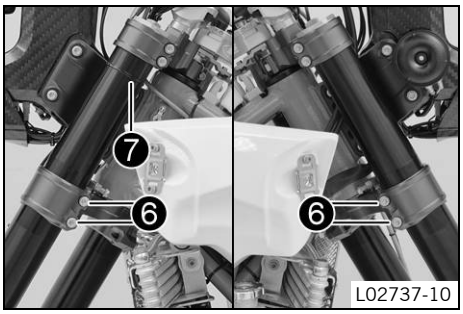
– Position the upper triple clamp.
– Mount screw ❹ but do not tighten yet.



– Position the fork legs.

✓ Bleeder screws ❺ are positioned toward the front.

Info
The fork legs must be flush with the upper edge of the upper triple clamp.

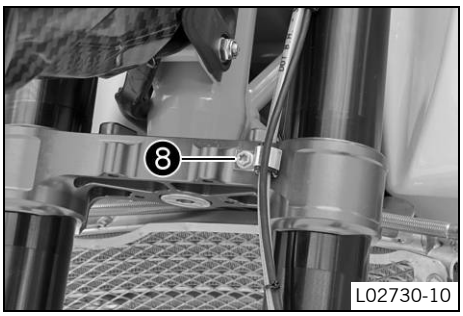


– Tighten screws ❻.

Guideline

Screw, bottom triple clamp	M8	12 Nm (8.9 lbf ft)

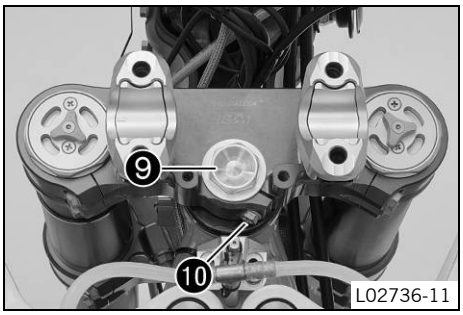
– Secure the brake line on the fork leg with cable binder ❼.



– Mount and tighten screw ❽.

Guideline

Screw, brake line holder on bottom triple clamp	M5	2 Nm (1.5 lbf ft)



– Tighten screw ❾.

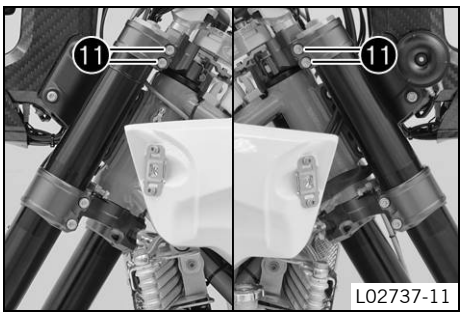
Guideline

Screw, top steering head	M20x1	12 Nm (8.9 lbf ft)

– Tighten screw ❿.

Guideline

Screw, top steering stem	M8	20 Nm (14.8 lbf ft)

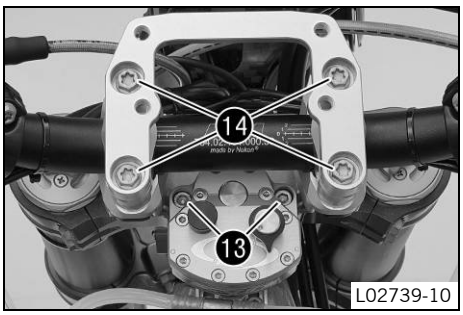


– Tighten screws ⓫.

Guideline

Screw, top triple clamp	M8	17 Nm (12.5 lbf ft)

– Remove cable tie(s) 12 and place the handlebar onto the handlebar clamp base.



– Position steering damper and mount and tighten screws 13.

Guideline

Screw, steering damper	M6	15 Nm (11.1 lbf ft)

– Fit retaining plate with handlebar clamps, position the handlebar, and mount and tighten screws 14.

Guideline

Screw, handlebar clamp	M8	16 Nm (11.8 lbf ft)

Finishing work

– Check that the wiring harness, throttle cables, and brake and clutch lines can move freely and are routed correctly.
– Mount the trim. (📖 p. 71)
– Install the front fender. (📖 p. 56)
– Mount the front wheel. 🔧 (📖 p. 82)
– Check the steering head bearing play. (📖 p. 51)
– Remove the motorcycle from the lift stand. (📖 p. 46)

12.9 Checking the steering head bearing play

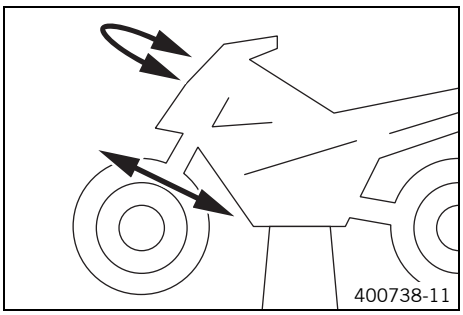
Warning

Danger of accidents Incorrect steering head bearing play impairs the handling characteristic and damages components.

– Correct incorrect steering head bearing play immediately. (Your authorized KTM workshop will be glad to help.)

Info

If the bike is ridden with play in the steering head bearing, the bearing and the bearing seats in the frame can become damaged over time.



Preparatory work

– Raise the motorcycle with a lift stand. (📖 p. 46)

Main work

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

No play should be noticeable in the steering head bearing.

» If there is noticeable play present:
  – Adjust the steering head bearing play. 🔧 (📖 p. 52)

– Move the handlebar to and fro over the entire steering range.

The handlebar must be able to move easily over the entire steering range. No resting locations should be noticeable.

» If click positions are noticeable:
  – Adjust the steering head bearing play. 🔧 (📖 p. 52)
  – Check the steering head bearing and replace if required.

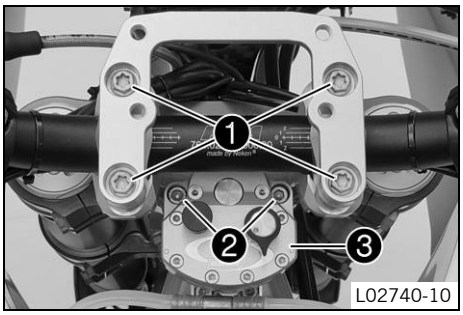
Finishing work

– Remove the motorcycle from the lift stand. (📖 p. 46)

12.10 Adjusting the steering head bearing play

Preparatory work

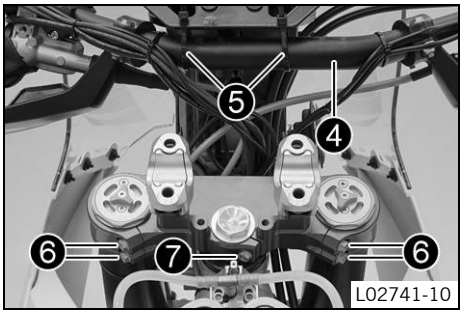
– Raise the motorcycle with a lift stand. (📖 p. 46)



Main work

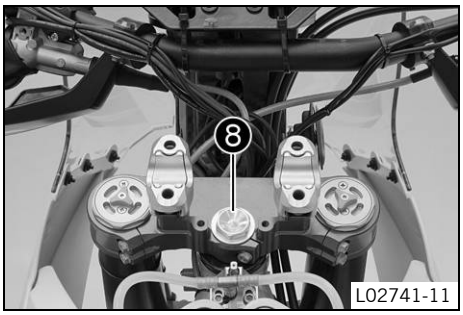
– Remove screws ❶ and take off retaining plate with handlebar clamps.

– Remove screws ❷ and take off steering damper ❸.



– Fix handlebar ❹ onto the instrument support with cable tie(s) ❺.

– Loosen screws ❻ and ❼.

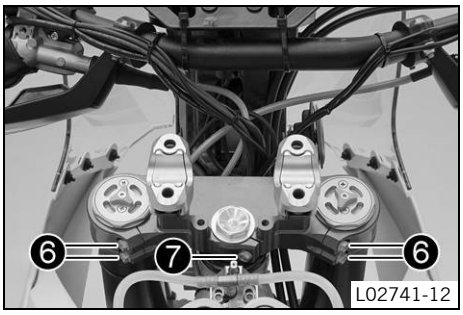


– Loosen and retighten screw ❽.

Guideline

Screw, top steering head	M20x1	12 Nm (8.9 lbf ft)

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



– Tighten screws ❻.

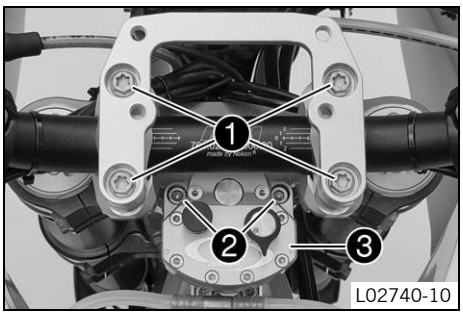
Guideline

Screw, top triple clamp	M8	17 Nm (12.5 lbf ft)

– Tighten screw ❼.

Guideline

Screw, top steering stem	M8	20 Nm (14.8 lbf ft)



– Position steering damper ❸ and mount and tighten screws ❷.

Guideline

Screw, steering damper	M6	15 Nm (11.1 lbf ft)

– Remove the cable tie(s) and place the handlebar onto the handlebar clamp base.

– Fit retaining plate with handlebar clamps, position the handlebar, and mount and tighten screws ❶.

Guideline

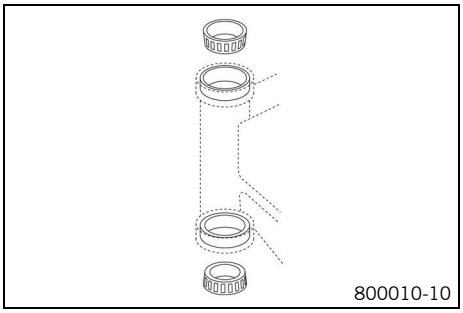
Screw, handlebar clamp	M8	16 Nm (11.8 lbf ft)

Finishing work

– Check the steering head bearing play. (📖 p. 51)

– Remove the motorcycle from the lift stand. (📖 p. 46)

12.11 Greasing the steering head bearing

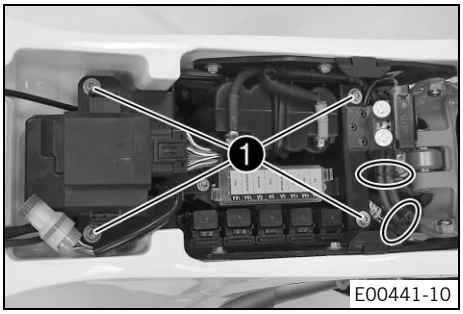


– Remove the lower triple clamp. (p. 48)
– Install the lower triple clamp. (p. 49)

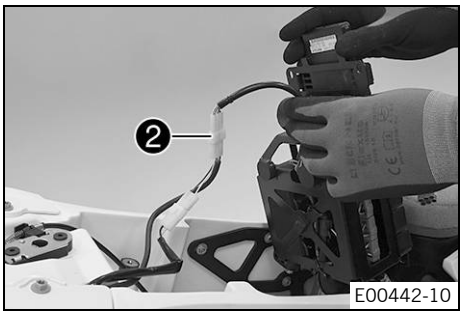
12.12 Removing the shock absorber

Preparatory work
– Raise the motorcycle with a lift stand. (p. 46)
– Remove the seat. (p. 56)
– Remove the main silencer. (p. 58)

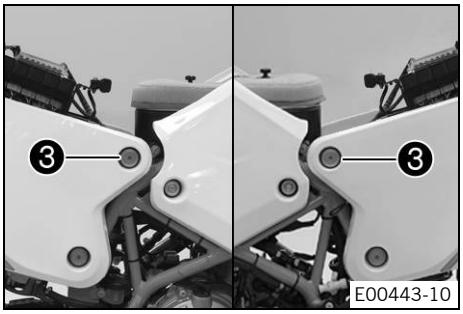
Main work



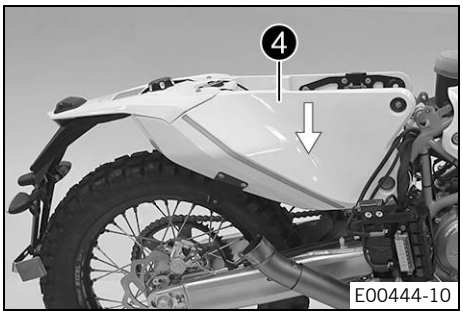
– Remove the cable ties.
– Remove screws ❶.



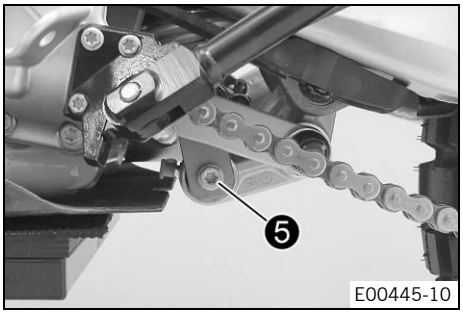
– Take off EFI control unit at the top and disconnect plug-in connector ❷.



– Remove screws ❸.

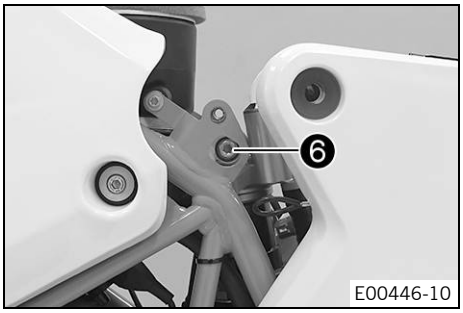


– Carefully lower rear fuel tank ❹.
– Hang the EFI control unit to one side.

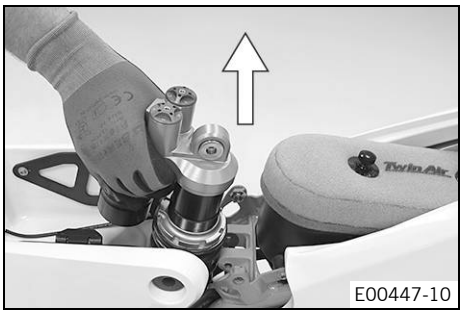


– Remove screw ❺ with the washer.

Info
Raise the wheel slightly to make it easier to remove the screw.

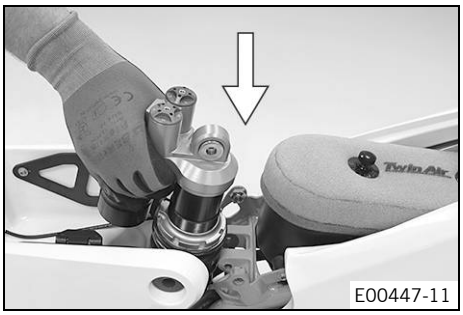


– Remove screw ❻ with the washer.

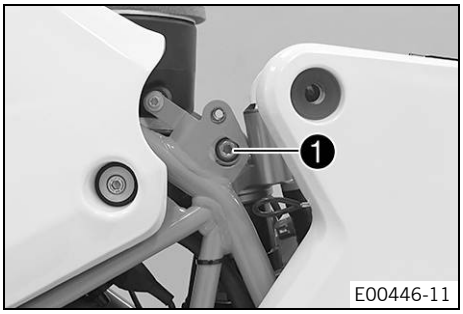


– Remove the shock absorber toward the top carefully.

12.13 Installing the shock absorber

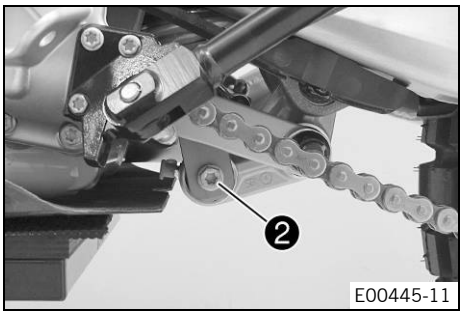


Main work
– Carefully position the shock absorber into the vehicle from above.



– Mount and tighten screw ❶ with the washer.
Guideline

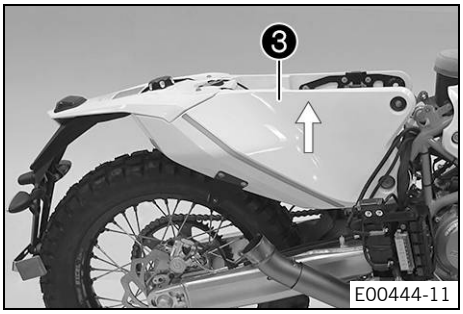
Screw connection, shock absorber, top	M10	45 Nm (33.2 lbf ft)	**Loctite® 243™**



– Mount and tighten screw ❷ with the washer.
Guideline

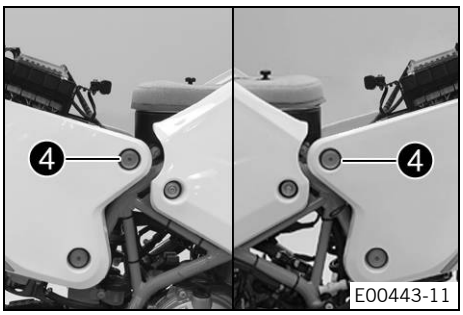
Screw connection, shock absorber, bottom	M10	45 Nm (33.2 lbf ft)	**Loctite® 243™**

Info
Raise the wheel slightly to be able to mount the screw more easily.



– Raise rear fuel tank ❸.

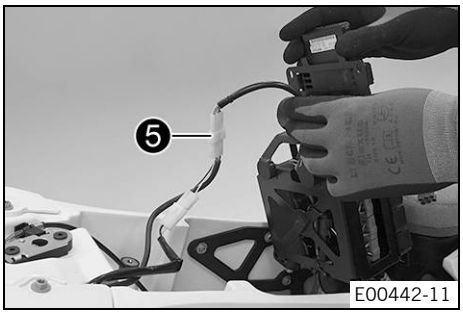
Info
Make sure the cables and EFI control unit are positioned correctly.



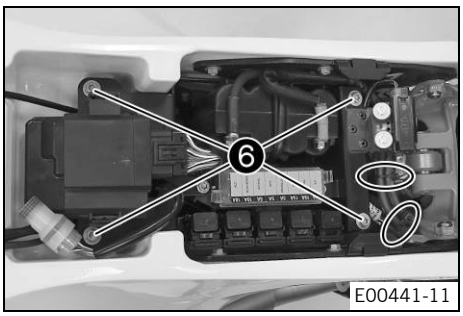
– Mount and tighten screws ❹.

Guideline

Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)



– Connect plug-in connector ❺.
– Position the EFI control unit.



– Mount and tighten screws ❻.

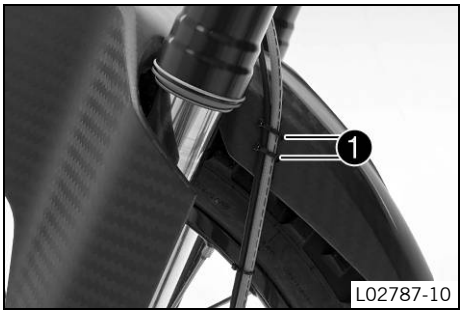
Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)

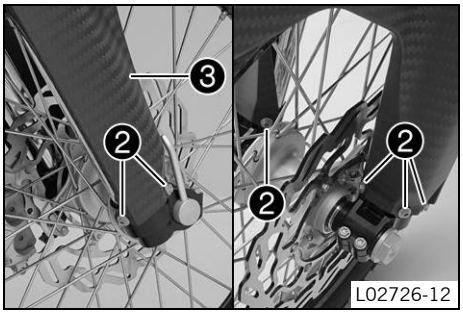
– Mount the cable ties.

Finishing work
– Install the main silencer. (📖 p. 58)
– Mount the seat. (📖 p. 56)
– Remove the motorcycle from the lift stand. (📖 p. 46)

12.14 Removing the front fender

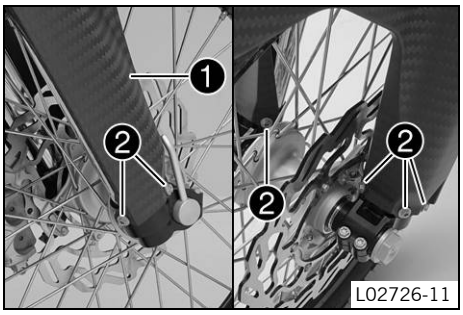


– Remove cable tie(s) ❶.



– Remove screws ❷ and take off fender ❸.

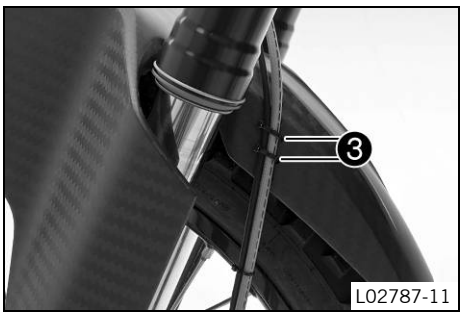
12.15 Installing the front fender



– Position fender ❶ and mount and tighten screws ❷.

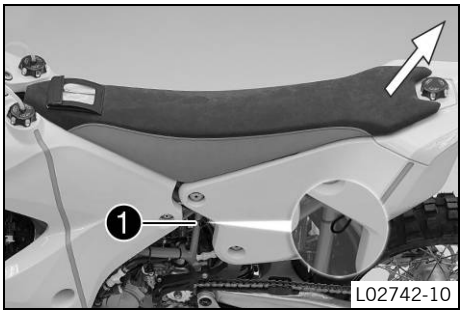
Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)



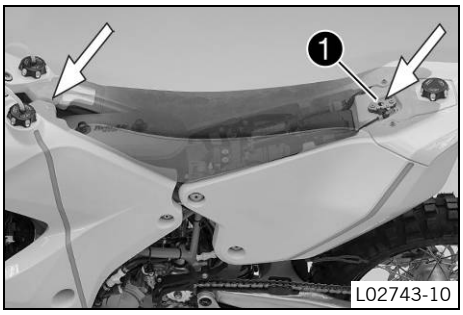
– Secure cable tie(s) ❸.

12.16 Removing the seat



– Pull on loop ❶. At the same time, lift the seat at the rear and take it off.

12.17 Mounting the seat



– Position the seat between the two front fuel tanks.
– Insert locking pin ❶ 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.

12.18 Removing the air filter

Note

Engine damage Unfiltered intake air has a negative effect on the service life of the engine.

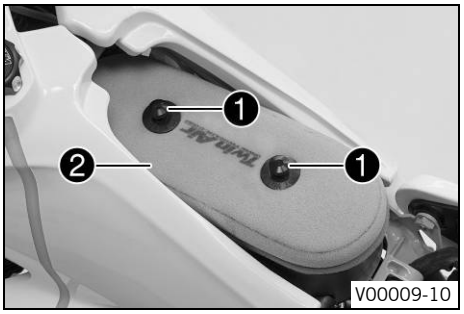
Dust and dirt will enter the engine without an air filter.

– Never start to use the vehicle without an air filter.

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.



Preparatory work

– Remove the seat. (📖 p. 56)

Main work

– Remove screws ❶.
– Remove air filter ❷.

12.19 Cleaning the air filter and air filter box

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

Do not clean the air filter with fuel or petroleum since these substances attack the foam.

Preparatory work

– Remove the seat. (📖 p. 56)
– Remove the air filter. (📖 p. 57)

Main work

– Wash the air filter thoroughly in special cleaning liquid and allow it to dry properly.

Air filter cleaner (📖 p. 133)

Info

Only press the air filter to dry it, never wring it out.

– Oil the dry air filter with a high quality filter oil.

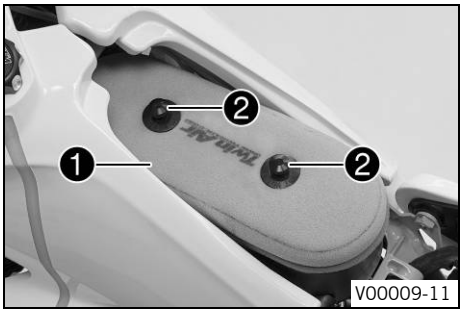
Oil for foam air filter (📖 p. 133)

– Clean the air filter box.
– Check the intake flange for damage and looseness.

Finishing work

– Install the air filter. (📖 p. 58)
– Mount the seat. (📖 p. 56)

12.20 Installing the air filter



Preparatory work
- Remove the seat. (p. 56)
- Remove the air filter. (p. 57)
- Clean the air filter and air filter box. (p. 57)

Main work
- Mount clean air filter ❶.

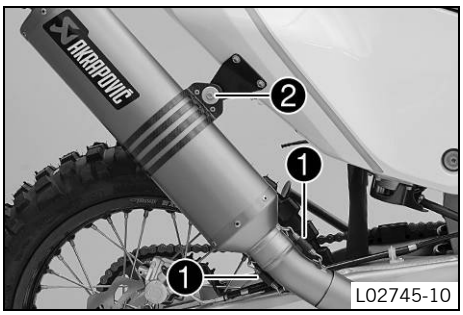
Info
The air filter must lie flush against the air filter box along the entire sealing surface.
If the air filter is not correctly mounted, dust and dirt can enter the engine and cause damage.

- Mount and tighten screws ❷.

