Owner's manual 2027

MC-E 2
MC-E 2.12
Item no.: 3215285en



GASGAS

Dear GASGAS customer,

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

We hope your child has many safe and enjoyable rides!

You can enter the serial numbers of your vehicle below to find the serial numbers more quickly if required:

Vehicle identification number (p. 16)	Stamp of the contractual partner
Engine number (p. 16)	

The owner's manual contained the latest information for this model series at the time of publication. However, minor differences due to further developments in design cannot be ruled out completely.
All specifications are non-binding. GASGAS GmbH specifically reserves the right to modify or delete technical specifications, prices, colors, forms, materials, services, designs, equipment, etc., without prior notice and without specifying reasons, to adapt these to local conditions, as well as to stop production of a particular model without prior notice. GASGAS accepts no liability for delivery options, differences from illustrations and descriptions, misprints, and other errors. The models portrayed partly contain special equipment that does not belong to the regular scope of supply.

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1.1 Conventions

1.1.1 Icons

✓	Indicates a desired result (e.g. of a work step or a function).
✗	Indicates an undesired result (e.g. of a work step or a function).
	All work marked with this symbol requires specialist knowledge and technical understanding. Ensure that this work is carried out or supervised by trained personnel from an authorized contractual partner, and that any special tools required are used.
	Indicates a page reference.
	Indicates information with more details.
	Indicates a tip, e.g. to simplify work.
»	Indicates the result from a test step.
◀	Indicates the end of an activity, including any rework.

1.1.2 Formatting

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

1.1.3 Abbreviations

2-pc.	two-part
Part no.	Part number
or	respectively
approx.	circa
etc.	et cetera
poss.	possibly/possible
if necessary	if necessary
cmpl.	complete
min.	at least
no.	number
no fig.	no figure
s.	see
among others	among others/not limited to
and the like	and the like
etc.	et cetera
cf.	compare
e.g.	for example

2.1 Safety instructions

Function of the safety instruction

Safety instruction brings attention to dangers when handling the product. Hazards are classified, named, described, and supplemented with information on how to avoid them.

- If there is a safety instruction before a list of instructions, the danger exists throughout the entire activity.
- If there is a safety instruction immediately before an instruction, the next step presents a danger.

Safety instruction layout

All safety instructions are identified by a signal word and a warning symbol. The combination of signal word and warning symbol determines the degree of danger.



DANGER
Indicates an imminent danger that leads to serious injury or death.



WARNING
Indicates a potentially imminent danger that could lead to serious injury or death.



CAUTION
Indicates a potentially imminent danger that can lead to minor or slight injuries.



NOTE
Indicates a situation that can lead to damage to the product or the product environment.



NOTE
Indicates a situation that can lead to environmental damage.

2.2 Warning against tampering with the machine

No mechanical, electrical or electronic modifications may be made to the vehicle, since safe operation cannot be guaranteed otherwise.
Examples of inadmissible manipulation and modifications:

1. Opening the rechargeable lithium-ion battery (LV traction battery) or the engine.
2. Use of the vehicle or the lithium-ion battery when proper maintenance has not been performed.
3. Use of the vehicle or the lithium-ion battery outside the use definition.
4. Use of a damaged lithium-ion battery.

2.3 Safe use



WARNING
Danger of accidents A lack of physical and mental readiness on the part of the child poses a major risk.
Children often underestimate or fail to recognize dangerous situations.

- Your child must already be able to ride a bicycle.
- Your child must be able to put the vehicle upright independently after a fall.
- Your child must understand that regulations and instructions from you or from other guardians must be followed.
- Make it clear to your child that they should not, under any circumstances, operate the vehicle without supervision.
- Make sure that the riding mode is appropriate for your child's riding ability and for the riding conditions.
- Do not ask too much of your child.
- Do not consider participation in competitive activities until your child's stamina, riding techniques and motivation are at the necessary levels.
- Only let your child ride on the vehicle if they are physically and mentally ready.

WARNING

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

- Do not touch any parts such as the engine, lithium-ion battery, damper, or brake system before these vehicle parts have cooled down.
- Allow the vehicle parts to cool down before performing any work on the vehicle.

This vehicle is a low-voltage electric motorcycle. For this reason, follow the safety and care instructions that apply when using an electric motor.

When the throttle grip is closed, the vehicle continues rolling without significant deceleration. The vehicle speed decreases on account of rolling resistance and air resistance.

Because this vehicle does not have a manual transmission, there is no clutch.

As with a conventional drive with a combustion engine, the operating temperature rises according to use and depending on the ambient temperature. If the temperature of the motor, the lithium-ion battery, or the electronics rises above the permissible operating temperature, the power of the vehicle will be reduced considerably. This protects the system against damage from overheating. When all components have returned to their normal operating temperature, full system power is restored after restarting.

Only operate the vehicle when it is in perfect technical condition, in accordance with its intended use, and in a safe and environmentally compatible manner.

Have malfunctions that impair safety promptly eliminated by an authorized contractual partner.

Note and explain the information and warning labels affixed to the vehicle (see description in the next section).

2.4 Fall or accident

If the vehicle is lying on its side, it switches from ready mode to standby mode. To return the vehicle to ready mode, place the vehicle in the upright position and close the throttle grip beyond the basic position.

After a fall or accident, check the vehicle as usual when preparing for use.

2.5 Protective clothing

WARNING

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

- Ensure your child wears appropriate protective clothing such as helmet, boots, gloves as well as trousers and a jacket with protectors on all rides.
- Alway use protective clothing for your child that is in good condition and meets the legal requirements.
- When you ride a motorcycle, set an example for your child and wear suitable protective clothing.

2.6 Work on vehicle, engine, and rechargeable lithium-ion battery

WARNING

Risk of injury There is a risk of electric shock when working on live components.

Work on live components requires special training, qualifications, and tools.

- Ensure that all work that is not described and explained is only carried out by specialists who have completed the necessary training.
- Do not open the electric motor or the lithium-ion accumulator.

WARNING

Risk of injury The vehicle runs quietly, even when it is ready to operate.

The vehicle can start to move in an uncontrolled manner if the throttle is accidentally touched while work is being performed on the vehicle.

- Ensure that the vehicle is switched off with the On/Off button and remains switched off before starting any work on the vehicle.
- Remove the magnetic switch from the holder before starting any work on the vehicle.
- Secure the vehicle against access by unauthorized persons while you are performing work on the vehicle.

Unless specified otherwise, the ignition must be switched off during all work (models with ignition lock, models with transponder key) or the engine must be at a standstill (models without ignition lock or transponder key).
Special tools are required for some work. The tools are not part of the vehicle, but can be ordered using the number in parentheses. Example: bearing puller (15112017000)
Unless otherwise noted, normal conditions apply to all tasks and descriptions.

Ambient temperature	20 °C (68.0 °F)
Ambient air pressure	1,013 mbar (14.69 psi)
Relative air humidity	60 ±5 %

During assembly, use new parts to replace parts which cannot be reused (e.g. self-locking screws and nuts, expansion screws, seals, sealing rings, O-rings, pins, and lock washers).
A thread lock (e.g. **Loctite®**) is required for some screw connections. Observe the manufacturer's specific instructions for use.
If thread lock (e.g. **Precote®**) has already been applied to a new part, do not apply any additional thread lock.
After disassembly, clean the parts that are to be reused and check them for damage and wear. Replace damaged or worn parts.
After completing a repair or service, check the operating safety of the vehicle.

2.7 Environment

When you respect the rights of others and use your motorcycle legally, you will help protect the future of motorcycle sport and avoid most conflicts and problems.
When disposing of operating and auxiliary fluids or used components, comply with the applicable laws and regulations in your country.
When disposing of the lithium-ion battery (LV traction battery), observe the relevant laws and guidelines of your country.
Your authorized contractual partner can dispose of the LV traction battery free of charge and in an environmentally friendly manner.
As motorcycles are not subject to the EU regulations governing the disposal of end-of-life vehicles, there are no legal regulations that pertain to the disposal of an end-of-life motorcycle. An authorized partner will be happy to help.
Electrical devices like the battery charger may not be disposed of with household waste. Electrical devices must be disposed of through the appropriate recycling centers. Contact your municipality or your authorized contractual partner.

2.8 Owner's manual

CAUTION

- It is important that you read this owner's manual carefully and completely before your child makes their first trip. The owner's manual contains useful information and many tips for you and your child on how to operate, handle, and service your motorcycle. This is the only way for you to find out how to ideally tune the vehicle and how to protect your child from injury.



Tip
Store the owner's manual on your terminal device, for example, so that you can read it whenever you need to.

If you would like to know more about the vehicle or have questions about the material, please contact an authorized partner.
The owner's manual is an important component of the vehicle. If the vehicle is sold, the owner's manual must be downloaded again by the new owner.
The owner's manual can be downloaded multiple times using the QR code or the link on the delivery certificate.
The owner's manual is also available for download from your authorized contractual partner and on the GASGAS website. You can also order a printed copy from your authorized contractual partner.
International GASGAS website: https://www.gasgas.com/

2.9 Fire hazard

WARNING

Fire hazard Massive mechanical damage to the lithium ion accumulator can lead to a short circuit within the cell and spontaneous combustion.

– Contact the vehicle manufacturer's customer service immediately if the lithium ion accumulator is severely damaged.

There is no particular fire hazard for this vehicle when the rechargeable lithium-ion battery (LV traction battery) is intact.

However, should the vehicle catch fire, inform the fire department responsible that an electric vehicle with a rechargeable lithium-ion battery is on fire.

2.10 Use definition – intended use

This vehicle is designed and constructed to withstand the stresses and strains of recreational use if the maximum rider weight is not exceeded.

This vehicle is designed to introduce the younger generation to offroad sport.

Note

Only use this vehicle on designated tracks away from public roads.

Only use the lithium-ion battery while it is inside the vehicle.

CAUTION

- To make the first experience with offroad sport as safe and fun as possible, we recommend taking a riding techniques course.

2.11 Recommended speeds

This motorcycle can be set in three ride modes, each with different speed limits. In the condition at delivery, the ride mode with the lowest maximum speed is preset. The vehicle must be used on the lowest setting until your child is familiar with the operation of the motorcycle. After that, the speed-limit setting should be adjusted according to the rider’s abilities.

It is important for your child’s safety that the ride mode, and therefore the achievable speeds, are set according to the rider’s abilities, experience and mental maturity.

2.12 Improper use

The vehicle may only be used as intended.

Improper use can result in danger to people, property and the environment.

Any use of the vehicle beyond the intended and defined use constitutes misuse.

Improper use includes the use of operating and auxiliary materials that do not meet the required specifications for the respective use.

3 Important notes

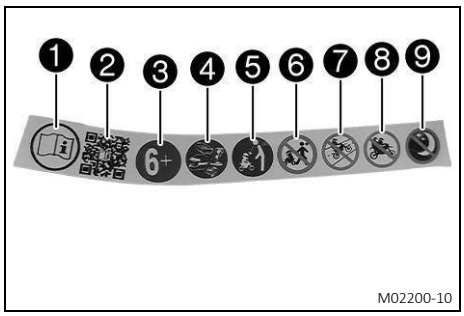
3.1 Labels

Note

The label described is located on the link fork and must not be removed.

If the label is damaged or no longer present, contact an authorized contractual partner.

Notes which apply to your child must be explained before riding the motorcycle.



1. Read and observe the Owner's Manual
2. QR code for the instructions download portal
3. Minimum age: 6 years
4. Wear protective clothing
5. Supervise children
6. Do not let children ride unsupervised
7. Do not ride on roads
8. Do not take passengers
9. Do not ride in darkness or twilight

3.2 Manufacturer's warranty, implied warranty

The work prescribed in the service schedule must only be carried out by an authorized contractual partner and then confirmed in the electronic proof of service, as otherwise all warranty claims will be void. Damage or secondary damage caused by tampering with and/or conversions on the vehicle are not covered by the manufacturer's warranty.

3.3 Auxiliary material, operating material

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

3.4 Spare parts, accessories

For the safety of your child, only use spare parts and accessory products that are approved and/or recommended by GASGAS and have them installed by an authorized contractual partner. GASGAS accepts no liability for other products and any resulting damage or loss.

Certain spare parts and accessory products are specified in parentheses in the descriptions. Your authorized contractual partner will be happy to advise you.

