OWNER'S MANUAL 2019

READY TO RACE
»www.ktm.com

450 RALLY Factory Replica

Art. no. 3213863en

DEAR KTM CUSTOMER

Congratulations on your decision to purchase a KTM motorcycle. You are now the owner of a state-of-the-art sports vehicle that will continue giving you pleasure for a long time if you maintain it properly.

We wish you good and safe riding at all times!

Enter the serial numbers of your vehicle below.

Vehicle identification number (📖 p. 13)	Dealer's stamp
Engine number (📖 p. 13)	
Key number (📖 p. 13)	

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 figures 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)
KTM applies quality assurance processes that lead to the highest possible product quality as defined in the ISO 9001 international quality management standard.
Issued by: TÜV Management Service

KTM Sportmotorcycle GmbH
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5230 Mattighofen, Austria

This document is valid for the following models:
450 RALLY Factory Replica (F9399S8)

3213863en

10/2018

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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! Your motorcycle will be optimally cared for there by specially trained experts using the special 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.
V	Indicates a voltage measurement.
A	Indicates a current measurement.
◀	Indicates the end of an activity, including potential reworking.

1.2 Formats used

The typographical formats used in this document are explained below.

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

2 SAFETY ADVICE

2.1 Use definition – intended use

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

Info
The motorcycle is authorized for public road traffic in the homologated (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 product described safely. Therefore read this instruction and all further instructions included carefully. The safety instructions are highlighted in the text and are referred to at the relevant passages.

Info
Various information and warning labels are attached in prominent locations on the product described. Do not remove any information or 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
Identifies a danger that will immediately and invariably lead to fatal or serious permanent injury if the appropriate measures are not taken.

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

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

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

Note
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 servicing, 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 silencers, 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 parts of the vehicle, or parts of the exhaust system 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 effective exhaust extraction 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 suitable protective clothing.

2.7 Work rules

Special tools are necessary for certain tasks. The tools are not a component of the vehicle, but can be ordered using the number in parentheses. Example: bearing puller (15112017000)
During assembly, use new parts to replace parts which cannot be reused (e.g. self-locking screws and nuts, seals, sealing rings, O-rings, pins, and lock washers).
In the case of certain screws, a screw adhesive (e.g. **Loctite®**) is required. Observe the manufacturer's instructions.
After disassembly, clean the parts that are to be reused and check them for damage and wear. Change damaged or worn parts.
After completing a 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, be environmentally aware, 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 assist 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 service 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.

The Owner's Manual is also available for download from your authorized KTM dealer and on the KTM website.
International KTM Website: http://www.ktm.com

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 the **KTM Dealer.net**, otherwise any warranty claim will be void. Damage or secondary damage caused by tampering with and/or conversions on the vehicle are not covered by the manufacturer warranty.
Additional information on the manufacturer or manufacturer warranty and the procedures involved can be found in the Service & Warranty Booklet.

3.2 Fuel, auxiliary substances

Note

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

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

Use fuels and auxiliary substances in accordance with the Owner's Manual and specification.

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

4.1 View of vehicle, front left

1. Clutch lever (📖 p. 15)
2. Seat release strap
3. Side stand (📖 p. 21)
4. Shift lever (📖 p. 21)

4.2 View of vehicle, rear right side

1 Fuel pump switch (p. 17)
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2 Light switch (p. 16)
2 Turn signal switch (p. 16)
2 Horn button (p. 16)
3 Electric starter button (p. 16)
4 Combination instrument
5 Throttle grip (p. 15)
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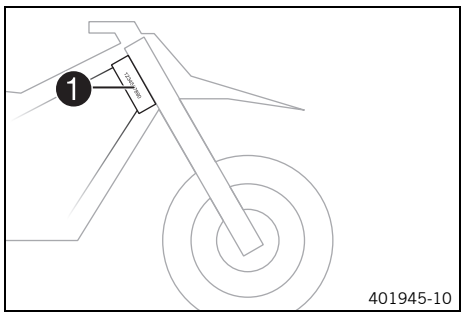
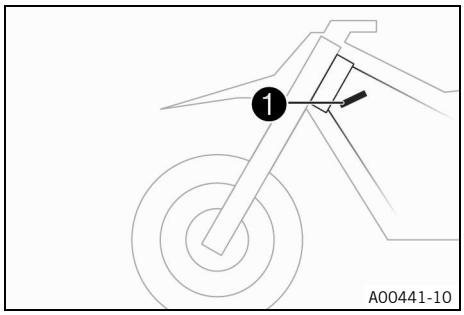
5.1 Vehicle identification number



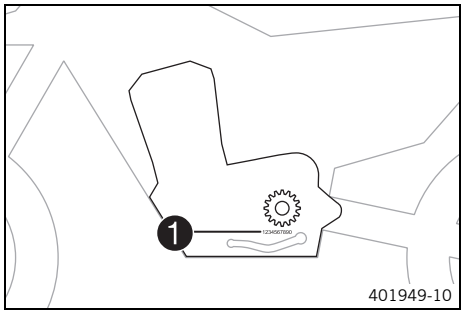
The vehicle identification number ❶ is embossed in the steering head on the right.

5.2 Type label



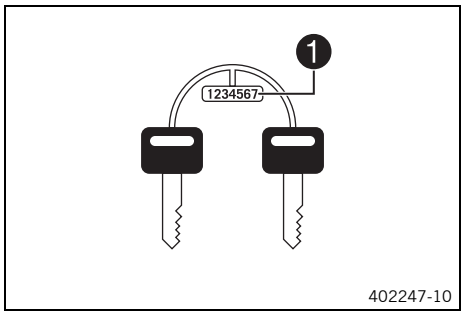
The type label ❶ is located on the steering head on the left.

5.3 Engine number



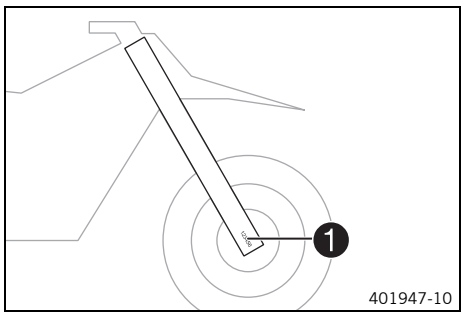
The engine number ❶ is stamped on the left side of the engine under the engine sprocket.

5.4 Key number



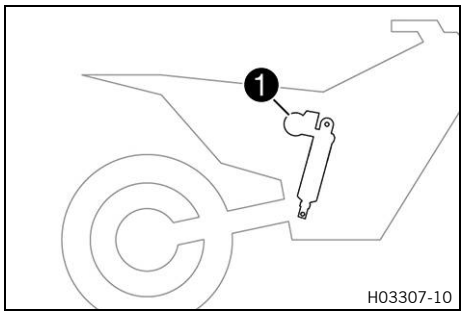
The key number ❶ for the steering lock is stamped onto the key connector.

5.5 Fork part number



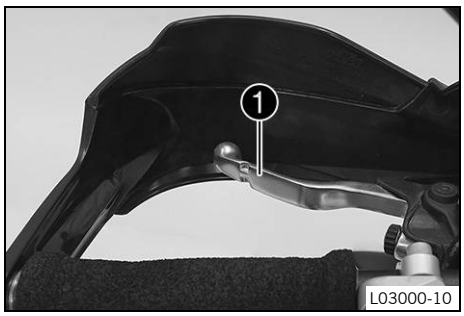
The fork part number ❶ is stamped on the inner side of the fork stub.

5.6 Shock absorber article number



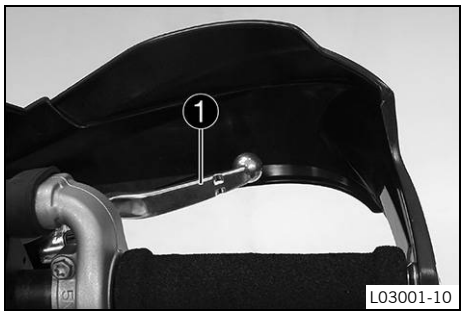
The shock absorber article number ❶ is located on the left side of the shock absorber compensating tank.

6.1 Clutch lever



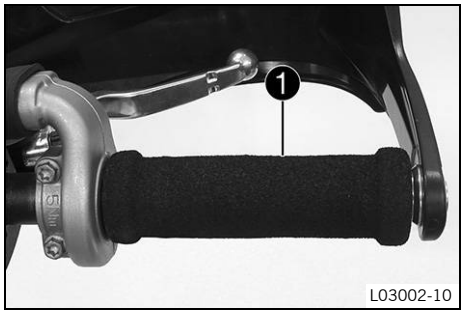
The clutch lever ❶ is fitted on the left side of the handlebar.
The clutch is hydraulically operated and self-adjusting.

6.2 Hand brake lever



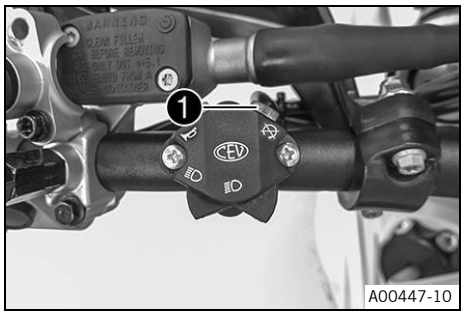
The hand brake lever ❶ is fitted on the right side of the handlebar.
The hand brake lever operates the front brake.

6.3 Throttle grip



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

6.4 Kill switch

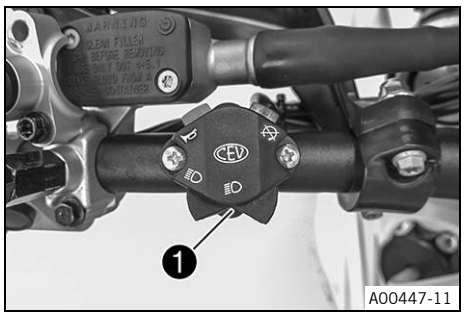


The kill switch ❶ is fitted on the left side of the handlebar.

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

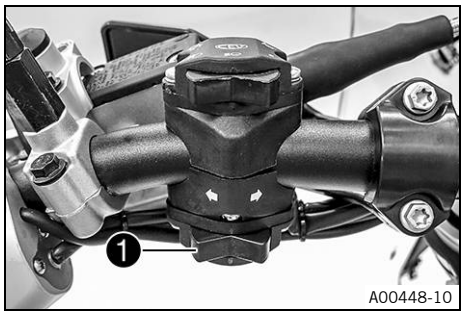


Light switch ❶ is fitted on the left side of the handlebar.

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

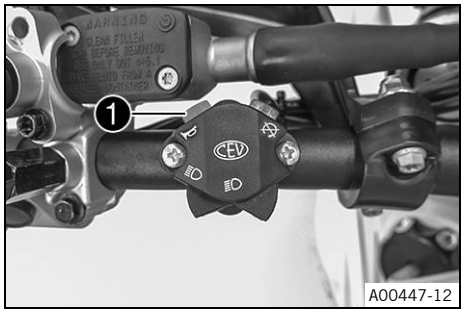


The turn signal switch ❶ is fitted on the left side of the handlebar.

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

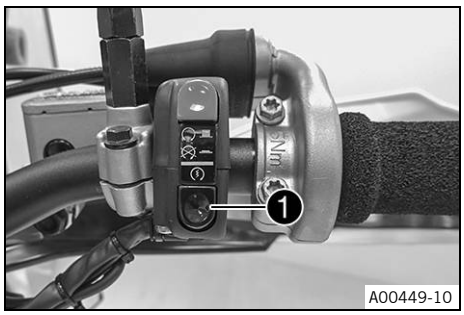


The horn button ❶ is fitted on the left side of the handlebar.

Possible states

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

6.8 Electric starter button

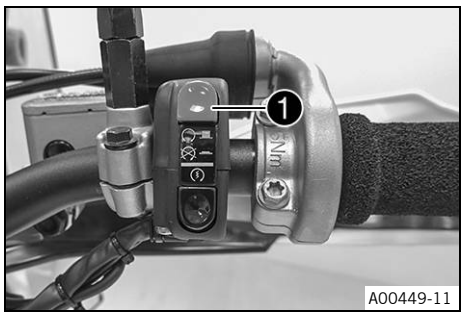


The electric starter button ❶ is fitted on the right side of the handlebar.

Possible states

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

6.9 Emergency OFF switch



The emergency OFF switch ❶ is fitted on the right side of the handlebar.

Possible states

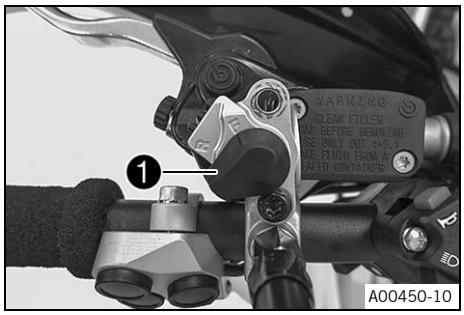
	Ignition off – In this position, the ignition circuit is interrupted, a running engine stops, and a non-running engine will not start.
	Ignition on – In this position, the ignition circuit is closed and the engine can be started.

6.10 Overview of indicator lamps

Possible states

	Left fuel level 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. Stop immediately, taking care not to endanger yourself or other road users in the process, and switch off the engine.
	Turn signal indicator lamp flashes green – The turn signal is switched on.
	Malfunction indicator lamp lights up/flashes yellow – The OBD has detected an error in the vehicle electronics. Come safely to a halt, and contact an authorized KTM workshop.
	The high beam indicator lamp lights up blue – The high beam is switched on.
	Right fuel level warning lamp lights up orange – The fuel level of the rear fuel tank has reached the reserve mark.

6.11 Fuel pump switch



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

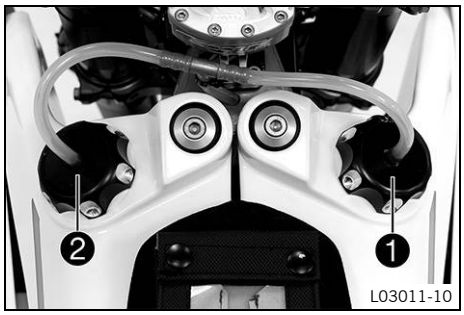
Possible states

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.

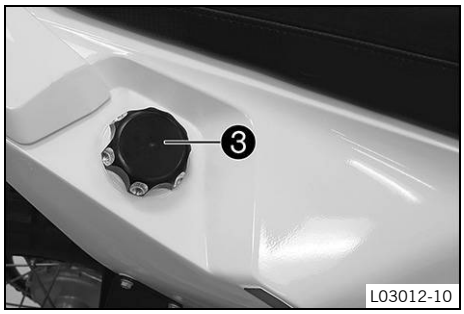
The fuel pump switch controls the fuel pumps of both front fuel tanks and the rear fuel tank.

6.12 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 fuel tank filler cap ❶ and the left fuel tank is filled via fuel tank filler cap ❷.



The rear fuel tank is filled via fuel tank filler cap ❸.

6.13 Opening fuel tank 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

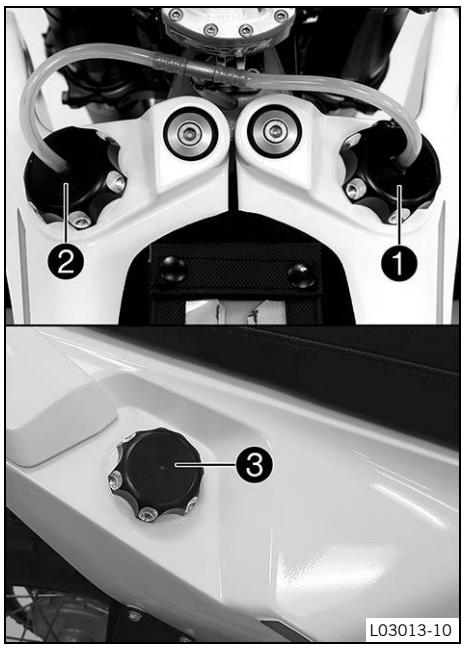
Danger of poisoning Fuel is poisonous and a health hazard.

- 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.

Note

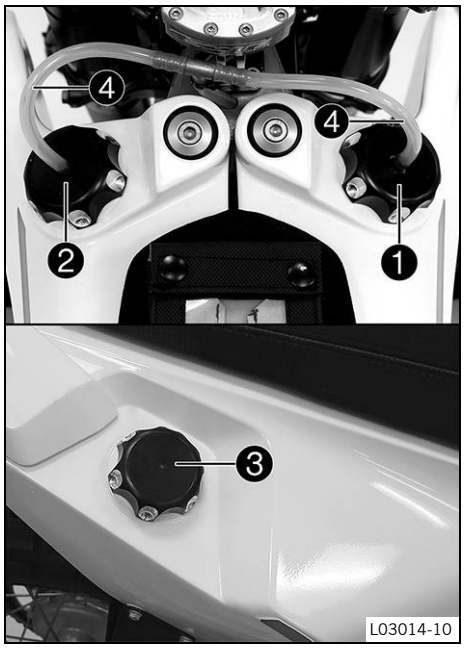
Environmental hazard Improper handling of fuel is a danger to the environment.

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



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

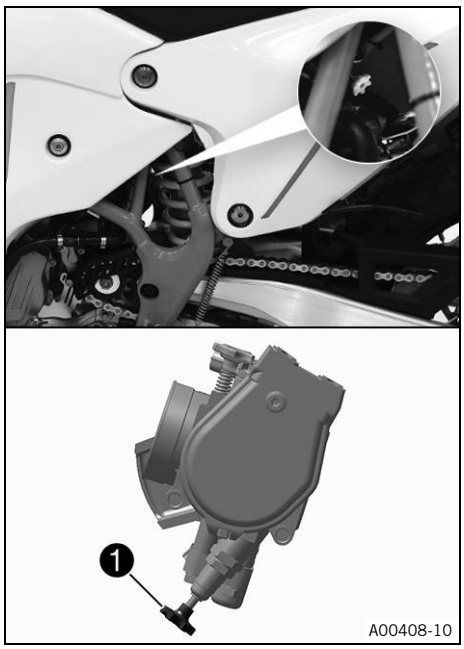
6.14 Closing fuel tank filler caps



– Mount fuel tank 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.

6.15 Cold start button

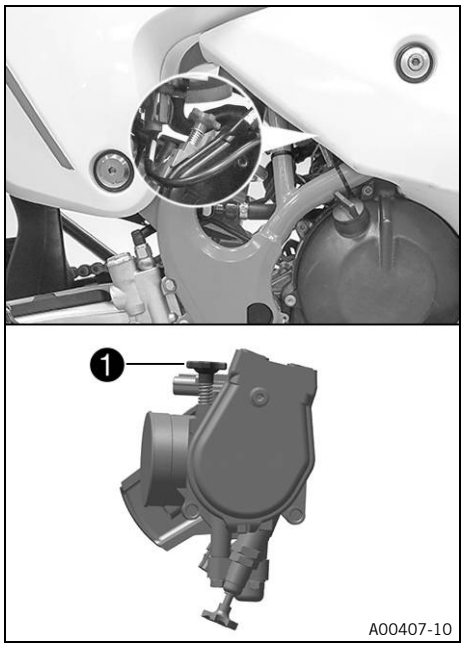


The cold start button ❶ is fitted to the bottom of the throttle valve body.
The electronic fuel injection system extends the injection time if the engine is cold and the ambient temperature is low. To help the engine burn the increased fuel quantity, it must be supplied with additional oxygen by pushing the cold start button.
After briefly opening up the throttle and then releasing the throttle grip again, or turning the throttle grip towards the front, the cold start button returns to its original position.

Info
Check whether the cold start button has returned to its basic position.

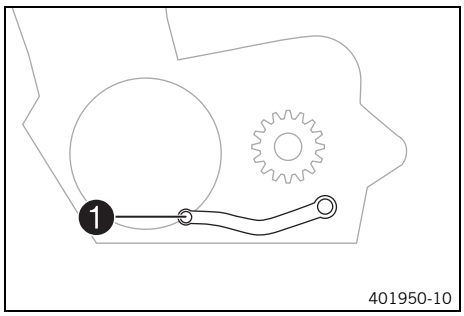
Possible states
- The cold start button is activated – The cold start button is pushed in all the way.
- The cold start button is deactivated – The cold start button is in its basic position.

6.16 Idle speed adjusting screw

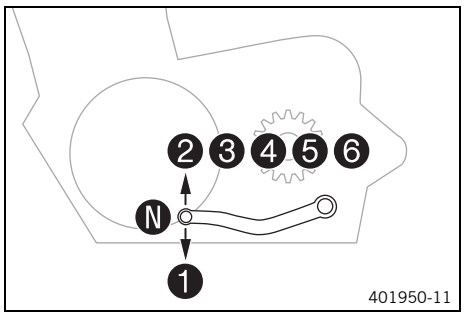


The idle setting of the throttle valve body substantially influences the vehicle's starting behavior, a stable idle speed, and the vehicle's response when the throttle is opened.
An engine with a correctly set idle speed is easier to start than an engine with the idle speed set incorrectly.
The idle speed is adjusted using the idle speed adjusting screw ❶.
Increase the idle speed by turning the idle speed adjusting screw clockwise.
Decrease the idle speed by turning the idle speed adjusting screw counterclockwise.

6.17 Shift lever

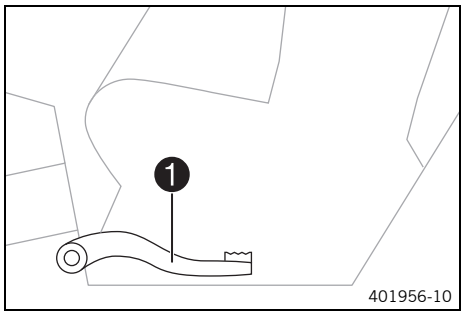


The shift lever ❶ is mounted on the left side of the engine.



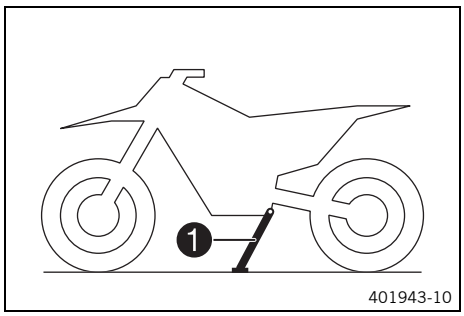
The gear positions can be seen in the photograph.
The neutral or idle position is between the first and second gears.

6.18 Foot brake lever

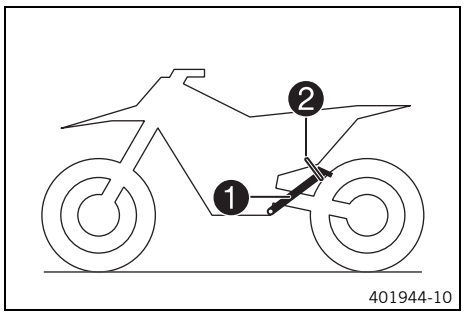


Foot brake lever ❶ is located in front of the right footrest.
The rear brake is engaged with the foot brake lever.

6.19 Side stand



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



The side stand is used for parking the motorcycle.

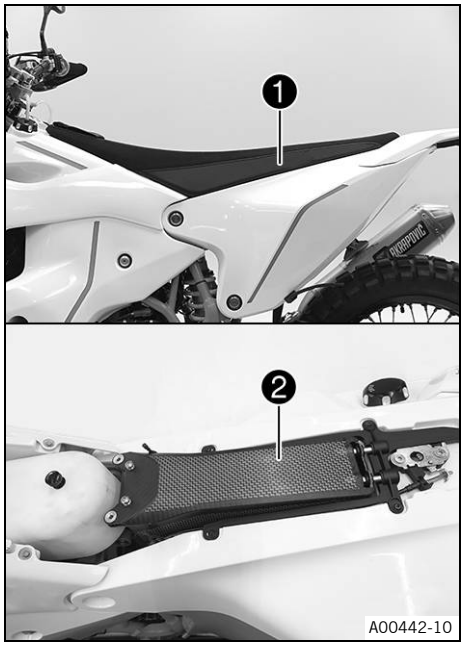
Info

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

6.20 Steering lock

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

6.21 Tool set



The tool set is located under seat ❶.
The tool set is stowed in compartment ❷.

6.22 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.

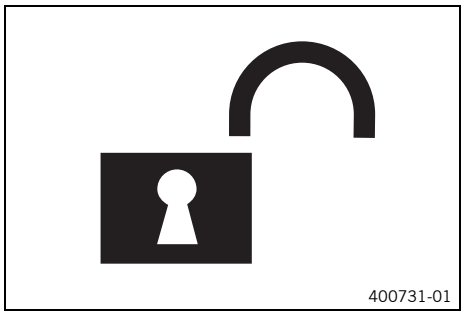
400732-01

– Park vehicle.
– Turn handlebar as far as possible to the right.
– Insert steering lock key in steering lock, turn it to the left, press it in, and turn it to the right. Remove steering lock key.

✓ Steering is no longer possible.

Info
Never leave the steering lock key in the steering lock.

6.23 Unlocking the steering



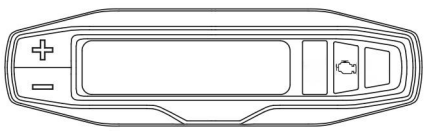
400731-01

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

✓ The handlebar can now be moved again.

Info
Never leave the steering lock key in the steering lock.

7.1 Combination instrument overview

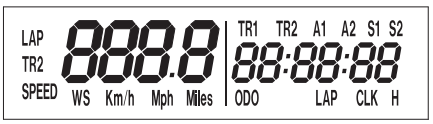


A00403-10

– 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 combination instrument
The combination instrument 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

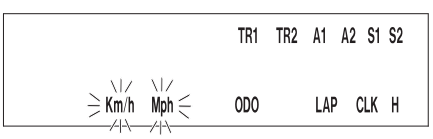
WS (wheel size)
After the display function check, the wheel circumference **WS** is displayed briefly.

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 Setting kilometers or miles

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.

Adjusting the Km/h
  – Press the button +.

Adjusting the Mph
  – Press the button −.

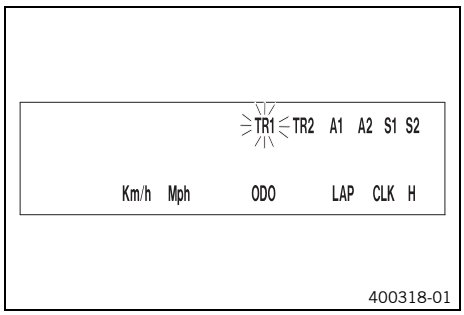
– Wait 3–5 seconds

✔ 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 Adjusting combination instrument function

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.

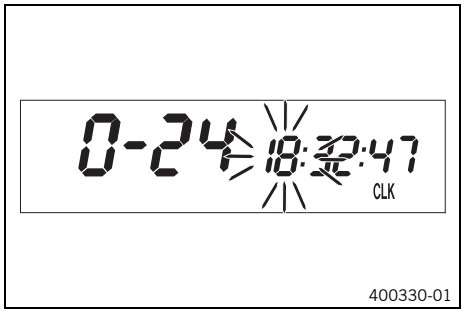
Activating the function
– Press the button +.

✔ 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 clock



400330-01

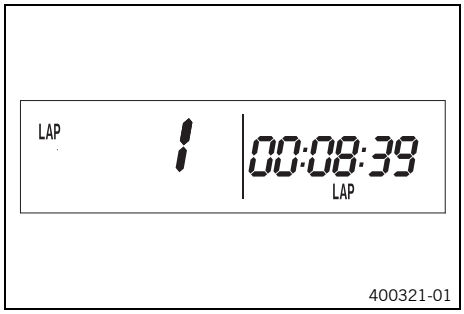
Condition
The motorcycle is stationary.

– 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.
– Adjust 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.



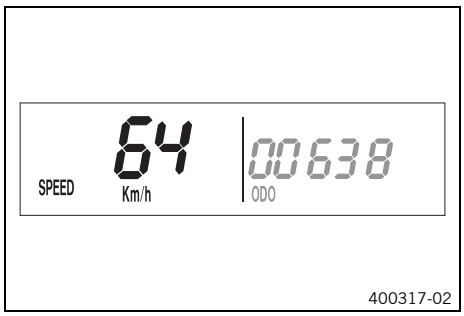
400321-01

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

7.8 Display mode SPEED/H (operating hours)

Condition
- The motorcycle is stationary.

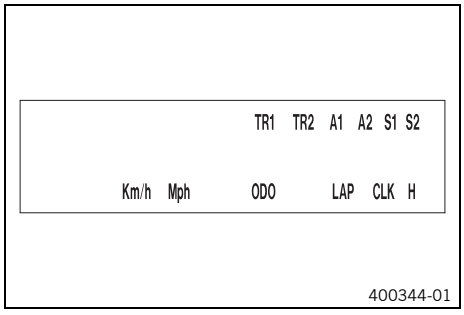
– Repeatedly press the button + briefly until **H** appears at the bottom right of the display.

In display mode **H**, the service hours of the motor 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 combination instrument is in **H** display mode when starting off, 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 for the combination instrument 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.

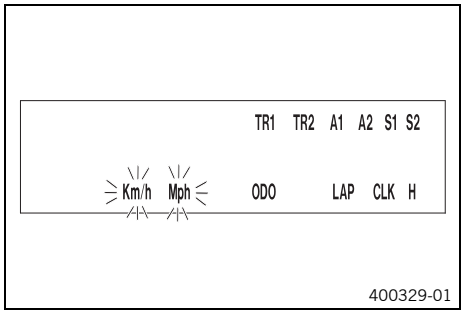
– Repeatedly press the button + briefly until **H** appears at the bottom right of the display.
– Press the button + for 2–3 seconds.

The Setup menu displays the active functions.

Info
Repeatedly press the button + briefly until the desired function is reached.
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 Adjusting the unit of measurement



Condition
- The motorcycle is stationary.

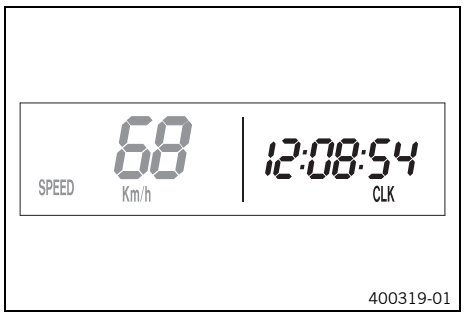
– Repeatedly press the button + briefly until **H** appears at the bottom right of the display.
– Press the button + for 2–3 seconds.
– Repeatedly press the button + briefly until **Km/h**/**Mph** flashes.

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	Stores and closes the Setup menu

7.11 Display mode SPEED/CLK (time)

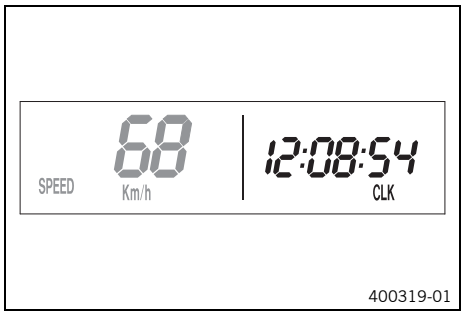


– Repeatedly press the button + briefly until **CLK** appears at the bottom right of the display.

