

OWNER'S MANUAL 2009



990 Supermoto EU

990 Supermoto FR

990 Supermoto AUS/UK

990 Supermoto R EU

990 Supermoto R FR

990 Supermoto R AUS/UK

990 Supermoto T EU

990 Supermoto T FR

990 Supermoto T AUS/UK

ART. NO. 3211367en

DEAR KTM CUSTOMER

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

We wish you a lot of enjoyment riding this vehicle!

Please enter the serial numbers of your vehicle below.

Chassis number/type label (🔍 p. 16)	Dealer's stamp
Engine number (🔍 p. 17)	
Key number (🔍 p. 17)	

The owner's manual corresponded to the latest state of this series at the time of printing. Slight deviations resulting from continuing development and design of our motorcycles cannot, however, be completely excluded.

All specifications are non-binding. KTM Sportmotorcycle AG specifically reserves the right to modify or delete technical specifications, prices, colors, forms, materials, services, designs, equipment, etc., without prior notice and without specifying reasons, to adapt these to local conditions, as well as to stop production of a particular model without prior notice. KTM accepts no liability for delivery options, deviations from illustrations and descriptions, as well as misprints and other errors. The models portrayed partly contain special equipment that does not belong to the regular scope of delivery.

© 2009 by KTM-Sportmotorcycle AG, Mattighofen Austria

All rights reserved

Reproduction, even in part, is permitted only with the express written permission of the copyright owner.



ISO 9001(12 100 6061)

According to the international quality management standard ISO 9001, KTM uses quality assurance processes that lead to the maximum possible quality of the products.

Issued by: TÜV Management Service

REG.NO. 12 100 6061

KTM-Sportmotorcycle AG
5230 Mattighofen, Austria

MEANS OF REPRESENTATION	7	Combination instrument - speedometer.....	27
IMPORTANT NOTES	8	Setting kilometers or miles	27
VIEW OF VEHICLE.....	12	Combination instrument - time	28
View of vehicle, front left side (vehicle differs slightly from photo)	12	Setting the clock	29
View of vehicle, rear right side (vehicle differs slightly from photo)	14	Combination instrument - ODO display	29
LOCATION OF SERIAL NUMBERS	16	Combination instrument - setting/resetting TRIP 1.....	30
Chassis number/type label.....	16	Combination instrument - setting/resetting TRIP 2.....	30
Key number	17	Combination instrument - TRIP F display.....	31
Engine number.....	17	Combination instrument - ambient temperature display.....	32
Fork part number.....	18	Setting the temperature units	32
Shock absorber part number	18	Combination instrument - warning of slippery roads	33
CONTROLS	19	Combination instrument - coolant temperature indicator	33
Clutch lever	19	Opening the filler cap	34
Hand brake lever	19	Closing the filler cap.....	34
Light switch	20	Handrails.....	35
Headlight flasher switch.....	20	Seat lock	35
Turn signal switch	21	Tool set	36
Horn button	21	Helmet lock	36
Ignition/steering lock	22	Passenger footrests.....	37
Immobilizer	22	Shift lever.....	37
Emergency OFF switch.....	23	Foot brake pedal	38
Electric starter button	23	Side stand	39
Combination instrument.....	24	GENERAL TIPS AND HINTS ON PUTTING INTO OPERATION.....	40
Combination instrument - function buttons	24	Information on first use.....	40
Combination instrument - tachometer.....	25	Running in the engine.....	41
Combination instrument - indicator lamps.....	25	Loading the vehicle	42
Combination instrument - display.....	26	RIDING INSTRUCTIONS	44
		Checks before putting into operation	44

Starting	45	Checking the chain tension	77
Starting up	46	Adjusting the chain tension	78
Shifting, riding	47	Checking the rear sprocket/engine sprocket for wear	80
Braking	50	Checking chain wear	81
Stopping, parking	51	Checking the front brake discs	81
Refueling	53	Checking the rear brake disc	82
SERVICE SCHEDULE	56	Adjusting the basic position of the hand brake lever	83
Important service tasks to be carried out by an authorized		Checking the front brake fluid level	84
KTM workshop	56	Adding front brake fluid 	84
Important service tasks to be carried out by an authorized		Brake linings	86
KTM workshop (as an additional order)	59	Checking the front brake linings	86
MAINTENANCE WORK ON CHASSIS AND ENGINE	60	Checking the rear brake fluid level	88
Jacking up motorcycle at the front	60	Adding rear brake fluid 	88
Taking the front from the work stand	60	Checking the rear brake linings	90
Jacking up motorcycle at the rear	61	Removing the front wheel 	91
Taking the rear from the workstand	61	Installing the front wheel 	92
Fork/shock absorber	62	Removing the rear wheel 	94
Adjusting the compression damping of the fork	62	Installing the rear wheel 	95
Adjusting the rebound damping of the fork	64	Checking rear hub shock absorbers 	97
Adjusting the spring preload of the fork	65	Checking the tire condition	97
Bleeding the fork legs	67	Checking the tire air pressure	99
Shock absorber compression damping	68	Removing the seat	100
Adjusting the low-speed compression damping of the shock		Mounting the seat	100
absorber	68	Mounting the helmet lock on the vehicle	101
Adjusting the high-speed compression damping of the		Removing the battery 	101
shock absorber	70	Installing the battery 	103
Adjusting the rebound damping of the shock absorber	72	Recharging the battery 	104
Adjusting the spring preload of the shock absorber 	73	Changing the main fuse	106
Checking the chain for dirt	76	Changing the fuses of individual power consumers	108
Cleaning the chain	76		

Changing the headlight bulb	110	Adding engine oil	154
Changing the parking light bulb	113	Ignition curve plug-in connector	155
Changing the turn signal bulb	116	Adjusting the ignition curve to the fuel quality	155
Changing the brake light bulb	117	IMMOBILIZER FLASH CODE	157
Changing the tail light bulbs	121	ENGINE CONTROL FLASH CODE	159
Changing the license plate lamp	125	TROUBLESHOOTING	165
Checking the headlamp setting	126	CLEANING	168
Adjusting headlamp range	127	Cleaning motorcycle	168
Activating/deactivating the ignition key	128	CONSERVING FOR WINTER OPERATION	170
Cooling system	131	Conserving for winter operation	170
Checking the coolant level in the compensating tank	132	STORAGE	171
Checking the coolant level in the radiator	133	Storage	171
Checking the antifreeze 🛠	134	Putting into operation after storage	172
Draining the coolant 🛠	136	TECHNICAL DATA - ENGINE	173
Filling/bleeding the cooling system 🛠	137	Capacity- engine oil	174
Reinstalling the fuel tank	139	Capacity - coolant	174
Positioning the fuel tank	140	TECHNICAL DATA - ENGINE TIGHTENING TORQUES	175
Removing the mask spoiler (Supermoto T)	142	TECHNICAL DATA - CHASSIS	179
Installing the mask spoiler (Supermoto T)	143	Lighting equipment	181
Adjusting the basic position of the clutch lever	144	Tires	181
Checking/rectifying the fluid level of the hydraulic clutch ...	145	Capacity - fuel	182
Checking the play in the throttle cable	146	TECHNICAL DATA - FORK	183
Adjusting the play in the throttle cable 🛠	147	Supermoto	183
Checking the engine oil level	147	Supermoto R	184
Changing the engine oil and filter, cleaning the oil screens 🛠	148	Supermoto T	185
Draining the engine oil and filter, cleaning the oil screens 🛠	148	TECHNICAL DATA - SHOCK ABSORBER	187
Filling up with engine oil 🛠	153	Supermoto	187
		Supermoto R	188
		Supermoto T	189

TECHNICAL DATA - CHASSIS TIGHTENING TORQUES 191

SUBSTANCES..... 193

AUXILIARY SUBSTANCES..... 197

STANDARDS..... 199

INDEX..... 200

Symbols used

The meaning of specific symbols is described below.



Indicates an expected reaction (e.g. of a work step or a function).



Indicates an unexpected reaction (e.g. of a work step or a function).



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



Identifies a page reference (more information is provided on the specified page).

Formats used

The typographical formats used in this document are explained below.

Specific name

Identifies a proprietary name.

Name®

Identifies a protected name.

Brand™

Identifies a brand available on the open market.

Use definition

KTM sport motorcycles are designed and constructed to meet the normal demands of regular road operation but not for use on race courses or offroad.



Info

The motorcycle is authorized for public road traffic in the homologous version only.

Maintenance

A prerequisite for fault-free operation and avoiding premature wear is compliance with the maintenance, care and adjustments to the engine and chassis described in the owner's manual. Poor adjustment and tuning of the engine and suspension can lead to damage and breakage of components.

Using the motorcycle in extreme conditions such as very muddy or wet roads can lead to above-average wear of components such as the transmission train or the brakes. For this reason, it may be necessary to service or replace worn parts before the limit specified in the service schedule is reached.

Pay careful attention to the prescribed running-in period and inspection and maintenance intervals. Close adherence to these periods will significantly lengthen the service life of your motorcycle.

Warranty

The work prescribed in the service schedule must be carried out by an authorized KTM workshop only and confirmed in the customer's service record; otherwise, all warranty claims will be void. No warranty claim can be honored for damage resulting from manipulation and/or other changes to the vehicle.

Fuels, oils, etc.

The fuels and lubricants named in the owner's manual must be used according to specifications.

Spare parts, accessories

For your own safety, only use spare parts and accessory products that have been 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.

Some of the spare parts and accessory products are specified in parentheses under the respective descriptions. Your KTM dealer will be glad to advise you.

You will find the current **KTM PowerParts** for your vehicle on the KTM website.

International KTM Website: <http://www.ktm.com>

Work rules

Special tools are necessary for some of the work. These are not included with the vehicle and can be ordered under the number in parentheses. Ex: valve spring mounter (59029019000)

During assembly, non-reusable parts (e.g. self-locking screws and nuts, seals and seal rings, O-rings, pins, lock washers) must be replaced by new parts.

If a thread lock (e.g. **Loctite®**) is used for screw connections, be sure to comply with the manufacturer's specific instructions on its usage. Parts that you want to reuse following repairs and servicing should be cleaned and checked for damage and wear. Change damaged or worn parts.

Following repairs or servicing, the vehicle must be checked for roadworthiness.

Transport

Note

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

- Always place the vehicle on a firm and even surface.

Note

Fire hazard Some vehicle components get very hot when the machine is driven.

- Do not place the vehicle where there are flammable or explosive substances. Do not place objects over the vehicle while it is still warm from being run. Always let the vehicle cool first.

- Switch off the engine and remove the ignition key.
- Secure the motorcycle against falling over or rolling away using straps or other suitable devices.

Environment

Motorcycling is a wonderful sport and we naturally hope that you can enjoy it to the full. However, it can also lead to problems with the environment and conflict with other persons. Responsible behavior in handling the motorcycle can help to avoid such problems and conflicts. To protect the future of motorcycle sport, make sure that you use your motorcycle legally, display environmental consciousness, and respect the rights of others.

Notes/warnings

Pay close attention to the notes/warnings.



Info

Various information and warning labels are affixed to the vehicle. Do not remove information/warning labels. If they are missing, you or others may not recognize sources of danger and may therefore be injured.

Grades of risks



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.



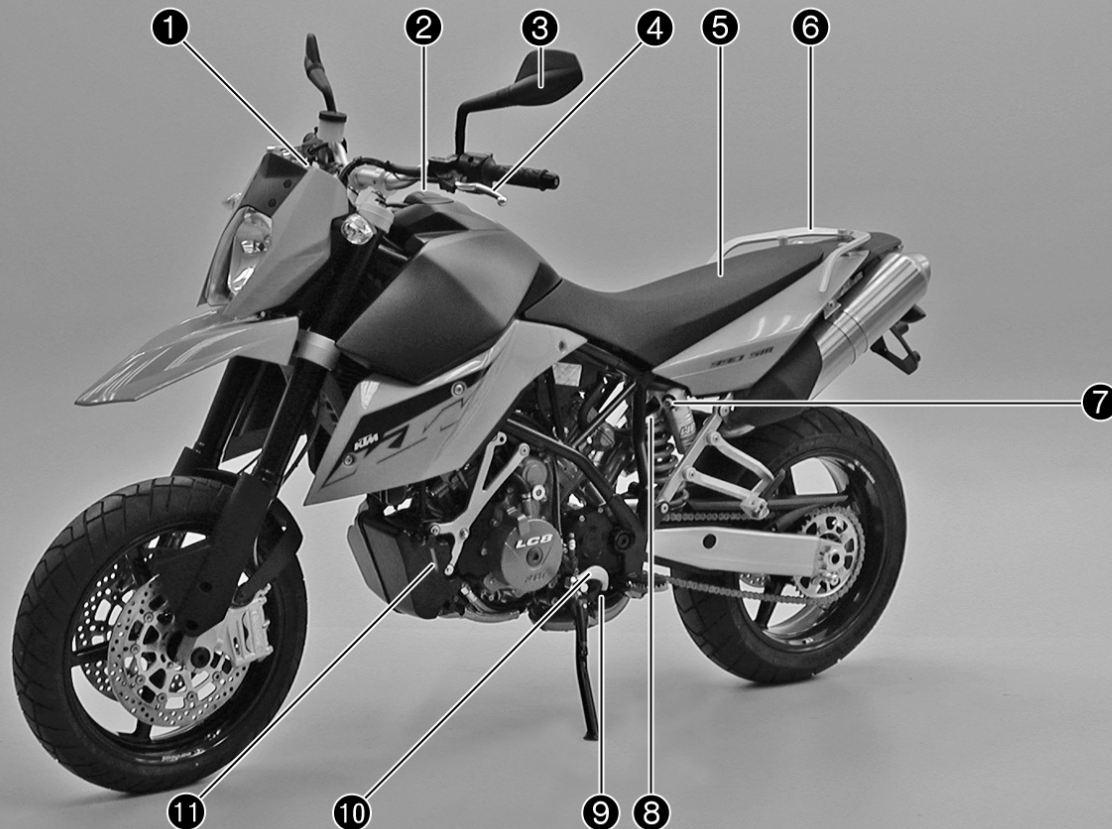
Warning

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

Owner's manual

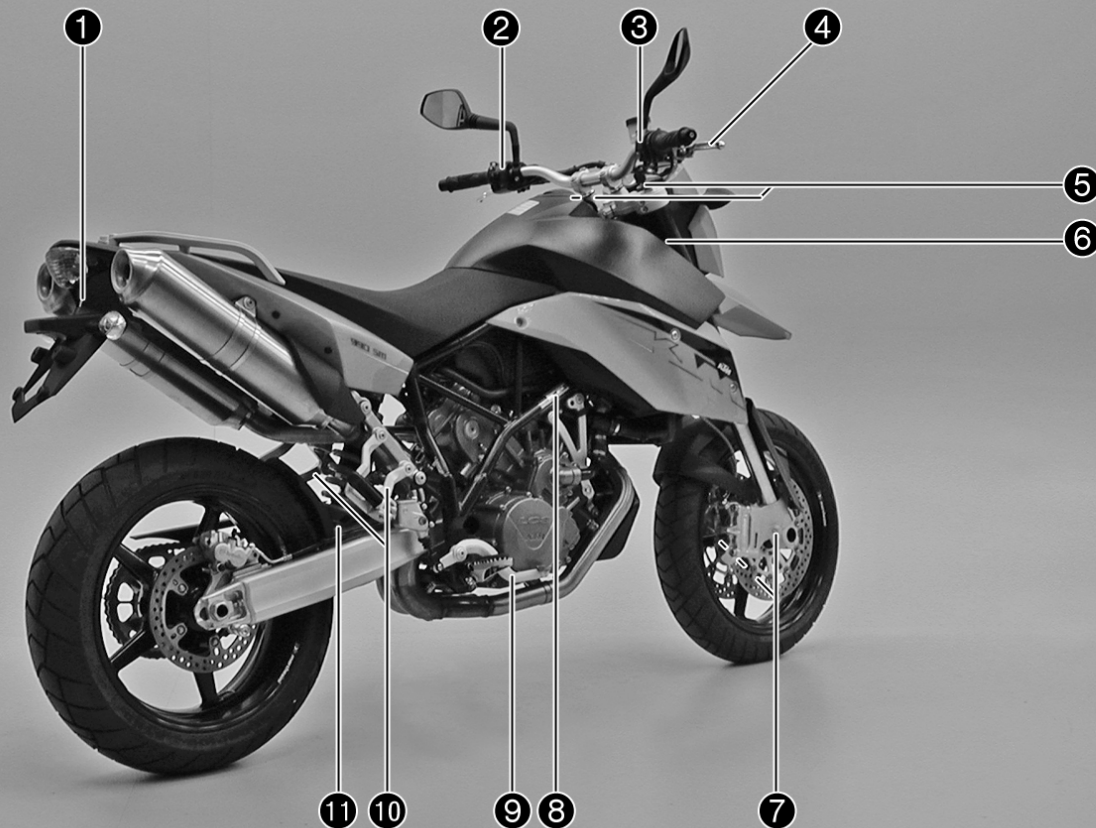
- Be sure to read this owner's manual carefully and completely before taking your first ride. It contains useful information and tips to help you operate and handle your motorcycle. Only then will you find out how to best customize the motorcycle for your own use and how you can protect yourself from injury. The owner's manual also contains important information on servicing the motorcycle.
- The owner's manual is an important component of the motorcycle and should be handed over to the new owner if the vehicle is sold.

View of vehicle, front left side (vehicle differs slightly from photo)



1	Combination instrument
2	Filler cap
3	Rear mirror
4	Clutch lever
5	Seat
6	Handrails
7	Shock absorber compression damping
8	Shock absorber spring preload
9	Engine number
10	Shift lever
11	Oil level viewer

View of vehicle, rear right side (vehicle differs slightly from photo)

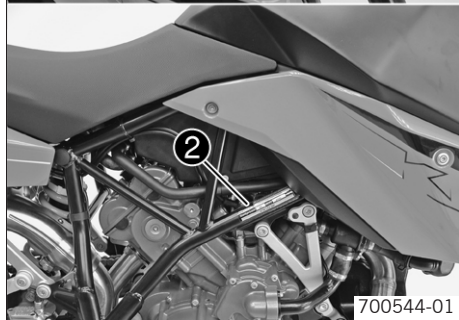


1	Seat lock
2	Light switch, headlight flasher switch, indicator switch, horn button
3	Emergency OFF switch, electric starter button
4	Hand brake lever
5	Fork spring preload, fork rebound damping
6	Chassis number
7	Fork compression damping
8	Type label
9	Foot brake pedal
10	Passenger footrests
11	Shock absorber rebound damping

Chassis number/type label

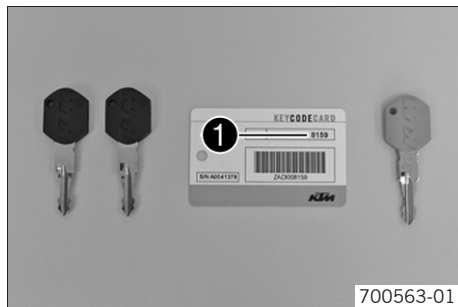


Chassis number ❶ is embossed in the steering head at the right.
Type label ❷ is located on the bottom frame tube on the right.



700544-01

Key number



The **Code number ❶** key number can be found on the **KEYCODECARD**.

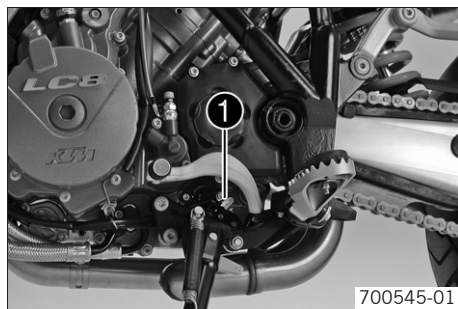


Info

You need the key number to order a spare key. Keep the **KEYCODECARD** in a safe place.

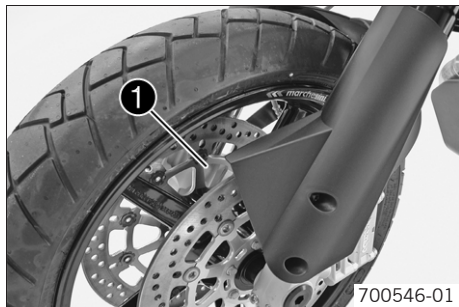
Use the orange programming key to activate and deactivate the black ignition key. Keep the orange programming key in a safe place: it must only be used for learning and programming functions.

Engine number



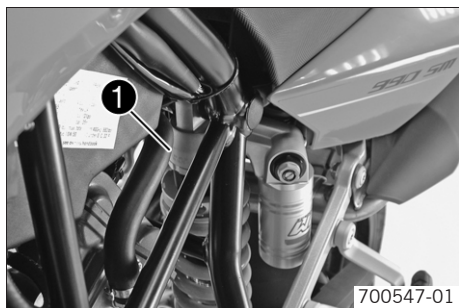
The engine number **❶** is stamped on the left side of the engine under the engine sprocket.

Fork part number



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

Shock absorber part number



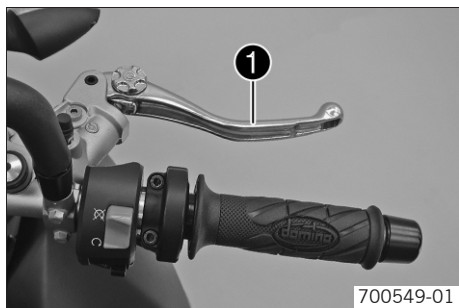
The shock absorber part number ❶ is stamped on the top of the shock absorber above the adjusting ring on the engine side.

Clutch lever



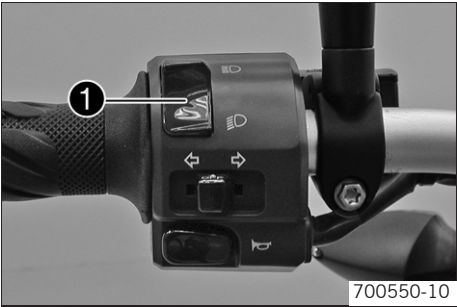
The clutch lever ❶ is fitted on the left side of the handlebar.
The clutch is hydraulically operated and self-adjusting.

Hand brake lever



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

Light switch

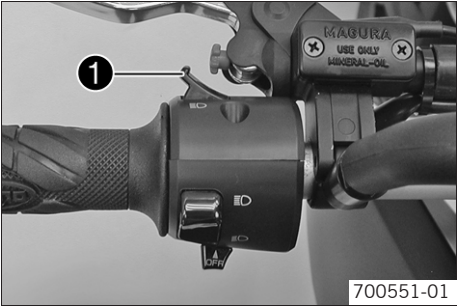


The light switch ❶ is fitted on the left side of the handlebar.

Possible states

	Low beam on – The light switch is turned downwards. In this position, the low beam and tail light are switched on.
	High beam on – The light switch is turned upwards. In this position, the high beam and tail light are switched on.

Headlight flasher switch

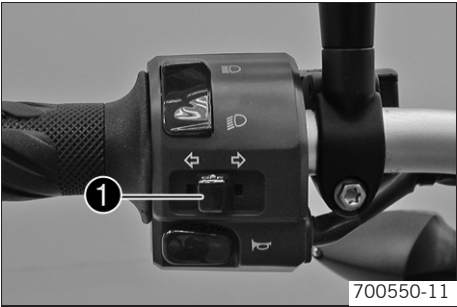


The headlight flasher switch ❶ is fitted on the left side of the handlebar.

Possible states

- Headlight flasher switch in basic position
- Headlight flasher switch pressed – The headlight flasher switch (high beam) is operated in this position.

Turn signal switch



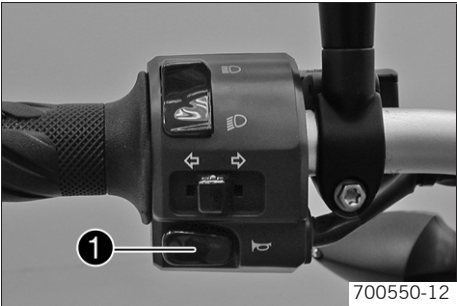
The turn signal switch ❶ is fitted on the left side of the handlebar.

Possible states

	Turn signal off
←	Left turn signal on – The turn signal switch is pressed to the left. The turn signal switch automatically returns to the central position after use.
→	Right turn signal on – The turn signal switch is pressed to the right. The turn signal switch automatically returns to the central position after use.

To switch off the turn signal, press the turn signal switch towards the switch case.

Horn button

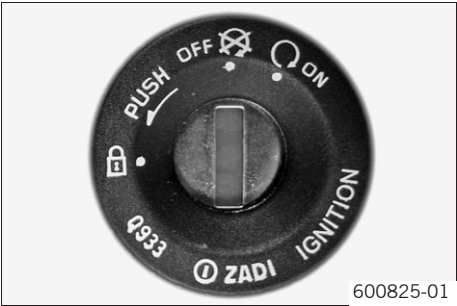


The horn button ❶ is fitted on the left side of the handlebar.

Possible states

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

Ignition/steering lock

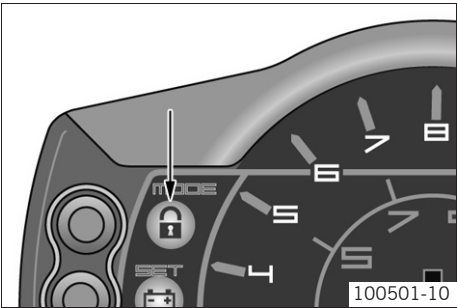


The ignition/steering lock is in front of the upper triple clamp.

Possible states

	Ignition OFF – In this position, the ignition circuit is interrupted, a running engine stops, and a non-running engine will not start. The ignition key can be removed.
	Ignition ON – In this position, the ignition circuit is closed and the engine can be started.
	Steering locked – In this position, the ignition circuit is interrupted and the steering locked. The ignition key can be removed.

Immobilizer



The electronic immobilizer secures the vehicle against unauthorized use.

The immobilizer is activated automatically and the engine electronics are locked when the ignition key is withdrawn.

The red warning lamp  flashes at 15 second intervals after one minute.

The red warning lamp can also indicate errors by flashing.



Info

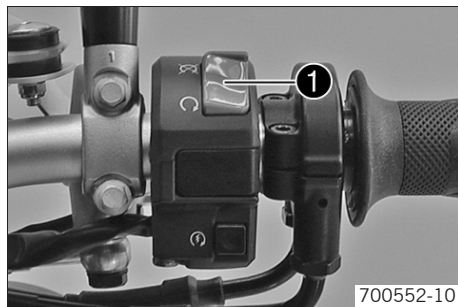
The ignition key contains electronic components. Never attach multiple ignition keys to a single key ring; this may cause mutual interference and lead to problems.

A lost black ignition key must be deactivated to prevent unauthorized persons from operating the vehicle.

The second black ignition key is activated when the vehicle is shipped.

Two additional spare ignition keys (key number on the **KEYCODECARD**) can be ordered from an authorized KTM workshop, but they must be activated before use.

Emergency OFF switch

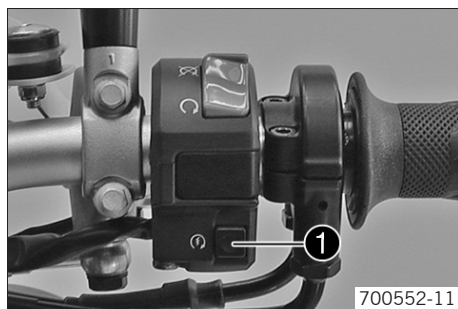


The emergency OFF switch ❶ is fitted on the right side of the handlebar.

Possible states

	Emergency OFF switch on – This position is necessary for operation as it closes the ignition circuit.
	Emergency OFF switch off – In this position, the ignition circuit is interrupted, a running engine stops, and the engine cannot be started.

Electric starter button

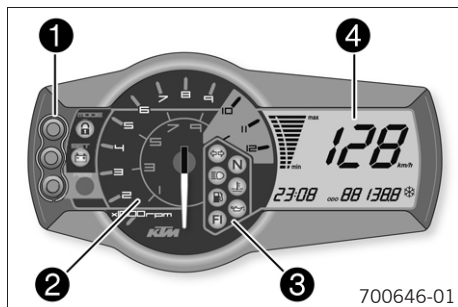


The electric starter button ❶ is fitted on the right side of the handlebar.

Possible states

- Electric starter button ❸ in basic position
- Electric starter button ❸ pressed – The electric starter is actuated in this position.

Combination instrument

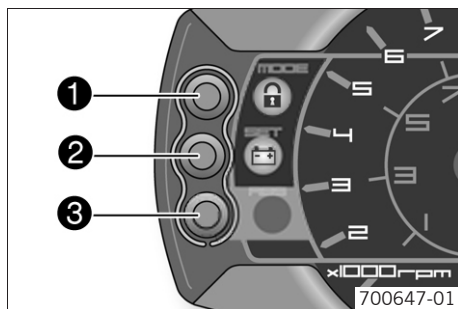


The combination instrument is installed in front of the handlebar.

The combination instrument is divided into 4 function areas.

- 1 Function buttons
- 2 Tachometer
- 3 Indicator lights
- 4 Display

Combination instrument - function buttons



You can change the display mode with the **MODE** button 1.

Possible display modes are the distance traveled (**ODO**), trip master 1 (**TRIP 1**), trip master 2 (**TRIP 2**) and the ambient temperature.