The current accessories for your vehicle can be found on the GASGAS website.

International GASGAS website: https://www.gasgas.com/

3.5 Service

A prerequisite for perfect operation and prevention of premature wear is that the service, care, and tuning work on the engine and chassis is properly carried out as described in the owner's manual. An incorrect suspension setting can lead to damage and breakage of chassis components.

Use of the vehicle under arduous conditions, such as on sand or on wet, dusty and muddy surfaces, can result in significantly increased wear of components, such as the powertrain, brake system, air filter, or suspension components. For this reason, it may be necessary to inspect or replace parts before the next scheduled service interval.

Please adhere to the prescribed run-in times and service intervals at all times. Strictly adhering to this will ensure a much longer service life for your motorcycle.

The relevant mileage or time interval is whichever occurs first.

A list of services that have already been carried out on the vehicle can be found in the Service area on the international GASGAS website:

International GASGAS website: https://www.gasgas.com/

Authorized contractual partners will be happy to answer any questions regarding the services performed.

A list of authorized contractual partners can be found on the GASGAS website.

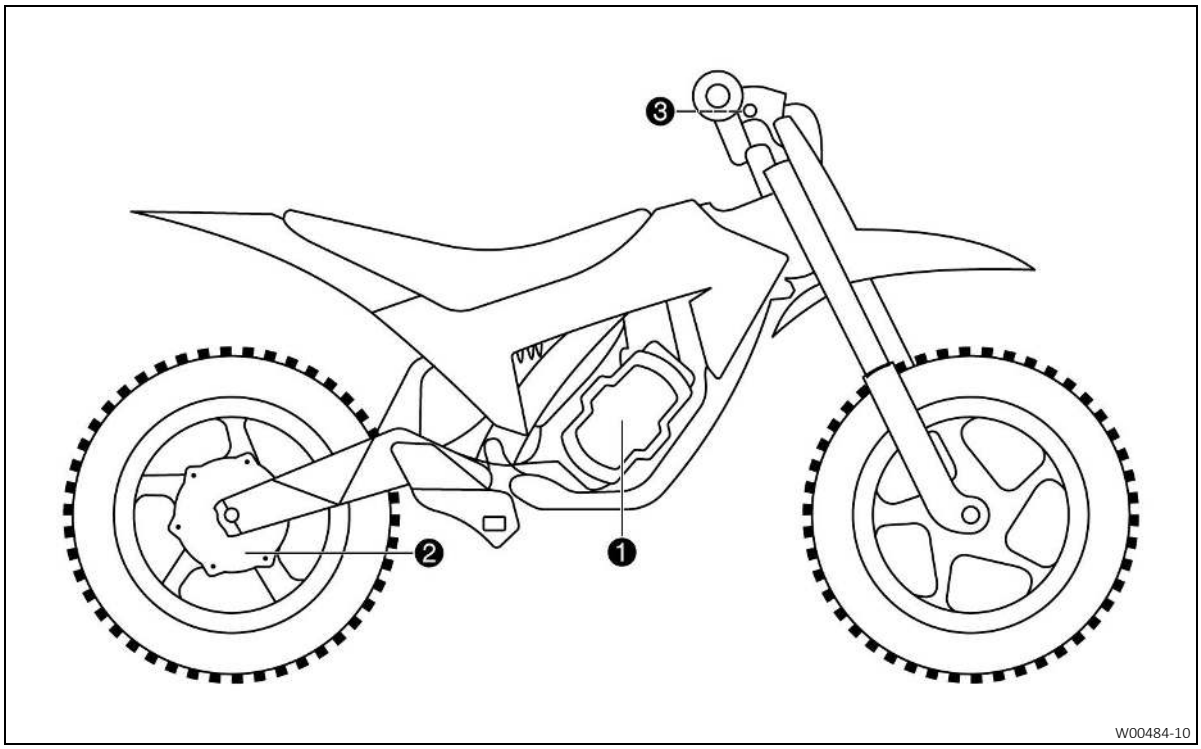
3.6 Figures

Some of the figures in this document contain optional extras.
For clarity, some components may be shown disassembled or may not be shown at all. Disassembly is not always absolutely necessary in order to carry out the activities described. The textual information takes precedence.

3.7 Customer service

Authorized contractual partners will be happy to answer questions about the vehicle and GASGAS.
A list of authorized contractual partners can be found on the GASGAS website.
International GASGAS website: https://www.gasgas.com/

3.8 Voltage supply



A battery compartment is installed on the vehicle for the rechargeable lithium-ion battery ❶ (LV traction battery).
The LV traction battery supplies the electric motor ❷ and multifunctional element ❸ with voltage.
The LV traction battery must be removed from the bracket for charging.

3.9 Operation at low temperatures

In order to protect the LV traction battery, the engine control reduces the power at low component temperatures.
The vehicle can be operated without any problems. The LV traction battery is not damaged by the reduction in power.
The LV traction battery warms up during vehicle operation. If the temperature of the LV traction battery exceeds a threshold value, full vehicle power is restored after the vehicle is restarted.

4 View of the vehicle

4.1 View of vehicle, front right (example)



1. Hand brake lever (p. 17)
2. Magnetic switch on handlebar (p. 18)
3. Rear brake lever (p. 17)

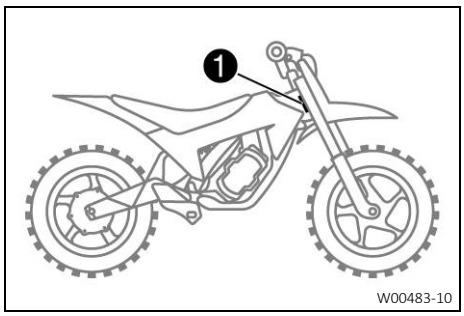
4.2 View of vehicle, rear right (example)



1. Multifunctional element (p. 19)
2. Throttle grip (p. 17)
3. Vehicle identification number (p. 16)
4. Battery compartment

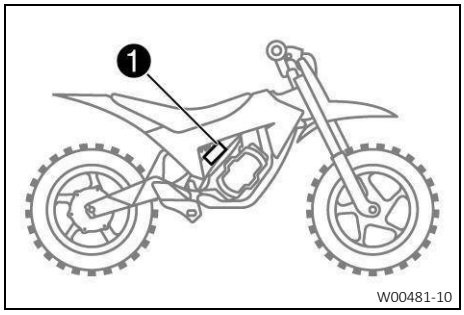
5 Serial number

5.1 Vehicle identification number



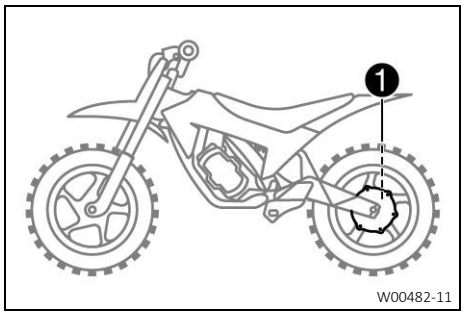
The vehicle identification number ❶ is stamped on the right side of the steering head.

5.2 Frame label



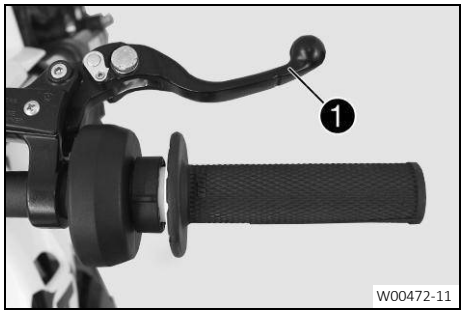
Frame label ❶ is located on the front frame tube.

5.3 Engine number



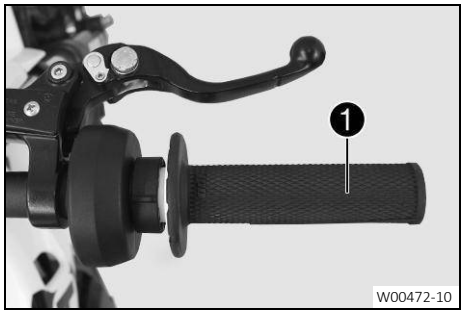
The engine number ❶ is stamped on the left side of the engine.

6.1 Hand brake lever



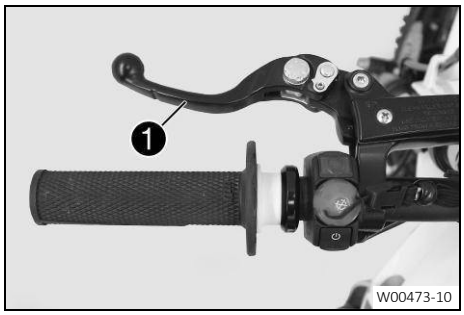
Front brake lever ❶ is fitted on the right side of the handlebar.
The front brake is engaged using the front brake lever.

6.2 Throttle grip



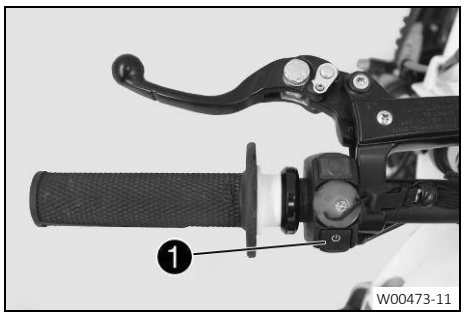
The throttle grip ❶ is fitted on the right side of the handlebar.
After activation, the vehicle initially does not react to the throttle grip to prevent accidental acceleration.
The throttle grip must be closed beyond the basic position to activate the throttle response.
Only then does the vehicle switch to ready mode.

6.3 Rear brake lever



The rear brake lever ❶ is fitted on the left side of the handlebar.
The rear brake is engaged with the rear brake lever.

6.4 On/Off button

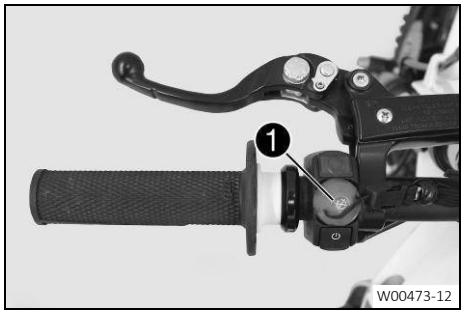


On/Off button ❶ is fitted on the left side of the handlebar.

Note
The On/Off button can also be used to change the riding mode (p. 19).

Condition	Meaning
Vehicle switched off	In this operating state, the vehicle is deactivated.
Vehicle in standby mode	In this operating state, the vehicle is activated.

6.5 Magnetic switch on handlebar



The holder for the red magnetic switch ❶ is located on the left side of the handlebar.

Condition	Meaning
Magnetic switch ⊗ mounted on the handlebars	When the magnetic switch is mounted on the handlebar, the vehicle can be activated and ridden.
Magnetic switch ⊗ removed from handlebars	When the magnetic switch is removed from the handlebar, the vehicle cannot be activated or ridden.

WARNING

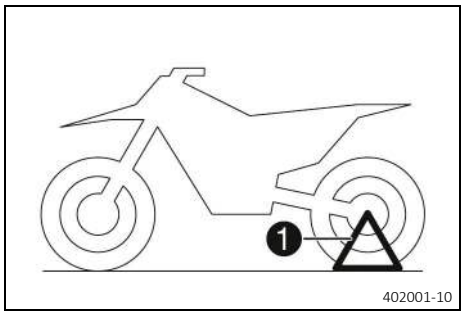
Risk of injury If the magnetic switch remains in the holder during a fall, the vehicle is not immediately deactivated.

– Make sure that the loop of the magnetic switch is securely attached to the user's protective clothing or wrist so that the magnetic switch is disconnected from the holder in the event of a fall.

If the red magnetic switch on the handlebar is disconnected from the holder, e.g., in the event of a fall, the vehicle is deactivated.

By removing the red magnetic switch from the handlebar, the vehicle can be quickly deactivated in any operating state.

6.6 Plug-in stand



The mounting stand for plug-in stand ❶ is located on the link fork on the left side of the vehicle.

The plug-in stand is used to park the motorcycle.

Note

Remove the plug-in stand before riding.