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

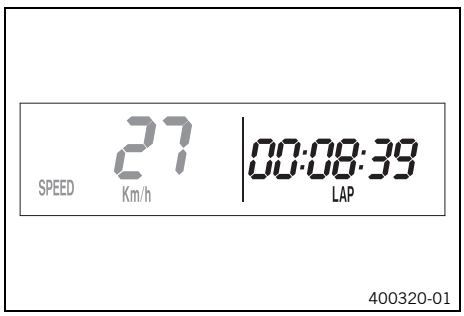
- The motorcycle is stationary.

– 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.

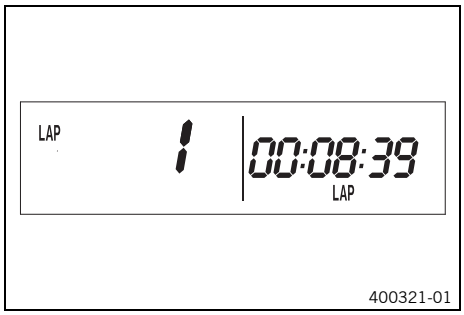
In the **LAP** display mode, up to 10 lap times can be timed with the stop watch.

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

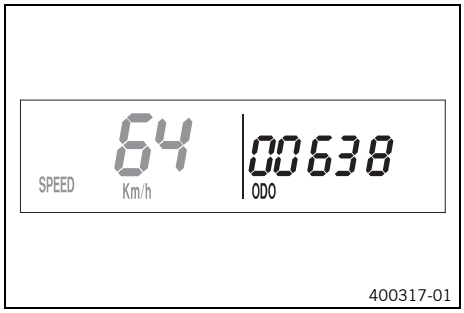
- The motorcycle is stationary.

– 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)

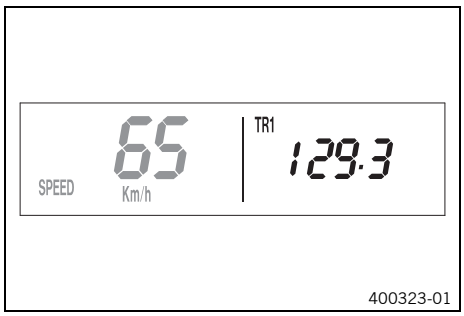


– Repeatedly press the button + briefly until **ODO** appears at the bottom right of the display.

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)



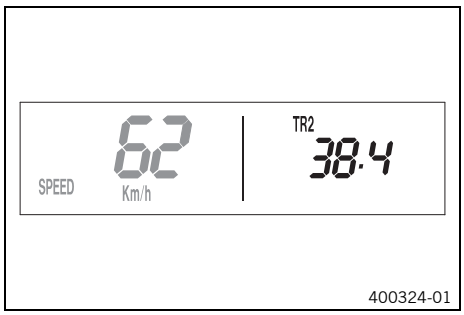
– Repeatedly press the button + briefly until **TR1** appears at the top right of the display.

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)

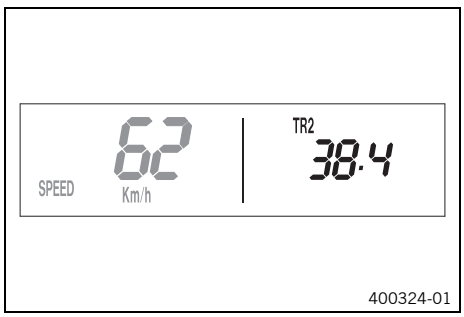


– Repeatedly press the button + briefly until **TR2** appears at the top right of the display.

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.

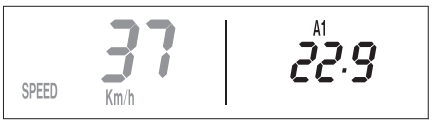
– Repeatedly press the button + briefly until **TR2** appears at the top right of the display.
– Press the button − for 2–3 seconds until **TR2** flashes.

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)



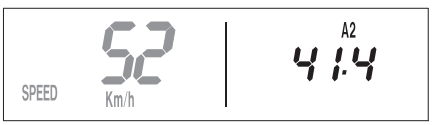
400325-01

– 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)



400326-01

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

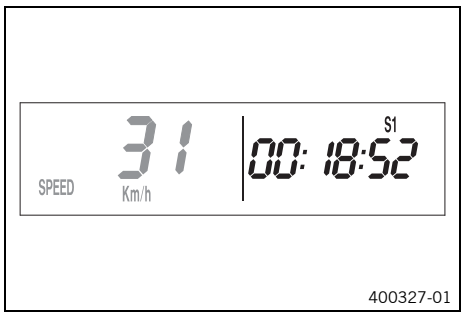
A2 (average speed 2) shows the average speed on the basis of the current speed if the stop watch **S2** (stop watch 2) is running.

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)

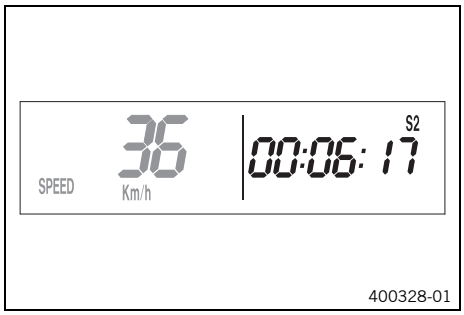


– Repeatedly press the button + briefly until **S1** appears at the top right of the display.

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.

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** (operating hours)	The display changes to the setup menu for the combination instrument 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**.
Adjusting 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	Stores 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 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	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/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** (operating hours)	•	
Setup menu	•	
Adjusting 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 preparing for 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-sales inspection work has been carried out by an authorized KTM workshop.
  ✓ You receive a delivery certificate and the Service & Manufacturer Warranty Booklet at vehicle handover.
– Before riding for the first time, read the entire Owner's Manual carefully.
– Get to know the controls.
– Adjust basic position of the clutch lever. (📖 p. 81)
– Adjust basic position of the hand brake lever. (📖 p. 88)

– Adjust the free travel of the foot brake lever. 🔧 (📖 p. 94)
– Set basic position of shift lever. 🔧 (📖 p. 116)
– Get used to the handling characteristic of the motorcycle on a suitable terrain before undertaking a more challenging trip.

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

– Try also to ride as slowly as possible and in a standing position to get a better feel 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	335 kg (739 lb.)
Maximum permissible front axle load	161.5 kg (356 lb.)
Maximum permissible rear axle load	173.5 kg (382.5 lb.)

– Run in the engine. (📖 p. 37)

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!

9.1 Checks and maintenance when preparing for use

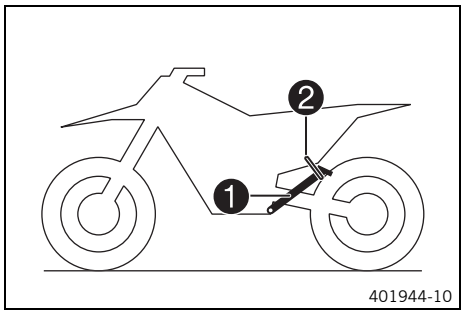
Info
Before every trip, check the condition of the vehicle and ensure that it is safe to operate.
The vehicle must be in perfect technical condition when used.

- Check the engine oil level. (p. 117)
- Check the electrical system.
- Check front brake fluid level. (p. 89)
- Check rear brake fluid level. (p. 94)
- Check the front brake linings. (p. 90)
- Check the rear brake linings. (p. 96)
- Check that the brake system is functioning properly.
- Check the coolant level. (p. 112)
- Check the chain for dirt accumulation. (p. 75)
- Check chain, rear sprocket, engine sprocket, and chain guide. (p. 77)
- Check chain tension. (p. 76)
- Check tire condition. (p. 103)
- Check tire pressure. (p. 104)
- Check the spoke tension. (p. 105)
- Clean the dust boots of the fork legs. (p. 56)
- Bleed the fork legs. (p. 55)
- 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.

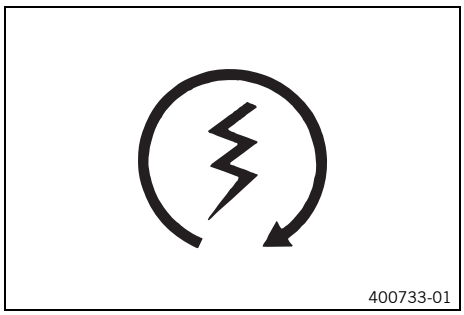
9.2 Starting

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 effective exhaust extraction 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 strap ❷.
- Shift transmission into neutral.



Condition

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

– Push cold start button in all the way.

– 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, the **FI** warning lamp lights up briefly as a function check.

9.3 Starting off

Info

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

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

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

– Shift into a higher gear when conditions allow (incline, road situation, etc.). To do so, release the throttle while simultaneously pulling the clutch lever, shift into the next gear, release the clutch lever 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 either open the throttle or shift again.
– Switch off the engine if running at idle speed or stationary 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 at a low engine speed instead of at a high engine speed with 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 transmission into neutral.
– Press the kill switch ⊠ while the engine is idling until the engine stops.
– Park the motorcycle on firm ground.

9.7 Transporting

Note

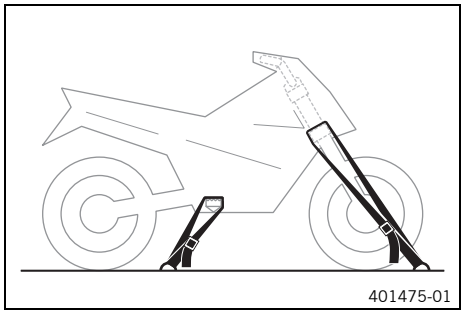
Danger of damage The parked vehicle can roll away or fall over.

– 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.



– Switch off the engine.
– Use tension belts or other suitable devices to secure the motorcycle against falling over or rolling away.

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.

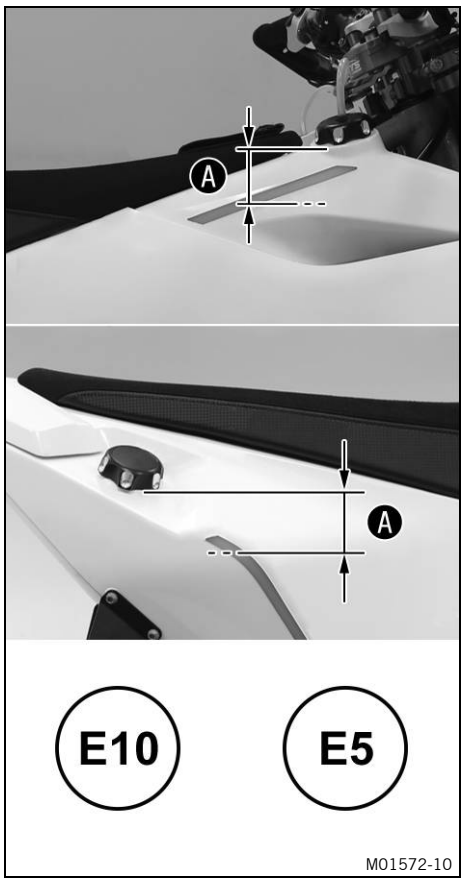
In some countries and regions, the available fuel quality and cleanliness may not be sufficient. This will result in problems with the fuel system.

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

Note

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

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



- Switch off the engine.
- Open fuel tank filler caps. (p. 18)
- Fill the fuel tank with fuel up to measurement A.

Guideline

Measurement of A	45 mm (1.77 in)

Front left fuel tank, approx.	
Super unleaded (ROZ 95/RON 95/PON 91) (p. 159)	8.0 l (2.11 US gal)
Front right fuel tank, approx.	
Super unleaded (ROZ 95/RON 95/PON 91) (p. 159)	8.0 l (2.11 US gal)
Rear fuel tank, approx.	
Super unleaded (ROZ 95/RON 95/PON 91) (p. 159)	14.0 l (3.7 US gal)
Total fuel tank capacity, approx.	
Super unleaded (ROZ 95/RON 95/PON 91) (p. 159)	30.0 l (7.93 US gal)

- Close fuel tank filler caps. (p. 19)

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 fault memory using the KTM diagnostics tool. 🔧	○	●	●	●
Check that the electrical equipment is functioning properly.	○	●	●	●
Check and charge the 12-V battery. 🔧		●	●	●
Check the front brake linings. (📖 p. 90)		●	●	●
Check the rear brake linings. (📖 p. 96)		●	●	●
Check brake discs. (📖 p. 88)		●	●	●
Check the brake lines for damage and leakage.		●	●	●
Check rear brake fluid level. (📖 p. 94)		●	●	●
Check the free travel of the foot brake lever. (📖 p. 93)		●	●	●
Check frame and link fork. 🔧		●	●	●
Check link fork 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 tire condition. (📖 p. 103)	○	●	●	●
Check tire pressure. (📖 p. 104)	○	●	●	●
Check the wheel bearing for play. 🔧		●	●	●
Check the wheel hubs. 🔧		●	●	●
Check the rim run-out. 🔧	○	●	●	●
Check the spoke tension. (📖 p. 105)	○	●	●	●
Check chain, rear sprocket, engine sprocket, and chain guide. (📖 p. 77)		●	●	●
Check chain tension. (📖 p. 76)	○	●	●	●
Lubricate all moving parts (e.g., hand lever, chain, ...) and check for smooth operation. 🔧		●	●	●
Check/correct the fluid level of the hydraulic clutch. (📖 p. 81)		●	●	●
Check front brake fluid level. (📖 p. 89)		●	●	●
Check the free travel on the hand brake lever.		●	●	●
Check steering head bearing play. (📖 p. 62)	○	●	●	●
Check the valve clearance. 🔧	○			●
Check the clutch and damping elements in the clutch basket. 🔧		●	●	●
Change engine oil and oil filter and clean the oil screens. 🔧 (📖 p. 117)	○	●	●	●
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. 111)	○	●	●	●
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. 70)		●	●	●

	Once after 1 operating hour	Every 10 operating hours/after every race	Every 20 operating hours	Every 30 operating hours
Check the screws and nuts for tightness. 🔧	○	●	●	●
Check the fuel pressure. 🔧		●	●	●
Adjust the idle speed. 🔧 (📖 p. 115)	○	●	●	●
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 **KTM Dealer.net** and in the Service & Manufacturer Warranty Booklet. 🔧	○	●	●	●

○ One-time interval

● Periodic interval

10.2 Service work (as additional order)

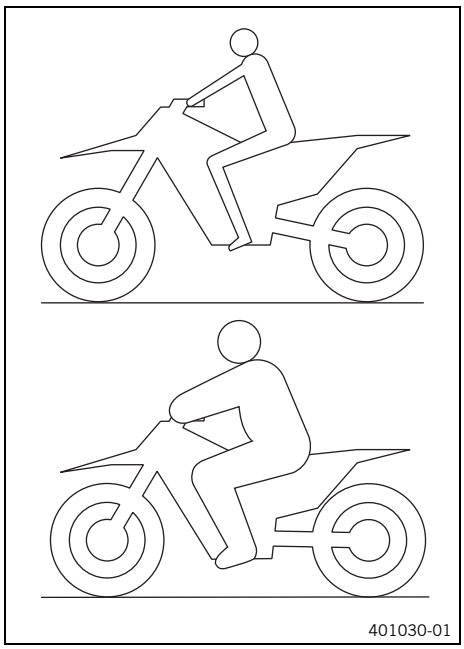
	Once after 20 operating hours	Every 40 operating hours	Every 50 operating hours	Every 100 operating hours	Annually	after every race
Change the front brake fluid. 🔧					●	●
Change the rear brake fluid. 🔧					●	●
Change the hydraulic clutch fluid. 🔧 (📖 p. 83)					●	●
Grease the steering head bearing. 🔧 (📖 p. 64)		●			●	
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 oil pressure control 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 basic chassis setting with rider's weight

Info
When adjusting the basic chassis setting, first adjust the shock absorber and then the fork.



- 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 an average rider's 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

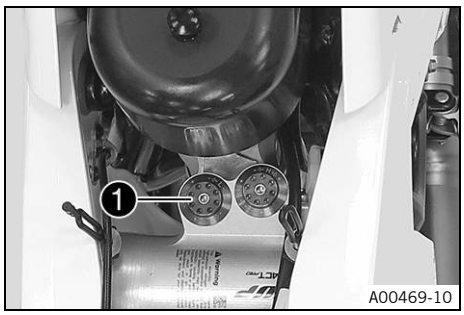
The compression damping of the shock absorber is divided into two ranges: high-speed and low-speed.
High-speed and low-speed refer to the compression speed of the rear wheel suspension and not to the vehicle speed.
The high-speed setting, for example, has an effect on the landing after a jump: the rear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

Preparatory work
- Remove the seat. (📖 p. 67)
- Remove tool set compartment.



Main work

– Turn adjusting screw 1 clockwise up to the last perceptible click.
– Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

Guideline

Low-speed compression damping	
Comfort	24 clicks
Standard	20 clicks
Sport	16 clicks

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

Finishing work

– Mount the seat. (p. 67)
– Mount tool set compartment.

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

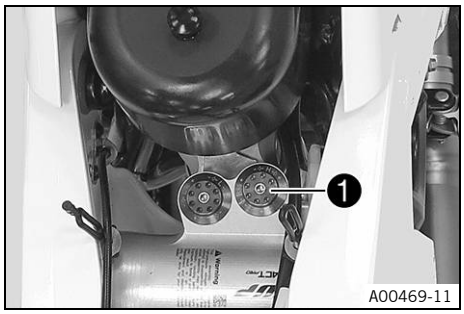
Caution
Risk of injury Parts of the shock absorber will move around if the shock absorber is detached incorrectly. The shock absorber is filled with highly compressed nitrogen.

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

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

Preparatory work

– Remove the seat. (p. 67)
– Remove tool set compartment.



Main work

– Turn adjusting screw 1 clockwise all the way.
– Turn counterclockwise by the number of turns corresponding to the shock absorber type.

Guideline

High-speed compression damping	
Comfort	45 clicks
Standard	40 clicks
Sport	30 clicks

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

Finishing work

– Mount the seat. (p. 67)

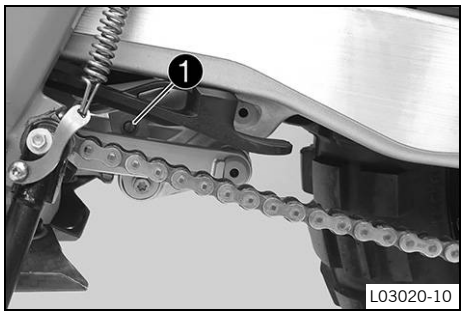
– Mount tool set compartment.

11.5 Adjusting the rebound damping of the shock absorber

Caution

Risk of injury Parts of the shock absorber will move around if the shock absorber is detached 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 1 clockwise up to the last perceptible click.
– Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

Guideline

Rebound damping	
Comfort	24 clicks
Standard	20 clicks
Sport	16 clicks

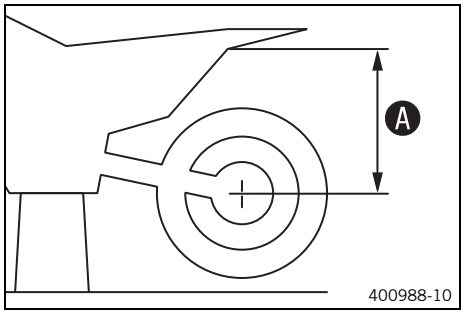
Info

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. 55)



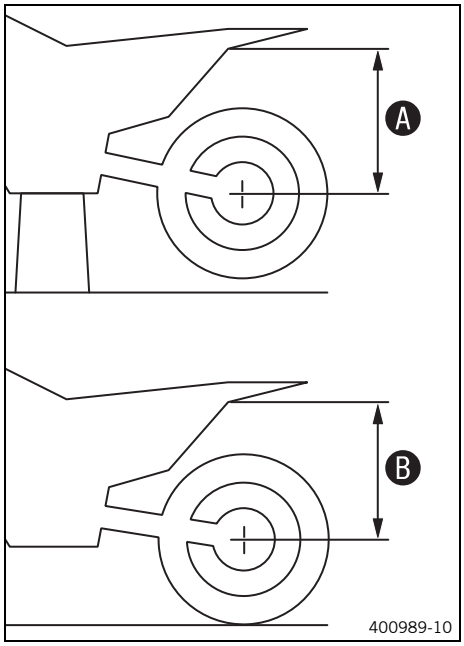
Main work

– 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 A.

Finishing work

– Remove motorcycle from the lift stand. (📖 p. 55)

11.7 Checking static sag of the shock absorber



Condition
The fuel tanks are half full.

– Measure distance Ⓐ of rear wheel unloaded. (📖 p. 47)
– Hold the motorcycle perpendicular with the aid of an assistant.
– Measure the distance between the rear axle and the fixed point again.
– Note down the value as dimension Ⓑ.

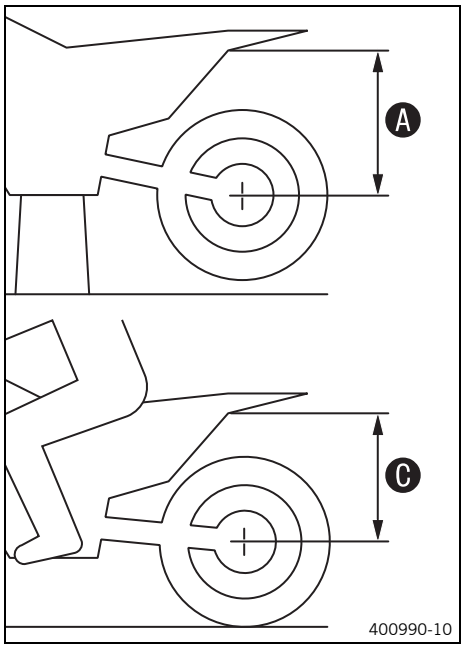
Info
The static sag is the difference between measurements Ⓐ and Ⓑ.

– Check static sag.

Static sag	40 mm (1.57 in)

» If the static sag is less or more than the specified value:
– Adjust the spring preload of the shock absorber. 🔧 (📖 p. 49)

11.8 Checking riding sag of the shock absorber



Condition
The fuel tanks are half full.

– Measure distance Ⓐ of rear wheel unloaded. (📖 p. 47)
– 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 the fixed point.
– Note down the value as dimension Ⓒ.

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

– Check riding sag.

Riding sag	105 mm (4.13 in)

» If the riding sag differs from the specified measurement:
– Adjust the riding sag. 🔧 (📖 p. 50)

11.9 Adjusting the spring preload of the shock absorber

Caution

Risk of injury Parts of the shock absorber will move around if the shock absorber is detached incorrectly. The shock absorber is filled with highly compressed nitrogen.

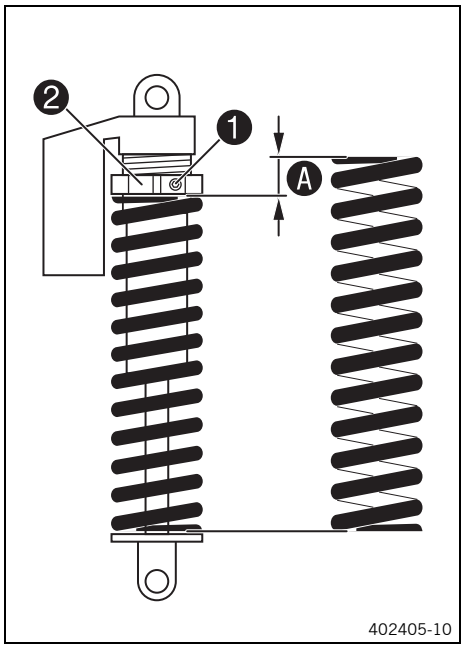
– Please follow the description provided. (Your authorized KTM workshop will be glad to help.)

Info

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

Preparatory work

– Raise the motorcycle with a lift stand. (📖 p. 55)
– Fold out the side stand and secure it.
– Remove the seat. (📖 p. 67)
– Take out the tool set compartment.
– Remove main silencer. (📖 p. 69)
– Remove shock absorber. 🔧 (📖 p. 64)
– After removing the shock absorber, clean it thoroughly.



Main work

– Loosen screw ❶.
– Turn adjusting ring ❷ until the spring is no longer under tension.

Hook wrench (T106S)

– Measure the overall spring length while the spring is not under tension.
– Tighten the spring by turning adjusting ring ❷ to specified measurement Ⓐ.

Guideline

Spring preload	
Standard	11 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 ❶.

Guideline

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

Finishing work

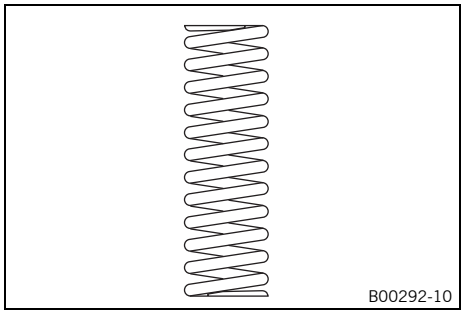
– Install the shock absorber. 🔧 (📖 p. 65)
– Install the main silencer. (📖 p. 70)
– Mount tool set compartment.
– Mount the seat. (📖 p. 67)

– Remove motorcycle from the lift stand. (📖 p. 55)

11.10 Adjusting the riding sag

Preparatory work

– Raise the motorcycle with a lift stand. (📖 p. 55)
– Fold out the side stand and secure it.
– Remove the seat. (📖 p. 67)
– Take out the tool set compartment.
– Remove main silencer. (📖 p. 69)
– Remove shock absorber. (📖 p. 64)
– After removing the shock absorber, clean it thoroughly.



Main work

– Choose and mount a suitable spring.

Guideline

Spring rate	
Weight of rider: ≤ 65 kg (≤ 143 lb.)	48 N/mm (274 lb/in)
Weight of rider: 65 ... 75 kg (143 ... 165 lb.)	51 N/mm (291 lb/in)
Weight of rider: 75 ... 85 kg (165 ... 187 lb.)	54 N/mm (308 lb/in)
Weight of rider: 85 ... 95 kg (187 ... 209 lb.)	57 N/mm (325 lb/in)
Weight of rider: ≥ 95 kg (≥ 209 lb.)	60 N/mm (343 lb/in)

Info

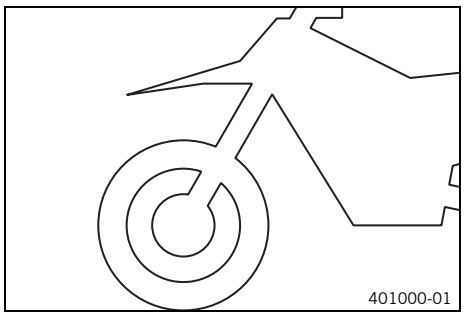
The spring rate is shown on the outside of the spring. Smaller weight differences can be compensated by changing the spring preload.

Finishing work

– Install the shock absorber. (📖 p. 65)
– Install the main silencer. (📖 p. 70)
– Mount tool set compartment.
– Mount the seat. (📖 p. 67)
– Remove motorcycle from the lift stand. (📖 p. 55)
– Check static sag of the shock absorber. (📖 p. 48)
– Check riding sag of the shock absorber. (📖 p. 48)
– Adjust the rebound damping of the shock absorber. (📖 p. 47)

11.11 Checking the basic setting of the fork

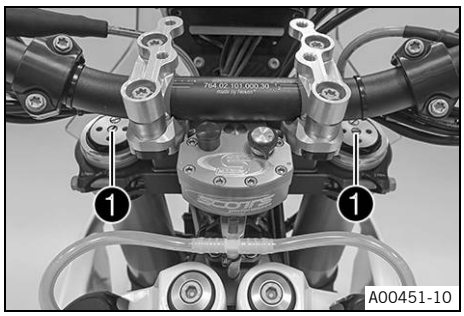
Info
For various reasons, no exact riding sag can be determined for the forks.



– 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.

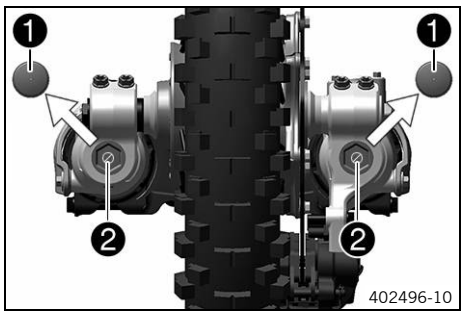
Guideline

Compression damping	
Standard	15 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.

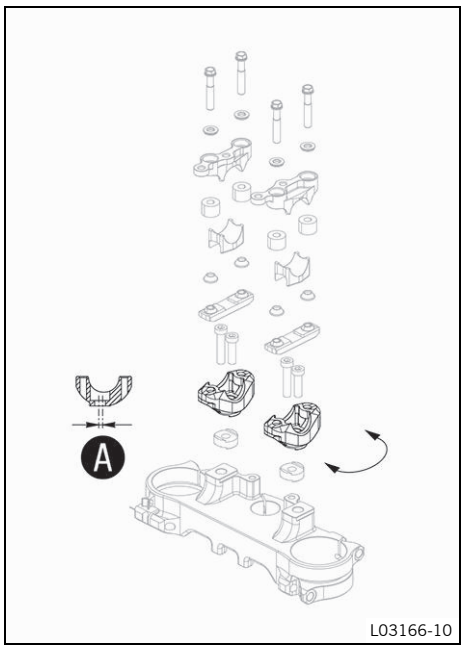
Guideline

Rebound damping	
Standard	15 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.

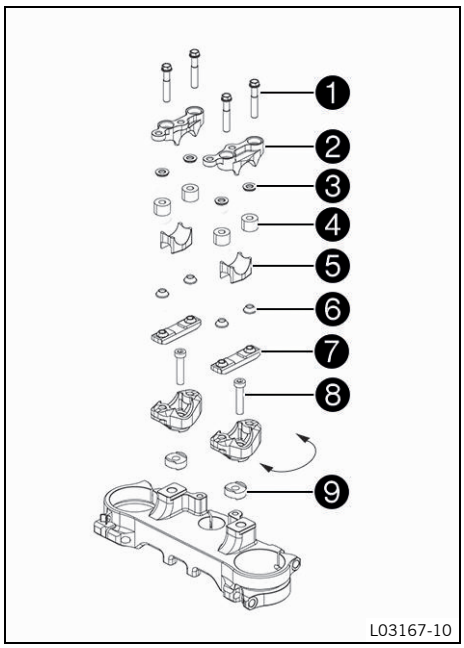
Distance Ⓐ between holes	3.5 mm (0.138 in)

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

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

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

Guideline

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

Condition
Spacer ❾ fitted:

Use an M10x35 screw.

Condition
without spacer ❾:

Use an M10x25 screw.

Info
Position left and right handlebar supports evenly.

– Insert conical rubber pieces ❻ and clamping bar ❼.
– Fit lower shells ❺.
– Position handlebar.

Info
Make sure the cables and wiring are positioned correctly.

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

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

Info
The elastomers are available in different versions.

– Mount and evenly tighten four screws ❶.

Guideline

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

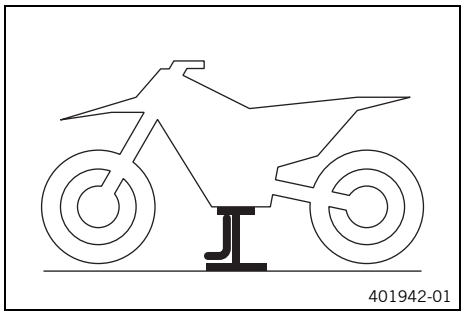
Info
Make sure the installed gaps are even.

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.