Finishing work
- Mount the seat. (p. 56)

12.21 Removing the main silencer

Warning
Danger of burns The exhaust system gets very hot when the vehicle is driven.
- Allow the exhaust system to cool down before performing any work on the vehicle.

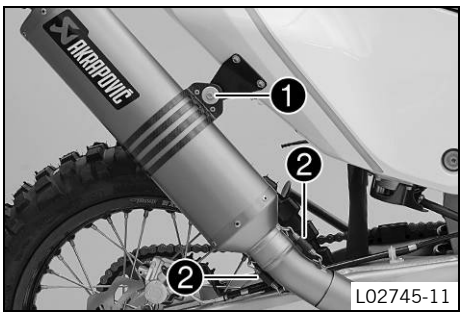


- Detach springs ❶.

Spring hook (50305017000)

- Remove screw ❷ and take off the main silencer.

12.22 Installing the main silencer



- Mount the main silencer. Mount screw ❶ but do not tighten yet.
- Attach springs ❷.

Spring hook (50305017000)

- Tighten screw ❶.

Guideline

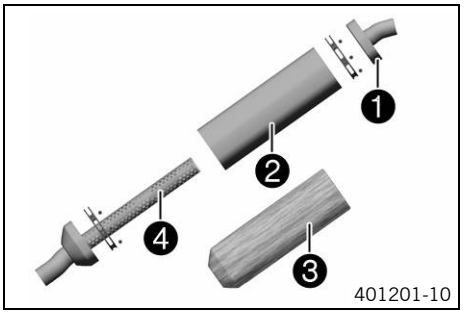
Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)

12.23 Changing the glass fiber yarn filling of the main silencer

Warning
Danger of burns The exhaust system gets very hot when the vehicle is driven.
- Allow the exhaust system to cool down before performing any work on the vehicle.

Info
Over a period, the fibers of the insulating material escape into the air, and the silencer "burns out".
Not only is the noise level higher, the performance characteristic changes.

Preparatory work
- Remove the main silencer. (p. 58)



Main work

– Drill out all rivets on the main silencer and remove the steel bands. Carefully remove the rivets in inward direction.

Info
Remove all remains of rivets from the inside of the main silencer.

– Take off silencer cap ❶ and outer tube ❷.
– Pull glass fiber yarn filling ❸ off of inner tube ❹.
– Clean the parts that need to be reinstalled and check for damage.
– Wind adhesive tape around the end of inner tube ❹.
– Mount new glass fiber yarn filling ❸ on inner tube ❹.
– Remove adhesive tape from inner tube ❹.
– Slide outer tube ❷ over the glass fiber yarn filling ❸.
– Insert silencer cap ❶ into the outer tube.
– Position the steel bands and mount new rivets.

Finishing work

– Install the main silencer. (📖 p. 58)

12.24 Removing the front left fuel tank

Danger
Fire hazard Fuel is highly flammable.
The fuel in the fuel tank expands when warm and can escape if overfilled.

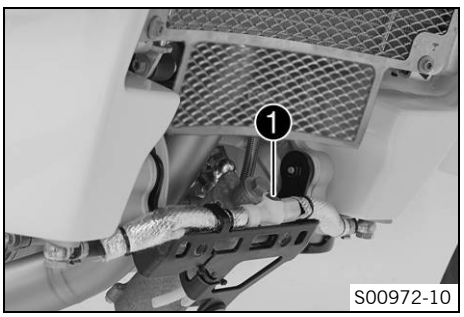
– Do not refuel the vehicle in the vicinity of open flames or lit cigarettes.
– Switch off the engine for refueling.
– Make sure that no fuel is spilled; particularly not on hot parts of the vehicle.
– If any fuel is spilled, wipe it off immediately.
– Observe the specifications for refueling.

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.

Preparatory work

– Remove the seat. (📖 p. 56)
– Remove the trim. (📖 p. 70)
– Remove the engine guard. (📖 p. 71)

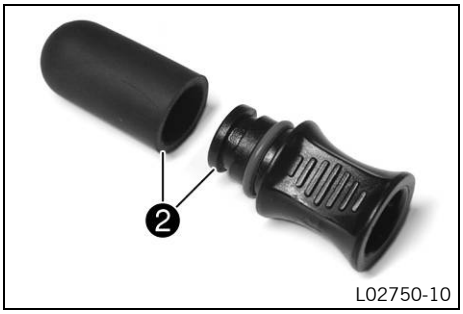


Main work

– Clean plug-in connection ❶ of the fuel line thoroughly with compressed air.

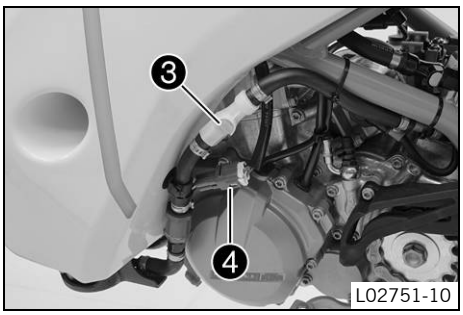
Info
Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line clogs the injection valve!

– Disconnect the plug-in connection of the fuel line and remove it from the holder.



– Mount wash cap set ❷ from the separate enclosure.

Wash cap set (81212016100)

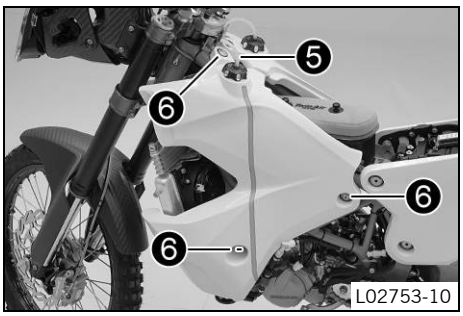


– Clean plug-in connection ❸ of the fuel line thoroughly with compressed air.

Info
Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line clogs the injection valve!

– Disconnect the plug-in connection of the fuel line.
– Mount the wash cap set from the separate enclosure.

Wash cap set (81212016100)



– Disconnect plug-in connection ❹ of the fuel pump.
– Detach fuel tank breather hose ❺.
– Remove screws ❻.
– Take off the fuel tank.

Info
Set the fuel tank down in an upright position as otherwise fuel can escape from the fuel tank breather at the filler cap.

12.25 Removing the front right fuel tank

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.

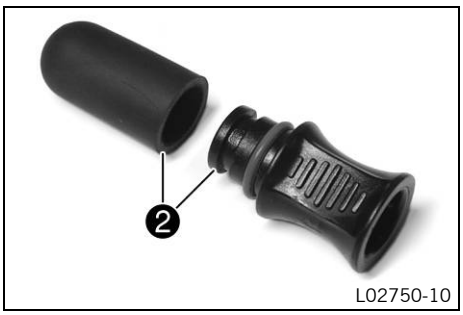
Preparatory work
– Remove the seat. (📖 p. 56)
– Remove the trim. (📖 p. 70)
– Remove the engine guard. (📖 p. 71)

Main work

– Clean plug-in connection ❶ of the fuel line thoroughly with compressed air.

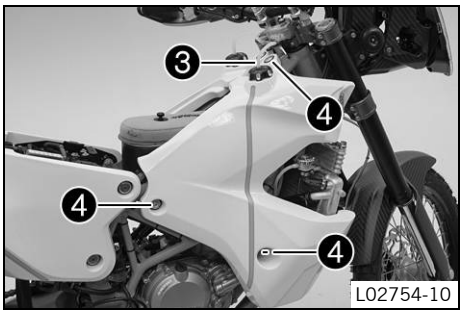
Info
Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line clogs the injection valve!

– Disconnect the plug-in connection of the fuel line and remove it from the holder.



– Mount wash cap set ❷ from the separate enclosure.

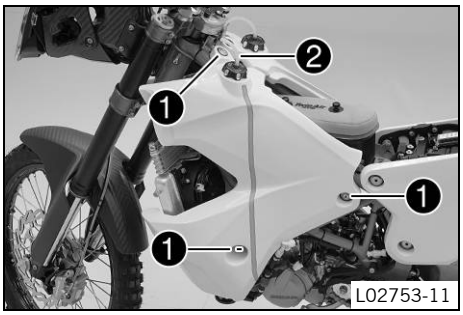
Wash cap set (81212016100)



– Detach fuel tank breather hose ❸.
– Remove screws ❹.
– Take off the fuel tank.

Info
Set the fuel tank down in an upright position as otherwise fuel can escape from the fuel tank breather at the filler cap.

12.26 Installing the front left fuel tank



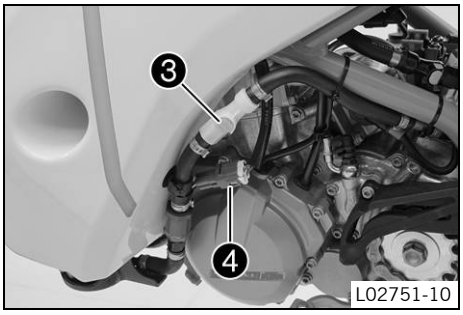
Main work

– Position the fuel tank, and mount and tighten screws ❶.

Guideline

Screw, front fuel tank	M8	8 Nm (5.9 lbf ft)

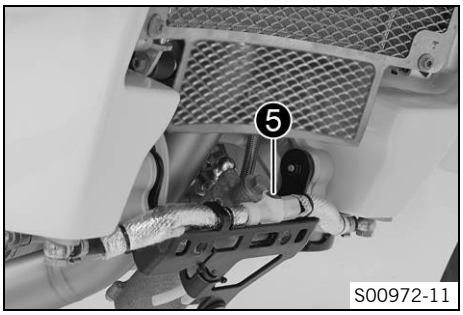
– Mount fuel tank breather hose ❷.



– Remove the wash cap set.
– Clean plug-in connection ❸ of the fuel line thoroughly with compressed air.

Info
Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line clogs the injection valve!

– Lubricate the O-ring and connect plug-in connection of the fuel line.
– Connect the plug-in connection of fuel pump ❹.



– Remove the wash cap set.
– Clean plug-in connection ❺ of the fuel line thoroughly with compressed air.

Info
Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line clogs the injection valve!

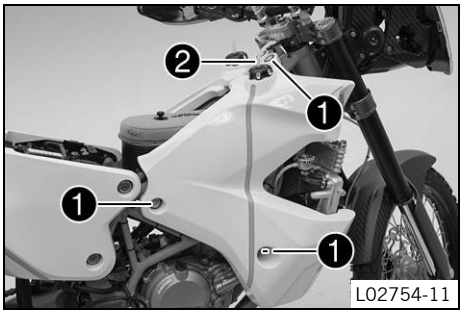
– Lubricate the O-ring and connect plug-in connection of the fuel line.

– Position the fuel line in the holder.

Finishing work

– Install the engine guard. (📖 p. 72)
– Mount the trim. (📖 p. 71)
– Mount the seat. (📖 p. 56)

12.27 Installing the front right fuel tank



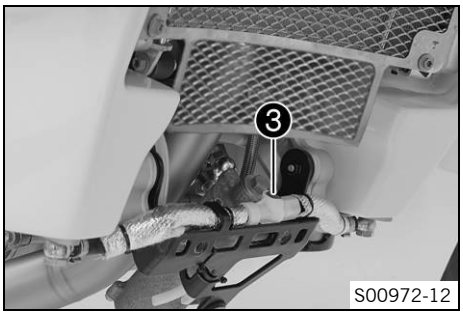
Main work

– Position the fuel tank, and mount and tighten screws ❶.

Guideline

Screw, front fuel tank	M8	8 Nm (5.9 lbf ft)

– Mount fuel tank breather hose ❷.



– Remove the wash cap set.
– Clean plug-in connection ❸ of the fuel line thoroughly with compressed air.

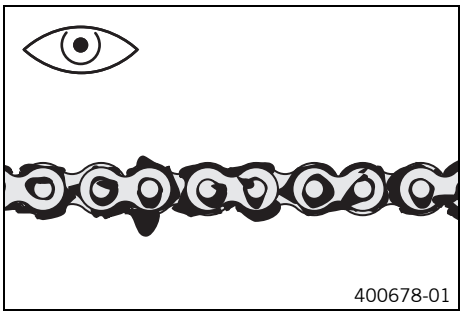
Info
Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line clogs the injection valve!

– Lubricate the O-ring and connect plug-in connection of the fuel line.
– Position the fuel line in the holder.

Finishing work

– Install the engine guard. (📖 p. 72)
– Mount the trim. (📖 p. 71)
– Mount the seat. (📖 p. 56)

12.28 Checking the chain for dirt accumulation



– Check the chain for coarse dirt accumulation.
  » If the chain is very dirty:
    – Clean the chain. (📖 p. 62)

12.29 Cleaning the chain

Warning
Danger of accidents Oil or grease on the tires reduces the road grip.

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

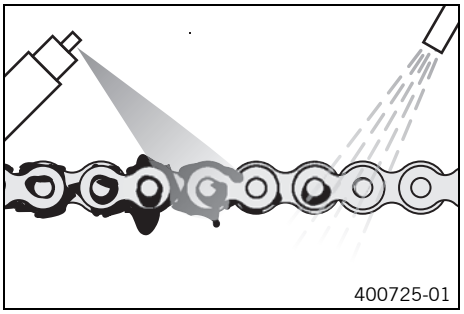
Warning
Danger of accidents Oil or grease on the brake discs reduces the braking effect.

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

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



Preparatory work
– Raise the motorcycle with a lift stand. (📖 p. 46)

Main work
– Clean the chain regularly and then treat with chain spray.

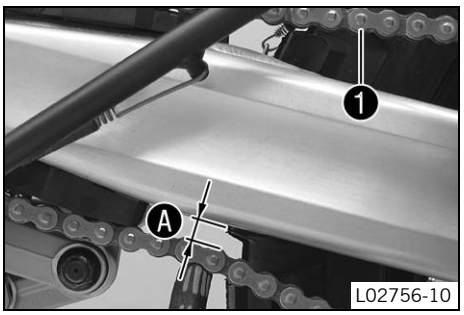
Chain cleaner (📖 p. 133)
Off-road chain spray (📖 p. 133)

Finishing work
– Remove the motorcycle from the lift stand. (📖 p. 46)

12.30 Checking the chain tension

Warning
Danger of accidents Incorrect chain tension damages components and results in accidents.
If the chain is tensioned too much, the chain, engine sprocket, rear sprocket, transmission and rear wheel bearings wear more quickly. Some components may break if overloaded.
If the chain is too loose, the chain may fall off the engine sprocket or the rear sprocket. As a result, the rear wheel locks or the engine will be damaged.

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



Preparatory work
– Raise the motorcycle with a lift stand. (📖 p. 46)

Main work
– Push the chain upward at the end of the chain sliding guard to measure chain tension Ⓐ.

Info
The upper chain section ❶ must be taut.
Chain wear is not always even, so you should repeat this measurement at different chain positions.

Chain tension	7 mm

» If the chain tension does not meet specifications:
– Adjust the chain tension. (📖 p. 63)

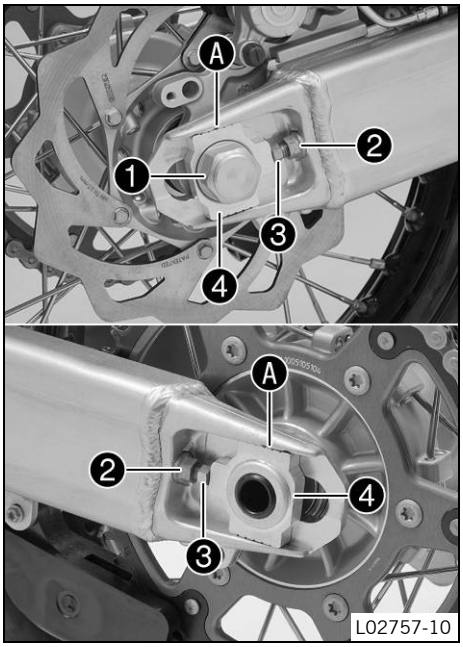
Finishing work
– Remove the motorcycle from the lift stand. (📖 p. 46)

12.31 Adjusting the chain tension

Warning
Danger of accidents Incorrect chain tension damages components and results in accidents.
If the chain is tensioned too much, the chain, engine sprocket, rear sprocket, transmission and rear wheel bearings wear more quickly. Some components may break if overloaded.
If the chain is too loose, the chain may fall off the engine sprocket or the rear sprocket. As a result, the rear wheel locks or the engine will be damaged.

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

Preparatory work
– Raise the motorcycle with a lift stand. (📖 p. 46)



Main work

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

Guideline

Chain tension	7 mm
Turn adjusting screws ❸ on the left and right so that the markings on the left and right chain adjusters are in the same position relative to reference marks Ⓐ. The rear wheel is then correctly aligned.	

Info
The upper part of the chain must be taut.
Chain wear is not always even. Repeat this measurement at different chain positions.

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

Guideline

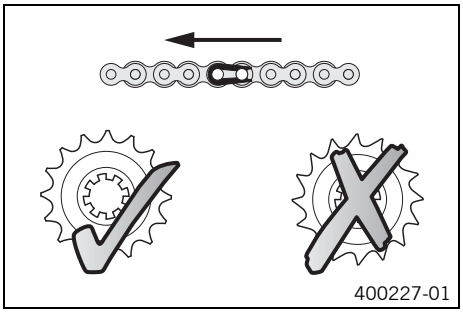
Nut, rear wheel spindle	M25x1.5	90 Nm (66.4 lbf ft)

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

Finishing work

– Remove the motorcycle from the lift stand. (📖 p. 46)

12.32 Checking the chain, rear sprocket, engine sprocket, and chain guide



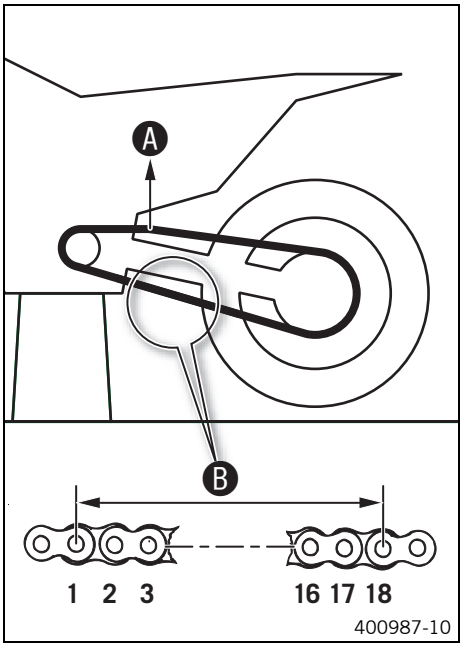
Preparatory work

– Raise the motorcycle with a lift stand. (📖 p. 46)

Main work

– Shift gear to neutral.
– Check the rear sprocket and engine sprocket for wear.
  » If the rear sprocket and engine sprocket are worn:
    – Change the drivetrain kit. 🔧

Info
The engine sprocket, rear sprocket, and chain should always be replaced together.



– Pull on the upper part of the chain with the specified weight Ⓐ.

Guideline

Weight, chain wear measurement	10... 15 kg (22... 33 lb.)

– Measure the distance Ⓑ of 18 chain links in the lower chain section.

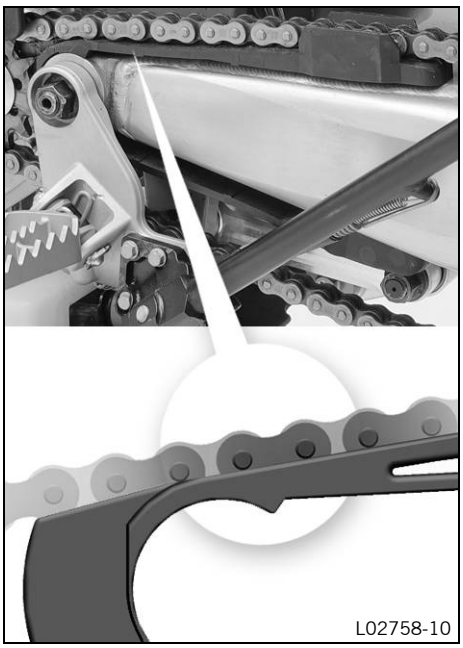
Info
Chain wear is not always even, so you should repeat this measurement at different chain positions.

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

» If the distance Ⓑ is greater than the specified measurement:

– Change the drivetrain kit.

Info
When the chain is replaced, the rear sprocket, and engine sprocket should also be changed.
New chains wear out faster on old, worn sprockets.



– Check the chain sliding guard for wear.

» If the bottom edge of the chain bolt is in line with or below the chain sliding guard:

– Change the chain sliding guard.

– Check that the chain sliding guard is firmly seated.

» If the chain sliding guard is loose:

– Tighten the chain sliding guard.

Guideline

Screw, chain sliding guard	M6	6 Nm (4.4 lbf ft)	**Loctite® 243™**

– Check the chain sliding piece for wear.

» If the bottom edge of the chain bolt is in line with or below the chain sliding piece:

– Change the chain sliding piece.

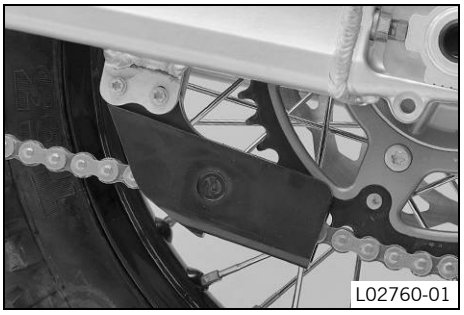
– Check that the chain sliding piece is firmly seated.

» If the chain sliding piece is loose:

– Tighten the chain sliding piece.

Guideline

Screw, chain sliding piece	M8	15 Nm (11.1 lbf ft)


L02760-01

– Check the chain guide for wear.

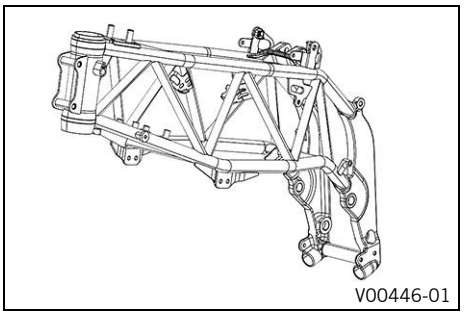
Info
Wear is visible on the front of the chain guide.

» If the chain guide is worn:
– Change the chain guide.
– Check that the chain guide is firmly seated.
» If the chain guide is loose:
– Tighten the chain guide.
Guideline

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

Finishing work
– Remove the motorcycle from the lift stand. (📖 p. 46)

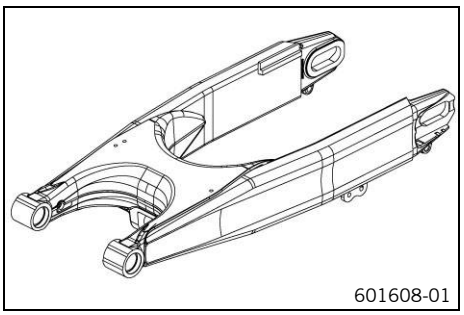
12.33 Checking the frame


V00446-01

– Check the frame for cracks and deformation.
» If the frame exhibits cracks or deformation due to a mechanical impact:
– Change the frame.

Info
A frame that has been damaged due to a mechanical impact must always be changed. Repair of the frame is not authorized by KTM.

12.34 Checking the swingarm


601608-01

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

Info
A damaged swingarm must always be changed. Repair of the swingarm is not authorized by KTM.

12.35 Checking the throttle cable routing

Preparatory work
– Remove the seat. (📖 p. 56)
– Remove the trim. (📖 p. 70)
– Remove the engine guard. (📖 p. 71)
– Remove the front right fuel tank. (📖 p. 60)


E00453-01

Main work

– Check the throttle cable routing.

Both throttle cables must be routed side by side behind the handlebars and between the right fork leg and frame toward the throttle valve body.

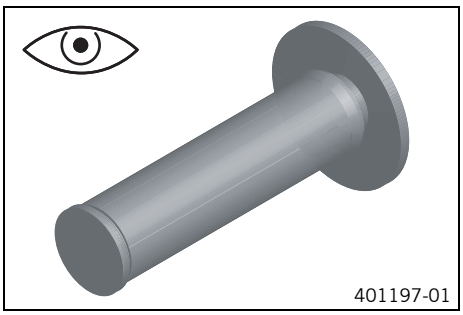
» If the throttle cable is not routed as specified:

– Correct the throttle cable routing.

Finishing work

– Install the front right fuel tank. (p. 62)
– Install the engine guard. (p. 72)
– Mount the trim. (p. 71)
– Mount the seat. (p. 56)

12.36 Checking the rubber grip


401197-01

– Check the rubber grips on the handlebar for damage, wear, and looseness.

» If a rubber grip is damaged, worn, or loose:

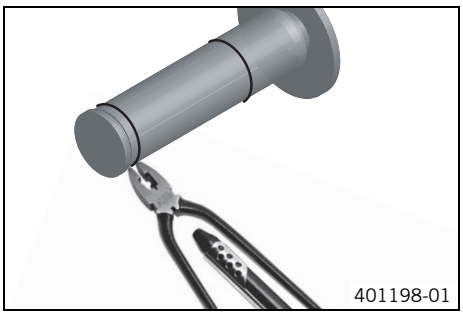
– Change and secure the rubber grip.