7.1 Multifunctional element

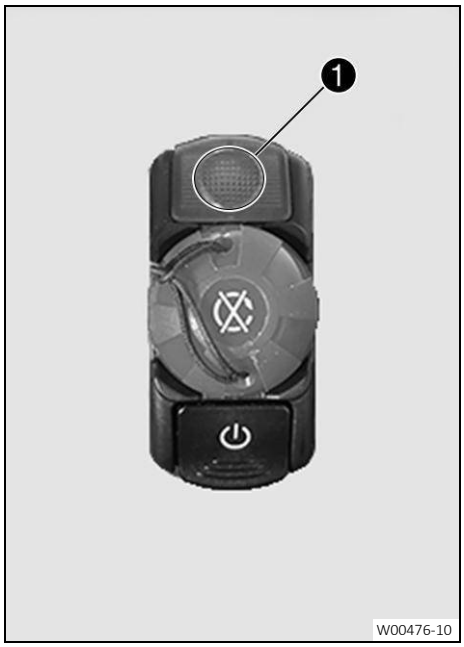
The multifunctional element is fitted on the left side of the handlebar.

Overview of multifunctional element



❶ On/Off button (p. 17)
❷ Magnetic switch on handlebar (p. 18)
❸ Riding mode indicator (p. 19)
❸ Charging level indicator (p. 20)

7.2 Riding mode indicator



Riding mode indicator ❶ is fitted on the left side of the handlebar.
The LED indicates the different riding modes.
Riding mode indicator (p. 19)

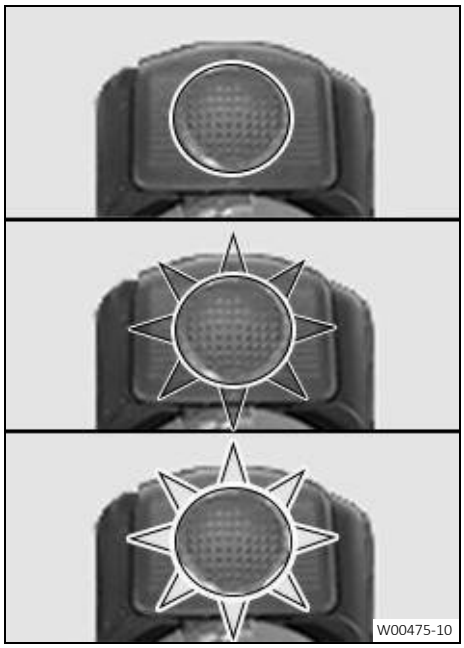
Theoretical maximum speed (unloaded)	
Riding mode **1**	7 km/h (4.3 mph)
Riding mode **2**	20 km/h (12.4 mph)
Riding mode **3**	33 km/h (20.5 mph)

Riding mode indicator

White	Riding mode **1**
Blue	Riding mode **2**
Green	Riding mode **3**

Red (flashing)	Charging level low
Red/blue (flashing)	Vehicle is lying on its side

7.3 Charging level indicator



The color of the LED corresponds to the riding mode.
When charging level is minimal, the LED also flashes red alternately.
LED lights up: charging level 100%–50%.
LED flashes slowly: charging level 50%–15%.
LED flashes quickly: charging level 15%–0%.

8.1 Notes on preparing for first use

WARNING
Risk of injury The vehicle runs quietly, even when it is ready to operate.
The vehicle can start to move in an uncontrolled manner if the throttle is accidentally touched while work is being performed on the vehicle.
– Ensure that the vehicle is switched off with the On/Off button and remains switched off before starting any work on the vehicle.
– Remove the magnetic switch from the holder before starting any work on the vehicle.
– Secure the vehicle against access by unauthorized persons while you are performing work on the vehicle.

WARNING
Danger of accidents The vehicle is not designed to carry passengers.
– Make it clear to your child that he or she must not carry a passenger.

WARNING
Danger of accidents The brake system fails in the event of overheating.
If the hand brake lever is not released, the brake linings grind continuously.
– Make sure your child only has their hands on the hand brake levers when they want to brake.

WARNING
Danger of accidents The suspension components will become damaged or destroyed if overloaded.
– Make sure the maximum permissible weight of the rider is not exceeded.

WARNING
Danger of accidents A lack of physical and mental readiness on the part of the child poses a major risk.
Children often underestimate or fail to recognize dangerous situations.
– Your child must already be able to ride a bicycle.
– Your child must be able to put the vehicle upright independently after a fall.
– Your child must understand that regulations and instructions from you or from other guardians must be followed.
– Make it clear to your child that they should not, under any circumstances, operate the vehicle without supervision.
– Make sure that the riding mode is appropriate for your child's riding ability and for the riding conditions.
– Do not ask too much of your child.
– Do not consider participation in competitive activities until your child's stamina, riding techniques and motivation are at the necessary levels.
– Only let your child ride on the vehicle if they are physically and mentally ready.

WARNING
Danger of accidents Different tire profiles on the front and rear wheels can make it more difficult to control the vehicle.
– Make sure that only tires of the same tread type are mounted to the front and rear wheel.

WARNING
Risk of injury Missing or poor protective clothing presents an increased safety risk.
– Ensure your child wears appropriate protective clothing such as helmet, boots, gloves as well as trousers and a jacket with protectors on all rides.
– Alway use protective clothing for your child that is in good condition and meets the legal requirements.
– When you ride a motorcycle, set an example for your child and wear suitable protective clothing.

– Ensure that the pre-delivery inspection has been carried out by an authorized contractual partner.
  ✓ The delivery certificate is transferred upon vehicle handover.
– To prevent your child getting injured, it is extremely important that they complete a training course before using the vehicle.
– Read through the entire Owner's Manual together with your child before riding for the first time.

Note

Pay special attention to the safety instructions and to the risk of injury.

Explain to your child the techniques of riding and falling, e.g., how shifting weight can influence handling characteristics.

- Always pull the magnet off the handlebar to prevent unauthorized use of the vehicle.
- Familiarize your child with the controls.
- Adjust the basic position of the front brake lever. (p. 48)
- Adjust the basic position of the rear brake lever. (p. 54)
- Before using the vehicle for the first time, ensure that the basic settings of the chassis are suitable for the weight of your child.
- Allow your child to become accustomed to the handling of the motorcycle on suitable terrain, preferably on a large, open field.

Note

To give your child a feeling for the brake system, start by pushing your child. Do not start the motor until your child is able to apply the necessary front brake pressure.

Your child should begin by riding to another person, who can help your child stop and turn.

- Erect obstacles for your child to navigate around so that your child becomes accustomed to handling the vehicle.
- Your child should also try to ride as slowly as possible and in a standing position to get a better feeling for the motorcycle.
- Do not let your child ride on terrain that exceeds your child's capabilities and experience.
- Your child should hold the handlebar firmly with both hands and keep their feet on the footrests when riding.
- Make sure the maximum permissible weight of the rider is not exceeded.

Maximum rider weight	35 kg (77.2 lb)
Maximum rider height	130 cm (51.2 in)

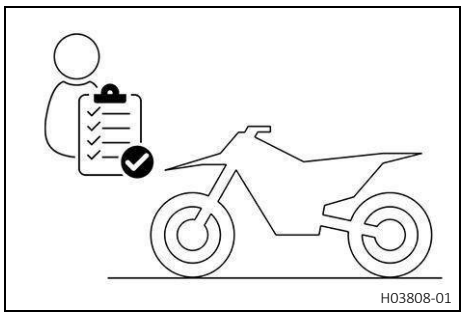
9.1 checks and maintenance measures when preparing for use

Note

Before every trip, check the condition of the vehicle and ensure that it is safe to operate.

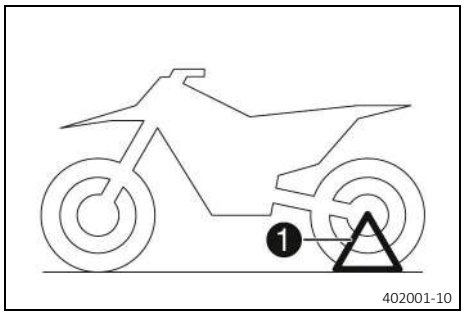
The vehicle must be in perfect technical condition when it is being operated.

If the vehicle was lying on its side, check both hand brake levers move easily and have firm pressure points.


H03808-01

- Check the throttle grip, magnetic switch, LV traction battery, multi-functional element, and electric motor for external damage.
- Install the LV traction battery. (p. 66)
- Check the brake fluid level for the front brake. (p. 49)
- Check the brake fluid level for the rear brake. (p. 55)
- Check that the brake pads of the front brake are secured. (p. 51)
- Check that the brake pads of the rear brake are secured. (p. 56)
- Check that the brake system is functioning properly.
- Check the tire condition. (p. 63)
- Check the tire pressure. (p. 64)
- Check the settings of all controls and ensure that they can be operated smoothly.
- Check the tightness of the safety-relevant screws and nuts which are easily accessible.
- Check the charging level of the LV traction battery.

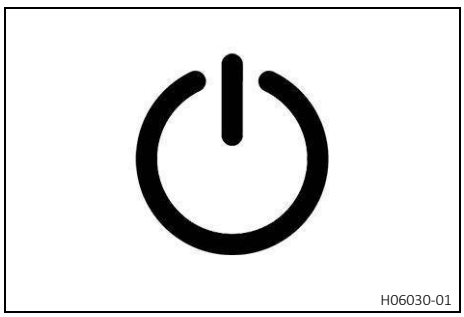
9.2 Starting the vehicle



402001-10

- Remove plug-in stand ❶.
- Mount magnetic switch ⊠ on the support on the handlebar.

To prevent unwanted activation, only mount the magnetic switch immediately before going on a ride.


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- Press and hold the On/Off button until the multifunctional element lights up.
  - ✓ The vehicle is in standby mode.
- Close the throttle grip beyond the basic position.
  - ✓ The vehicle vibrates.
  - ✓ The vehicle is ready to operate and responds to the throttle grip.

9.3 Changing the riding mode

Note
The riding mode should only be gradually changed when the child is familiar with all the controls.



– Switch the vehicle on using **On/Off button** ❶.
– Remove **magnetic switch** ❷ from the handlebar.
– Close the throttle grip beyond the basic position and hold there.
– Wait until the light flashes (3 seconds) and continue to hold the throttle grip.
– Press and hold **On/Off button** ❶ for 3 seconds to change the riding mode (p. 19).

  Riding mode indicator (p. 19)

  ✓ The color of riding mode indicator ❸ changes to the new riding mode.
– Release the throttle grip.
  ✓ The vehicle can be started.

9.4 Starting off

Note
The plug-in stand must be removed before riding.

– Open the throttle carefully.

9.5 Braking.

WARNING
Danger of accidents A spongy pressure point on the front or rear brake reduces the brake action.
– Make sure that your child does not ride the vehicle if the brake system has a spongy pressure point.

WARNING
Danger of accidents Braking with excessive force locks the wheels.
– Explain to your child that he or she must adapt the braking to the traffic situation and the road conditions.

WARNING
Danger of accidents Moisture and dirt impair the brake system.
– Explain to your child that he or she must brake carefully several times to dry out and remove dirt from the brake linings and the brake discs.

– On sandy, wet, or slippery surfaces, use mostly the rear brake if possible.
– Try to complete the braking procedure before riding into a curve.

9.6 Stop, park

WARNING
Risk of misappropriation People who act without authorization endanger themselves and others.
– Never leave the vehicle unattended.
– Secure the vehicle against unauthorized access.

WARNING
Danger of burns Some vehicle components become hot when the vehicle is operated.
– Do not touch any parts such as the engine, lithium-ion battery, damper, or brake system before these vehicle parts have cooled down.
– Allow the vehicle parts to cool down before performing any work on the vehicle.

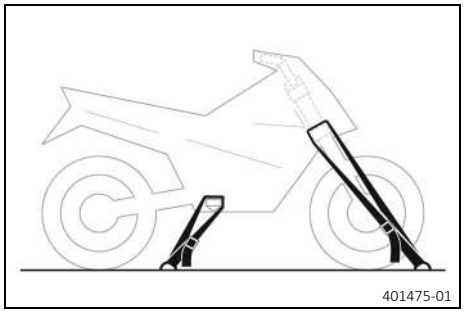
NOTE
Material damage The vehicle may be damaged if parked incorrectly.
Damage can occur if the vehicle rolls away or falls over.
The components for parking the vehicle are designed only for the weight of the vehicle.
– Park the vehicle on a firm and level surface.
– Make sure that nobody sits on the vehicle when it is parked on a stand.