Press the **SET** button 2 to reset the trip master 1 function (**TRIP 1**) and trip master 2 function (**TRIP 2**) to **0.0**.

Button 3 has no function.

Combination instrument - tachometer



700648-01

The tachometer ❶ shows the engine speed in revolutions per minute.
The red marking ❷ shows the excess speed range of the engine.

Combination instrument - indicator lamps



700649-01

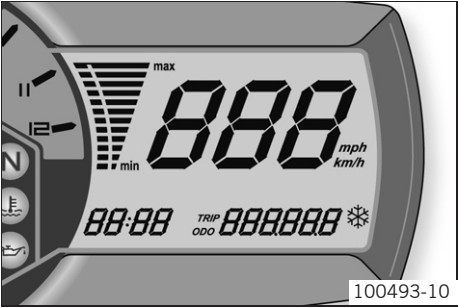
The indicator lamps offer additional information about the operating state of the motorcycle.

Possible states

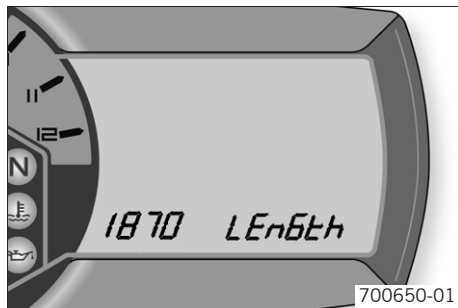
	The turn signal indicator lamp flashes green simultaneously with the turn signal – The turn signal is switched on.
	The idle speed indicator lamp lights up green – The transmission is shifted to idle.
	The high beam indicator lamp lights up blue – The high beam is switched on.
	The temperature warning lamp lights up red – The coolant has reached a critical value.
	The fuel level warning lamp lights up orange – The fuel level has reached the reserve mark. The display switches to TRIP F .

	The oil indicator lamp lights up red – The oil pressure is too low.
	Warning lamp FI (MIL) lights up/flashes orange – The OBD has detected an emission- or safety-critical fault.
	The immobilizer indicator lamp lights up or flashes red – Status or error message for immobilizer/alarm system.
	The battery warning lamp lights up red – The voltage in the vehicle system is too low.

Combination instrument - display



When you switch on the ignition, all display segments light up for one second as a function test.



LEnGth

Following the display function test, the **LEnGth** wheel circumference is shown for one second.

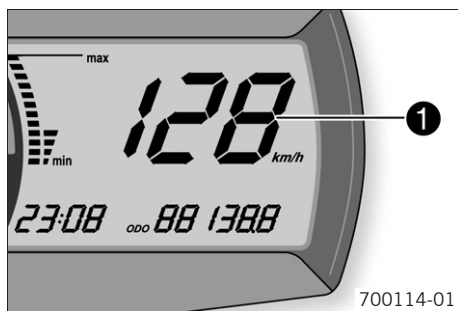


Info

1870 mm corresponds to the circumference of the 17" front wheel with a series production tire.

The display then changes to the last selected mode.

Combination instrument - speedometer



The speed ❶ is shown in kilometers per hour **km/h** or in miles per hour **mph**.

Setting kilometers or miles



Info

If you change the unit, the value **ODO** is retained and converted accordingly. Making the setting according to the country.

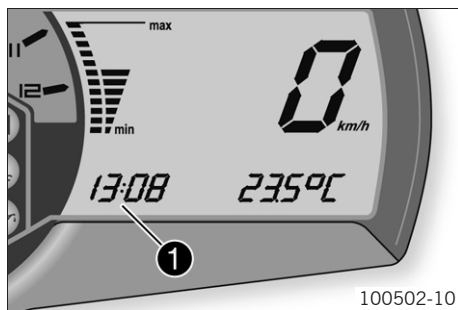
Condition

The motorcycle is standing.

- Switch on the ignition by turning the ignition key to the **ON**  position.
- Press the **MODE** button repeatedly until the **ODO** mode is active.
- Keep the **MODE** button pressed until the display mode changes from **km/h** to **mph** or from **mph** to **km/h**.



Combination instrument - time



The time is shown in area ❶ of the display.



Info

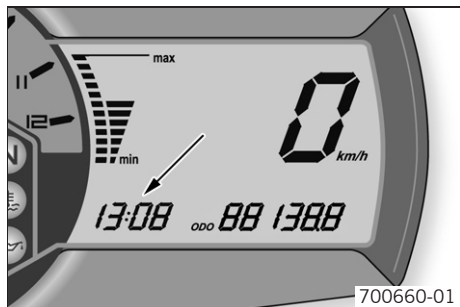
The time has to be reset after the battery is reconnected or when the fuse is changed.

Setting the clock

Condition

The motorcycle is standing.

- Switch on the ignition by turning the ignition key to the **ON**  position.
- Press the **MODE** button repeatedly until the **ODO** mode is active.
- Keep the **MODE** button and the **SET** button pressed simultaneously.
 - ✓ The time display begins to flash.
- Press the **MODE** button to set the hour.
- Press the **SET** button to set the minute.
- Keep the **MODE** button and the **SET** button pressed simultaneously.
 - ✓ The time is set.



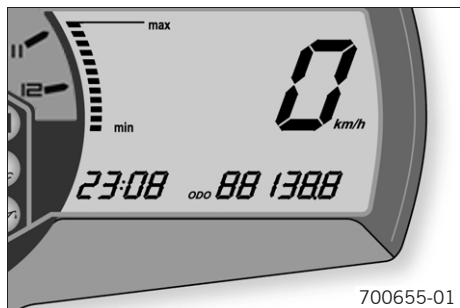
Combination instrument - ODO display

In the **ODO** display mode, the total distance traveled is shown in kilometers or miles.



Info

This value is retained, even if the battery is disconnected and/or the fuse blows.



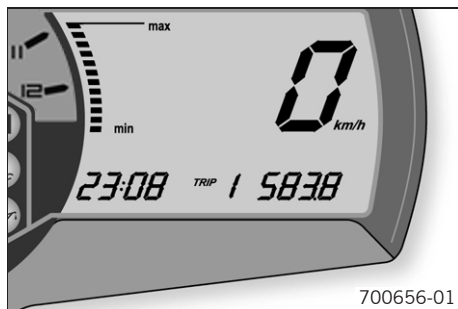
Combination instrument - setting/resetting TRIP 1



Info

The **TRIP 1** trip counter is always running and counts up to **999.9**.

The trip counter can be used to measure the distance covered during trips or between two refueling stops. After the value **999.9** is reached, the trip counter starts at **0.0** again.



700656-01

- Switch on the ignition by turning the ignition key to the **ON**  position.
 - Press the **MODE** button repeatedly until the **TRIP 1** mode is active.
 - Keep the **SET** button pressed.
- ✓ The **TRIP 1** display is set to **0.0**.

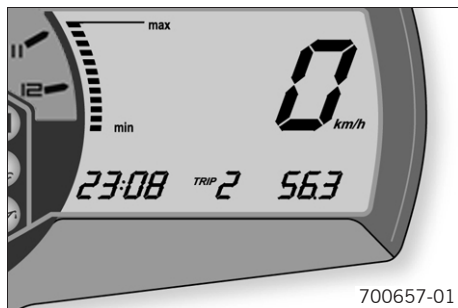
Combination instrument - setting/resetting TRIP 2



Info

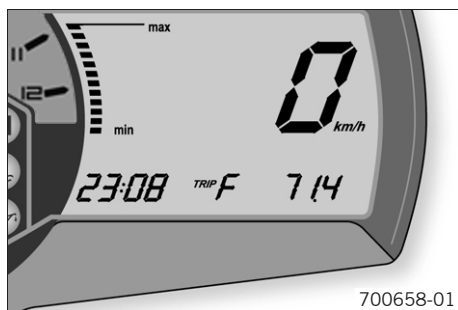
The **TRIP 2** trip counter is always running and counts up to **999.9**.

The trip counter can be used to measure the distance covered during trips or between two refueling stops. After the value **999.9** is reached, the trip counter starts at **0.0** again.



- Switch on the ignition by turning the ignition key to the **ON**  position.
 - Press the **MODE** button repeatedly until the **TRIP 2** mode is active.
 - Keep the **SET** button pressed.
- ✓ The **TRIP 2** display is set to **0.0**.

Combination instrument - TRIP F display



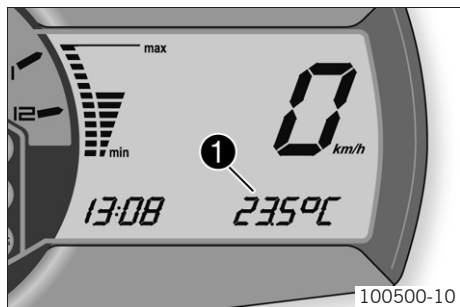
If the fuel level drops to the reserve mark, the display automatically changes to **TRIP F** and starts to count from **0.0**, regardless of the previous display mode.



Info

Parallel to the **TRIP F** display, the fuel warning light switches on.

Combination instrument - ambient temperature display



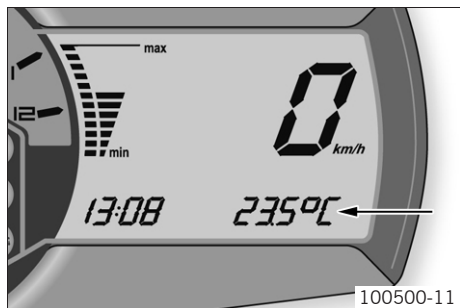
The ambient temperature ❶ is displayed in **°C** or **°F**.

Setting the temperature units

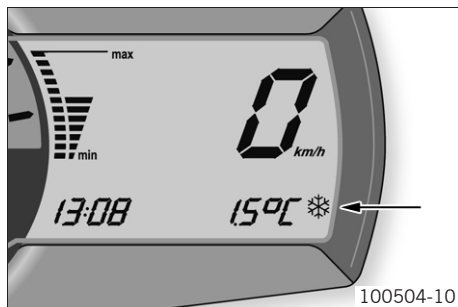
Condition

The motorcycle is standing.

- Switch on the ignition by turning the ignition key to the **ON**  position.
- Press the **MODE** button repeatedly until the ambient temperature is active.
- Keep the **MODE** button pressed until the display mode changes from **°C** to **°F** or from **°F** to **°C**.



Combination instrument - warning of slippery roads



The ice symbol ❄ lights up to indicate an increased danger of slippery roads.

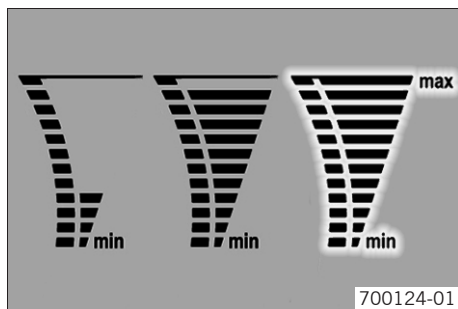
The ice symbol ❄ appears in the display when the ambient temperature drops below the specified value.

Temperature	3 °C (37 °F)
-------------	--------------

The ice symbol ❄ goes out in the display when the ambient temperature rises above the specified value again.

Temperature	4 °C (39 °F)
-------------	--------------

Combination instrument - coolant temperature indicator

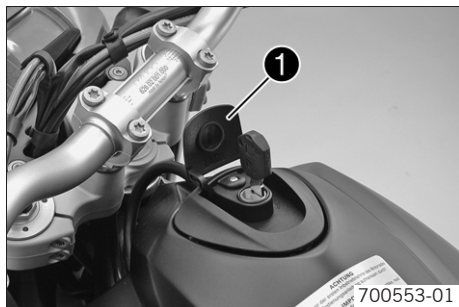


The temperature display consists of 12 bars. The more bars that light up, the hotter the coolant. When the upper bar lights up, all bars in the display begin to flash and the temperature warning lamp lights up.

Possible states

- Engine cold – Up to five bars light up.
- The engine is warm – Six to eleven bars light up.
- Engine hot – All twelve bars flash.

Opening the filler cap



- Lift the cover of the filler cap ❶ and insert the ignition key.
- Turn the ignition key 90° counterclockwise and remove the filler cap.



Info

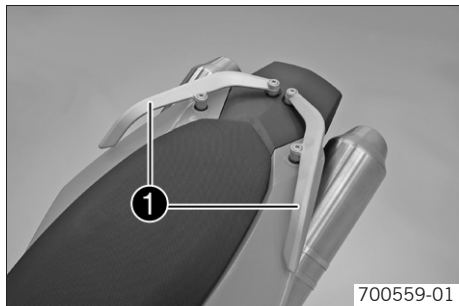
The filler cap has a tank air vent system.

Closing the filler cap



- Put the filler cap back on and turn the ignition key 90° clockwise.
- Remove the ignition key and fold down the cover.

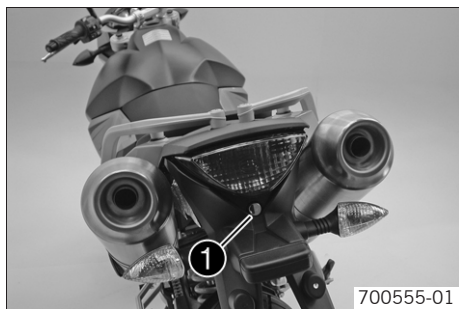
Handrails



The handrails ❶ are used for moving the motorcycle around.

If you carry a passenger, the passenger can hold onto the handrails during the trip.

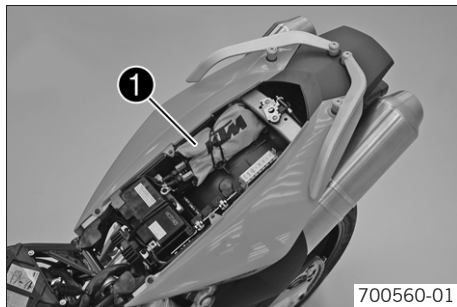
Seat lock



Seat lock ❶ is located at the rear under the tail light.

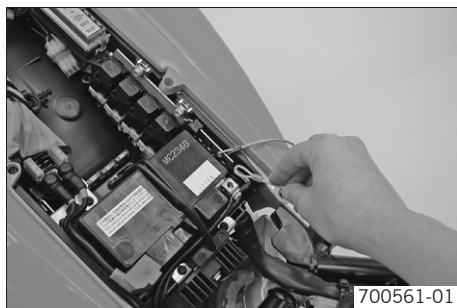
It can be locked with the ignition key.

Tool set



The tool set ❶ is located in the storage compartment under the seat.

Helmet lock



The steel cable in the tool set can be used to lock a helmet to the vehicle to prevent it from being stolen.

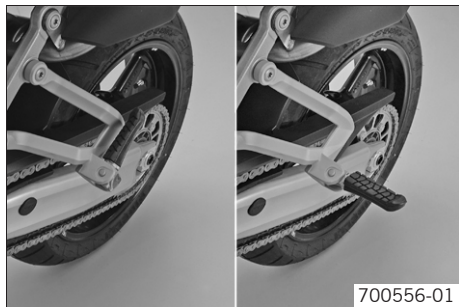


Warning

Danger of accidents Impairment of ride behavior and vehicle operation if a helmet or helmet lock is attached to the vehicle.

- Do not use the helmet lock for holding a helmet or other objects during the journey. Always remove the helmet lock before starting out.

Passenger footrests

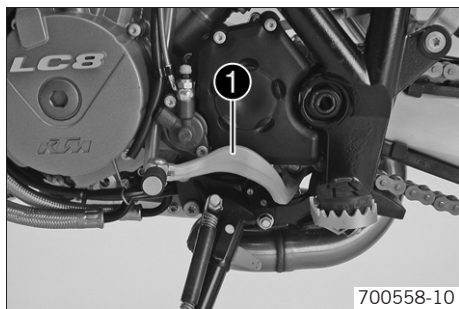


The passenger footrests can be folded up and down.

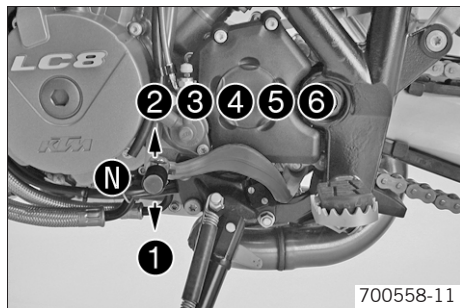
Possible states

- Passenger footrests folded up – For operation without a passenger.
- Passenger footrests folded down – For operation with a passenger.

Shift lever

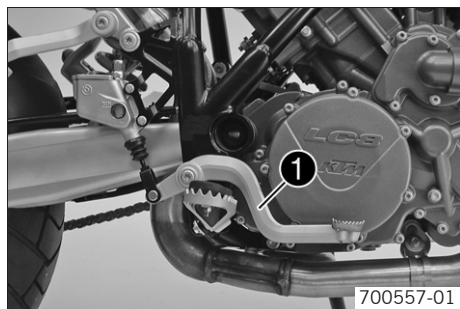


Shift lever ❶ is mounted on the left side of the engine.



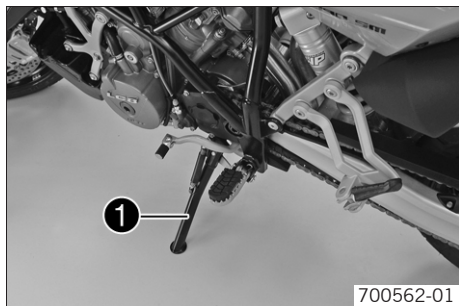
The gear positions can be seen in the photograph.
The neutral or idle position **N** is between the first and second gear.

Foot brake pedal



Foot brake pedal **1** is located in front of the right footrest.
The rear brake is activated using the foot brake pedal.

Side stand



Side stand ❶ is coupled with the safety start system; see the riding instructions.

Possible states

- Side stand folded out – The vehicle can be leaned on the side stand. The safety start system is active.
- Side stand folded in – This position is mandatory for all trips. The safety start system is inactive.

Information on first use



Danger

Danger of accidents Danger arising from the rider's judgement being impaired.

- Do not use the vehicle if you are inexperienced or if you have consumed alcohol or drugs.



Warning

Risk of injury Missing or insufficient protective clothing increases the risk of injury.

- Wear protective clothing (helmet, boots, gloves, pants and jacket with protectors) every time you ride the vehicle. Always wear protective clothing, which must be in perfect condition and meet legal requirements.



Warning

Danger of crashing Impairment of ride behavior due to different tire tread patterns on front and rear wheels.

- The front and rear wheels must be fitted with tires with similar tread patterns to prevent loss of control over the vehicle.



Warning

Danger of accidents Uncontrollable handling characteristics due to non-approved and/or non-recommended tires/wheels.

- Only tires/wheels approved by KTM and with the corresponding speed index should be used.



Warning

Danger of accidents Reduced road grip with new tires.

- New tires have a smooth rolling surface and therefore cannot provide full road grip. The entire rolling surface must be roughened in the first 200 kilometers (124.3 miles) by moderate riding at alternating angles. The full grip levels are not achieved until the tires have been run in.



Warning

Danger of accidents Brake system failure.

- If the foot brake pedal is not released, the brake linings drag permanently. The rear brake can fail due to overheating. Take your foot off the foot brake pedal if you do not want to brake.



Info

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

- Make sure that the pre-delivery inspection work has been carried out by an authorized KTM workshop.
 - ✓ You receive a delivery certificate and the service record at vehicle handover.
- Before your first trip, read the entire operating instructions carefully.
- Get to know the controls.
- Adjust the basic position of the clutch lever. (🔧 p. 144)
- Get used to handling the vehicle on an empty car park before making a longer trip. Try also to ride as slowly as possible to get a better feeling for the motorcycle.
- Hold the handlebar firmly with both hands and keep your feet on the footrests when riding.
- Run the engine in. (🔧 p. 41)

Running in the engine

- Do not exceed the specified engine speed and load during the running-in period.

Guideline

Maximum engine speed	
During the first: 1,000 km (621.4 mi)	6,500 rpm
After the first: 1,000 km (621.4 mi)	9,500 rpm

- Avoid full-throttle operation!

Loading the vehicle



Warning

Danger of accidents Unstable riding behavior.

- Do not exceed the maximum permitted weight and axle loads. The overall weight consists of: motorcycle operational and with a full tank, driver and passenger with protective clothing and helmet, baggage.



Warning

Danger of accidents Unstable handling characteristics due to incorrect mounting of suitcase and/or tank rucksack.

- Mount and secure suitcase and tank rucksack according to the manufacturer's instructions.



Warning

Danger of accidents Unstable handling characteristics at high speed.

- Adapt your speed according to your payload. If the motorcycle is loaded with luggage, ride more slowly.
Maximum speed with luggage 130 km/h (80.8 mph)



Warning

Danger of accidents Destruction of luggage carrier system.

- If the motorcycle is fitted with luggage cases, note the manufacturer's specifications concerning the maximum payload.



Warning

Danger of accidents Poor visibility for other road users due to slipped baggage.

- If the tail light is covered, you are less visible to traffic behind you, especially in the dark. Check that your baggage is fixed properly at regular intervals.



Warning

Danger of accidents Changed handling characteristics and longer stopping distance with excessive payload.

- Adapt your speed according to your payload.

**Warning**

Danger of accidents Unstable handling characteristics due to slipped baggage.

- Check the way your baggage is fixed regularly.

**Warning**

Danger of burns A hot exhaust system can burn baggage.

- Fasten your baggage in such a way that it cannot be burned or singed by the hot exhaust system.

-
- If you are carrying baggage, make sure it is fixed firmly as close as possible to the center of the vehicle and ensure even weight distribution between the front and rear wheels.
 - Do not exceed the maximum permissible total weight and the axle loads.

Guideline

Maximum permissible total weight	400 kg (882 lb.)
Maximum permissible front axle load (Supermoto, Supermoto T)	190 kg (419 lb.)
Maximum permissible front axle load (Supermoto R)	160 kg (353 lb.)
Maximum permissible rear axle load	250 kg (551 lb.)

Checks before putting into operation



Info

Make sure that the motorcycle is in perfect technical condition before use.

In the interests of riding safety, make a habit of making a general check before you ride.

- Check the engine oil level. (🔧 p. 147)
- Check the engine for loss of oil.
- Check the fuel level.
- Bleed the fork legs. (🔧 p. 67)

Guideline

All	1,000 km (621.4 mi)
-----	---------------------

- Check the chain tension. (🔧 p. 77)
- Clean the chain. (🔧 p. 76)
- Check the tire condition. (🔧 p. 97)
- Check the tire air pressure. (🔧 p. 99)
- Check the front brake fluid level. (🔧 p. 84)
- Check the rear brake fluid level. (🔧 p. 88)
- Check the front brake linings. (🔧 p. 86)
- Check the rear brake linings. (🔧 p. 90)
- Check that the brake system is functioning properly.
- Check the coolant level in the compensating tank. (🔧 p. 132)
- Check that all operating elements are correctly adjusted and free to move.
- Check that the electrical equipment is functioning properly.
- Check that baggage is correctly secured.

- Sit on the motorcycle and check the rear mirror setting.

Starting



Danger

Danger of poisoning Exhaust gases are poisonous and can result in unconsciousness and/or death.

- When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in a closed space without an effective exhaust extraction system.



Caution

Danger of accidents If the vehicle is operated with a discharged battery or without a battery, electronic components and safety equipment may be damaged.

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

Note

Engine failure High engine speeds in cold engines have a negative effect on the service life of the engine.

- Always warm up the engine at low engine speeds.
-



- Press the emergency OFF switch into the position ○.
- Switch on the ignition by turning the ignition key to the **ON** ○ position.
 - ✓ After you switch on the ignition, you can hear the fuel pump working for about two seconds. The function test of the combination instrument is run at the same time.
- Shift the transmission to neutral.
 - ✓ The green idling speed indicator lamp **N 1** lights up.
- Press the electric starter button (ⓘ).

i Info

Do not press the electric starter button until the function test of the combination instrument is finished.

When starting, **DO NOT** open the throttle. If you open the throttle during the starting procedure, fuel is not injected by the engine management system and the engine cannot start.

Press the starter for a maximum of 5 seconds. Wait for a least 5 seconds before trying again.

This motorcycle is equipped with a safety start system. You can only start the engine if the transmission is in neutral or if the clutch is pulled when a gear is engaged. If the side stand is folded out and you shift into gear and release the clutch, the engine stops.

- Take the weight off the side stand and swing it upwards with your foot as far as it will go.

Starting up

- Pull the clutch lever, engage 1st gear, release the clutch lever slowly and simultaneously open the throttle carefully.

Shifting, riding



Warning

Danger of accidents Abrupt load alterations can cause the vehicle to get out of control.

- Avoid abrupt load alterations and sudden braking actions, and adapt your speed to the road conditions.



Warning

Danger of accidents If you shift down at high engine speed, the rear wheel can lock up.

- Do not shift into a low gear at high engine speed. The engine races and the rear wheel can lock up.



Warning

Danger of accidents Malfunctions caused by incorrect ignition key position.

- Do not change the ignition key position during a journey.



Warning

Danger of accidents Distraction from traffic activity by adjustments to the vehicle.

- Make all adjustments when the vehicle is at a standstill.



Warning

Risk of injury The passenger must be able to sit securely on the passenger seat.

- The passenger must hold on to the rider or supporting strap firmly and place his/her feet on the passenger footrests. Observe the regulations concerning the minimum age for passengers in your country.



Warning

Danger of accidents Danger of accidents caused by dangerous driving.

- Observe the traffic regulations and ride defensively and with foresight in order to recognize danger as early as possible.

**Warning**

Danger of accidents Reduced road grip with cold tires.

- On every journey, take the first miles carefully at moderate speed until the tires reach operating temperature and optimal road grip is ensured.

**Warning**

Danger of accidents Reduced road grip with new tires.

- New tires have a smooth rolling surface and therefore cannot provide full road grip. The entire rolling surface must be roughened in the first 200 kilometers (124.3 miles) by moderate riding at alternating angles. The full grip levels are not achieved until the tires have been run in.

**Warning**

Danger of accidents Unstable riding behavior.

- Do not exceed the maximum permitted weight and axle loads. The overall weight consists of: motorcycle operational and with a full tank, driver and passenger with protective clothing and helmet, baggage.

**Warning**

Danger of accidents Unstable handling characteristics due to slipped baggage.

- Check the way your baggage is fixed regularly.

**Warning**

Danger of accidents Lack of roadworthiness.

- After a fall, check the vehicle as usual before putting it into operation.

Note

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

- Never ride the vehicle without an air filter since dust and dirt can get into the engine and result in increased wear.

Note

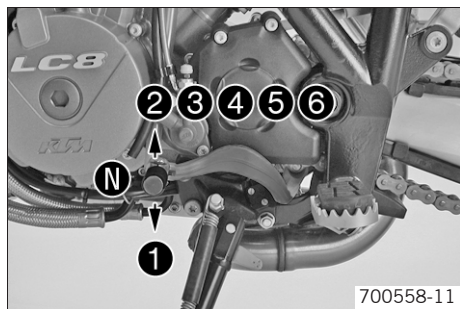
Engine damage Engine overheating.

- If the coolant temperature warning lamp lights up, stop the vehicle and switch off the engine. Let the engine cool down, and then check the coolant level in the radiator and top up if necessary. If you continue your journey with the coolant temperature warning lamp on, this may cause engine failure.



Info

If you hear unusual noises while riding, stop immediately, switch off the engine and contact an authorized KTM workshop.



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



Info

You can see the positions of the six forward gears in the figure. The neutral or idle position is between the first and second gears. First gear is used for starting off or for steep inclines.

- After reaching maximum speed by fully opening the throttle grip, turn the throttle back so it is $\frac{3}{4}$ open. This will barely reduce the speed but fuel consumption will be considerably lower.
- Accelerate only up to a speed suitable for the road surface and weather conditions. When traveling in bends, do not shift, and accelerate very carefully.
- To shift down, brake if necessary and close the throttle at the same time.
- Pull the clutch lever and shift into a lower gear, release the clutch lever slowly and open the throttle or shift again.
- If the engine stalls (e.g. at a crossroads), pull the clutch lever only and press the starter button. You do not have to shift into neutral.

- Switch off the engine if you expect to be standing for a long time.
- If the **FI** warning lamp (**MIL**) lights up during a trip, stop immediately. When you shift to neutral, the **FI** warning lamp (**MIL**) starts to flash.



Info

From the flashing rhythm, you can derive a two-digit number, the so-called flashing code. The flashing code tells you which component has a fault.

- If the ice symbol ❄ appears in the combination instrument, the roads may be icy. Adapt your speed to the changed road conditions.

Braking



Warning

Danger of accidents If you brake too hard, the wheels can lock.

- Adapt your braking to the traffic situation and the road conditions.



Warning

Danger of accidents Reduced braking efficiency due to wet or dirty brakes.

- Clean or dry dirty or wet brakes by riding and braking gently.



Warning

Danger of accidents Reduced braking efficiency caused by spongy pressure point of front or rear brake.

- Check the brake system and do not continue riding. (Your authorized KTM workshop will be pleased to help.)



Warning

Danger of accidents Brake system failure.

- If the foot brake pedal is not released, the brake linings drag permanently. The rear brake can fail due to overheating. Take your foot off the foot brake pedal if you do not want to brake.

**Warning**

Danger of accidents Longer stopping distance due to higher overall weight.

- Take the longer stopping distance into account when carrying a passenger and baggage.

**Warning**

Danger of accidents Delayed brake action on salted roads.