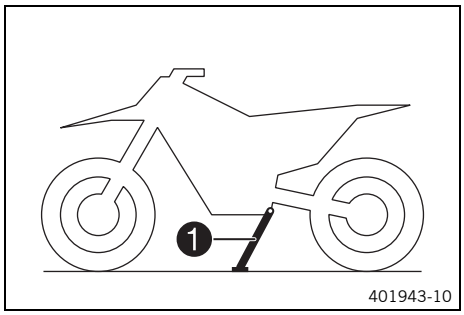
◀

12.2 Removing motorcycle from lift stand

Note

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

– Park the vehicle on a firm and level surface.



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

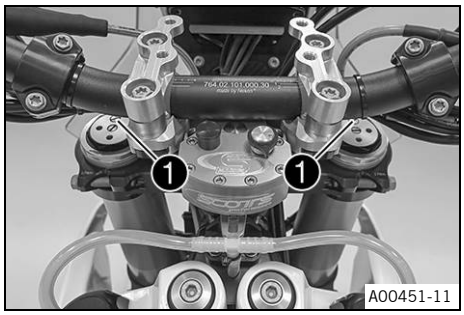
Info
When you are riding, the side stand must be folded up and secured with the rubber strap.

◀

12.3 Bleeding the fork legs

Preparatory work

– Raise the motorcycle with a lift stand. (📖 p. 55)



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Main work

– Release bleeder screws ❶.

✔ Any excess pressure escapes from the interior of the fork.

– Tighten the bleeder screws.

Finishing work

– Remove motorcycle from the lift stand. (📖 p. 55)

◀

12.4 Cleaning the dust boots of the fork legs

Preparatory work

– Raise the motorcycle with a lift stand. (📖 p. 55)
– Remove fork protector. (📖 p. 56)

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 tubes of both fork legs.

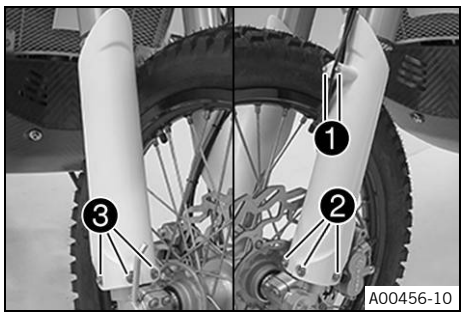
Universal oil spray (📖 p. 160)

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

Finishing work

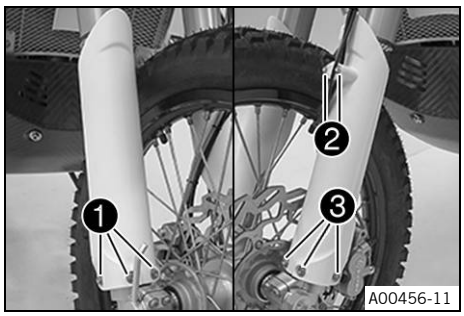
– Install the fork protector. (📖 p. 57)
– Remove motorcycle from the lift stand. (📖 p. 55)

12.5 Removing fork protector



– Remove screws ❶ and take off the clamp.
– Remove screws ❷ on the left fork leg and take off the left fork protector.
– Remove screws ❸ on the right fork leg and take off the right fork protector.

12.6 Installing the fork protector



– Position fork protector on the right fork leg. Mount and tighten screws ❶.

Guideline

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

– Position brake line, wiring harness, and clamp. Mount and tighten screws ❷.
– Position fork protector on left fork leg. Mount and tighten screws ❸.

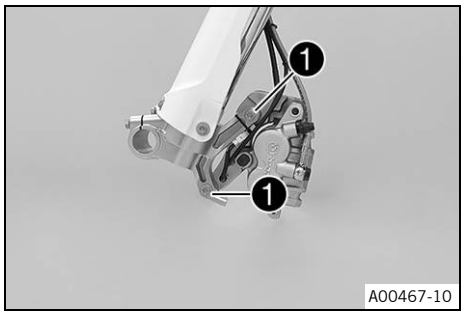
Guideline

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

12.7 Removing fork legs

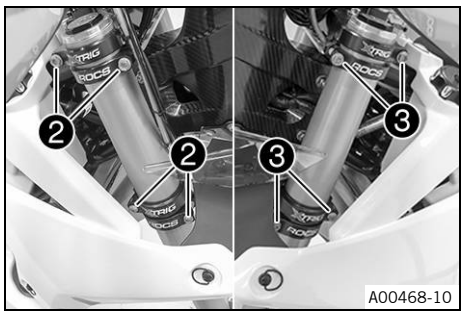
Preparatory work

– Raise the motorcycle with a lift stand. (📖 p. 55)
– Remove front wheel. (📖 p. 99)



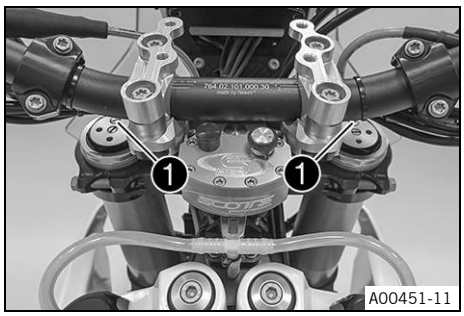
Main work

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



– Loosen screws ❷. Take out the right fork leg.
– Loosen screws ❸. Take out the left fork leg.

12.8 Installing the fork legs



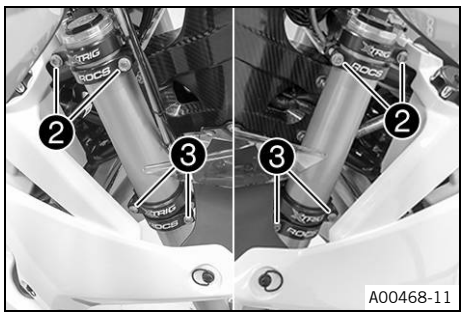
Main work

– Position fork legs.

✓ Bleeder screws ❶ are positioned toward the front.

Info

Grooves are milled into the side of the upper end of the fork legs. The second milled groove (from the top) must be flush with the upper edge of the upper triple clamp.



– Tighten screws ❷.

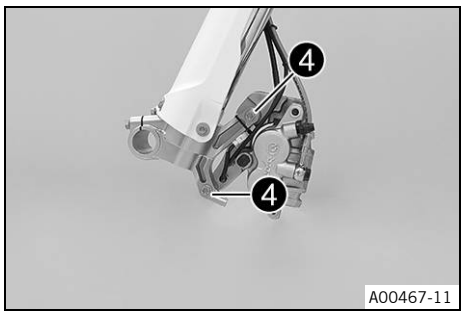
Guideline

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)



– Position brake caliper. Mount and tighten screws ❹.

Guideline

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

Finishing work

– Install the front wheel. (📖 p. 99)

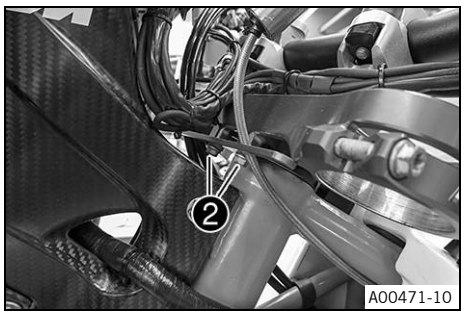
12.9 Removing lower triple clamp

Preparatory work

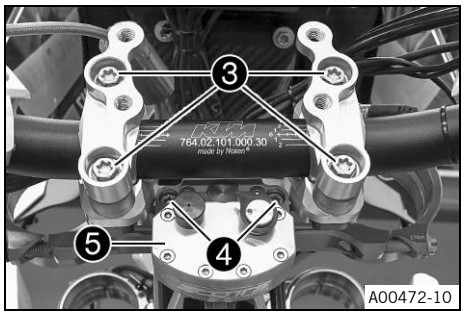
– Raise the motorcycle with a lift stand. (📖 p. 55)
– Remove front wheel. (📖 p. 99)
– Remove fork legs. (📖 p. 57)
– Remove front fender. (📖 p. 66)

Main work

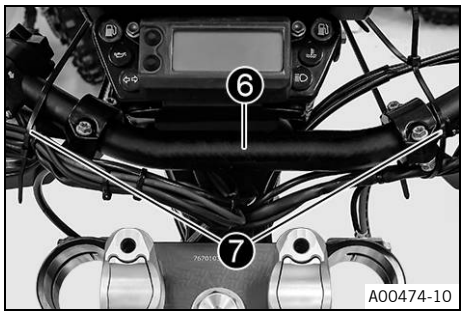
– Remove cable tie(s) ❶.
– Allow the brake caliper and brake line to hang loosely to the side.



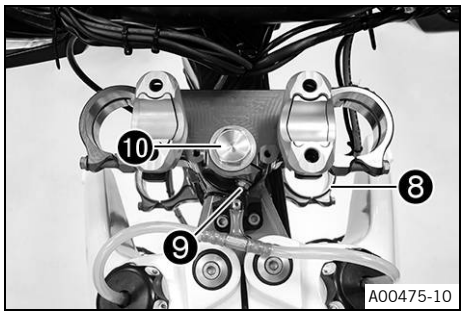
– Remove screws ❷ and take off the cable guide.



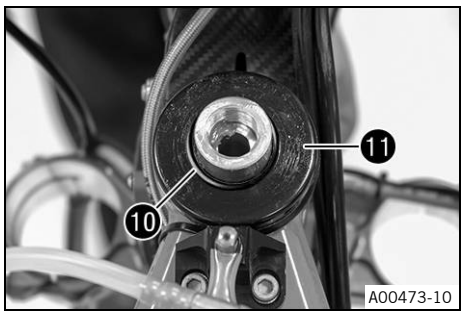
– Remove screws ❸ and take off the retaining plate with the handlebar clamps.
– Remove screws ❹ and take off steering damper ❺.



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

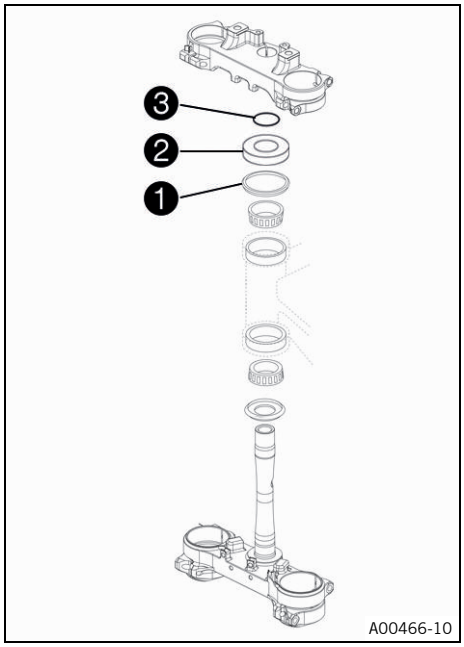


– Secure lower triple clamp ❽ against falling out.
– Remove screw ❾.
– Remove screw ❿.
– Remove upper triple clamp.



– Remove O-ring ❿. Remove protective ring ⓫.
– Take out the lower triple clamp with the steering stem.
– Take out the upper steering head bearing.

12.10 Installing the lower triple clamp



Main work

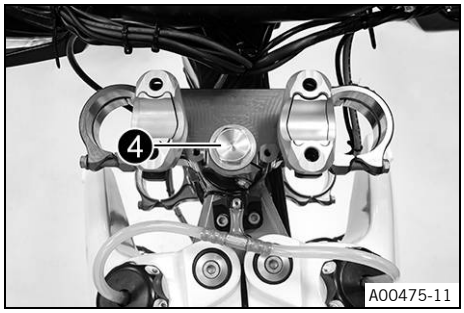
– Clean the bearing and sealing elements, check for damage, and grease.

High viscosity grease (📖 p. 160)

– Insert the lower triple clamp with the steering stem. Mount upper steering head bearing.

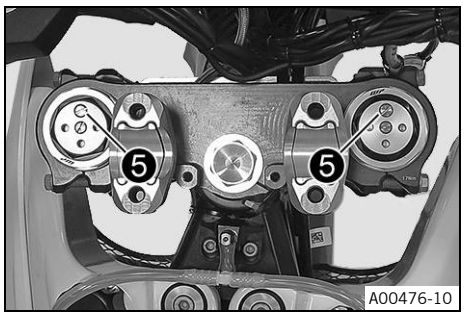
– Check whether upper steering head seal ❶ is correctly positioned.

– Slide on protective ring ❷ and O-ring ❸.



– Position upper triple clamp.

– Mount screw ❹, but do not tighten yet.

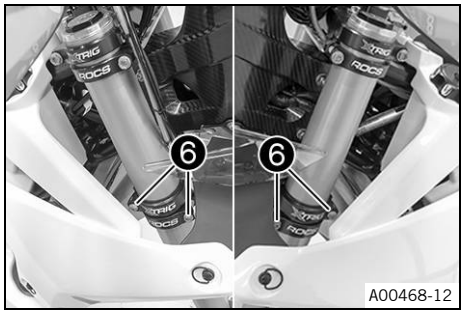


– Position fork legs.

✔ Bleeder screws ❺ are positioned toward the front.

Info

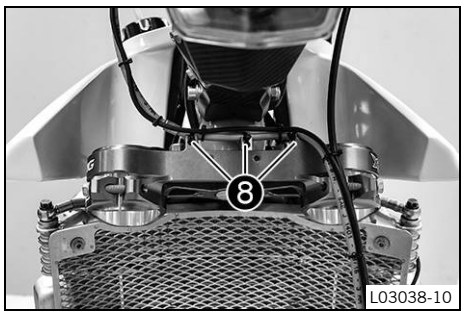
Grooves are milled into the side of the upper end of the fork legs. The second milled groove (from the top) must be flush with the upper edge of the upper triple clamp.



– Tighten screws ❻.

Guideline

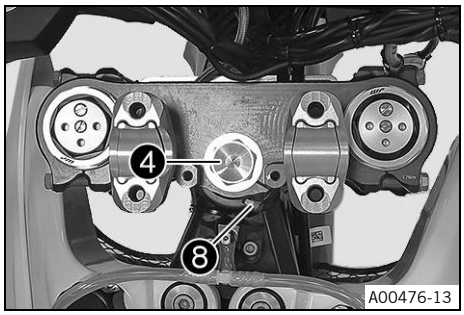
Screw, bottom triple clamp	M8	12 Nm (8.9 lbf ft)



– Secure the brake line with cable tie ❼.

Guideline

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



– Tighten screw ❹.

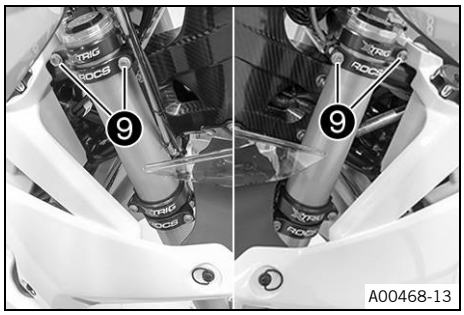
Guideline

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

– Mount and tighten screw ❽.

Guideline

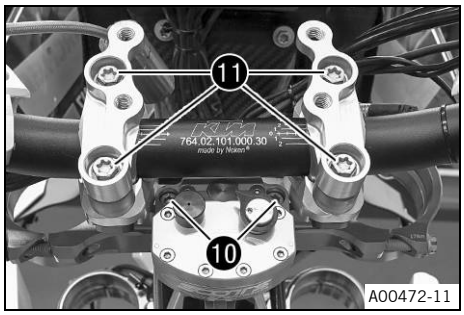
Screw, top steering stem	M8	20 Nm (14.8 lbf ft) **Loctite®243™**



– Tighten screws ❾.

Guideline

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



– Remove cable tie(s) and place handlebar onto handlebar clamp base.
– Position steering damper and mount and tighten screws ❿.

Guideline

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

– Fit handlebar clamps, position the handlebar, and mount and tighten screws ⓫.

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.
– Install front fender. (📖 p. 66)
– Install the front wheel. 🔧 (📖 p. 99)
– Check steering head bearing play. (📖 p. 62)
– Remove motorcycle from the lift stand. (📖 p. 55)

◀

12.11 Checking steering head bearing play

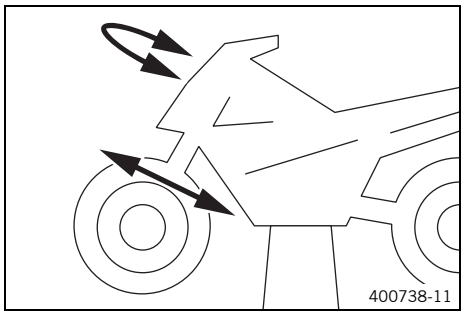
Warning

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 vehicle is operated for a lengthy period with play in the steering head bearing, the bearings and the bearing seats in the frame can become damaged over time.



Preparatory work

– Raise the motorcycle with a lift stand. (📖 p. 55)

Main work

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

Play should not be detectable on the steering head bearing.

» If there is detectable play:

– Adjust steering head bearing play. 🔧 (📖 p. 62)

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

It must be possible to move the handlebar easily over the entire steering range. There should be no detectable detent positions.

» If detent positions are detected:

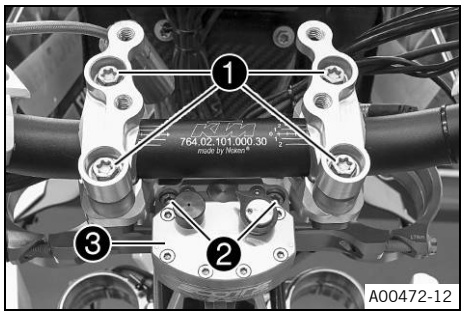
– Adjust steering head bearing play. 🔧 (📖 p. 62)

– Check steering head bearing and replace if required.

Finishing work

– Remove motorcycle from the lift stand. (📖 p. 55)

12.12 Adjusting steering head bearing play 🔧



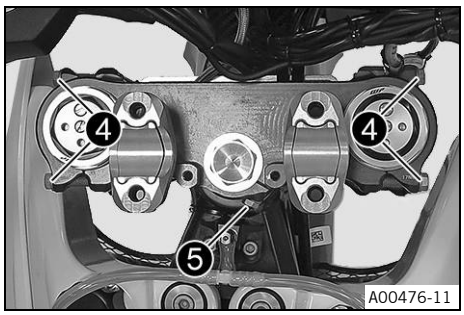
Preparatory work

– Raise the motorcycle with a lift stand. (📖 p. 55)

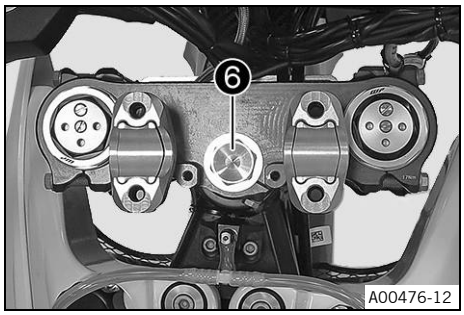
Main work

– Remove screws ❶ and take off the handlebar clamps.

– Remove screws ❷ and take off steering damper ❸.



– Fix handlebar onto instrument support with cable ties.
– Loosen screws ❹.
– Remove screw ❺.

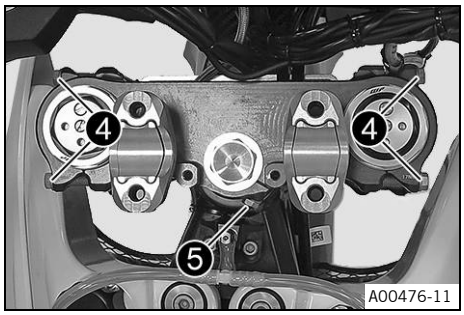


– Loosen and retighten screw ❻.

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 ❹.

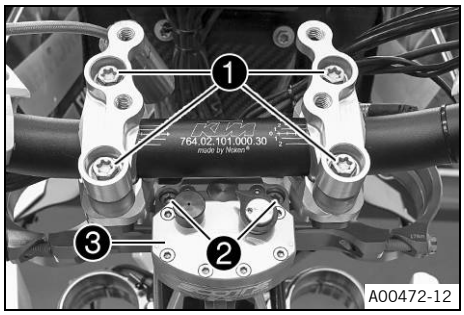
Guideline

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

– Mount and tighten screw ❺.

Guideline

Screw, top steering stem	M8	20 Nm (14.8 lbf ft) **Loctite®243™**



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

Guideline

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

– Remove cable tie(s) and place handlebar onto handlebar clamp base.
– Fit retaining plate with handlebar clamps, position handlebar, and mount and tighten screws ❶.

Guideline

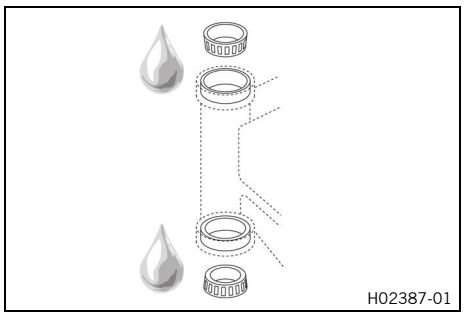
Screw, handlebar clamp	M8	16 Nm (11.8 lbf ft)

Finishing work

– Check steering head bearing play. (📖 p. 62)
– Remove motorcycle from the lift stand. (📖 p. 55)

◀

12.13 Greasing the steering head bearing

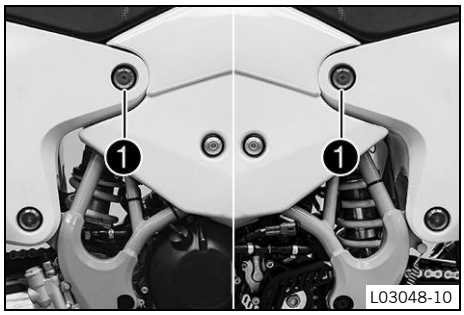


– Remove lower triple clamp. (📖 p. 58)
– Install the lower triple clamp. (📖 p. 60)

12.14 Removing shock absorber

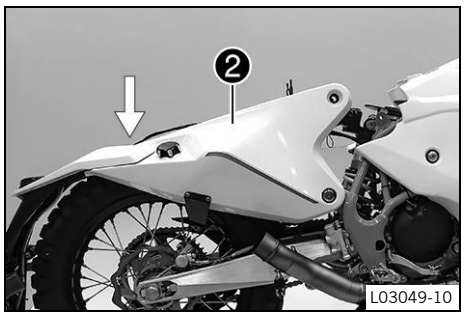
Preparatory work

– Raise the motorcycle with a lift stand. (📖 p. 55)
– Fold out the side stand and secure it.
– Remove the seat. (📖 p. 67)
– Take out the tool set compartment.
– Remove main silencer. (📖 p. 69)

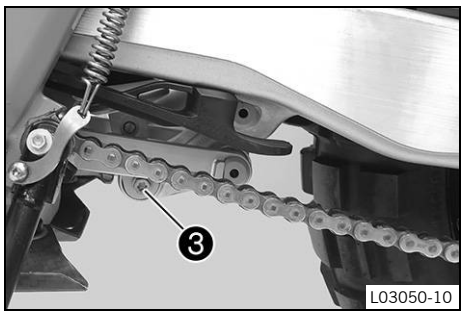


Main work

– Remove screws ❶.

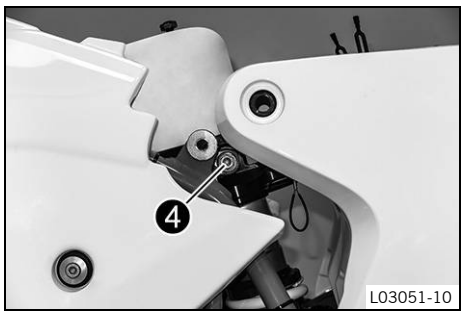


– Carefully lower rear fuel tank ❷.

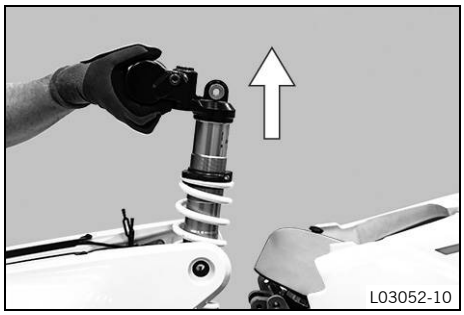


– Remove screw ❸ with the washer.

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

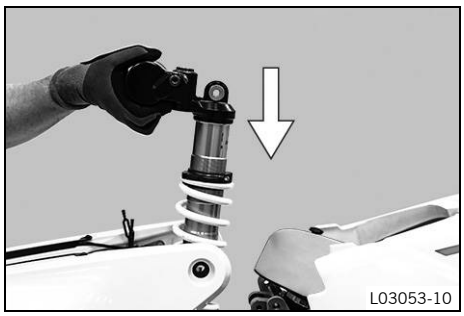


– Remove screw ❹ with the washer.



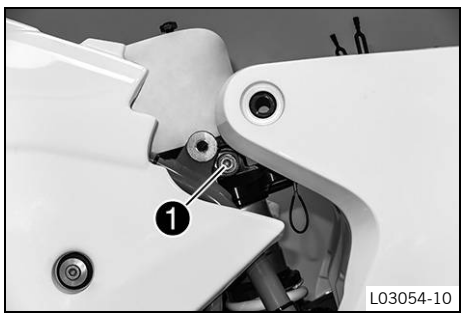
– Remove shock absorber toward top carefully.

12.15 Installing the shock absorber



Main work

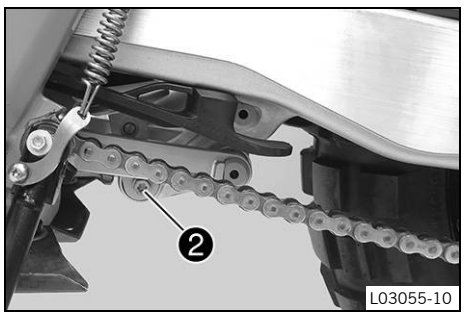
– Carefully position shock absorber into the vehicle from above.



– Mount and tighten screw ❶ with the washer.

Guideline

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



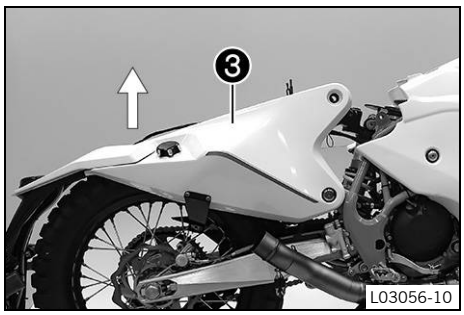
– Mount and tighten screw ❷ with the washer.

Guideline

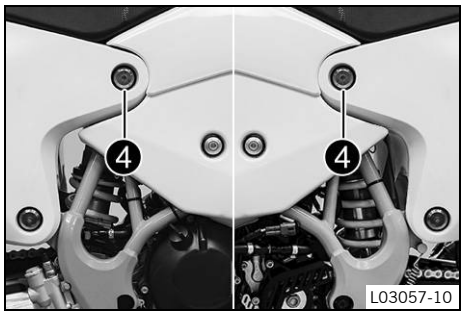
Screw connection, shock absorber, bottom	M10	45 Nm (33.2 lbf ft) **Loctite®243™**

Info

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



– Raise rear fuel tank ❸.



– Mount and tighten screws ❹.

Guideline

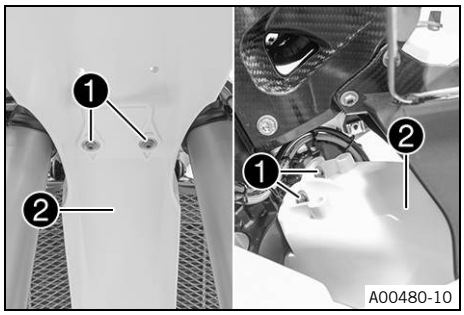
Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)

Finishing work

– Install the main silencer. (📖 p. 70)
– Mount tool set compartment.
– Mount the seat. (📖 p. 67)
– Remove motorcycle from the lift stand. (📖 p. 55)

◀

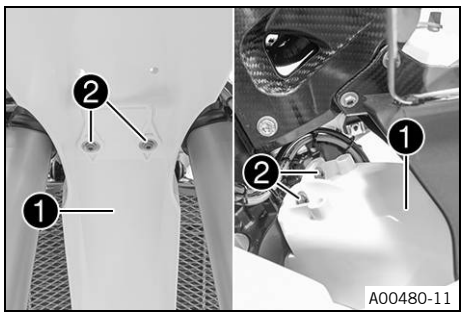
12.16 Removing front fender



– Remove screws ❶ and take off fender ❷.

◀

12.17 Installing the front fender



– Position fender ❶ and mount and tighten screws ❷.

Guideline

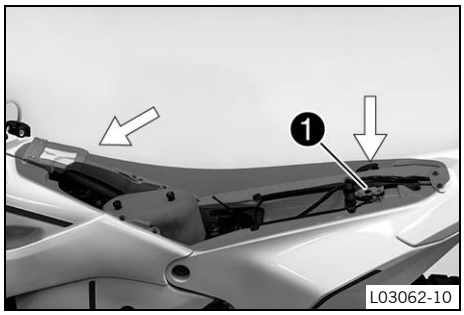
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)

◀

12.18 Removing the seat

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

12.19 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.

12.20 Removing 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.

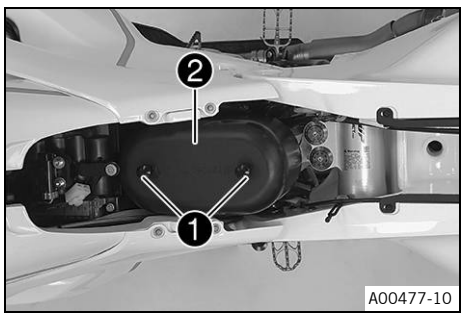
Note

Environmental hazard Hazardous substances cause environmental damage.

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

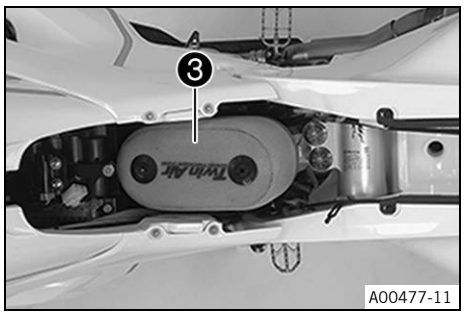
Preparatory work

– Remove the seat. (📖 p. 67)
– Take out the tool set compartment.



Main work

– Remove screws ❶.
– Remove air filter cover ❷.



– Remove air filter ❸.

12.21 Cleaning the air filter and air filter box

Note

Environmental hazard Hazardous substances cause environmental damage.

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

Info

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

Preparatory work

– Remove the seat. (📖 p. 67)
– Take out the tool set compartment.
– Remove air filter. (📖 p. 67)

Main work

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

Air filter cleaner (📖 p. 160)

Info

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

– Oil the dry air filter with a high-grade air filter oil.

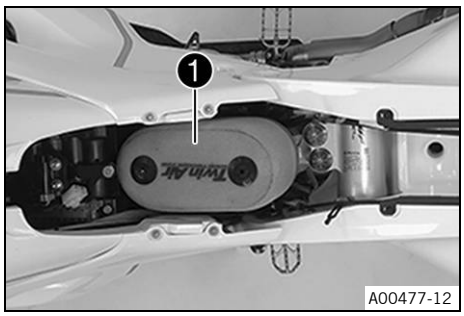
Oil for foam air filter (📖 p. 160)

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

Finishing work

– Install the air filter. (📖 p. 69)
– Mount the seat. (📖 p. 67)
– Mount tool set compartment.