– Brake the motorcycle.
– Press and hold the On/Off button until the multifunctional element goes out.
– Remove magnetic switch from the support on the handlebar.
– Park the motorcycle on firm ground.

9.7 Transportation

NOTE
Fire hazard Hot vehicle components pose a fire hazard and explosion risk.
– Do not park the vehicle near materials which are highly flammable or explosive.
– Allow the vehicle to cool down before covering it.

NOTE
Material damage The vehicle may be damaged if parked incorrectly.
Damage can occur if the vehicle rolls away or falls over.
The components for parking the vehicle are designed only for the weight of the vehicle.
– Park the vehicle on a firm and level surface.
– Make sure that nobody sits on the vehicle when it is parked on a stand.


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– Press and hold the On/Off button until the multifunctional element goes out.
– Remove magnetic switch from the support on the handlebar.
– Use tension belts or other suitable devices to secure the motorcycle against falling over or rolling away.

10 Service schedule

10.1 Service schedule

Any further work that results from the service work must be ordered separately and invoiced separately.

Different service intervals may apply in your country, depending on the local operating conditions.

Individual service intervals and scopes may change in the course of technical developments. The most up-to-date service schedule is available for authorized contractual partners for the electronic proof of service. Your authorized contractual partner will be happy to advise you.

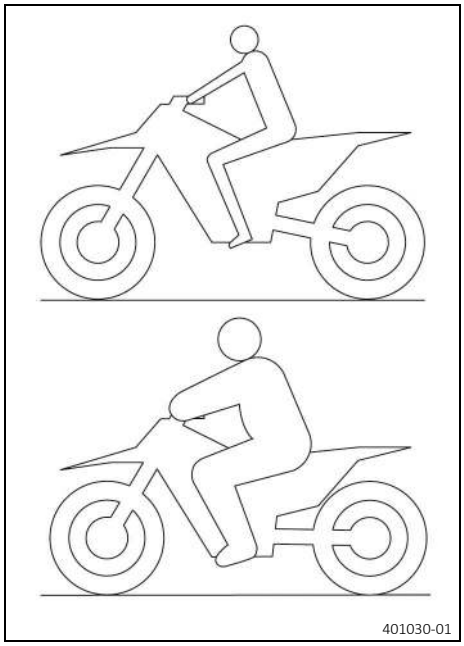
Always bring the battery charger and LV traction battery for servicing.

	After 10 operating hours	Every 20 operating hours	Every 12 months
Inspect the battery charger for damage and dirt.	○	●	
Check that the electrical equipment is functioning properly.	○	●	●
Check and charge the LV traction battery.	○	●	●
Check that the brake pads of the front brake are secured. (p. 51)	○	●	●
Check that the brake pads of the rear brake are secured. (p. 56)	○	●	●
Check the brake discs. (p. 48)	○	●	●
Check the brake lines for damage and tightness.	○	●	●
Check the brake fluid level for the front brake. (p. 49)	○	●	
Change the brake fluid for the front brake.			●
Check the brake fluid level for the rear brake. (p. 55)	○	●	
Change the brake fluid for the rear brake.			●
Check the play in the front brake lever. (p. 48)	○	●	●
Check the play of the rear brake lever. (p. 54)	○	●	●
Check cables and wires for damage and ensure they are routed without kinks.	○	●	●
Check the frame. (p. 46)		●	
Check the swingarm. (p. 47)		●	
Check the swingarm bearing for play.		●	
Check the tire condition. (p. 63)	○	●	●
Check the tire pressure. (p. 64)	○	●	●
Check the wheel bearing for play.		●	
Check the hubs.		●	
Grease all moving parts (e.g., hand lever, etc.) and make sure they can move easily.	○	●	●
Check the rubber buffer and pivot points of the shock absorber. (p. 45)		●	
Check the tightness of the safety-relevant screws and nuts which are easily accessible.	○	●	●
Check the steering head bearing play. (p. 38)	○	●	
Lubricate the steering head bearing. (p. 40)			●
Final check: check vehicle for operating safety.	○	●	●
Enter electronic proof of service.	○	●	●

○ One-time interval

● Periodic interval

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



– For optimal motorcycle riding characteristics and to avoid damage to forks, shock absorbers, swingarm, and frame, the basic settings of the suspension components must match the rider's weight.
– This vehicle is delivered pre-set for the minimum rider's weight (with full protective clothing).

Maximum rider weight	35 kg (77.2 lb)

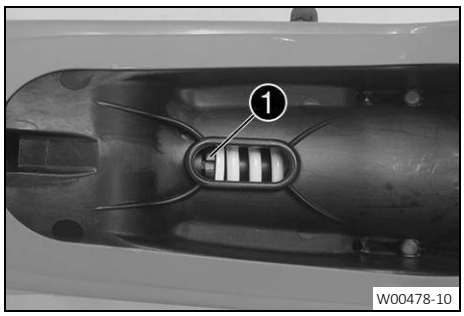
11.2 Adjusting the preload for the shock absorber

CAUTION
Risk of injury Parts of the shock absorber will move erratically if the shock absorber is detached incorrectly.
The shock absorber is filled with highly compressed nitrogen.
– Please follow the description provided.

Preparatory work

– Remove the seat. (p. 46)

Main work



– Set the spring preload by turning adjusting ring ❶ using a suitable tool.

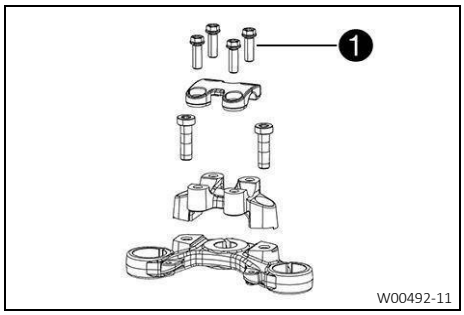
Note
Turning left increases the preload.
Turning right reduces the preload.

Reworking

– Mount the seat. (p. 46)

11.3 Adjusting the handlebar position

WARNING
Danger of accidents A repaired handlebar poses a safety risk.
If the handlebar is bent or straightened, the material becomes fatigued. The handlebar may break as a result.
– Change the handlebar if the handlebar is damaged or bent.



– Remove screws 1. Take off the handlebar clamp. Remove the handlebar and lay it to one side.

Protect the components against damage by covering them.
Do not kink the cables or lines.

– Position the handlebar centrally.

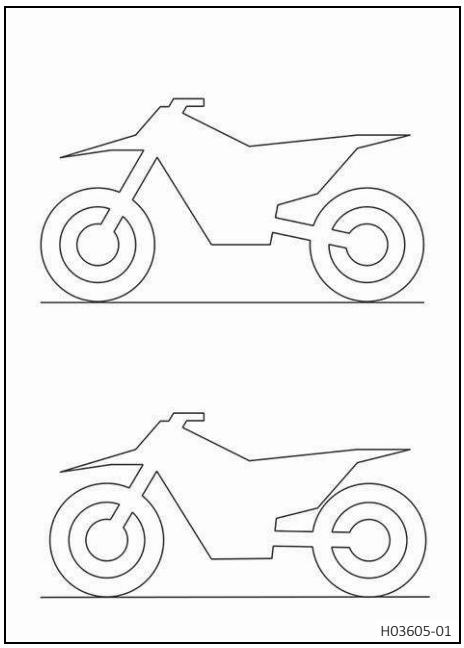
Note the guide line on the handlebar.
Make sure the cables and wiring are positioned correctly.

– Position the handlebar clamp. Mount screws 1 and tighten evenly.

Screw, handlebar clamp	
M8×25	15 Nm (11.1 ft·lb$_f$)

Note
Make sure the installed gap widths are even.

12.1 Seat height adjustment options



The seat height can be changed by the mounting position of the fork and shock absorber.

We recommend only adjusting the vehicle to the higher seat position once the child's legs are as long as the minimum inside leg measurement stipulated.

Inside leg measurement for higher position	≥ 50 cm (≥ 19.7 in)

Note

When adjusting the seat height on the fork and shock absorber, make sure that the vehicle is as straight as possible after completing the work.

If the seat height on the shock absorber is set low, the fork should be pushed through further and vice versa.

12.2 Adjusting the seat height on the shock absorber

WARNING

Danger of accidents Modifications to the suspension settings that are not properly coordinated can impair the handling and overload components.

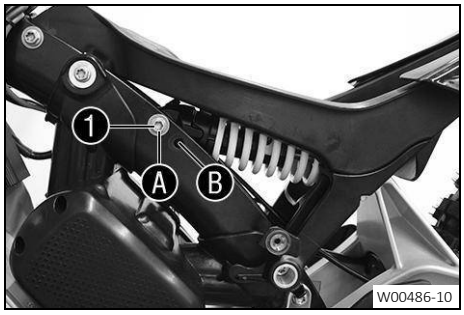
- Only make adjustments within the recommended range.
- Make sure your child rides slowly to start with after making adjustments in order that he or she can assess the new handling characteristic.

Note

If the seat height is adjusted on the shock absorber, the seat height should also be adjusted on the fork.

Preparatory work

- Raise the motorcycle with a lift stand. (p. 33)
- Remove the seat. (p. 46)
- Remove the left side cover. (p. 41)
- Remove the right side fairing. (p. 42)



Main work

– Hold the rear wheel with the link fork and remove screw ❶.
– Position the shock absorber according to the required seat height.

Low seating position	Ⓐ
High seating position	Ⓑ

– Mount and tighten screw ❶.

Top shock absorber screw	
M8×65	20 Nm (14.8 ft·lb$_f$)

Reworking

– Install the right side cover. (p. 43)
– Install the left side fairing (p. 42)
– Mount the seat. (p. 46)
– Remove the motorcycle from the lift stand. (p. 33)

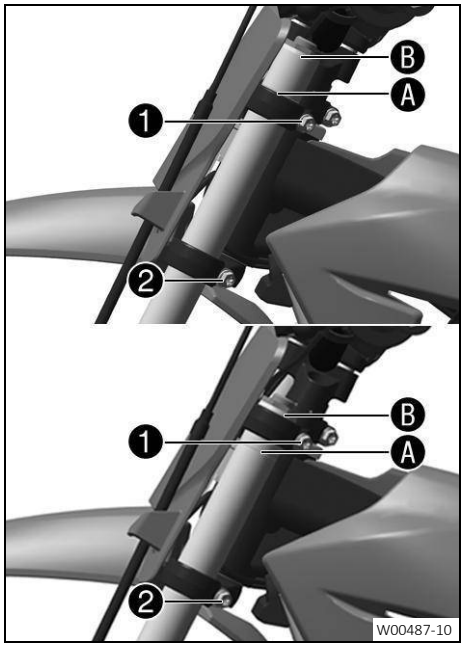
12.3 Adjusting the seat height on the fork

WARNING
Danger of accidents Modifications to the suspension settings that are not properly coordinated can impair the handling and overload components.
– Only make adjustments within the recommended range.
– Make sure your child rides slowly to start with after making adjustments in order that he or she can assess the new handling characteristic.

Note
The seat height can be infinitely adjusted by pushing the fork legs through.
If the seat height is adjusted on the fork, the seat height should also be adjusted on the shock absorber.

Preparatory work

– Raise the motorcycle with a lift stand. (p. 33)
– Remove the front wheel. (p. 60)



Main work

– Loosen screw ❶.
– Loosen screw ❷.
– Position the fork leg according to the required seat height.
  Condition
  + Seating position as low as possible, fork fully inserted

Chamfer on fork Ⓐ closes flush with upper edge of triple clamp.

  Condition
  + Seating position as high as possible, fork pulled out completely

Bottom edge of screw cap Ⓑ closes flush with the upper edge of the triple clamp

– Only position the fork leg within the described area, otherwise damage could occur. (previous note)
– Tighten screw ❷.

Screw, bottom triple clamp	
M8×25	20 Nm (14.8 ft·lb$_f$)

– Tighten screw ❶.