Grip adhesive (00062030051) (p. 133)

12.37 Additionally securing the rubber grip

Preparatory work

– Check the rubber grip. (p. 67)


401198-01

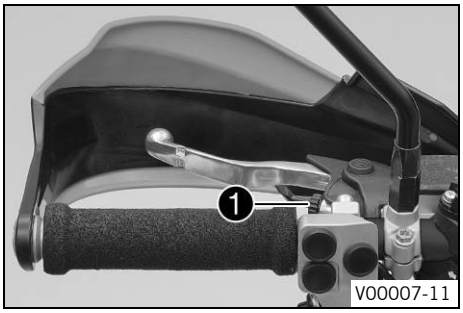
Main work

– Secure the rubber grip at two points using the securing wire.

Securing wire (54812016000)
Wire twister forceps (00029015000)

✓ The twisted wire ends face away from the hands and are bent toward the rubber grip.

12.38 Adjusting the basic position of the clutch lever



– Adjust the basic setting of the clutch lever to your hand size by turning adjusting screw 1.

Info

Turn the adjusting screw clockwise to increase the distance between the clutch lever and the handlebar.
Turn the adjusting screw counterclockwise to decrease the distance between the clutch lever and the handlebar.
The range of adjustment is limited.
Turn the adjusting screw by hand only, and do not apply any force.
Do not make any adjustments while riding!

12.39 Checking/correcting the fluid level of the hydraulic clutch

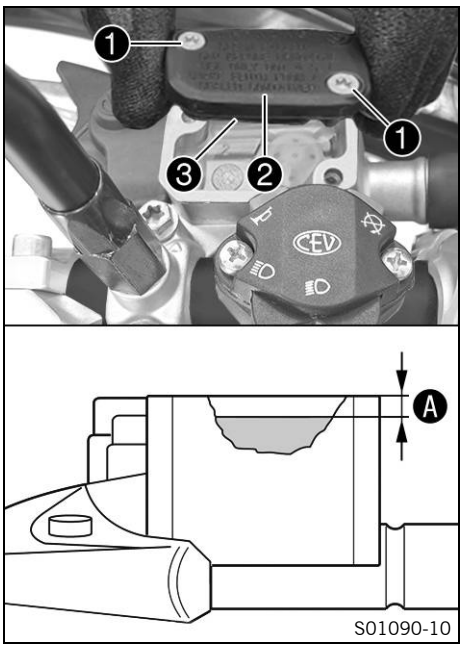
Warning

Skin irritation Brake fluid causes skin irritation.

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

Info

The fluid level rises with increasing wear of the clutch facing discs.
Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and clutch lines are not designed for DOT 5 brake fluid.
Avoid contact between brake fluid and painted parts. Brake fluid attacks paint.
Only use clean brake fluid from a sealed container.



– Move the clutch fluid reservoir mounted on the handlebar to a horizontal position.
– Remove screws 1.
– Remove cover 2 with membrane 3.
– Check the fluid level.

Fluid level A below container rim	4 mm (0.16 in)

» If the level of the fluid does not meet specifications:
– Correct the fluid level of the hydraulic clutch.

Brake fluid DOT 4 / DOT 5.1 (📖 p. 132)

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

Info

Clean up overflowed or spilled brake fluid immediately with water.

12.40 Changing the hydraulic clutch fluid

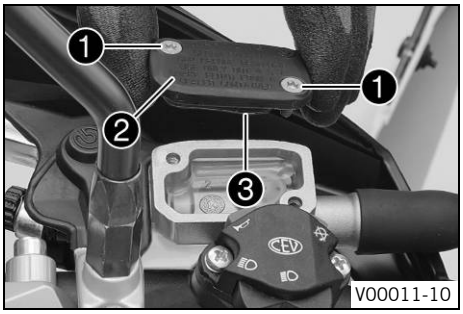
Warning
Skin irritation Brake fluid causes skin irritation.

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

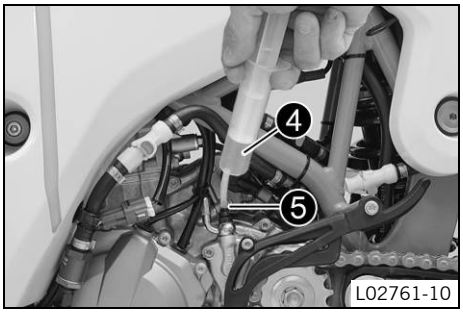
Warning
Environmental hazard Hazardous substances cause environmental damage.

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

Info
Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and clutch lines are not designed for DOT 5 brake fluid.
Avoid contact between brake fluid and painted parts. Brake fluid attacks paint.
Only use clean brake fluid from a sealed container.



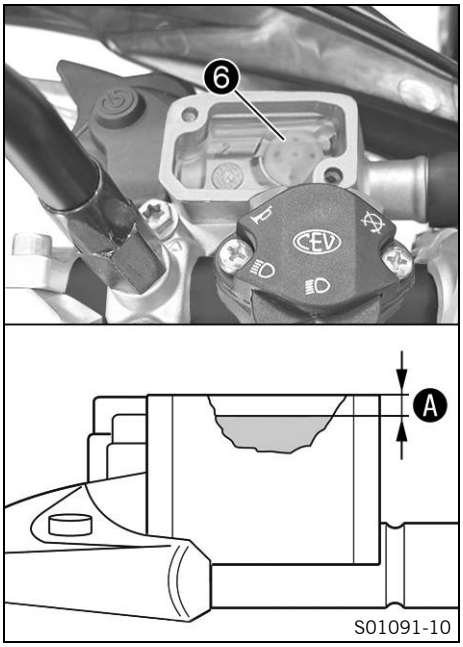
- Move the clutch fluid reservoir mounted on the handlebar to a horizontal position.
- Remove screws ❶.
- Remove cover ❷ with membrane ❸.



- Fill bleeding syringe ❹ with the appropriate hydraulic fluid.

Bleed syringe (50329050000)
Brake fluid DOT 4 / DOT 5.1 (📖 p. 132)

- On the slave cylinder, remove bleeder screw ❺ and mount bleeding syringe ❹.



– Inject the liquid into the system until it escapes from openings ❻ of the master cylinder without bubbles.
– Now and then, extract fluid from the master cylinder reservoir to prevent overflow.
– Remove bleeding syringe ❹. Mount and tighten bleeder screw ❺.
– Correct the fluid level of the hydraulic clutch.

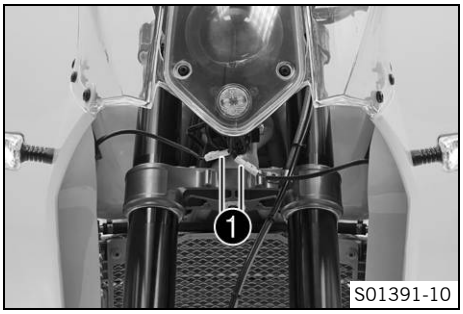
Guideline

Fluid level Ⓐ below container rim	4 mm (0.16 in)

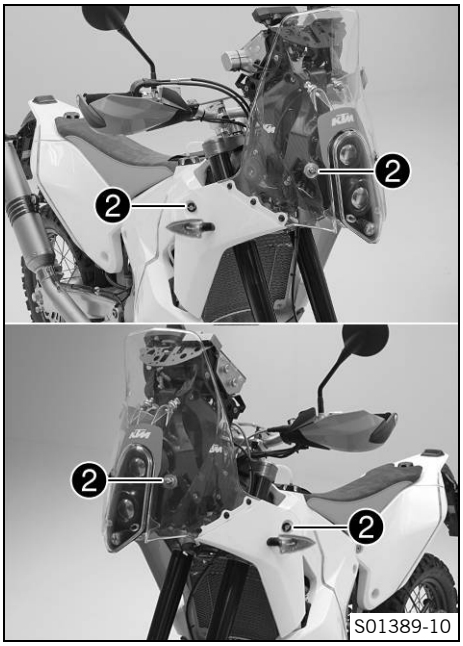
– Position cover ❷ with membrane ❸. Mount and tighten screws ❶.

Info
Clean up overflowed or spilled brake fluid immediately with water.

12.41 Removing the trim



– Disconnect plug-in connectors ❶ of the turn signals.

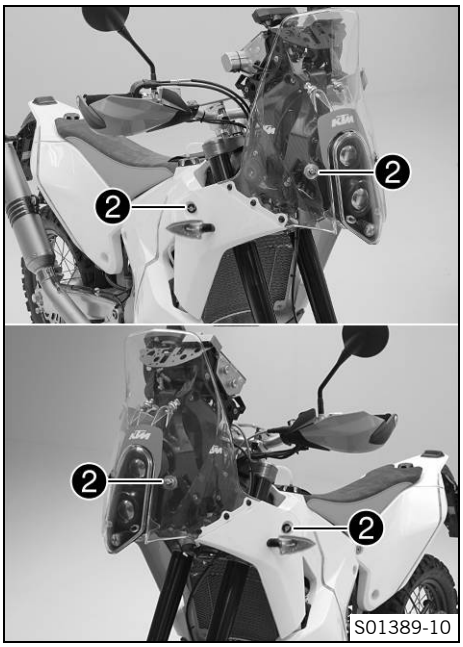


– Unlock quick releases ❷.

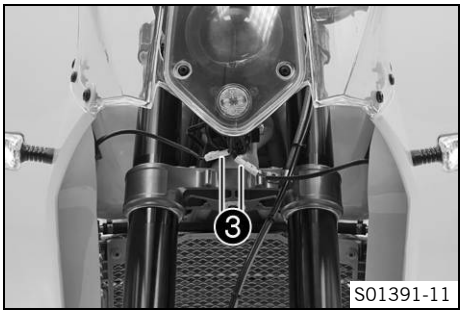
– Swing the trim forward and take it off.

12.42 Mounting the trim

– Position the trim on the opposite part of the radiator.
– Swing the trim upward and hook into guides ❶.

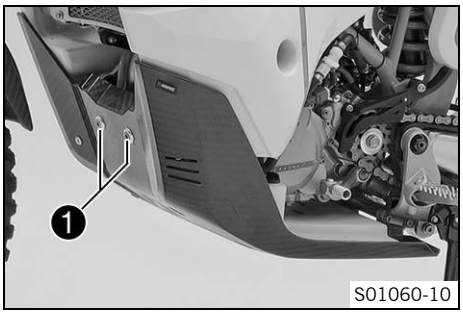


– Lock quick releases ❷.



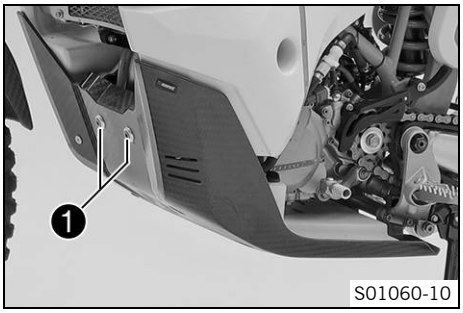
– Connect plug-in connectors ❸ of the turn signals.

12.43 Removing the engine guard



– Remove screws ❶ with the washers. Take off the engine guard to the front.

12.44 Installing the engine guard



– Position the engine guard.
– Mount and tighten screws ❶ with the washers.

Guideline

Screw, engine guard	M8	25 Nm (18.4 lbf ft)	**Loctite® 243™**

13.1 Checking the free travel on the hand brake lever

Warning

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

If there is no free travel on the hand brake lever, pressure builds up on the front brake circuit.

– Set the free travel on the hand brake lever in accordance with the specification.

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

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

» If the free travel does not meet specifications:

– Adjust the free travel of the handbrake lever. (📖 p. 73)

13.2 Adjusting the free travel of the handbrake lever

– Check the free travel on the hand brake lever. (📖 p. 73)

– Adjust the free travel of the handbrake lever with adjustment screw ❶.

Info

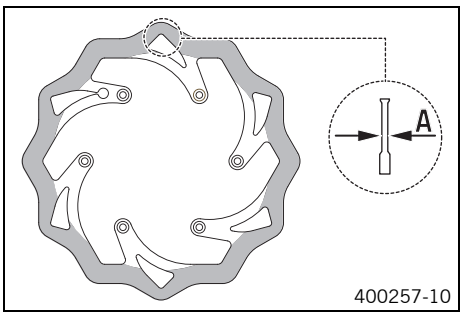
Turn the adjusting screw clockwise to reduce free travel. The pressure point moves away from the handlebar.
Turn the adjusting screw counterclockwise to increase free travel. The pressure point moves towards the handlebar.
The range of adjustment is limited.
Turn the adjusting screw by hand only, and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

13.3 Checking the brake discs

Warning

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

– Make sure that worn-out brake discs are replaced immediately. (Your authorized KTM workshop will be glad to help.)



– Check the thickness of the front and rear brake discs at several places on the disc to see if it conforms to measurement Ⓐ.

Info

Wear reduces the thickness of the brake disc around the area used by the brake linings.

Brake discs - wear limit	
Front	3.4 mm (0.134 in)
Rear	3.4 mm (0.134 in)

» If the brake disc thickness is less than the specified value.

– Change the brake disc.

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

» If damage, cracks, or deformation are visible on the brake disc:

– Change brake disc.

13.4 Checking the front brake fluid level

Warning

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

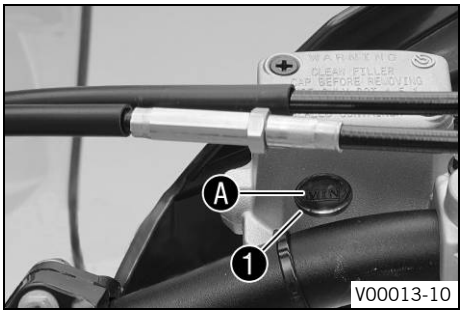
If the brake fluid level drops below the specified marking or the specified value, the brake system is leaking or the brake linings are worn down.

– Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)

Warning

Danger of accidents Old brake fluid reduces the braking effect.

– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)



– Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
– Check the brake fluid level in the viewer 1.
  » If the brake fluid has dropped below marking A:
    – Add front brake fluid. 🔧 (📖 p. 74)

13.5 Adding front brake fluid 🔧

Warning

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

If the brake fluid level drops below the specified marking or the specified value, the brake system is leaking or the brake linings are worn down.

– Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)

Warning

Skin irritation Brake fluid causes skin irritation.

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

Warning

Danger of accidents Old brake fluid reduces the braking effect.

– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)

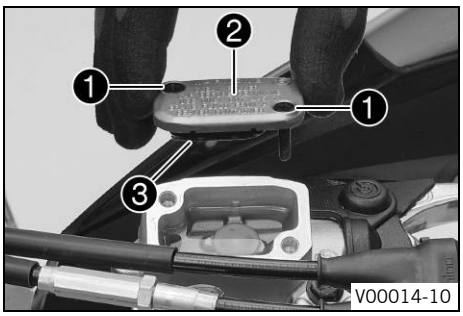
Warning

Environmental hazard Hazardous substances cause environmental damage.

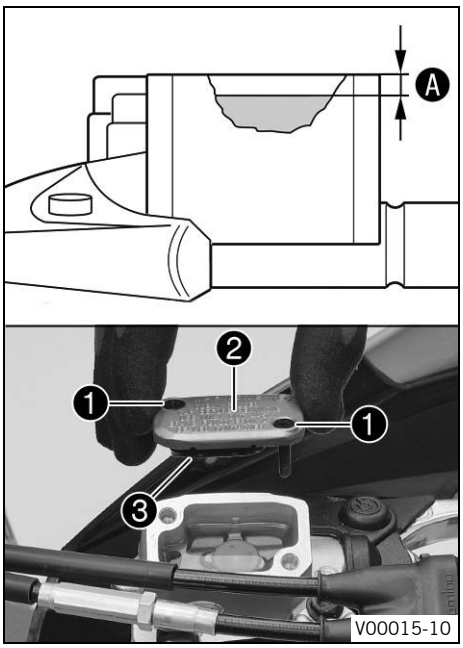
– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

Info

Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and brake lines are not designed for DOT 5 brake fluid.
Avoid contact between brake fluid and painted parts. Brake fluid attacks paint.
Only use clean brake fluid from a sealed container.



– Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
– Remove screws ❶.
– Remove cover ❷ with membrane ❸.



– Add brake fluid to level Ⓐ.

Brake fluid DOT 4 / DOT 5.1 (📖 p. 132)

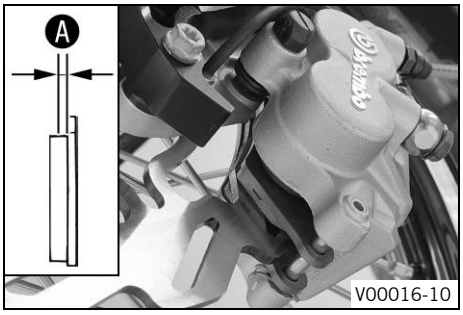
– Position cover ❷ with membrane ❸.
– Mount and tighten screws ❶.

Info
Clean up overflowed or spilled brake fluid immediately with water.

13.6 Checking the front brake linings

Warning
Danger of accidents Worn-out brake linings reduce the braking effect.
– Ensure that worn-out brake linings are replaced immediately. (Your authorized KTM workshop will be glad to help.)

Note
Danger of accidents Reduced braking efficiency caused by damaged brake discs.
– If the brake linings are not changed in time, the steel brake lining carriers grind on the brake disc. The braking effect is greatly reduced and the brake discs are destroyed. Check the brake linings regularly.



– Check the brake linings for minimum thickness Ⓐ.

Minimum thickness Ⓐ	≥ 1 mm (≥ 0.04 in)

» If the minimum thickness is less than specified:
– Change the front brake linings. 🔧 (📖 p. 76)
– Check the brake linings for damage and cracking.
» If damage or cracking is visible:
– Change the front brake linings. 🔧 (📖 p. 76)

13.7 Changing the front brake linings

Warning
Danger of accidents Incorrect maintenance will cause the brake system to fail.

– Ensure that service work and repairs are performed professionally. (Your authorized KTM workshop will be glad to help.)

Warning
Skin irritation Brake fluid causes skin irritation.

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

Warning
Danger of accidents Old brake fluid reduces the braking effect.

– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)

Warning
Danger of accidents Oil or grease on the brake discs reduces the braking effect.

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

Warning
Danger of accidents Brake linings which have not been approved alter the braking efficiency.

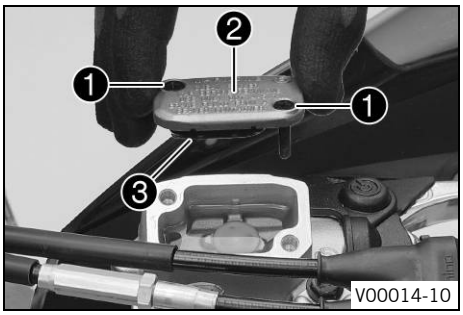
Not all brake linings are tested and approved for KTM motorcycles. The structure and friction coefficient of the brake linings, and thus their brake power, may vary greatly from that of original brake linings.
If brake linings are used that differ from the original equipment, compliance with the original homologation is not guaranteed. In this case, the vehicle no longer corresponds to its condition at delivery and the warranty shall be void.

– Only use brake linings approved and recommended by KTM.

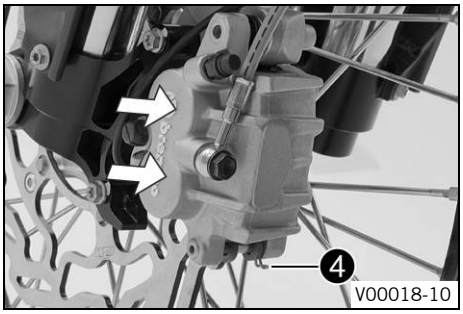
Warning
Environmental hazard Hazardous substances cause environmental damage.

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

Info
Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and brake lines are not designed for DOT 5 brake fluid.
Avoid contact between brake fluid and painted parts. Brake fluid attacks paint.
Only use clean brake fluid from a sealed container.



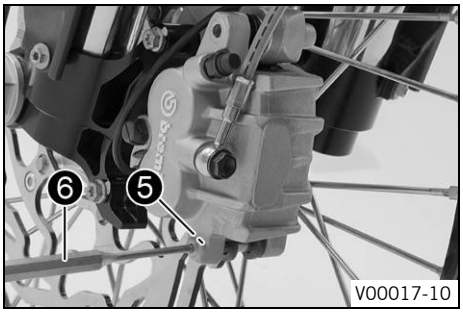
– Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
– Remove screws ❶.
– Remove cover ❷ with membrane ❸.



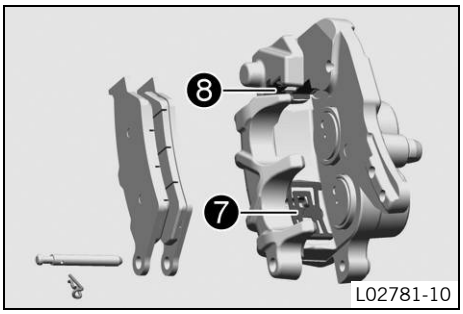
– Press the brake caliper onto the brake disc by hand in order to push back the brake pistons. Ensure that brake fluid does not overflow from the brake fluid reservoir, using suction to remove it if it does.

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

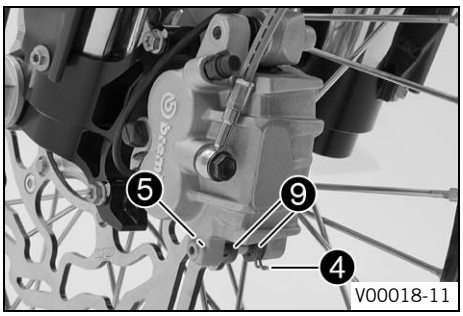
– Remove cotter pin ❹.



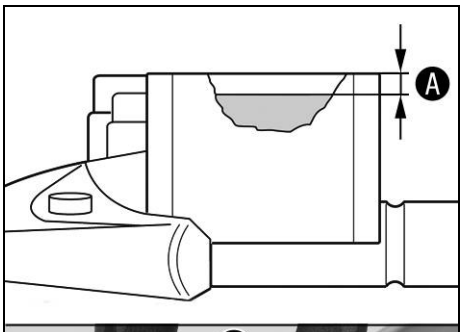
– Drive out pin ❺ with drift ❻ toward the rim and remove the brake linings.

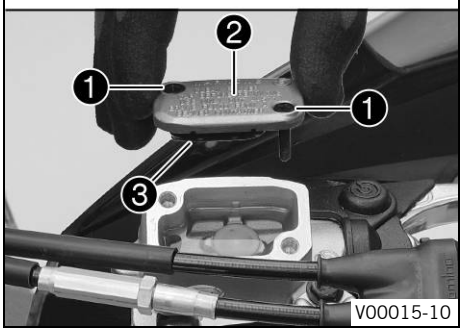


– Clean the brake caliper and brake caliper support.
– Check that leaf spring ❼ in the brake caliper and sliding plate ❽ in the brake caliper support are seated correctly.



– Insert the new brake linings ❾, insert pin ❺, and mount cotter pin ❹.





– Operate the hand brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point.
– Add brake fluid up to level Ⓐ.

Guideline

Level Ⓐ	5 mm (0.2 in)

Brake fluid DOT 4 / DOT 5.1 (📖 p. 132)

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

Info
Clean up overflowed or spilled brake fluid immediately with water.

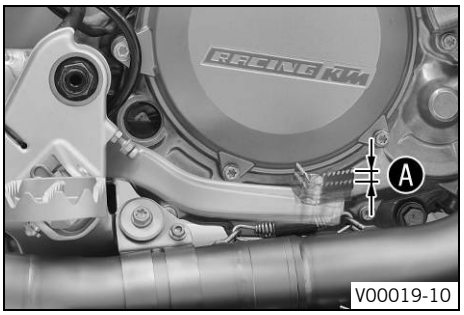
13.8 Checking the free travel of the foot brake lever

Warning

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

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

– Set the free travel on the foot brake lever in accordance with the specification.



– Detach the spring from the foot brake lever.
– Move the foot brake lever back and forth between the end stop and the contact to the foot brake cylinder piston and check free travel Ⓐ.

Guideline

Free travel at the foot brake lever	3... 5 mm (0.12... 0.2 in)

» If the free travel does not meet specifications:
– Adjust the free travel of the foot brake lever. 🔧 (📖 p. 78)

– Attach the spring to the foot brake lever.

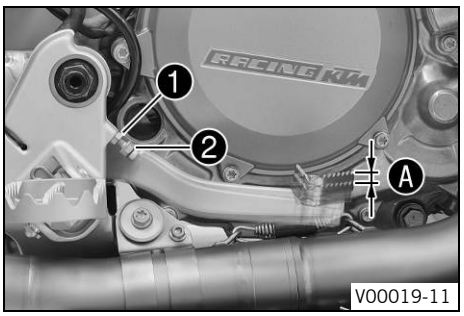
13.9 Adjusting the free travel of the foot brake lever 🔧

Warning

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

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

– Set the free travel on the foot brake lever in accordance with the specification.



– Loosen nut ❶ and use screw ❷ to adjust free travel Ⓐ.