12.22 Installing the air filter

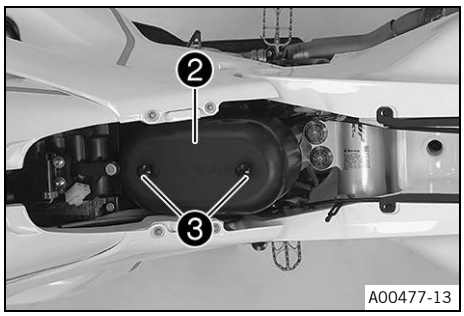


Main work

– 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.



– Position air filter cover ❷.
– Mount and tighten screws ❸.

Finishing work

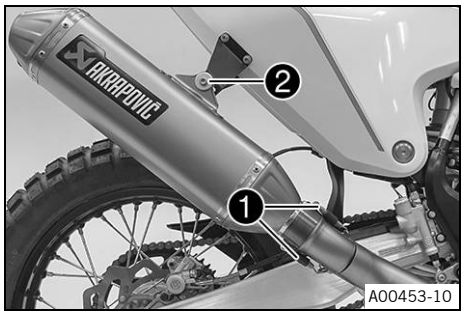
– Mount the seat. (📖 p. 67)
– Mount tool set compartment.

12.23 Removing 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.

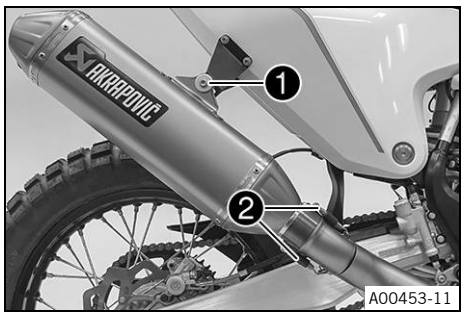


– Detach springs ❶.

Spring hook (5030501700004)

– Remove screw ❷ and take off the main silencer.

12.24 Installing the main silencer



– Position main silencer. Mount screw ❶, but do not tighten yet.
– Attach springs ❷.

Spring hook (5030501700004)

– Tighten screw ❶.

Guideline

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

12.25 Changing the glass fiber yarn filling of the main silencer

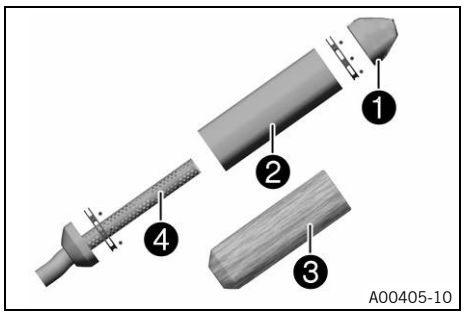
Warning

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 rock wool escape into the air, and the silencer "burns out".
Not only is the noise level higher, the performance characteristic changes.



Preparatory work

– Remove main silencer. (📖 p. 69)

Main work

– Drill out all rivets on the main silencer and remove steel strips. Carefully remove 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 steel bands and mount new rivets.

Finishing work

– Install the main silencer. (📖 p. 70)

12.26 Removing 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.

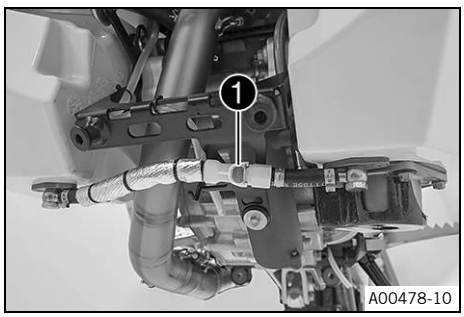
Warning

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. 67)
- Take out the tool set compartment.
- Remove front fairing. (p. 86)
- Remove engine guard. (p. 86)
- Remove side cover. (p. 84)



Main work

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

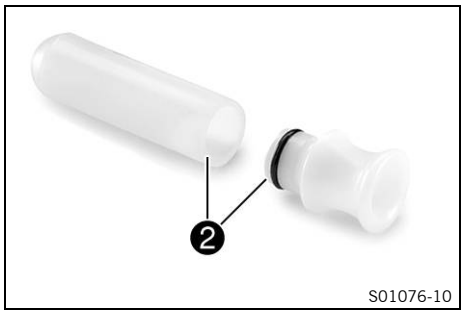
Info

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

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

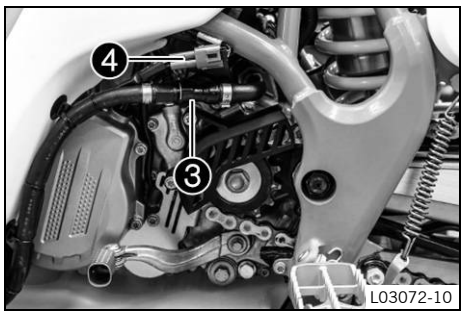
Info

Remaining fuel may flow out of the fuel hose.



- 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!

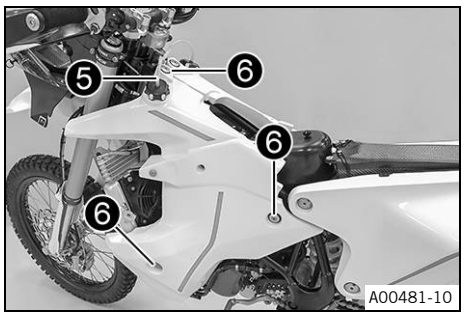
– Disconnect plug-in connection of the fuel line.

Info
Remaining fuel may flow out of the fuel hose.

– Mount wash cap set from the separate enclosure.

Wash cap set (81212016000)

– 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 fuel tank filler cap.

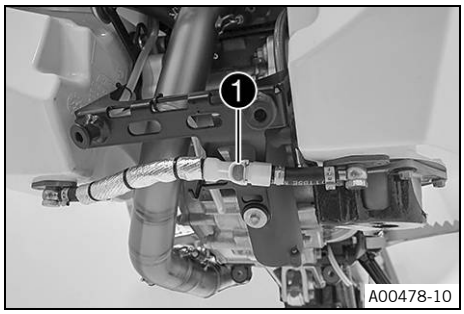
12.27 Removing front right fuel tank

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. 67)
– Take out the tool set compartment.
– Remove front fairing. (📖 p. 86)

– Remove engine guard. (p. 86)
– Remove side cover. (p. 84)



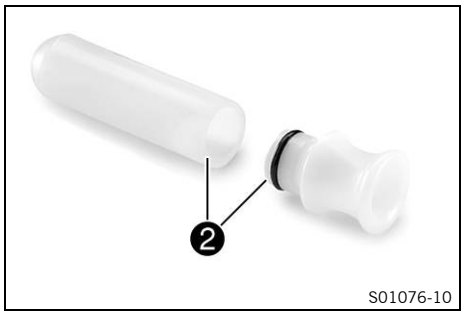
Main work

– 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!

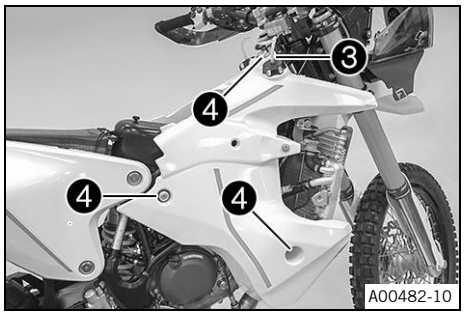
– Disconnect plug-in connection of the fuel line and remove it from the holder.

Info
Remaining fuel may flow out of the fuel hose.



– Mount wash cap set ❷ from the separate enclosure.

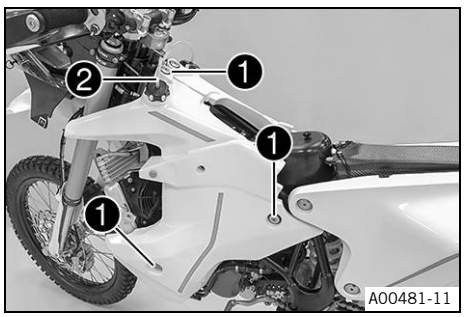
Wash cap set (81212016000)



– 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 fuel tank filler cap.

12.28 Installing the front left fuel tank



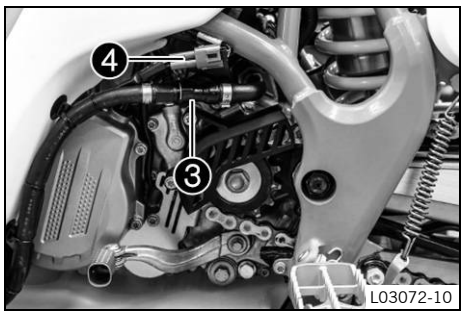
Main work

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

Guideline

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

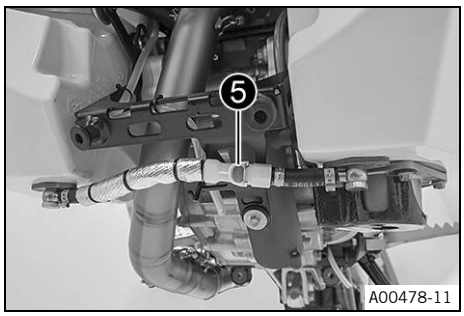
– Mount fuel tank breather hose ❷.



– Remove 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 join the plug-in connection of the fuel line.
– Join the plug-in connector of fuel pump ❹.



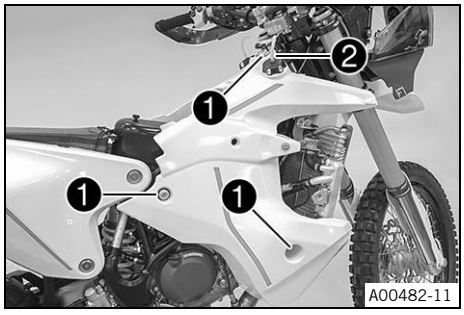
– Remove wash cap set.
– Clean plug-in connection ❺ of the fuel line thoroughly with compressed air.

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

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

Finishing work
– Install the engine guard. (📖 p. 87)
– Mount front fairing. (📖 p. 86)
– Mount side cover. (📖 p. 85)
– Mount tool set compartment.
– Mount the seat. (📖 p. 67)

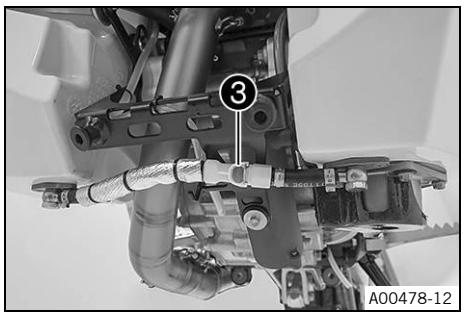
12.29 Installing the front right fuel tank



Main work
– Position 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.



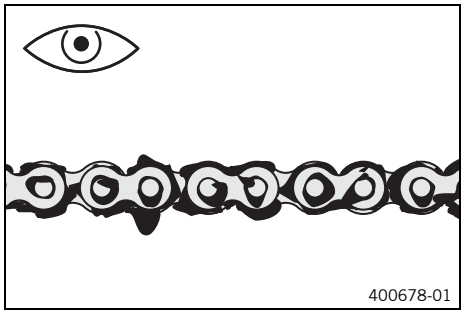
– Remove wash cap set.
– Clean plug-in connection ❸ of the fuel line thoroughly with compressed air.

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

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

Finishing work
- Install the engine guard. (📖 p. 87)
- Mount front fairing. (📖 p. 86)
- Mount side cover. (📖 p. 85)
- Mount tool set compartment.
- Mount the seat. (📖 p. 67)

12.30 Checking the chain for dirt accumulation


400678-01

- Check the chain for coarse dirt accumulation.
  - » If the chain is very dirty:
    - Clean the chain. (📖 p. 75)

12.31 Cleaning the chain

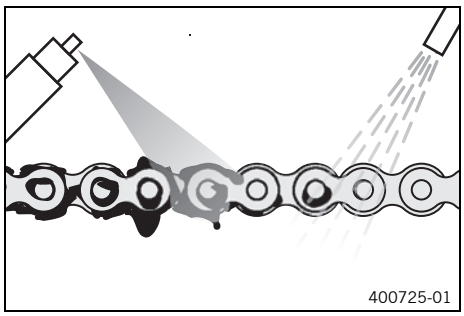
Warning
Danger of accidents Lubricants on the tires reduces the road grip.
- Remove lubricants from the tires using a suitable cleaning agent.

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.

Note
Environmental hazard Hazardous substances cause environmental damage.
- Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

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

Preparatory work
- Raise the motorcycle with a lift stand. (📖 p. 55)


400725-01

Main work
- Rinse off loose dirt with a soft jet of water.
- Remove old grease residue with chain cleaner.

Chain cleaner (📖 p. 160)

- After drying, apply chain spray.

Off-road chain spray (📖 p. 160)

Finishing work

– Remove motorcycle from the lift stand. (📖 p. 55)

12.32 Checking chain tension

Warning

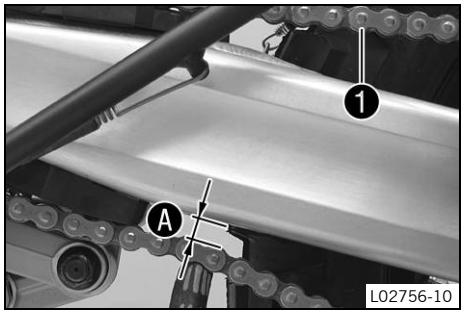
Danger of accidents Incorrect chain tension damages components and results in accidents.

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. 55)



Main work

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

Info

Top 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 the specification:
– Adjust the chain tension. (📖 p. 76)

Finishing work

– Remove motorcycle from the lift stand. (📖 p. 55)

12.33 Adjusting the chain tension

Warning

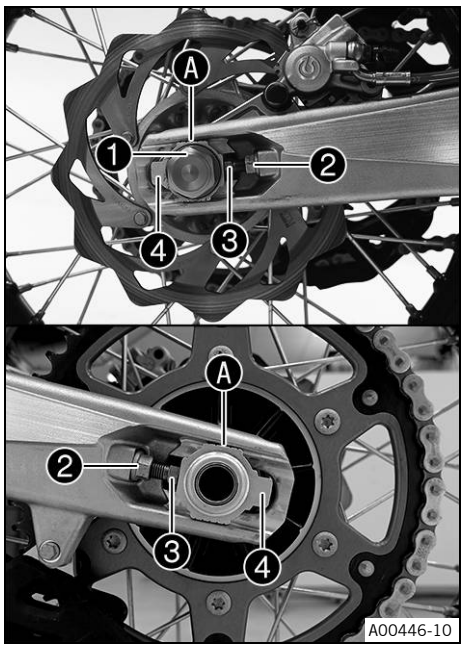
Danger of accidents Incorrect chain tension damages components and results in accidents.

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. 55)



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 top chain section 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°.

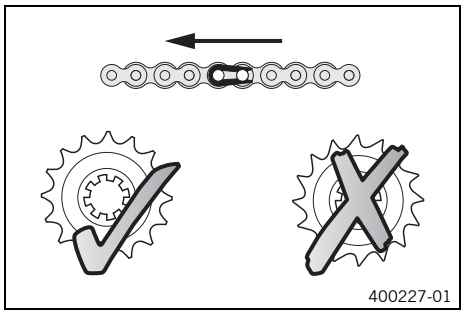
Finishing work

– Remove motorcycle from the lift stand. (📖 p. 55)

12.34 Checking chain, rear sprocket, engine sprocket, and chain guide

Preparatory work

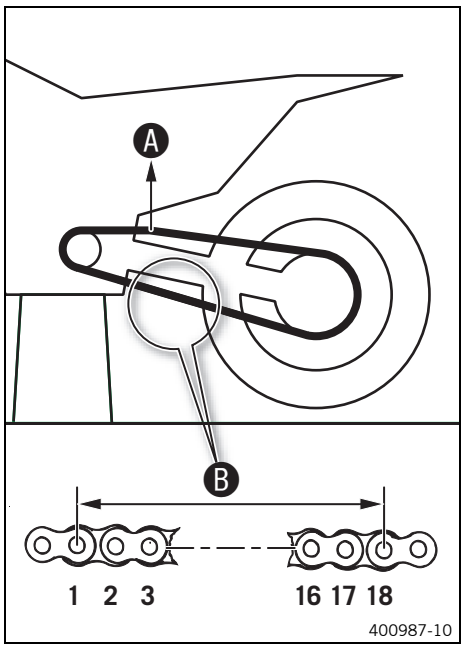
– Raise the motorcycle with a lift stand. (📖 p. 55)



Main work

– Shift transmission into neutral.
– Check 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 top section of the chain with the specified weight Ⓐ.

Guideline

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

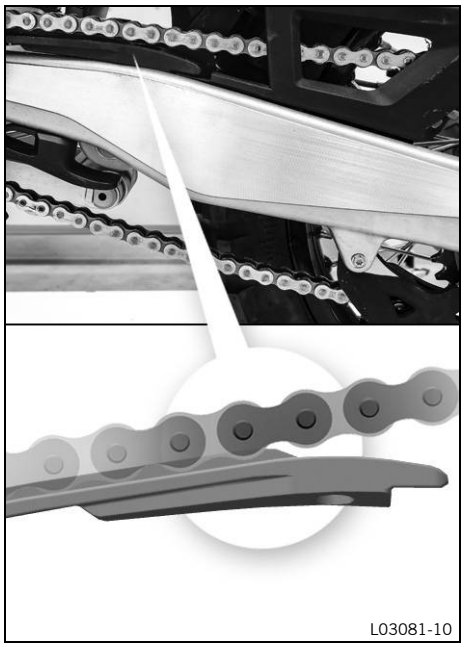
– Measure distance Ⓑ of 18 chain rollers in the lower chain section.

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 distance Ⓑ is greater than the specified measurement:
– Change the drivetrain kit.

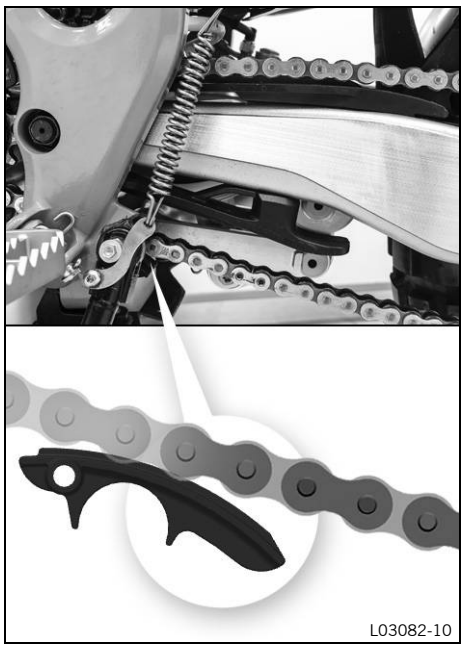
Info
When a new chain is mounted, the rear sprocket and engine sprocket should also be changed. New chains wear out faster on old, worn sprockets.



– Check chain sliding guard for wear.
» If the lower edge of the chain pins 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 chain sliding guard.

Guideline

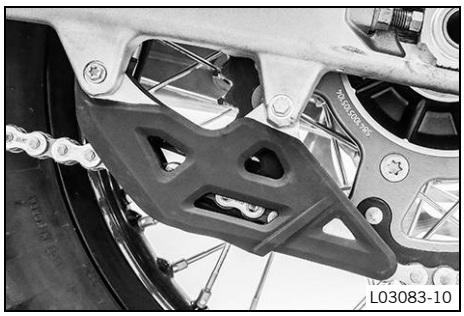
Screw, chain sliding guard	M6	6 Nm (4.4 lbf ft) **Loctite®243™**


L03082-10

– Check chain sliding piece for wear.
  » If the lower edge of the chain pins 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)


L03083-10

– Check chain guide for wear.

Info
Wear can be seen on the front of the chain guide.

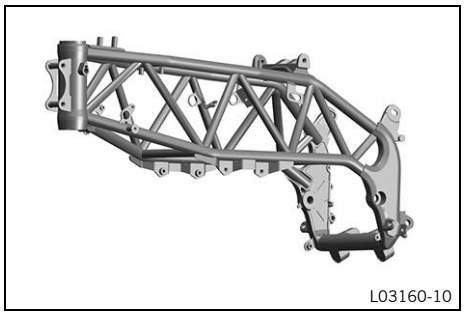
  » If the chain guide is worn:
    – Change the chain guide.
– Check that the chain guide is firmly seated.
  » If the chain guide is loose:
    – Tighten the chain guide.

    Guideline

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

Finishing work
– Remove motorcycle from the lift stand. (p. 55)

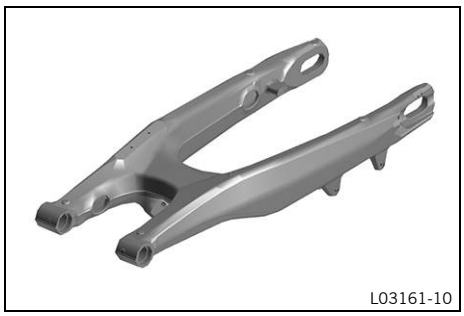
12.35 Checking frame


L03160-10

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

Info
Always replace a frame that has been damaged due to a mechanical impact. Repair of the frame is not authorized by KTM.

12.36 Checking swingarm


L03161-10

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

Info
Always replace a damaged link fork. Repairing the link fork is not authorized by KTM.

12.37 Checking throttle cable routing

Preparatory work
– Remove the seat. (p. 67)
– Take out the tool set compartment.
– Remove front fairing. (p. 86)
– Remove engine guard. (p. 86)
– Remove side cover. (p. 84)
– Remove front right fuel tank. (p. 72)


A00479-10

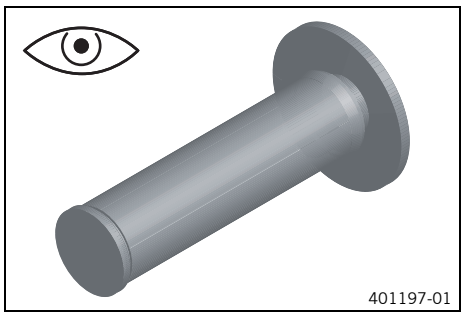
Main work
– Check throttle cable routing.

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 routing is not as specified:
    – Correct the throttle cable routing.

Finishing work
– Install the front right fuel tank. (p. 74)
– Install the engine guard. (p. 87)
– Mount front fairing. (p. 86)
– Mount side cover. (p. 85)
– Mount tool set compartment.
– Mount the seat. (p. 67)

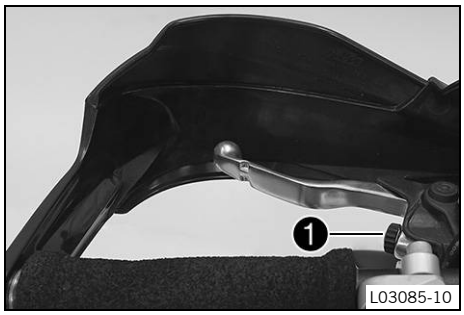
12.38 Checking the rubber grip



– 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.

    Rubber grip adhesive (00062030051) (📖 p. 160)

12.39 Adjusting the basic position of the clutch lever



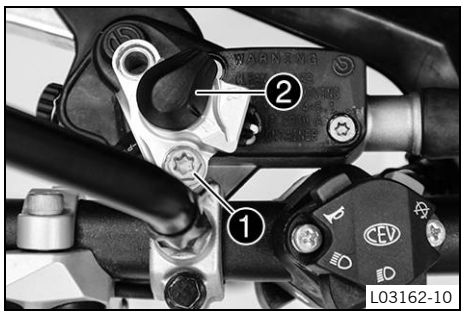
– Adjust basic position of the clutch lever to your hand size by turning adjusting screw ❶.

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.

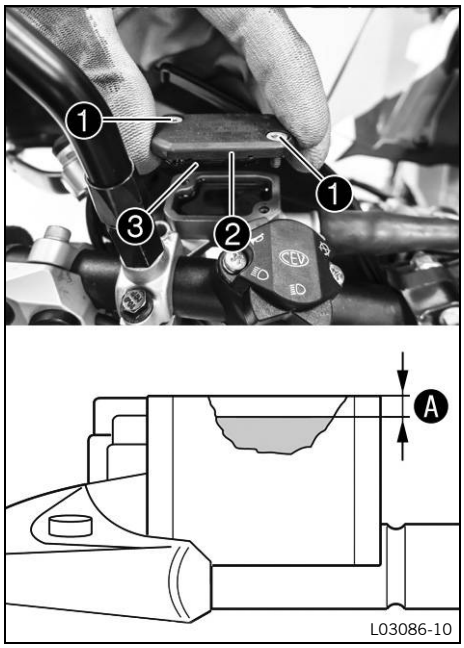
12.40 Checking/correcting the fluid level of the hydraulic clutch

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.



– Remove screw ❶.
– Take off fuel pump controller ❷ and hang to the side.



– Move the hydraulic clutch fluid reservoir mounted on the handlebar to a horizontal position.
– Remove screws ❸.
– Take off cover ❹ with membrane ❺.
– Check fluid level.

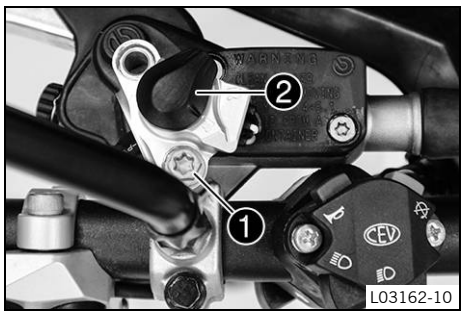
Fluid level Ⓐ below container rim	4 mm (0.16 in)

» 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. 158)

– Position cover ❹ with membrane ❺. Mount and tighten screws ❸.

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



– Position fuel pump controller ❷.
– Mount and tighten screw ❶.

12.41 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.

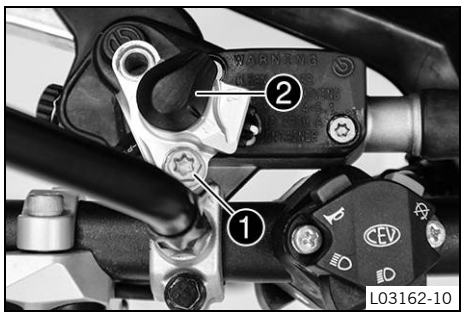
Note

Environmental hazard Hazardous substances cause environmental damage.

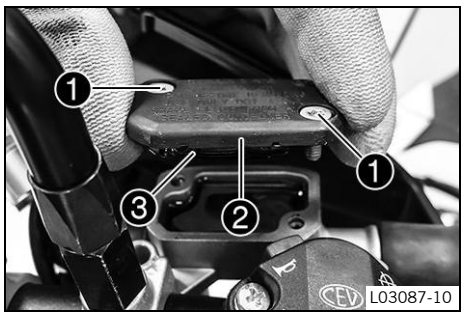
- Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

Info

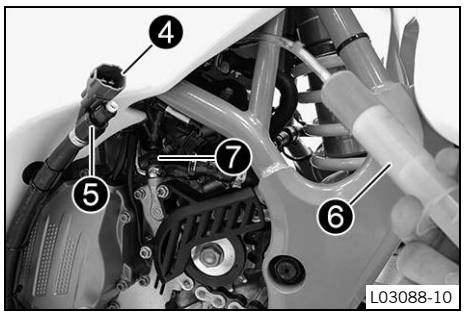
Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and clutch lines are not designed for DOT 5 brake fluid.
Avoid contact between brake fluid and painted parts. Brake fluid attacks paint.
Only use clean brake fluid from a sealed container.



- Remove screw ❶.
- Take off fuel pump controller ❷ and hang to the side.



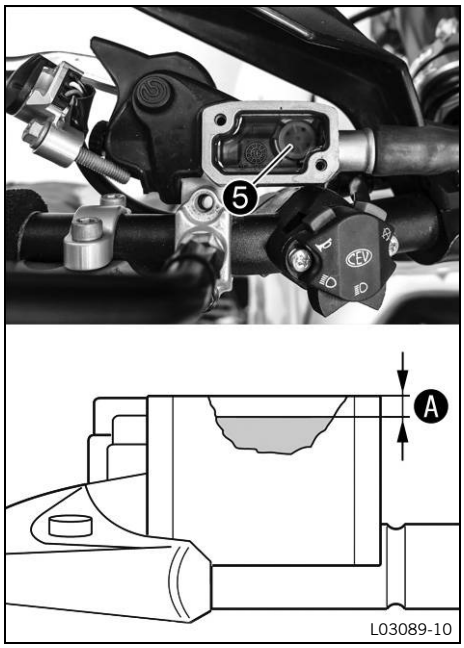
- Move the hydraulic clutch fluid reservoir mounted on the handlebar to a horizontal position.
- Remove screws ❸.
- Take off cover ❹ with membrane ❺.



- Disconnect plug-in connector ❻.
- Disconnect plug-in connection ❼ of the fuel line.
- Fill bleeding syringe ❽ with the appropriate hydraulic fluid.

Syringe (50329050000)
Brake fluid DOT 4 / DOT 5.1 (📖 p. 158)

- On the slave cylinder, remove bleeder screw ❾ and mount bleeding syringe ❽.



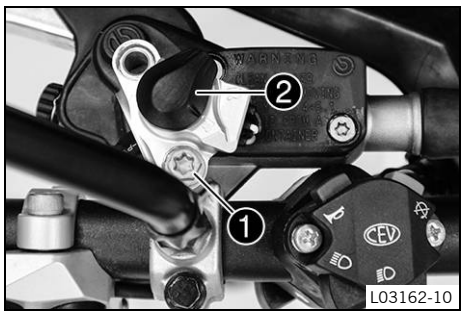
- Inject the liquid into the system until it escapes from openings ❿ of the master cylinder without bubbles.
- Now and then, extract fluid from the master cylinder reservoir to prevent overflow.
- Remove bleeding syringe ❽. Mount and tighten bleeder screw ❾.
- Correct the fluid level of the hydraulic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

  Guideline

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

- Position cover ❹ with membrane ❺. Mount and tighten screws ❸.

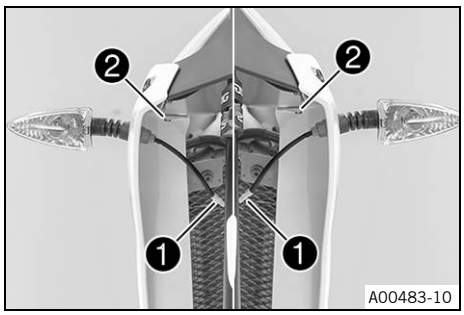
Info
Clean up overflowed or spilled brake fluid immediately with water.



- Position fuel pump controller ❷.
- Mount and tighten screw ❶.