Screw, top triple clamp	
M8×25	20 Nm (14.8 ft·lb$_f$)

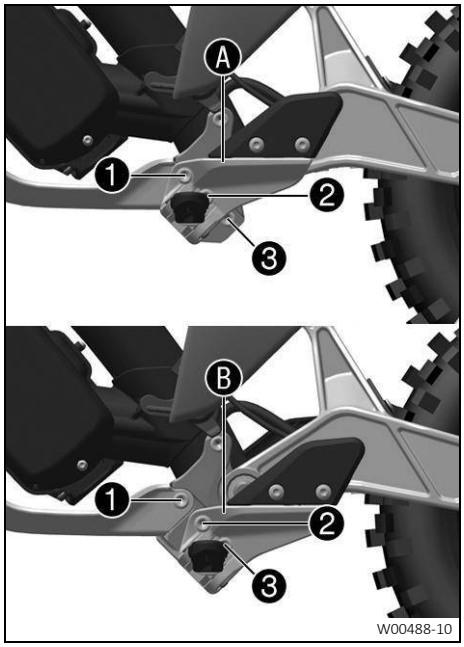
– Repeat the procedure on the other fork leg.

Position both fork legs equally.

Reworking

– Install the front wheel. (p. 60)

12.4 Adjust the footrest bracket on the frame.



– Loosen screw ❶.
– Loosen screw ❷.
– Loosen screw ❸.
– Position the footrest bracket according to the required seat height.

Upper position of the footrest bracket	Ⓐ
Lower position of the footrest bracket	Ⓑ

– Tighten screw ❶.

Screw, skid plate to frame	
M8×70	20 Nm (14.8 ft·lb$_f$)

– Tighten screw ❷.

Screw, footpeg bracket	
M8×25	25 Nm (18.4 ft·lb$_f$) **Loctite® 243**

– Tighten screw ❸.

Screw, footpeg bracket	
M8×25	25 Nm (18.4 ft·lb$_f$) **Loctite® 243**

13.1 Raising the motorcycle with a lift stand

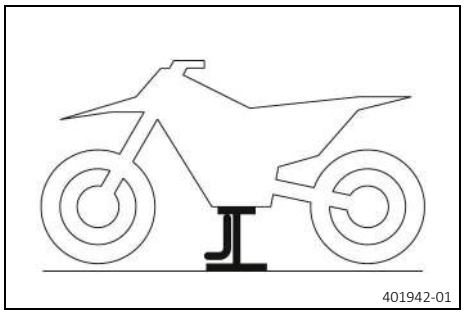
NOTE

Material damage The vehicle may be damaged if parked incorrectly.

Damage can occur if the vehicle rolls away or falls over.

The components for parking the vehicle are designed only for the weight of the vehicle.

– Park the vehicle on a firm and level surface.
– Make sure that nobody sits on the vehicle when it is parked on a stand.


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– Raise the motorcycle with a suitable lift stand on the underride guard.
  ✓ Neither wheel is in contact with the ground.
– Secure the motorcycle against falling over.

13.2 Removing the motorcycle from the lift stand

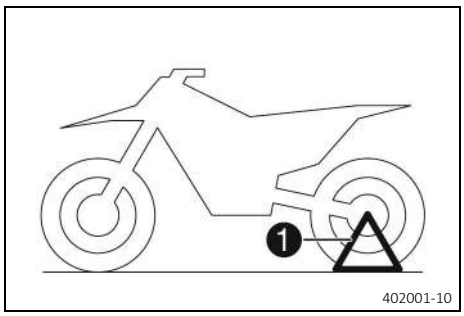
NOTE

Material damage The vehicle may be damaged if parked incorrectly.

Damage can occur if the vehicle rolls away or falls over.

The components for parking the vehicle are designed only for the weight of the vehicle.

– Park the vehicle on a firm and level surface.
– Make sure that nobody sits on the vehicle when it is parked on a stand.



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– Remove the motorcycle from the lift stand.
– Remove the lift stand.
– To park the motorcycle, insert plug-in stand ❶ into the plug-in stand bracket on the left side of the link fork.

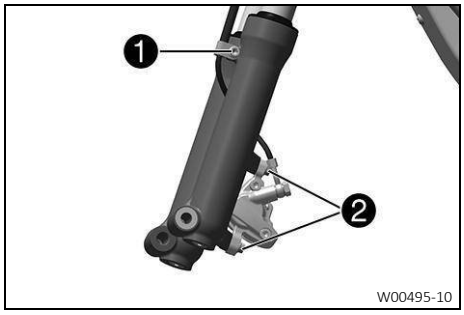
Note

Remove the plug-in stand before riding.

13.3 Removing the fork legs

Preparatory work

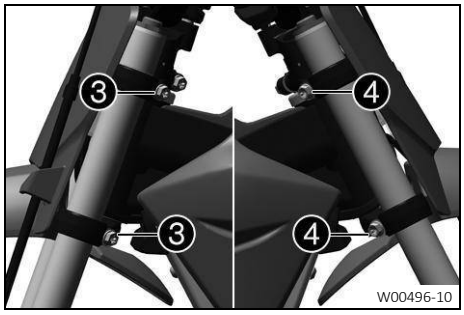
– Raise the motorcycle with a lift stand. (p. 33)
– Remove the front wheel. (p. 60)



Main work

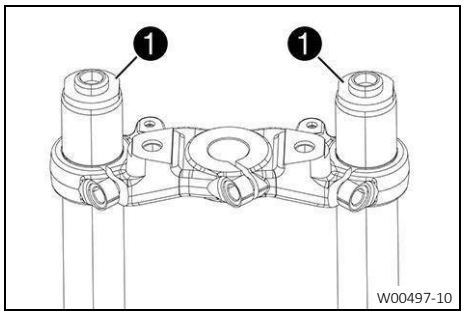
– Remove screw ❶ and take off the clamp.
– Remove screws ❷ and take off the brake caliper.
– Allow the brake caliper and the brake line to hang loosely to the side.

Do not kink the brake line.



– Note the installation position of the fork legs.
– Loosen screws ❸. Remove the left fork leg.
– Loosen screws ❹. Remove the right fork leg.

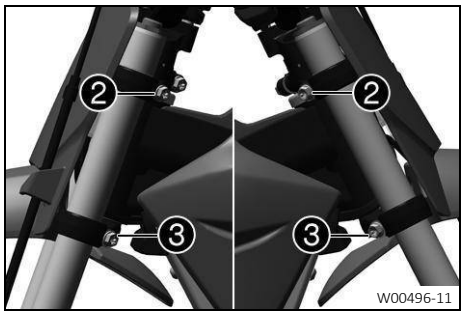
13.4 Installing the fork legs



Main work

– Position fork legs ❶.

Align the fork legs so that they are parallel and in the direction of travel using the covers.
Position the fork legs according to the required seat height.



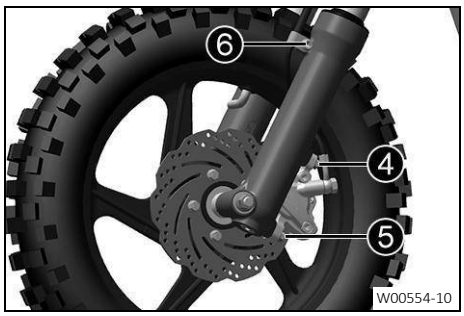
– Tighten screws ❷.

Screw, top triple clamp	
M8×25	20 Nm (14.8 ft·lb$_f$)

– Tighten screws ❸.

Screw, bottom triple clamp	
M8×25	20 Nm (14.8 ft·lb$_f$)

– Install the front wheel. (p. 60)



– Position the brake caliper, fit screw ❹ and screw ❺, but do not tighten yet.
– Operate the hand brake lever repeatedly until the brake linings are in contact with the brake disc, there is a pressure point and the brake caliper is in position.
– Hold the hand brake lever in place.
– Tighten screw ❹.

Screw, front brake caliper	
M6×20	10 Nm (7.4 ft·lb$_f$) **Loctite® 243**

– Tighten screw ❺.

Screw, front brake caliper	
M6×20	10 Nm (7.4 ft·lb$_f$) **Loctite® 243**

– Release the hand brake lever.
– Position the brake line and the clamp. Mount and tighten screw ❻.

Brake line holder on fork screw	
M5×12	2 Nm (1.5 ft·lb$_f$) **Loctite® 243**

Reworking

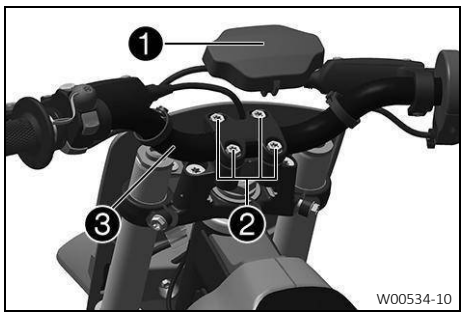
– Remove the motorcycle from the lift stand. (p. 33)

13.5 Removing the lower triple clamp

Preparatory work

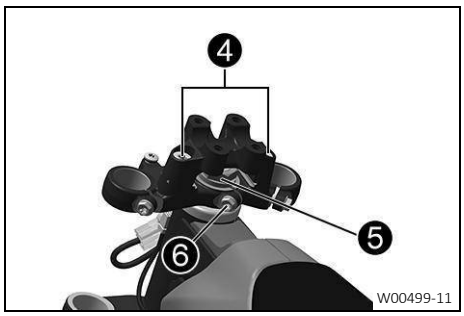
– Raise the motorcycle with a lift stand. (p. 33)
– Remove the front wheel. (p. 60)
– Remove the fork legs. (p. 33)
– Remove the fender with the start number plate. (p. 40)

Main work

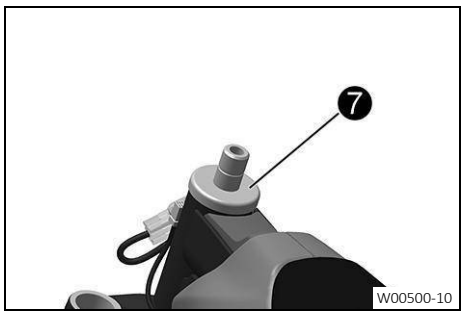


– Remove handlebar cushion ❶.
– Remove handlebar clamp with screws ❷.
– Take off handlebar ❸ and lay it to one side.

Protect the components against damage by covering them.
Do not kink the cables or lines.

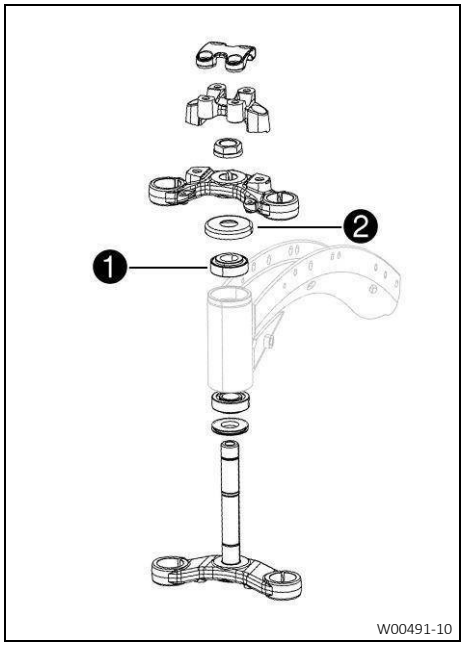


– Remove handlebar support with screws 4.
– Loosen nut 5.
– Release screw 6, take off the upper triple clamp and set aside.



– Remove protective ring 7.
– Remove the steering stem from the lower triple clamp.
– Remove the upper steering head bearing.

13.6 Installing the lower triple clamp

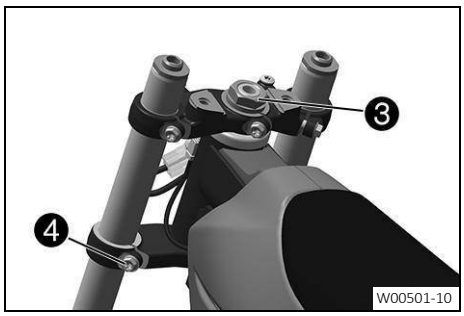


Main work

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

High viscosity grease (p. 83)

– Insert the lower triple clamp with the steering stem. Mount upper steering head bearing 1.
– Push on protective ring 2.