Guideline

Free travel at the foot brake lever	3... 5 mm (0.12... 0.2 in)

– Hold screw ❷ and tighten nut ❶.

Guideline

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

13.10 Checking the rear brake fluid level

Warning

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

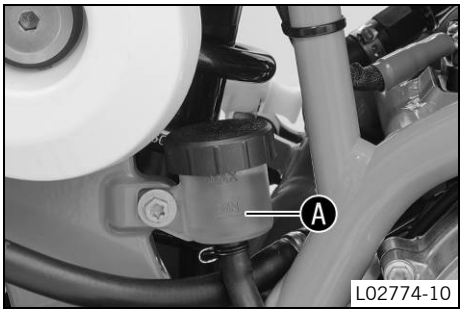
If the brake fluid level drops below the **MIN** marking, the brake system is leaking or the brake linings are worn down.

– Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)

Warning

Danger of accidents Old brake fluid reduces the braking effect.

– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)



– Stand the vehicle upright.
– Check the brake fluid level in the brake fluid reservoir.
» If the fluid level reaches the **MIN** marking Ⓐ:
– Add rear brake fluid. 🔧 (📖 p. 79)

13.11 Adding rear brake fluid

Warning
Danger of accidents An insufficient brake fluid level will cause the brake system to fail.
If the brake fluid level drops below the **MIN** marking, the brake system is leaking or the brake linings are worn down.

– Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)

Warning
Skin irritation Brake fluid causes skin irritation.

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

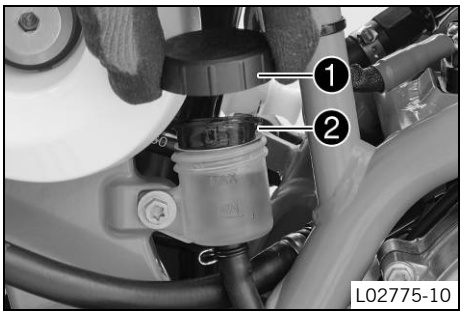
Warning
Danger of accidents Old brake fluid reduces the braking effect.

– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)

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
Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and brake lines are not designed for DOT 5 brake fluid.
Avoid contact between brake fluid and painted parts. Brake fluid attacks paint.
Only use clean brake fluid from a sealed container.



– Stand the vehicle upright.
– Remove screw cap ❶ with the washer and membrane ❷.
– Add brake fluid to the **MAX** level.

Brake fluid DOT 4 / DOT 5.1 (📖 p. 132)

– Mount the screw cap with the washer and membrane.

Info
Clean up overflowed or spilled brake fluid immediately with water.

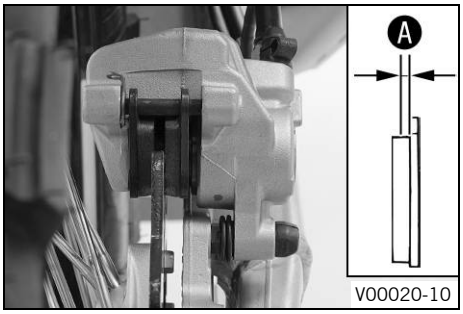
13.12 Checking the rear brake linings

Warning
Danger of accidents Worn-out brake linings reduce the braking effect.

– Ensure that worn-out brake linings are replaced immediately. (Your authorized KTM workshop will be glad to help.)

Note
Danger of accidents Reduced braking efficiency caused by damaged brake discs.

– If the brake linings are not changed in time, the steel brake lining carriers grind on the brake disc. The braking effect is greatly reduced and the brake discs are destroyed. Check the brake linings regularly.



– Check the brake linings for minimum thickness Ⓐ.

Minimum thickness Ⓐ	≥ 1 mm (≥ 0.04 in)

» If the minimum thickness is less than specified:
– Change the rear brake linings. 🔧 (📖 p. 80)

– Check the brake linings for damage and cracking.

» If damage or cracking is visible:
– Change the rear brake linings. 🔧 (📖 p. 80)

13.13 Changing the rear brake linings 🔧

Warning
Danger of accidents Incorrect maintenance will cause the brake system to fail.

– Ensure that service work and repairs are performed professionally. (Your authorized KTM workshop will be glad to help.)

Warning
Skin irritation Brake fluid causes skin irritation.

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

Warning
Danger of accidents Old brake fluid reduces the braking effect.

– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)

Warning
Danger of accidents Oil or grease on the brake discs reduces the braking effect.

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

Warning
Danger of accidents Brake linings which have not been approved alter the braking efficiency.

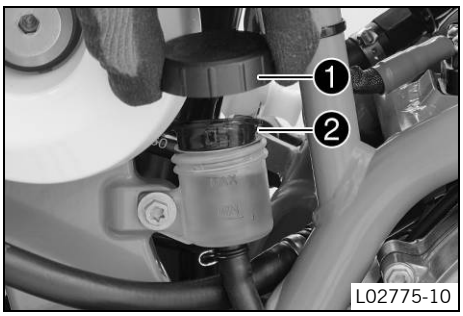
Not all brake linings are tested and approved for KTM motorcycles. The structure and friction coefficient of the brake linings, and thus their brake power, may vary greatly from that of original brake linings.
If brake linings are used that differ from the original equipment, compliance with the original homologation is not guaranteed. In this case, the vehicle no longer corresponds to its condition at delivery and the warranty shall be void.

– Only use brake linings approved and recommended by KTM.

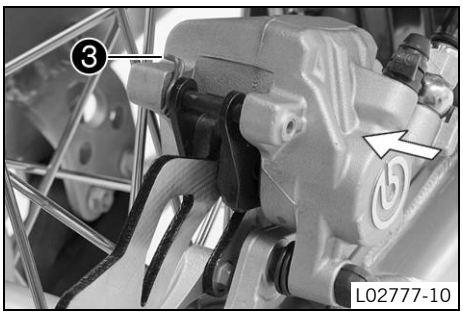
Warning
Environmental hazard Hazardous substances cause environmental damage.

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

Info
Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and brake lines are not designed for DOT 5 brake fluid.
Avoid contact between brake fluid and painted parts. Brake fluid attacks paint.
Only use clean brake fluid from a sealed container.



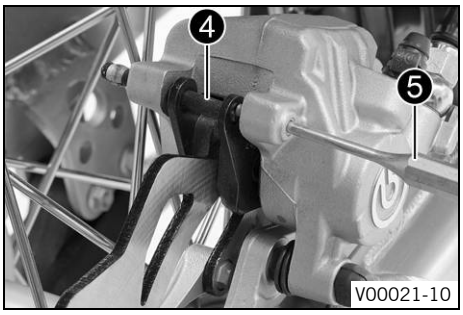
– Stand the vehicle upright.
– Remove screw cap ❶ with the washer and membrane ❷.



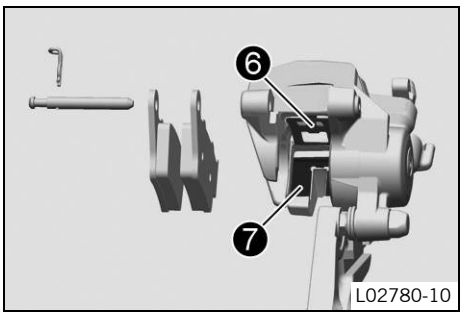
– Press the brake caliper onto the brake disc by hand in order to push back the brake piston. Ensure that brake fluid does not overflow from the brake fluid reservoir, using suction to remove it if it does.

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

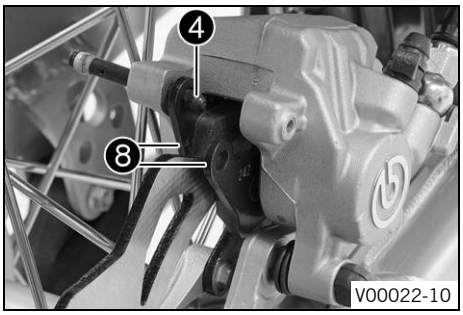
– Remove cotter pin ❸.



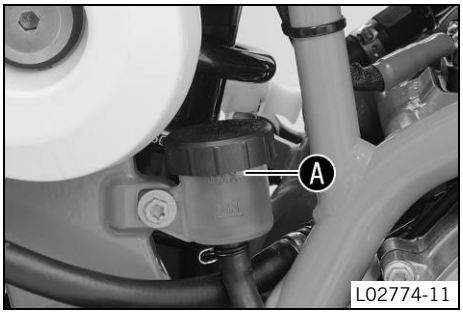
– Drive out pin ❹ with drift ❺ toward the rim and remove the brake linings.



– Clean the brake caliper and brake caliper support.
– Check that leaf spring ❻ in the brake caliper and sliding plate ❼ in the brake caliper support are seated correctly.



– Insert the new brake linings ❽, insert pin ❹, and mount the cotter pin.



– Operate the foot brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point.
– Add brake fluid to the **MAX** marking Ⓐ.

Brake fluid DOT 4 / DOT 5.1 (📖 p. 132)

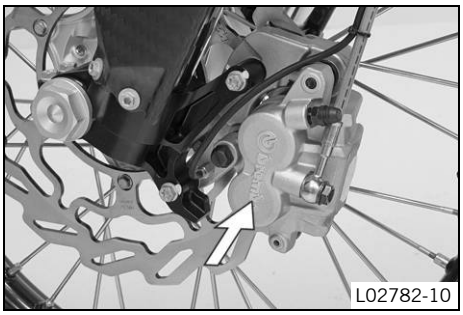
– Mount the screw cap with the washer and membrane.

Info
Clean up overflowed or spilled brake fluid immediately with water.

14.1 Removing the front wheel

Preparatory work

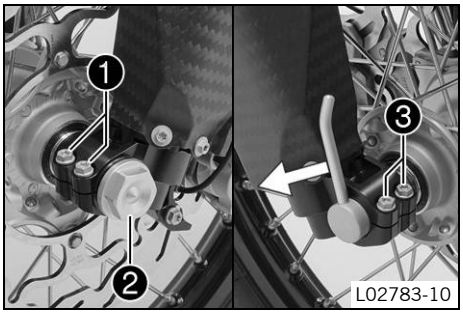
– Raise the motorcycle with a lift stand. (p. 46)



Main work

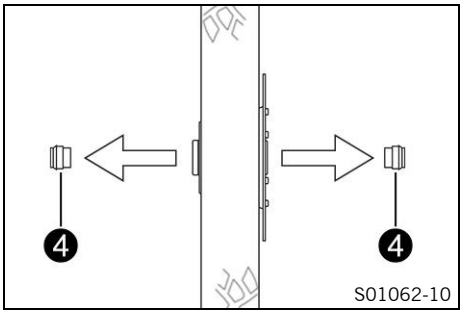
– Press the brake caliper by hand on to the brake disc in order to press back the brake pistons.

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



– Loosen screws 1.
– Remove screw 2.
– Loosen screws 3.
– Holding the front wheel, withdraw the wheel spindle. Take the front wheel out of the fork.

Info
Do not pull the hand brake lever when the front wheel is removed.
Always lay the wheel down in such a way that the brake disc is not damaged.

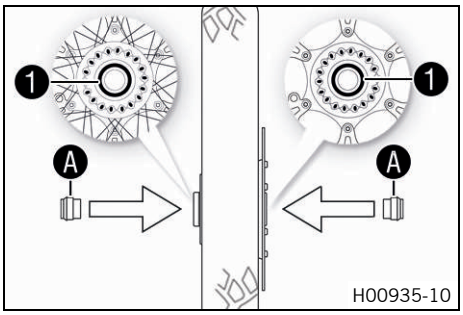


– Remove spacers 4.

14.2 Mounting the front wheel

Warning
Danger of accidents Oil or grease on the brake discs reduces the braking effect.

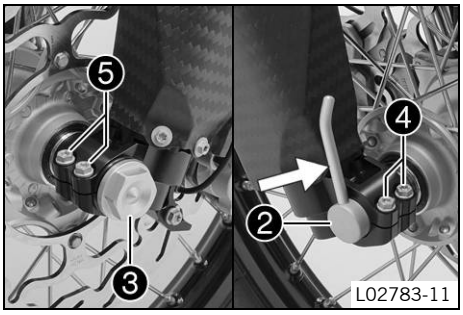
– Always keep the brake discs free of oil and grease.
– Clean the brake discs with brake cleaner when necessary.



– Check the wheel bearing for damage and wear.
  » If the wheel bearing is damaged or worn:
    – Change the wheel bearing.
– Clean and grease shaft seal rings 1 and contact surface A of the spacers. Clean and grease shaft seal rings and the contact surface of the wheel spindle.

Long-life grease (p. 133)

– Insert spacers.



– Position the front wheel and insert wheel spindle ❷.
  ✔ The brake linings are correctly positioned.
– Mount and tighten screw ❸.

Guideline

Screw, front wheel spindle	M24x1.5	40 Nm (29.5 lbf ft)

Info
Ensure that the grip of the wheel spindle does not contact with the right fork leg.

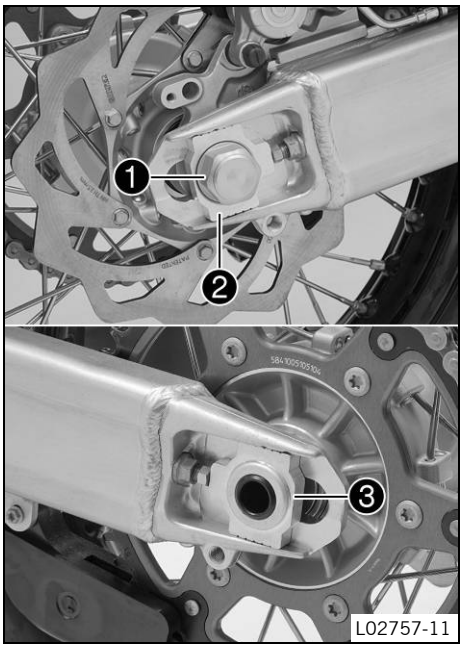
– Activate the hand brake lever multiple times until the brake linings are in contact with the brake disc.
– Remove the motorcycle from the lift stand. (📖 p. 46)
– Pull the front brake and compress the fork powerfully a few times.
  ✔ The fork legs straighten.
– Tighten screws ❹ and ❺.

Guideline

Screw, fork stub	M8	15 Nm (11.1 lbf ft)

14.3 Removing the rear wheel

Preparatory work
– Raise the motorcycle with a lift stand. (📖 p. 46)



Main work
– Press the brake caliper onto the brake disc by hand in order to push back the brake piston.

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

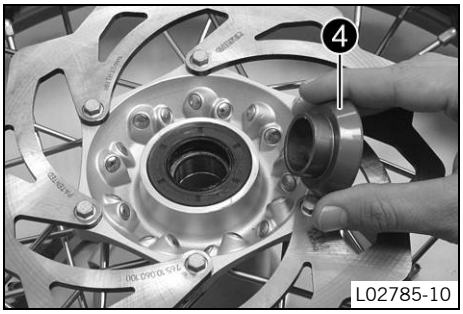
– Remove nut ❶.
– Remove chain adjuster ❷.
– Withdraw wheel spindle ❸ only enough to allow the rear wheel to be pushed forward.
– Push the rear wheel forward as far as possible. Remove the chain from the rear sprocket.

Info
Cover the components to protect them against damage.

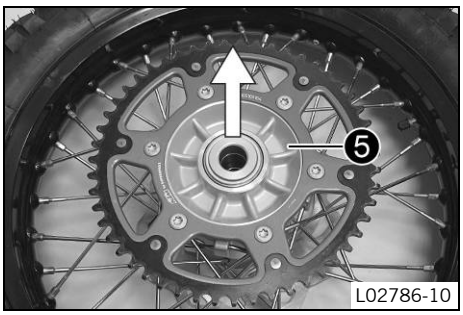
Warning
Danger of accidents Damaged brake discs reduce the braking effect.
– Always lay the wheel down in such a way that the brake disc is not damaged.

– Holding the rear wheel, withdraw wheel spindle ❸. Take the rear wheel out of the swingarm.

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



– Remove spacer ❹.

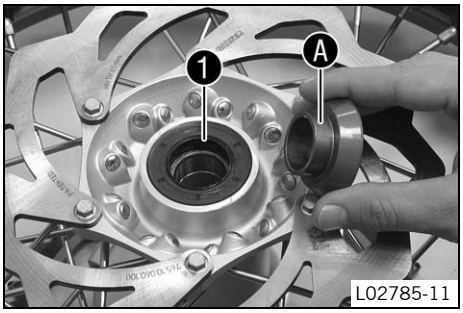


– Remove the rear sprocket carrier ❺.

14.4 Installing the rear wheel

Warning
Danger of accidents Oil or grease on the brake discs reduces the braking effect.
– Always keep the brake discs free of oil and grease.
– Clean the brake discs with brake cleaner when necessary.

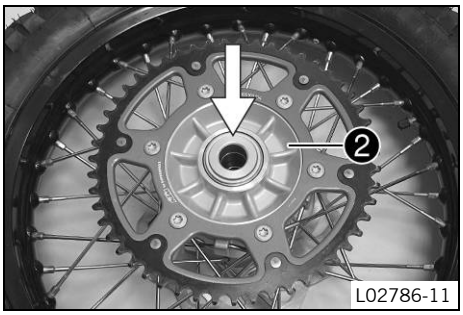
Main work



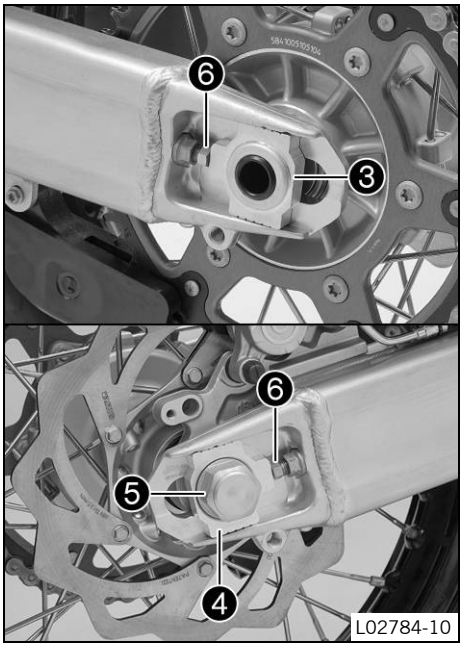
– Check the rear hub rubber dampers. (p. 85)
– Check the wheel bearing for damage and wear.
  » If the wheel bearing is damaged or worn:
    – Change the wheel bearing.
– Clean and grease shaft seal ring ❶ and contact surface Ⓐ of the spacer.

Long-life grease (p. 133)

– Insert the spacer.



– Clean and grease the spacers of the rear sprocket carrier.
– Insert the rear sprocket carrier ❷ into the rear hub.



– Position the rear wheel and insert wheel spindle ❸.
  ✓ The brake linings are correctly positioned.
– Attach the chain.
– Position chain adjuster ❹. Mount nut ❺, but do not tighten it yet.
– Check the chain tension. (📖 p. 63)
– Make sure that the chain adjusters are fitted correctly on the adjusting screws ❻.
– Tighten nut ❺.

Guideline

Nut, rear wheel spindle	M25x1.5	90 Nm (66.4 lbf ft)

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

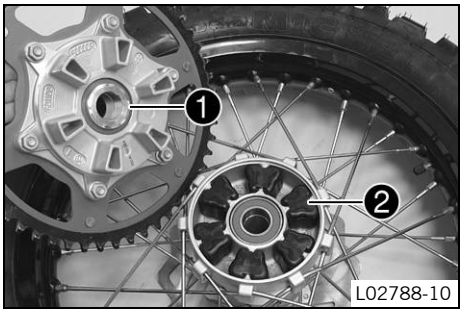
– Operate the foot brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point.

Finishing work
– Remove the motorcycle from the lift stand. (📖 p. 46)

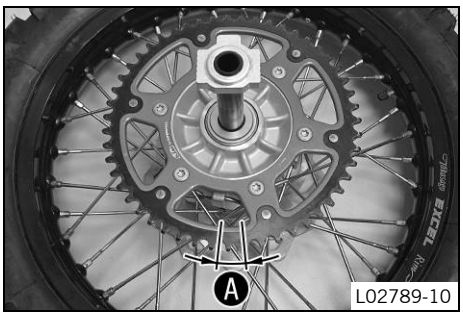
14.5 Checking the rear hub rubber dampers

Info
The engine power is transmitted from the rear sprocket to the rear wheel via 6 rubber dampers. They eventually wear out during operation. If the rubber dampers are not changed in time, the rear sprocket carrier and the rear hub will be damaged.

Preparatory work
– Raise the motorcycle with a lift stand. (📖 p. 46)
– Remove the rear wheel. (📖 p. 83)



Main work
– Check bearing ❶.
  » If the bearing is damaged or worn:
    – Change the bearing.
– Check rubber dampers ❷ of the rear hub for damage and wear.
  » If the rubber dampers of the rear hub are damaged or worn:
    – Change all rubber dampers in the rear hub.



– Lay the rear wheel on a workbench with the rear sprocket facing upward and insert the wheel spindle in the hub.
– To check the play Ⓐ, hold the rear wheel tight and try to rotate the rear sprocket.

Info
Measure the play on the outside of the rear sprocket.

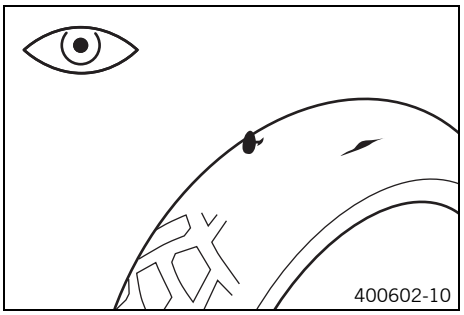
Play in rubber dampers, rear wheel	≤ 5 mm (≤ 0.2 in)

  » If play Ⓐ is larger than the specified value:
    – Change all rubber dampers in the rear hub.

Finishing work
– Install the rear wheel. (📖 p. 84)
– Remove the motorcycle from the lift stand. (📖 p. 46)

14.6 Checking the tire condition

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

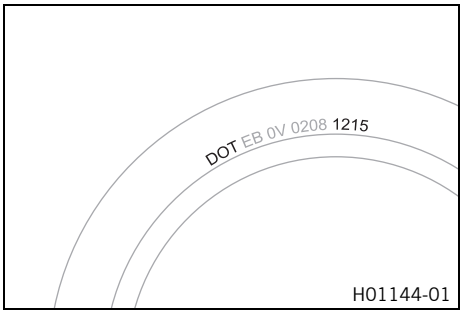


– Check the front and rear tires for cuts, run-in objects, and other damage.
  » If the tires have cuts, run-in objects, or other damage:
    – Change the tires.
– Check the tread depth.

Info
Adhere to the legally required minimum tread depth.

Minimum tread depth	≥ 2 mm (≥ 0.08 in)

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



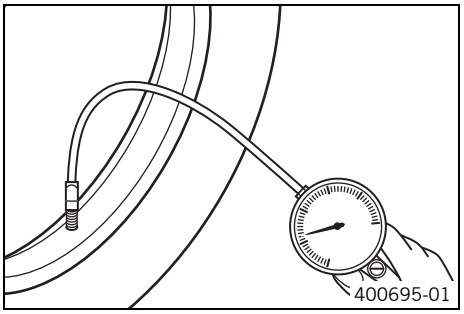
– Check the tire age.

Info
The tire date of manufacture is usually contained in the tire label and is indicated by the last four digits of the **DOT** number. The first two digits indicate the week of manufacture and the last two digits the year of manufacture.
KTM recommends that the tires be changed after 5 years at the latest, regardless of the actual state of wear.

  » If the tires are more than 5 years old:
    – Change the tires.

14.7 Checking the tire air pressure

Info
Low tire air pressure leads to abnormal wear and overheating of the tire.
Correct tire air pressure ensures optimal riding comfort and maximum tire service life.



– Remove the dust cap.
– Check tire air pressure when tires are cold.

Tire air pressure off road	
Front	1.0... 1.5 bar (15... 22 psi)
Rear	1.0... 1.5 bar (15... 22 psi)

Tire air pressure on road	
Front	1.5 bar (22 psi)
Rear	1.5 bar (22 psi)

  » If the tire pressure does not meet specifications:
    – Correct the tire air pressure.
– Fit the dust cap.

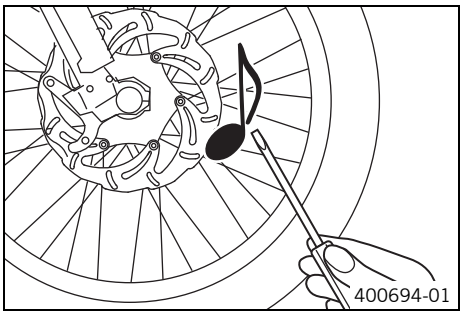
14.8 Checking spoke tension

Warning

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

The spokes break due to being overloaded if they are too tightly tensioned. If the tension in the spokes is too low, then lateral and radial run-out will form in the wheel. Other spokes will become looser as a result.

– Check spoke tension regularly, and in particular on a new vehicle. (Your authorized KTM workshop will be glad to help.)



– Strike each spoke briefly using a screwdriver blade.