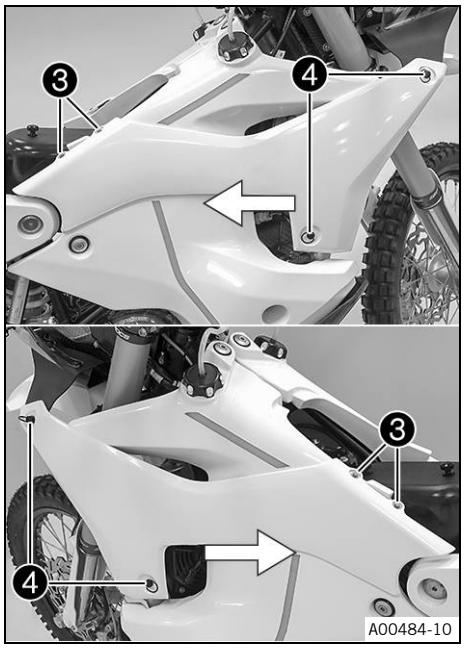
12.42 Removing side cover

Preparatory work
- Remove the seat. (📖 p. 67)



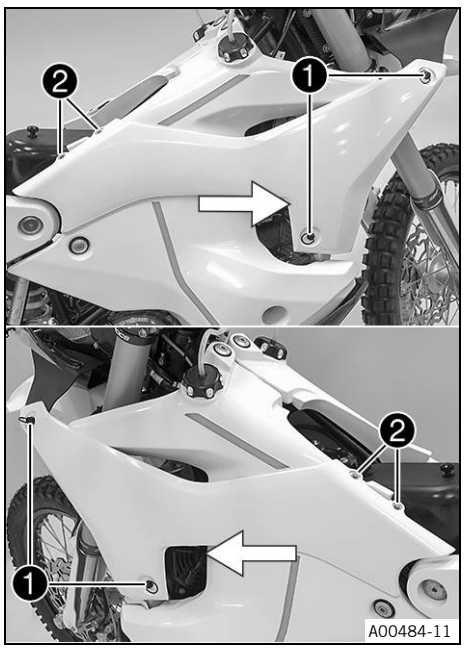
Main work

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

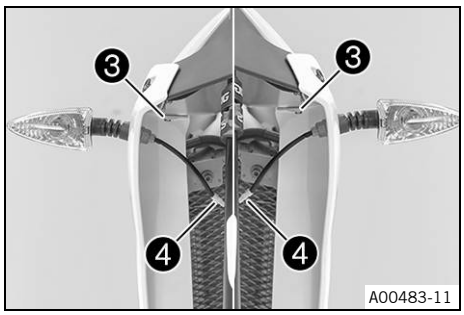


– Remove screws ❸.
– Unlock quick releases ❹.
– Carefully push the side cover to the rear and remove.

12.43 Mounting side cover

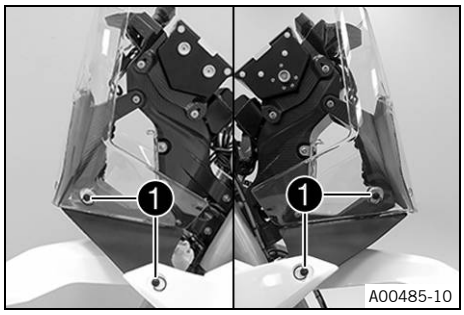


– Position side cover and slide it forward.
– Lock quick releases ❶.
– Mount and tighten screws ❷.



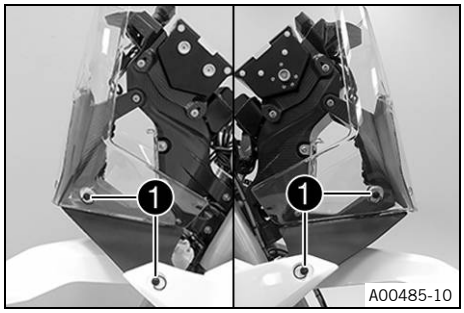
– Mount and tighten screws ❸.
– Join plug-in connection ❹ of the turn signals.

12.44 Removing front fairing



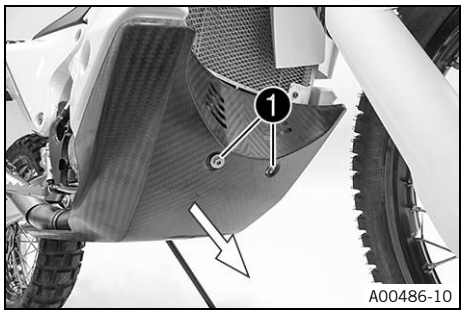
– Unlock quick releases ❶.
– Raise the front fairing, tilt forward and take off.

12.45 Mounting front fairing



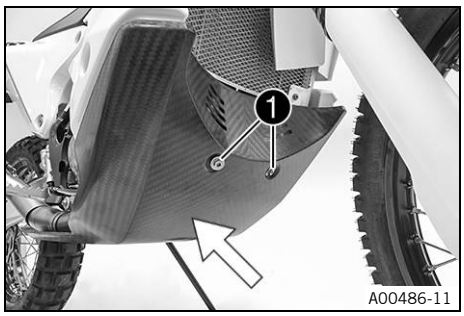
– Position front fairing.
– Lock quick releases ❶.

12.46 Removing engine guard



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

12.47 Installing the engine guard



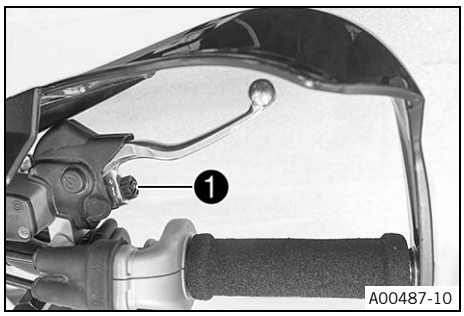
– Position the engine guard.
– Mount and tighten screws ❶ with the washers.

Guideline

Screw, engine guard	M8	25 Nm (18.4 lbf ft)

◀

13.1 Adjusting the basic position of the hand brake lever



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

Info

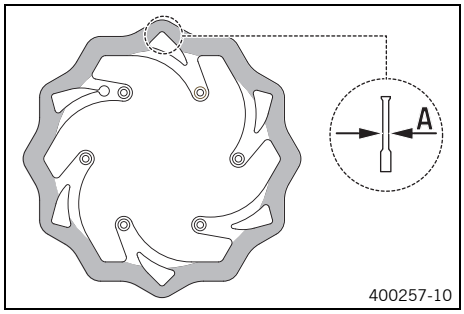
Turn the adjusting screw clockwise to increase the distance between the hand brake lever and the handlebar.
Turn the adjusting screw counterclockwise to decrease the distance between the hand brake lever and the handlebar.
The range of adjustment is limited.
Only turn the adjusting screw by hand, and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

13.2 Checking 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 front and rear brake disc thickness at multiple points for the dimension A.

Info

Wear reduces the thickness of the brake disc around the contact surface of the brake linings.

Brake discs - wear limit	
front	3.4 mm (0.134 in)
rear	3.5 mm (0.138 in)

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

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

» If the brake disc exhibits damage, cracking, or deformation:
  – Change brake disc.

13.3 Checking front brake fluid level

Warning

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

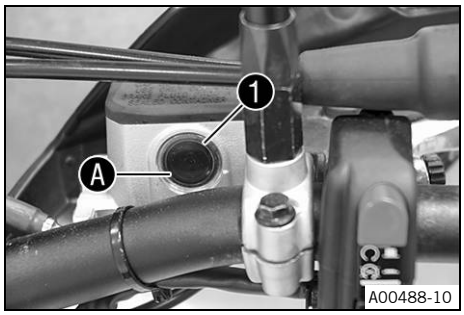
If the brake fluid level drops below the specified marking or the specified value, the brake system is leaking or the brake linings are worn down.

– 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 brake reservoir mounted on handlebar to a horizontal position.
– Check brake fluid level in level viewer 1.
  » If the brake fluid level has dropped below the marking A:
    – Add front brake fluid. (p. 89)

13.4 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.)

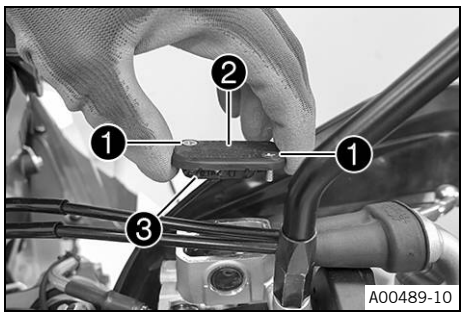
Note

Environmental hazard Hazardous substances cause environmental damage.

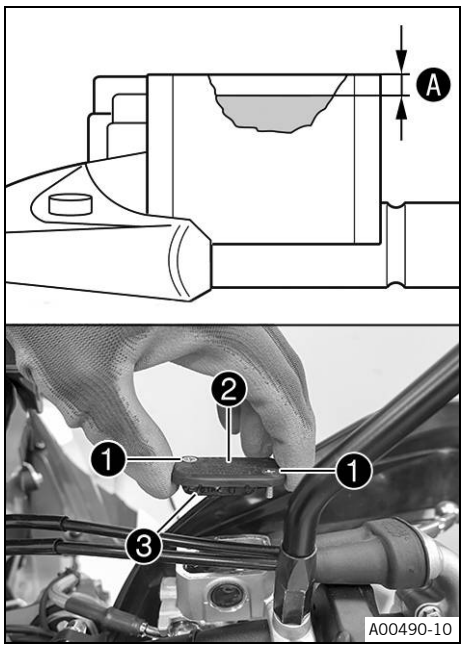
– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

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 brake reservoir mounted on handlebar to a horizontal position.
– Remove screws ❶.
– Take off cover ❷ with membrane ❸.



– Add brake fluid to level Ⓐ.

Guideline

Dimension Ⓐ	5 mm (0.2 in)

Brake fluid DOT 4 / DOT 5.1 (📖 p. 158)

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

Info

Clean up overflowed or spilled brake fluid immediately with water.

13.5 Checking the front brake linings

Warning

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

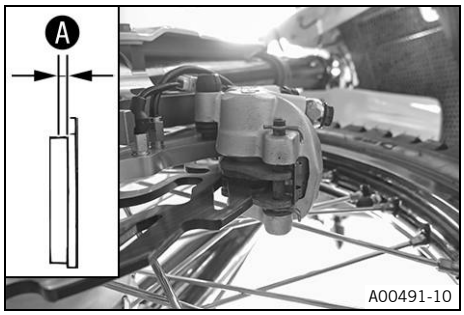
– Ensure that worn-out brake linings are replaced immediately. (Your authorized KTM workshop will be glad to help.)

Warning

Danger of accidents Damaged brake discs reduce the braking effect.

If the brake linings are not changed in time, the brake lining carriers grind against the brake disc. As a consequence, 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 front brake linings. 🔧 (📖 p. 91)

– Check the brake linings for damage and cracking.

» If damage or cracking is visible:
– Change front brake linings. 🔧 (📖 p. 91)

13.6 Changing front brake linings 🔧

Warning

Danger of accidents Incorrect servicing 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.

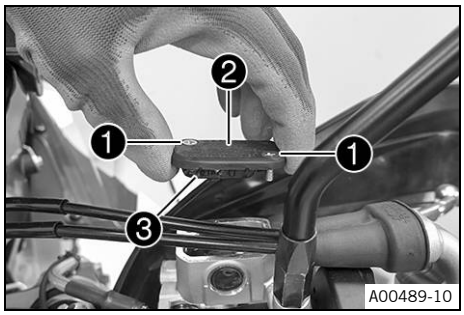
Note

Environmental hazard Hazardous substances cause environmental damage.

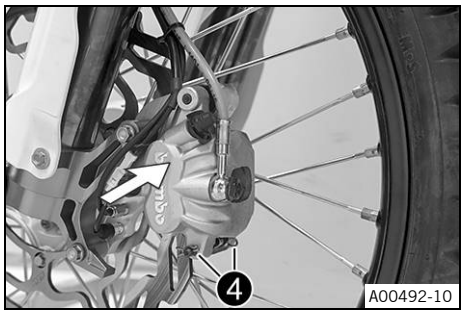
– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

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 brake reservoir mounted on handlebar to a horizontal position.
– Remove screws ❶.
– Take off cover ❷ with membrane ❸.

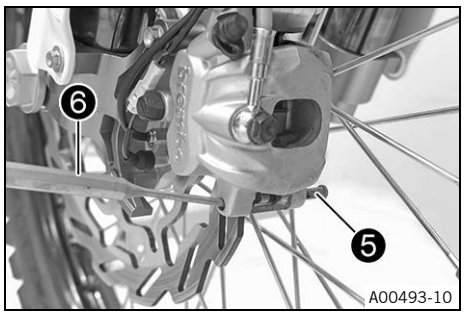


– Press the brake caliper onto the brake disc by hand in order to push back the brake pistons. Ensure that brake fluid does not flow out of the brake fluid reservoir; extract some if necessary.

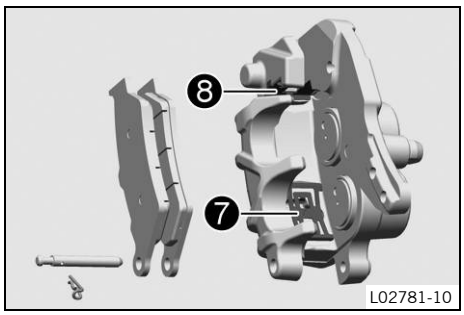
Info

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

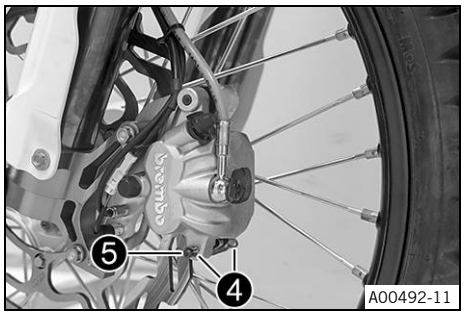
– Remove cotter pin ❹.



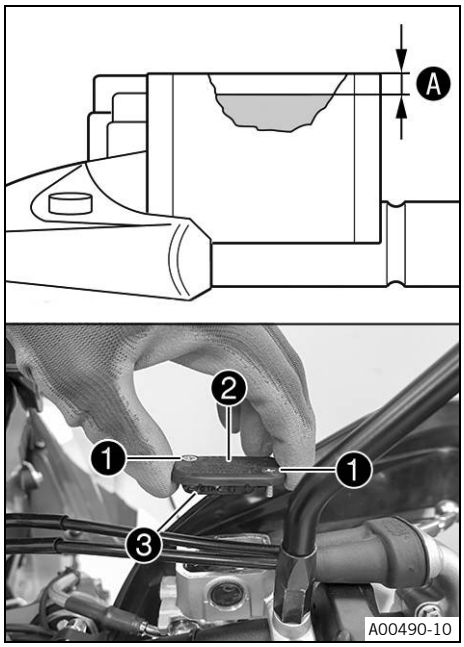
– Drive out pin ❺ with drift ❻ toward rim and remove brake linings.



– Clean brake caliper and brake caliper bracket.
– Check that spring plate ❼ in the brake caliper and sliding plate ❽ in the brake caliper bracket are seated properly.



– Insert new brake linings, 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

Dimension Ⓐ	5 mm (0.2 in)

Brake fluid DOT 4 / DOT 5.1 (📖 p. 158)

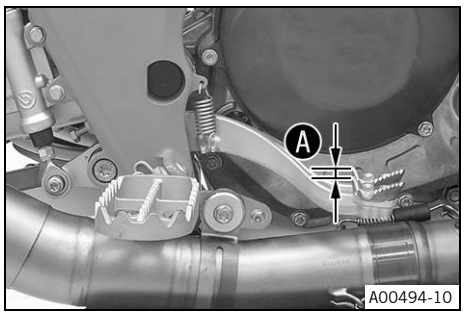
– Position cover ❷ with membrane ❸.
– Mount and tighten screws ❶.

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

13.7 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. 94)

– Attach the spring to the foot brake lever.

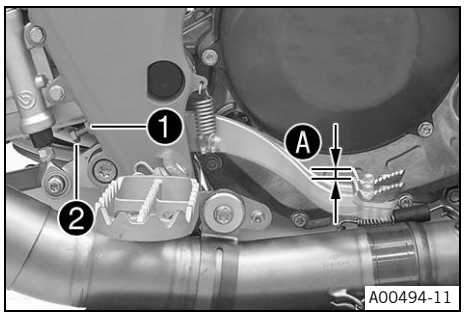
13.8 Adjusting the free travel of the foot brake lever

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)

13.9 Checking rear brake fluid level

Warning

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

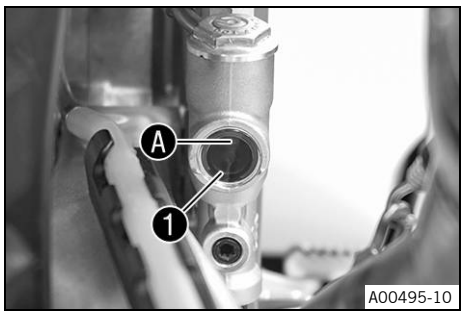
If the brake fluid level drops below the **MIN** marking, the brake system is leaking or the brake linings are worn down.

– 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 vehicle upright.
– Check brake fluid level in level viewer 1.
  » If the brake fluid level has dropped below the marking A:
    – Add rear brake fluid. (p. 95)

13.10 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.)

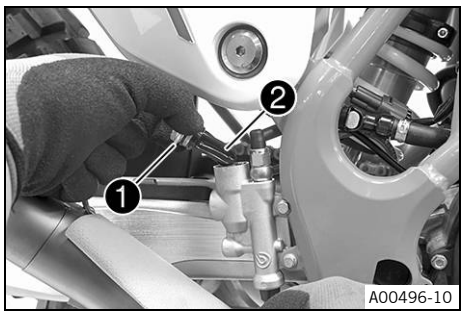
Note

Environmental hazard Hazardous substances cause environmental damage.

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

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 vehicle upright.
– Remove screw cap ❶ with the washer and membrane ❷.
– Add brake fluid to the marking on the inside of the compensating tank.

Brake fluid DOT 4 / DOT 5.1 (📖 p. 158)

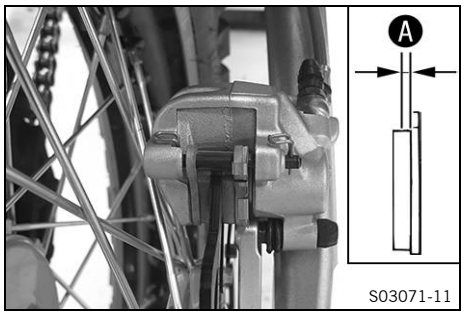
– Mount screw cap with washer and membrane.

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

13.11 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.)

Warning
Danger of accidents Damaged brake discs reduce the braking effect.
If the brake linings are not changed in time, the brake lining carriers grind against the brake disc. As a consequence, 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 rear brake linings. 🔧 (📖 p. 96)
– Check the brake linings for damage and cracking.
» If damage or cracking is visible:
– Change rear brake linings. 🔧 (📖 p. 96)

13.12 Changing rear brake linings 🔧

Warning
Danger of accidents Incorrect servicing 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.

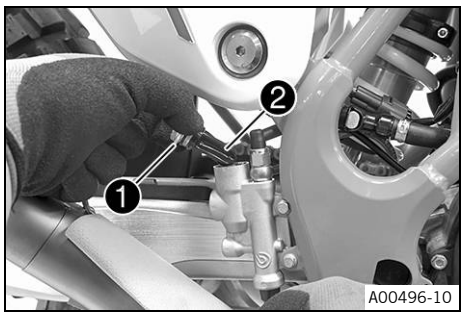
Note

Environmental hazard Hazardous substances cause environmental damage.

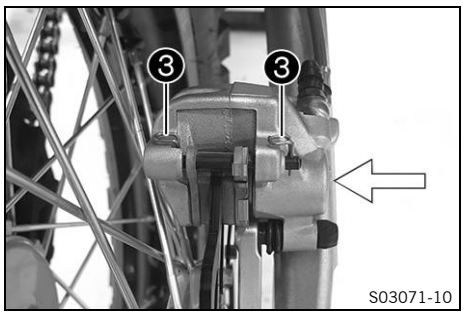
– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

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.



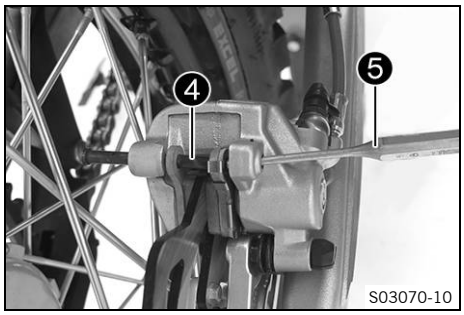
– Stand vehicle upright.
– Remove screw cap ❶ with the washer and membrane ❷.



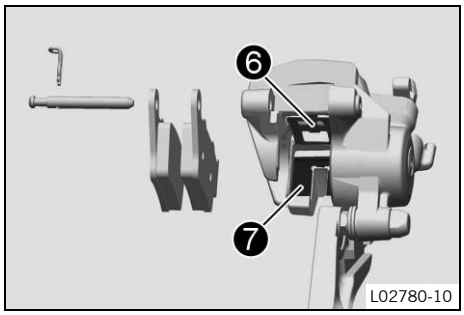
– Press brake caliper onto the brake disc by hand in order to push back the brake piston. Ensure that brake fluid does not flow out of the brake fluid reservoir; extract some if necessary.

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

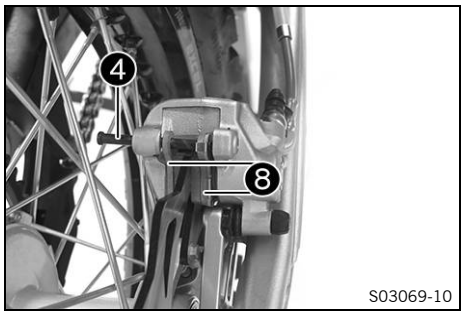
– Remove cotter pin ❸.



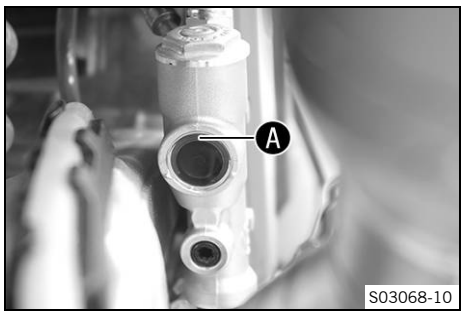
– Drive out pin ❹ with drift ❺ toward rim and remove brake linings.



– Clean brake caliper and brake caliper bracket.
– Check that spring plate ❻ in the brake caliper and sliding plate ❼ in brake caliper bracket are seated properly.



– Insert new brake linings ❽, insert pin ❹, and mount 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.
– Correct brake fluid level to the marking on the inside of the compensating tank.

Brake fluid DOT 4 / DOT 5.1 (📖 p. 158)

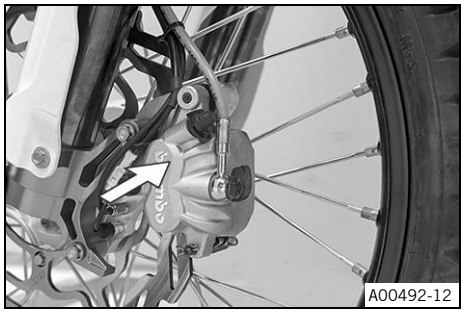
– Mount screw cap with washer and membrane.

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

14.1 Removing front wheel

Preparatory work

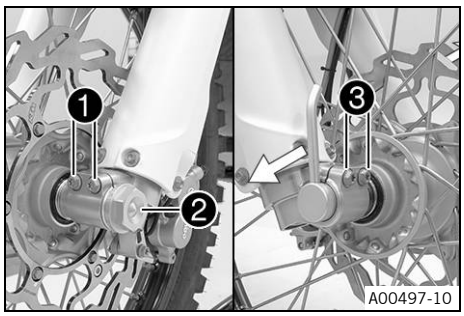
– Raise the motorcycle with a lift stand. (📖 p. 55)



Main work

– Press the brake caliper onto the brake disc by hand in order to push back the brake pistons.

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

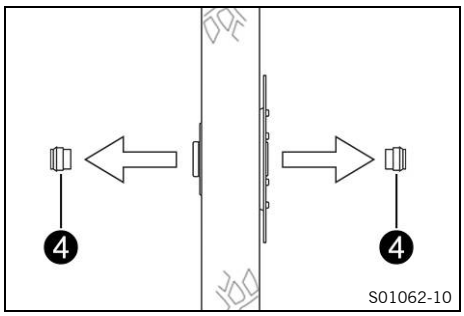


– Loosen screws ❶.
– Remove screw ❷.
– Loosen screws ❸.

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.

– Hold front wheel and remove wheel spindle. Take the front wheel out of the fork.

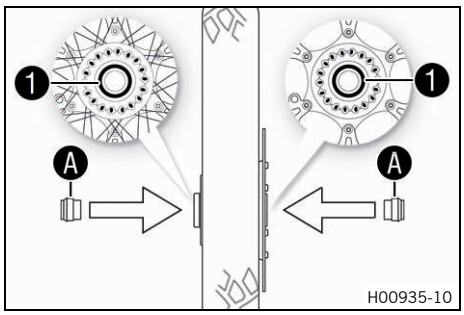
Info
Do not actuate the hand brake lever when the front wheel is removed.

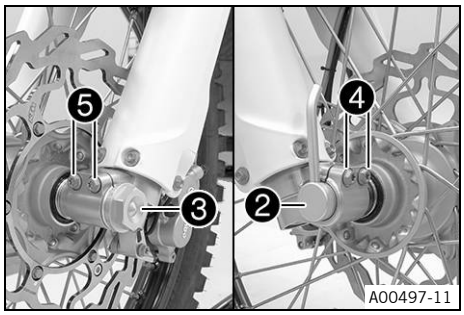


– Remove spacers ❹.

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

Long-life grease (📖 p. 160)

– Insert the spacers.
– Position 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.

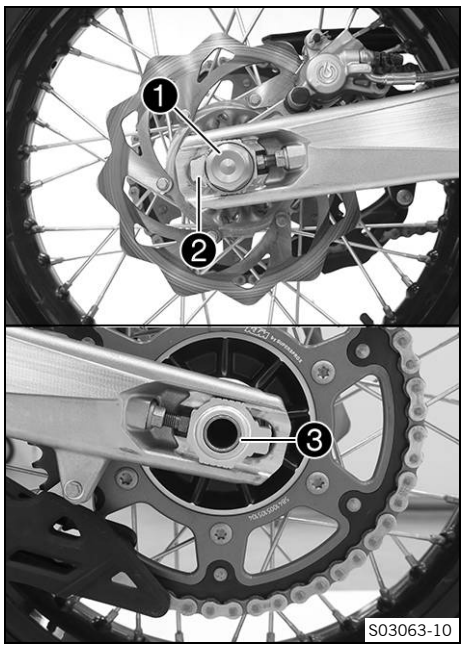
– Operate the hand brake lever several times until the brake linings are seated correctly against the brake disc.
– Remove motorcycle from the lift stand. (📖 p. 55)
– Operate the front brake and compress the fork a few times firmly.
  ✔ The fork legs straighten.
– Tighten screws ❹ and ❺.

  Guideline

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

14.3 Removing rear wheel

Preparatory work
– Raise the motorcycle with a lift stand. (📖 p. 55)



Main work

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

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

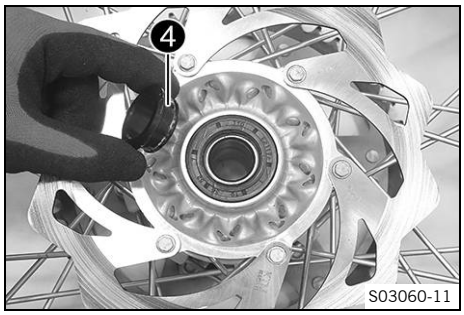
– Remove nut ❶.
– Remove chain adjuster ❷.
– Pull out wheel spindle ❸ far enough to allow the rear wheel to be pushed forward.
– Push the rear wheel forward as far as possible. Remove chain from rear sprocket.

Info
Cover the components to protect them against damage.

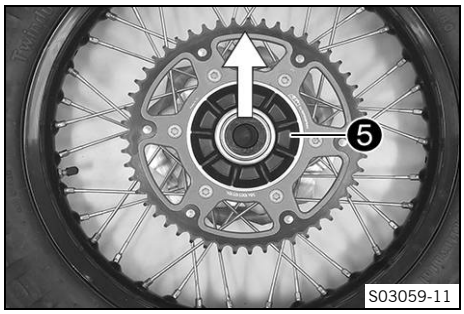
Warning
Danger of accidents Damaged brake discs reduce the braking effect.
– Always lay the wheel down in such a way that the brake disc is not damaged.

– Hold the rear wheel and remove wheel spindle ❸. Take the rear wheel out of the link fork.

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



– Remove spacer ❹.



– Remove 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.

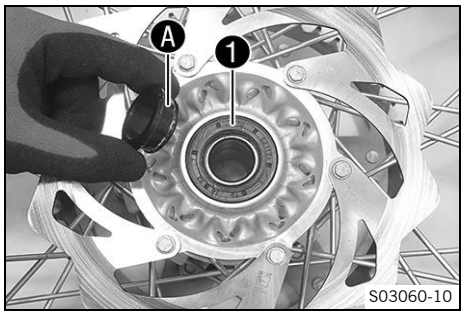
– Always keep the brake discs free of oil and grease.
– Clean the brake discs with brake cleaner when necessary.

Main work

– Check rear hub damping rubber pieces. (p. 103)
– Check 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. 160)

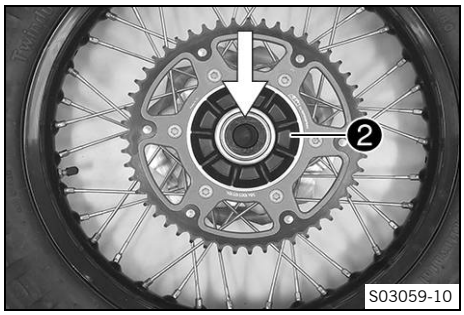
– Insert the spacer.



– Clean and grease the spacers of the rear sprocket carrier.

Long-life grease (p. 160)

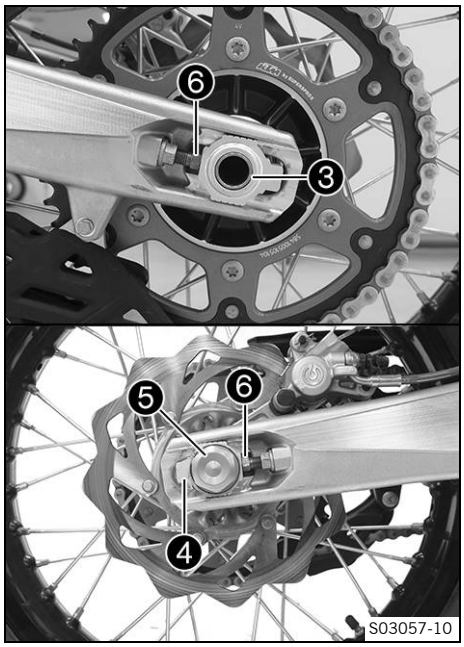
– Insert rear sprocket carrier ❷ into the rear hub.