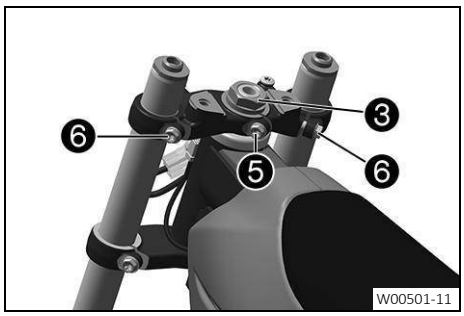


– Position the upper triple clamp.
– Mount nut ❸ but do not tighten yet.
– Position the fork legs.

Align the fork legs so that they are parallel and in the direction of travel using the covers.
Position the fork legs according to the required seat height.

– Tighten screws ❹ on both sides.

Screw, bottom triple clamp	
M8×25	20 Nm (14.8 ft·lb$_f$)



– Tighten nut ❸.

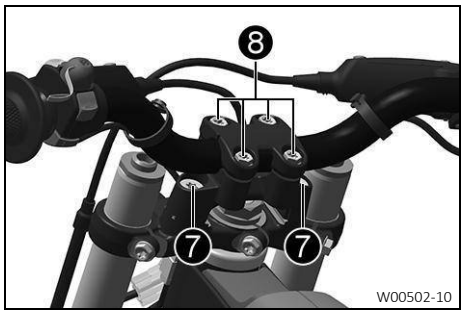
Nut, steering head	
M20×1.5	10 Nm (7.4 ft·lb$_f$)

– Tighten screw ❺.

Screw, steering stem	
M8	20 Nm (14.8 ft·lb$_f$)

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

Screw, top triple clamp	
M8×25	20 Nm (14.8 ft·lb$_f$)



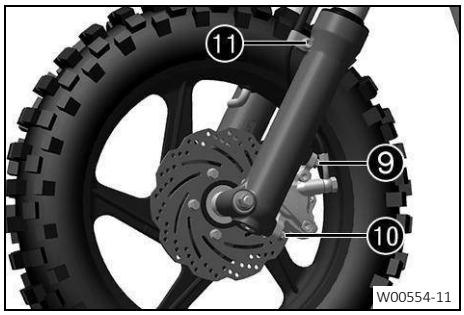
– Mount handlebar support, mount and tighten screws ❼.

Screw, handlebar mount	
M10×35	40 Nm (29.5 ft·lb$_f$) **Loctite® 243**

– Position the handlebar with handlebar clamp.
– Mount and tighten screws ❽.

Screw, handlebar clamp	
M8×25	15 Nm (11.1 ft·lb$_f$)

– Mount the handlebar pad.
– Install the front wheel. (p. 60)



– Position the brake caliper, fit screw ❾ and screw ❿, but do not tighten yet.
– Operate the hand brake lever repeatedly until the brake linings are in contact with the brake disc, there is a pressure point and the brake caliper is in position.
– Hold the hand brake lever in place.
– Tighten screw ❾.

Screw, front brake caliper	
M6×20	10 Nm (7.4 ft·lb$_f$) **Loctite® 243**

– Tighten screw ⑩.

Screw, front brake caliper	
M6×20	10 Nm (7.4 ft·lb$_f$) **Loctite® 243**

– Release the hand brake lever.
– Position the brake line and the clamp. Mount and tighten screw ⑪.

Brake line holder on fork screw	
M5×12	2 Nm (1.5 ft·lb$_f$) **Loctite® 243**

Reworking

– Install the fender with the start number plate. (p. 41)
– Check that the cable and brake line are routed correctly.
– Check the steering head bearing play. (p. 38)
– Remove the motorcycle from the lift stand. (p. 33)

13.7 Checking the steering head bearing play

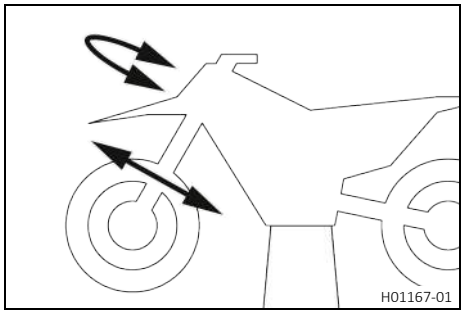
WARNING
Danger of accidents Incorrect steering head bearing play can impair the handling characteristic and damage components.
– Correct incorrect steering head bearing play immediately.

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

Preparatory work

– Raise the motorcycle with a lift stand. (p. 33)

Main work



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

Play should not be detectable on the steering head bearing.

» If there is detectable play:
– Adjust the steering head bearing play. (p. 39)

– Move the handlebar back and forth over the entire steering range.

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

» If detent positions are detected:
– Adjust the steering head bearing play. (p. 39)
– Check the steering head bearing and replace if required.

Reworking

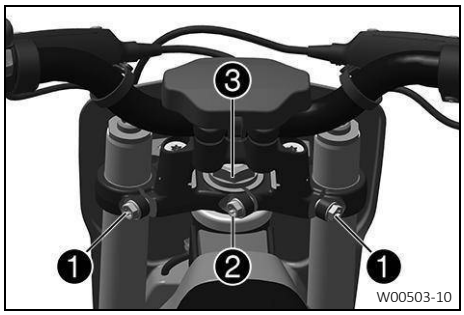
– Remove the motorcycle from the lift stand. (p. 33)

13.8 Adjusting the steering head bearing play

Preparatory work

– Raise the motorcycle with a lift stand. (p. 33)

Main work



– Loosen screws ❶.
– Loosen screw ❷.
– Loosen and retighten nut ❸.

Nut, steering head	
M20×1.5	10 Nm (7.4 ft·lb$_f$)

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

Screw, steering stem	
M8	20 Nm (14.8 ft·lb$_f$)

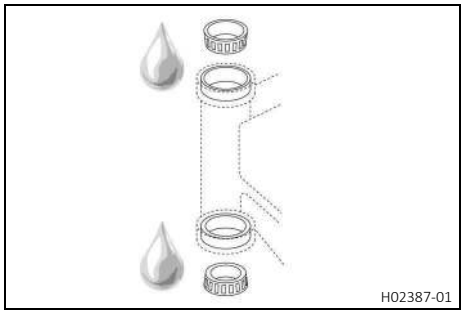
– Tighten screws ❶.

Screw, top triple clamp	
M8×25	20 Nm (14.8 ft·lb$_f$)

Reworking

– Check the steering head bearing play. (p. 38)
– Remove the motorcycle from the lift stand. (p. 33)

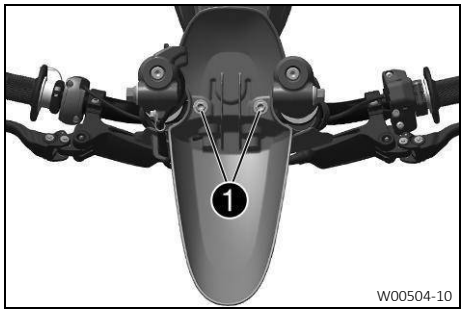
13.9 Lubricating the steering head bearing



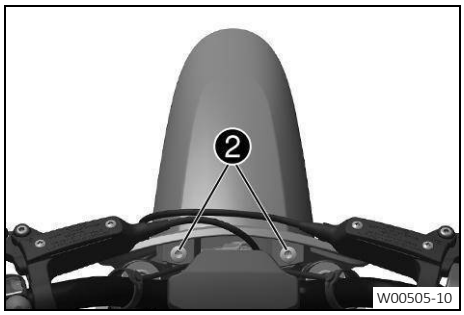
– Remove the lower triple clamp. (p. 35)
– Install the lower triple clamp. (p. 36)

Note
The steering head bearing is cleaned and lubricated in the course of removal and installation of the lower triple clamp.

13.10 Removing the fender with the start number plate



– Remove screws ❶.



– Remove screws ❷.
– Unhook the number plate from the brake line and remove it.



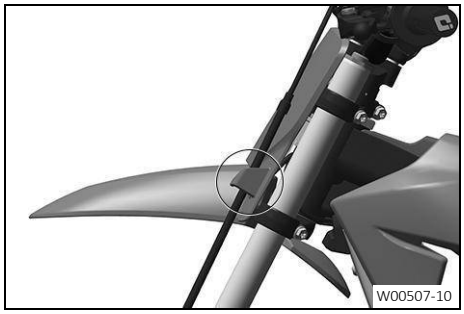
– Remove screws ❸ and separate start number plate from fender.

13.11 Installing the fender with the start number plate

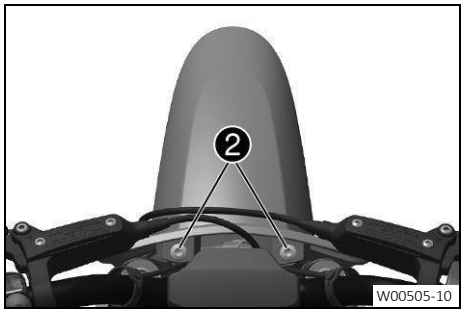


– Join the fender and start number plate together.
– Mount and tighten screws ❶.

Fender on start number plate screw	
EJOT PT® – K60×20	2 Nm (1.5 ft·lb$_f$)

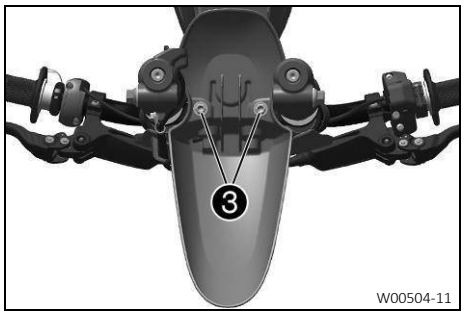


– Connect the brake line at the start number plate.



– Mount and tighten screws ❷.

Screw, number plate	
M5×12	6 Nm (4.4 ft·lb$_f$)



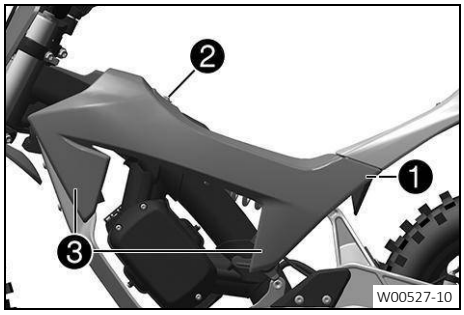
– Mount and tighten screws ❸.

Screw, fender	
M6×16	6 Nm (4.4 ft·lb$_f$)

13.12 Removing the left side cover

Preparatory work

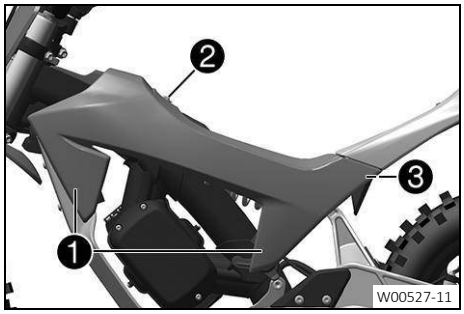
– Remove the seat. (p. 46)



Main work

– Remove screw ❶.
– Remove screw ❷.
– Carefully pull side cover off from quick releases ❸.

13.13 Installing the left side fairing



Main work

– Position the side cover and engage in areas ❶.
– Mount and tighten screw ❷.

Screw, seat installation	
M6×20	6 Nm (4.4 ft·lb$_f$)

– Mount and tighten screw ❸.

Screw, trim	
M5×16	2 Nm (1.5 ft·lb$_f$)

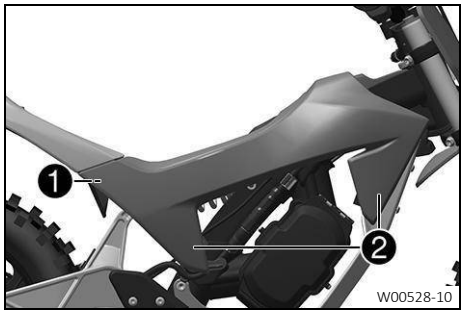
Reworking

– Mount the seat. (p. 46)

13.14 Removing the right side fairing

Preparatory work

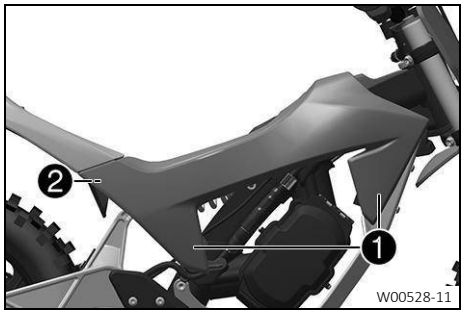
– Remove the seat. (p. 46)
– Remove the left side cover. (p. 41)



Main work

– Remove screw ❶.
– Carefully pull side cover off from quick releases ❷.