- There may be salt deposits on the brake discs. In order to restore the normal braking efficiency, you will need to remove the deposits from the discs by carefully applying the brakes.

-
- When braking, first throttle back and then apply the front and rear brakes at the same time.
 - On wet or slippery surfaces, mainly use the rear brake.
 - Braking should always be completed before you enter a bend. Shift down to a lower gear that is appropriate to your speed.
 - On long downhill stretches, use the braking effect of the engine. Do this by changing down two gears, but do not race the engine. You will require less braking force and the brakes will not overheat.

Stopping, parking

**Warning**

Risk of misappropriation Usage by unauthorized persons.

- Never leave the vehicle while the engine is running. Secure the vehicle against use by unauthorized persons. If you leave the vehicle, lock the steering and remove the ignition key.

**Warning**

Danger of burns Some vehicle components get very hot when the machine is driven.

- Do not touch hot components such as exhaust system, radiator, engine, shock absorber and brakes. Allow these components to cool down before starting work on them.

Note

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

- Always place the vehicle on a firm and even surface.

Note

Fire hazard Some vehicle components get very hot when the machine is driven.

- Do not place the vehicle where there are flammable or explosive substances. Do not place objects over the vehicle while it is still warm from being run. Always let the vehicle cool first.

Note

Material damage Damage and destruction of components due to excessive load.

- The side stand is designed for the weight of the motorcycle only. Do not sit on the motorcycle when it is supported by the side stand only. The side stand and/or the frame could be damaged and the motorcycle could fall over.

-
- Apply the brakes.
 - Shift the transmission to neutral.
 - Switch off the ignition by turning the ignition key to the **OFF**  position.



Info

If you switch off the engine with the emergency OFF switch but the ignition remains switched on at the ignition lock, power continues to flow to most power consumers and the battery is soon discharged. Therefore, always switch off the engine with the ignition key; the emergency OFF switch is provided for emergency situations only.

-
- Park the motorcycle on a firm surface.
 - Swing the side stand to the front with your foot as far as it will go, and lean the vehicle onto it.
 - Lock the steering by turning the handlebar fully to the left, pressing down the ignition key to the **OFF** position  and turning it to the position . To make the steering lock engage more easily, move the handlebar back and forth slightly. Remove the ignition key.

Refueling



Danger

Fire hazard Fuel is highly flammable.

- Never fill up the vehicle near open flames or burning cigarettes, and always switch off the engine first. Be careful that no fuel is spilt, especially on hot vehicle components. Clean up spilt fuel immediately.
- Fuel in the fuel tank expands when warm and can escape if the tank is overfilled. See specifications on filling up with fuel.



Warning

Danger of poisoning Fuel is poisonous and a health hazard.

- Avoid contact of the fuel with skin, eyes and clothing. Do not inhale fuel vapors. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If fuel is swallowed, contact a doctor immediately. Change clothing that has come into contact with fuel.



Warning

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

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



Info

This motorcycle is equipped with a regulated catalyst. Leaded fuel will destroy the catalyst. You should therefore use unleaded fuel only.



- Switch off the engine.
- Open the filler cap. (☛ p. 34)
- Fill the fuel tank with fuel up to the lower edge ❶ of the fuel filler.

Total fuel tank capacity, approx. (Supermoto, Supermoto T)	19 l (5 US gal)	Super unleaded (ROZ 95 / RON 95 / PON 91) (☛ p. 196)
Total fuel tank capacity, approx. (Supermoto R)	15 l (4 US gal)	Super unleaded (ROZ 95 / RON 95 / PON 91) (☛ p. 196)

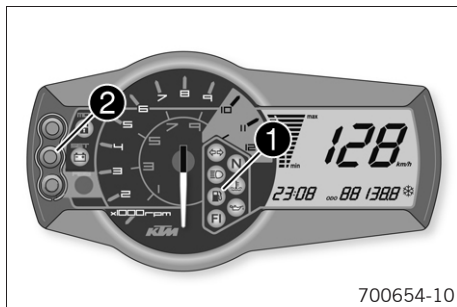
- Close the filler cap. (☛ p. 34)

Low octane fuel

Note

Engine damage Low-quality fuel damages the engine.

- Operate the vehicle with fuel with an octane rating below 95 (ROZ 95 / RON 95 / PON 91) for no more than one tank full.
 - The ignition curve must be adjusted to low octane fuel.
-
- Adjust the ignition curve to the fuel quality. (☛ p. 155)



700654-10

- Press the **SET** button ❷ for two seconds.

✓ The fuel level warning lamp ❶ switches off. **TRIP F** is set to **0.0** and appears in the previous display mode.



Info

If you do not press the **SET** button ❷, the reset takes place automatically after about three minutes.

Important service tasks to be carried out by an authorized KTM workshop

		K10N	K75A	K150A	J1A	J2A
Engine	Change the engine oil and filter, clean the oil screens.  (☞ p. 148)	•	•	•	•	•
	Check the oil lines for damage and kink-free routing. 	•	•	•	•	•
	Check the valve clearance. 			•		•
	Change the spark plugs. 			•		•
	Check the engine fixing screws and other engine screws accessible from outside to ensure that they are tight. 	•	•	•	•	•
	Check the clutch. 			•		•
	Check the clutch pressure booster. 			•		•
	Clean the oil jet for clutch lubrication. 	•		•		•
Fuel injection	Read out the fault memory using the KTM diagnostics tool. 	•	•	•	•	•
	Perform a status query with the KTM diagnostics tool for the neutral gear, clutch, 2nd/3rd gear and the side stand switch. 	•	•	•	•	•
	Check the connection boots for cracks and leakage. 			•		•
	Check the cable harness of the throttle valve body for damage and correct routing. 			•		•
	Check the hoses of vacuum sensors, SLS hoses and vent hoses for damage, correct routing and leaks. 		•	•	•	•
	Check the fuel hose for damage, correct routing and leaks. 	•	•	•	•	•
Attachments	Check the cooling system for leaks. 	•	•	•	•	•
	Check the coolant level in the radiator. (☞ p. 133)	•	•	•	•	•
	Check the antifreeze.  (☞ p. 134)	•	•	•	•	•
	Check that the radiator fan is functioning properly. 	•	•	•	•	•

		K10N	K75A	K150A	J1A	J2A
Attachments	Check the exhaust system for leaks and correct fitting and check that the exhaust holders are tight. 	•	•	•	•	•
	Check the Bowden cables for damage, smooth operation, kink-free routing and adjustment. 	•	•	•	•	•
	Check/rectify the fluid level of the hydraulic clutch. (🔧 p. 145)		•	•	•	•
	Check the air filter and change if necessary. Clean the air filter box. 			•		•
	Check the cables for damage and kink-free routing. 	•	•	•	•	•
	Check the headlamp setting. (🔧 p. 126)	•	•	•	•	•
	Check that the electrical equipment is functioning properly.	•	•	•	•	•
	Check the screws and nuts for tightness. 	•	•	•	•	•
Brakes	Check the front brake linings. (🔧 p. 86)	•	•	•	•	•
	Check the rear brake linings. (🔧 p. 90)	•	•	•	•	•
	Check the front brake discs. (🔧 p. 81)	•	•	•		
	Check the rear brake disc. (🔧 p. 82)	•	•	•		
	Check the front brake fluid level. (🔧 p. 84)	•	•	•	•	•
	Check the rear brake fluid level. (🔧 p. 88)	•	•	•	•	•
	Change the brake fluid. 			•		•
	Check that brake lines are undamaged and free of leaks. 	•	•	•	•	•
	Check the free travel of the foot brake lever.	•	•	•	•	•
	Check the braking. 	•	•	•	•	•
	Check the screws and guide pins of the brake system for tightness. 	•	•	•	•	•
Chassis	Check the shock absorber and fork for leakage and functioning. 	•	•	•	•	•
	Clean the dust boots of the fork legs.		•	•	•	•

		K10N	K75A	K150A	J1A	J2A
Chassis	Bleed the fork legs. (🔧 p. 67)	•	•	•	•	•
	Check and adjust the steering head bearing play. 🛠️	•	•	•	•	•
	Check the swingarm bearing. 🛠️	•	•	•	•	•
	Check all screws to make sure they are tight. 🛠️	•	•	•	•	•
Wheels	Check the rim run-out. 🛠️	•	•	•	•	•
	Check the tire condition. (🔧 p. 97)	•	•	•	•	•
	Check the tire air pressure. (🔧 p. 99)	•	•	•	•	•
	Check the chain wear. (🔧 p. 81)		•	•	•	•
	Check the rear sprocket/engine sprocket/chain sliding guard to ensure that they are tight. 🛠️	•	•	•	•	•
	Check the rear sprocket/engine sprocket for wear. (🔧 p. 80)		•	•	•	•
	Check the chain tension. (🔧 p. 77)	•	•	•	•	•
	Clean the chain. (🔧 p. 76)	•	•	•	•	•
	Check the wheel bearing for play. 🛠️	•	•	•	•	•
	Check the rear hub shock absorbers. 🛠️ (🔧 p. 97)		•	•	•	•

K10N: after 1,000 km (621.4 mi)

K75A: every 7,500 km (4,660 mi)

K150A: every 15,000 km (9,320 mi) / after every sporting use

J1A: annually

J2A: every 2 years

Important service tasks to be carried out by an authorized KTM workshop (as an additional order)

	K150N	K150A	K300A	J1A	J2N	J2A	J4A
Perform a fork service. 	•		•		•		•
Perform a shock absorber service. 			•				•
Clean and grease the steering head bearing and sealing elements. 		•	•			•	•
Clean the battery terminals and treat with contact grease. 				•		•	•
Change the coolant. 						•	•

K150N: after 15,000 km (9,320 mi)

K150A: every 15,000 km (9,320 mi) / after every sporting use

K300A: every 30,000 km (18,640 mi)

J1A: annually

J2N: after 2 years

J2A: every 2 years

J4A: every 4 years

Jacking up motorcycle at the front

Note

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

- Always place the vehicle on a firm and even surface.

- Jack up the motorcycle at the rear. (🔧 p. 61)
- Move the handlebar to the straight-ahead position. Align the work stand at the front with the adapters to the fork legs.

Front work stand (61029055300)



700585-01



Info

Always jack up the rear of the motorcycle first.

- Jack up the motorcycle at the front.

Taking the front from the work stand

Note

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

- Always place the vehicle on a firm and even surface.

- Secure the motorcycle against falling over.
- Remove the work stand at the front.

Jacking up motorcycle at the rear

Note

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

- Always place the vehicle on a firm and even surface.



- Insert the work stand adapter in the rear of the work stand.

Work stand adapter (61029055120)

Work stand rear (61029055100)

- Stand the motorcycle upright, align the work stand to the link fork and the adapters, and jack up the motorcycle.

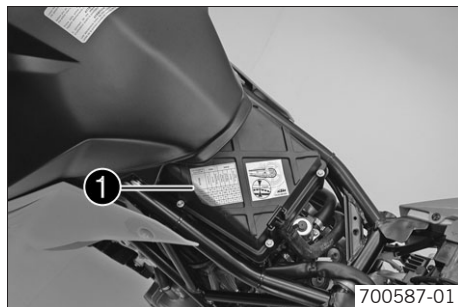
Taking the rear from the workstand

Note

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

- Always place the vehicle on a firm and even surface.
- Secure the motorcycle against falling over.
- Remove the work stand from the rear and lean the vehicle on the side stand.

Fork/shock absorber



The fork and the shock absorber offer many options of adapting the suspension to your riding style and the payload.



Info

To help you adapt the vehicle, we have summarized our findings in Table ❶. You can find the table on the air filter box after you remove the seat. In all settings except for the spring preload of the shock absorber, the value is adjusted by first turning the screw all the way in and then setting the value. Do not use excessive force to turn the adjusting screws against the stop, and take the last perceptible click as the end position.

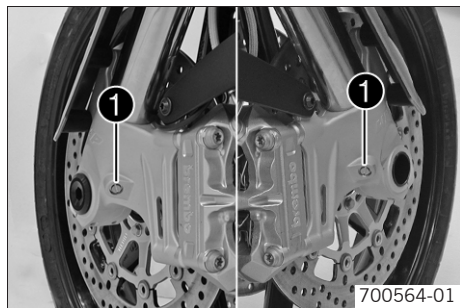
These adjustments should be understood as a guideline and should always be the basis of your own personal suspension adaptation. Do not change the adjustments at random or by more than $\pm 40\%$, since otherwise the riding characteristics could deteriorate, particularly at high speeds.

Adjusting the compression damping of the fork



Info

The hydraulic compression damping determines the fork suspension behavior. An optimally adjusted compression damping ensures that the fork does not compress too far and fast when you brake hard or when the load shifts very fast. It gives the rider good feedback about the road conditions.



- Turn adjusting screws ❶ clockwise until they stop.

i Info

The adjusting screws are located at the bottom end of the fork legs.
Make the same adjustment on both fork legs.

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

Guideline

(Supernote)

Compression damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	15 clicks

(Supernote R)

Compression damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	10 clicks

(Supernote T)

Compression damping	
Comfort	25 clicks
Standard	20 clicks
Sport	15 clicks
Full payload	15 clicks



Info

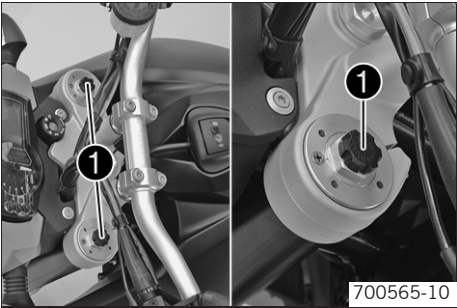
Turn clockwise to increase damping, turn counterclockwise to reduce suspension damping.

Adjusting the rebound damping of the fork



Info

The hydraulic rebound damping determines the fork rebound behavior. An optimally adjusted rebound damping brakes the springing energy and enables a fast, vibration-free resetting of the fork to the zero position.



- Turn adjusting screws ❶ clockwise until they stop.



Info

The adjusting screws are located at the top end of the fork legs. Make the same adjustment on both fork legs.

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

Guideline
(Supermoto)

Rebound damping	
Comfort	22 clicks
Standard	17 clicks
Sport	12 clicks
Full payload	17 clicks

(Supermoto R)

Rebound damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	10 clicks

(Supermoto T)

Rebound damping	
Comfort	25 clicks
Standard	20 clicks
Sport	15 clicks
Full payload	15 clicks



Info

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

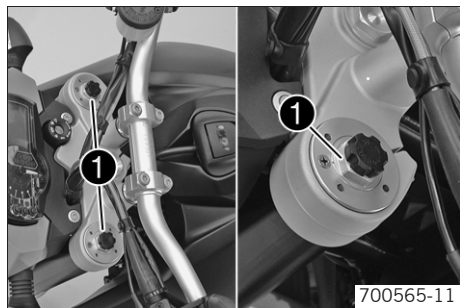
Adjusting the spring preload of the fork



Info

The spring preload defines the initial situation of the spring process of the fork.

The spring preload setting is optimal when it is set for the weight of the rider and that of any baggage and a passenger, and thus ensures a compromise between maneuverability and stability.



- Turn adjusting screws ❶ clockwise until they stop.

Info

The adjusting screws are located at the top end of the fork legs.
Make the same adjustment on both fork legs.

- Turn back counterclockwise by the number of turns corresponding to the fork type.

Guideline

(Supernote)

Spring preload - Preload Adjuster	
Comfort	7 turns
Standard	5 turns
Sport	5 turns
Full payload	5 turns

(Supernote R)

Spring preload - Preload Adjuster	
Comfort	5 turns
Standard	5 turns
Sport	3 turns
Full payload	3 turns

(Supernote T)

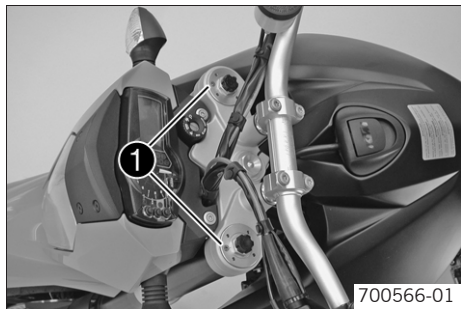
Spring preload - Preload Adjuster	
Comfort	5 turns
Standard	5 turns
Sport	3 turns
Full payload	3 turns

**Info**

Turn clockwise to increase preload, turn counterclockwise to reduce spring preload.

Changing the spring preload has no influence on the rebound damping although the adjusting screws turn during the adjustment work. However, you should also adjust the rebound damping when you alter the spring preload.

Bleeding the fork legs



- Lean the motorcycle on the side stand.
- Remove bleeder screws ❶ briefly.
- ✓ Any excess pressure escapes from the interior of the fork.
- Mount and tighten the bleeder screws.

**Info**

Carry out this operation on both fork legs.

Shock absorber compression damping



The shock absorber can regulate compression damping separately in the low and high speed ranges (Dual Compression Control).

The terms low speed and high speed refer to the movement of the shock absorber during compression and not the riding speed of the motorcycle.

Changes in the settings in the low-speed range have an impact on the high-speed range and vice versa.

Adjusting the low-speed compression damping of the shock absorber



Danger

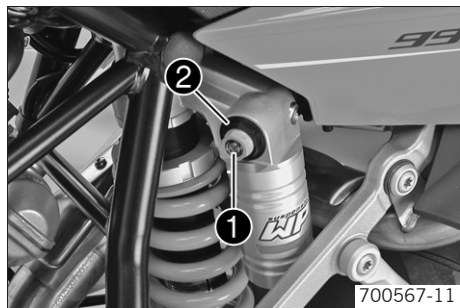
Danger of accidents Disassembly of pressurized parts can lead to injury.

- The shock absorber is filled with high density nitrogen. Adhere to the description provided. (Your authorized KTM workshop will be pleased to help.)



Info

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



- Turn adjusting screw ❶ clockwise with a screwdriver as far as the last perceptible click.

i Info

Do not loosen nut ❷!

- Turn back counterclockwise by the number of clicks corresponding to the shock absorber type.

Guideline

(Supernoto)

Compression damping, low-speed	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	15 clicks

(Supernoto R)

Compression damping, low-speed	
Comfort	25 clicks
Standard	20 clicks
Sport	15 clicks
Full payload	15 clicks

(Supernoto T)

Compression damping, low-speed	
Comfort	25 clicks
Standard	20 clicks
Sport	15 clicks
Full payload	15 clicks

**Info**

Turn clockwise to increase damping, turn counterclockwise to reduce suspension damping.

Adjusting the high-speed compression damping of the shock absorber

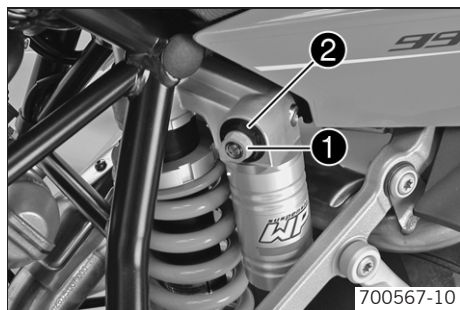
**Danger**

Danger of accidents Disassembly of pressurized parts can lead to injury.

- The shock absorber is filled with high density nitrogen. Adhere to the description provided. (Your authorized KTM workshop will be pleased to help.)

**Info**

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



- Turn adjusting screw ① clockwise as far as it will go using an open end wrench.

**Info**

Do not loosen nut ②!

- Turn back counterclockwise the number of turns corresponding to the shock absorber type.

Guideline

(Supermoto)

Compression damping, high-speed	
Comfort	2.5 turns
Standard	2 turns
Sport	1 turn
Full payload	2 turns

(Supermoto R)

Compression damping, high-speed	
Comfort	2 turns
Standard	1.5 turns
Sport	1 turn
Full payload	1 turn

(Supermoto T)

Compression damping, high-speed	
Comfort	2 turns
Standard	1.5 turns
Sport	1 turn
Full payload	1 turn



Info

Turn clockwise to increase damping, turn counterclockwise to reduce suspension damping.

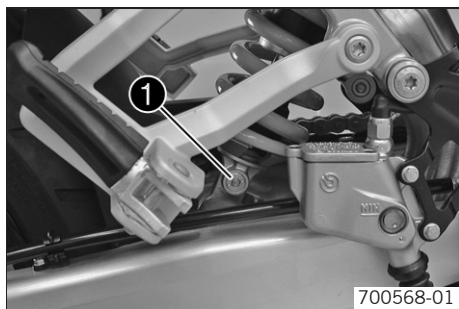
Adjusting the rebound damping of the shock absorber



Danger

Danger of accidents Disassembly of pressurized parts can lead to injury.

- The shock absorber is filled with high density nitrogen. Adhere to the description provided. (Your authorized KTM workshop will be pleased to help.)



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

Guideline

(Supermoto)

Rebound damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	15 clicks

(Supermoto R)

Rebound damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	10 clicks

(Supermoto T)

Rebound damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	10 clicks



Info

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

Adjusting the spring preload of the shock absorber



Warning

Danger of accidents Modifications to the suspension settings can seriously alter the vehicle's ride behavior.

- Following modifications, ride slowly at first to get the feel of the new ride behavior.



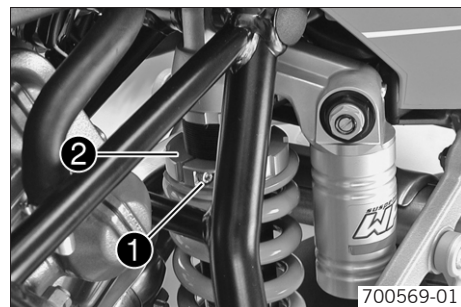
Info

The spring preload defines the initial situation of the spring process on the shock absorber.

The spring preload setting is optimal when it is set for the weight of the rider and that of any baggage and a passenger, and thus ensures a compromise between maneuverability and stability.

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

- Take the weight off the rear wheel and swingarm.



i Info

The spring preload can be adjusted correctly only if the rear wheel and the swingarm are fully relieved of weight.

(Supermoto)

- Loosen screw ❶ two turns, but do not remove.
- Turn adjusting ring ❷ counterclockwise with the tool set wrench until the spring is completely relaxed.

Hook wrench (69012022000)

Extension (60012060000)

- Turn the adjusting ring clockwise and tension it to the specified value.

Guideline

Spring preload	
Comfort	11 mm (0.43 in)
Standard	11 mm (0.43 in)
Sport	11 mm (0.43 in)
Full payload	11 mm (0.43 in)

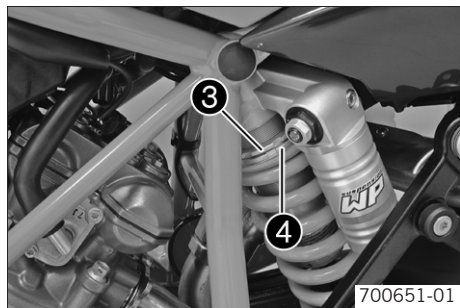
i Info

Turn clockwise to increase preload, turn counterclockwise to reduce spring preload.

- Tighten screw ❶.

Guideline

Remaining chassis screws	M5	5 Nm (3.7 lbf ft)
--------------------------	----	-------------------



(Supermoto R, Supermoto T)

- Loosen locking ring ③.
- Turn adjusting ring ④ until the spring is no longer under tension.

Hook wrench (T106S)

- Measure the overall spring length without a load.
- Tension the spring by turning adjusting ring ④ to the prescribed value.

Guideline

(Supermoto R)

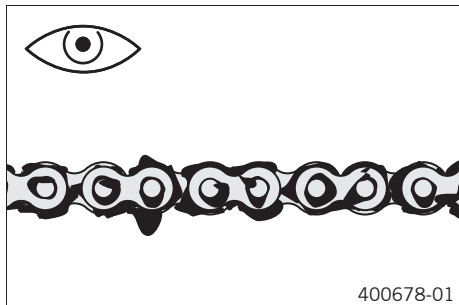
Spring preload	
Comfort	11 mm (0.43 in)
Standard	11 mm (0.43 in)
Sport	11 mm (0.43 in)
Full payload	13 mm (0.51 in)

(Supermoto T)

Spring preload	
Comfort	11 mm (0.43 in)
Standard	11 mm (0.43 in)
Sport	11 mm (0.43 in)
Full payload	13 mm (0.51 in)

- Tighten locking ring ③.

Checking the chain for dirt



- Check the chain for coarse dirt accumulation.
 - » If the chain is very dirty:
 - Clean the chain. (🔧 p. 76)

Cleaning the chain



Warning

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

- Remove oil and grease with a suitable cleaning material.



Warning

Danger of accidents Reduced braking efficiency due to oil or grease on the brake discs.

- Always keep the brake discs free of oil and grease, and clean them with brake cleaner when necessary.



Warning

Environmental hazard Hazardous substances cause environmental damage.

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

**Info**

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

- Clean the chain regularly.
- Rinse off loose dirt with a soft jet of water.
- Remove old grease remains with chain cleaner.

Chain cleaner (🔧 p. 197)

- After drying, apply chain spray.

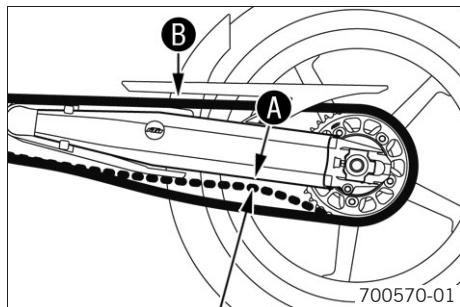
Chain lube for road use (🔧 p. 197)

Checking the chain tension

**Warning**

Danger of accidents Danger caused by incorrect chain tension.

- If the chain is over tensioned, the components of the secondary power train (chain, engine sprocket, rear sprocket, bearings in transmission and rear wheel) are under additional load. Apart from premature wear, in extreme cases the chain may snap or the countershaft of the transmission can break. On the other hand, if the chain is loose, it may jump off the engine sprocket or the rear sprocket, causing the rear wheel to lock or damage the engine. Check for correct chain tension and adjust if necessary.



- Lean the motorcycle on the side stand.
- Shift the transmission to neutral.
- In the area after the chain sliding guard, press the chain upward toward the link fork and measure chain tension **A**.



Info

The upper chain section **B** must be taut.

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

Chain tension	7 mm (0.28 in)
---------------	----------------

- » If the chain tension does not meet specifications:
 - Adjust the chain tension. (🔧 p. 78)

Adjusting the chain tension

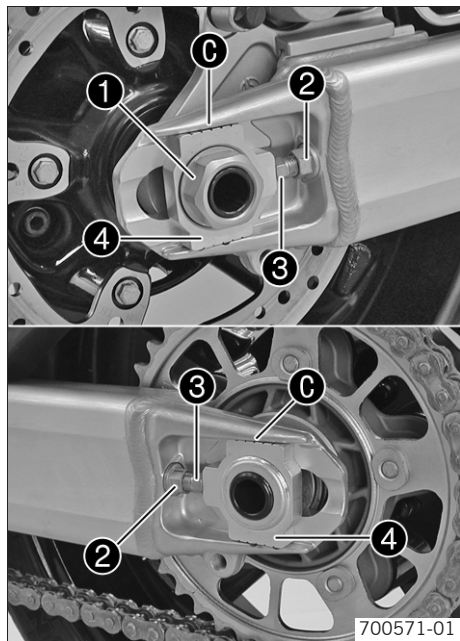


Warning

Danger of accidents Danger caused by incorrect chain tension.

- If the chain is over tensioned, the components of the secondary power train (chain, engine sprocket, rear sprocket, bearings in transmission and rear wheel) are under additional load. Apart from premature wear, in extreme cases the chain may snap or the countershaft of the transmission can break. On the other hand, if the chain is loose, it may jump off the engine sprocket or the rear sprocket, causing the rear wheel to lock or damage the engine. Check for correct chain tension and adjust if necessary.

- Check the chain tension. (🔧 p. 77)



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

Guideline

Chain tension	7 mm (0.28 in)
Turn adjusting screws ❸ on the left and right so that the markings on the left and right chain adjuster ❹ are in the same position in relation to reference marks C. The rear wheel is then correctly aligned.	

i Info

The upper chain section must be taut.

Chain wear is not always even, so you should check the setting at different chain positions.

- Tighten nuts ❷.
- Make sure that chain adjusters ❹ are resting against adjusting screws ❸.
- Tighten nut ❶.

Guideline

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

i Info

The wide adjustment range of the chain adjusters (32 mm (1.18 in)) enables different secondary transmissions with the same chain length.

Chain adjusters ❹ can be turned through 180°.

Checking the rear sprocket/engine sprocket for wear



100132-10

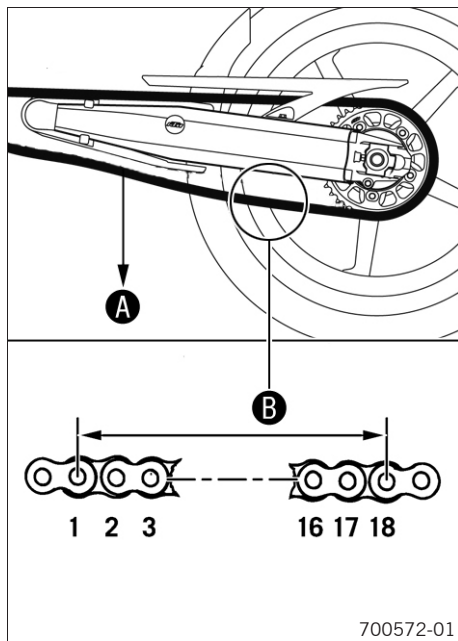
- Check the rear sprocket/engine sprocket for wear.
 - » If the rear sprocket/engine sprocket are worn:
- Change the rear sprocket/engine sprocket, chain and chain sliding guard. 