– Position rear wheel and insert wheel spindle ❸.
  ✓ The brake linings are correctly positioned.
– Mount chain.
– Position chain adjuster ❹. Mount nut ❺, but do not tighten it yet.
– Make sure that the chain adjusters are fitted correctly on the adjusting screws ❻.
– Check chain tension. (p. 76)
– 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 motorcycle from the lift stand. (📖 p. 55)

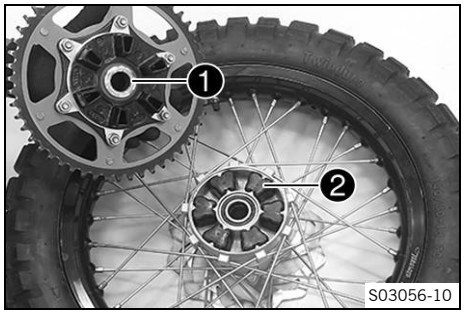
14.5 Checking rear hub damping rubber pieces

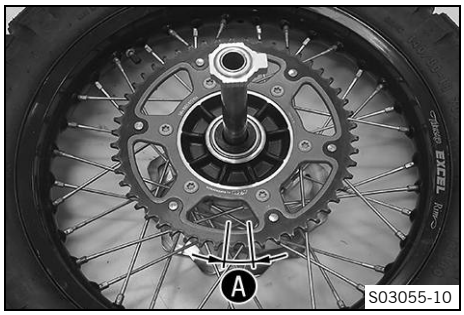
Info

The engine power is transmitted from the rear sprocket to the rear wheel via the 6 damping rubber pieces. They eventually wear out during operation. If the damping rubber pieces 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. 55)
– Remove rear wheel. (📖 p. 100)





Main work

– Check bearing 1.
  » If the bearing is damaged or worn:
    – Change the bearing.
– Check damping rubber pieces 2 of the rear hub for damage and wear.
  » If the damping rubber pieces of the rear hub are damaged or worn:
    – Change all the damping rubber pieces of 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 A, hold the rear wheel tight and try to rotate the rear sprocket.

Info

Measure the play on the outside of the rear sprocket.

Play of damping rubber pieces on rear wheel	≤ 5 mm (≤ 0.2 in)

  » If clearance A is larger than the specified value:
    – Change all the damping rubber pieces of the rear hub.

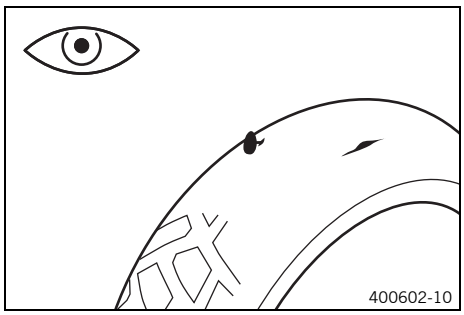
Finishing work

– Install the rear wheel. (📖 p. 102)
– Remove motorcycle from the lift stand. (📖 p. 55)

14.6 Checking 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 pressure of the tires all have a major impact on the handling characteristic 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.

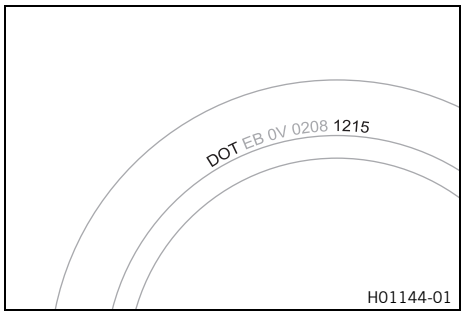


– Check front and rear tires for cuts, run-in objects, and other damage.
  » If the tires have cuts, run-in objects, or other damage:
    – Change tires.
– Check tread depth.

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 tires.



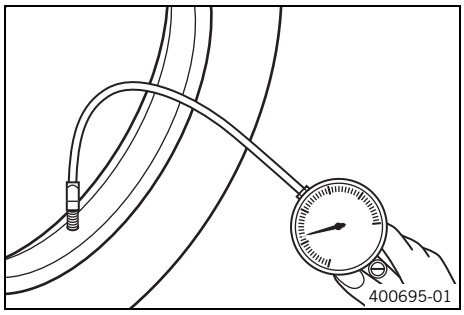
– Check tire age.

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 tires.

14.7 Checking tire pressure

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



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

Offroad tire pressure	
front	1.0 … 1.5 bar (15 … 22 psi)
rear	1.0 … 1.5 bar (15 … 22 psi)

Street tire pressure	
front	1.5 bar (22 psi)
rear	1.5 bar (22 psi)

  » If the tire pressure does not meet specifications:
    – Correct the tire pressure.
– Mount protection cap.

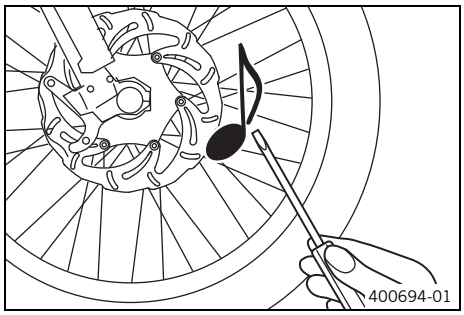
14.8 Checking spoke tension

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 kit (58429094000)

15.1 Removing 12-V battery

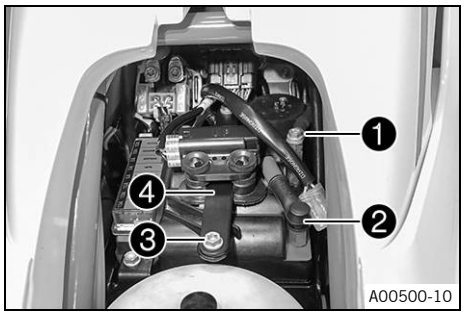
Warning

Risk of injury 12 V batteries contain harmful substances.

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

Preparatory work

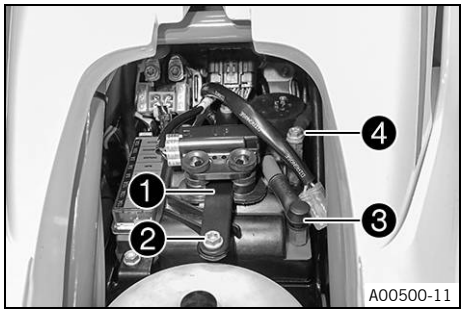
- Switch off all power consumers and switch off the engine.
- Remove the seat. (📖 p. 67)



Main work

- Disconnect negative cable ❶ from the 12-V battery.
- Disconnect positive cable ❷ from the 12-V battery.
- Remove screw ❸.
- Detach holder ❹ to the rear.
- Lift out the 12-V battery.

15.2 Installing the 12-V battery



Main work

- Insert the 12-V battery into the battery compartment.

Lithium-ion battery (📖 p. 134)

- Attach holder ❶.
- Mount and tighten screw ❷.
- Connect positive cable ❸ to the 12-V battery.
  Guideline

Nut, cable on 12-V battery	M6	5 Nm (3.7 lbf ft)

- Connect negative cable ❹ to the 12-V battery.
  Guideline

Nut, cable on 12-V battery	M6	5 Nm (3.7 lbf ft)

Finishing work

- Mount the seat. (📖 p. 67)

15.3 Charging the 12-V battery

Warning

Risk of injury 12 V batteries contain harmful substances.

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

Note

Environmental hazard 12 V batteries contain environmentally hazardous materials.

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

Info

Even if there is no load on the 12-V battery, it discharges steadily each day.
The charging voltage of the 12-V battery must not exceed 14.4 V.
The charging level and the method of charging are very important for the service life of the 12-V battery.
If the charging current or charging voltage are exceeded, the 12-V battery will be irreparably damaged.
If the 12-V battery is depleted by repeated starting, the 12-V battery must be charged immediately.
If the 12-V battery is left in a discharged state for an extended period, it will become over-discharged and will be irreparably damaged.
The 12-V battery is maintenance-free.

Preparatory work

- Switch off all power consumers and switch off the engine.
- Remove the seat. (📖 p. 67)
- Disconnect negative cable of the 12-V battery to avoid damage to the onboard electronics.

Main work

- Connect battery charger to the 12-V battery. Switch on battery charger.

Battery charger (79629974000)

  It is impossible to overcharge the 12-V battery using this device.

  Info

  Only charge the 12-V battery with the specified battery charger.
  This is the only way to ensure that a charging voltage of 14.4 V is not exceeded.

- Switch off battery charger after charging and disconnect it from the 12-V battery.
- Connect negative cable to the 12-V battery.

Finishing work

– Mount the seat. (📖 p. 67)

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.

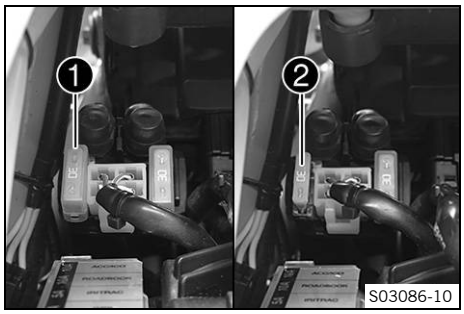
Info

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.

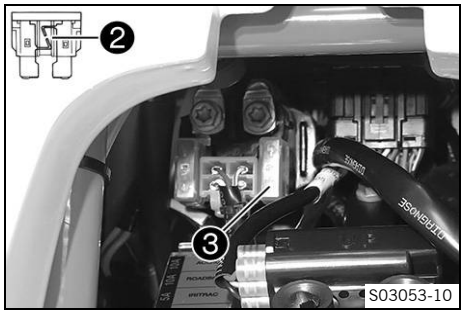
– Remove the seat. (📖 p. 67)



Main work

– Remove protection cap ❶.

– Remove the faulty main fuse ❷.



– Fit a new main fuse.

Fuse (58011109130) (📖 p. 134)

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.

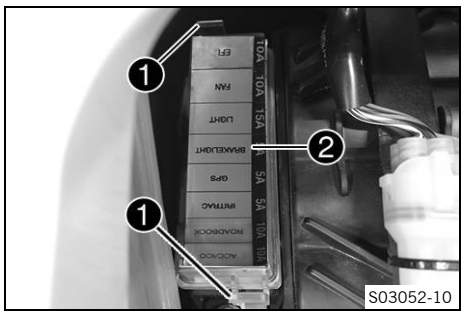
Finishing work

– Mount the seat. (📖 p. 67)

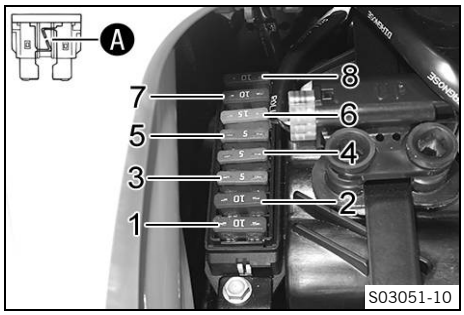
15.5 Changing the fuses of individual power consumers

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. 67)



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



– Remove faulty fuse.
Guideline

Fuse **1** - 10 A - ICO Speedocap, turn signal, instrument
Fuse **2** - 10 A - road book
Fuse **3** - 5 A - Iritrack
Fuse **4** - 5 A - GPS
Fuse **5** - 5 A - brake light, coolant temperature indicator lamp, oil pressure warning lamp, horn
Fuse **6** - 15 A - high beam, low beam, position light, road book lighting, tail light
Fuse **7** - 10 A - radiator fan
Fuse **8** - 10 A - front fuel pump, rear fuel pump, diagnosis, EFI, lambda sensor, map switch, malfunction indicator lamp

Info
A faulty fuse has 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.

– Insert a spare fuse with the correct rating.

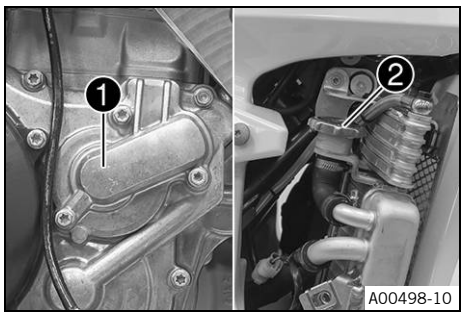
Fuse (58011109105) (📖 p. 134)
Fuse (58011109110) (📖 p. 134)
Fuse (58011109115) (📖 p. 134)

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

Finishing work

– Mount the seat. (📖 p. 67)

16.1 Cooling system



Water pump ❶ in the engine ensures forced circulation of 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.
Additional cooling is provided by the radiator fan, which is activated at high temperature.

16.2 Checking the antifreeze and coolant level

Warning

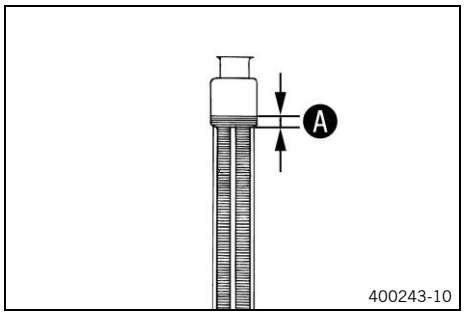
Danger of scalding During motorcycle operation, the coolant gets very hot and is under pressure.

- 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. 158)

– 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.
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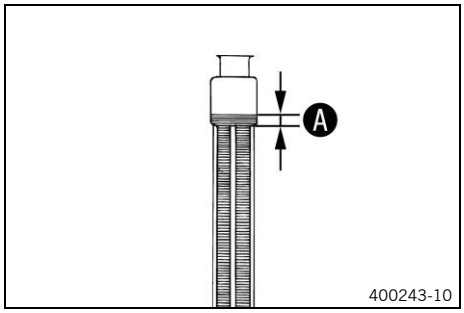
– Change clothing if coolant spills onto your clothing.



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. 158)

– Mount the radiator cap.

16.4 Draining the coolant

Warning

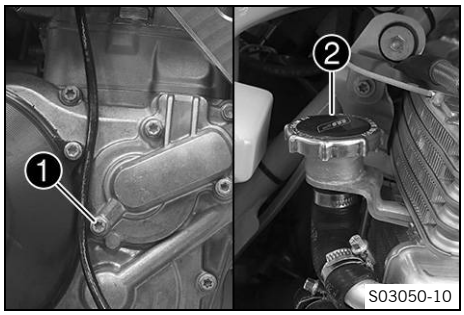
Danger of scalding During motorcycle operation, the coolant gets very hot and is under pressure.

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

  Guideline

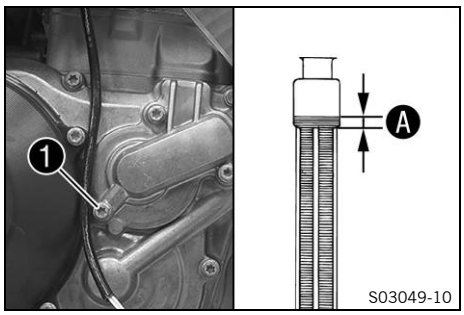
Screw, water pump cover	M6	10 Nm (7.4 lbf ft)

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.

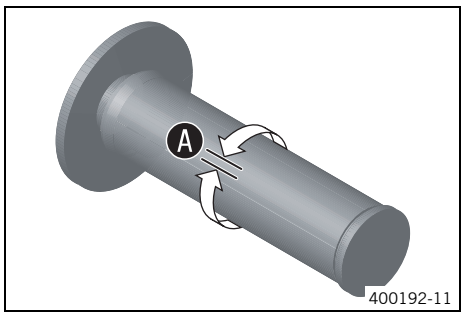
  Guideline

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

Coolant (📖 p. 158)	1.0 l (1.1 qt.)

- Mount the radiator cap.
- Take a short test ride.
- Check the coolant level. (📖 p. 112)

17.1 Checking throttle cable play



– Check 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 Ⓐ.

Throttle cable play	3 … 5 mm (0.12 … 0.2 in)

» If the throttle cable play does not meet specifications:
– Adjust throttle cable play. (📖 p. 114)

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 effective exhaust extraction when starting or running the engine in an enclosed space.

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

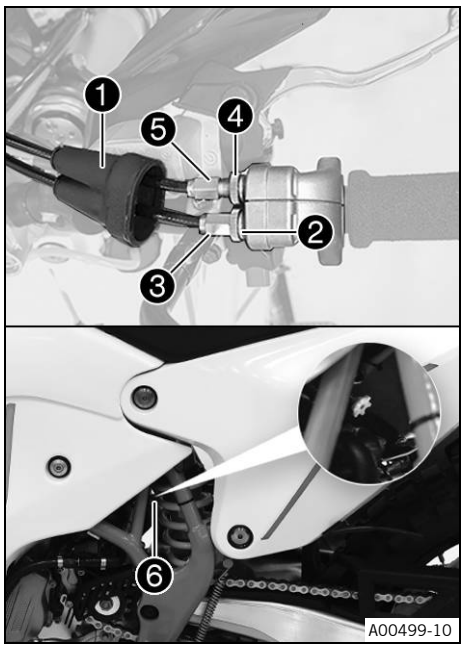
The idle speed must not change.

» If the idle speed changes:
– Adjust throttle cable play. (📖 p. 114)

17.2 Adjusting throttle cable play

Info
If the correct routing of the throttle cables has already been secured, the fuel tank does not need to be removed.

Preparatory work
– Remove the seat. (📖 p. 67)
– Take out the tool set compartment.
– Remove front fairing. (📖 p. 86)
– Remove engine guard. (📖 p. 86)
– Remove side cover. (📖 p. 84)
– Remove front right fuel tank. (📖 p. 72)
– Check throttle cable routing. (📖 p. 80)



Main work

– Move the handlebar to the straight-ahead position.
– Push back sleeve ❶.
– Loosen nut ❷.
– Turn adjusting screw ❸ in as far as possible.
– Loosen nut ❹.
– Push cold start button ❻ all the way to the stop.
– Turn adjusting screw ❺ so that the cold start button moves to the basic position when the throttle grip is turned to the front.
– Tighten nut ❹.
– Turn barrel adjuster ❸ so that there is play in the throttle cable at the throttle grip.

Guideline

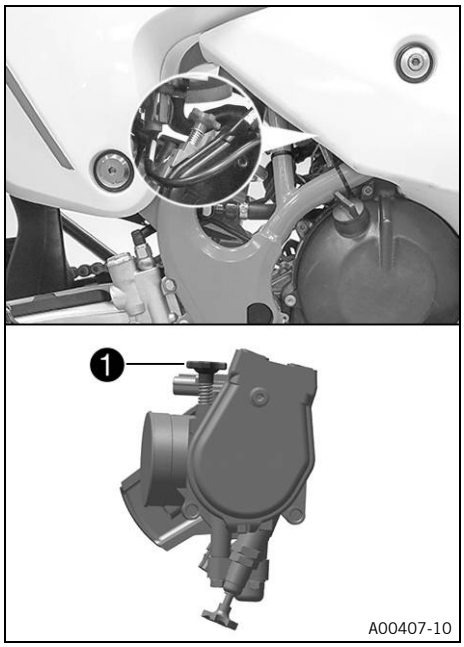
Throttle cable play	3 … 5 mm (0.12 … 0.2 in)

– Tighten nut ❷.
– Slide on sleeve ❶.
– Check throttle grip for smooth operation.

Finishing work

– Install the front right fuel tank. (📖 p. 74)
– Install the engine guard. (📖 p. 87)
– Mount front fairing. (📖 p. 86)
– Mount side cover. (📖 p. 85)
– Mount tool set compartment.
– Mount the seat. (📖 p. 67)
– Check throttle cable play. (📖 p. 114)

17.3 Adjusting the idle speed



– Run the engine until warm.

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 effective exhaust extraction when starting or running the engine in an enclosed space.

– Adjust the idle speed by turning the idle speed adjusting screw.

Guideline

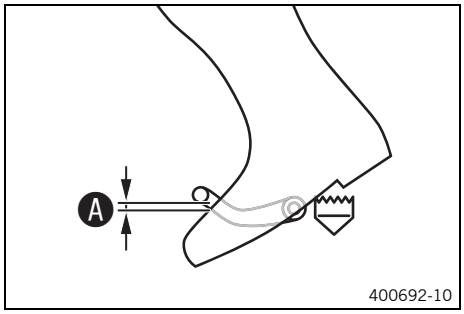
Idle speed	2,400 ± 200 rpm

Info

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

17.4 Checking 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.

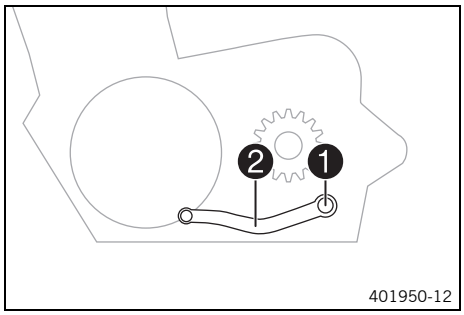


– Sit on the vehicle in the riding position and determine distance Ⓐ between the upper edge of your boot and the shift lever.

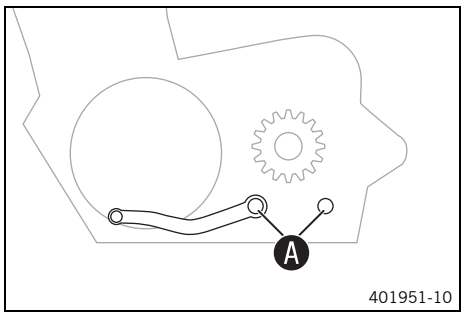
Distance between shift lever and upper edge of boot	10 … 20 mm (0.39 … 0.79 in)

» If the distance does not meet specifications:
– Set basic position of shift lever. (p. 116)

17.5 Adjusting the basic position of the shift lever



– Remove screw ❶ with the 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.

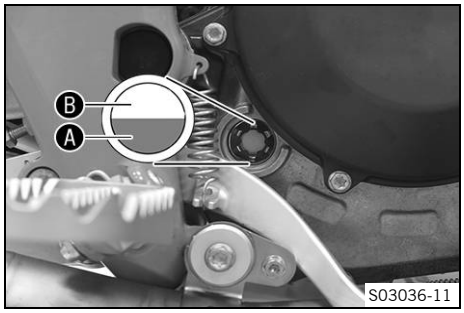
Info
The range of adjustment is limited.
The shift lever must not come into contact with any other vehicle components during the shift procedure.

– 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. 121)

» 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.

Note

Environmental hazard Hazardous substances cause environmental damage.

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

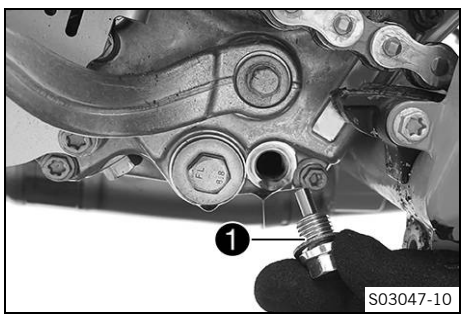
Info

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

Preparatory work

– Park motorcycle on a level surface.

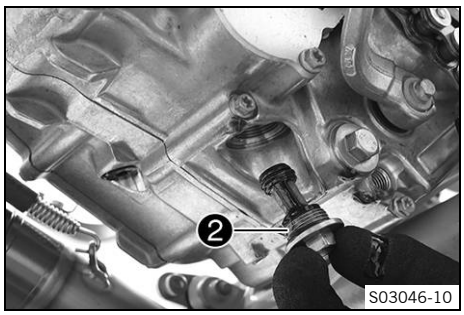
– Remove engine guard. (📖 p. 86)



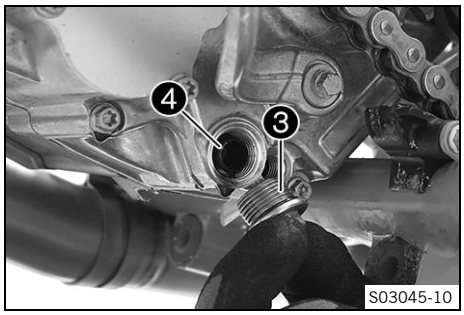
Main work

– Place an appropriate container under the engine.

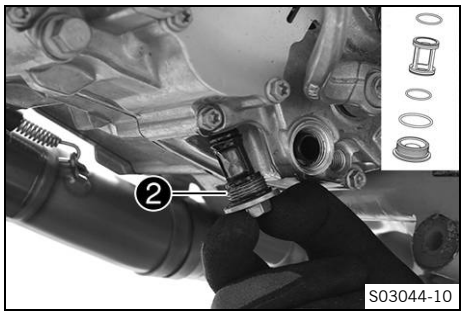
– Remove oil drain plug ❶ with the magnet and seal ring.



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



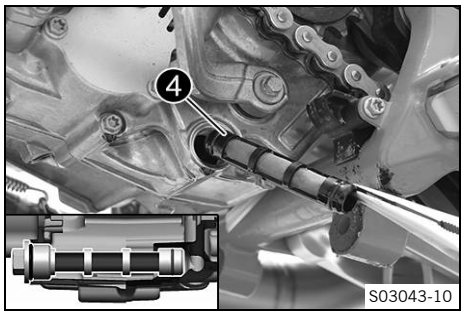
– Remove screw plug ❸ with the long oil screen ❹ and the O-rings.
– Completely drain engine oil.
– Thoroughly clean parts and sealing surfaces.



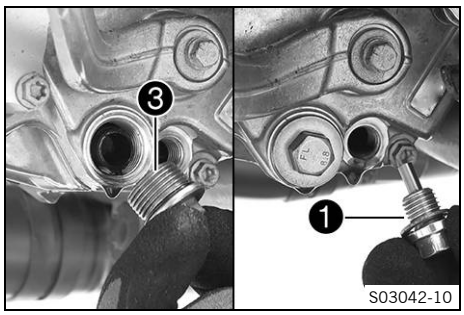
– Mount and tighten screw plug ❷ with the short oil screen and the O-rings.

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 pin wrench through the drill hole of the screw plug in the opposite section of the engine case.
– Push oil screen all the way into the engine case.



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

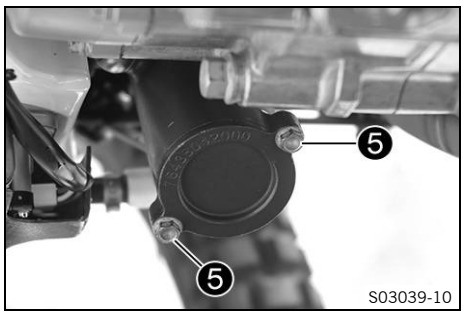
Guideline

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

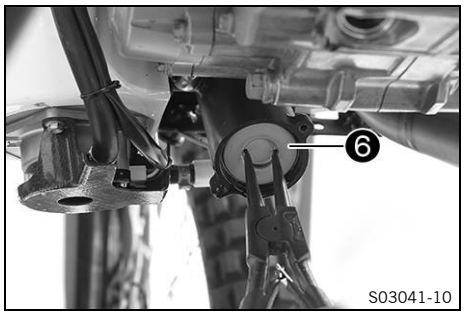
– Mount and tighten oil drain plug ❶ with the magnet and a new seal ring.

Guideline

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



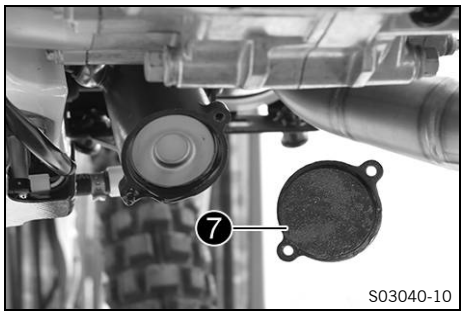
– Remove screws ❺. Remove oil filter cover with the O-ring.



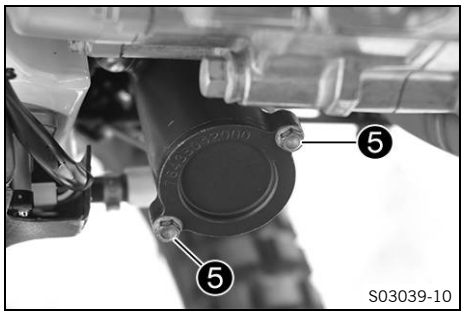
– Pull oil filter ❻ out of the oil filter housing.

Lock ring plier (51012011000)

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



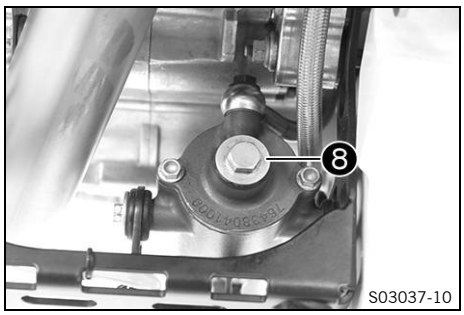
– Lubricate the O-ring of the oil filter cover and mount it with the oil filter cover ❼.



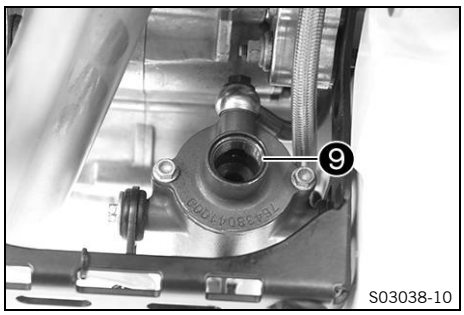
– Mount and tighten screws ❺.

Guideline

Screw, oil filter cover	M6	10 Nm (7.4 lbf ft)

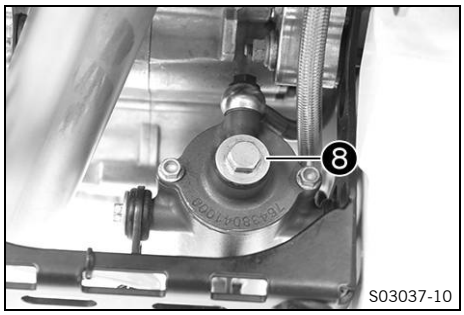


– Remove oil filler plug ❽ with the O-ring from the upper oil filter cover.



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

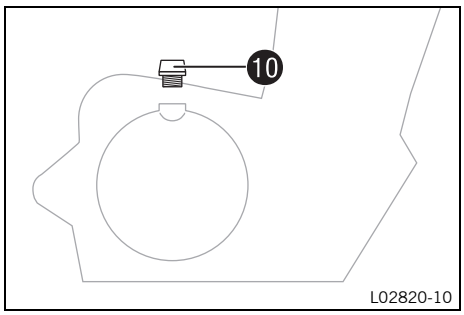
Total filling level, oil change		
Engine oil	1.40 l (1.48 qt.)	Engine oil (SAE 10W/50) (📖 p. 158)
Total filling level, engine service (with oil radiator)		
Engine oil	1.80 l (1.9 qt.)	Engine oil (SAE 10W/50) (📖 p. 158)



– 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 from the clutch cover together with the O-ring, and fill up with engine oil.

Total filling level, oil change		
Engine oil	1.40 l (1.48 qt.)	Engine oil (SAE 10W/50) (📖 p. 158)
Total filling level, engine service (with oil radiator)		
Engine oil	1.80 l (1.9 qt.)	Engine oil (SAE 10W/50) (📖 p. 158)

Info

Too little engine oil or poor-quality engine oil will result in premature wear of the engine.

– Mount and tighten the filler plug together with the 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 effective exhaust extraction when starting or running the engine in an enclosed space.