13.15 Installing the right side cover



Main work

– Position the side cover and engage in areas ❶.
– Mount and tighten screw ❷.

Screw, trim	
M5×16	2 Nm (1.5 ft·lb$_f$)

Reworking

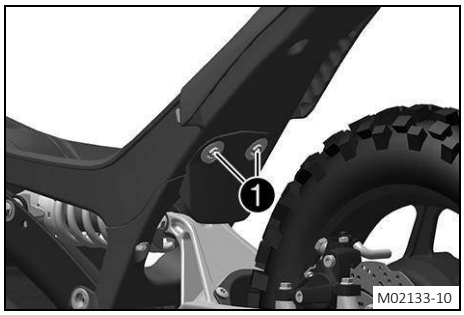
– Install the left side fairing (p. 42)
– Mount the seat. (p. 46)

13.16 Removing the shock absorber

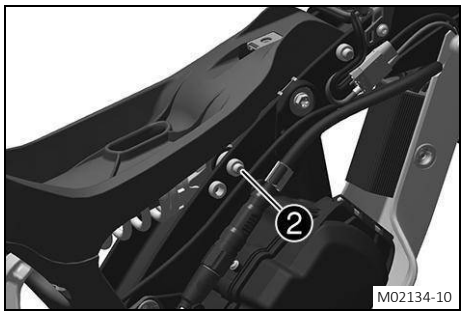
Preparatory work

– Raise the motorcycle with a lift stand. (p. 33)
– Remove the seat. (p. 46)
– Remove the left side cover. (p. 41)
– Remove the right side fairing. (p. 42)

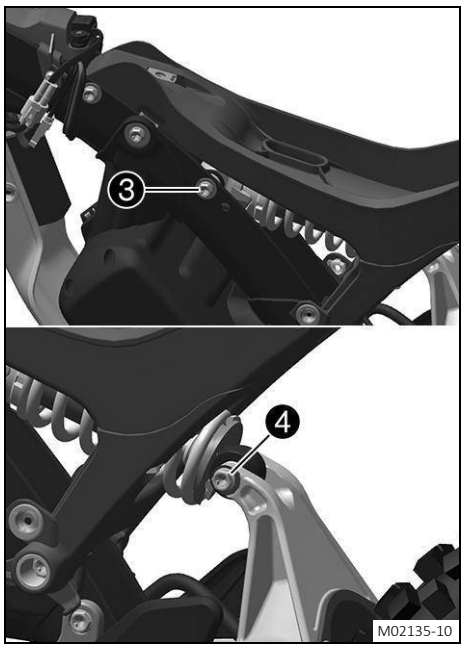
Main work



– Note the installation position of the shock absorber.
– Remove screws ❶ and take off the splash protector.



– Remove protection cap ❷.

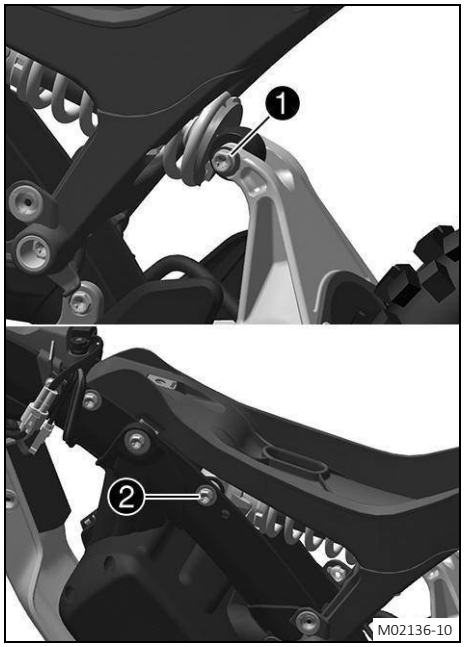


– Hold rear wheel, remove screw ❸ with washer and carefully lower the link fork.
– Remove screws ❹ and remove shock absorber to the rear.

Tip
If necessary, lower the link fork a little further until the shock absorber can be removed to the rear.

13.17 Installing the shock absorber

WARNING
Danger of accidents Modifications to the suspension settings that are not properly coordinated can impair the handling and overload components.
– Only make adjustments within the recommended range.
– Make sure your child rides slowly to start with after making adjustments in order that he or she can assess the new handling characteristic.



Main work

– Position the shock absorber on the vehicle from the rear, mount and tighten screws ❶.

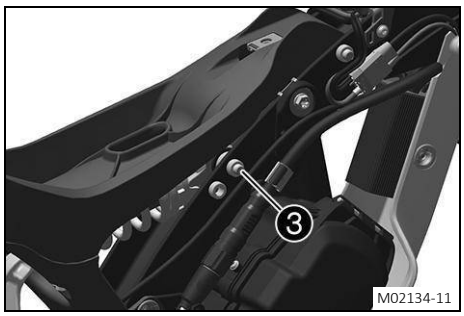
Insert the shock absorber so that the screw on the upper part of the shock absorber is positioned upward.
Insert the shock absorber depending on the desired seat height.

Bottom shock absorber screw	
M8×45	25 Nm (18.4 ft·lb$_f$) **Loctite® 243**

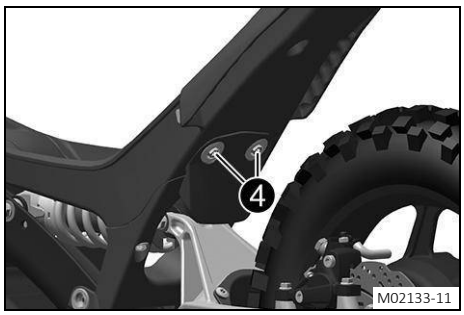
– Lift the link fork, mount screw ❷ with washer and tighten.

If necessary, observe the installation position noted during removal.

Top shock absorber screw	
M8×65	20 Nm (14.8 ft·lb$_f$)



– Mount protection cap ❸.



– Position the splash protector, mount and tighten screws ❹.

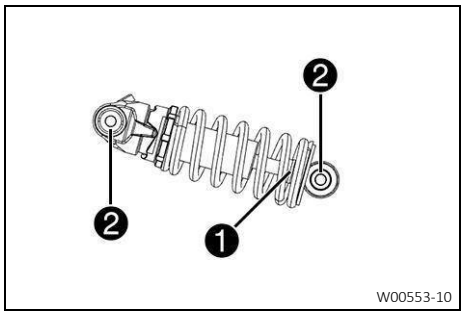
Screw, splash protector	
M6	7 Nm (5.2 ft·lb$_f$)

Reworking

– Install the right side cover. 📖 (p. 43)
– Install the left side fairing 📖 (p. 42)
– Mount the seat. 📖 (p. 46)
– Remove the motorcycle from the lift stand. 📖 (p. 33)

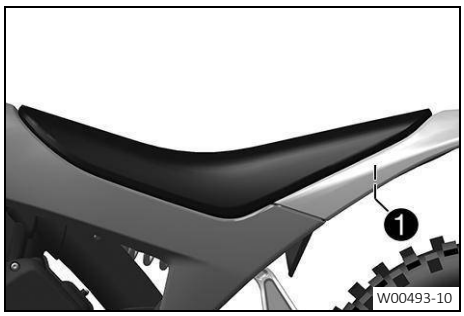
13.18 Checking the rubber buffer and pivot points of the shock absorber

Condition: Shock absorber is removed



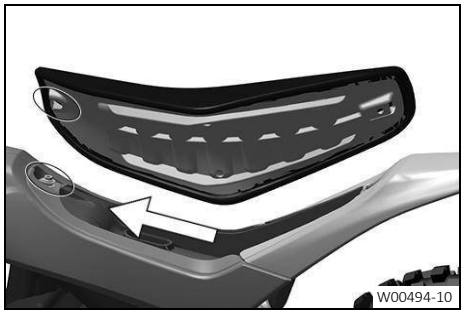
– Check rubber buffer ❶ and pivot points ❷ of the shock absorber for damage and wear.
  » If there is damage or wear:
    – Change shock absorber.

13.19 Removing the seat

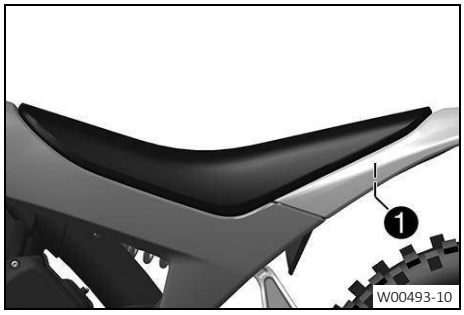


– Remove screw 1 and raise the rear of the seat.
– Pull back the seat and remove it.

13.20 Mounting the seat



– Hook the seat onto holding lug, lower the seat at the rear, and push it forward.



– Mount and tighten screw 1.

Screw, seat installation	
M6×20	6 Nm (4.4 ft·lb$_f$)

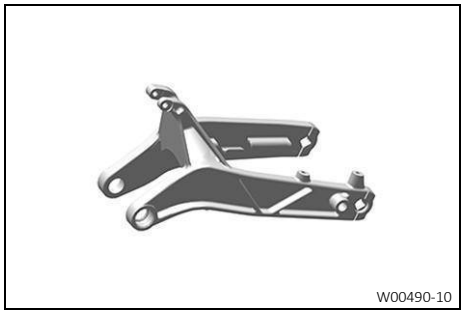
13.21 Checking the frame



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

Repairs on the frame are not permitted.

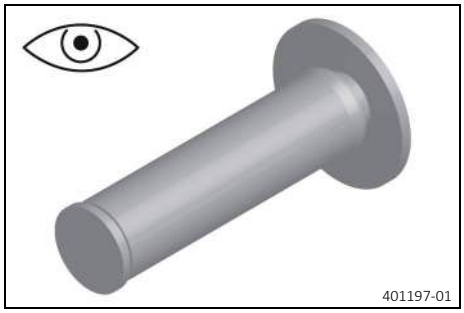
13.22 Checking the swingarm



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

Repairs on the swingarm are not permitted.

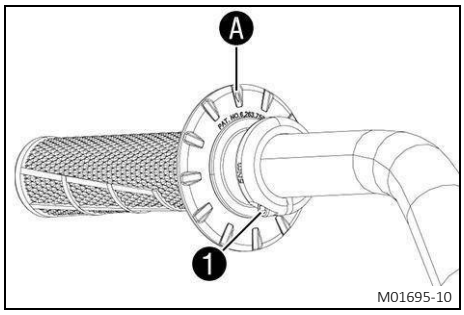
13.23 Checking the hand grip



– Check the hand grips on the handlebar for damage, wear, and that they are firmly seated.

Note
The hand grips are vulcanized onto a sleeve on the left and onto the grip tube of the throttle grip on the right. The left sleeve is clamped onto the handlebar.
The hand grip can only be replaced with the sleeve or the gas pipe.

  » If a hand grip is damaged or worn:
    – Replace the hand grip.



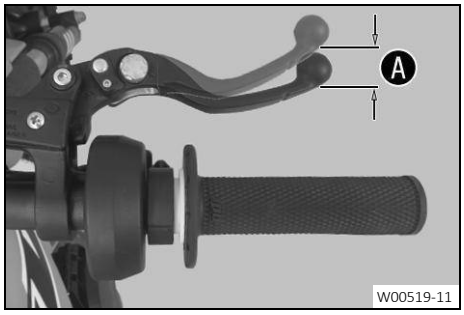
– Check that screw 1 is firmly seated.

Screw, fixed grip	
M4	5 Nm (3.7 ft·lb$_f$) **Loctite® 243**

Diamond A must be located at the top.

14.1 Checking the play in the front brake lever

WARNING
Danger of accidents The brake system fails in the event of overheating.
If there is no free travel on the brake lever, pressure builds up in the brake system.
– Set the free travel on the brake lever as specified.