Info

The rear sprocket, engine sprocket, chain and chain sliding guard should always be changed together.

Checking chain wear



700572-01

- Shift the transmission to neutral.
- Pull the lower chain section with specified weight **A**.

Guideline

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

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

i Info

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

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

- » If distance **B** is greater than the specified measurement:
 - Change the rear sprocket/engine sprocket, chain and chain sliding guard.

i Info

When the chain is replaced, the rear sprocket and engine sprocket should also be changed.

New chains wear out faster on old, worn sprockets.

For safety reasons, the chain has no chain joint.

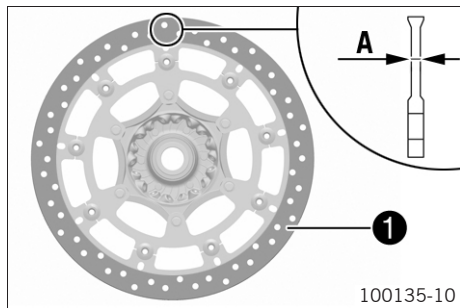
Checking the front brake discs



Warning

Danger of accidents Reduced braking efficiency due to worn brake disc(s).

- Change the worn brake disc(s) without delay. (Your authorized KTM workshop will be pleased to help.)



- Check the thickness of the brake disc in several places to see if it conforms to measurement **A**.

i Info

Wear reduces the thickness of the brake discs in area **1** of the brake discs.

Brake discs - wear limit	
Front	4.5 mm (0.177 in)

- » If the brake disc thickness is less than the specified value:
 - Change the brake discs. 🛠️
- Check the brake discs for damage, cracking and deformation.
 - » If the brake discs exhibit damage, cracking or deformation:
 - Change the brake discs. 🛠️

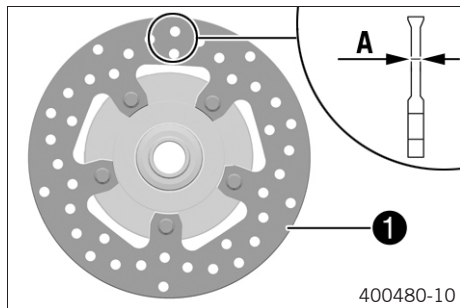
Checking the rear brake disc



Warning

Danger of accidents Reduced braking efficiency due to worn brake disc(s).

- Change the worn brake disc(s) without delay. (Your authorized KTM workshop will be pleased to help.)



- Check the thickness of the brake disc in several places to see if it conforms to measurement **A**.

i Info

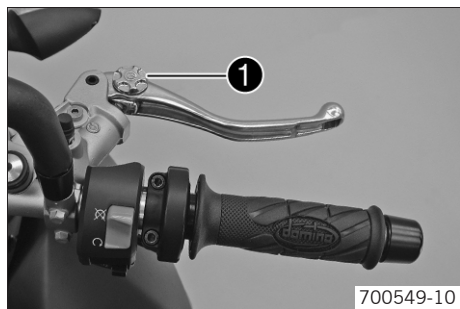
Wear reduces the thickness of the brake disc in area **1** of the brake disc.

Brake disc - wear limit

Rear	4.5 mm (0.177 in)
------	-------------------

- » If the brake disc thickness is less than the specified value:
 - Change the brake disc.
- Check the brake disc for damage, cracking and deformation.
 - » If damage, cracks or deformation are visible on the brake disc:
 - Change the brake discs.

Adjusting the basic position of the hand brake lever



- Pull the brake lever forwards.
- Adjust the basic setting of the hand brake lever to your hand size by turning adjusting wheel **1**.

i Info

Do not make any adjustments while riding!

Checking the front brake fluid level



Warning

Danger of accidents Failure of the brake system.

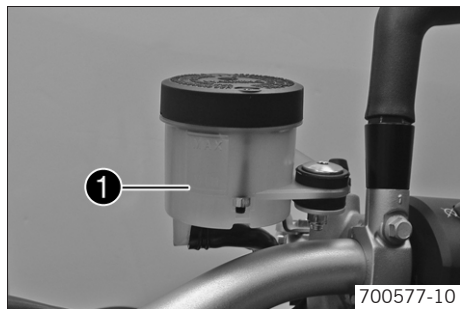
- If the brake fluid level falls below the **MIN** mark, this indicates a leakage in the brake system or worn-out brake linings. Check the brake system and do not continue riding. (Your authorized KTM workshop will be pleased to help.)



Warning

Danger of accidents Reduced braking efficiency due to old brake fluid.

- Change the brake fluid of the front and rear brakes according to the service schedule. (Your authorized KTM workshop will be pleased to help.)



- Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
- Check the brake fluid level in the brake fluid reservoir ①.
 - » If the brake fluid is below the **MIN** marking:
 - Add front brake fluid. 🛠️ (📖 p. 84)

Adding front brake fluid 🛠️



Warning

Danger of accidents Failure of the brake system.

- If the brake fluid level falls below the **MIN** mark, this indicates a leakage in the brake system or worn-out brake linings. Check the brake system and do not continue riding. (Your authorized KTM workshop will be pleased to help.)



Warning

Skin irritation Brake fluid can cause skin irritation on contact.

- Avoid contact with skin and eyes, and keep out of the reach of children.
- Wear suitable protective clothing and goggles.
- If brake fluid gets into your eyes, rinse thoroughly with water and contact a doctor immediately.



Warning

Danger of accidents Reduced braking efficiency due to old brake fluid.

- Change the brake fluid of the front and rear brakes according to the service schedule. (Your authorized KTM workshop will be pleased to help.)



Warning

Environmental hazard Hazardous substances cause environmental damage.

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

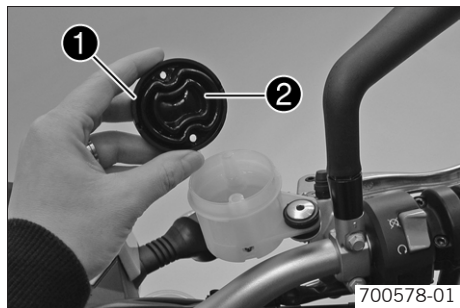


Info

Never use DOT 5 brake fluid! This is based on silicone oil and is colored purple. 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!

Use only clean brake fluid from a sealed container!



- Loosen screw.
- Remove cover ❶ with membrane ❷.
- Add brake fluid to **MAX** level.

Brake fluid DOT 4 / DOT 5.1 (🔧 p. 193)

- Position the cover with the membrane. Mount and tighten the screws.



Info

Clean up overflowed or spilt brake fluid immediately with water.

Brake linings

The brake linings fitted by KTM have been tested over long periods and guarantee optimal braking characteristics. The type names of the brake linings are entered in the homologation documents.



Info

Brake linings available in accessories shops are often untested and unapproved for use on KTM vehicles. The structure and friction coefficient of the brake linings, and therefore the brake power, can vary considerably from the original KTM brake linings. If brake linings other than those supplied as originals are used, there is no guarantee that they correspond to the original homologation. The vehicle then no longer corresponds to the condition at delivery and the guarantee is no longer valid.

Checking the front brake linings



Warning

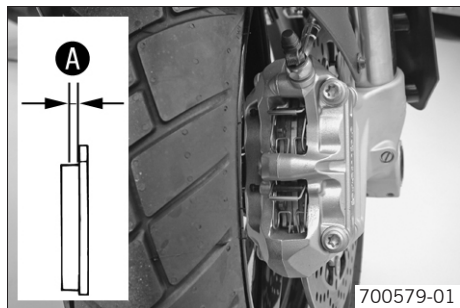
Danger of accidents Reduced braking efficiency caused by worn brake linings.

- Change worn brake linings immediately. (Your authorized KTM workshop will be pleased to help.)

Note

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

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



(Supermoto, Supermoto T)

- Check all brake linings on both brake calipers to ensure they have minimum thickness **A**.

Minimum thickness A	$\geq 1 \text{ mm } (\geq 0.04 \text{ in})$
----------------------------	---

» If the minimum thickness is less than specified:

- Change the front brake linings. 

- Check all brake linings on both brake calipers for damage and cracking.

» If damage or wear is encountered:

- Change the front brake linings. 

(Supermoto R)

- Check all brake linings on both brake calipers to ensure they have minimum thickness **A**.

Minimum thickness A	$\geq 1 \text{ mm } (\geq 0.04 \text{ in})$
----------------------------	---

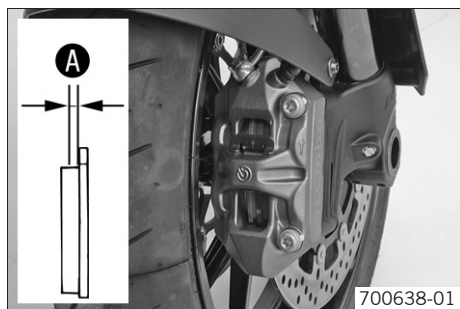
» If the minimum thickness is less than specified:

- Change the front brake linings. 

- Check all brake linings on both brake calipers for damage and cracking.

» If damage or wear is encountered:

- Change the front brake linings. 



Checking the rear brake fluid level



Warning

Danger of accidents Failure of the brake system.

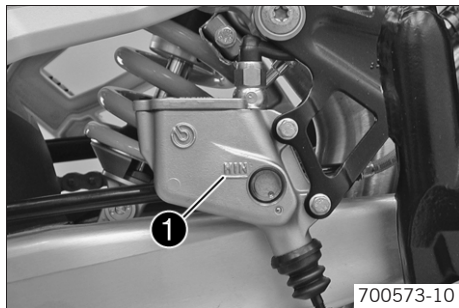
- If the brake fluid level falls below the **MIN** mark, this indicates a leakage in the brake system or worn-out brake linings. Check the brake system and do not continue riding. (Your authorized KTM workshop will be pleased to help.)



Warning

Danger of accidents Reduced braking efficiency due to old brake fluid.

- Change the brake fluid of the front and rear brakes according to the service schedule. (Your authorized KTM workshop will be pleased to help.)



- Stand the vehicle upright.
- Check the brake fluid level of the brake fluid reservoir.
 - » If the fluid level reaches the **MIN** mark ❶:
 - Add rear brake fluid. 🛠️ (📖 p. 88)

Adding rear brake fluid 🛠️



Warning

Danger of accidents Failure of the brake system.

- If the brake fluid level falls below the **MIN** mark, this indicates a leakage in the brake system or worn-out brake linings. Check the brake system and do not continue riding. (Your authorized KTM workshop will be pleased to help.)

**Warning**

Skin irritation Brake fluid can cause skin irritation on contact.

- Avoid contact with skin and eyes, and keep out of the reach of children.
- Wear suitable protective clothing and goggles.
- If brake fluid gets into your eyes, rinse thoroughly with water and contact a doctor immediately.

**Warning**

Danger of accidents Reduced braking efficiency due to old brake fluid.

- Change the brake fluid of the front and rear brakes according to the service schedule. (Your authorized KTM workshop will be pleased to help.)

**Warning**

Environmental hazard Hazardous substances cause environmental damage.

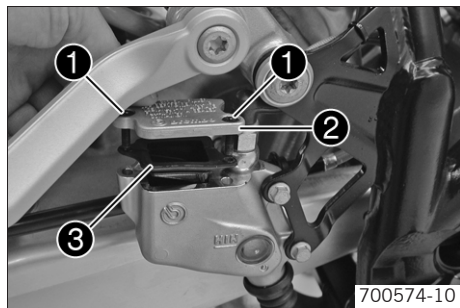
- Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

**Info**

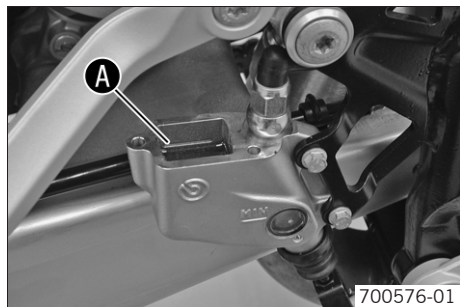
Never use DOT 5 brake fluid! This is based on silicone oil and is colored purple. Oil seals and brake lines are not designed for DOT 5 brake fluid.

Avoid contact between brake fluid and painted parts. Brake fluid attacks paint!

Use only clean brake fluid from a sealed container!



- Remove screws ❶.
- Remove cover ❷ with membrane ❸.



- Add brake fluid to level A.

Brake fluid DOT 4 / DOT 5.1 (🔧 p. 193)

- Position the cover with the membrane. Mount and tighten the screws.

i Info

Clean up overflowed or spilt brake fluid immediately with water.

Checking the rear brake linings



Warning

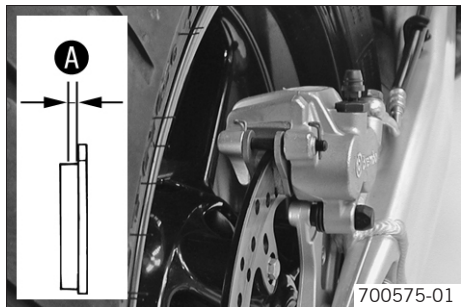
Danger of accidents Reduced braking efficiency caused by worn brake linings.

- Change worn brake linings immediately. (Your authorized KTM workshop will be pleased to help.)

Note

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

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

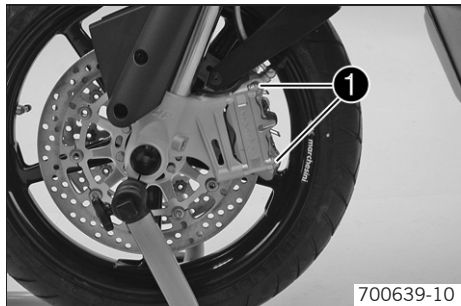


- Check the brake linings for minimum thickness **A**.

Minimum thickness A	$\geq 1 \text{ mm } (\geq 0.04 \text{ in})$
----------------------------	---

- » If the minimum thickness is less than specified:
 - Change the rear brake linings. 
- Check the brake linings for damage and cracking.
 - » If damage or wear is encountered:
 - Change the rear brake linings. 

Removing the front wheel

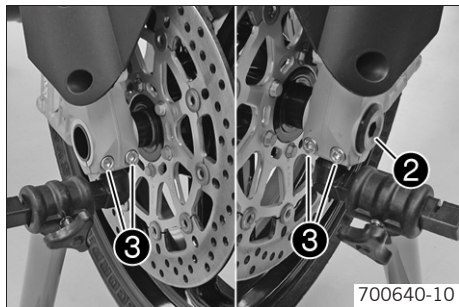


- Jack up the motorcycle at the rear. ( p. 61)
- Jack up the motorcycle at the front. ( p. 60)
- Remove the screws **1** from both brake calipers.
- Press back the brake linings with a light lateral tilting of the brake calipers on the brake disc. Pull the brake calipers carefully back from the brake discs and hang them to one side.



Info

Do not pull the hand brake lever when the brake calipers are removed.



- Loosen screws ② and ③.
- Unscrew screw ② about six turns and press your hand on the screw to push the wheel spindle out of the fork stub. Remove screw ②.



Warning

Danger of accidents Reduced braking effect caused by damaged brake discs.

- Always lay the wheel down in such a way that the brake discs are not damaged.
-
- Holding the front wheel, withdraw the wheel spindle. Take the front wheel out of the fork.

Installing the front wheel 🛠



Warning

Danger of accidents Reduced braking efficiency due to oil or grease on the brake discs.

- Always keep the brake discs free of oil and grease, and clean them with brake cleaner when necessary.



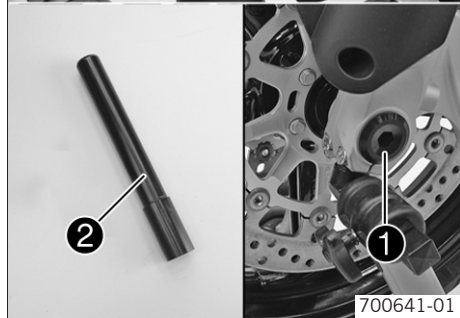
- Grease and mount the left and right spacers and the shaft seal rings.

Long-life grease (☛ p. 198)

- Clean screw ❶ and wheel spindle ❷.
- Lift the front wheel into the fork, position it, and insert the wheel spindle.
- Mount and tighten screw ❶.

Guideline

Screw, front wheel spindle	M24x1.5	45 Nm (33.2 lbf ft)
----------------------------	---------	------------------------



700641-01

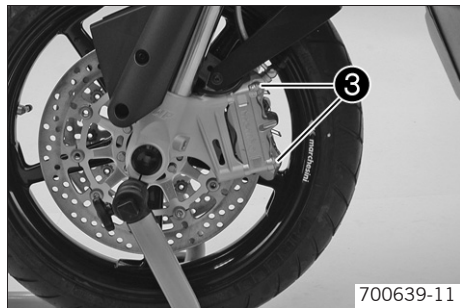
- Position the brake calipers and check that the brake linings are seated correctly.
- Mount screws ❸ on both brake calipers.
- Operate the hand brake lever several times until the brake pads are lying correctly on the brake disc.



Info

This will cause the brake caliper to align with the brake disc.

- Tighten screws ❸ on both brake calipers.



700639-11

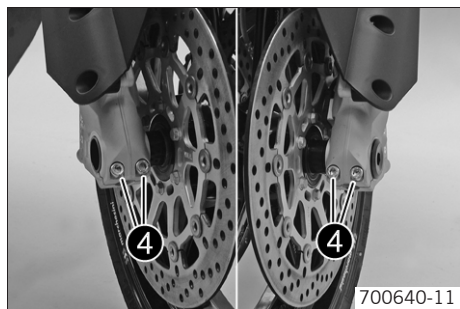
Guideline

Screw, front brake caliper	M10x1.25	45 Nm (33.2 lbf ft)	Loctite® 243™
----------------------------	----------	------------------------	----------------------

- Take the front from the work stand. (🔧 p. 60)
- Take the rear from the work stand. (🔧 p. 61)
- Pull the front brake and compress the fork powerfully a few times.
- ✓ The fork legs straighten.
- Fully tighten screws ④.

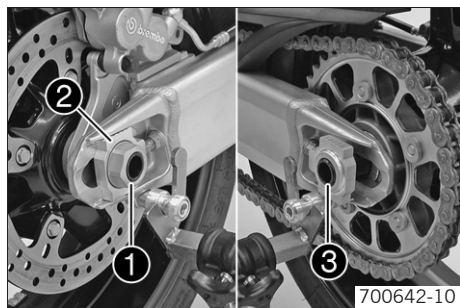
Guideline

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



Removing the rear wheel 🛠

- Jack up the motorcycle at the rear. (🔧 p. 61)
- Remove nut ①. Remove chain adjuster ②.
- Pull out wheel spindle ③ to the point where the chain adjuster is no longer in contact with the adjusting screw.





- Push the rear wheel forward as far as possible and take the chain off the rear sprocket.
- Withdraw the wheel spindle.
- Pull the rear wheel backward until the brake caliper support hangs free between the brake disc and the wheel rim.



Warning

Danger of accidents Reduced braking effect caused by damaged brake discs.

- Always lay the wheel down in such a way that the brake discs are not damaged.
-
- Take the rear wheel carefully out of the swingarm without damaging the rim and/or brake disc.



Info

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

Installing the rear wheel



Warning

Danger of accidents Reduced braking efficiency due to oil or grease on the brake discs.

- Always keep the brake discs free of oil and grease, and clean them with brake cleaner when necessary.

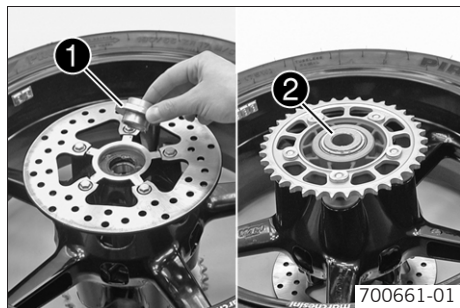


Warning

Danger of accidents No braking effect when operating the rear brake.

- After installing the rear wheel, always operate the footbrake until the pressure point is reached.

-
- Check the rear hub shock absorbers.  ( p. 97)



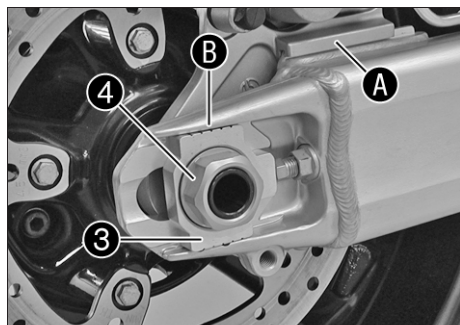
- Remove bushing ❶ and bushing ❷. Clean and grease the roll surfaces of the bushing and the shaft seal rings.

Long-life grease (☛ p. 198)

- Fit the bushings.
- Clean and grease the thread of the wheel spindle and nut.

Long-life grease (☛ p. 198)

- Clean the fixing locations on the brake caliper support and swingarm.



- Engage the counter bearing of the brake caliper support ❶ and swingarm. Lay the chain on the rear sprocket and mount the wheel spindle.
- Mount chain adjuster ❸ and nut ❹.

Info

Mount the left and right chain adjusters in the same position.

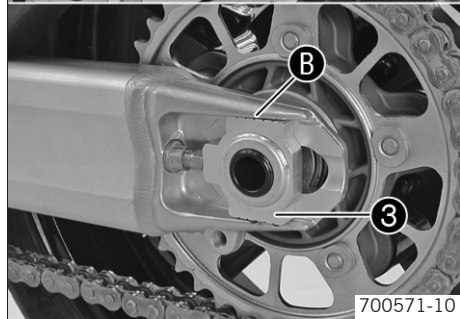
- Push the rear wheel forward so that the chain adjusters are in contact with the adjusting screws, and tighten the nut.

Guideline

In order for the rear wheel to be correctly aligned, the markings on the left and right chain adjusters must be in the same position relative to the reference marks ❷.

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

- Operate the foot brake lever repeatedly until the brake linings lie on the brake disc and there is a pressure point.
- Take the rear from the work stand. (☛ p. 61)
- Check the chain tension. (☛ p. 77)



Checking rear hub shock absorbers 🛠️



Info

The engine power is transmitted by the rear sprocket to the rear wheel through five shock absorbers. They eventually wear out during operation. If the shock absorbers are not changed in time, the rear sprocket carrier and the rear hub are damaged.



- Remove the rear wheel. 🛠️ (🔧 p. 94)
- Remove the rear sprocket carrier.
- Check the rear hub for damage and wear.
 - » If the rear hub shock absorbers are damaged or worn:
 - Change the rear hub shock absorber. 🛠️
- Position the rear sprocket carrier.



Info

A set of bolts and shock absorbers should have as little free play as possible to increase the service life of the shock absorbers.

- Install the rear wheel. 🛠️ (🔧 p. 95)

Checking the tire condition



Warning

Danger of accidents Uncontrollable handling behavior caused by a flat tire.

- For your own safety, have damaged tires changed immediately.



Warning

Danger of crashing Impairment of ride behavior due to different tire tread patterns on front and rear wheels.

- The front and rear wheels must be fitted with tires with similar tread patterns to prevent loss of control over the vehicle.



Warning

Danger of accidents Uncontrollable handling characteristics due to non-approved and/or non-recommended tires/wheels.

- Only tires/wheels approved by KTM and with the corresponding speed index should be used.



Warning

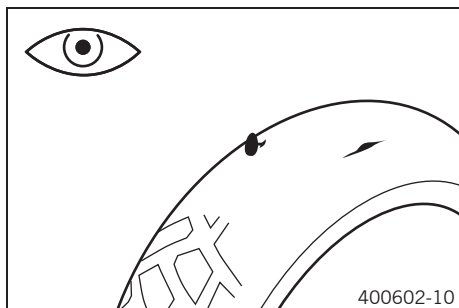
Danger of accidents Reduced road grip with new tires.

- New tires have a smooth rolling surface and therefore cannot provide full road grip. The entire rolling surface must be roughened in the first 200 kilometers (124.3 miles) by moderate riding at alternating angles. The full grip levels are not achieved until the tires have been run in.



Info

The type, condition and air pressure of the tires all have a major impact on the handling of the motorcycle. Worn tires have a negative effect on riding behavior, especially on wet surfaces.



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



Info

Note local national regulations concerning the minimum tread depth.

Minimum tread depth	≥ 2 mm (≥ 0.08 in)
---------------------	--------------------

- » If the tread depth is less than the minimum permissible depth:
 - Change the tires.
- Check the age of the tires.

i Info

The tire's date of manufacture is usually part of the tire markings and is indicated by the last four digits of the **DOT** marking. The first two digits refer to the week of manufacture and last two digits refer to the year of manufacture. KTM recommends that the tires are changed regardless of the actual wear, at the latest after five years.

- » If a tire is more than five years old:
 - Change the tires.

Checking the tire air pressure

i Info

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



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

Tire air pressure, Solo	
Front	2.2 bar (32 psi)
Rear	2.2 bar (32 psi)

Tire air pressure with passenger/full payload	
Front	2.4 bar (35 psi)
Rear	2.5 bar (36 psi)

- » If the tire pressure does not meet specifications:
 - Correct the tire pressure.

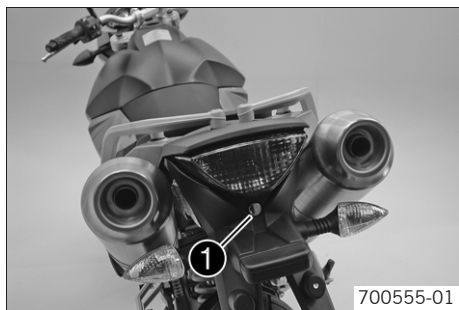
- Mount the dust cap.



Info

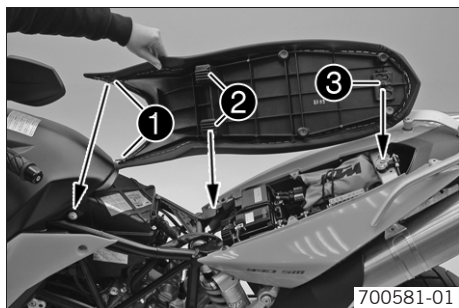
The rubber seal in the dust cap prevents air leaking out of the tire if the valve is defective.

Removing the seat



- Insert the ignition key in the seat lock **1** and turn it clockwise.
- Raise the rear of the seat, push it towards the rear, and remove it upwards.
- Remove the ignition key from the seat lock.

Mounting the seat



- Position front recesses **1** of the seat on the oval head screws of the fuel tank, lower the rear and simultaneously push it forward. Both lugs **2** must hook into the frame and locking bolt **3** must be inserted into the lock housing.
 - ✓ The seat engages with an audible click.
- Finally, check that the seat is correctly mounted.

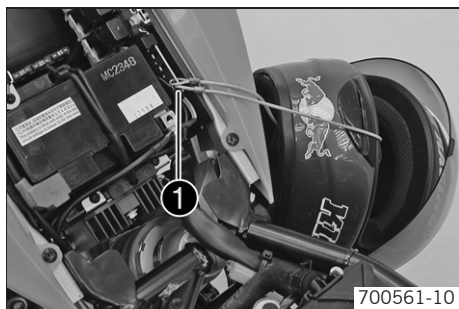
Mounting the helmet lock on the vehicle



Warning

Danger of accidents Impairment of ride behavior and vehicle operation if a helmet or helmet lock is attached to the vehicle.

- Do not use the helmet lock for holding a helmet or other objects during the journey. Always remove the helmet lock before starting out.



- Remove the seat. (🔧 p. 100)
- Position the steel cable from the tool set with one loop on the lug ❶.

Steel cable (60012015000)

- Guide the steel cable through the helmet opening.
- Then position the free loop of the steel cable on the lug.
- Position the helmet carefully on the side of the vehicle.
- Mount the seat. (🔧 p. 100)

Removing the battery 🔧



Warning

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

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

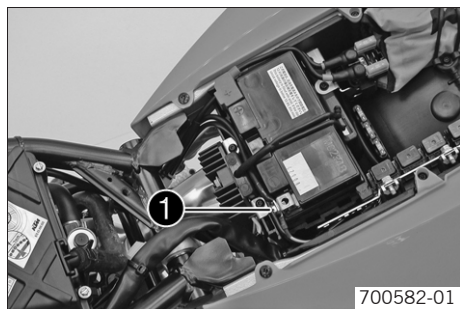


Caution

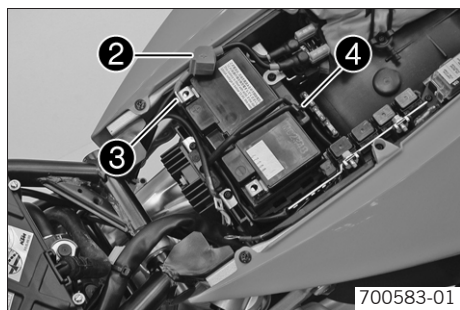
Danger of accidents If the vehicle is operated with a discharged battery or without a battery, electronic components and safety equipment may be damaged.