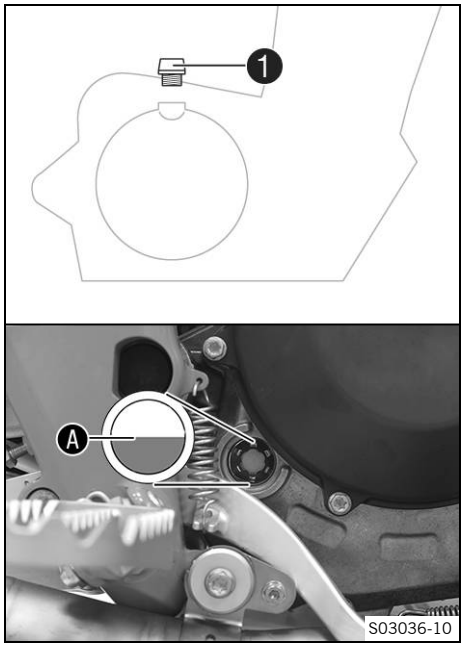
– Start the engine and check that it is oil-tight.

Finishing work

– Check the engine oil level. (📖 p. 117)
– Install the engine guard. (📖 p. 87)

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. 158)

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 effective exhaust extraction 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. 117)

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)

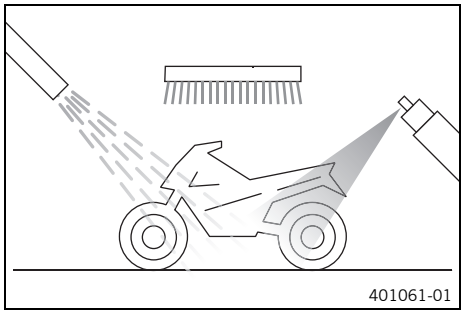
Note

Environmental hazard Hazardous substances cause environmental damage.

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

Info

To maintain the value and appearance of the motorcycle over a long period, clean it regularly.
Avoid direct sunshine when cleaning the motorcycle.



– Close off exhaust system to keep water from entering.
– Remove loose dirt first with a soft jet of water.
– Spray heavily soiled parts with a normal commercial motorcycle cleaner and then brush off with a soft brush.

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 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 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 protection caps of the handlebar controls to allow any water that has penetrated to evaporate.
– After the motorcycle has cooled down, lubricate all moving parts and pivot points.
– Clean the chain. (📖 p. 75)

– Treat bare metal (except for brake discs and the exhaust system) with a corrosion inhibitor.
– Treat all plastic parts and powder-coated parts with a mild cleaning and care product.

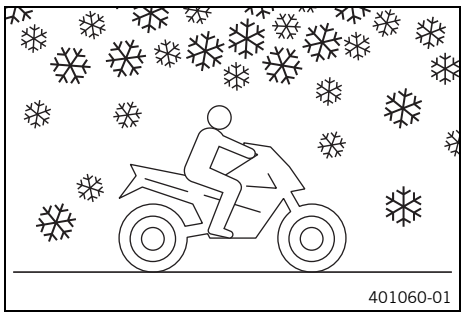
Preserving materials for paints, metal and rubber (📖 p. 160)

– Oil steering lock.

Universal oil spray (📖 p. 160)

19.2 Checks and maintenance steps for winter operation

Info
If you use the motorcycle in winter, salt can be expected on the roads. You should therefore take precautions against 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.



– Clean motorcycle. (📖 p. 122)
– Clean brake system.

Info
After **EVERY** trip on salted roads, thoroughly clean the brake calipers and brake linings, after they have cooled down and without removing them, with cold water and dry them carefully.
After riding on salted roads, thoroughly clean the motorcycle with cold water and dry it well.

– Treat engine, link fork, and all other bare or zinc-plated parts (except the brake discs) with a wax-based corrosion inhibitor.

Info
Corrosion inhibitor must not come in contact with the brake discs as this would greatly reduce the braking force.

– Clean the chain. (📖 p. 75)

20.1 Storage

Warning

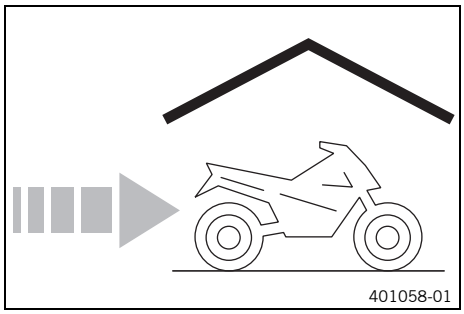
Danger of poisoning Fuel is poisonous and a health hazard.

- 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 plan to garage the motorcycle for a longer period, perform the following steps or have them performed.

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.



- When refueling for the last time before taking the motorcycle out of service, add fuel additive.
- Fill up with fuel. (p. 41)
- Clean motorcycle. (p. 122)
- Change engine oil and oil filter and clean the oil screens. (p. 117)
- Check the antifreeze and coolant level. (p. 111)
- Check tire pressure. (p. 104)
- Remove 12-V battery. (p. 106)
- Charge 12-V battery. (p. 107)

  Guideline

Storage temperature of the 12-V battery without direct sunlight	0 … 35 °C (32 … 95 °F)
Charging level of the 12-V battery for storage	50 … 75 %

- Store vehicle in a dry location that is not subject to large fluctuations in temperature.

  Info

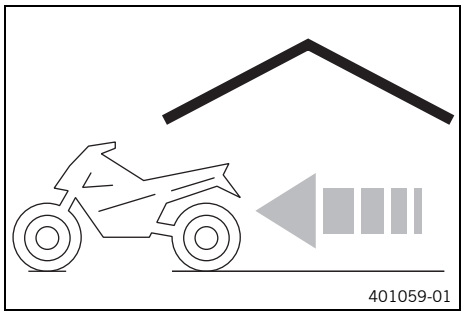
  KTM recommends jacking up the motorcycle.

- Raise the motorcycle with a lift stand. (p. 55)
- Cover vehicle with a tarp or similar cover that is permeable to air.

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 motorcycle from the lift stand. (📖 p. 55)
- Install the 12-V battery. 🔧 (📖 p. 106)
- Perform checks and maintenance steps when preparing for use. (📖 p. 38)
- 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. 38)
	12-V battery discharged	– Charge 12-V battery. 🔧 (📖 p. 107) – Check charging voltage. 🔧 – Check the open-circuit current. 🔧 – Check the stator winding of the alternator.
	Main fuse blown	– Change the main fuse. (📖 p. 108)
	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. 38)
	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. 109)
	Idle speed is not set correctly	– Adjust the idle speed. 🔧 (📖 p. 115)
	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 plug gap. Guideline Spark plug electrode gap 0.9 mm (0.035 in)
	Faulty ignition system	– Check ignition system. 🔧
	Short circuit cable in wiring harness frayed, kill switch defective	– Check the wiring harness. (visual check) – Check the electrical system.
	Error in the electronic fuel injection	– Read out fault memory using the KTM diagnostics tool. 🔧
Engine does not speed up	Error in the electronic fuel injection	– Read out 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. 68)
	Fuel filter is very dirty	– Change the fuel filter. 🔧
	Error in the electronic fuel injection	– Read out 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. 70)
	Valve clearance too little	– Adjust the valve clearance. 🔧

Faults	Possible cause	Action
Engine has too little power	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. 41)
Engine overheats	Too little coolant in cooling system	– Check the cooling system for leaks. – Check the coolant level. (📖 p. 112)
	Too little air stream	– Switch off the engine when standing.
	Radiator fins very dirty	– Clean the radiator fins.
	Foam formation in cooling system	– Drain coolant. 🔧 (📖 p. 112) – Refill the coolant. 🔧 (📖 p. 113)
	Bent radiator hose	– Change the radiator hose. 🔧
	Thermostat defective	– Check the thermostat. 🔧
	Defect in radiator fan system	– Check fuse **7**. – Check the radiator fan. 🔧
FI warning lamp (**MIL**) lights up/flashes	Error in the electronic fuel injection	– Stop motorcycle and identify faulty component using the blink code. **Info** See blink code – Check cabling for damage and electrical plug-in connections for corrosion and damage. – Read out 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. 117)
	The engine oil is too thin (low viscosity)	– Change engine oil and oil filter and clean the oil screens. 🔧 (📖 p. 117)
	Piston and cylinder worn	– Measure the piston/cylinder mounting clearance.
12-V battery discharged	The 12-V battery is not being charged by the alternator	– Check charging voltage. 🔧 – Check the stator winding of the alternator.
	Unwanted power consumer	– Check the open-circuit current. 🔧
Combination instrument values deleted (time, stop watch, lap times)	The combination instrument battery is empty	– Change combination instrument battery.
The turn signal and the combination instrument are not working	Fuse **1** is blown	– Change the fuses of individual power consumers. (📖 p. 109)
The brake light is not working	Fuse **5** is blown	– Change the fuses of individual power consumers. (📖 p. 109)

Faults	Possible cause	Action
The high beam, low beam, position light, tail light, license plate lamp, and horn are not working	Fuse **6** is blown	– Change the fuses of individual power consumers. (📖 p. 109)

Blink code FI warning lamp (MIL)	FI 02 **FI** warning lamp (**MIL**) flashes 2x briefly
Error level condition	Crankshaft speed sensor – circuit fault

Blink code FI warning lamp (MIL)	FI 06 **FI** warning lamp (**MIL**) flashes 6x briefly
Error level condition	Throttle valve position sensor circuit A – input signal too low
	Throttle valve position sensor circuit A – input signal too high

Blink code FI warning lamp (MIL)	FI 09 **FI** warning lamp (**MIL**) flashes 9x briefly
Error level condition	Induction manifold pressure sensor cylinder 1 – input signal too low
	Induction manifold pressure sensor cylinder 1 – input signal too high

Blink code FI warning lamp (MIL)	FI 12 **FI** warning lamp (**MIL**) flashes 1x long, 2x briefly
Error level condition	Coolant temperature sensor – input signal too low
	Coolant temperature sensor - input signal too high

Blink code FI warning lamp (MIL)	FI 13 **FI** warning lamp (**MIL**) flashes 1x long, 3x briefly
Error level condition	Intake air temperature sensor – input signal too low
	Intake air temperature sensor - input signal too high

Blink code FI warning lamp (MIL)	FI 15 **FI** warning lamp (**MIL**) flashes 1x long, 5x briefly
Error level condition	Rollover sensor (A/D type) - input signal too low
	Rollover sensor (A/D type) - input signal too high

Blink code FI warning lamp (MIL)	FI 33 **FI** warning lamp (**MIL**) flashes 3x long, 3x briefly
Error level condition	Injector cylinder 1 - circuit fault

Blink code FI warning lamp (MIL)	FI 37 **FI** warning lamp (**MIL**) flashes 3x long, 7x briefly
Error level condition	Ignition coil 1, cylinder 1 - circuit fault

Blink code FI warning lamp (MIL)	FI 41 **FI** warning lamp (**MIL**) flashes 4x long, 1x briefly
Error level condition	Fuel pump relay - short circuit to ground or open circuit
	Open/short circuit to plus

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	2,400 ± 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-cylinder roller bearing
Conrod bearing	Slide bearing
Piston pin bearing	No bearing bush - DLC coated piston pin
Pistons	Forged light alloy
Piston rings	1 compression ring, 1 oil scraper ring
Engine lubrication	Pressure circulation lubrication with two Eaton pumps
Primary transmission	31:76
Clutch	Multidisc clutch in oil bath, hydraulically activated
Gearbox	6-gear transmission, claw shifted
Transmission ratio	
First gear	14:36
Second gear	17:32
Third gear	19:28
Fourth gear	22:26
Fifth gear	23:24
Sixth gear	26:21
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	Starter motor

23.2 Engine tightening torques

Oil jet, piston cooling	M4	2 Nm (1.5 lbf ft) **Loctite®243™**
Crankshaft speed sensor screw and cable retainer	M5	6 Nm (4.4 lbf ft) **Loctite®243™**
Oil nozzle for clutch lubrication	M5	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®243™**
Screw, clutch spring retainer	M5	6 Nm (4.4 lbf ft)
Screw, gear position sensor	M5	5 Nm (3.7 lbf ft) **Loctite®243™**
Screw, locking lever	M5	6 Nm (4.4 lbf ft) **Loctite®243™**
Screw, stator	M5	6 Nm (4.4 lbf ft) **Loctite®243™**
Screw, suction pump cover	M5	6 Nm (4.4 lbf ft) **Loctite®243™**
Nut, water pump impeller	M6	6 Nm (4.4 lbf ft) **Loctite®243™**
Screw, alternator cover	M6	10 Nm (7.4 lbf ft)
Screw, bearing bolt, torque limiter	M6	10 Nm (7.4 lbf ft) **Loctite®243™**
Screw, camshaft retaining bracket	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, EVAP plug	M6	5 Nm (3.7 lbf ft) **Loctite®243™**
Screw, exhaust flange	M6	10 Nm (7.4 lbf ft) **Loctite®243™**
Screw, oil filter cover	M6	10 Nm (7.4 lbf ft)
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 failure protection	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	2 Nm (1.5 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, crankshaft location	M8	10 Nm (7.4 lbf ft)
Plug, timing chain tensioner	M8	8 Nm (5.9 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™**
Spark plug	M10x1	10 ... 12 Nm (7.4 ... 8.9 lbf ft)
Coolant temperature sensor	M10x1.25	12 Nm (8.9 lbf ft)
Screw plug, rocker arm shaft	M10x1.25	10 Nm (7.4 lbf ft)
Screw, cylinder head	M10x1.25	1st stage 10 Nm (7.4 lbf ft) 2nd stage 30 Nm (22.1 lbf ft) 3rd stage 50 Nm (36.9 lbf ft) Collar and thread oiled
Nut, rotor	M12x1	60 Nm (44.3 lbf ft) Thread, oiled with engine oil/cone degreased
Oil drain plug with magnet	M12x1.5	20 Nm (14.8 lbf ft)
Screw plug, oil pressure control valve	M12x1.5	20 Nm (14.8 lbf ft)
Nut, inner clutch hub	M18x1.5	80 Nm (59 lbf ft)
Filler plug on the oil filter housing	M20x1.5	8 Nm (5.9 lbf ft)
Nut, primary gear wheel	M20LHx1.5	100 Nm (73.8 lbf ft) **Loctite®243™**
Screw plug, oil screen	M20x1.5	15 Nm (11.1 lbf ft)

23.3 Capacities

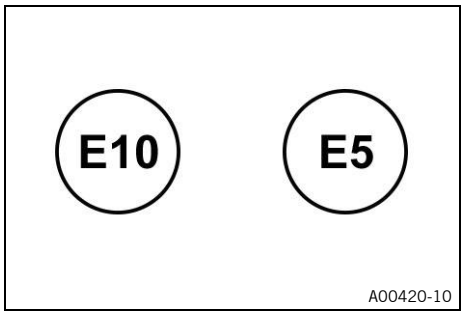
23.3.1 Engine oil

Total filling level, oil change		
Engine oil	1.40 l (1.48 qt.)	Engine oil (SAE 10W/50) (📖 p. 158)
Total filling level, engine service (with oil radiator)		
Engine oil	1.80 l (1.9 qt.)	Engine oil (SAE 10W/50) (📖 p. 158)

23.3.2 Coolant

Coolant (📖 p. 158)	1.0 l (1.1 qt.)

23.3.3 Fuel



Please observe the labels on EU fuel pumps.

Front left fuel tank, approx.	
Super unleaded (ROZ 95/RON 95/PON 91) (📖 p. 159)	8.0 l (2.11 US gal)
Front right fuel tank, approx.	
Super unleaded (ROZ 95/RON 95/PON 91) (📖 p. 159)	8.0 l (2.11 US gal)
Rear fuel tank, approx.	
Super unleaded (ROZ 95/RON 95/PON 91) (📖 p. 159)	14.0 l (3.7 US gal)
Total fuel tank capacity, approx.	
Super unleaded (ROZ 95/RON 95/PON 91) (📖 p. 159)	30.0 l (7.93 US gal)

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, floating brake calipers
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	3.5 mm (0.138 in)
Street tire pressure	
front	1.5 bar (22 psi)
rear	1.5 bar (22 psi)
Offroad tire pressure	
front	1.0 ... 1.5 bar (15 ... 22 psi)
rear	1.0 ... 1.5 bar (15 ... 22 psi)
Secondary drive ratio	14:51
Rear sprockets available	50, 51, 52
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	161.5 kg (356 lb.)
Maximum permissible rear axle load	173.5 kg (382.5 lb.)
Maximum permissible overall weight	335 kg (739 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	LED	
Low beam	LED	
Position light	LED	
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	LED	

23.6 Tires

Front tire	**Rear tire**
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 article number	14.18.2S.40
Fork	**WP Suspension** Up Side Down 4860 MXMA CC
Compression damping	
Standard	15 clicks
Rebound damping	
Standard	15 clicks
Spring length with preload spacer(s)	488 mm (19.21 in)
Spring rate	
Weight of rider: 55 ... 65 kg (121 ... 143 lb.)	4.6 N/mm (26.3 lb/in)
Weight of rider: 65 ... 75 kg (143 ... 165 lb.)	4.8 N/mm (27.4 lb/in)
Weight of rider: 75 ... 85 kg (165 ... 187 lb.)	5.0 N/mm (28.6 lb/in)
Weight of rider: 85 ... 95 kg (187 ... 209 lb.)	5.2 N/mm (29.7 lb/in)
Weight of rider: ≥ 95 kg (≥ 209 lb.)	5.4 N/mm (30.8 lb/in)

Fork length	950 mm (37.4 in)

Oil capacity fork leg without cartridge	445 ml (15.05 fl. oz.)	Fork oil (SAE 4) (48601166S1) (📖 p. 159)
Oil capacity per cartridge	165 ml (5.58 fl. oz.)	Fork oil (SAE 4) (48601166S1) (📖 p. 159)

23.8 Shock absorber

Shock absorber article number	18.18.0S.40
Shock absorber	**WP Suspension** 5018 DCC Link
Low-speed compression damping	
Comfort	24 clicks
Standard	20 clicks
Sport	16 clicks
High-speed compression damping	
Comfort	45 clicks
Standard	40 clicks
Sport	30 clicks
Rebound damping	
Comfort	24 clicks
Standard	20 clicks
Sport	16 clicks
Spring preload	
Standard	11 mm
Spring rate	
Weight of rider: ≤ 65 kg (≤ 143 lb.)	48 N/mm (274 lb/in)
Weight of rider: 65 ... 75 kg (143 ... 165 lb.)	51 N/mm (291 lb/in)
Weight of rider: 75 ... 85 kg (165 ... 187 lb.)	54 N/mm (308 lb/in)
Weight of rider: 85 ... 95 kg (187 ... 209 lb.)	57 N/mm (325 lb/in)
Weight of rider: ≥ 95 kg (≥ 209 lb.)	60 N/mm (343 lb/in)
Spring length	260 mm (10.24 in)
Gas pressure	8 bar (116 psi)
Static sag	40 mm (1.57 in)
Riding sag	105 mm (4.13 in)
Fitted length	474 mm (18.66 in)

Shock absorber oil	Shock absorber fluid (SAE 2.5) (50180751S1) (📖 p. 159)

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, brake line holder on bottom triple clamp	M5	2 Nm (1.5 lbf ft)
Screw, foot brake lever stub	M5	6 Nm (4.4 lbf ft) **Loctite®243™**
Screw, shock absorber adjusting ring	M5	5 Nm (3.7 lbf ft)
Spoke nipple, rear wheel	M5	5 … 6 Nm (3.7 … 4.4 lbf ft)
Nut, cable on 12-V 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, voltage regulator	M6	8 Nm (5.9 lbf ft) **Loctite®243™**
Screw, bottom radiator bracket	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 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, 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 bearer on frame	M8	35 Nm (25.8 lbf ft) **Loctite®243™**
Screw, engine guard	M8	25 Nm (18.4 lbf ft)
Screw, foot brake lever	M8	25 Nm (18.4 lbf ft) **Loctite®243™**
Screw, fork stub	M8	15 Nm (11.1 lbf ft)
Screw, front 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, steering stem, bottom	M8	25 Nm (18.4 lbf ft) **Loctite®243™**
Screw, top steering stem	M8	20 Nm (14.8 lbf ft) **Loctite®243™**
Screw, top triple clamp	M8	17 Nm (12.5 lbf ft)
Fitting, rear fuel tank	M10	50 Nm (36.9 lbf ft) **Loctite®243™**
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, 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 to link fork	M14x1.5	100 Nm (73.8 lbf ft)
Nut, linkage lever to angle lever	M14x1.5	100 Nm (73.8 lbf ft)
Nut, fork pivot	M16x1.5	160 Nm (118 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)

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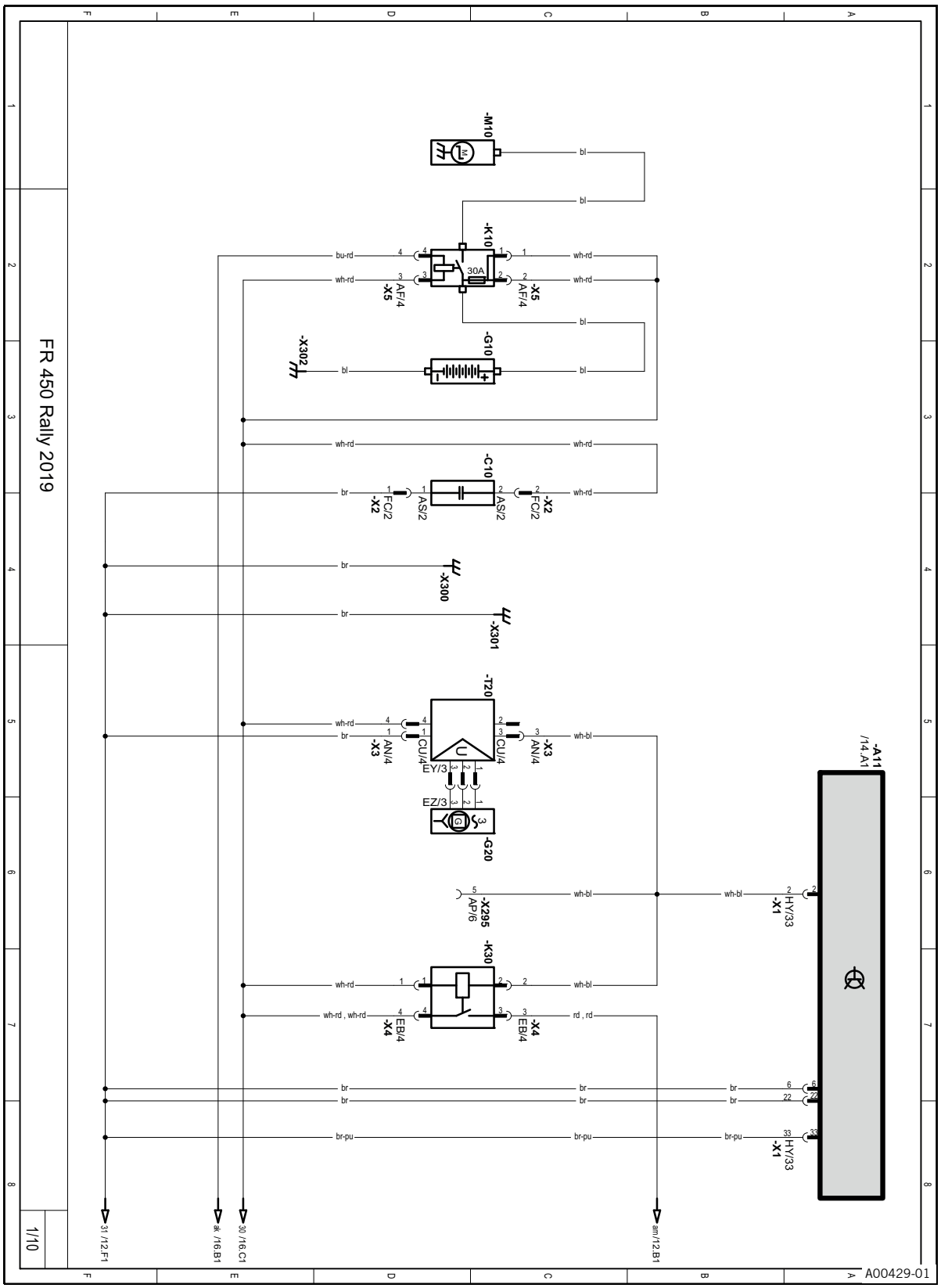

Components:

M10	Electric starter system
K10	Starter relay with main fuse
G10	12-V battery
C10	Capacitor
T20	Voltage regulator
G20	Alternator
K30	Power relay

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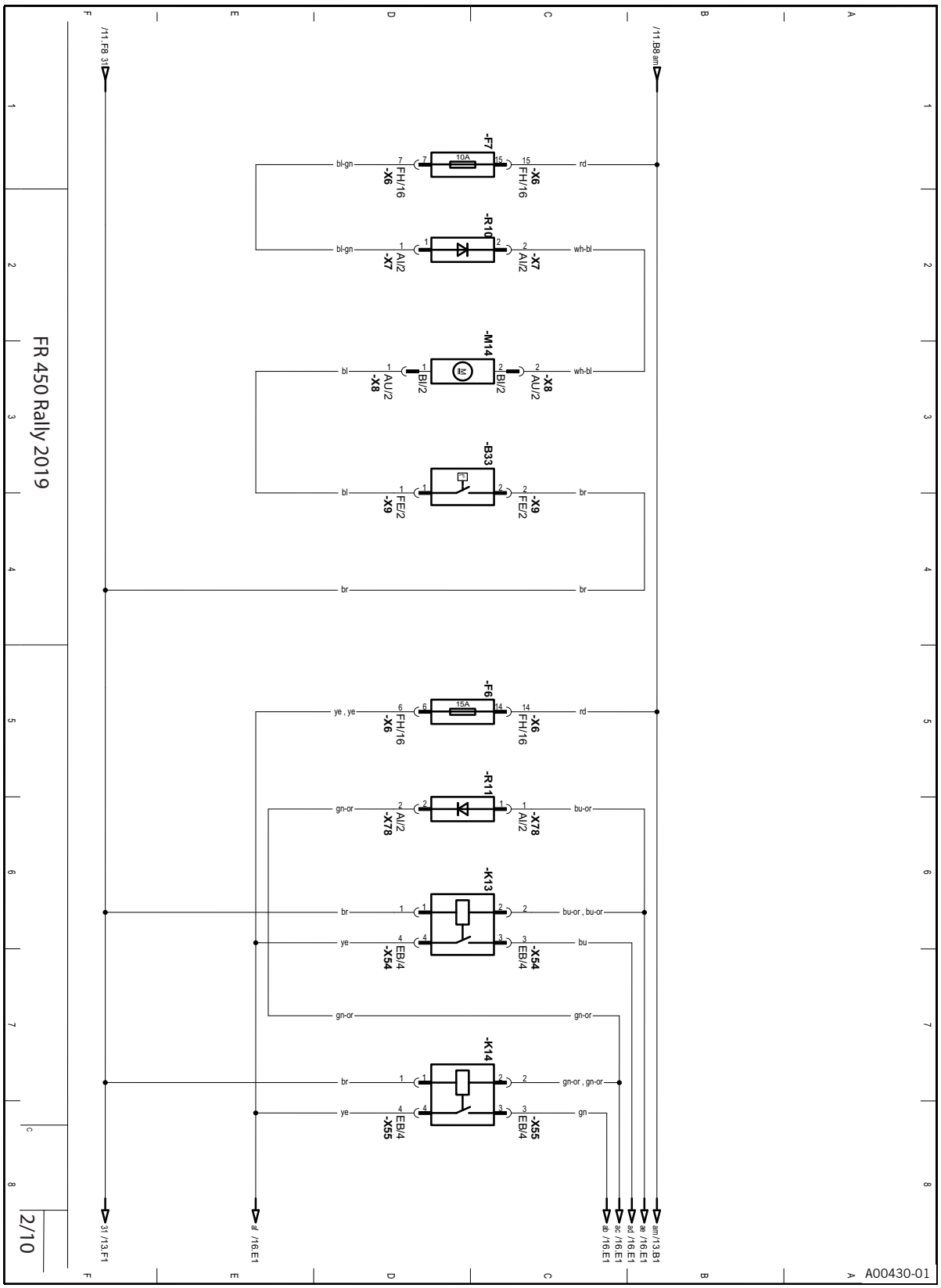

Components:

F7	Fuse
R10	Diode
M14	Radiator fan
B33	Radiator fan temperature switch
F6	Fuse
R11	Diode
K13	High beam relay
K14	Low beam relay

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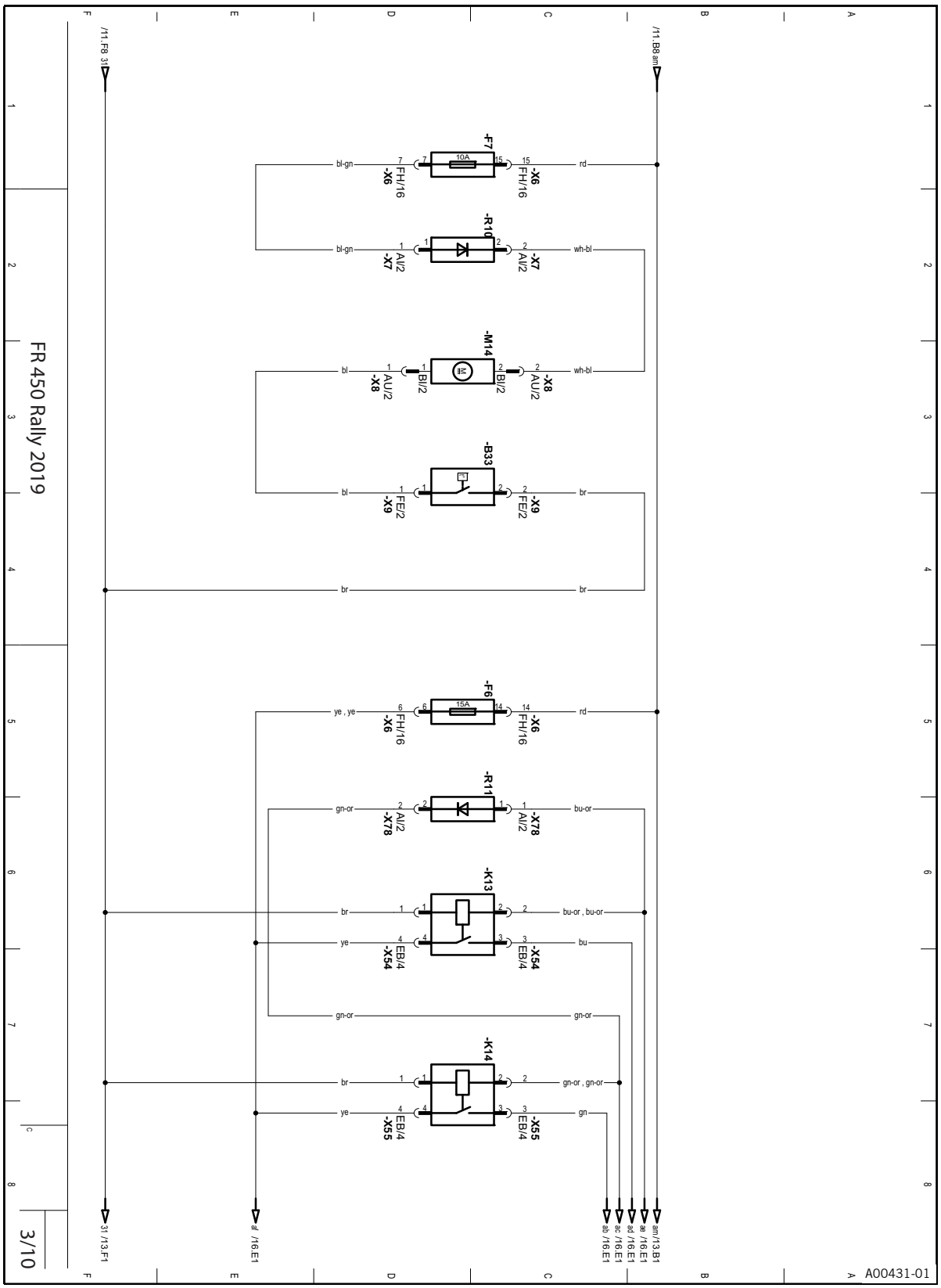