Info

The frequency of the sound depends on the spoke length and spoke diameter.
If you hear different tone frequencies from different spokes of equal length and diameter, this is an indication of different spoke tensions.

You should hear a high note.

» If the spoke tension differs:

– Correct the spoke tension.

– Check the spoke torque.

Guideline

Spoke nipple, front wheel	M4.5	5... 6 Nm (3.7... 4.4 lbf ft)
Spoke nipple, rear wheel	M5	5... 6 Nm (3.7... 4.4 lbf ft)

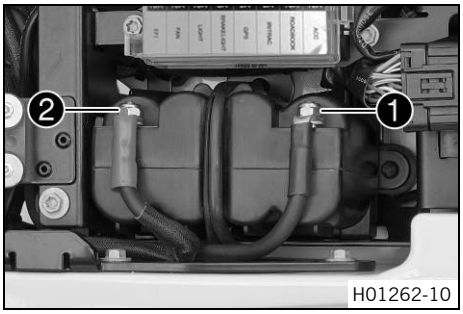
Torque wrench with various accessories in set (58429094000)

15.1 Removing the battery

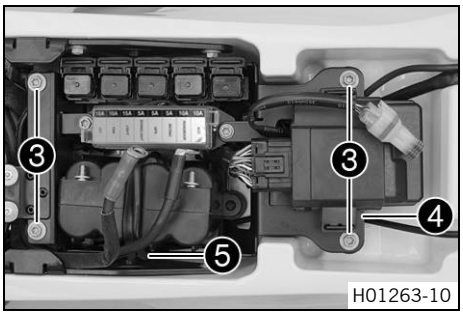
Warning
Risk of injury Batteries contain harmful substances.

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

Preparatory work
- Switch off all power consumers and switch off the engine.
- Remove the seat. (📖 p. 56)

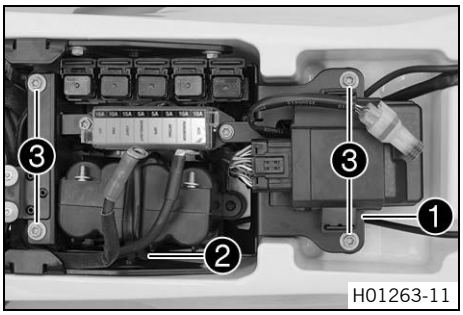


Main work
- Disconnect negative cable ❶ from the battery.
- Disconnect positive cable ❷ from the battery.



- Remove screws ❸.
- Raise electronics box ❹ in the rear area.
- Detach rubber band ❺ at the bottom.
- Lift the battery up and out.

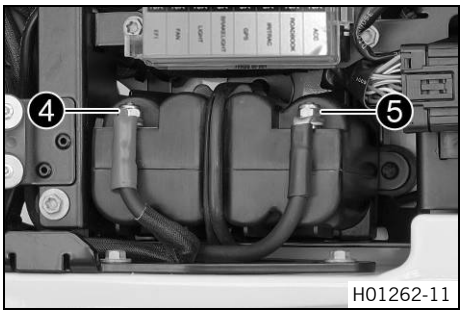
15.2 Installing the battery



Main work
- Place the battery in the battery compartment.

Lithium-ion battery (📖 p. 112)

- Raise electronics box ❶ in the rear area.
- Reconnect rubber band ❷.
- Mount and tighten screws ❸.



- Connect positive cable ❹ to the battery.
  Guideline

Nut, cable on battery	M6	5 Nm (3.7 lbf ft)

- Connect negative cable ❺ to the battery.
  Guideline

Nut, cable on battery	M6	5 Nm (3.7 lbf ft)

Finishing work
- Mount the seat. (📖 p. 56)

15.3 Recharging the battery

Warning

Risk of injury Batteries contain harmful substances.

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

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.

Info

Even when there is no load on the battery, it discharges steadily.
The charging voltage of the battery must not exceed 14.4 V.
The charging level and the method of charging are very important for the service life of the battery.
If the charging current or charging voltage are exceeded, the battery will be destroyed.
If the battery is depleted by repeated starting, 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 will be destroyed.
The battery is maintenance-free.

Preparatory work

- Switch off all power consumers and switch off the engine.
- Remove the seat. (📖 p. 56)
- Disconnect the negative cable of the battery to avoid damage to the onboard electronics.

Main work

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

Battery charger (58429074000)

  You can also use the battery charger to test the open-circuit voltage and start potential of the battery, and to test the alternator. With this device, you cannot overcharge the battery.

  Info

  Only charge the battery with the specified battery charge.
  This is the only way to ensure that a charging voltage of 14.4 V is not exceeded.

- Switch off the battery charger after charging and disconnect from the battery.
- Connect the negative cable with the battery.

Finishing work

- Mount the seat. (📖 p. 56)

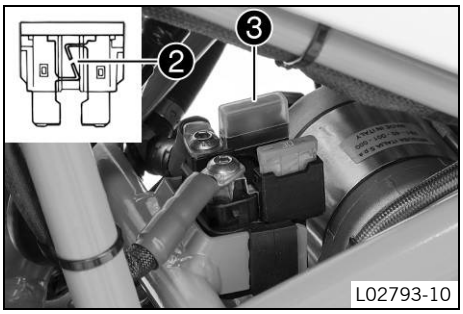
15.4 Changing the main fuse

Warning
Fire hazard Incorrect fuses overload the electrical system.
- Only use fuses with the required ampere value.
- Do not bypass or repair fuses.

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

Preparatory work
- Switch off all power consumers and switch off the engine.
- Remove the seat. (📖 p. 56)

Main work
- Remove protection cap ❶.
- Remove the faulty main fuse ❷.



- Fit a new main fuse.

Fuse (58011109130) (📖 p. 112)

Info
Replace a faulty fuse ❷ by an equivalent fuse only.
A reserve fuse ❸ is located in the starter relay.

- Check that the electrical equipment is functioning properly.

Tip
Insert the spare fuse so that it is available if needed.

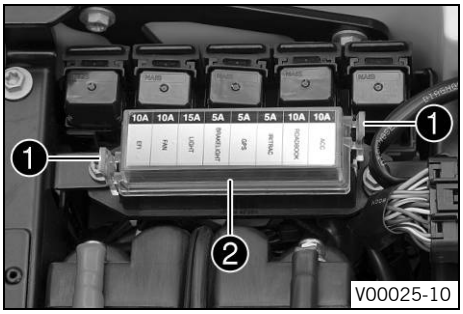
- Attach the protection caps.

Finishing work
- Mount the seat. (📖 p. 56)

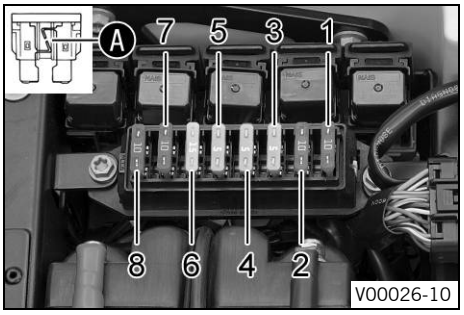
15.5 Changing the fuses of individual power consumers

Info
The fuse box containing the fuses of individual power consumers is located under the seat.

Preparatory work
- Switch off all power consumers and switch off the engine.
- Remove the seat. (📖 p. 56)



Main work
- Push on locks ❶ and remove fuse box cover ❷.



– Remove the defective fuse.

Guideline

Fuse **1** - 10 A - ACC, turn signal, speedometer
Fuse **2** - 10 A - Road Book
Fuse **3** - 5 A - Iritrack
Fuse **4** - 5 A - additional devices such as GPS (permanent positive)
Fuse **5** - 5 A - brake light
Fuse **6** - 15 A - high beam, low beam, parking light, tail light, license plate lamp, instrument lights, horn
Fuse **7** - 10 A - radiator fan
Fuse **8** - 10 A - EFI

Info

A defective fuse is indicated by a burned-out fuse wire Ⓐ.

Warning

Fire hazard Incorrect fuses overload the electrical system.

– Only use fuses with the required ampere value.
– Do not bypass or repair fuses.

– Use spare fuses with the correct rating only.

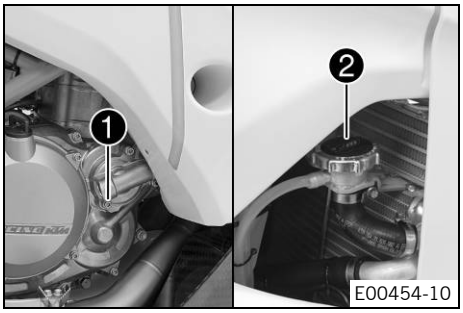
Fuse (58011109105) (🕮 p. 112)
Fuse (58011109110) (🕮 p. 112)
Fuse (58011109115) (🕮 p. 112)

– Check that the power consumer is functioning properly.
– Close the fuse box cover.

Finishing work

– Mount the seat. (🕮 p. 56)

16.1 Cooling system



Water pump ❶ in the engine circulates the coolant.
The pressure resulting from the warming of the cooling system is regulated by a valve in radiator cap ❷. This ensures that operating the vehicle at the specified coolant temperature will not result in a risk of malfunctions.

120 °C (248 °F)

Cooling is effected by the air stream.
The lower the speed, the less the cooling effect. Dirty cooling fins also reduce the cooling effect.
The radiator fan provides extra cooling. It is controlled by a thermoswitch.

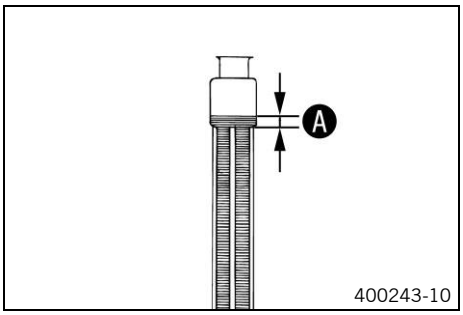
16.2 Checking the antifreeze and coolant level

Warning
Danger of scalding During motorcycle operation, the coolant gets very hot and is under pressure.

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

Warning
Danger of poisoning Coolant is toxic and a health hazard.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.



Condition
The engine is cold.

- Stand the motorcycle upright on a horizontal surface.
- Remove the radiator cap.
- Check the antifreeze in the coolant.

−25... −45 °C (−13... −49 °F)

  » If the antifreeze in the coolant does not match the specified value:
    - Correct the antifreeze in the coolant.
- Check the coolant level in the radiator.

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

  » If the coolant level does not match the specified value:
    - Correct the coolant level.

Coolant (📖 p. 132)

- Mount the radiator cap.

16.3 Checking the coolant level

Warning
Danger of scalding During motorcycle operation, the coolant gets very hot and is under pressure.

- Do not open the radiator, the radiator hoses or other cooling system components if the engine or the cooling system are at operating temperature.
- Allow the cooling system and the engine to cool down before you open the radiator, the radiator hoses or other components of the cooling system.
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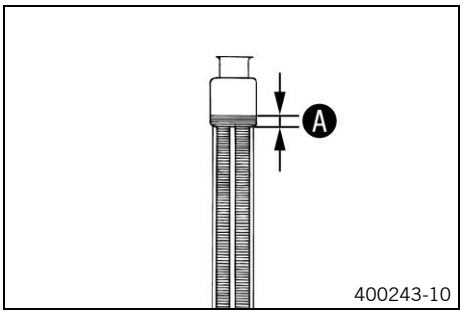
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.



Condition
The engine is cold.

- Stand the motorcycle upright on a horizontal surface.
- Remove the radiator cap.
- Check the coolant level in the radiator.

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

» If the coolant level does not match the specified value:
  - Correct the coolant level.

Coolant (📖 p. 132)

- Mount the radiator cap.

16.4 Draining the coolant 🔧

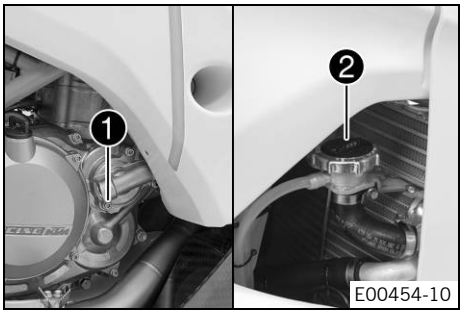
Warning
Danger of scalding During motorcycle operation, the coolant gets very hot and is under pressure.

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

Warning
Danger of poisoning Coolant is toxic and a health hazard.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.

Condition
The engine is cold.



- Position the motorcycle upright.
- Place a suitable container under the water pump cover.
- Remove screw ❶. Take off radiator cap ❷.
- Completely drain the coolant.
- Mount and tighten screw ❶ with a new seal ring.

Guideline

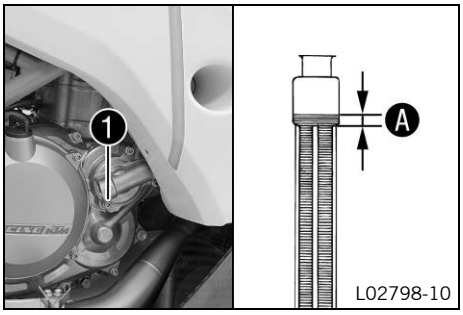
Screw, water pump cover	M6	10 Nm (7.4 lbf ft)

16.5 Refilling coolant

Warning

Danger of poisoning Coolant is toxic and a health hazard.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.



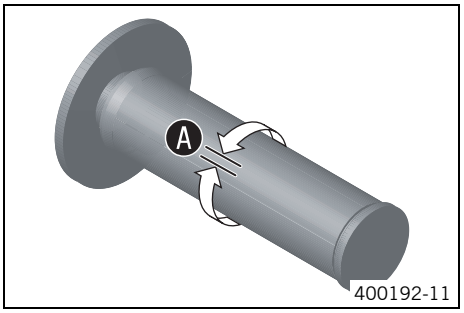
- Make sure that screw ❶ is tightened.
- Stand the motorcycle upright.
- Pour coolant in up to measurement Ⓐ above the radiator fins.

Guideline

Coolant level Ⓐ above the radiator fins		10 mm (0.39 in)
Coolant	1.2 l (1.3 qt.)	Coolant (📖 p. 132)

- Mount the radiator cap.
- Take a short test ride.
- Check the coolant level. (📖 p. 93)

17.1 Checking the play in the throttle cable



– Check the throttle grip for smooth operation.
– Move the handlebar to the straight-ahead position. Turn the throttle grip back and forth slightly and determine the play in throttle cable Ⓐ.

Play in throttle cable	3... 5 mm (0.12... 0.2 in)

» If the throttle cable play does not meet specifications:
– Adjust the play in the throttle cable. 🔧 (📖 p. 95)

Danger

Danger of poisoning Exhaust gases are toxic and inhaling them may result in unconsciousness and death.
– Always make sure there is sufficient ventilation when running the engine.
– Use an effective exhaust extraction system when starting or running the engine in an enclosed space.

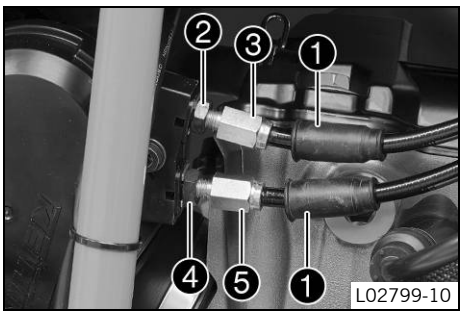
– Start the engine and let it run idle. Move the handlebar to and fro over the entire steering range.

The idle speed must not change.

» If the idle speed changes:
– Adjust the play in the throttle cable. 🔧 (📖 p. 95)

17.2 Adjusting the play in the throttle cable 🔧

Preparatory work
– Remove the seat. (📖 p. 56)
– Remove the trim. (📖 p. 70)
– Remove the engine guard. (📖 p. 71)
– Remove the front right fuel tank. 🔧 (📖 p. 60)
– Check the throttle cable routing. (📖 p. 66)



Main work
– Move the handlebar to the straight-ahead position.
– Push back sleeves ❶.
– Loosen nut ❷. Turn adjusting screw ❸ in as far as possible.
– Loosen nut ❹. Turn adjusting screw ❺ so that there is play in the throttle cable at the throttle grip.
Guideline

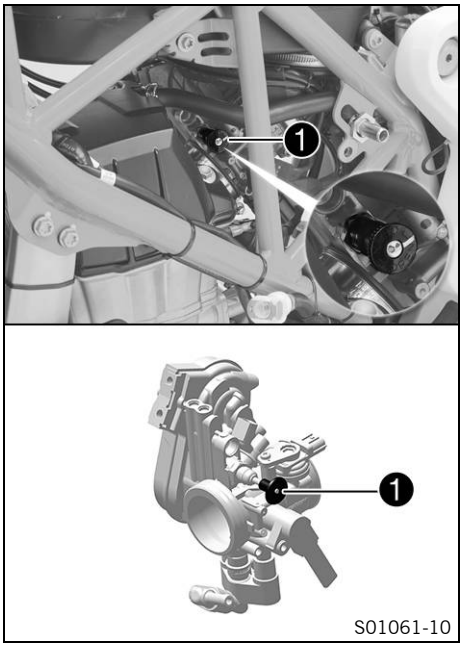
Play in throttle cable	3... 5 mm (0.12... 0.2 in)

– Tighten nut ❹.
– Press and hold the throttle grip in the closed setting. Turn out adjusting screw ❸ until there is no play in the upper throttle cable.
– Tighten nut ❷.
– Slide on sleeves ❶. Check the throttle grip for smooth operation.

Finishing work
– Install the front right fuel tank. 🔧 (📖 p. 62)
– Install the engine guard. (📖 p. 72)
– Mount the trim. (📖 p. 71)
– Mount the seat. (📖 p. 56)
– Check the play in the throttle cable. (📖 p. 95)

17.3 Adjusting the idle speed

Info
The left fuel tank is removed to improve the illustration.



– Run the engine warm and push idle speed adjusting screw ❶ all the way in.
– Set the desired idle speed by turning the idle speed adjusting screw.

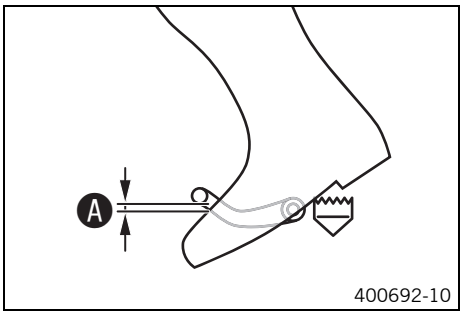
Guideline

Idle speed	2,000... 2,200 rpm

Info
Turn counterclockwise to increase the idle speed.
Turn clockwise to decrease the idle speed.

17.4 Checking the basic position of the shift lever

Info
When driving, the shift lever must not touch the rider's boot when in the basic position.
When the shift lever keeps touching the boot, the transmission will be subject to an excessive load.

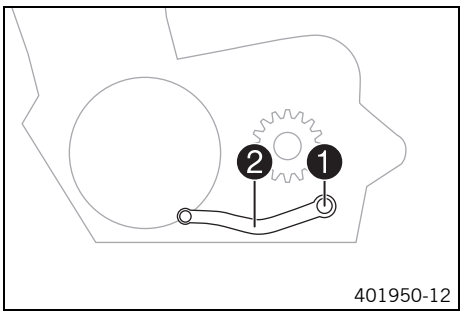


– Sit on the vehicle in the riding position and determine distance Ⓐ between the upper edge of your boot and the shift lever.

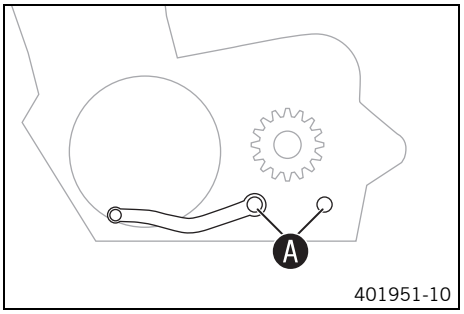
Distance between shift lever and upper edge of boot	10... 20 mm (0.39... 0.79 in)

» If the distance does not meet specifications:
– Adjust the basic position of the shift lever. (p. 96)

17.5 Adjusting the basic position of the shift lever



– Remove screw ❶ with washers and take off shift lever ❷.



– Clean gear teeth Ⓐ of the shift lever and shift shaft.
– Mount shift lever ❷ on the shift shaft in the required position and engage the gearing.

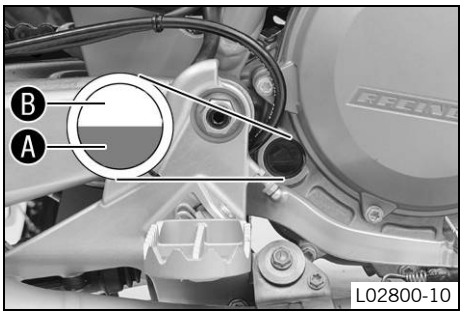
Info
The range of adjustment is limited.
The shift lever must not come into contact with any other vehicle components during the shift procedure.

– Mount and tighten screw ❶ with the washers.

Guideline

Screw, shift lever	M6	14 Nm (10.3 lbf ft)	**Loctite® 243™**

18.1 Checking the engine oil level



Preparatory work

– Stand the motorcycle upright on a horizontal surface.

Condition

The engine is at operating temperature.

– Check the engine oil level.

Info
After switching off the engine, wait one minute before checking the level.

The engine oil level is between Ⓐ and Ⓑ.

» When the engine oil level is below the Ⓐ marking:

– Add engine oil. (📖 p. 101)

» When the engine oil level is at or above the Ⓑ marking:

– Correct the engine oil level.

18.2 Changing the engine oil and oil filter, cleaning the oil screens

Warning
Danger of scalding Engine and gear oil get very hot when the motorcycle is ridden.

– Wear suitable protective clothing and safety gloves.
– In the event of scalding, rinse the area affected immediately with lukewarm water.

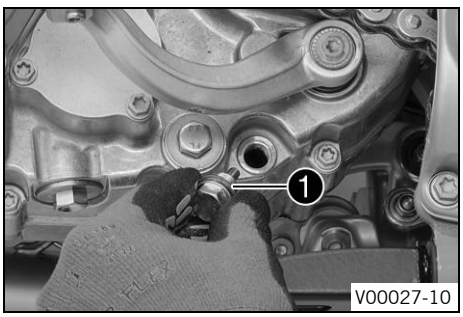
Warning
Environmental hazard Hazardous substances cause environmental damage.

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

Info
Drain the engine oil while the engine is at operating temperature.

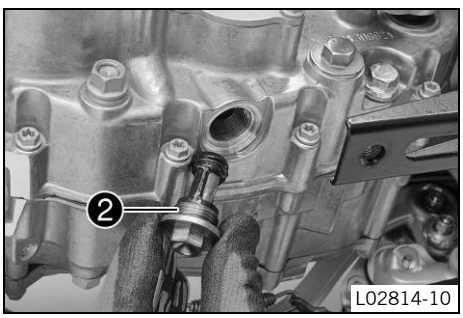
Preparatory work

– Park the motorcycle on a level surface.
– Remove the engine guard. (📖 p. 71)

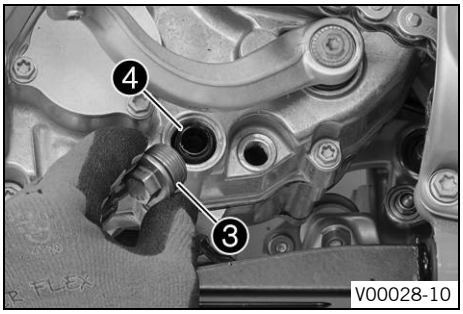


Main work

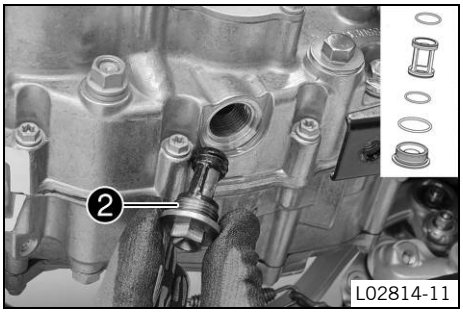
– Place a suitable container under the engine.
– Remove oil drain plug ❶ with the magnet and seal ring.



– Remove screw plug ❷ with the short oil screen and the O-rings.



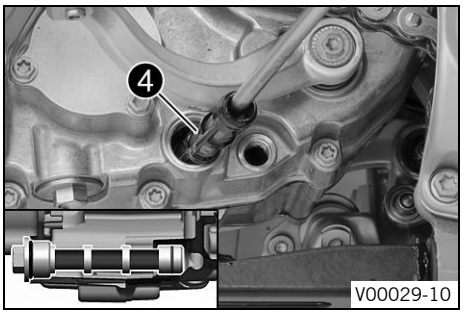
– Remove screw plug ❸ with the long oil screen ❹ and the O-rings.
– Completely drain the engine oil.
– Thoroughly clean the parts and sealing surfaces.



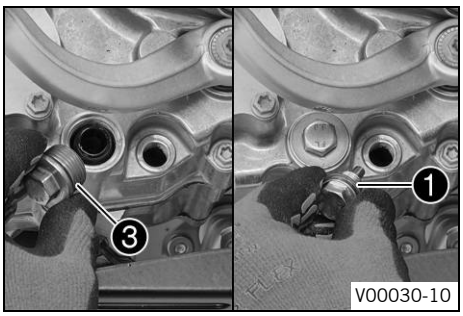
– Mount and tighten screw plug ❷ with the short oil screen and the O-rings.