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

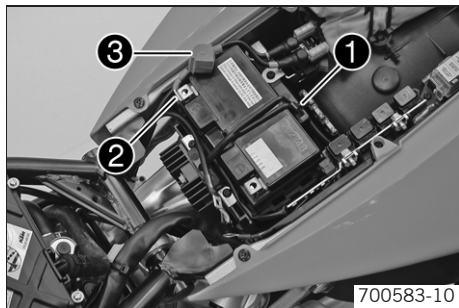
- Switch off all power consumers and the engine.
- Remove the seat. (🔧 p. 100)
- Disconnect negative (minus) cable ❶ of the battery.



- Remove positive terminal cover ❷.
- Disconnect the positive (plus) cable ❸ of the battery.
- Detach rubber band ❹.
- Pull the battery up and out of the battery rack.



Installing the battery 🛠️



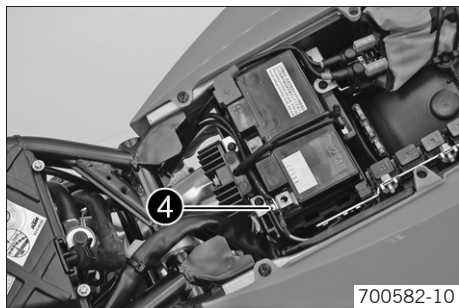
- Position the battery in the battery rack.



Info

The terminals of the battery must face in the direction of travel.

- Attach rubber band ①.
- Reconnect the positive (plus) ② cable of the battery.
- Position positive terminal cover ③.



- Reconnect the negative (minus) cable ④ of the battery.
- Mount the seat. (🔧 p. 100)
- Set the clock. (🔧 p. 29)

Recharging the battery



Warning

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

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



Warning

Environmental hazard Battery parts and acid are harmful to the environment.

- Do not discard batteries with the household trash. Dispose of a defective battery in an environmentally compatible manner. Give the battery to your KTM dealer or to a recycling center that accepts used batteries.



Warning

Environmental hazard Hazardous substances cause environmental damage.

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



Info

Even when there is no load on the battery, it still loses power steadily.

The charge state and the type of charge are very important for the service life of the battery.

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

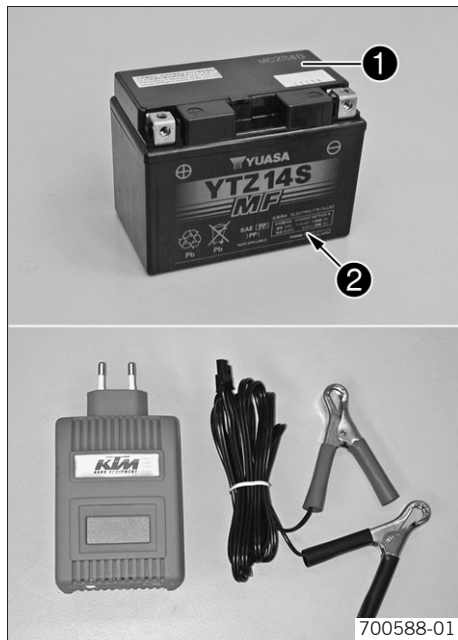
If the charging current, charging voltage and charging time are exceeded, electrolyte escapes through the safety valves. This reduces the battery capacity.

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

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

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

-
- Switch off all power consumers and the engine.
 - Remove the seat. (🔧 p. 100)
 - Disconnect the negative (minus) cable of the battery to avoid damage to the motorcycle's electronics.



700588-01

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

Battery charger (58429074000)

You can also use the battery charger to test the rest potential and start potential of the battery, and to test the generator. With this device, you cannot overcharge the battery.



Info

Never remove lid ①.

Charge the battery with a maximum of 10% of the capacity specified on the battery housing ②.

- Switch off the charger after charging. Disconnect the battery.

Guideline

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

Charge the battery regularly when the motorcycle is not in use

3 months

- Mount the seat. (🔧 p. 100)

Changing the main fuse



Warning

Fire hazard The electrical system can be overloaded by the use of incorrect fuses.

- Use only fuses with the prescribed amperage. Never by-pass or repair fuses.



Info

The main fuse protects all power consumers of the vehicle. The main fuse is under the seat.

- Switch off all power consumers and the engine.
- Remove the seat. (🔧 p. 100)
- Remove protection covers ❶.
- Remove the faulty main fuse ❷.



Info

A defective fuse can be identified by the burned-out fuse wire **A**.
A reserve fuse ❸ is located in the starter relay.

- Install a new main fuse.

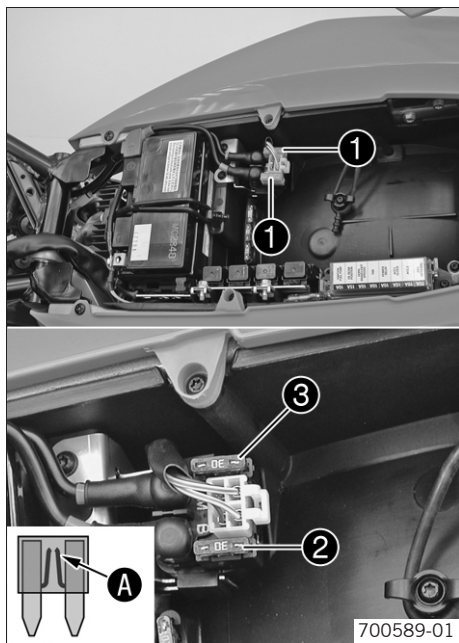
Fuse (58011109130) (🔧 p. 180)



Tip

Place the spare fuse in the starter relay so that it is available if needed.

- Attach the protection covers ❶.
- Mount the seat. (🔧 p. 100)



Changing the fuses of individual power consumers



Warning

Fire hazard The electrical system can be overloaded by the use of incorrect fuses.

- Use only fuses with the prescribed amperage. Never by-pass or repair fuses.



Info

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

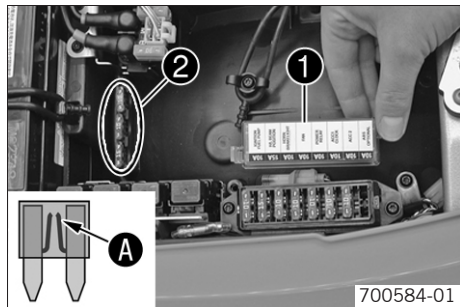
- Switch off all power consumers and the engine.
- Remove the seat. (👉 p. 100)
- Open fuse box cover ❶.
- Check the fuses.



Info

A defective fuse can be identified by the burned-out fuse wire **A**.
Spare fuses **❷** are also found in the storage compartment.

- Remove the faulty fuse.



Guideline

Fuse IGNITION, FUEL PUMP - 10A - ignition, fuel pump, immobilizer, alarm system (optional)
Fuse H/L BEAM, POSITION - 15A - high beam, low beam, parking light, license plate lamp
Fuse HORN, BRAKE LIGHT - 10A - horn, brake light, hazard warning flasher
Fuse FAN - 10A - radiator fan
Fuse POWER RELAY - 10A - ignition (EFI control unit)
Fuse ACC1, CLOCK - 10A - combination instrument, socket, supplementary devices (permanent positive), alarm system (optional)
Fuse ACC2 - 10A - supplementary equipment (accessories connected to the ignition switch)
Fuse ABS, OPTIONAL - not used

- Use spare fuses with the correct rating only.

Fuse (58011109110) (☞ p. 180)
Fuse (58011109115) (☞ p. 180)



Tip

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

- Close the fuse box cover.
- Mount the seat. (☞ p. 100)

Changing the headlight bulb

Note

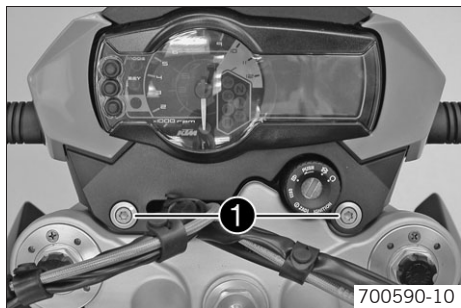
Damage to reflector Reduced luminance.

- Grease on the bulb will evaporate due to the heat and be deposited on the reflector. Clean the bulb and keep it free of grease before mounting.

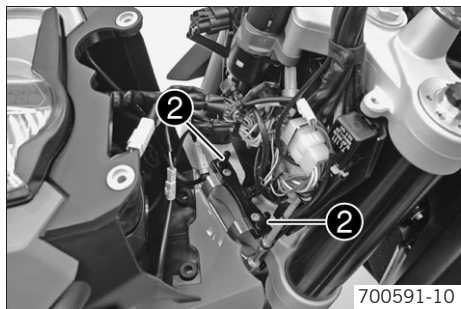
- Switch off all power consumers and the engine.

(Supernova, Supernova R)

- Remove screws ❶.



- Cover the fender with a cloth.
- Swing the headlight mask forward and pull it upward out of holding lugs ❷.





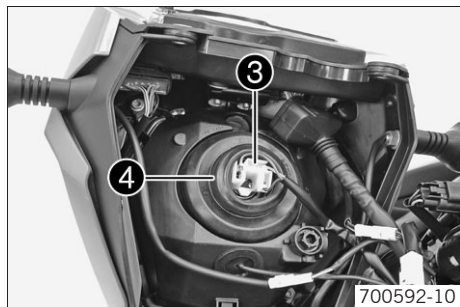
(Supernova T)

- Remove the cover.

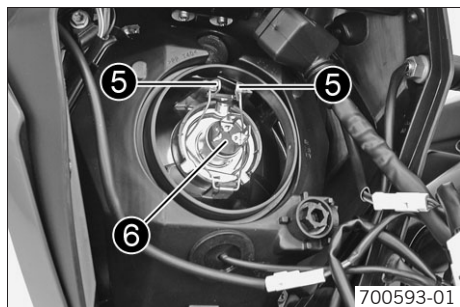


Info

For purposes of illustration only, the following steps are shown with the headlight mask removed for this model. Removal is not necessary.



- Disconnect plug-in connector ③.
- Remove rubber cap ④.



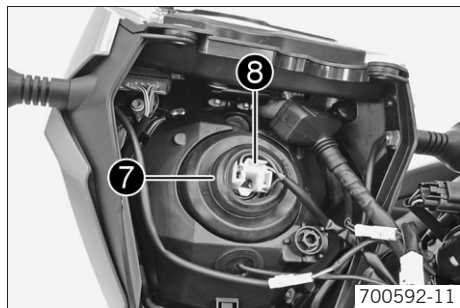
- Push off retaining clamp ⑤ on both sides, squeeze and fold down.
- Remove headlight bulb ⑥.
- Position the new headlight bulb in the headlight housing.

Low beam/high beam (H4/socket P43t) (☛ p. 181)

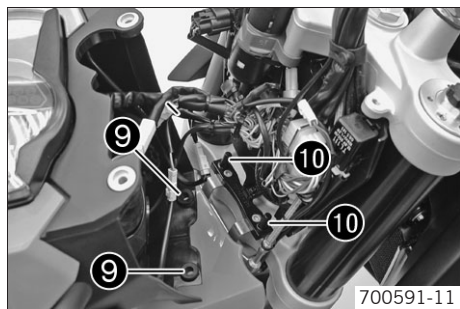


Info

Insert the headlight bulb so that the bayonet lugs latch into the slots.

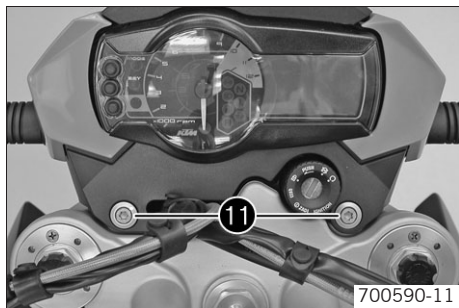


- Position the retaining clamp.
- Mount rubber cap 7.
- Position plug-in connection 8.



(Supermoto, Supermoto R)

- Position holes 9 onto holding lugs 10.



- Position the headlight mask. Mount and tighten screws 11.

Guideline

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



(Supermoto T)

- Mount the cover.
- Check that the lighting is functioning properly.

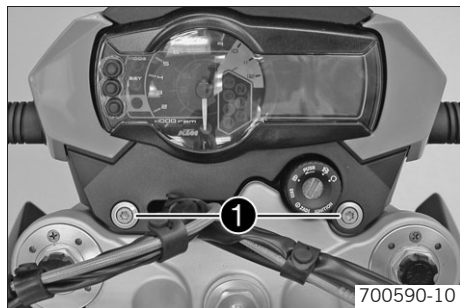
Changing the parking light bulb

Note

Damage to reflector Reduced luminance.

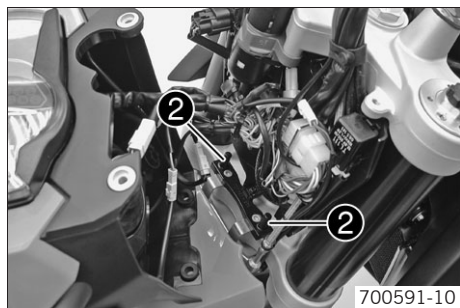
- Grease on the bulb will evaporate due to the heat and be deposited on the reflector. Clean the bulb and keep it free of grease before mounting.

- Switch off all power consumers and the engine.



(Supermoto, Supermoto R)

- Remove screws ①.



- Cover the fender with a cloth.
- Swing the headlight mask forward and pull it upward out of holding lugs ②.



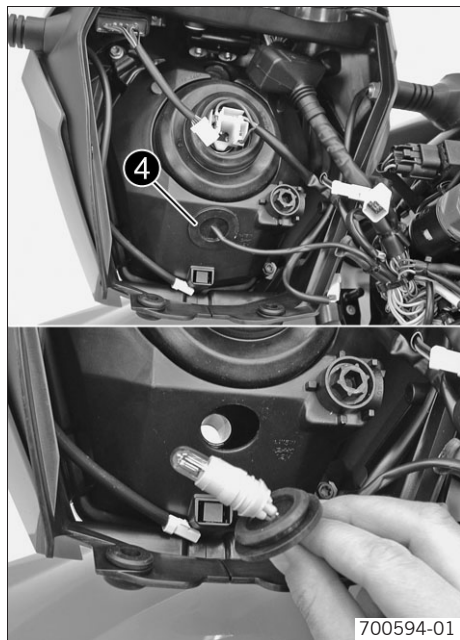
(Supermoto T)

- Remove the cover.



Info

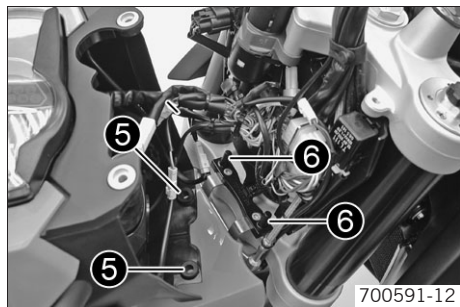
For purposes of illustration only, the following steps are shown with the headlight mask removed for this model. Removal is not necessary.



- Pull the parking light ④ carefully out of the holder.
- Remove the bulb.
- Position a new light bulb in the holder.

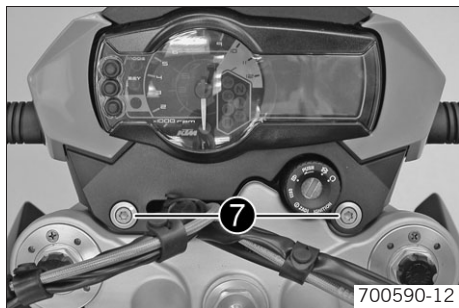
Parking light (W5W/socket W2.1x9.5d) (☛ p. 181)

- Carefully position the holder with the bulb into the holder in the headlight.



(Supermoto, Supermoto R)

- Position holes ⑤ onto holding lugs ⑥.



- Position the headlight mask. Mount and tighten screws 7.

Guideline

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



(Supermoto T)

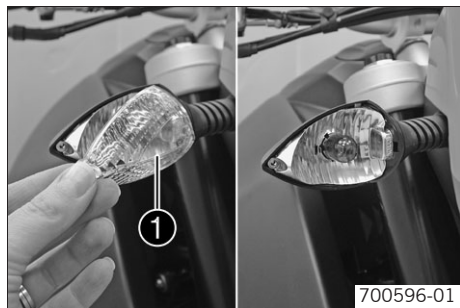
- Mount the cover.
- Check that the lighting is functioning properly.

Changing the turn signal bulb

Note

Damage to reflector Reduced luminance.

- Grease on the bulb will evaporate due to the heat and be deposited on the reflector. Clean the bulb and keep it free of grease before mounting.



- Remove the screw on the rear of the turn signal housing.
- Carefully remove diffuser ❶.
- Press bulb ❷ carefully into the socket, turn it counterclockwise by about 30°, and pull it out of the socket.
- Press the new bulb carefully into the socket and turn it clockwise until it stops.

Turn signal (RY10W/socket BAU15s) (🔧 p. 181)

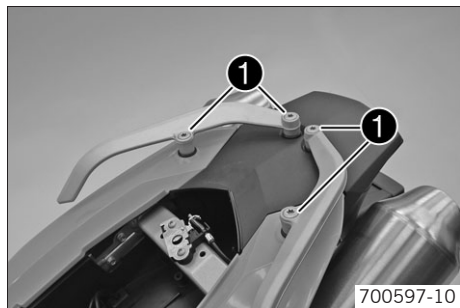
- Check the turn signal to make sure it is functioning properly.
- Position the diffuser.
- Insert the screw and first turn it counterclockwise until it engages in the thread. Tighten the screw slightly.

Changing the brake light bulb

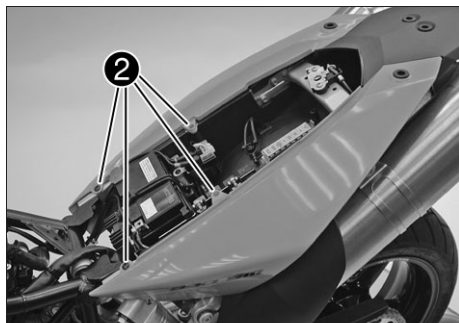
Note

Damage to reflector Reduced luminance.

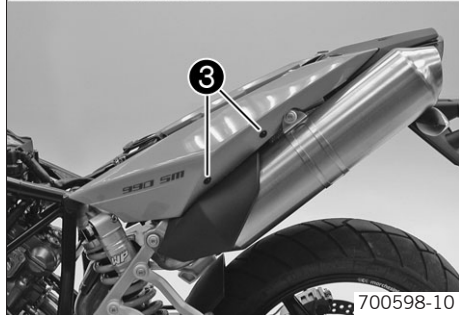
- Grease on the bulb will evaporate due to the heat and be deposited on the reflector. Clean the bulb and keep it free of grease before mounting.



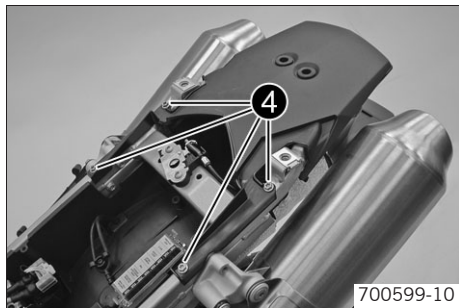
- Remove screws ❶.
- Remove the grab handles.

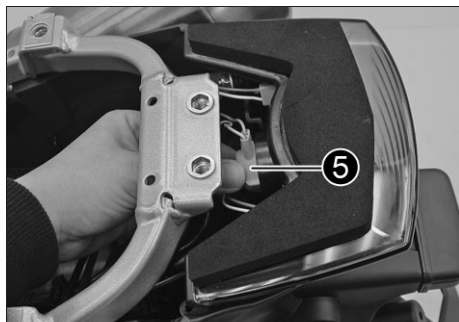


- Remove screws ②.
- Remove screws ③ on the left and right rear side part.
- Remove the rear side part.



- Remove screws ④.
- Remove the top part.





- Turn bulb socket ⑤ counterclockwise all the way and take it out of the tail light.
- Push the bulb carefully into the socket, turn it counterclockwise and pull it out of the socket.

- Press the new bulb carefully into the socket and turn it clockwise until it stops.

Brake light (PR21W/socket BAW15s) (☛ p. 181)

- Insert the bulb socket into the tail light and turn clockwise until it stops.



700600-10

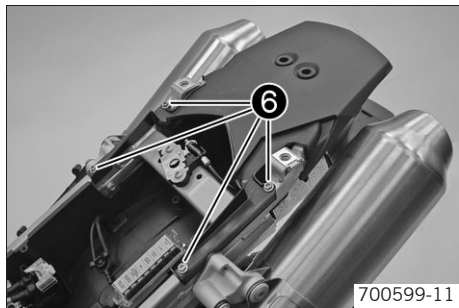
- Position the rear top part.
- Mount and tighten screws ⑥.

Guideline

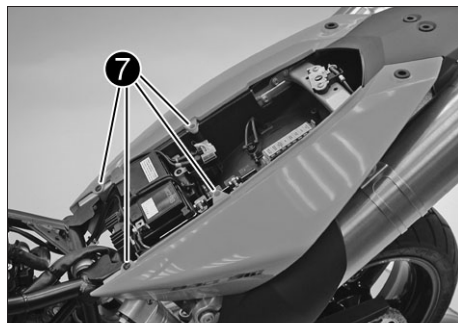
Remaining chassis screws

M6

10 Nm (7.4 lbf ft)



700599-11

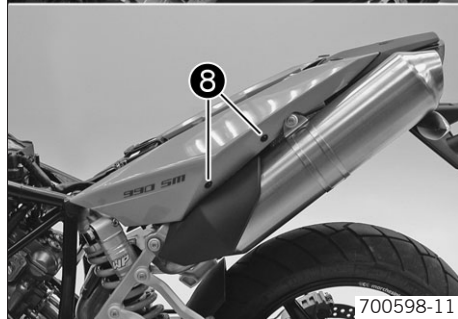


- Position the rear side parts.
- Mount and tighten screws 7.

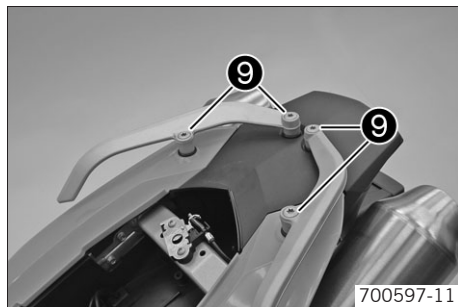
Guideline

Remaining chassis screws	M5	5 Nm (3.7 lbf ft)
--------------------------	----	-------------------

- Mount and tighten screws 8 on the left and right rear side part.



700598-11



700597-11

- Position the grab handles.
- Mount and tighten screws 9.

Guideline

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

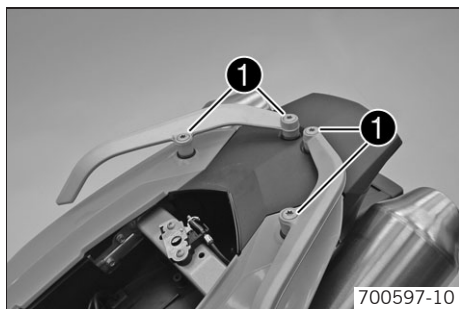
- Mount the seat. (☛ p. 100)
- Check that the brake light system is functioning properly.

Changing the tail light bulbs

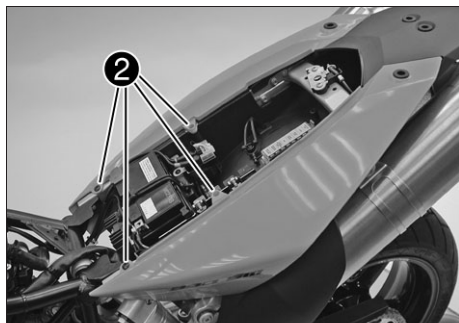
Note

Damage to reflector Reduced luminance.

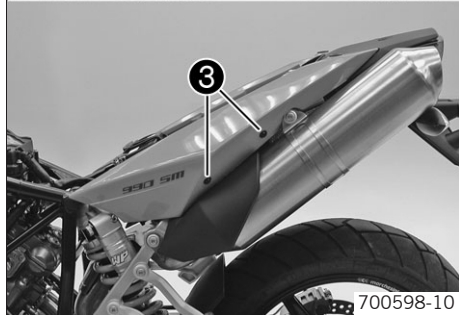
- Grease on the bulb will evaporate due to the heat and be deposited on the reflector. Clean the bulb and keep it free of grease before mounting.



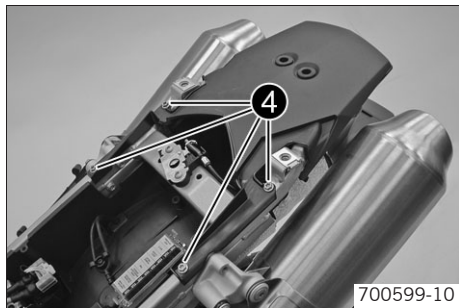
- Remove screws ❶.
- Remove the grab handles.

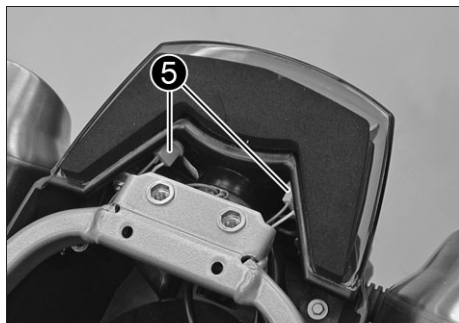


- Remove screws ②.
- Remove screws ③ on the left and right rear side part.
- Remove the rear side part.



- Remove screws ④.
- Remove the top part.

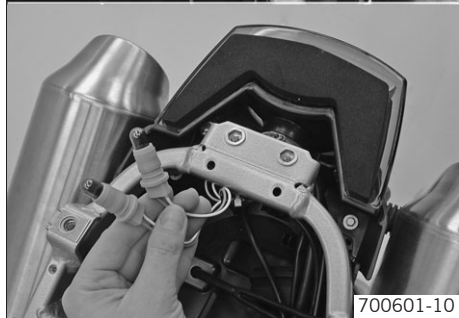




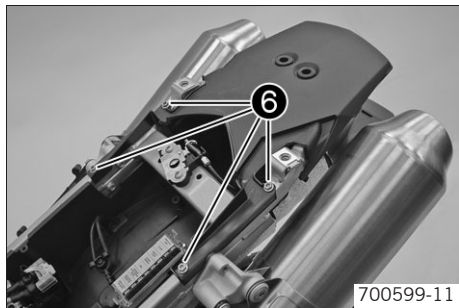
- Pull bulb holders ⑤ carefully out of the bracket.
- Remove the bulb.
- Position a new light bulb in the holder.

Tail light (WR5W/socket W2.1x9.5d) (☛ p. 181)

- Carefully position the holders with the bulbs into the holder in the tail light.



700601-10



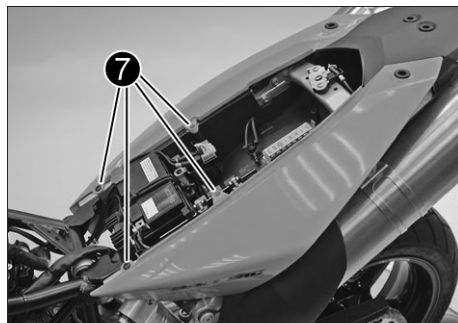
- Position the rear top part.
- Mount and tighten screws ⑥.

Guideline

Remaining chassis screws

M6

10 Nm (7.4 lbf ft)

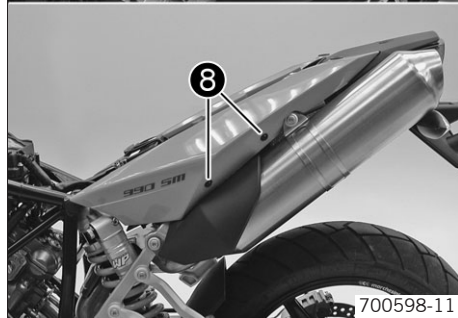


- Position the rear side parts.
- Mount and tighten screws 7.

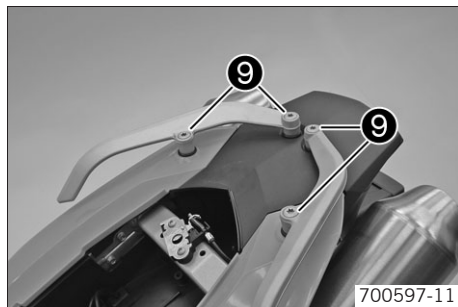
Guideline

Remaining chassis screws	M5	5 Nm (3.7 lbf ft)
--------------------------	----	-------------------

- Mount and tighten screws 8 on the left and right rear side part.



700598-11



700597-11

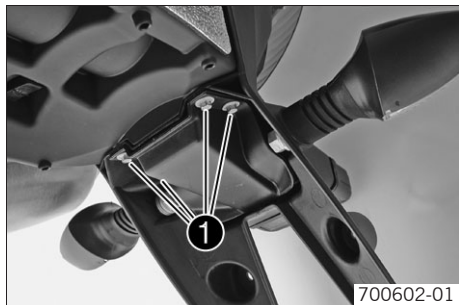
- Position the grab handles.
- Mount and tighten screws 9.

Guideline

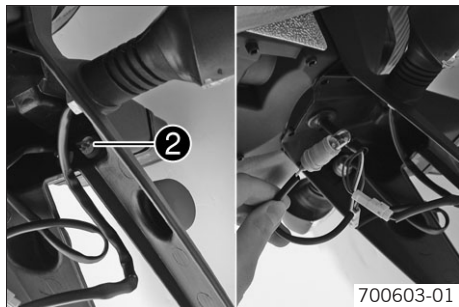
Remaining chassis screws	M8	25 Nm (18.4 lbf ft)
--------------------------	----	------------------------

- Mount the seat. (☛ p. 100)
- Check that the tail light bulbs are functioning properly.