Components:

F8	Fuse
K41	Relay for rear fuel pump
M12	Rear fuel pump
K40	Relay for front fuel pump
M13	Front fuel pump

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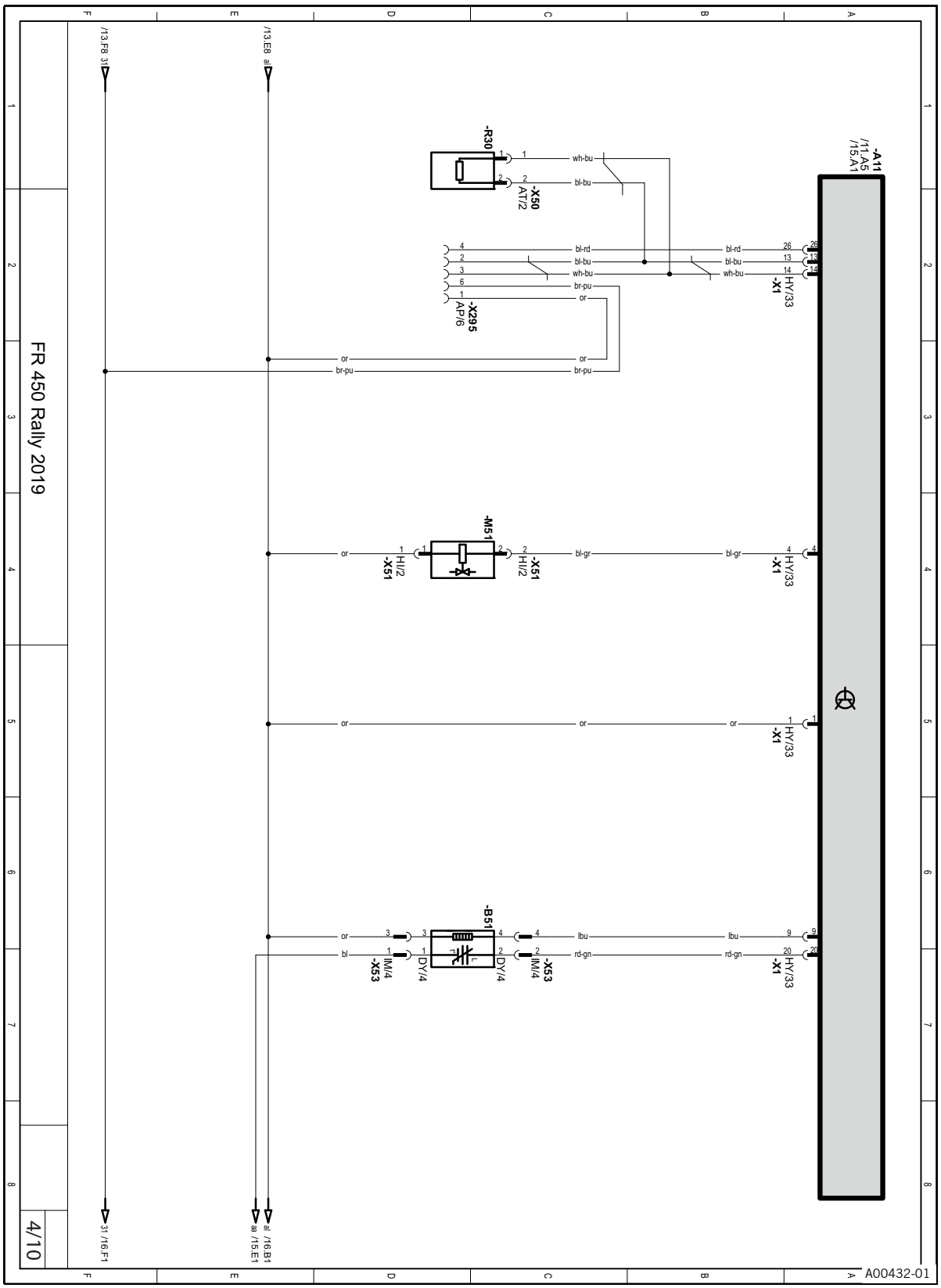

Components:

A11	EFI control unit
R30	CAN bus terminating resistor
M51	Injection valve
B51	Lambda sensor

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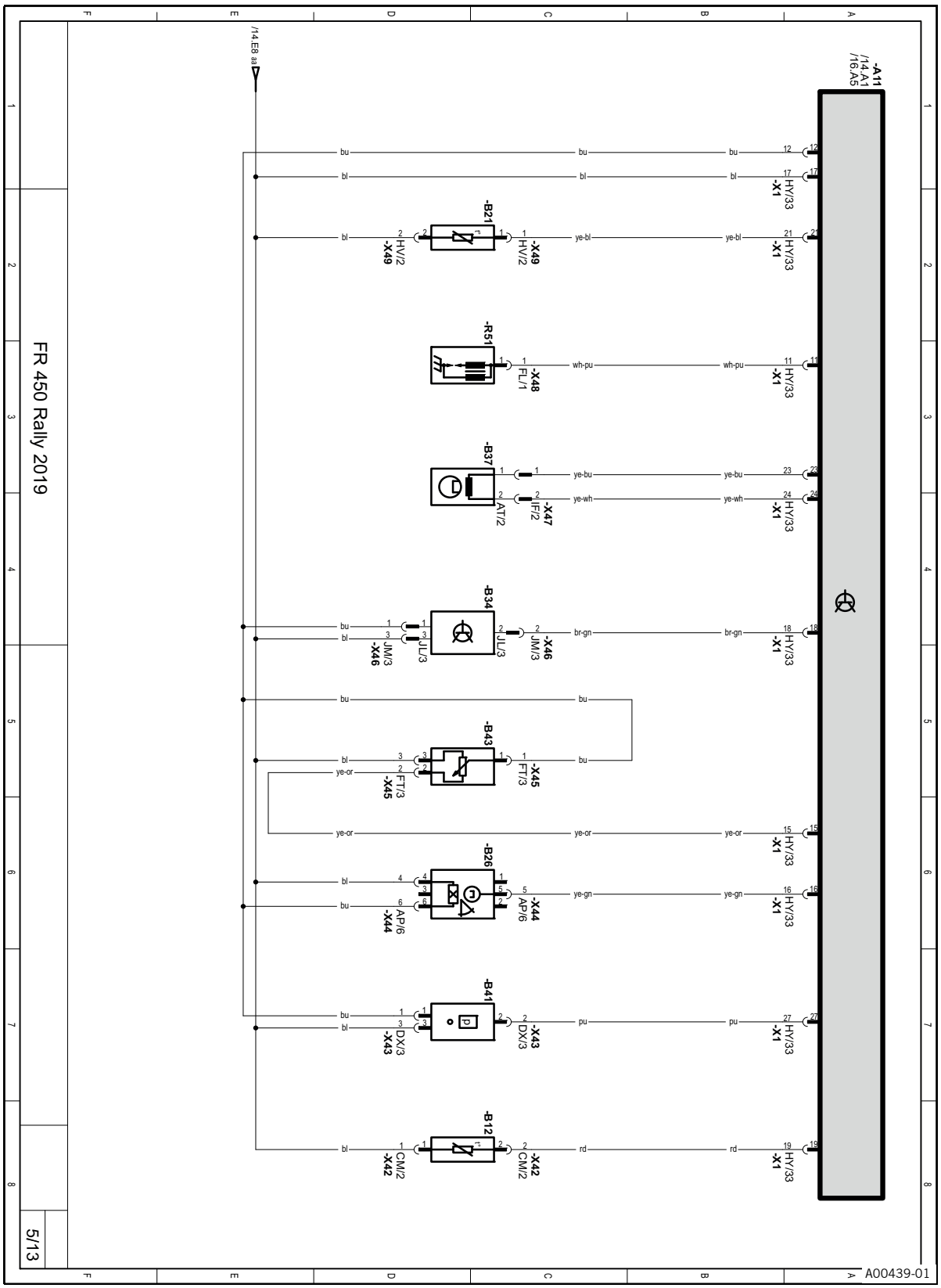

Components:

B21	Coolant temperature sensor
R51	Ignition coil
B37	Crankshaft speed sensor
B34	Shift shaft sensor
B43	Throttle valve position sensor
B26	Rollover sensor
B41	Induction manifold pressure sensor
B12	Intake air temperature sensor

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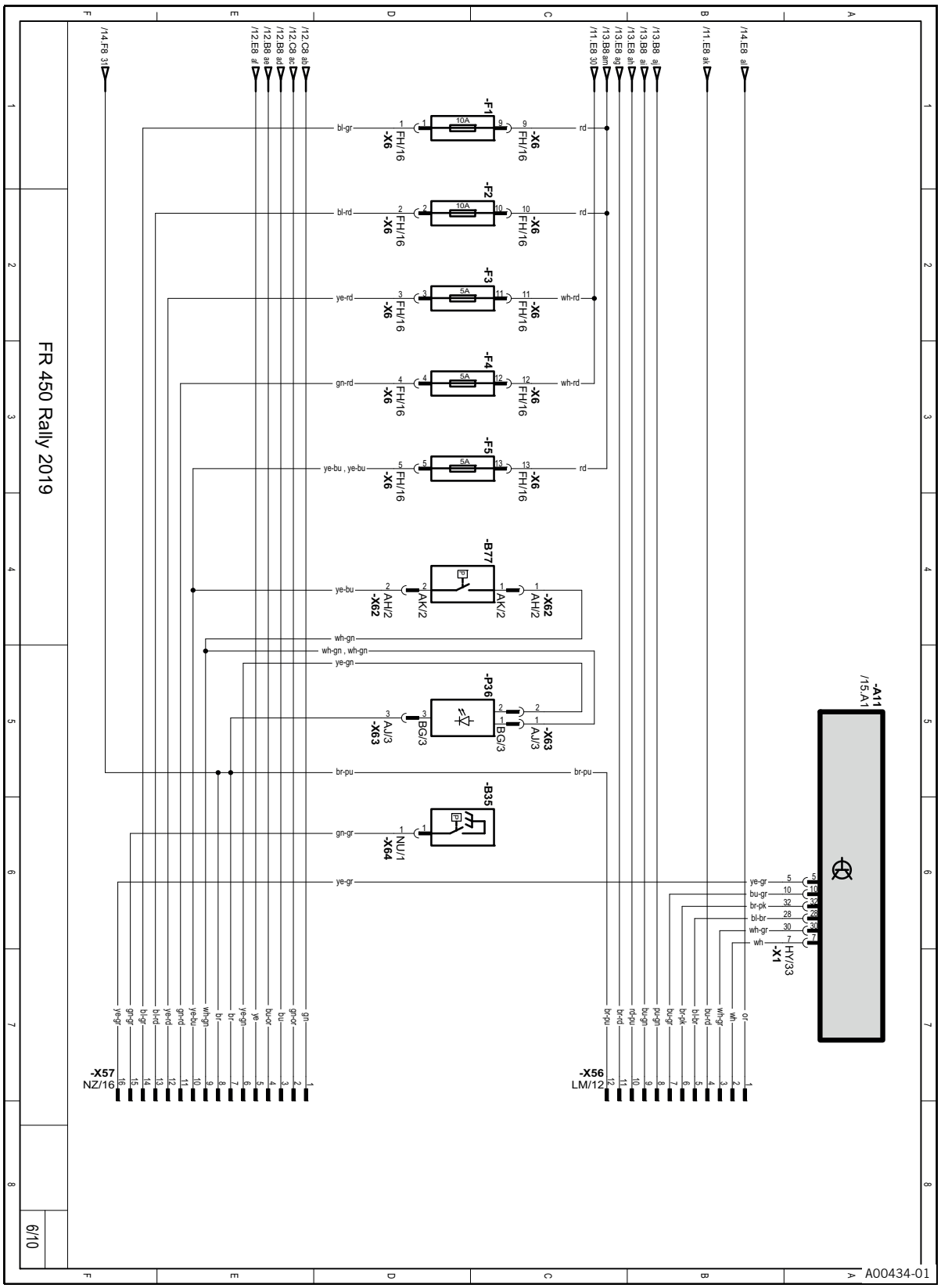

Components:

F1	Fuse
F2	Fuse
F3	Fuse
F4	Fuse
F5	Fuse
B77	Rear brake light switch
P36	Brake/tail light
B35	Oil pressure sensor

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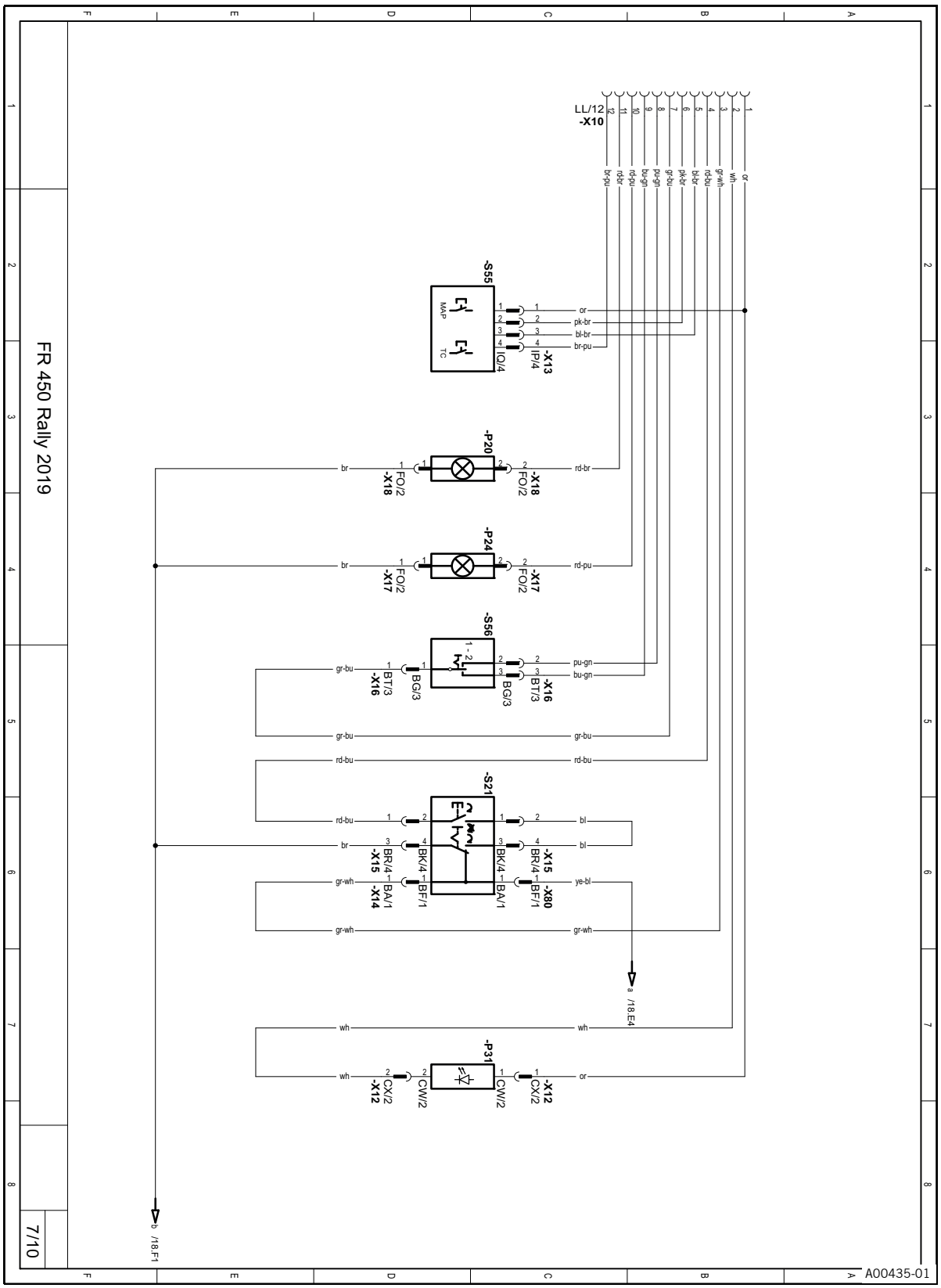

Components:

S55	Map switch
P20	Rear fuel level warning lamp
P24	Front fuel level warning lamp
S56	Fuel pump switch
S21	Electric starter button
P31	Malfunction indicator lamp

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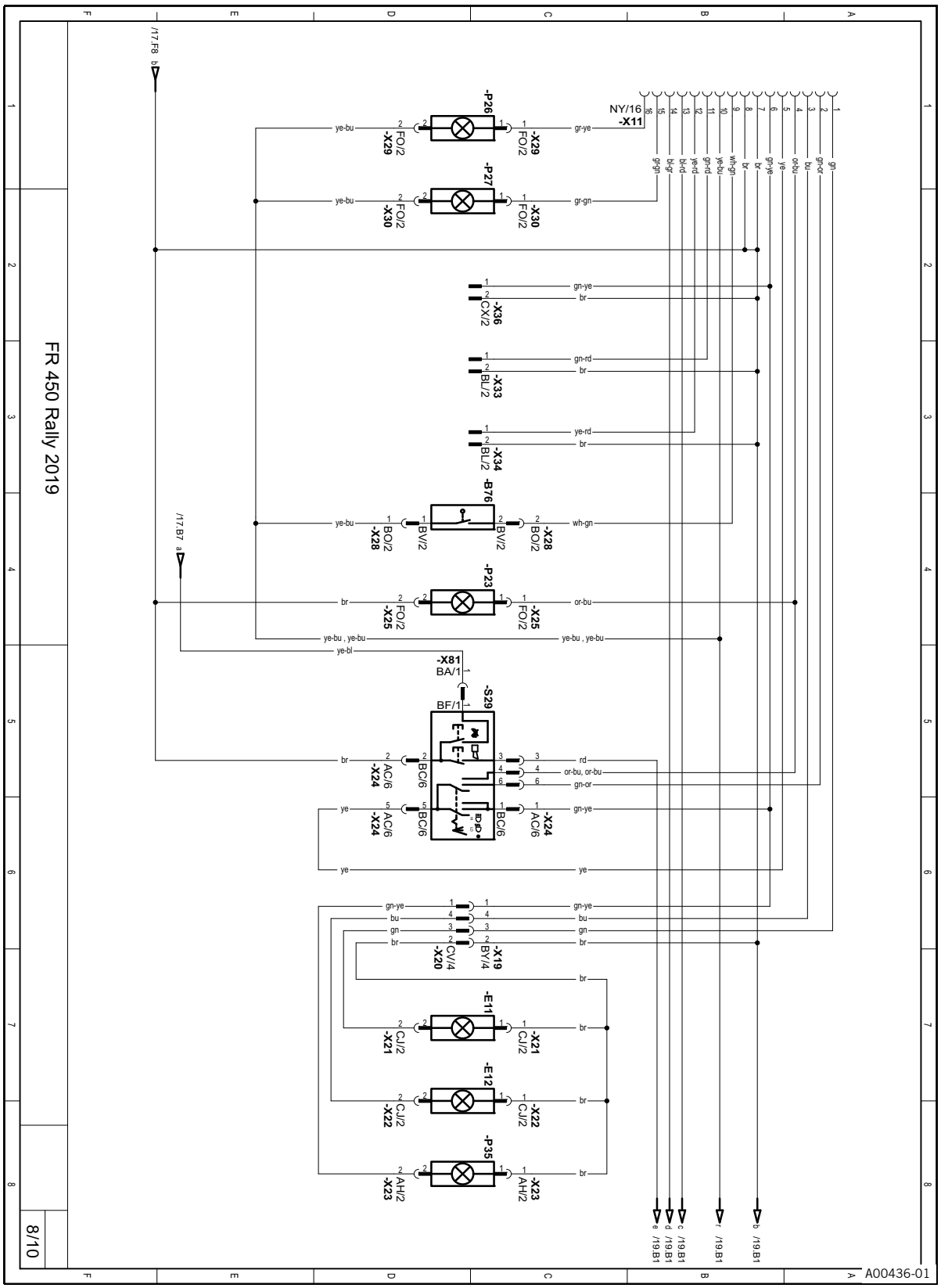

Components:

P26	Indicator lamp for coolant temperature
P27	Oil pressure warning lamp
X36	Intake air temperature sensor
X33	Coolant temperature sensor
X34	Rollover sensor
B76	Crankshaft speed sensor
P23	Induction manifold pressure sensor
S29	Light switch, horn button, kill switch
E11	Low beam
E12	High beam
P35	Position light

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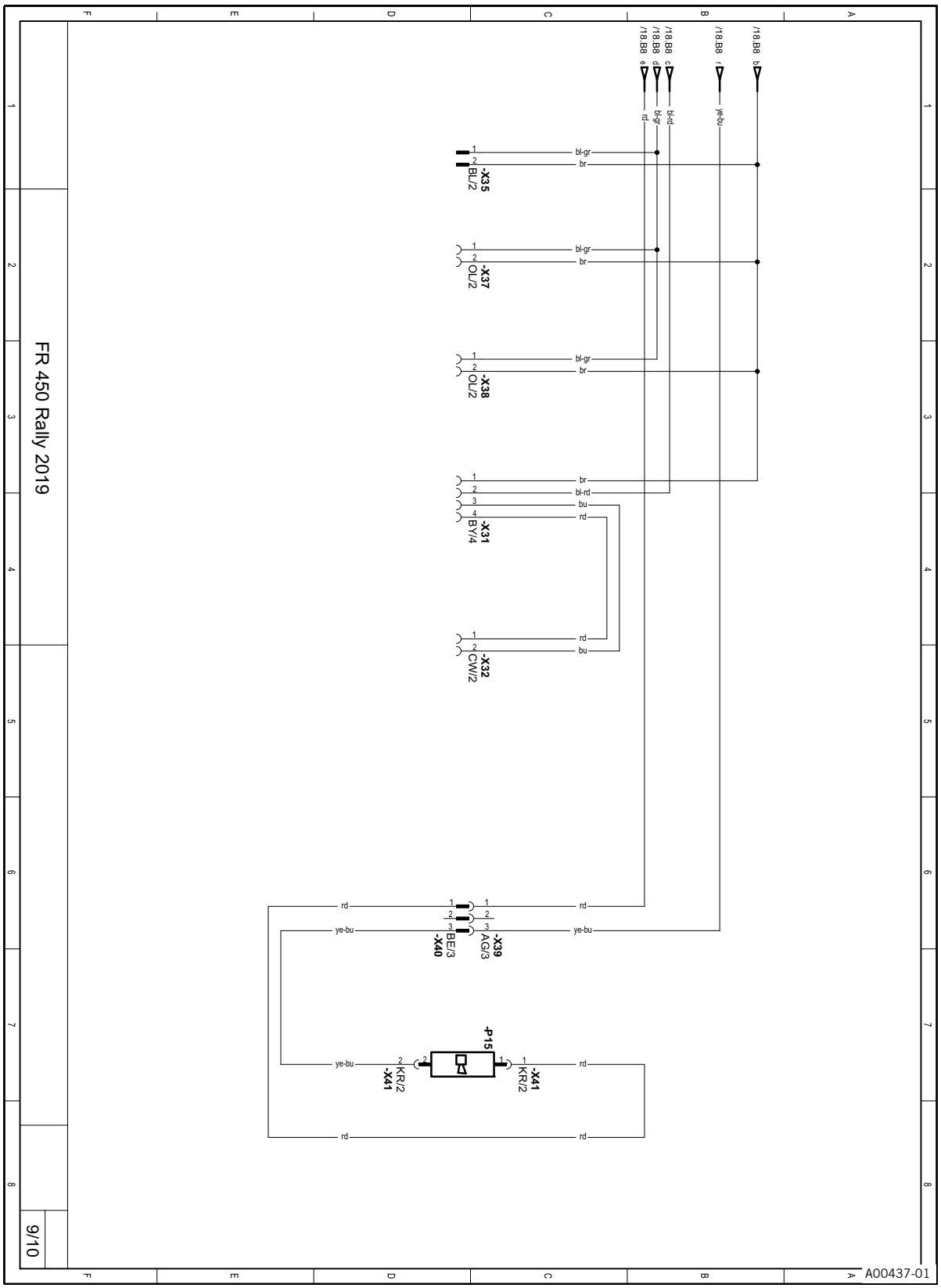

Components:

P15 Horn

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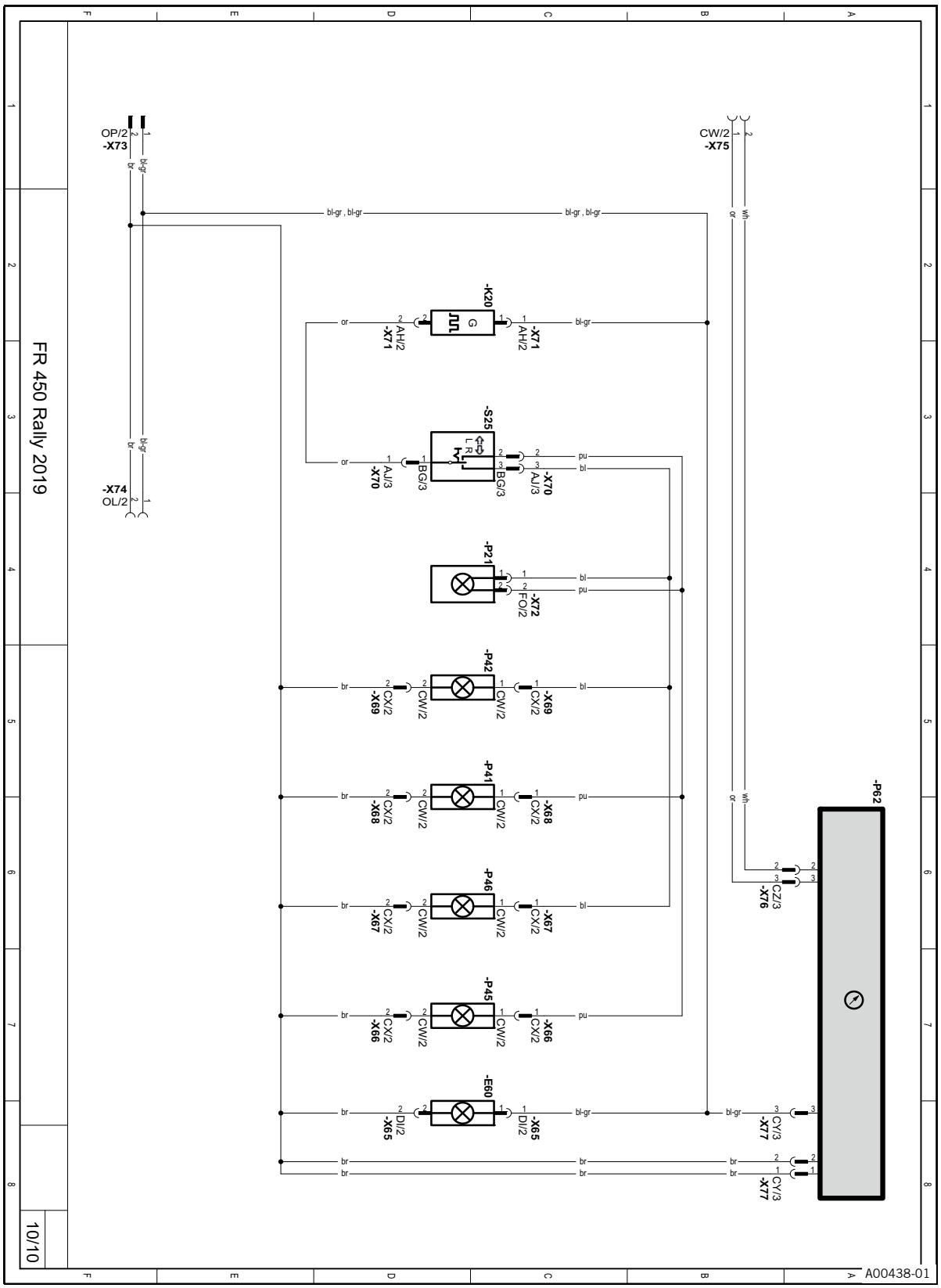

K20	Turn signal relay
S25	Turn signal switch
P21	Turn signal indicator lamp
P42	Right front turn signal
P41	Left front turn signal
P46	Right rear turn signal
P45	Left rear turn signal
E60	License plate lamp

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
– **REACT PERFORMANCE DOT 4**

MOTOREX®
– **Brake Fluid DOT 5.1**

Coolant

Guideline
– Only use high-grade, silicate-free coolant with corrosion inhibitor additive for aluminum motors. Low grade and unsuitable antifreeze causes corrosion, deposits and frothing.
– Do not use pure water as only coolant is able to meet the requirements needed in terms of corrosion protection and lubrication properties.
– Only use coolant that complies with the requirements stated (see specifications on the container) and that has the relevant properties.

Antifreeze protection to at least	−25 °C (−13 °F)

The mixture ratio must be adjusted to the necessary antifreeze protection. Use distilled water if the coolant needs to be diluted.

The use of premixed coolant is recommended.

Observe the coolant manufacturer specifications for antifreeze protection, dilution and miscibility (compatibility) with other coolants.

Recommended supplier
MOTOREX®
– **COOLANT M3.0**

Engine oil (SAE 10W/50)

Standard/classification
– JASO T903 MA2 (📖 p. 161)
– SAE (📖 p. 161) (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.

Fully synthetic engine oil

Recommended supplier
MOTOREX®
– **Cross Power 4T**

Fork oil (SAE 4) (48601166S1)

Standard/classification

– SAE (📖 p. 161) (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. 161) (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**

High viscosity grease

Recommended supplier
SKF®
– **LGHB 2**

Long-life grease

Recommended supplier
MOTOREX®
– **Bike Grease 2000**

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**

Rubber grip adhesive (00062030051)

Recommended supplier
KTM AG
– **GRIP GLUE**

Universal oil spray

Recommended supplier
MOTOREX®
– **Joker 440 Synthetic**

JASO T903 MA2

Different technical development directions required a separate specification for motorcycles – the **JASO T903 MA2** standard.
Earlier, engine oils from the automobile industry were used for motorcycles because there was no separate motorcycle specification.
Whereas long service intervals are demanded for automobile engines, the focus for motorcycle engines is on high performance at high engine speeds.
In most motorcycle engines, the transmission and clutch are lubricated with the same oil.
The **JASO T903 MA2** 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, which monitors the specified parameters of the vehicle electronics

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. Stop immediately, taking care not to endanger yourself or other road users in the process, and switch off the engine.

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.

	Left fuel level warning lamp lights up orange – The fuel level of the two front fuel tanks has reached the reserve mark.
	Malfunction indicator lamp lights up/flashes yellow – The OBD has detected an error in the vehicle electronics. Come safely to a halt, and contact an authorized KTM workshop.

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.

READY TO RACE
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Photo: Mitterbauer/KTM