Guideline

Screw plug, oil screen	M20x1.5	15 Nm (11.1 lbf ft)



– Position oil screen ❹ with the O-rings on a pin wrench.
– Position the pin wrench through the drilled hole of the screw plug in the opposite section of the engine case.
– Push the oil screen all the way into the engine case.



– Mount and tighten screw plug ❸ with the O-ring.

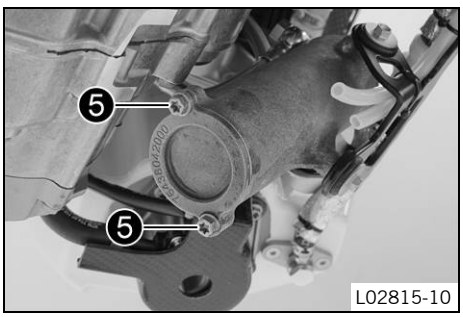
Guideline

Screw plug, oil screen	M20x1.5	15 Nm (11.1 lbf ft)

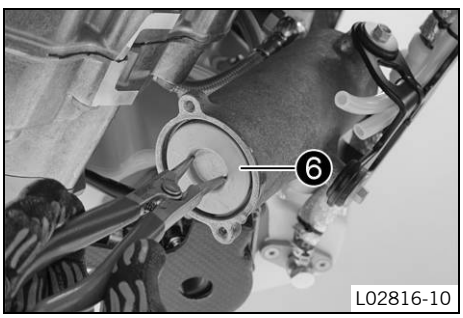
– Mount and tighten oil drain plug ❶ with the magnet and a new seal ring.

Guideline

Oil drain plug with magnet	M12x1.5	20 Nm (14.8 lbf ft)



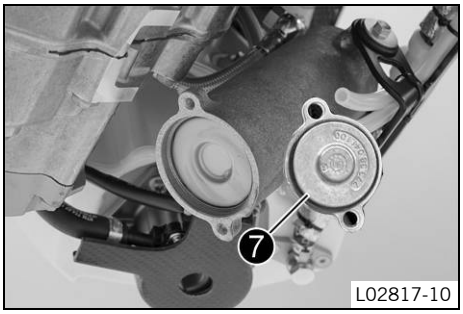
– Remove screws ❺. Remove the oil filter cover with the O-ring.



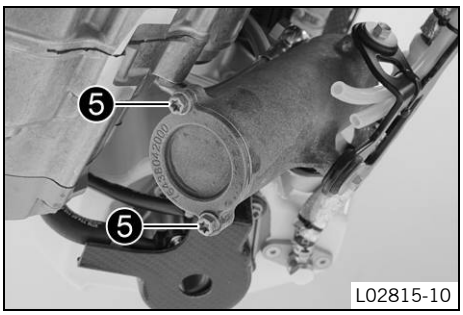
– Pull oil filter ❻ out of the oil filter housing.

Circlip pliers reverse (51012011000)

– Completely drain the engine oil.
– Thoroughly clean the parts and sealing surface.
– Insert the new oil filter.



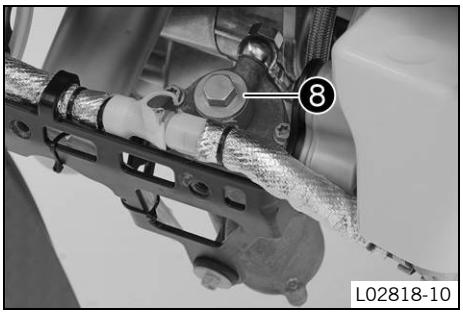
– Lubricate the O-ring of the oil filter cover and mount it with the oil filter cover ❼.



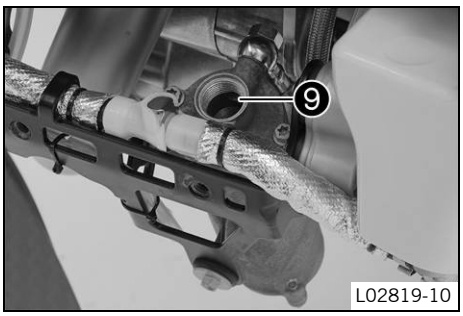
– Mount and tighten screws ❺.

Guideline

Screw, oil filter cover	M5	6 Nm (4.4 lbf ft)

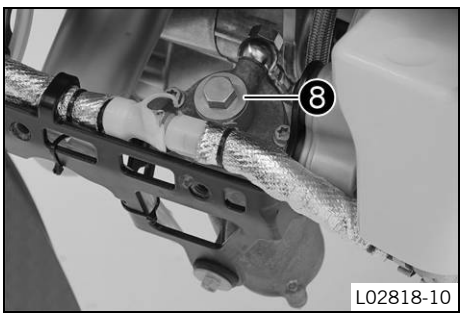


– Remove oil filler plug ❽ with the O-ring from the upper oil filter cover.



– Fill oil filter housing at opening ❾ with oil and wait until air bubbles stop rising.

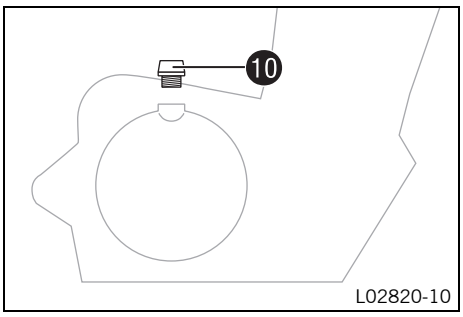
Engine oil		
Total filling level, oil change	1.40 l (1.48 qt.)	Engine oil (SAE 10W/50) (📖 p. 132)
Total filling level, engine service (with oil radiator)	1.80 l (1.9 qt.)	Engine oil (SAE 10W/50) (📖 p. 132)



– Mount and tighten filler plug ❽.

Guideline

Filler plug on the oil filter housing	M20x1.5	8 Nm (5.9 lbf ft)



– Remove filler plug ❿ and the O-ring from the clutch cover, and fill up with engine oil.

Engine oil		
Total filling level, oil change	1.40 l (1.48 qt.)	Engine oil (SAE 10W/50) (📖 p. 132)
Total filling level, engine service (with oil radiator)	1.80 l (1.9 qt.)	Engine oil (SAE 10W/50) (📖 p. 132)

Info
Too little engine oil or poor-quality engine oil results in premature wear of the engine.

– Install and tighten the oil filler plug with O-ring.

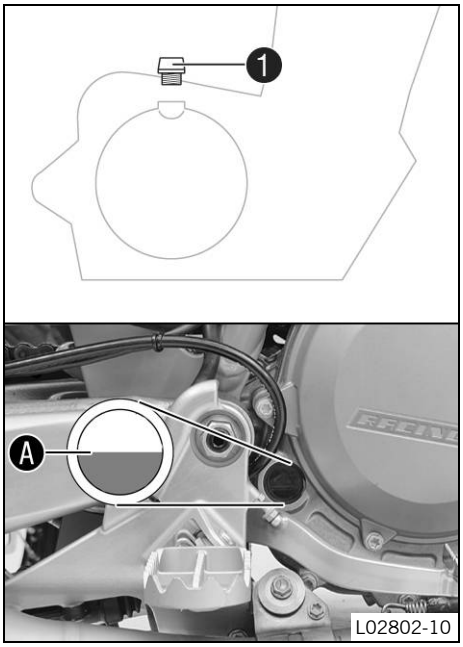
Danger
Danger of poisoning Exhaust gases are toxic and inhaling them may result in unconsciousness and death.
– Always make sure there is sufficient ventilation when running the engine.
– Use an effective exhaust extraction system when starting or running the engine in an enclosed space.

– Start the engine and check that it is oil-tight.

Finishing work
– Check the engine oil level. (📖 p. 98)
– Install the engine guard. (📖 p. 72)

18.3 Adding engine oil

Info
Too little engine oil or poor-quality engine oil results in premature wear to the engine.



Main work
– Remove oil filler plug ❶ with the O-ring from the clutch cover.
– Fill engine oil to the middle Ⓐ of the level viewer.
– Add the same engine oil that was used when the motor was changed.

Engine oil (SAE 10W/50) (📖 p. 132)

Info
For optimal performance of the engine oil, do not mix different types of engine oil.
We recommend making an oil change in this case.

– Install and tighten the oil filler plug with O-ring.

Danger
Danger of poisoning Exhaust gases are toxic and inhaling them may result in unconsciousness and death.
– Always make sure there is sufficient ventilation when running the engine.
– Use an effective exhaust extraction system when starting or running the engine in an enclosed space.

– Start the engine and check that it is oil-tight.

Finishing work
– Check the engine oil level. (📖 p. 98)

19.1 Cleaning the motorcycle

Note

Material damage Components become damaged or destroyed if a pressure cleaner is used incorrectly.

The high pressure forces water into the electrical components, connectors, throttle cables, and bearings, etc.
Pressure which is too high causes malfunctions and destroys components.

– Do not direct the water jet directly on to electrical components, connectors, throttle cables or bearings.
– Maintain a minimum distance between the nozzle of the pressure cleaner and the component.
  Minimum clearance 60 cm (23.6 in)

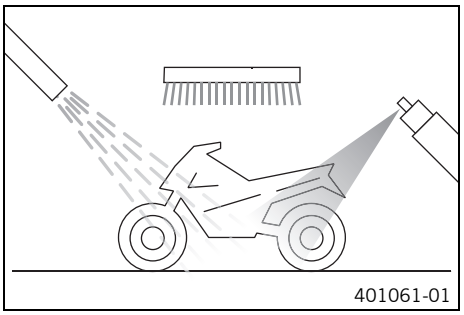
Warning

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

To maintain the value and appearance of the motorcycle over a long period, clean it regularly.
Avoid direct sunshine when cleaning the motorcycle.


401061-01

– Close off the exhaust system to keep water from entering.
– Remove loose dirt first with a soft jet of water.
– Spray very dirty parts with a normal commercial engine cleaner and then brush off with a soft brush.

Motorcycle cleaner (📖 p. 133)

Info

Use warm water containing normal motorcycle cleaner and a soft sponge. Never apply motorcycle cleaner to a dry vehicle; always rinse the vehicle with water first.

– After rinsing the motorcycle with a gentle spray of water, allow it to dry thoroughly.
– Remove the closure of the exhaust system.

Warning

Danger of accidents Moisture and dirt impair the brake system.

– Brake carefully several times to dry out and remove dirt from the brake linings and the brake discs.

– After cleaning, ride the vehicle a short distance until the engine warms up.

Info

The heat produced causes water at inaccessible locations in the engine and on the brake system to evaporate.

– Push back the protection caps of the handlebar controls to allow any water that has penetrated to evaporate.
– After the motorcycle has cooled off, lubricate all moving parts and bearings.
– Clean the chain. (📖 p. 62)
– Treat bare metal (except for brake discs and the exhaust system) with a corrosion inhibitor.

Preserving materials for paints, metal and rubber (📖 p. 133)

– Treat all plastic parts and powder-coated parts with a mild cleaning and care product.

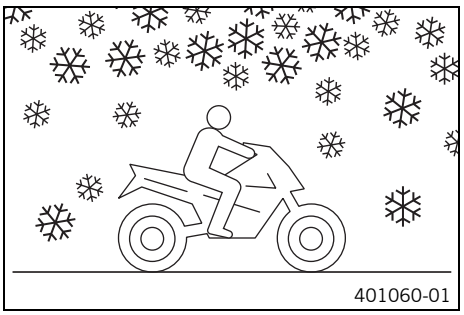
Special cleaner for glossy and matte paint finishes, metal and plastic surfaces (📖 p. 133)

– Oil the steering lock.

Universal oil spray (📖 p. 134)

19.2 Checks and maintenance steps for winter operation

Info
If you use the motorcycle in winter, you can expect salt on the roads. Precautions need to be taken against the aggressive road salt.
If the vehicle was operated in road salt, clean it with cold water after riding. Warm water would enhance the corrosive effects of salt.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– Clean the motorcycle. (📖 p. 102)
– Clean the brake system.

Info
After **EVERY** trip on salted roads, thoroughly wash the brake calipers and brake linings with cold water and dry carefully. This should be done after the parts are cooled down and while they are installed.
After riding on salted roads, thoroughly wash the motorcycle with cold water and dry it well.

– Treat the engine, swingarm, and all other bright and zinc-plated parts (except for the brake discs) with a wax-based corrosion inhibitor.

Info
Corrosion inhibitor is not permitted to come in contact with the brake discs as this would greatly reduce the braking force.

– Clean the chain. (📖 p. 62)

20.1 Storage

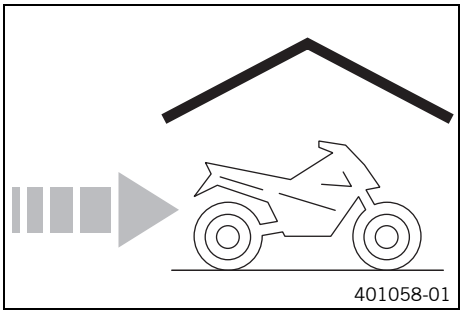
Warning

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.

Info

If you want to garage the motorcycle for a longer period, take the following actions.
Before storing the motorcycle, check all parts for function and wear. If service, repairs or replacements are necessary, you should do this during the storage period (less workshop overload). In this way, you can avoid long workshop waiting times at the start of the new season.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- Add fuel additive the last time you refuel before taking the motorcycle out of service.

Fuel additive (📖 p. 133)

- Fill up with fuel. (📖 p. 35)
- Clean the motorcycle. (📖 p. 102)
- Change the engine oil and oil filter and clean the oil screens. 🔧 (📖 p. 98)
- Check the antifreeze and coolant level. (📖 p. 92)
- Check the tire air pressure. (📖 p. 86)
- Remove the battery. 🔧 (📖 p. 88)
- Recharge the battery. 🔧 (📖 p. 89)

  Guideline

Storage temperature of battery without direct sunshine	0… 35 °C (32… 95 °F)
Charging level of the battery for storage	50… 75 %

- Place the vehicle on a dry storage place that is not subject to large temperature variations.

Info

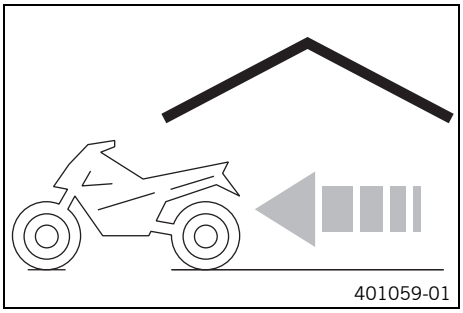
KTM recommends raising the motorcycle.

- Raise the motorcycle with a lift stand. (📖 p. 46)
- Cover the vehicle with an air-permeable cover or blanket.

Info

Do not use non-porous materials since they prevent humidity from escaping, thus causing corrosion.
Avoid running the engine for a short time only. Because the engine will not warm up sufficiently, the water vapor produced during combustion will condense, causing engine parts and the exhaust system to rust.

20.2 Preparing for use after storage



- Remove the motorcycle from the lift stand. (📖 p. 46)
- Install the battery. 🔧 (📖 p. 88)
- Perform checks and maintenance steps when preparing for use. (📖 p. 32)
- Take a test ride.

Faults	Possible cause	Action
The engine does not turn when the electric starter button is pressed	Operating error	– Carry out the start procedure. (📖 p. 32)
	The battery is discharged	– Recharge the battery. 🔧 (📖 p. 89) – Check the charging voltage. 🔧 – Check the open-circuit current. 🔧 – Check the stator winding of the alternator.
	Main fuse blown	– Change the main fuse. (📖 p. 90)
	Starter relay defective	– Check the starter relay. 🔧
	Starter motor defective	– Check the starter motor. 🔧
The engine turns but does not start	Operating error	– Carry out the start procedure. (📖 p. 32)
	The coupling of the fuel hose connection is not connected	– Join the fuel hose connection.
	Fuse **8** is blown	– Change the fuses of individual power consumers. (📖 p. 90)
	Idle speed is not set correctly	– Adjust the idle speed. 🔧 (📖 p. 96)
	Spark plug oily or wet	– Clean and dry the spark plug, or change it if necessary.
	Electrode distance (plug gap) of spark plug too wide	– Adjust the plug gap. Guideline Spark plug electrode gap 0.9 mm (0.035 in)
	Faulty ignition system	– Check the ignition system. 🔧
	Short circuit cable in wiring harness frayed, kill switch defective	– Check the wiring harness. (visual check) – Check the electrical system.
	Defect in the fuel injection system	– Read out the fault memory using the KTM diagnostics tool. 🔧
Engine does not speed up	Defect in the fuel injection system	– Read out the fault memory using the KTM diagnostics tool. 🔧
	Faulty ignition system	– Ignition coil - check the secondary winding. 🔧 – Check the spark plug connector. 🔧 – Check the stator winding of the alternator.
Engine has too little power	Air filter is very dirty	– Clean the air filter and air filter box. 🔧 (📖 p. 57)
	Fuel filter is very dirty	– Change the fuel filter. 🔧
	Defect in the fuel injection system	– Read out the fault memory using the KTM diagnostics tool. 🔧
	Exhaust system leaky, deformed or too little glass fiber yarn filling in main silencer	– Check exhaust system for damage. – Change the glass fiber yarn filling of the main silencer. 🔧 (📖 p. 58)
	Valve clearance too little	– Adjust the valve clearance. 🔧
	Faulty ignition system	– Ignition coil - check the secondary winding. 🔧 – Check the spark plug connector. 🔧 – Check the stator winding of the alternator.
The engine dies during the trip	Lack of fuel	– Fill up with fuel. (📖 p. 35)
Engine overheats	Too little coolant in cooling system	– Check the cooling system for leaks. – Check the coolant level. (📖 p. 93)
	Too little air stream	– Switch off the engine when standing.
	Radiator fins very dirty	– Clean the radiator fins.
	Foam formation in cooling system	– Drain the coolant. 🔧 (📖 p. 93) – Refill the coolant. 🔧 (📖 p. 94)
	Bent radiator hose	– Change the radiator hose. 🔧
	Thermostat defective	– Check the thermostat. 🔧
	Defect in radiator fan system	– Check fuse **7**. – Check the radiator fan. 🔧

Faults	Possible cause	Action
FI warning lamp (**MIL**) lights up/flashes	Defect in the fuel injection system	– Stop the motorcycle and identify the faulty part using the blink code. **Info** See blink code – Check the cabling for damage and the electrical plug-in connections for corrosion and damage. – Read out the fault memory using the KTM diagnostics tool.
High oil consumption	Engine vent hose bent	– Route the vent hose without bends or change it if necessary.
	The engine oil level is too high	– Check the engine oil level. (p. 98)
	The engine oil is too thin (low viscosity)	– Change the engine oil and oil filter and clean the oil screens. (p. 98)
	Piston and cylinder worn	– Measure the piston/cylinder mounting clearance.
The battery is discharged	The battery is not being charged by the alternator	– Check the charging voltage. – Check the stator winding of the alternator.
	Unwanted power consumer	– Check the open-circuit current.
Speedometer values deleted (time, stop watch, lap times)	The battery in the speedometer is discharged	– Change the speedometer battery.
The turn signal and speedometer are not working	Fuse **1** is blown	– Change the fuses of individual power consumers. (p. 90)
The brake light is not working	Fuse **5** is blown	– Change the fuses of individual power consumers. (p. 90)
The high beam, low beam, parking light, tail light, license plate lamp, and horn are not working	Fuse **6** is blown	– Change the fuses of individual power consumers. (p. 90)

Blink code of FI warning lamp (MIL)	 02 **FI** warning lamp (**MIL**) flashes 2x short
Error level condition	Crankshaft position sensor - circuit fault

Blink code of FI warning lamp (MIL)	 06 **FI** warning lamp (**MIL**) flashes 6x short
Error level condition	Throttle position sensor circuit A - input signal too low
	Throttle position sensor circuit A - input signal too high

Blink code of FI warning lamp (MIL)	 09 **FI** warning lamp (**MIL**) flashes 9x short
Error level condition	Manifold absolute pressure sensor cylinder 1 - input signal too low
	Manifold absolute pressure sensor cylinder 1 - input signal too high

Blink code of FI warning lamp (MIL)	 12 **FI** warning lamp (**MIL**) flashes 1x long, 2x short
Error level condition	Engine coolant temperature sensor - input signal too low
	Engine coolant temperature sensor - input signal too high

Blink code of FI warning lamp (MIL)	 13 **FI** warning lamp (**MIL**) flashes 1x long, 3x short
Error level condition	Intake air temperature sensor - input signal too low
	Intake air temperature sensor - input signal too high

Blink code of FI warning lamp (MIL)	 15 **FI** warning lamp (**MIL**) flashes 1x long, 5x short
Error level condition	Rollover sensor (A/D type) - input signal too low
	Rollover sensor (A/D type) - input signal too high

Blink code of FI warning lamp (MIL)	 33 **FI** warning lamp (**MIL**) flashes 3x long, 3x short
Error level condition	Injector cylinder 1 - circuit fault

Blink code of FI warning lamp (MIL)	 37 **FI** warning lamp (**MIL**) flashes 3x long, 7x short
Error level condition	Ignition coil 1, cylinder 1 - circuit fault

Blink code of FI warning lamp (MIL)	 41 **FI** warning lamp (**MIL**) flashes 4x long, 1x short
Error level condition	Fuel pump relay - short circuit to ground or open circuit
	Open/short circuit to plus

23 TECHNICAL DATA

23.1 Engine

Design	1-cylinder 4-stroke engine, water-cooled
Displacement	449.3 cm³ (27.418 cu in)
Stroke	63.4 mm (2.496 in)
Bore	95 mm (3.74 in)
Compression ratio	12.6:1
Idle speed	2,000... 2,200 rpm
Control	OHC, 4 valves controlled via rocker arm
Valve diameter, intake	40 mm (1.57 in)
Valve diameter, exhaust	33 mm (1.3 in)
Valve clearance	
Intake at: 20 °C (68 °F)	0.10... 0.15 mm (0.0039... 0.0059 in)
Exhaust at: 20 °C (68 °F)	0.12... 0.17 mm (0.0047... 0.0067 in)
Crankshaft bearing	2 grooved ball bearings
Conrod bearing	Slide bearing
Piston pin bearing	Not a bearing bush - DLC-plated piston pins
Pistons	Forged light alloy
Piston rings	1 compression ring, 1 oil scraper ring
Engine lubrication	Pressure circulation lubrication with two Eaton pumps
Primary transmission	32:76
Clutch	Multidisc clutch in oil bath/hydraulically activated/damped
Gearbox	6-gear, claw shifted
Transmission ratio	
1st gear	16:32
2nd gear	18:30
3rd gear	20:28
4th gear	22:26
5th gear	24:24
Sixth gear	21:18
Alternator	12 V, 200 W
Ignition	Contactless controlled fully electronic ignition with digital ignition adjustment
Spark plug	NGK LKAR8AI-9
Spark plug electrode gap	0.9 mm (0.035 in)
Cooling	Water cooling, permanent circulation of coolant by water pump
Starting aid	Electric starter

23.2 Engine tightening torques

Banjo bolt, oil line	10x1	12 Nm (8.9 lbf ft)	–
Screw, membrane	M3	1.5 Nm (1.11 lbf ft)	**Loctite® 243™**
Screw, cable holder in alternator cover	M4	4 Nm (3 lbf ft)	**Loctite® 243™**
Screw, oil jet for piston cooling	M4	2 Nm (1.5 lbf ft)	**Loctite® 243™**
Oil nozzle, piston cooling	M5	2 Nm (1.5 lbf ft)	**Loctite® 243™**
Oil nozzle, rocker arm lubrication	M5	2 Nm (1.5 lbf ft)	**Loctite® 243™**
Screw, bearing retainer	M5	6 Nm (4.4 lbf ft)	**Loctite® 2701™**
Screw, clutch spring retainer	M5	6 Nm (4.4 lbf ft)	–
Screw, crankshaft position sensor	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, locking lever	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, oil filter cover	M5	6 Nm (4.4 lbf ft)	–
Screw, stator	M5	10 Nm (7.4 lbf ft)	**Loctite® 648™**
Screw, suction pump cover	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Nut, water-pump wheel	M6	8 Nm (5.9 lbf ft)	**Loctite® 243™**