Changing the license plate lamp



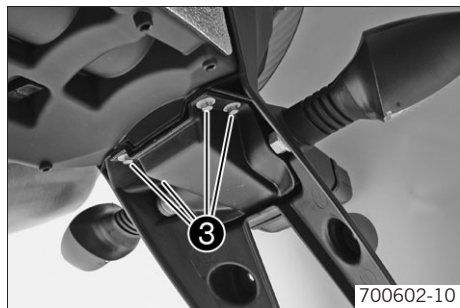
- Remove screws ❶.
- Remove the license plate lamp cover.



- Pull holder ❷ carefully out of the bracket.
- Remove the bulb.
- Position a new light bulb in the holder.

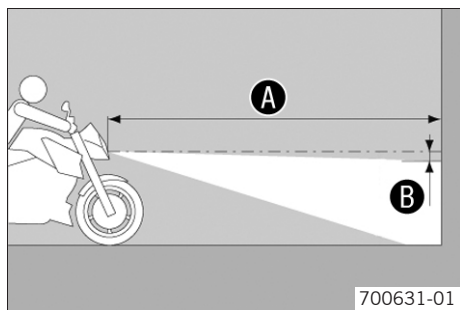
License plate lamp (W5W/socket W2.1x9.5d) (🔧 p. 181)

- Carefully position the holder with the bulb into the bracket.



- Position the cover.
- Mount and tighten screws ③.
- Check that the license plate lamp is functioning properly.

Checking the headlamp setting



- On a light-colored wall behind a horizontal area, make a mark as high as the center of the low beam headlight.
- Make another mark at a distance of ⑤ under the first mark.

Guideline

Distance ⑤	5 cm (2 in)
------------	-------------

- Position the motorcycle at a distance of ④ away from the wall. The rider, with luggage and passenger if applicable, now mounts the motorcycle.

Guideline

Distance ④	5 m (16 ft)
------------	-------------

- Switch on the low beam. Check the headlamp setting.

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

- » If the boundary between light and dark does not meet specifications:
 - Adjust the headlamp range. (➡ p. 127)

Adjusting headlamp range



- Check the headlamp setting. (☛ p. 126)

(Supermoto, Supermoto R)

- Turn screw ① to adjust the headlight range.

Guideline

For a motorcycle with rider, and with luggage and a passenger if applicable, the light/dark boundary must be exactly on the lower mark (applied in: Checking headlight adjustment).



Info

Turn clockwise to increase the light range, turn counterclockwise to reduce the light range.

(Supermoto T)

- Turn adjusting wheel ② to adjust the headlight range.

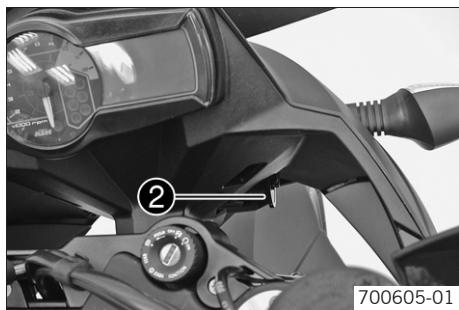
Guideline

For a motorcycle with rider, and with luggage and a passenger if applicable, the light/dark boundary must be exactly on the lower mark (applied in: Checking headlight adjustment).



Info

Turning up increases the range, while turning down decreases the range.
Do not make any adjustments while riding!



Activating/deactivating the ignition key

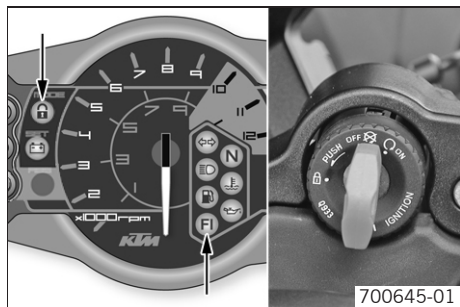


Info

The orange programming key must only be used for activating and deactivating!

If a black ignition key is lost or replaced, the black ignition keys must be activated/deactivated using the orange programming key. This will also prevent the vehicle from being operated without authorization with the lost black ignition key.

You can activate or deactivate up to four black ignition keys. Only the black ignition keys trained during an activation procedure are valid. All black ignition keys not trained in the activation procedure are invalid, but can be retrained in a further activation procedure.



Loss of a black ignition key (second black ignition key available):

The following procedure deactivates all activated black ignition keys that are not included in the procedure.

- Press the emergency OFF switch into the position ○.
- Insert the orange programming key in the ignition lock.
- Switch on the ignition by turning the orange programming key to the **ON** position ○.
- ✓ **FI** Warning lamp ⑤ (**MIL**) lights up, switches off, and then starts to flash.
- ✓ Immobilizer indicator lamp ⑥ lights up.
- Switch off the ignition by turning the orange programming key to the **OFF** position ⊗.
- Pull out the programming key.
- Insert the black ignition key in the ignition lock.
- Switch on the ignition by turning the ignition key to the **ON** ○ position.
- ✓ **FI** Warning lamp ⑤ (**MIL**) lights up, switches off, and then starts to flash.
- ✓ Immobilizer indicator lamp ⑥ lights up, switches off briefly, and lights up again.
- Switch off the ignition by turning the ignition key to the **OFF** ⊗ position.
- Remove the black ignition key.

- Insert the orange programming key in the ignition lock.
- Switch on the ignition by turning the orange programming key to the **ON** position ○.
- ✓ **FI** Warning lamp ⑤ (**MIL**) lights up, switches off, and then starts to flash.
- ✓ Immobilizer indicator lamp ⑥ lights up, switches off briefly and flashes; the number of flashes equals the number of functional black ignition keys including the orange programming key. In this case, twice.
- Switch off the ignition by turning the orange programming key to the **OFF** position ☒.
- Pull out the programming key.
- ✓ The lost black ignition key is deactivated.
- ✓ The existing black ignition key is reactivated.

Loss of both black ignition keys (no black ignition key available):

This procedure is important to prevent misuse of the lost black ignition key.

- Press the emergency OFF switch into the position ○.
- Insert the orange programming key in the ignition lock.
- Switch on the ignition by turning the orange programming key to the **ON** position ○.
- ✓ **FI** Warning lamp ⑤ (**MIL**) lights up, switches off, and then starts to flash.
- ✓ Immobilizer indicator lamp ⑥ lights up.
- Switch off the ignition by turning the orange programming key to the **OFF** position ☒.
- Switch on the ignition by turning the orange programming key to the **ON** position ○.
- ✓ **FI** Warning lamp ⑤ (**MIL**) lights up, switches off, and then starts to flash.
- ✓ Immobilizer indicator lamp ⑥ lights up, switches off briefly and flashes; the number of flashes equals the number of functional black ignition keys including the orange programming key. In this case once, since all black ignition keys are deactivated.
- Switch off the ignition by turning the orange programming key to the **OFF** position ☒.
- Pull out the programming key.

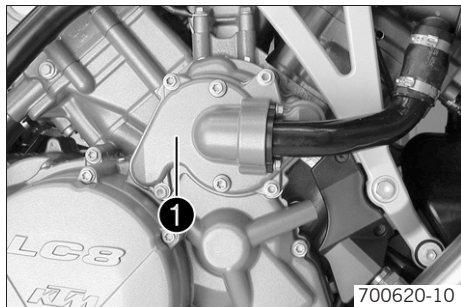
- ✓ All black ignition keys are deactivated.
- Order a new black ignition key according to the key number on the **KEYCODECARD** and activate it.

Activating the ignition key:

- Press the emergency OFF switch into the position ○.
- Insert the orange programming key in the ignition lock.
- Switch on the ignition by turning the orange programming key to the **ON** position ○.
- ✓ **FI** Warning lamp ⑤ (**MIL**) lights up, switches off, and then starts to flash.
- ✓ Immobilizer indicator lamp ⑥ lights up.
- Switch off the ignition by turning the orange programming key to the **OFF** position ⊗.
- Pull out the programming key.
- Insert the black ignition key in the ignition lock.
- Switch on the ignition by turning the ignition key to the **ON** ○ position.
- ✓ **FI** Warning lamp ⑤ (**MIL**) lights up, switches off, and then starts to flash.
- ✓ Immobilizer indicator lamp ⑥ lights up, switches off briefly, and lights up again.
- Switch off the ignition by turning the ignition key to the **OFF** ⊗ position.
- Remove the black ignition key.
- To activate further ignition keys, repeat the last 4 steps with the respective ignition key.
- Insert the orange programming key in the ignition lock.
- Switch on the ignition by turning the orange programming key to the **ON** position ○.
- ✓ **FI** Warning lamp ⑤ (**MIL**) lights up, switches off, and then starts to flash.
- ✓ Immobilizer indicator lamp ⑥ lights up, switches off briefly and flashes; the number of flashes equals the number of functional black ignition keys including the orange programming key.

- Switch off the ignition by turning the orange programming key to the **OFF** position ☒.
- Pull out the programming key.
- ✓ All black ignition keys are activated included in this job sequence are activated.

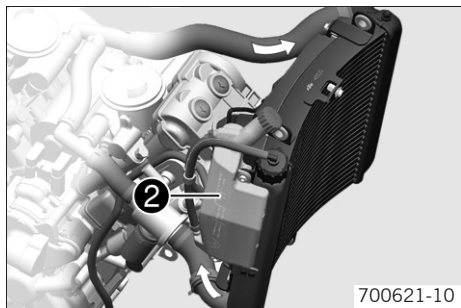
Cooling system



The water pump ❶ in the engine forces the coolant to flow.

The pressure in the cooling system resulting from heat is regulated by a valve in the radiator cap. This permits the specified coolant temperature without causing any malfunctions.

125 °C (257 °F)



Cooling takes place by means of the air stream and a radiator fan, which is controlled by a thermostat.

The lower the speed, the less the cooling effect. Dirty cooling fins also reduce the cooling effect.

The heat expansion causes the surplus coolant to flow into the compensating tank ❷. When the temperature falls, this surplus coolant is sucked back into the cooling system.

Checking the coolant level in the compensating tank



Warning

Scalding hazard During motorcycle operation, the coolant gets very hot and is under pressure.

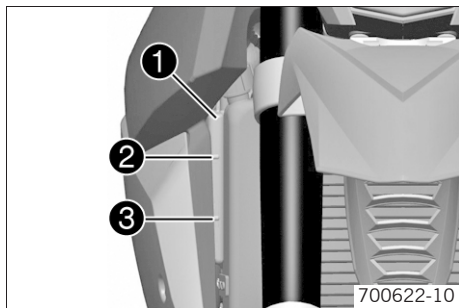
- Do not open the radiator, radiator hoses and other components of the cooling system while the engine is warm. Let the engine and cooling system cool down first. If you get scalded, immediately flush the affected areas with lukewarm water.



Warning

Danger of poisoning Coolants are poisonous and a health hazard.

- Avoid contact between coolants and skin, eyes and clothing. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If coolant is swallowed, contact a doctor immediately. Change clothes that have come into contact with coolants. Keep coolants out of the reach of children.



Condition

The engine is cold.

The radiator is completely full.

- Stand the motorcycle on a horizontal surface.
- Check the coolant level in the compensating tank ①.

The coolant level must be between the upper ② and lower ③ marking.

- » If there is no coolant in the compensating tank:
 - Check the cooling system for leaks. 🛠



Info

Do not start up the motorcycle!

- Fill/bleed the cooling system. 🛠 (📖 p. 137)
- » If the coolant level in the compensating tank does not meet specifications, but the tank is not empty:

- Remove the compensating tank cap.
- Add coolant to the upper marking.

Alternative 1

Coolant (☛ p. 193)

Alternative 2

Coolant (mixed ready to use) (☛ p. 193)

- Mount the cap of the compensating tank.

Checking the coolant level in the radiator



Warning

Scalding hazard During motorcycle operation, the coolant gets very hot and is under pressure.

- Do not open the radiator, radiator hoses and other components of the cooling system while the engine is warm. Let the engine and cooling system cool down first. If you get scalded, immediately flush the affected areas with lukewarm water.

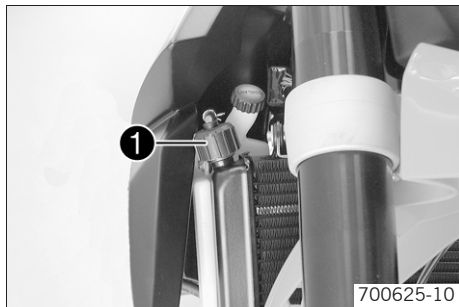


Warning

Danger of poisoning Coolants are poisonous and a health hazard.

- Avoid contact between coolants and skin, eyes and clothing. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If coolant is swallowed, contact a doctor immediately. Change clothes that have come into contact with coolants. Keep coolants out of the reach of children.

- Check the coolant level in the compensating tank. (☛ p. 132)
- Reset the fuel tank. (☛ p. 139)



Condition

The engine is cold.

- Position the motorcycle on a level surface.
- Remove radiator cap ❶.
- Check the coolant level in the radiator.

The radiator must be completely filled.

» If the coolant level does not meet specifications:

Coolant loss: < 0.50 l (< 0.53 qt.)

- Check the cooling system for leaks. 🛠
- Correct the coolant level.

Alternative 1

Coolant (🛠 p. 193)

Alternative 2

Coolant (mixed ready to use) (🛠 p. 193)

» If the coolant level does not meet specifications:

Coolant loss: > 0.50 l (> 0.53 qt.)

- Check the cooling system for leaks. 🛠
- Fill/bleed the cooling system. 🛠 (🛠 p. 137)
- Mount the radiator cap.

Checking the antifreeze 🛠



Warning

Scalding hazard During motorcycle operation, the coolant gets very hot and is under pressure.

- Do not open the radiator, radiator hoses and other components of the cooling system while the engine is warm. Let the engine and cooling system cool down first. If you get scalded, immediately flush the affected areas with lukewarm water.



Warning

Danger of poisoning Coolants are poisonous and a health hazard.

- Avoid contact between coolants and skin, eyes and clothing. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If coolant is swallowed, contact a doctor immediately. Change clothes that have come into contact with coolants. Keep coolants out of the reach of children.

Condition

The engine is cold.

- Rest the motorcycle on its side stand on a horizontal surface.
- Reset the fuel tank. (🔧 p. 139)
- Remove radiator cap ❶ and plug ❷ from the compensating tank.
- Check the coolant antifreeze.

–25... -45 °C (-13... -49 °F)

- » If the coolant antifreeze does not meet specifications:
 - Correct the coolant antifreeze.

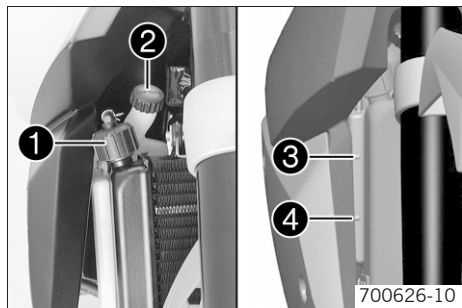
- Add coolant to the specified level.

Guideline

The radiator must be completely filled.

The coolant level in the compensating tank must be between the upper ❸ and lower ❹ marking.

- Replace the compensating tank cap and the radiator cap.
- Position the fuel tank. (🔧 p. 140)



Draining the coolant



Warning

Scalding hazard During motorcycle operation, the coolant gets very hot and is under pressure.

- Do not open the radiator, radiator hoses and other components of the cooling system while the engine is warm. Let the engine and cooling system cool down first. If you get scalded, immediately flush the affected areas with lukewarm water.



Warning

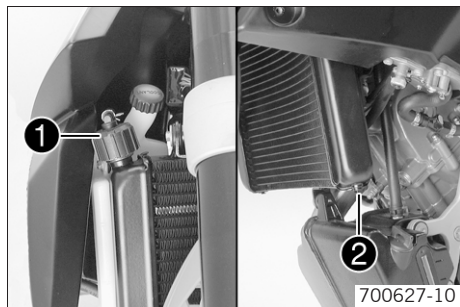
Danger of poisoning Coolants are poisonous and a health hazard.

- Avoid contact between coolants and skin, eyes and clothing. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If coolant is swallowed, contact a doctor immediately. Change clothes that have come into contact with coolants. Keep coolants out of the reach of children.

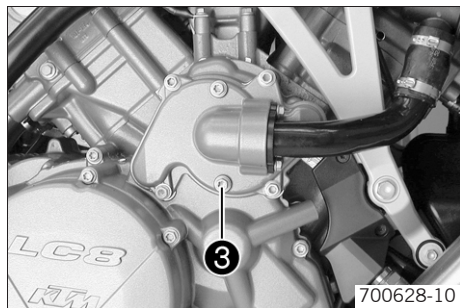
- Reset the fuel tank. ( p. 139)
- Place a suitable container under the radiator.
- Remove radiator cap ❶.
- Remove screw ❷.
- Completely drain the coolant.
- Mount screw ❷ with a new seal ring and tighten it.

Guideline

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



700627-10



- Place a suitable container under the engine.
- Remove screw ③.
- Completely drain the coolant.
- Mount screw ③ with a new seal ring and tighten it.

Guideline

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

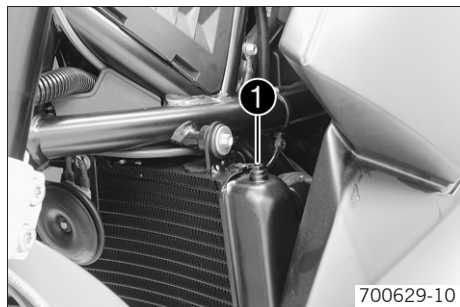
Filling/bleeding the cooling system 🛠



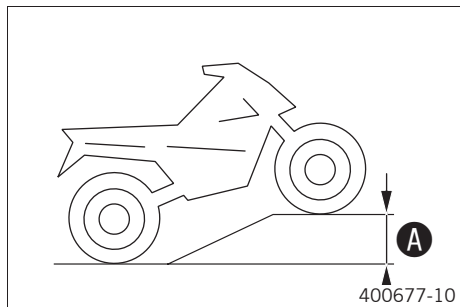
Warning

Danger of poisoning Coolants are poisonous and a health hazard.

- Avoid contact between coolants and skin, eyes and clothing. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If coolant is swallowed, contact a doctor immediately. Change clothes that have come into contact with coolants. Keep coolants out of the reach of children.



- Reset the fuel tank. (🔧 p. 139)
- Ensure that the drain plug on the radiator and the water pump cover are tightened.
- Remove bleeder screw ①.



- Position the vehicle as shown and secure it against rolling. Height difference **A** must be reached.

Guideline

Height difference A	50 cm (19.7 in)
----------------------------	-----------------



Info

To make sure that all of the air can escape from the cooling system, raise the front of the vehicle. A poorly bled cooling system is less effective at cooling and the engine can overheat.

- Remove the radiator cap and pour in coolant until it emerges without bubbles at the vent hole, and then immediately mount and tighten the bleeder screw **1**.

Alternative 1

Coolant (☞ p. 193)

Alternative 2

Coolant (mixed ready to use) (☞ p. 193)

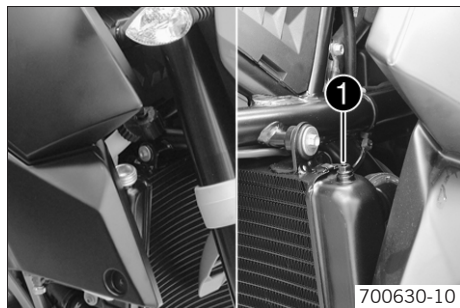
- Fill the radiator completely with coolant. Mount the radiator cap.
- Lean the vehicle on the side stand.
- Check the coolant level in the compensating tank. (☞ p. 132)



Danger

Danger of poisoning Exhaust gases are poisonous and can result in unconsciousness and/or death.

- When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in a closed space without an effective exhaust extraction system.
- Start the engine and run it until it reaches operating temperature.



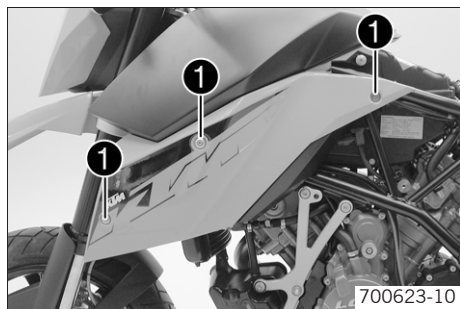
- ✓ Six bars of the temperature display light up.
- Stop the engine and allow it to cool down.
- When the engine is cool, check the coolant level in the radiator and add coolant if necessary.
- Check the coolant level in the compensating tank. (🔧 p. 132)
- Position the fuel tank. (🔧 p. 140)

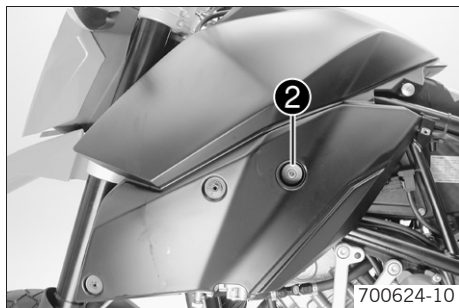
Reinstalling the fuel tank

- Remove the seat. (🔧 p. 100)

(Supermoto T)

- Remove the mask spoiler. (🔧 p. 142)
- Remove screws ❶ and the spoiler on both sides.



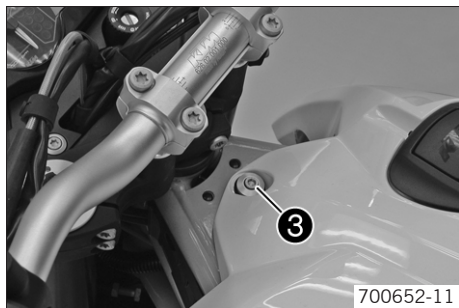


- Remove screw ❷ on both sides.



Info

The fuel hoses do not need to be disconnected.



(Supermoto R)

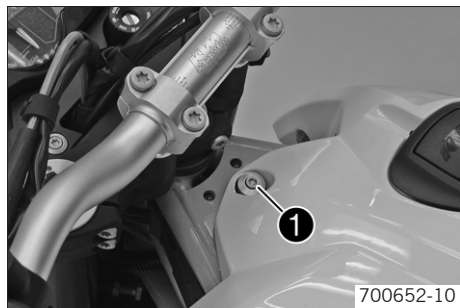
- Remove screw ❸.
- Carefully push the fuel tank back.

Positioning the fuel tank

- Carefully push the fuel tank forward.

(Supermoto, Supermoto T)

- ✓ The fuel tank fixations must engage in the recesses.

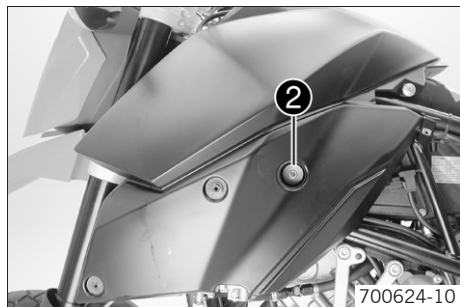


(Supermoto R)

- Mount and tighten screw ❶ with the collar bushing.

Guideline

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

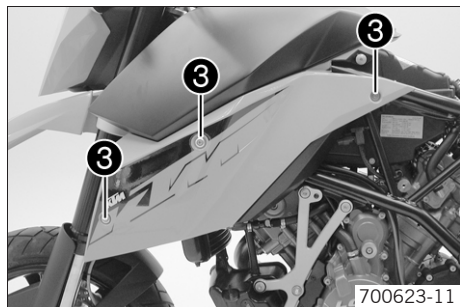


- Install and tighten screw ❷ with the bearing sleeve and rubber sleeve on both sides. Check the fuel tank for tightness.

Guideline

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

- Check the routing of the fuel lines.



- Position the spoilers on both sides. Mount and tighten screws ❸.

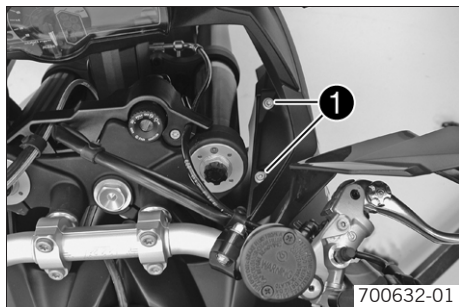
Guideline

Screw, spoiler	M6	8 Nm (5.9 lbf ft)
----------------	----	-------------------

(Supermoto T)

- Install the mask spoiler. (☞ p. 143)
- Mount the seat. (☞ p. 100)

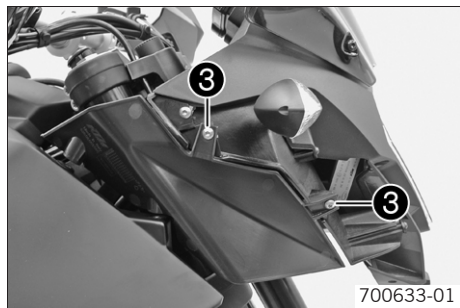
Removing the mask spoiler (Supermoto T)



- Remove screws ❶.

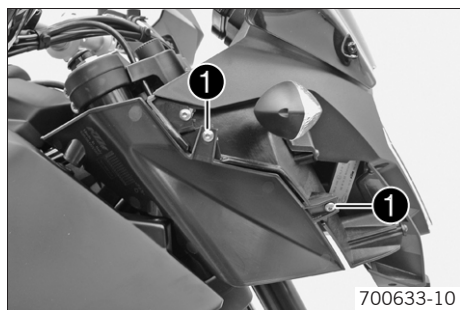


- Remove screws ❷.
- Remove the mask spoiler.

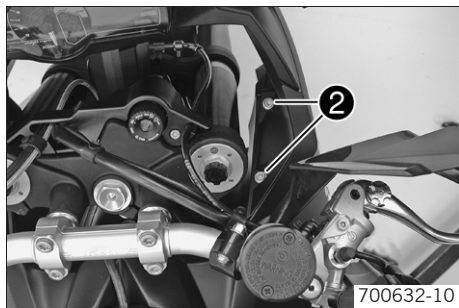


- Remove screws ③.
- Remove the inside trim of the mask spoiler.
- Repeat the operation on the opposite side.

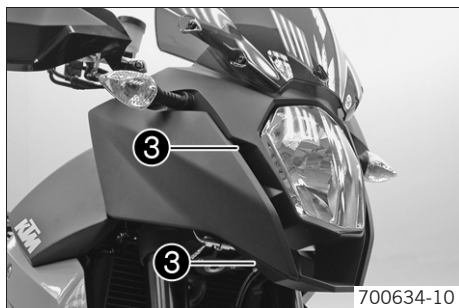
Installing the mask spoiler (Supermoto T)



- Position the inside trim of the mask spoiler.
- Mount and tighten screws ①.



- Position the mask spoiler.
- Mount and tighten screws ②.



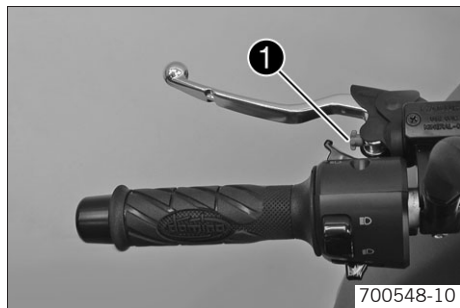
- Mount and tighten screws ③.
- Repeat the operation on the opposite side.

Adjusting the basic position of the clutch lever



Info

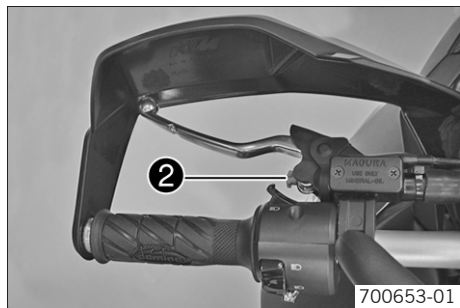
Turn the adjusting screw clockwise to increase the distance between the clutch lever and the handlebar.
Turn the adjusting screw counterclockwise to decrease the distance between the clutch lever and the handlebar.
The range of adjustment is limited.
Turn the adjusting screw by hand only, and do not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



700548-10

(Supermoto, Supermoto R)

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



700653-01

(Supermoto T)

- Adjust the basic setting of the clutch lever to your hand size by turning adjusting screw ❷.
- When adjusting the clutch lever, make sure that there is a minimum clearance to other parts of the vehicle.

Guideline

Minimum clearance	5 mm (0.2 in)
-------------------	---------------

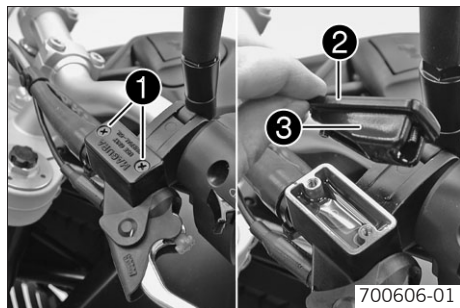
Checking/rectifying the fluid level of the hydraulic clutch



Info

The fluid level rises with increasing wear of the clutch lining disc.
Do not use brake fluid.

- Move the clutch fluid reservoir mounted on the handlebar to a horizontal position.



- Remove screws ❶.
- Remove cover ❷ with membrane ❸.
- Check the fluid level.

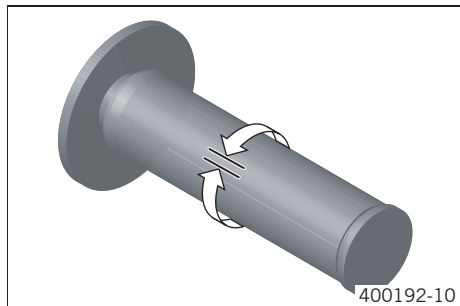
Fluid level below top edge of container	4 mm (0.16 in)
---	----------------

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

Hydraulic fluid (15) (🔧 p. 195)

- Position the cover with the membrane. Mount and tighten the screws.

Checking the play in the throttle cable



- Move the handlebar to the straight-ahead position. Move the throttle grip backwards and forwards to ascertain the play in the throttle cable.

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

- » If the throttle cable play does not meet specifications:
 - Adjust the play in the throttle cable. 🛠️ (🔧 p. 147)



Danger

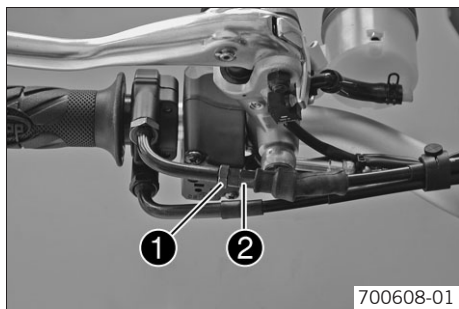
Danger of poisoning Exhaust gases are poisonous and can result in unconsciousness and/or death.

- When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in a closed space without an effective exhaust extraction system.
- Start the engine and let it run idle. Move the handlebar to and fro over the entire steering range.

The idle speed must not change.

- » If the idle speed changes:
 - Adjust the play in the throttle cable.  (🔧 p. 147)

Adjusting the play in the throttle cable



- Move the handlebar to the straight-ahead position.
- Use the KTM diagnostics tool to set the throttle stepper motor to the basic position.
- Loosen counter nut ❶.
- Set the play in the throttle cable by turning adjusting screw ❷.

Guideline

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

- Tighten counter nut ❶.

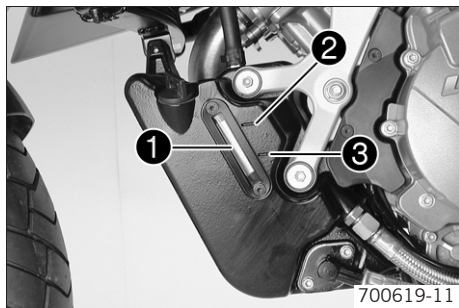
Checking the engine oil level



Danger

Danger of poisoning Exhaust gases are poisonous and can result in unconsciousness and/or death.

- When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in a closed space without an effective exhaust extraction system.
-
- Start the engine and run it until it reaches operating temperature.
 - ✓ Six bars of the temperature display light up.



- Switch off the engine.
- Park the motorcycle on a horizontal surface in a vertical position (not on the side stand).
- Read the engine oil level at oil level viewer ❶.

The engine oil level must be between the upper ❷ and lower ❸ marking.

- » If the engine oil level is not at the specified level:
 - Add engine oil. (🔧 p. 154)

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

- Drain the engine oil and filter, clean the oil screens. 🛠️ (🔧 p. 148)
- Fill up with engine oil. 🛠️ (🔧 p. 153)

Draining the engine oil and filter, cleaning the oil screens 🛠️



Warning

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

- Wear suitable protective clothing and protective gloves. If you get scalded, immediately flush the affected areas with lukewarm water.



Warning

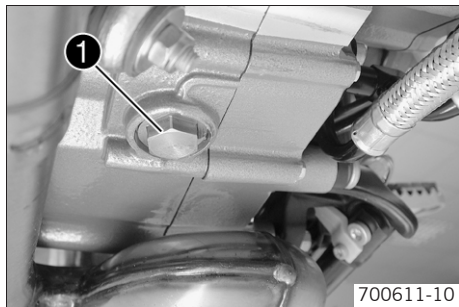
Environmental hazard Hazardous substances cause environmental damage.

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

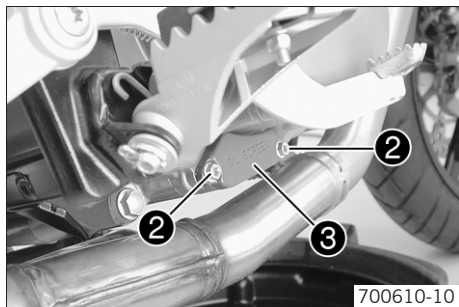


Info

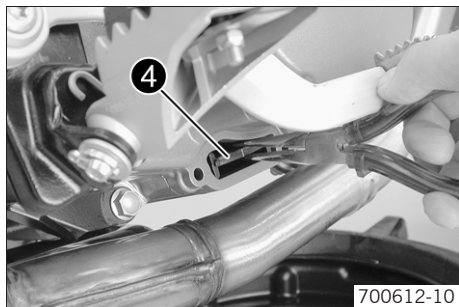
Drain the engine oil only when the engine is warm.



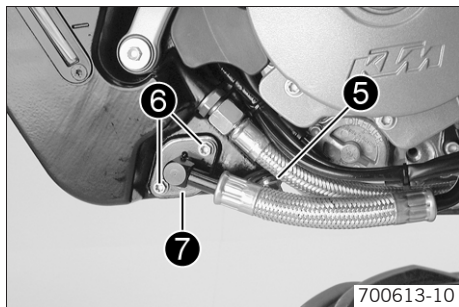
- Place a suitable container under the engine.
- Remove the oil drain plug ❶ with the magnet and seal ring.
- Fully drain the engine oil out of the engine.



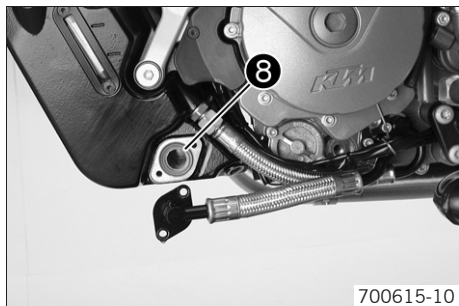
- Remove screws ❷ and cover ❸.



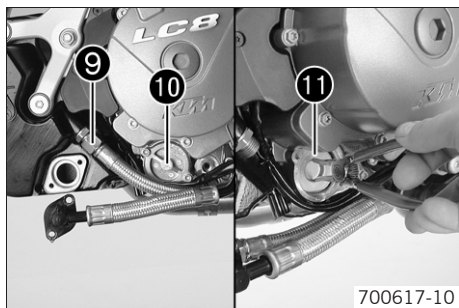
- Pull oil screen ❹ out of the engine case with pliers.



- Place a suitable container under the engine.
- Remove oil drain plug ⑤.
- Fully drain the engine oil out of the oil tank.
- Remove screws ⑥ and move oil line ⑦ to one side.



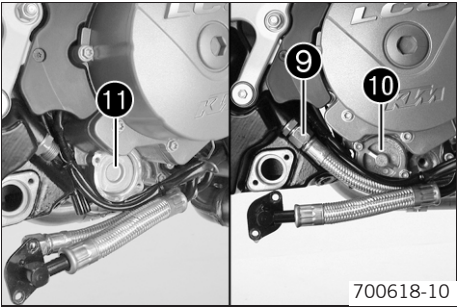
- Pull oil sieve ⑧ out of the oil tank.



- Remove screw connections ⑨ and move the oil line to one side.
- Remove screws. Take off oil filter cover ⑩ with the O-ring.
- Pull oil filter ⑪ out of the oil filter housing.

Circlip pliers reverse (51012011000)

- Completely drain the engine oil.
- Clean all oil screens and oil drain plugs with a magnet.
- Clean all sealing surfaces.



- Insert oil filter 11.
- Lubricate the O-ring of the oil filter cover.
- Install oil filter cover 10. Mount and tighten the screws.

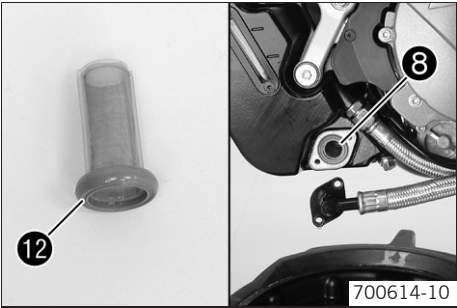
Guideline

Remaining engine screws	M5	6 Nm (4.4 lbf ft)
-------------------------	----	-------------------

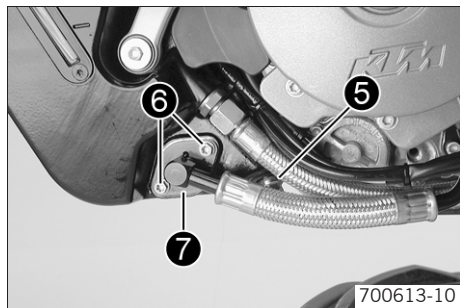
- Position the oil line. Mount and tighten screw cap 9.

Guideline

Screw connection, suction line	M24x1.5	25 Nm (18.4 lbf ft)
--------------------------------	---------	------------------------



- Check seal ring 12 of the oil sieve for damage and correct seating.
- Insert oil sieve 8 into the oil tank.



700613-10

- Position oil line ⑦. Mount and tighten screws ⑥.

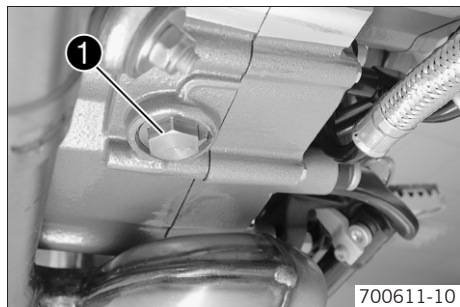
Guideline

Remaining engine screws	M6	10 Nm (7.4 lbf ft)
-------------------------	----	--------------------

- Mount oil drain plug ⑤ with the magnet and new seal and tighten.

Guideline

Oil drain plug with magnet	M12x1.5	25 Nm (18.4 lbf ft)
----------------------------	---------	------------------------

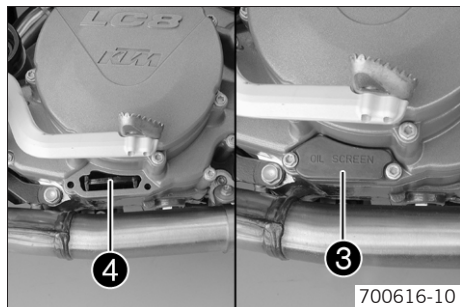


700611-10

- Mount oil drain plug ① with the magnet and new seal ring and tighten.

Guideline

Oil drain plug with magnet	M22x1.5	35 Nm (25.8 lbf ft)
----------------------------	---------	------------------------



700616-10

- Slide oil sieve ④ into the engine case with the **TOP** marking facing up.
- Check the form ring in cover ③ for damage and correct seating.
- Position the cover. Mount and tighten the screws.

Guideline

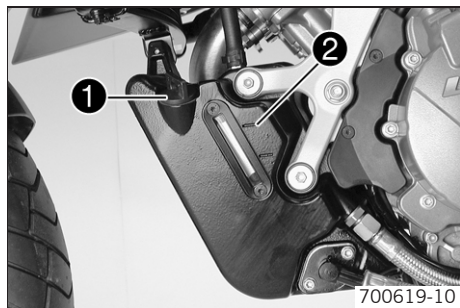
Screw, clutch cover	M6	10 Nm (7.4 lbf ft)
---------------------	----	--------------------

Filling up with engine oil



Info

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



700619-10

- The oil must be added in two steps.

Engine oil	3.80 l (1.004 US gal)	External temperature: ≥ 0 °C (≥ 32 °F)	Engine oil (SAE 10W/50) ( p. 194)
		External temperature: < 0 °C (< 32 °F)	Engine oil (SAE 5W/40) ( p. 194)

- Remove plug  and add engine oil to the top marking .
- Mount the plug.



Danger

Danger of poisoning Exhaust gases are poisonous and can result in unconsciousness and/or death.

- When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in a closed space without an effective exhaust extraction system.
-
- Start the engine and run it until it reaches operating temperature.
 - ✓ Six bars of the temperature display light up.
 - Check the lubrication system for leaks.
 - Switch off the engine.
 - Park the motorcycle on a horizontal surface in a vertical position (not on the side stand).

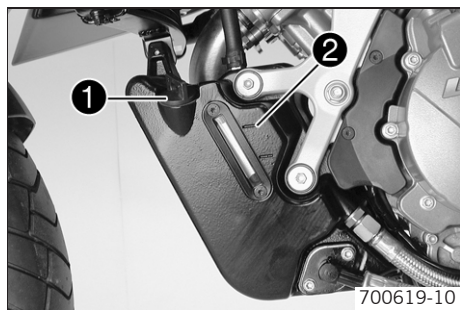
- Remove the plug.
- Add engine oil to the top marking ②.
- Mount the plug.

Adding engine oil



Info

Too little engine oil or poor-quality engine oil results in premature wear to the engine.
The engine oil level must be corrected when the engine is warm.



- Remove plug ① and add engine oil to the top marking ②.

Condition

External temperature: $\geq 0\text{ }^{\circ}\text{C}$ ($\geq 32\text{ }^{\circ}\text{F}$)

Engine oil (SAE 10W/50) (☛ p. 194)

Condition

External temperature: $< 0\text{ }^{\circ}\text{C}$ ($< 32\text{ }^{\circ}\text{F}$)

Engine oil (SAE 5W/40) (☛ p. 194)



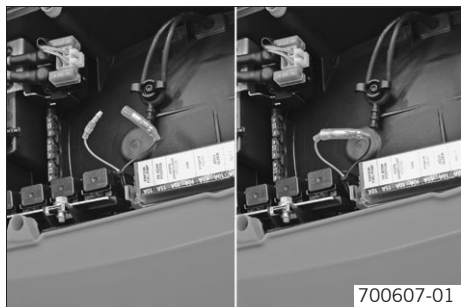
Info

For optimal performance of the engine oil, do not mix different types of engine oil.

We recommend changing the engine oil, if necessary.

- Mount the plug.

Ignition curve plug-in connector



The plug-in connection is located under the seat in front of the fuse box.

By disconnecting the plug-in connector, the ignition curve for fuel with an octane rating below 95 (ROZ 95/RON 95/PON 91) is activated. While the engine will have a slightly lower power output, this setting prevents engine damage by hindering spark knocking due to poor fuel quality.

Possible states

- Plug-in connector disconnected – Fuel with an octane rating of 80 to 94 (RON) can be used for one tank full.
- Plug-in connector connected – Fuel with an octane rating of 95 or higher can be used.

Adjusting the ignition curve to the fuel quality

- Switch off the ignition by turning the ignition key to the **OFF**  position.
- Remove the seat. ( p. 100)

To activate the ignition curve for low octane fuel:

Note

Engine damage Low-quality fuel damages the engine.

- Operate the vehicle with fuel with an octane rating below 95 (ROZ 95 / RON 95 / PON 91) for no more than one tank full.
 - The ignition curve must be adjusted to low octane fuel.
-
- Disconnect plug-in connector.
 - ✓ Plug-in connector disconnected – Fuel with an octane rating of 80 to 94 (RON) can be used for one tank full. ( p. 155)

Activate the ignition curve for fuel with an octane rating of 95 or higher (ROZ 95/RON 95/PON 91):

- Connect plug-in connector.
- ✓ Plug-in connector connected – Fuel with an octane rating of 95 or higher can be used. ( p. 155)

- Mount the seat. (👉 p. 100)

Flash code of immobilizer indicator lamp	 12 Immobilizer indicator lamp flashes 1x short, 1 second pause, 2x short
Error level condition	All ignition keys inactive
Flash code of immobilizer indicator lamp	 13 Immobilizer indicator lamp flashes 1x short, 1 second pause, 3x short
Error level condition	Malfunction, antenna of immobilizer control unit
Flash code of immobilizer indicator lamp	 14 Immobilizer indicator lamp flashes 1x short, 1 second pause, 4x short
Error level condition	Malfunction in transponder of black ignition key
Flash code of immobilizer indicator lamp	 15 Immobilizer indicator lamp flashes 1x short, 1 second pause, 5x short
Error level condition	Black ignition key inactive
Flash code of immobilizer indicator lamp	 16 Immobilizer indicator lamp flashes 1x short, 1 second pause, 6x short
Error level condition	Malfunction, encryption, immobilizer control unit to black ignition key

Flash code of immobilizer indicator lamp	 21 Immobilizer indicator lamp flashes 2x short, 1 second pause, 1x short
Error level condition	Immobilizer control unit not activated
Flash code of immobilizer indicator lamp	 31 Immobilizer indicator lamp flashes 3x short, 1 second pause, 1x short
Error level condition	Malfunction, encryption query from EFI control unit to immobilizer control unit
Flash code of immobilizer indicator lamp	 32 Immobilizer indicator lamp flashes 3x short, 1 second pause, 2x short
Error level condition	Malfunction in CAN bus communication
Flash code of immobilizer indicator lamp	 60 Immobilizer indicator lamp flashes 6x short
Error level condition	E²PROM malfunction

Flashing code FI of warning lamp (MIL)	 45 Warning lamp FI (MIL) flashes 4x long, 5x short
Error level condition	Heating lambda sensor cylinder 1, sensor 1 - interruption/short circuit to ground
	Heating lambda sensor cylinder 1, sensor 1 - input signal too high
Flashing code FI of warning lamp (MIL)	 46 Warning lamp FI (MIL) flashes 4x long, 6x short
Error level condition	Heating lambda sensor cylinder 2, sensor 1 - interruption/short circuit to ground
	Heating lambda sensor cylinder 2, sensor 1 - input signal too high
Flashing code FI of warning lamp (MIL)	 09 Warning lamp FI (MIL) flashes 9x short
Error level condition	Manifold absolute pressure sensor cylinder 1 - input signal too low
	Manifold absolute pressure sensor cylinder 1 - input signal too high
Flashing code FI of warning lamp (MIL)	 13 Warning lamp FI (MIL) flashes 1x long, 3x short
Error level condition	Intake air temperature sensor - input signal too low
	Intake air temperature sensor - input signal too high

Flashing code FI of warning lamp (MIL)	 12 Warning lamp FI (MIL) flashes 1x long, 2x short
Error level condition	Coolant temperature sensor - input signal too low Coolant temperature sensor - input signal too high
Flashing code FI of warning lamp (MIL)	 06 Warning lamp FI (MIL) flashes 6x short
Error level condition	Throttle valve sensor circuit A - input signal too low Throttle valve sensor circuit A - input signal too high
Flashing code FI of warning lamp (MIL)	 17 Warning lamp FI (MIL) flashes 1x long, 7x short
Error level condition	Lambda sensor cylinder 1, sensor 1 - malfunction in circuit
Flashing code FI of warning lamp (MIL)	 18 Warning lamp FI (MIL) flashes 1x long, 8x short
Error level condition	Lambda sensor cylinder 2, sensor 1 - malfunction in circuit
Flashing code FI of warning lamp (MIL)	 33 Warning lamp FI (MIL) flashes 3x long, 3x short
Error level condition	Injection valve cylinder 1 - malfunction in circuit

Flashing code FI of warning lamp (MIL)	 34 Warning lamp FI (MIL) flashes 3x long, 4x short
Error level condition	Injection valve cylinder 2 - malfunction in circuit
Flashing code FI of warning lamp (MIL)	 07 Warning lamp FI (MIL) flashes 7x short
Error level condition	Throttle position sensor circuit B - input signal too low
	Throttle position sensor circuit B - input signal too high
Flashing code FI of warning lamp (MIL)	 02 Warning lamp FI (MIL) flashes 2x short
Error level condition	Circuit ignition pulse generator - malfunction in circuit
Flashing code FI of warning lamp (MIL)	 37 Warning lamp FI (MIL) flashes 3x long, 7x short
Error level condition	Ignition coil cylinder 1 - malfunction in circuit
Flashing code FI of warning lamp (MIL)	 38 Warning lamp FI (MIL) flashes 3x long, 8x short
Error level condition	Ignition coil cylinder 2 - malfunction in circuit

Flashing code FI of warning lamp (MIL)	 54 Warning lamp FI (MIL) flashes 5x long, 4x short
Error level condition	Secondary air valve - interruption/short circuit to ground
	Secondary air valve - input signal too high
Flashing code FI of warning lamp (MIL)	 49 Warning lamp FI (MIL) flashes 4x long, 9x short
Error level condition	Idle control system - malfunction in circuit
Flashing code FI of warning lamp (MIL)	 24 Warning lamp FI (MIL) flashes 2x long, 4x short
Error level condition	Power supply - malfunction in circuit
Flashing code FI of warning lamp (MIL)	 50 Warning lamp FI (MIL) flashes 5x long
Error level condition	Throttle position sensor actuator circuit B - malfunction in circuit
Flashing code FI of warning lamp (MIL)	 68 Warning lamp FI (MIL) flashes 6x long, 8x short
Error level condition	Manifold absolute pressure sensor cylinder 1 - connection leaks

Flashing code FI of warning lamp (MIL)	 69 Warning lamp FI (MIL) flashes 6x long, 9x short
Error level condition	Manifold absolute pressure sensor cylinder 2 - connection leaks
Flashing code FI of warning lamp (MIL)	 14 Warning lamp FI (MIL) flashes 1x long, 4x short
Error level condition	Ambient air pressure sensor - input signal too low
	Ambient air pressure sensor - input signal too high
Flashing code FI of warning lamp (MIL)	 41 Warning lamp FI (MIL) flashes 4x long, 1x short
Error level condition	Fuel pump control - interruption/short circuit to ground
	Fuel pump control - input signal too high
Flashing code FI of warning lamp (MIL)	 25 Warning lamp FI (MIL) flashes 2x long, 5x short
Error level condition	Side stand (A/D type) - malfunction in circuit
Flashing code FI of warning lamp (MIL)	 15 Warning lamp FI (MIL) flashes 1x long, 5x short
Error level condition	Rollover sensor (A/D type) - input signal too low
	Rollover sensor (A/D type) - input signal too high

Flashing code FI of warning lamp (MIL)	 81 Warning lamp FI (MIL) flashes 8x long, 1x short
Error level condition	Immobilizer control unit - malfunction in circuit

Flashing code FI of warning lamp (MIL)	 11 Warning lamp FI (MIL) flashes 1x long, 1x short
Error level condition	Manifold absolute pressure sensor cylinder 2 - input signal too low Manifold absolute pressure sensor cylinder 2 - input signal too high

Flashing code FI of warning lamp (MIL)	 91 Warning lamp FI (MIL) flashes 9x long, 1x short
Error level condition	Malfunction in CAN bus communication

Faults	Possible cause	Action
The engine does not turn when the starter button is pressed	Operating error	– Carry out the start procedure. (☞ p. 45)
	Battery discharged	– Recharge the battery. 🛠️ (☞ p. 104) – Check the closed current. 🛠️
	IGNITION, FUEL PUMP, or POWER RELAY fuse blown	– Change the fuses of individual power consumers. (☞ p. 108)
	Main fuse burned out	– Change the main fuse. (☞ p. 106)
	Ignition/steering lock or emergency OFF switch defective	– Check the emergency OFF switch. 🛠️ – Check the ignition/steering lock. 🛠️
	Defect in safety start system	– Check the safety start system. 🛠️
	Immobilizer control unit not activated	– Activate the immobilizer control unit. 🛠️
	Malfunction in CAN bus communication	– Check the CAN bus communication. 🛠️
	Combination instrument defective	– Check the combination instrument. 🛠️
Engine turns only if the clutch lever is drawn	Control unit for electric start lock defective	– Check the control unit of the electric start lock. 🛠️
	The vehicle is in gear	– Shift the transmission to neutral.
Engine turns although a gear is engaged	Defect in safety start system	– Check the safety start system. 🛠️
	Defect in safety start system	– Check the safety start system. 🛠️
Engine turns but does not start	Coupling of fuel hose connection not connected	– Reconnect coupling of fuel hose connection.
	Socket connector of cable harness oxidized	– Clean the socket connector and treat it with contact spray.
	Defect in fuel injection system	– Read out the fault memory using the KTM diagnostics tool. 🛠️

Faults	Possible cause	Action
Engine has too little power	Air filter very dirty	– Change the air filter. 
	Defect in fuel injection system	– Read out the fault memory using the KTM diagnostics tool. 
	Ignition curve for low octane fuel activated	– Refuel with fuel with an octane rating of 95 or higher. – Connect plug-in connector.
Engine overheats	Too little coolant in cooling system	– Check the cooling system for leaks.  – Check the coolant level in the radiator. (🔧 p. 133)
	Radiator fins very dirty	– Clean radiator fins.
	Foam formation in cooling system	– Drain the coolant.  (🔧 p. 136) – Fill/bleed the cooling system.  (🔧 p. 137)
	Buckled or damaged radiator hose	– Change the radiator hose. 
	Fuse FAN blown	– Change the fuses of individual power consumers. (🔧 p. 108)
	Thermostat defective	– Check the thermostat. 
	Defect in radiator fan system	– Check the radiator fan system. 
	Air in cooling system	– Fill/bleed the cooling system.  (🔧 p. 137)
Warning lamp FI (MIL) lights up/flashes	Defect in fuel injection system	– Read out the fault memory using the KTM diagnostics tool. 
Engine dies during a trip	Lack of fuel	– Refuel. (🔧 p. 53)
	IGNITION, FUEL PUMP, or POWER RELAY fuse blown	– Change the fuses of individual power consumers. (🔧 p. 108)
High oil consumption	Engine oil level too high	– Check the engine oil level. (🔧 p. 147)

Faults	Possible cause	Action
High oil consumption	Engine oil too thin (low viscosity)	– Change the engine oil and filter, clean the oil screens.  ( p. 148)
Headlight and parking light not functioning	Fuse H/L BEAM, POSITION blown	– Change the fuses of individual power consumers. ( p. 108)
Turn signal, hazard warning flasher, brake light and horn are not functional	Fuse HORN, BRAKE LIGHT, SPEEDO blown	– Change the fuses of individual power consumers. ( p. 108)
Battery discharged	Ignition not switched off when vehicle was parked	– Recharge the battery.  ( p. 104)
	Battery is not charged by generator	– Check the charging voltage. 
Combination instrument shows nothing in the display	Fuse ACC1, CLOCK blown	– Change the fuses of individual power consumers. ( p. 108)
Speedometer in combination instrument not functioning	Wiring harness of wheel revolution counter damaged or plug-in connector oxidized	– Check the wheel speed sensor. 

Cleaning motorcycle

Note

Material damage Damage and destruction of components by high-pressure cleaning equipment.

- Never clean the vehicle with high-pressure cleaning equipment or a strong water-jet. The excessive pressure can penetrate electrical components, socket connects, throttle cables, and bearings, etc., and can damage or destroy these parts.



Warning

Environmental hazard Hazardous substances cause environmental damage.

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



Info

If you clean the motorcycle regularly, its value and appearance are maintained over a long period.
Avoid direct sunshine on the motorcycle during cleaning.

- Before you clean the motorcycle, close off the exhaust system to prevent penetration by water.
- First remove coarse dirt particles with a gentle water spray.
- Spray very dirty areas with a normal motorcycle cleaner and then clean with a paintbrush.

Motorcycle cleaner (🔧 p. 198)



Info

Use warm water containing normal motorcycle cleaner and a soft sponge.
If the vehicle was operated in road salt, clean it with cold water. Warm water would enhance the corrosive effects of salt.

- After the motorcycle has been thoroughly cleaned with a gentle jet of water, it should be dried with compressed air and a cloth.

**Warning**

Danger of accidents Reduced braking efficiency due to wet or dirty brakes.

- Clean or dry dirty or wet brakes by riding and braking gently.

- After cleaning, ride the vehicle a short distance until the engine warms up, and then apply the brakes.

**Info**

The heat produced causes water at inaccessible positions in the engine and on the brakes to evaporate.

- After the motorcycle has cooled off, lubricate all moving parts and bearings.
- Clean the chain. (🔧 p. 76)
- Treat bare metal parts (except for brake discs and exhaust system) with anti-corrosion materials.

Cleaning and polishing materials for metal, rubber and plastic (🔧 p. 197)

- Treat all painted parts with a mild paint polish.

High-luster polish for paint (🔧 p. 197)

- Oil the ignition/steering lock, tank lock, and seat lock.

Universal oil spray (🔧 p. 198)

Conserving for winter operation

Info

If you use the motorcycle in winter, you must expect salt 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. Warm water would enhance the corrosive effects of salt.

-
- Clean the motorcycle. (🔧 p. 168)
 - Treat the engine, the swingarm, and all other bare or galvanized parts (except brake discs) with a wax-based anti-corrosion substance.

Info

To prevent serious reduction of the braking efficiency, make sure no anti-corrosion substance gets on to the brake discs. After use on salted roads, clean the motorcycle thoroughly with cold water and dry it properly.

-
- Clean the chain. (🔧 p. 76)

Storage



Info

If you want to garage the motorcycle for a longer period, take the following actions.

Before storing the motorcycle, check all parts for function and wear. If service, repairs or replacements are necessary, you should do this during the storage period (less workshop overload). In this way, you can avoid long workshop waiting times at the start of the new season.