Screw, alternator cover	M6	10 Nm (7.4 lbf ft)	–
Screw, bearing bolt for starter idler gear	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, bearing bolt, torque limiter	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, camshaft support plate	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, clutch cover	M6	10 Nm (7.4 lbf ft)	–
Screw, cylinder head	M6	10 Nm (7.4 lbf ft)	–
Screw, engine case	M6	10 Nm (7.4 lbf ft)	–
Screw, exhaust flange	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, pressure pump cover	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, shift drum locating	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, shift lever	M6	14 Nm (10.3 lbf ft)	**Loctite® 243™**
Screw, starter motor	M6	10 Nm (7.4 lbf ft)	–
Screw, timing chain guide rail	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, timing chain securing guide	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, timing chain tensioner	M6	10 Nm (7.4 lbf ft)	–
Screw, timing chain tensioning rail	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, valve cover	M6	10 Nm (7.4 lbf ft)	–
Screw, water pump cover	M6	10 Nm (7.4 lbf ft)	–
Oil nozzle for conrod bearing lubrication	M6x0.75	4 Nm (3 lbf ft)	–
Plug, oil channel	M7	9 Nm (6.6 lbf ft)	**Loctite® 243™**
Screw, rocker arm bearing	M7	15 Nm (11.1 lbf ft)	–
Plug, timing chain tensioner	M8	8 Nm (5.9 lbf ft)	–
Screw plug, crankshaft location	M8	10 Nm (7.4 lbf ft)	–
Plug, oil channel	M10	15 Nm (11.1 lbf ft)	**Loctite® 243™**
Screw, engine sprocket	M10	60 Nm (44.3 lbf ft)	**Loctite® 2701™**
Screw, cylinder head	M10x1.25	Step 1 10 Nm (7.4 lbf ft) Step 2 30 Nm (22.1 lbf ft) Step 3 50 Nm (36.9 lbf ft)	Lubricated with engine oil
Nut, rotor	M12x1	60 Nm (44.3 lbf ft)	Thread, oiled with engine oil/cone degreased
Spark plug	M12x1.25	15... 20 Nm (11.1... 14.8 lbf ft)	–
Engine coolant temperature sensor	M12x1.5	12 Nm (8.9 lbf ft)	–
Oil drain plug with magnet	M12x1.5	20 Nm (14.8 lbf ft)	–
Plug, oil pressure regulator valve	M12x1.5	20 Nm (14.8 lbf ft)	–
Nut, inner clutch hub	M18x1.5	80 Nm (59 lbf ft)	–
Screw plug, rocker arm	M18x1.5	30 Nm (22.1 lbf ft)	–
Filler plug on the oil filter housing	M20x1.5	8 Nm (5.9 lbf ft)	–
Nut, primary gear	M20LHx1.5	100 Nm (73.8 lbf ft)	**Loctite® 648™**
Screw plug, oil screen	M20x1.5	15 Nm (11.1 lbf ft)	–

23.3 Capacities

23.3.1 Engine oil

Engine oil		
Total filling level, oil change	1.40 l (1.48 qt.)	Engine oil (SAE 10W/50) (📖 p. 132)
Total filling level, engine service (with oil radiator)	1.80 l (1.9 qt.)	Engine oil (SAE 10W/50) (📖 p. 132)

23.3.2 Coolant

Coolant	1.2 l (1.3 qt.)	Coolant (📖 p. 132)

23.3.3 Fuel

Fuel tank capacity		
Fuel tank half, front left, approx.	7.5 l (1.98 US gal)	Super unleaded (ROZ 95/RON 95/PON 91) (📖 p. 132)
Fuel tank half, front right, approx.	7.5 l (1.98 US gal)	Super unleaded (ROZ 95/RON 95/PON 91) (📖 p. 132)
Rear fuel tank, approx.	18.0 l (4.76 US gal)	Super unleaded (ROZ 95/RON 95/PON 91) (📖 p. 132)
Total fuel capacity, approx.	33.0 l (8.72 US gal)	Super unleaded (ROZ 95/RON 95/PON 91) (📖 p. 132)

23.4 Chassis

Frame	Lattice frame of chromium-molybdenum steel tubes, powder-coated
Suspension travel	
Front	305 mm (12.01 in)
Rear	300 mm (11.81 in)
Brake system	Disc brakes, brake calipers on floating bearings
Brake discs - diameter	
Front	300 mm (11.81 in)
Rear	240 mm (9.45 in)
Brake discs - wear limit	
Front	3.4 mm (0.134 in)
Rear	3.4 mm (0.134 in)
Tire air pressure on road	
Front	1.5 bar (22 psi)
Rear	1.5 bar (22 psi)
Tire air pressure off road	
Front	1.0... 1.5 bar (15... 22 psi)
Rear	1.0... 1.5 bar (15... 22 psi)
Secondary drive ratio	14:48
Rear sprockets available	44, 46, 48, 49, 50, 51
Chain	5/8 x 1/4"
Wheelbase	1,520±10 mm (59.84±0.39 in)
Steering head angle	62.5°
Seat height unloaded	960 mm (37.8 in)
Ground clearance unloaded	280 mm (11.02 in)
Weight without fuel, approx.	139 kg (306 lb.)
Maximum permissible front axle load	190 kg (419 lb.)
Maximum permissible rear axle load	250 kg (551 lb.)
Maximum permissible overall weight	400 kg (882 lb.)

23.5 Electrical system

Lithium-ion battery	Battery voltage: 13.2 V Nominal capacity: 4.6 Ah maintenance-free	
Fuse	58011109105	5 A
Fuse	58011109110	10 A
Fuse	58011109115	15 A
Fuse	58011109130	30 A
High beam	HB3 / socket P20d	12 V 60 W
Low beam	HB3 / socket P20d	12 V 60 W
Parking light	W5W / socket W2.1x9.5d	12 V 5 W
Indicator lamps	W1.2W / socket W2x4.6d	12 V 1.2 W
Turn signal	RY10W / socket BAU15s	12 V 10 W
Brake / tail light	LED	
License plate lamp	W5W / socket W2.1x9.5d	12 V 5 W

23.6 Tires

Front tires	**Rear tires**
90/90 - 21 54S TT Michelin T63	**130/80 - 18 66S TT** Michelin T63
The tires specified represent one of the possible series production tires. Additional information is available in the Service section under: http://www.ktm.com	

23.7 Fork

Fork part number	14.18.2N.40
Fork	**WP Performance Systems** Up Side Down 4860 MXMA CC
Compression damping	
Standard	10 clicks
Rebound damping	
Standard	20 clicks
Spring length with preload spacer(s)	485 mm (19.09 in)
Spring rate	
Weight of rider (soft): 65... 75 kg (143... 165 lb.)	4.6 N/mm (26.3 lb/in)
Weight of rider (standard): 75... 85 kg (165... 187 lb.)	4.8 N/mm (27.4 lb/in)
Weight of rider (hard): 85... 95 kg (187... 209 lb.)	5.0 N/mm (28.6 lb/in)
Gas pressure	1.8 bar (26 psi)
Fork length	950 mm (37.4 in)

Oil capacity fork leg without cartridge	400 ml (13.52 fl. oz.)	Fork oil (SAE 4) (48601166S1) (📖 p. 132)

23.8 Shock absorber

Shock absorber article number	18.18.0N.40
Shock absorber	**WP Performance Systems**
Compression damping, low-speed	
Standard	12 clicks
Compression damping, high-speed	
Standard	34 clicks
Rebound damping	
Standard	18 clicks
Spring preload	
Standard	12 mm
Spring rate	
Weight of rider (soft): 65... 75 kg (143... 165 lb.)	51 N/mm (291 lb/in)
Weight of rider (standard): 75... 85 kg (165... 187 lb.)	54 N/mm (308 lb/in)
Weight of rider (hard): 85... 95 kg (187... 209 lb.)	57 N/mm (325 lb/in)
Spring length	190 mm (7.48 in)
Gas pressure	8 bar (116 psi)
Static sag	35 mm (1.38 in)
Riding sag	100 mm (3.94 in)
Fitted length	473 mm (18.62 in)

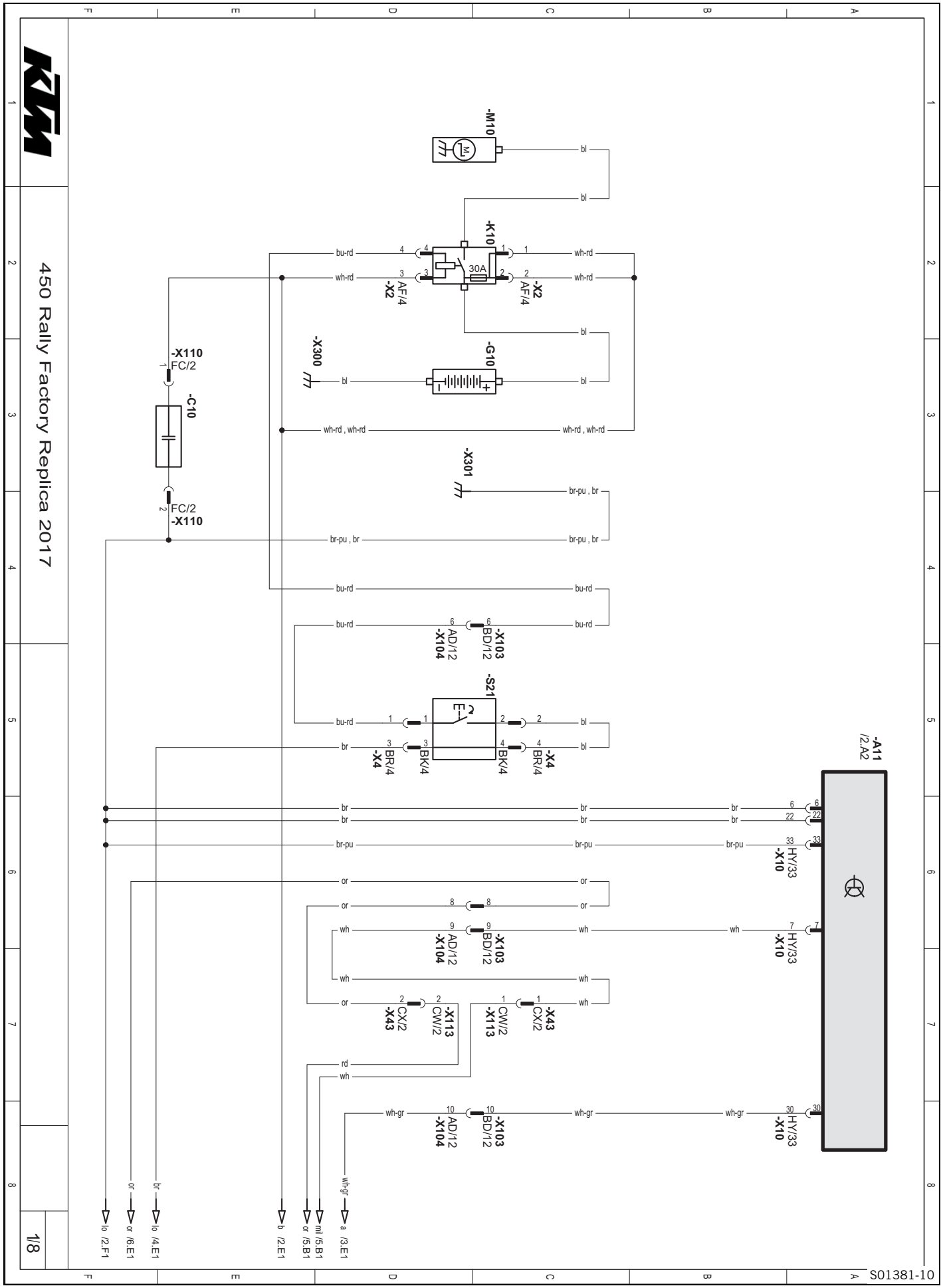
Shock absorber oil	Shock absorber fluid (SAE 2.5) (50180751S1) (📖 p. 132)

23.9 Chassis tightening torques

Screw, license plate holder, bottom	EJOT	3 Nm (2.2 lbf ft)	–
Screw, license plate lamp	EJOT PT K50x18 T20	1.5 Nm (1.11 lbf ft)	–
Screw, tail light	EJOT PT K60x20	2 Nm (1.5 lbf ft)	–
Spoke nipple, front wheel	M4.5	5... 6 Nm (3.7... 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, additional tail light	M5	2 Nm (1.5 lbf ft)	–
Screw, air baffle	M5	1 Nm (0.7 lbf ft)	–
Screw, brake line holder on bottom triple clamp	M5	2 Nm (1.5 lbf ft)	–
Screw, foot brake lever foothold	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, fuel tank closure flange	M5	2.5 Nm (1.84 lbf ft)	–
Screw, fuel tap on frame	M5	5 Nm (3.7 lbf ft)	–
Screw, headlight cover	M5	1 Nm (0.7 lbf ft)	–
Screw, shock absorber adjusting ring	M5	5 Nm (3.7 lbf ft)	–
Screw, trim	M5	2 Nm (1.5 lbf ft)	–
Spoke nipple, rear wheel	M5	5... 6 Nm (3.7... 4.4 lbf ft)	–
Nut, cable on battery	M6	5 Nm (3.7 lbf ft)	–
Nut, cable on starter motor	M6	10 Nm (7.4 lbf ft)	–
Remaining nuts, chassis	M6	10 Nm (7.4 lbf ft)	–
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)	–
Screw connection, foot brake cylinder	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw connection, spring holder at side stand bracket	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw connection, voltage regulator	M6	8 Nm (5.9 lbf ft)	**Loctite® 243™**
Screw, air filter box top	M6	2 Nm (1.5 lbf ft)	–
Screw, bottom radiator bracket	M6	5 Nm (3.7 lbf ft)	–
Screw, brake fluid reservoir of rear brake	M6	5 Nm (3.7 lbf ft)	–

Screw, cable on starter relay	M6	5 Nm (3.7 lbf ft)	–
Screw, chain sliding guard	M6	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, engine guard bracket on engine bearer	M6	15 Nm (11.1 lbf ft)	–
Screw, front brake disc	M6	14 Nm (10.3 lbf ft)	**Loctite® 243™**
Screw, rear brake disc	M6	14 Nm (10.3 lbf ft)	**Loctite® 243™**
Screw, seat holder	M6	15 Nm (11.1 lbf ft)	–
Screw, seat lock	M6	5 Nm (3.7 lbf ft)	–
Screw, steering damper	M6	15 Nm (11.1 lbf ft)	–
Screw, steering damper bracket	M6	15 Nm (11.1 lbf ft)	–
Silentblock, air filter box	M6	2 Nm (1.5 lbf ft)	–
Nut, rear sprocket screw	M8	35 Nm (25.8 lbf ft)	**Loctite® 243™**
Nut, rim lock	M8	10 Nm (7.4 lbf ft)	–
Remaining nuts, chassis	M8	30 Nm (22.1 lbf ft)	–
Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)	–
Screw connection, rear fuel tank, bottom	M8	25 Nm (18.4 lbf ft)	**Loctite® 243™**
Screw, bottom triple clamp	M8	12 Nm (8.9 lbf ft)	–
Screw, chain sliding piece	M8	15 Nm (11.1 lbf ft)	–
Screw, connection lever on frame	M8	30 Nm (22.1 lbf ft)	**Loctite® 243™**
Screw, engine guard	M8	25 Nm (18.4 lbf ft)	**Loctite® 243™**
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 brake caliper	M8	30 Nm (22.1 lbf ft)	**Loctite® 243™**
Screw, front fuel tank	M8	8 Nm (5.9 lbf ft)	–
Screw, fuel tank bracket	M8	15 Nm (11.1 lbf ft)	–
Screw, handlebar clamp	M8	16 Nm (11.8 lbf ft)	–
Screw, license plate holder, top	M8	20 Nm (14.8 lbf ft)	–
Screw, rear fuel tank, top	M8	25 Nm (18.4 lbf ft)	**Loctite® 243™**
Screw, side stand bracket	M8	25 Nm (18.4 lbf ft)	**Loctite® 243™**
Screw, steering stem, bottom	M8	25 Nm (18.4 lbf ft)	**Loctite® 243™**
Screw, top steering stem	M8	20 Nm (14.8 lbf ft)	–
Screw, top triple clamp	M8	17 Nm (12.5 lbf ft)	–
Remaining nuts, chassis	M10	50 Nm (36.9 lbf ft)	–
Remaining screws, chassis	M10	45 Nm (33.2 lbf ft)	–
Screw connection, engine mounting bracket	M10	45 Nm (33.2 lbf ft)	**Loctite® 243™**
Screw connection, shock absorber, bottom	M10	45 Nm (33.2 lbf ft)	**Loctite® 243™**
Screw connection, shock absorber, top	M10	45 Nm (33.2 lbf ft)	**Loctite® 243™**
Screw, engine bearer on frame	M10	30 Nm (22.1 lbf ft)	–
Screw, handlebar support	M10	40 Nm (29.5 lbf ft)	**Loctite® 243™**
Screw, side stand	M10	35 Nm (25.8 lbf ft)	**Loctite® 243™**
Banjo bolt	M10x1	12 Nm (8.9 lbf ft)	–
Nut, turn signal	M10x1.25	8 Nm (5.9 lbf ft)	–
Nut, angle lever on swingarm	M14x1.5	100 Nm (73.8 lbf ft)	–
Nut, linkage lever to angle lever	M14x1.5	100 Nm (73.8 lbf ft)	–
Nut, swingarm pivot	M14x1.5	100 Nm (73.8 lbf ft)	–
Screw, top steering head	M20x1	12 Nm (8.9 lbf ft)	–
Screw, front wheel spindle	M24x1.5	40 Nm (29.5 lbf ft)	–
Nut, rear wheel spindle	M25x1.5	90 Nm (66.4 lbf ft)	–

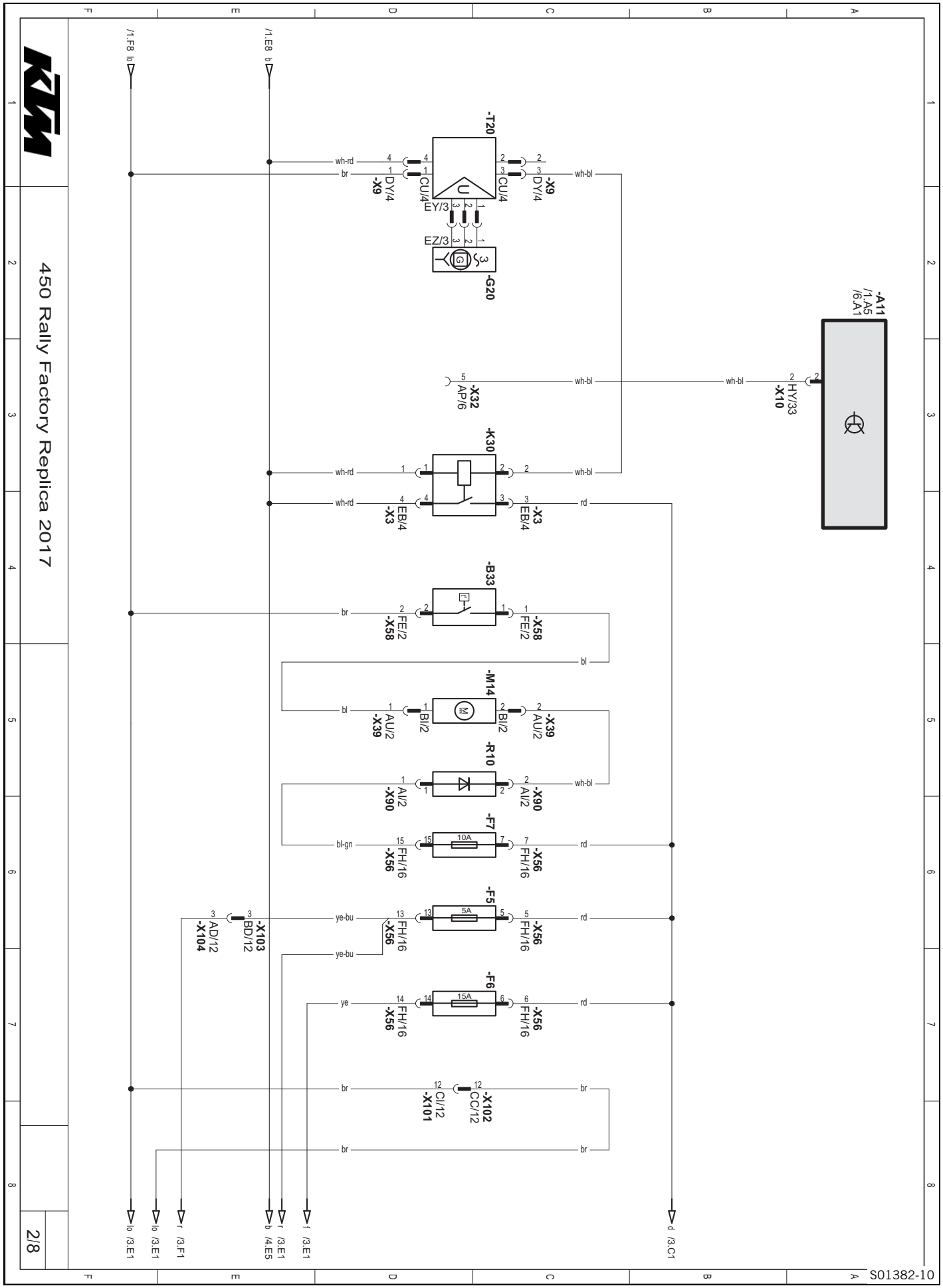
24.1 Page 1 of 8



Components:

A11	EFI control unit
G10	Battery
K10	Starter relay with main fuse
M10	Electric starter system
S21	Electric starter button
C10	Capacitor

24.2 Page 2 of 8



Components:

A11	EFI control unit
B33	Radiator fan temperature switch
R10	Diode
F5	Fuse
F6	Fuse
F7	Fuse
G20	Alternator
K30	Power relay
M14	Radiator fan
T20	Voltage regulator

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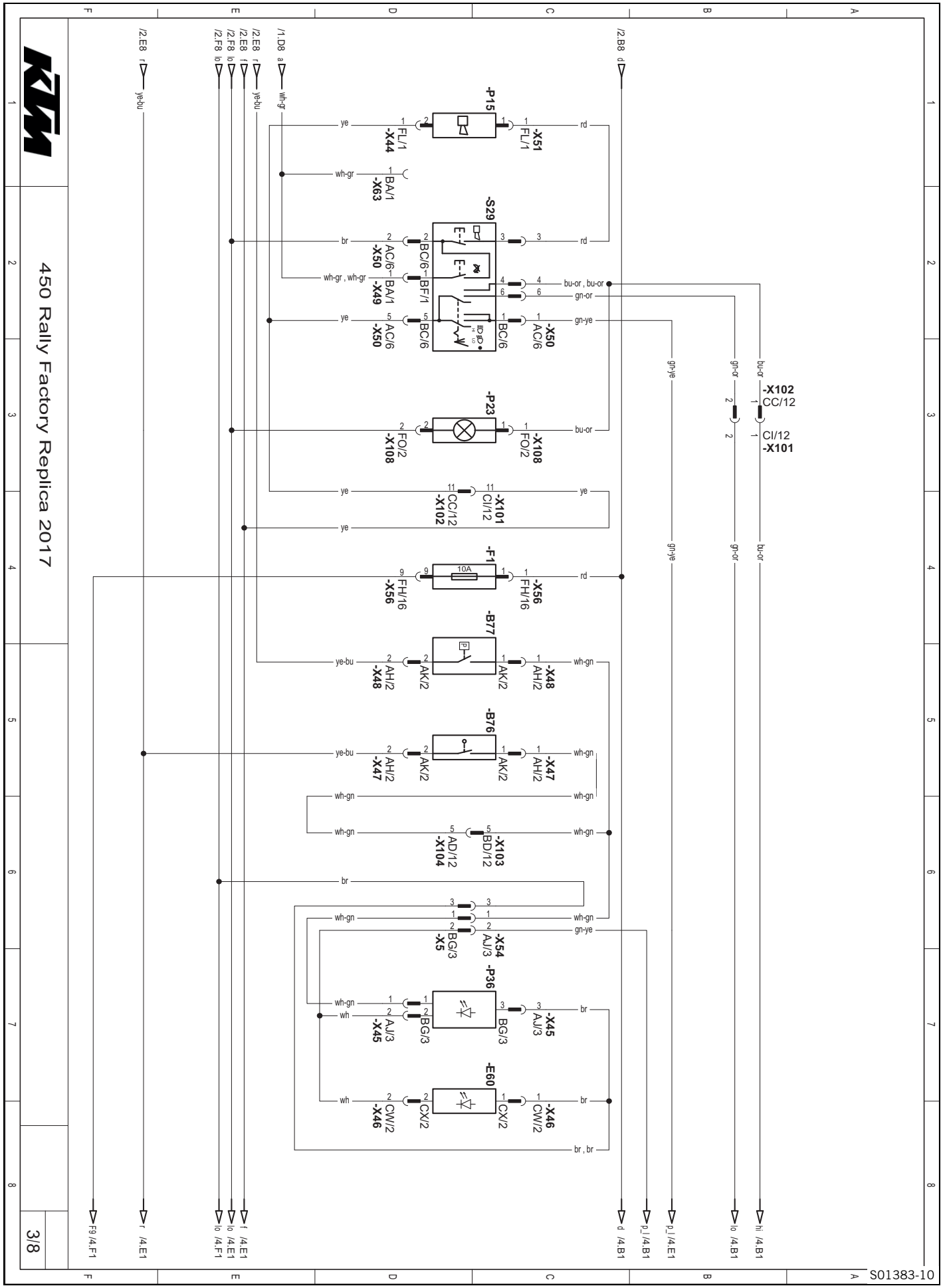

Components:

B76	Front brake light switch
B77	Rear brake light switch
E60	License plate lamp
F1	Fuse
P15	Horn
P36	Brake/tail light
P23	High beam indicator lamp
S29	Light switch, horn button, kill switch

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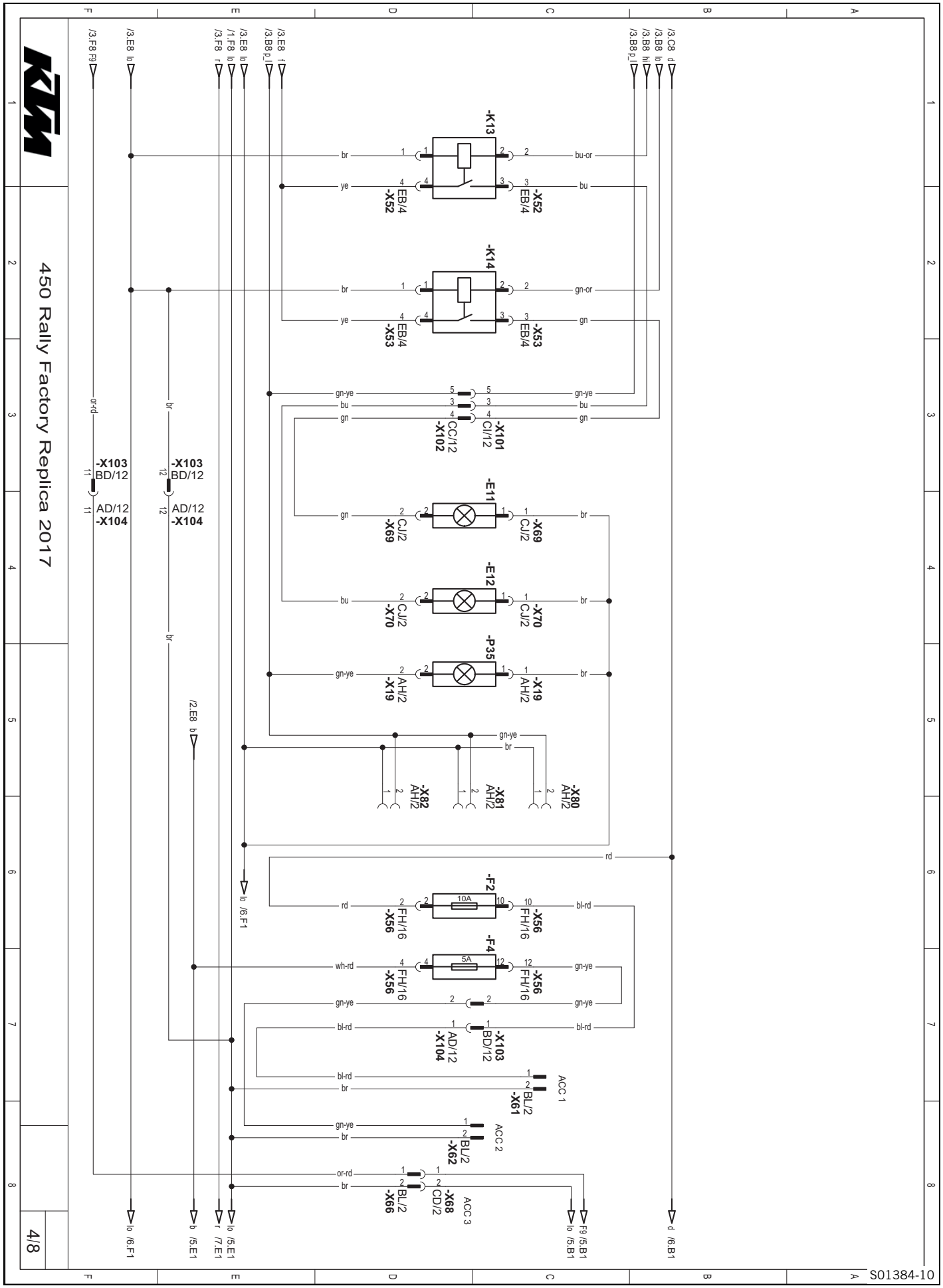

24 WIRING DIAGRAM

Components:

E11	Low beam
E12	High beam
F4	Fuse
F2	Fuse
K13	High beam relay
K14	Low beam relay
P35	Parking light
X80	Instrument lights
X81	Instrument lights
X82	Instrument lights

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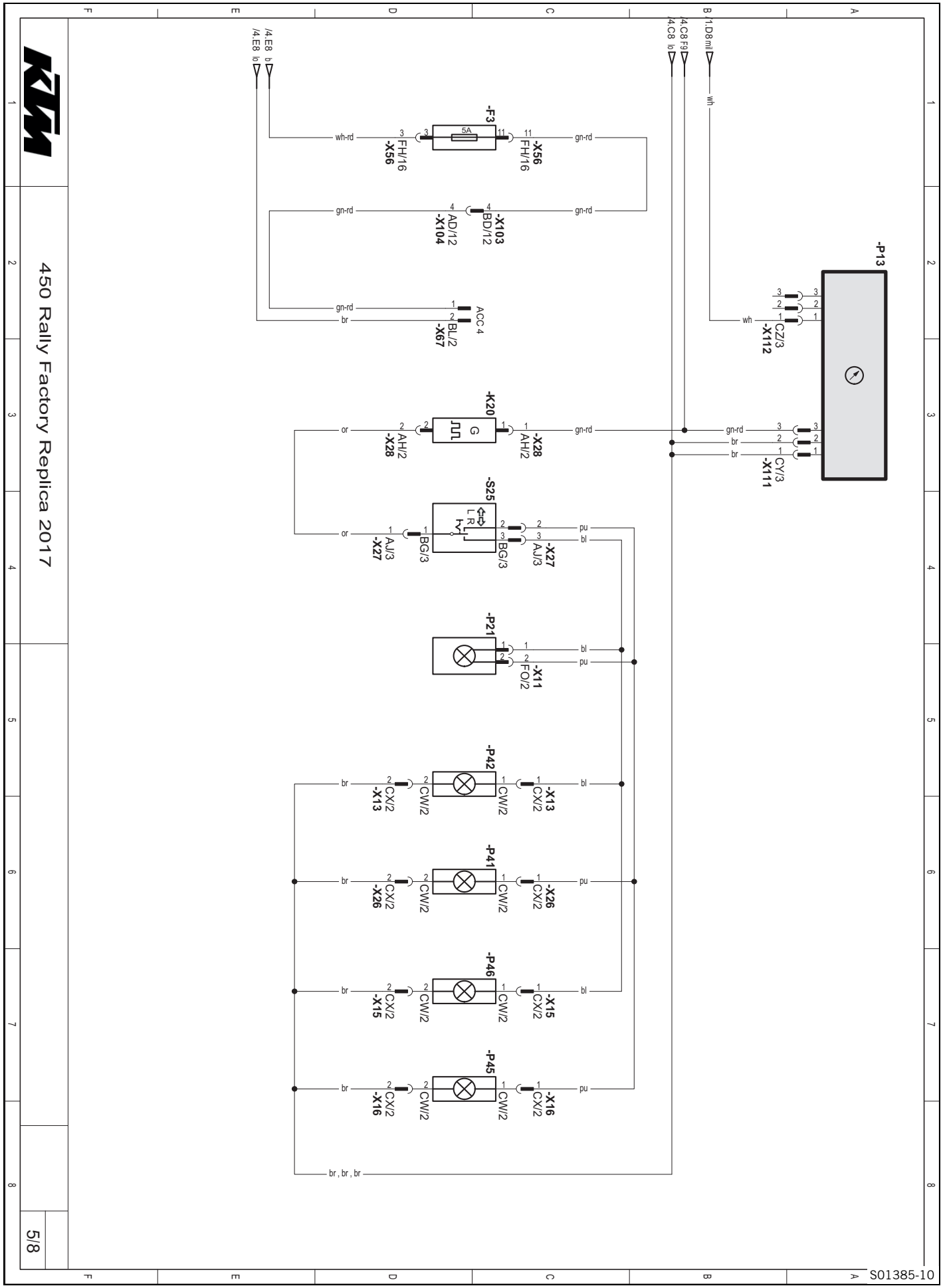
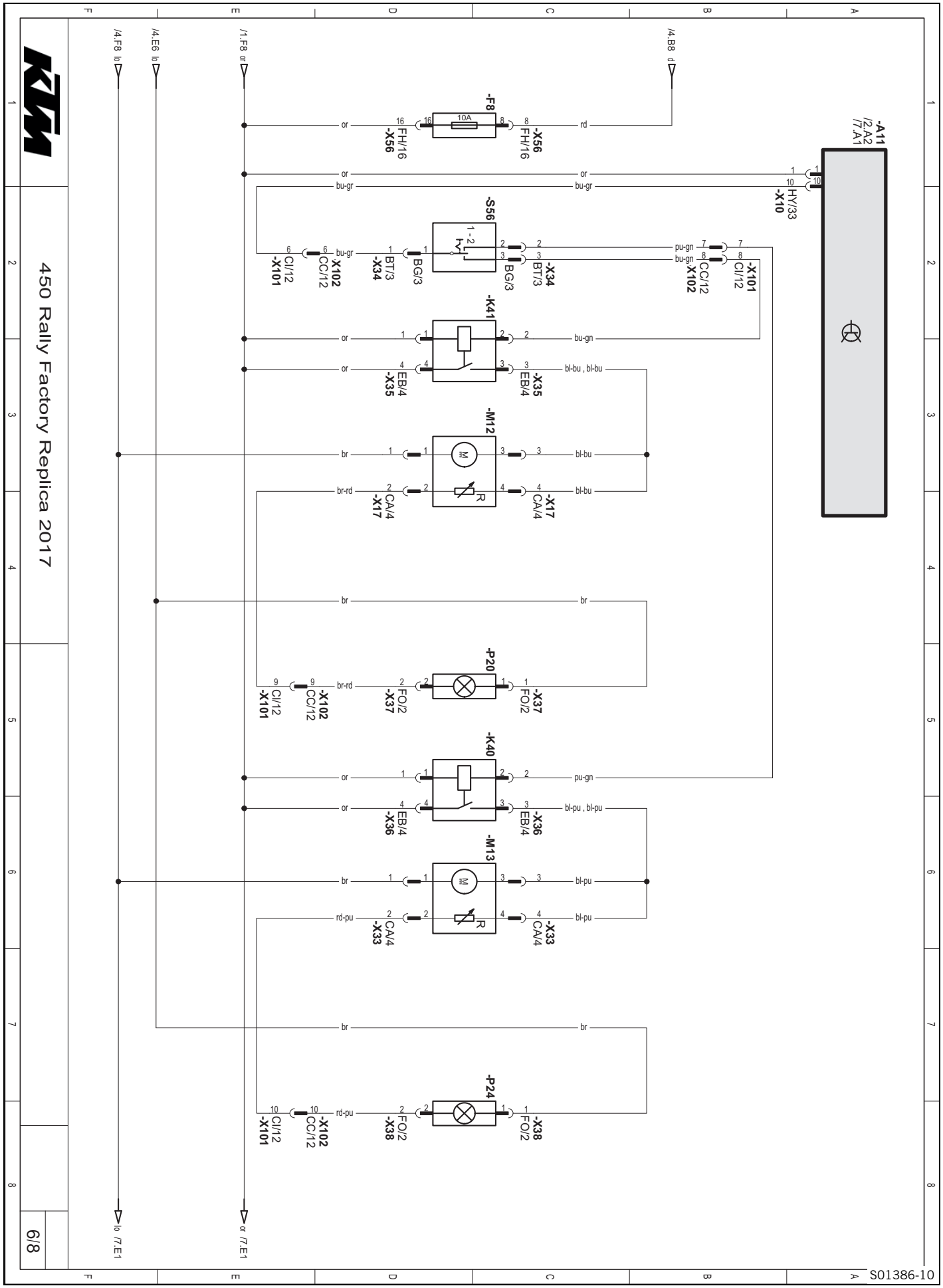


Components:

F3	Fuse
K20	Turn signal relay
P21	Turn signal indicator lamp
P41	Front left turn signal
P42	Front right turn signal
P45	Rear left turn signal
P46	Rear right turn signal
P13	Speedometer
S25	Turn signal switch

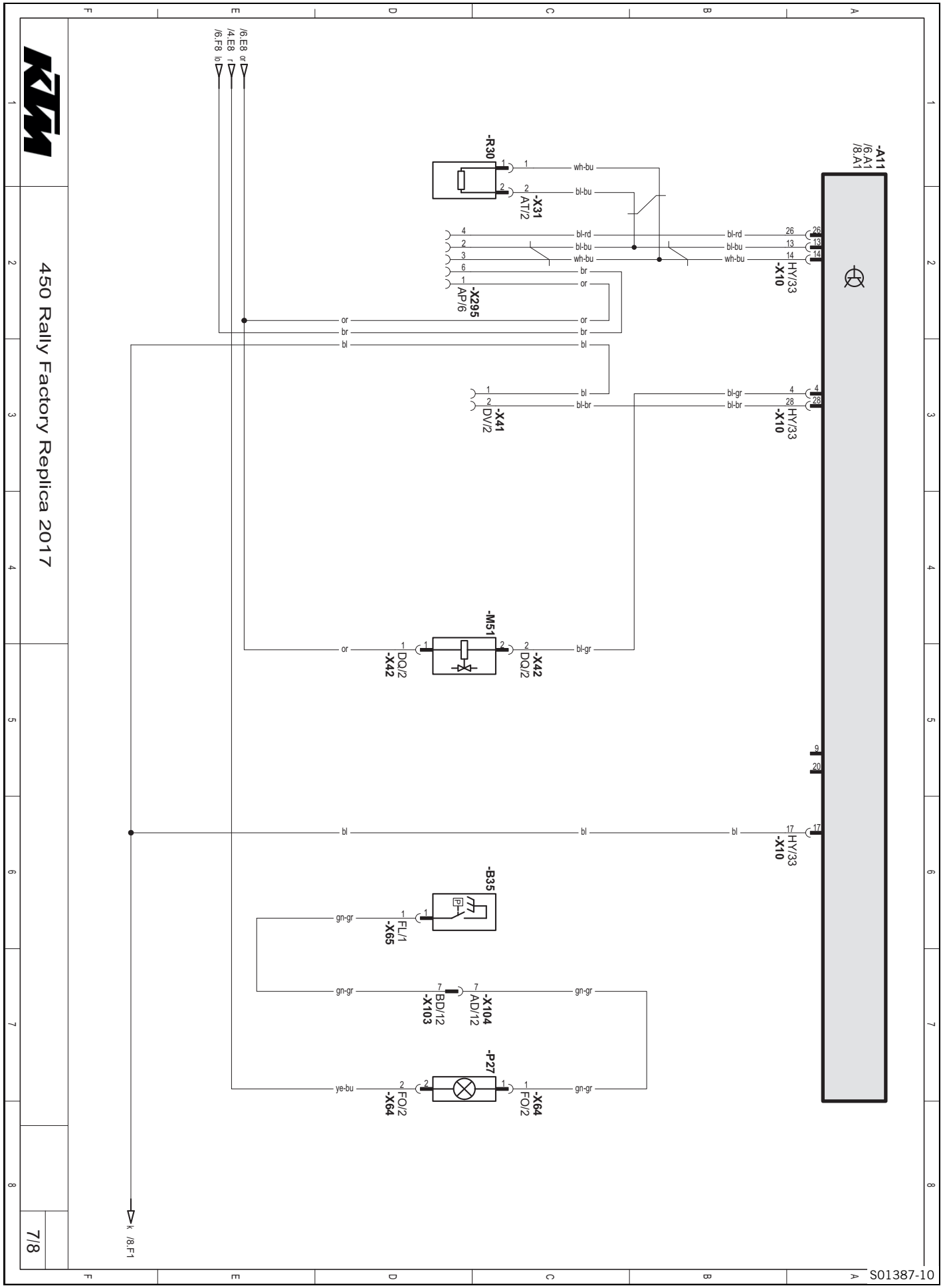
24.6 Page 6 of 8



Components:

A11	EFI control unit
F8	Fuse
K41	Relay for rear fuel pump
K40	Relay for front fuel pump
M12	Rear fuel pump
M13	Front fuel pump
P20	Rear fuel level warning lamp
P24	Front fuel level warning lamp
S56	Fuel pump switch

24.7 Page 7 of 8



Components:

A11	EFI control unit
B35	Oil pressure sensor
M51	Injection valve
P27	Oil pressure warning lamp
R30	CAN bus terminating resistor
X295	Diagnostics connector

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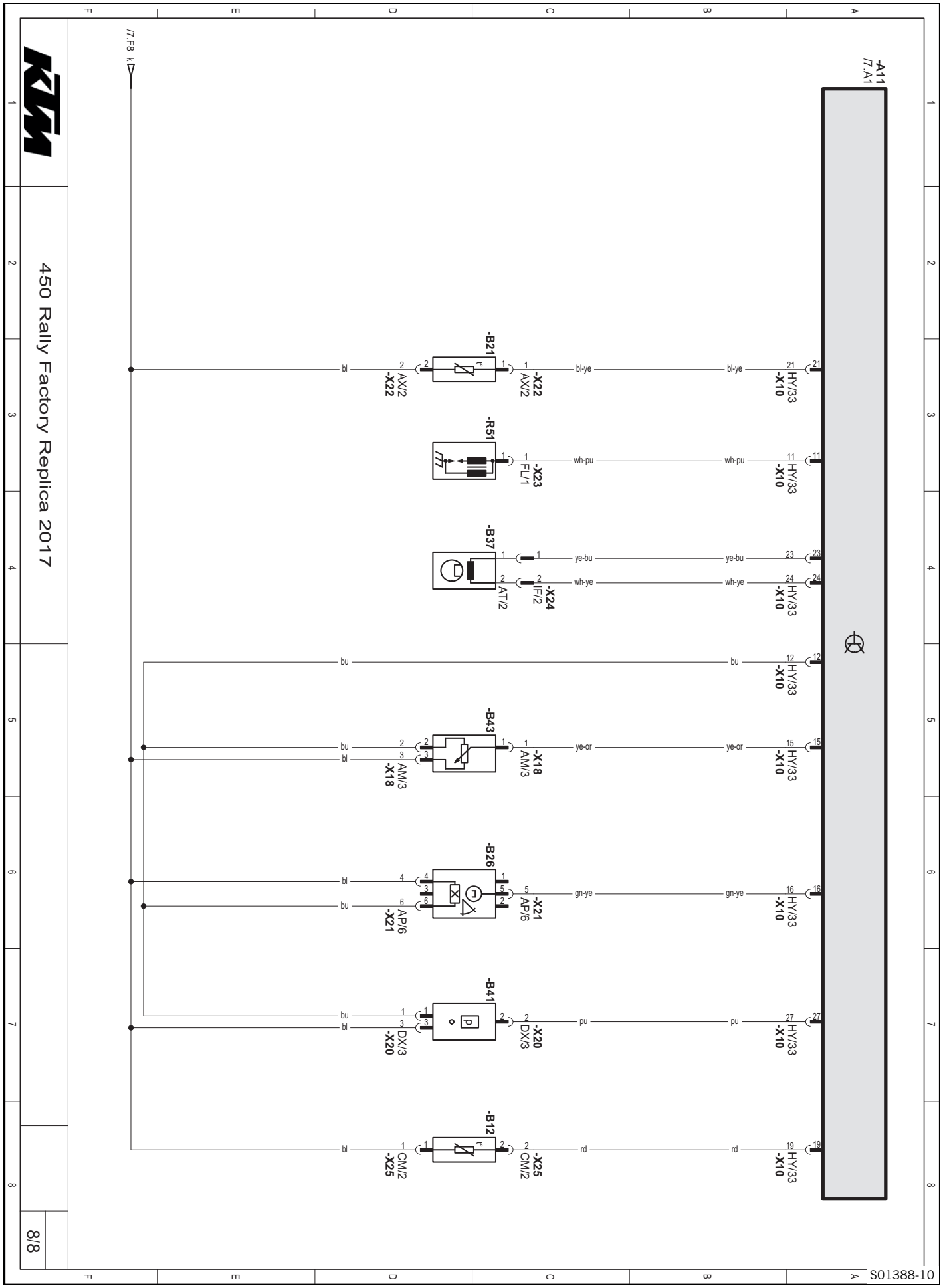

Components:	
A11	EFI control unit
B43	Throttle valve position sensor
B12	Intake air temperature sensor
B21	Engine coolant temperature sensor
B26	Rollover sensor
B37	Crankshaft position sensor
B41	Induction manifold pressure sensor
R51	Ignition coil
Cable colors:	
bl	Black
br	Brown
bu	Blue
gn	Green
gr	Gray
lbu	Light blue
or	Orange
pk	Pink
pu	Violet
rd	Red
wh	White
ye	Yellow

Brake fluid DOT 4 / DOT 5.1

Standard/classification
– DOT

Guideline
– Use only brake fluid that complies with the specified standard (see specifications on the container) and that exhibits the corresponding properties.

Recommended supplier
Castrol
– **RESPONSE BRAKE FLUID SUPER DOT 4**

Motorex®
– **Brake Fluid DOT 5.1**

Coolant

Guideline
– Only use high quality coolant with corrosion inhibitor for aluminum motors (even in countries with high temperatures). Using inferior antifreeze can result in corrosion and foaming.

Mixture ratio

Antifreeze protection: −25… −45 °C (−13… −49 °F)	anti-corrosion/antifreeze distilled water

Recommended supplier
Motorex®
– **COOLANT M3.0**

Engine oil (SAE 10W/50)

Standard/classification
– JASO T903 MA (📖 p. 135)
– SAE (📖 p. 135) (SAE 10W/50)

Guideline
– Use only engine oils that comply with the specified standards (see specifications on the container) and that possess the corresponding properties.

Synthetic engine oil

Recommended supplier
Motorex®
– **Cross Power 4T**

Fork oil (SAE 4) (48601166S1)

Standard/classification
– SAE (📖 p. 135) (SAE 4)

Guideline
– Use only oils that comply with the specified standards (see specifications on the container) and that exhibit the corresponding properties.

Shock absorber fluid (SAE 2.5) (50180751S1)

Standard/classification
– SAE (📖 p. 135) (SAE 2.5)

Guideline
– Use only oils that comply with the specified standards (see specifications on the container) and that exhibit the corresponding properties.

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).

Air filter cleaner

Recommended supplier
Motorex®
– **Racing Bio Dirt Remover**

Chain cleaner

Recommended supplier
Motorex®
– **Chain Clean**

Fuel additive

Recommended supplier
Motorex®
– **Fuel Stabilizer**

Grip adhesive (00062030051)

Recommended supplier
KTM AG
– **GRIP GLUE**

High viscosity grease

Recommended supplier
SKF®
– **LGHB 2**

Long-life grease

Recommended supplier
Motorex®
– **Bike Grease 2000**

Motorcycle cleaner

Recommended supplier
Motorex®
– **Moto Clean**

Off-road chain spray

Recommended supplier
Motorex®
– **Chainlube Offroad**

Oil for foam air filter

Recommended supplier
Motorex®
– **Racing Bio Liquid Power**

Preserving materials for paints, metal and rubber

Recommended supplier
Motorex®
– **Moto Protect**

Special cleaner for glossy and matte paint finishes, metal and plastic surfaces

Recommended supplier
Motorex®
– **Quick Cleaner**

Universal oil spray

Recommended supplier
Motorex®
– **Joker 440 Synthetic**

JASO T903 MA

Different technical development directions required a new specification for 4-stroke motorcycles – the JASO T903 MA Standard. Earlier, engine oils from the automobile industry were used for 4-stroke motorcycles because there was no separate motorcycle specification. Whereas long service intervals are demanded for automobile engines, high performance at high engine speeds are in the foreground for motorcycle engines. In most motorcycles, the gearbox and the clutch are lubricated with the same oil as the engine. The JASO MA Standard meets these special requirements.

SAE

The SAE viscosity classes were defined by the Society of Automotive Engineers and are used for classifying oils according to their viscosity. The viscosity describes only one property of oil and says nothing about quality.

OBD	On-board diagnosis	Vehicle system that monitors emission- and safety-related values

29 LIST OF ABBREVIATIONS

Art. no.	Article number
ca.	circa
cf.	compare
e.g.	for example
etc.	et cetera
i.a.	inter alia
no.	number
poss.	possibly

30 LIST OF SYMBOLS

30.1 Red symbols

Red symbols indicate an error condition that requires immediate intervention.

	The oil pressure warning lamp lights up red – The oil pressure is too low.

30.2 Yellow and orange symbols

Yellow and orange symbols indicate an error condition that requires prompt intervention. Active driving aids are also represented by yellow or orange symbols.

	The left low fuel warning lamp lights up orange – The fuel level of the two front fuel tanks has reached the reserve mark.
	Optional **FI** warning lamp (**MIL**) lights up/flashes orange – The OBD has detected an emission- or safety-critical fault.

30.3 Green and blue symbols

Green and blue symbols reflect information.

	Turn signal indicator lamp flashes green – The turn signal is switched on.
	The high beam indicator lamp lights up blue – The high beam is switched on.

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