- Make sure the fuel tanks are as empty as possible so that you can fill up with fresh fuel when you put the motorcycle back into operation.
- Clean the motorcycle. (🔧 p. 168)
- Change the engine oil and filter, clean the oil screens. 🛢️ (🔧 p. 148)
- Check the antifreeze. 🛢️ (🔧 p. 134)
- Check the tire air pressure. (🔧 p. 99)
- Remove the battery. 🛢️ (🔧 p. 101)
- Recharge the battery. 🛢️ (🔧 p. 104)

Guideline

Storage temperature of battery without direct sunshine	0... 35 °C (32... 95 °F)
--	--------------------------

- The storage place should be dry and not subject to large temperature differences.



Info

KTM recommends jacking up the motorcycle.

- Jack up the motorcycle at the rear. (🔧 p. 61)
- Jack up the motorcycle at the front. (🔧 p. 60)
- Cover the motorcycle with a tarp or 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. Since the engine cannot warm up properly, the water vapor produced during combustion condenses and causes valves and exhaust system to rust.

Putting into operation after storage

- Take the front from the work stand. (🔧 p. 60)
- Take the rear from the work stand. (🔧 p. 61)
- Recharge the battery. 🔌 (🔧 p. 104)
- Install the battery. 🔌 (🔧 p. 103)
- Set the clock. (🔧 p. 29)
- Refuel. (🔧 p. 53)
- Carry out checks before putting into operation. (🔧 p. 44)
- Take a test ride.

Design	2-cylinder 4-stroke Otto motor, 75° V arrangement, water-cooled
Displacement	999 cm ³ (60.96 cu in)
Stroke	62.4 mm (2.457 in)
Bore	101 mm (3.98 in)
Compression ratio	11.5:1
Control	DOHC, 4 valves per cylinder, chain-driven
Valve - diameter	
Exhaust	33 mm (1.3 in)
Intake	38 mm (1.5 in)
Valve clearance	
Exhaust at: 20 °C (68 °F)	0.25... 0.30 mm (0.0098... 0.0118 in)
Intake at: 20 °C (68 °F)	0.10... 0.15 mm (0.0039... 0.0059 in)
Crankshaft bearing	Sleeve bearing
Conrod bearing	Sleeve bearing
Piston	Forged light alloy
Piston ring	1 L-ring, 1 tapered compression piston ring, 1 oil scraper ring
Engine lubrication	Pressure circulation lubrication with 2 rotor pumps
Primary transmission	35:67
Clutch	Multidisc clutch in oil bath/hydraulically activated
Transmission	6-gears, claw-shifted
Transmission ratio	
1st gear	12:35
2nd gear	15:32
3rd gear	18:30
4th gear	20:27

5th gear	24:27
6th gear	27:26
Mixture preparation	Electronic fuel injection
Ignition system	Contactless controlled fully electronic ignition with digital ignition adjustment
Generator	12 V, 450 W
Spark plug	NGK DCPR8E
Spark plug electrode gap	0.8 mm (0.031 in)
Cooling	Water cooling, permanent circulation of coolant by water pump
Cold start device	Electric starter

Capacity- engine oil

Engine oil	3.80 l (1.004 US gal)	External temperature: $\geq 0\text{ }^{\circ}\text{C}$ ($\geq 32\text{ }^{\circ}\text{F}$)	Engine oil (SAE 10W/50) (☛ p. 194)
		External temperature: $< 0\text{ }^{\circ}\text{C}$ ($< 32\text{ }^{\circ}\text{F}$)	Engine oil (SAE 5W/40) (☛ p. 194)

Capacity - coolant

Coolant	2.30 l (2.43 qt.)	Coolant (☛ p. 193)
		Coolant (mixed ready to use) (☛ p. 193)

Hose clip, intake flange	M4	1.5 Nm (1.11 lbf ft)	–
Oil jet	M4	6 Nm (4.4 lbf ft)	Loctite® 243™
Remaining engine screws	M5	6 Nm (4.4 lbf ft)	–
Screw, bearing retainer	M5	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, connecting angle on valve cover	M5	3 Nm (2.2 lbf ft)	Loctite® 243™
Screw, gear sensor	M5	3 Nm (2.2 lbf ft)	Loctite® 243™
Screw, locking lever	M5	6 Nm (4.4 lbf ft)	Loctite® 243™
Nut, cylinder head	M6	8 Nm (5.9 lbf ft)	–
Plug, vacuum connection	M6	5 Nm (3.7 lbf ft)	Loctite® 243™
Remaining engine screws	M6	10 Nm (7.4 lbf ft)	–
Screw, bearing bolt in generator cover	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, camshaft bearing support	M6	10 Nm (7.4 lbf ft)	–
Screw, clutch cover	M6	10 Nm (7.4 lbf ft)	–
Screw, clutch spring	M6	10 Nm (7.4 lbf ft)	–
Screw, engine case	M6	10 Nm (7.4 lbf ft)	–
Screw, freewheel holder	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, freewheel ring	M6	13 Nm (9.6 lbf ft)	Loctite® 648™
Screw, generator cover	M6	10 Nm (7.4 lbf ft)	–
Screw, oil pump housing	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, pulse generator	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	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, starter motor	M6	10 Nm (7.4 lbf ft)	–
Screw, stator	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)	–
Screw, water pump wheel	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Stud, cylinder head in cylinder	M6		Loctite® 243™
Stud, cylinder head in engine case	M6	10 Nm (7.4 lbf ft)	–
Vacuum connection	M6	5 Nm (3.7 lbf ft)	Loctite® 243™
Oil jet	M6x0.75	4 Nm (3 lbf ft)	Loctite® 243™
Bearing bolt, timing chain guide rail	M8	15 Nm (11.1 lbf ft)	Loctite® 243™
Bearing bolt, timing chain tensioning rail	M8	20 Nm (14.8 lbf ft)	Loctite® 243™
Screw, camshaft bearing support	M8	Step 1 10 Nm (7.4 lbf ft) Step 2 18 Nm (13.3 lbf ft)	–
Screw, clutch cover	M8	15 Nm (11.1 lbf ft)	–
Screw, cylinder head	M8	Step 1 18 Nm (13.3 lbf ft) Step 2 23 Nm (17 lbf ft)	Loctite® 243™
Stud, exhaust flange	M8	15 Nm (11.1 lbf ft)	–
Bearing bolt, timing gears	M10	30 Nm (22.1 lbf ft)	–
Nut, cylinder head (exterior)	M10	Step 1 23 Nm (17 lbf ft) Step 2 34 Nm (25.1 lbf ft)	Only applies when using: Box wrench attachment 13mm (60029081000)
			lubricated with engine oil

Nut, cylinder head on chain shaft	M10	Step 1 25 Nm (18.4 lbf ft) Step 2 38 Nm (28 lbf ft)	lubricated with engine oil
Plug, clutch lubrication	M10	15 Nm (11.1 lbf ft)	–
Stud, cylinder head in engine case	M10	20 Nm (14.8 lbf ft)	–
Oil pressure sensor	M10x1	10 Nm (7.4 lbf ft)	–
Screw, conrod bearing	M10x1	Step 1 25 Nm (18.4 lbf ft) Step 2 30 Nm (22.1 lbf ft) Step 3 60°	–
Coolant temperature sensor	M12x1.5	12 Nm (8.9 lbf ft)	–
Plus, cylinder head (2nd cylinder)	M12x1.5	25 Nm (18.4 lbf ft)	–
Spark plug	M12x1.5	12 Nm (8.9 lbf ft)	–
Plug, oil filter housing	M14x1.5	15 Nm (11.1 lbf ft)	Loctite® 243™
Bleeder flange, generator cover	M16x1.5	10 Nm (7.4 lbf ft)	Loctite® 243™
Plug, timing-chain tensioner	M16x1.5	20 Nm (14.8 lbf ft)	–
Rotor screw	M16x1.5	150 Nm (110.6 lbf ft)	Loctite® 243™
Nut, balancer shaft	M20x1.5	120 Nm (88.5 lbf ft)	Loctite® 243™
Nut, engine sprocket	M20x1.5	100 Nm (73.8 lbf ft)	Loctite® 243™
Screw-in fitting, cooling system	M20x1.5	10 Nm (7.4 lbf ft)	Loctite® 577
Nut, inner clutch hub	M22x1.5	130 Nm (95.9 lbf ft)	Loctite® 243™
Oil drain plug with magnet	M22x1.5	35 Nm (25.8 lbf ft)	–
Screw in generator cover	M24x1.5	8 Nm (5.9 lbf ft)	–

Nut, primary gear	M33LHx1.5	130 Nm (95.9 lbf ft)	Loctite® 243™
-------------------	-----------	----------------------	---------------

Frame	Lattice frame made of chrome molybdenum steel tubing, powder-coated
Fork	WP Suspension Up Side Down 4860 ROMA PA
Shock absorber	WP Suspension 4618 BAVP DCC
Suspension travel (Supermoto)	
Front	200 mm (7.87 in)
Rear	210 mm (8.27 in)
Suspension travel (Supermoto R, Supermoto T)	
Front	160 mm (6.3 in)
Rear	180 mm (7.09 in)
Brake system	
Front	Double disc brake with radially screwed four-piston brake calipers, float-mounted brake discs
Rear	Single disc brake with dual-piston brake caliper, rigid-mounted brake disc
Brake discs - diameter	
Front	305 mm (12.01 in)
Rear	240 mm (9.45 in)
Brake discs - wear limit	
Front	4.5 mm (0.177 in)
Brake disc - wear limit	
Rear	4.5 mm (0.177 in)
Tire air pressure, Solo	
Front	2.2 bar (32 psi)
Rear	2.2 bar (32 psi)

Tire air pressure with passenger/full payload	
Front	2.4 bar (35 psi)
Rear	2.5 bar (36 psi)
Secondary drive ratio	17:41
Chain	5/8 x 5/16" X-ring
Steering head angle (Supermoto)	65.1°
Steering head angle (Supermoto R, Supermoto T)	65.6°
Wheelbase (Supermoto)	1,510 $\pm$ 15 mm (59.45 $\pm$ 0.59 in)
Wheelbase (Supermoto R, Supermoto T)	1,505 $\pm$ 15 mm (59.25 $\pm$ 0.59 in)
Seat height, unloaded (Supermoto, Supermoto R)	875 mm (34.45 in)
Seat height, unloaded (Supermoto T)	855 mm (33.66 in)
Ground clearance, unloaded	195 mm (7.68 in)
Weight without fuel, approx. (Supermoto)	191 kg (421 lb.)
Weight without fuel, approx. (Supermoto R)	189 kg (417 lb.)
Weight without fuel, approx. (Supermoto T)	196 kg (432 lb.)
Maximum permissible front axle load (Supermoto, Supermoto T)	190 kg (419 lb.)
Maximum permissible front axle load (Supermoto R)	160 kg (353 lb.)
Maximum permissible rear axle load	250 kg (551 lb.)
Maximum permissible total weight	400 kg (882 lb.)

Battery	YTZ14S	Battery voltage: 12 V Nominal capacity: 11.2 Ah maintenance-free
Fuse	58011109110	10 A
Fuse	58011109115	15 A
Fuse	58011109130	30 A

Lighting equipment

Low beam/high beam	H4/socket P43t	12 V 60/55 W
Parking light	W5W/socket W2.1x9.5d	12 V 5 W
Instrument lights and indicator lamps	LED	
Turn signal	RY10W/socket BAU15s	12 V 10 W
Tail light	WR5W/socket W2.1x9.5d	12 V 5 W
Brake light	PR21W/socket BAW15s	12 V 21 W
License plate lamp	W5W/socket W2.1x9.5d	12 V 5 W

Tires

Validity	Front tire	Rear tire
(Supermoto)	120/70 ZR 17 M/C 58W TL Pirelli SCORPION SYNC	180/55 ZR 17 M/C 73W TL Pirelli SCORPION SYNC
(Supermoto R)	120/70 ZR 17 M/C 58W TL Pirelli DRAGON SUPERCORSA PRO	180/55 ZR 17 M/C 73W TL Pirelli DRAGON SUPERCORSA PRO
(Supermoto T)	120/70 ZR 17 M/C 58W TL Continental ContiSportAttack	180/55 ZR 17 M/C 73W TL Continental ContiSportAttack

Additional information is available in the Service section under:
<http://www.ktm.com>

Capacity - fuel

Total fuel tank capacity, approx. (Supermoto, Supermoto T)	19 l (5 US gal)	Super unleaded (ROZ 95 / RON 95 / PON 91) (☛ p. 196)
Total fuel tank capacity, approx. (Supermoto R)	15 l (4 US gal)	Super unleaded (ROZ 95 / RON 95 / PON 91) (☛ p. 196)
Fuel reserve, approx. (Supermoto, Supermoto T)	3.7 l (3.9 qt.)	
Fuel reserve, approx. (Supermoto R)	3.5 l (3.7 qt.)	

Supermoto

Fork part number	14.18.7E.20
Fork	WP Suspension Up Side Down 4860 ROMA PA
Compression damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	15 clicks
Rebound damping	
Comfort	22 clicks
Standard	17 clicks
Sport	12 clicks
Full payload	17 clicks
Spring preload - Preload Adjuster	
Comfort	7 turns
Standard	5 turns
Sport	5 turns
Full payload	5 turns
Spring length with preload spacer(s)	457 mm (17.99 in)
Spring rate	
Soft	5.9 N/mm (33.7 lb/in)
Medium (standard)	6.2 N/mm (35.4 lb/in)
Hard	6.5 N/mm (37.1 lb/in)
Fork length	890 mm (35.04 in)

Air chamber length		110±20 mm (4.33±0.79 in)
Fork oil	605 ml (20.46 fl. oz.)	Fork oil (SAE 5) (☛ p. 195)

Supermoto R

Fork part number		14.18.7E.21
Fork		WP Suspension Up Side Down 4860 ROMA PA
Compression damping		
Comfort		20 clicks
Standard		15 clicks
Sport		10 clicks
Full payload		10 clicks
Rebound damping		
Comfort		20 clicks
Standard		15 clicks
Sport		10 clicks
Full payload		10 clicks
Spring preload - Preload Adjuster		
Comfort		5 turns
Standard		5 turns
Sport		3 turns
Full payload		3 turns
Spring length with preload spacer(s)		386 mm (15.2 in)
Spring rate		
Medium (standard)		7.5 N/mm (42.8 lb/in)

Fork length	877 mm (34.53 in)	
Air chamber length	100±20 mm (3.94±0.79 in)	
Fork oil	750 ml (25.36 fl. oz.)	Fork oil (SAE 5) (🔧 p. 195)

Supermoto T

Fork part number	14.18.7E.43
Fork	WP Suspension Up Side Down 4860 ROMA PA
Compression damping	
Comfort	25 clicks
Standard	20 clicks
Sport	15 clicks
Full payload	15 clicks
Rebound damping	
Comfort	25 clicks
Standard	20 clicks
Sport	15 clicks
Full payload	15 clicks
Spring preload - Preload Adjuster	
Comfort	5 turns
Standard	5 turns
Sport	3 turns
Full payload	3 turns
Spring length with preload spacer(s)	384 mm (15.12 in)
Spring rate	

Medium (standard)		7.0 N/mm (40 lb/in)
Fork length		877 mm (34.53 in)
Air chamber length		110^{+10}_{-30} mm ($4.33^{+0.39}_{-1.18}$ in)
Fork oil	742 ml (25.09 fl. oz.)	Fork oil (SAE 5) (☛ p. 195)

Supermoto

Shock absorber part number	15.18.7E.15
Shock absorber	WP Suspension 4618 BAVP DCC
Compression damping, low-speed	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	15 clicks
Compression damping, high-speed	
Comfort	2.5 turns
Standard	2 turns
Sport	1 turn
Full payload	2 turns
Rebound damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	15 clicks
Spring preload	
Comfort	11 mm (0.43 in)
Standard	11 mm (0.43 in)
Sport	11 mm (0.43 in)
Full payload	11 mm (0.43 in)
Spring rate	

Medium (standard)	130 N/mm (742 lb/in)
Spring length	215 mm (8.46 in)
Gas pressure	10 bar (145 psi)
Static sag	20 mm (0.79 in)
Fitted length	375 mm (14.76 in)
Shock absorber fluid	Shock absorber oil (SAE 2.5) (50180342S1) (🔧 p. 195)

Supermoto R

Shock absorber part number	15.18.7E.03
Shock absorber	WP Suspension 4618 BAVP DCC
Compression damping, low-speed	
Comfort	25 clicks
Standard	20 clicks
Sport	15 clicks
Full payload	15 clicks
Compression damping, high-speed	
Comfort	2 turns
Standard	1.5 turns
Sport	1 turn
Full payload	1 turn
Rebound damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks

Full payload	10 clicks
Spring preload	
Comfort	11 mm (0.43 in)
Standard	11 mm (0.43 in)
Sport	11 mm (0.43 in)
Full payload	13 mm (0.51 in)
Spring rate	
Medium (standard)	140 N/mm (799 lb/in)
Spring length	200 mm (7.87 in)
Gas pressure	10 bar (145 psi)
Static sag	20 mm (0.79 in)
Fitted length	372 mm (14.65 in)
Shock absorber fluid	Shock absorber oil (SAE 2.5) (50180342S1) (🔍 p. 195)

Supermoto T

Shock absorber part number	15.18.7E.43
Shock absorber	WP Suspension 4618 BAVP DCC
Compression damping, low-speed	
Comfort	25 clicks
Standard	20 clicks
Sport	15 clicks
Full payload	15 clicks
Compression damping, high-speed	
Comfort	2 turns

Standard	1.5 turns
Sport	1 turn
Full payload	1 turn
Rebound damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	10 clicks
Spring preload	
Comfort	11 mm (0.43 in)
Standard	11 mm (0.43 in)
Sport	11 mm (0.43 in)
Full payload	13 mm (0.51 in)
Spring rate	
Medium (standard)	140 N/mm (799 lb/in)
Spring length	200 mm (7.87 in)
Gas pressure	10 bar (145 psi)
Static sag	20 mm (0.79 in)
Fitted length	372 mm (14.65 in)
Shock absorber fluid	Shock absorber oil (SAE 2.5) (50180342S1) (☛ p. 195)

Screw, side stand switch	M4	2 Nm (1.5 lbf ft)	Loctite® 243™
Remaining chassis screws	M5	5 Nm (3.7 lbf ft)	–
Screw, chain sliding guard	M5	5 Nm (3.7 lbf ft)	–
Screw, closure flange, fuel tank	M5	3.3 Nm (2.43 lbf ft)	–
Screw, foot brake pedal stub	M5	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, mask spoiler (Supermoto T)	M5	1.2 Nm (0.89 lbf ft)	–
Screw, windshield (Supermoto T)	M5	3.3 Nm (2.43 lbf ft)	–
Nut, tail light	M6	8 Nm (5.9 lbf ft)	–
Remaining chassis screws	M6	10 Nm (7.4 lbf ft)	–
Screw, cable guide (Supermoto T)	M6	2 Nm (1.5 lbf ft)	–
Screw, chain sliding guard	M6	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, foot brake cylinder	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, magnetic holder on side stand	M6	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, seat bracket, fuel tank	M6	3.3 Nm (2.43 lbf ft)	–
Screw, splash protector	M6	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, spoiler	M6	8 Nm (5.9 lbf ft)	–
Remaining chassis screws	M8	25 Nm (18.4 lbf ft)	–
Screw, bag carrier (Supermoto T)	M8	15 Nm (11.1 lbf ft)	Loctite® 243™
Screw, bottom triple clamp	M8	15 Nm (11.1 lbf ft)	–
Screw, exhaust clamp on main silencer	M8	20 Nm (14.8 lbf ft)	–
Screw, exhaust clamp on manifold	M8	35 Nm (25.8 lbf ft)	–
Screw, fork stub	M8	15 Nm (11.1 lbf ft)	–
Screw, front brake disc	M8	30 Nm (22.1 lbf ft)	Loctite® 243™
Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)	–

Screw, handrail	M8	20 Nm (14.8 lbf ft)	–
Screw, ignition lock (ratchet screw)	M8		Loctite® 243™
Screw, rear brake disc	M8	30 Nm (22.1 lbf ft)	Loctite® 243™
Screw, rear footrest bracket	M8	25 Nm (18.4 lbf ft)	Loctite® 243™
Screw, side stand holder	M8	25 Nm (18.4 lbf ft)	Loctite® 243™
Screw, steering stem	M8	20 Nm (14.8 lbf ft)	–
Screw, top triple clamp	M8	20 Nm (14.8 lbf ft)	–
Engine carrying screw	M10	45 Nm (33.2 lbf ft)	–
Remaining chassis nuts	M10	50 Nm (36.9 lbf ft)	–
Screw, handlebar support	M10	20 Nm (14.8 lbf ft)	–
Screw, lower subframe	M10	45 Nm (33.2 lbf ft)	Loctite® 243™
Screw, side stand	M10	35 Nm (25.8 lbf ft)	Loctite® 243™
Screw, side stand bracket	M10	45 Nm (33.2 lbf ft)	Loctite® 243™
Screw, upper subframe	M10	45 Nm (33.2 lbf ft)	Loctite® 243™
Screw, front brake caliper	M10x1.25	45 Nm (33.2 lbf ft)	Loctite® 243™
Oil drain plug with magnet	M12x1.5	25 Nm (18.4 lbf ft)	–
Screw, bottom shock absorber	M14	80 Nm (59 lbf ft)	Thread greased
Screw, top shock absorber	M14	80 Nm (59 lbf ft)	Thread greased
Nut, swingarm pivot	M19x1.5	130 Nm (95.9 lbf ft)	Thread greased
Screw, steering head	M20x1.5	12 Nm (8.9 lbf ft)	–
Screw connection, suction line	M24x1.5	25 Nm (18.4 lbf ft)	–
Screw, front wheel spindle	M24x1.5	45 Nm (33.2 lbf ft)	–
Nut, rear wheel spindle	M25x1.5	90 Nm (66.4 lbf ft)	Thread greased

Brake fluid DOT 4 / DOT 5.1

According to

- DOT

Guideline

- Use only brake fluid that complies with the specified standards (see specifications on the container) and that possesses the corresponding properties. KTM recommends **Castrol** and **Motorex®** products.

Supplier

Castrol

- **RESPONSE BRAKE FLUID SUPER DOT 4**

Motorex®

- **Brake Fluid DOT 5.1**

Coolant

Guideline

- Use only suitable coolant (also in countries with high temperatures). Use of low-quality antifreeze can lead to corrosion and foaming. KTM recommends **Motorex®** products.

Mixture ratio

Antifreeze protection: -25... -45 °C (-13... -49 °F)	50 % corrosion inhibitor/antifreeze 50 % distilled water
--	---

Coolant (mixed ready to use)

Antifreeze	-40 °C (-40 °F)
------------	-----------------

Supplier

Motorex®

- **Anti Freeze**

Engine oil (SAE 10W/50)

According to

- JASO T903 MA (☛ p. 199)
- SAE (☛ p. 199) (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. KTM recommends **Motorex®** products.

Fully synthetic engine oil

Supplier

Motorex®

- **Power Synt 4T**

Engine oil (SAE 5W/40)

According to

- JASO T903 MA (☛ p. 199)
- SAE (☛ p. 199) (SAE 5W/40)

Guideline

- Use only engine oils that comply with the specified standards (see specifications on the container) and that possess the corresponding properties. KTM recommends **Motorex®** products.

Synthetic engine oil

Supplier

Motorex®

- **Power Synt 4T**

Fork oil (SAE 5)

According to

- SAE (☛ p. 199) (SAE 5)

Guideline

- Use only oils that comply with the specified standards (see specifications on the container) and that possess the corresponding properties. KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Racing Fork Oil**

Hydraulic fluid (15)

According to

- ISO VG (15)

Guideline

- Use only hydraulic fluid that complies with the specified standards (see specifications on the container) and that possesses the corresponding properties. KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Hydraulic Fluid 75**

Shock absorber oil (SAE 2.5) (50180342S1)

According to

- SAE (☛ p. 199) (SAE 2.5)

Guideline

- Use only oils that comply with the specified standards (see specifications on the container) and that possess the corresponding properties.

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

According to

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

Chain cleaner

Specification

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Chain Clean 611**

Chain lube for road use

Specification

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Chain Lube 622 Strong**

Cleaning and polishing materials for metal, rubber and plastic

Specification

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Protect & Shine 645**

High-luster polish for paint

Specification

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Moto Polish**

Long-life grease

Specification

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Fett 2000**

Motorcycle cleaner

Specification

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Moto Clean 900**

Universal oil spray

Specification

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Joker 440 Universal**

JASO T903 MA

Different technical development directions required a new specification for 4-stroke motorcycles – the JASO T903 MA Standard. Earlier, engine oils from the automobile industry were used for 4-stroke motorcycles because there was no separate motorcycle specification. Whereas long service intervals are demanded for automobile engines, high performance at high engine speeds are in the foreground for motorcycle engines. With most motorcycles, the gearbox and the clutch are lubricated with the same oil as the engine. The JASO MA Standard meets these special requirements.

SAE

The SAE viscosity classes were defined by the Society of Automotive Engineers and are used for classifying oils according to their viscosity. The viscosity describes only one property of oil and says nothing about quality.

A

Accessories9

Antifreeze

checking134

B

Baggage42

Battery

installing103

recharging104

removing101

Brake disc of rear brake

checking82

Brake discs, front

checking81

Brake fluid

front brake, adding84

rear brake, adding88

Brake fluid level

front brake, checking84

rear brake, checking88

Brake light bulb

changing117

Brake linings **86**

front brake, checking86

rear brake, checking90

Brakes50

Braking50

C

Chain

cleaning76

dirt, checking76

wear, checking81

Chain tension

adjusting78

checking77

Chassis number16

Cleaning 168-169

Clutch

checking/correcting fluid level145

Clutch lever **19**

basic position, adjusting144

Combination instrument **24**

clock, setting29

coolant temperature indicator33

display26

display, ambient temperature32

function buttons24

indicator lamps25

kilometers or miles, setting27

ODO display29

speed display27

tachometer25

temperature units, setting32

time	28
TRIP 1 display, setting/resetting	30
TRIP 2 display, setting/resetting	30
TRIP F display	31
warning of slippery roads	33
Conserving for winter operation	170
Coolant	
draining	136
Coolant level	
compensating tank, checking	132
radiator, checking	133
Cooling system	131
filling/bleeding	137
D	
Display	26
E	
Electric starter button	23
Emergency OFF switch	23
Engine	
running in	41
Engine number	17
Engine oil	
adding	154
changing	148
draining	148
refilling	153

Engine oil level

checking	147
----------	-----

Environment

F

Filler cap

closing	34
opening	34

Flash code

engine control	159-164
immobilizer	157-158

Foot brake pedal

Fork

compression damping, adjusting	62
fork legs, bleeding	67
rebound, adjusting	64
spring preload, adjusting	65

Fork part number

Front wheel

installing	92
removing	91

Fuel tank

positioning	140
reinstalling	139

Fuel, oils, etc.

Fuse

individual power consumers, changing	108
--------------------------------------	-----

H

Hand brake lever	19
basic position, adjusting	83
Handrails	35
Headlight adjustment	
adjusting	127
checking	126
Headlight bulb	
changing	110
Headlight flasher switch	20
Helmet lock	36
mounting on vehicle	101
Horn button	21

I

Ignition curve	
adjusting to fuel quality	155
plug-in connector	155
Ignition key	
activating/deactivating	128
Ignition lock	22
Immobilizer	22
Indicator lamps	25

K

Key number	17
-------------------------	----

L

License plate lamp	
changing	125
Light switch	20
Loading the vehicle	42

M

Main fuse	
changing	106
Maintenance	8
Mask spoiler	
installing	143
removing	142

Motorcycle

cleaning	168
jacking up front	60
jacking up rear	61
taking front from work stand	60
taking rear from work stand	61

O

Oil filter	
changing	148
Oil screen	
cleaning	148
Oil screens	
cleaning	148

Owner's manual11

P

Parking51

Parking light bulb

changing113

Passenger footrests37

Play in throttle cable

adjusting147

checking146

Putting into operation

advice on first use40

after storage172

checks before putting into operation44

R

Rear hub shock absorber

checking97

Rear sprocket/engine sprocket

checking for wear80

Rear wheel

installing95

removing94

Refueling

fuel53

Riding 47

starting up46

S

Seat

mounting100

removing100

Seat lock35

Service schedule 56-59

Shift lever37

Shifting47

Shock absorber 62

compression damping, general68

compression damping, high-speed, adjusting70

compression damping, low-speed, adjusting68

rebound damping, adjusting72

spring preload, adjusting73

Shock absorber part number18

Side stand39

Spare parts9

Starting45

Steering lock22

Stopping51

Storage171

T

Tachometer25

Tail lamp bulbs

changing121

Technical data

chassis 179-182

chassis tightening torques	191-192
engine	173-174
engine tightening torques	175-178
fork	183-186
shock absorber	187-190
Tire air pressure	
checking	99
Tire condition	
checking	97
Tool set	36
Transport	9
Troubleshooting	165-167
Turn signal bulb	
changing	116
Turn signal switch	21
Type label	16
U	
Use definition	8
V	
View of vehicle	
front left side	12
rear right side	14
W	
Warning of slippery roads	33
Warranty	8
Work rules	9



3211367en



02/2009 Photo: Mitterbauer



KTM-Sportmotorcycle AG
5230 Mattighofen/Austria
<http://www.ktm.com>