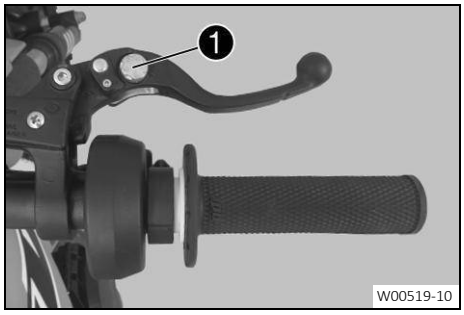


– Push the front brake lever forward and check play A.

Play of the front brake lever	12 mm … 25 mm (0.47 in … 0.98 in)

» If the play does not meet specifications:
– Inspect the brake system for damage and dirt.

14.2 Adjusting the basic position of the hand brake lever



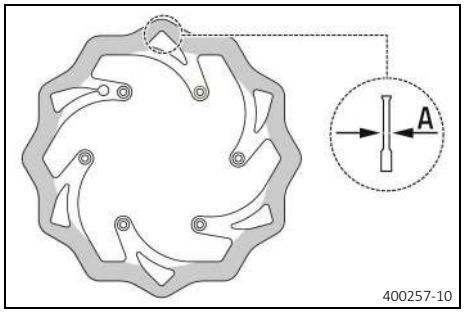
– Adjust the basic position of the front brake lever with adjusting screw 1 to the rider's hand size.
– Push the hand brake lever forward to change the basic position.

Adjust the lever so that the lever can be reached comfortably, but cannot be pulled all the way to the handle.

Note
Turn the adjusting screw clockwise to increase the distance between the hand brake lever and the handlebar.
Turn the adjusting screw counterclockwise to decrease the distance between the front brake lever and the handlebar.
The range of adjustment is limited.

14.3 Checking the brake discs

WARNING
Danger of accidents Worn-out brake discs reduce the braking action.
– Make sure that worn-out brake discs are replaced immediately.



– Check front and rear brake disc thickness at multiple points for the dimension A.

Brake disc wear limit	
front	2 mm (0.08 in)
rear	2 mm (0.08 in)

Note
Wear reduces the thickness of the brake discs at the contact surface of the brake pads.

» If the brake disc thickness is less than the specified value:
– Change the brake discs of the front brake.
– Change the brake discs on the rear brake.

– Check the front and rear brake discs for damage, cracks, and deformation.
» If the brake disc shows signs of damage, cracks, or deformation:
– Change the brake discs of the front brake.
– Change the brake discs on the rear brake.

14.4 Checking the brake fluid level for the front brake

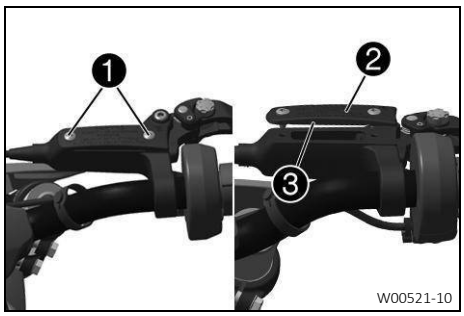
WARNING
Danger of accidents Brake fluid which is too old or of the wrong type impairs the function of the brake system.
– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.
– Make sure that only clean, approved brake fluid from a tightly sealed container is used.

WARNING
Danger of accidents An insufficient brake fluid level will cause the brake system to fail.
If the brake fluid level drops below the specified marking or the specified value, the brake system has a leak or the brake pads are worn down.
– Have the brake system checked and make sure that the problem has been eliminated before the vehicle is used again.

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

NOTE
Environmental hazard Hazardous substances cause environmental damage.
– Dispose of oils, grease, cleaning agents, brake fluid etc. properly and in compliance with the applicable regulations.

Note
Avoid contact between brake fluid and painted parts. Brake fluid corrodes paint.



– Move the brake reservoir mounted on the handlebar to a horizontal position.
– Remove screws ❶.
– Take off cover ❷ with membrane ❸.
– Check the brake fluid level at the marking inside the compensating tank.
  » If the brake fluid level is below the marking:
    – Add brake fluid for the front brake. (p. 50)
– Position the cover with diaphragm. Mount and tighten the screws.

Immediately clean up any brake fluid that has overflowed or spilled using water.

14.5 Adding brake fluid for the front brake

WARNING
Danger of accidents Brake fluid which is too old or of the wrong type impairs the function of the brake system.
– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.
– Make sure that only clean, approved brake fluid from a tightly sealed container is used.

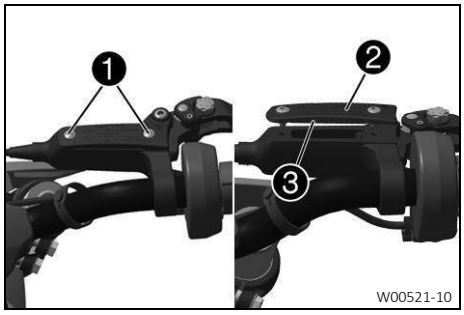
WARNING
Danger of accidents An insufficient brake fluid level will cause the brake system to fail.
If the brake fluid level drops below the specified marking or the specified value, the brake system has a leak or the brake pads are worn down.
– Have the brake system checked and make sure that the problem has been eliminated before the vehicle is used again.

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

NOTE
Environmental hazard Hazardous substances cause environmental damage.
– Dispose of oils, grease, cleaning agents, brake fluid etc. properly and in compliance with the applicable regulations.

Note
Avoid contact between brake fluid and painted parts. Brake fluid corrodes paint.

Preparatory work
– Check that the brake pads of the front brake are secured. (p. 51)



Main work

– Move the brake reservoir mounted on the handlebar to a horizontal position.
– Remove screws 1.
– Take off cover 2 with membrane 3.
– Correct the brake fluid level.

Add brake fluid to the marking on the inside of the compensating tank.

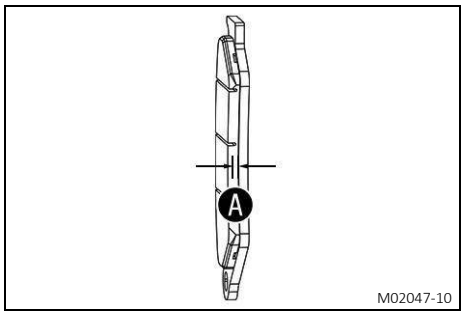
Brake fluid DOT 5.1 (p. 83)

– Position the cover with diaphragm. Mount and tighten the screws.

Immediately clean up any brake fluid that has overflowed or spilled using water.

14.6 Checking that the brake pads of the front brake are secured

WARNING
Danger of accidents Worn brake pads reduce the brake action.
– Make sure that worn brake pads are replaced immediately.



– Check the brake linings for lining thickness A.

Minimum thickness A	≥ 1 mm (≥ 0.04 in)

» If it is less than the minimum thickness:
– Change the front brake pads. (p. 51)
– Check the brake pads for damage and cracking.
» If there is damage or cracking:
– Change the front brake pads. (p. 51)
– Check that the brake pads are secured.
» If the brake pads are not secured correctly:
– Secure brake pads, replace with new parts if necessary.

14.7 Changing the brake pads of the front brake

WARNING
Danger of accidents Brake pads which have not been approved alter the braking action.
– Only use brake pads approved and recommended by the vehicle manufacturer.

WARNING
Danger of accidents Incorrect servicing will cause the brake system to fail.
– Ensure that service work and repairs are performed professionally.

WARNING
Danger of accidents Brake fluid which is too old or of the wrong type impairs the function of the brake system.
– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.
– Make sure that only clean, approved brake fluid from a tightly sealed container is used.

WARNING

Health hazard Brake fluid is a harmful substance.

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

NOTE

Environmental hazard Hazardous substances cause environmental damage.

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

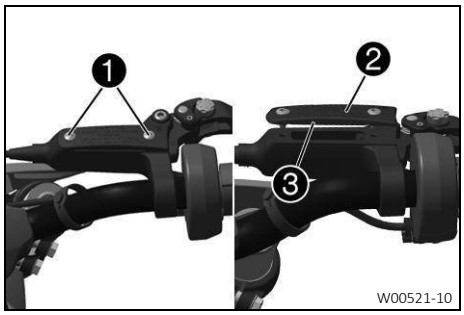
Note

Avoid contact between brake fluid and painted parts. Brake fluid corrodes paint.

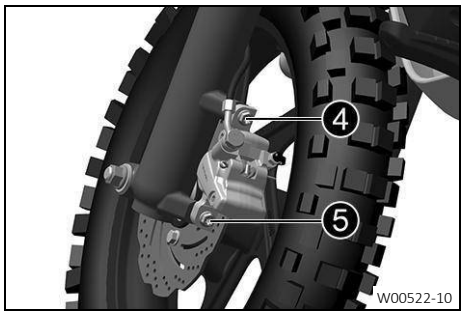
Preparatory work

– Raise the motorcycle with a lift stand. (p. 33)

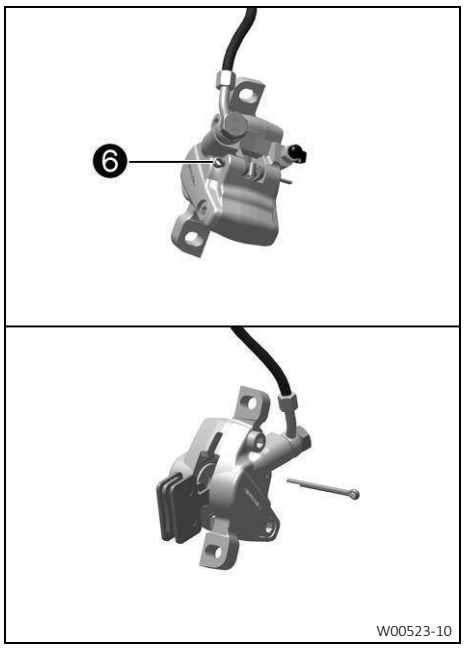
Main work



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



– Remove screw ❹ and ❺.
– Press the brake pads back by slightly tilting the brake caliper laterally on the brake disc. Carefully pull the brake caliper backward from the brake disc.
– Press the brake piston back to its basic position and make sure that no brake fluid overflows from the brake reservoir, extract some brake fluid if necessary.



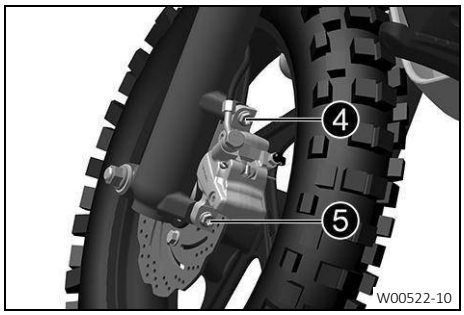
– Remove pin ❻.
– Remove the brake pads.
– Clean brake caliper and brake caliper support.
– Position the new brake linings and retainer spring.

Always replace brake pads in sets.
Ensure that the brake pads are correctly positioned in the retaining spring.

– Fit and lock pin ❻.

WARNING
Danger of accidents Oil, grease or wax on the brake discs reduces the brake action.
– Always keep the brake discs free of oil, fat and wax.
– Clean the brake discs with brake cleaner when necessary.

– Check the brake discs. (p. 48)



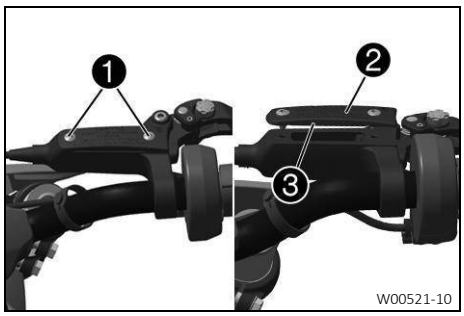
– Position the brake caliper, fit screw ❹ and screw ❺, but do not tighten yet.
– Operate the hand brake lever repeatedly until the brake linings are in contact with the brake disc, there is a pressure point and the brake caliper is in position.
– Hold the hand brake lever in place.
– Tighten screw ❹.

Screw, front brake caliper	
M6×20	10 Nm (7.4 ft·lb$_f$) **Loctite® 243**

– Tighten screw ❺.

Screw, front brake caliper	
M6×20	10 Nm (7.4 ft·lb$_f$) **Loctite® 243**

– Release the hand brake lever.



– Check the brake fluid level and correct if necessary.

Add brake fluid to the marking on the inside of the compensating tank.

Brake fluid DOT 5.1 (p. 83)

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

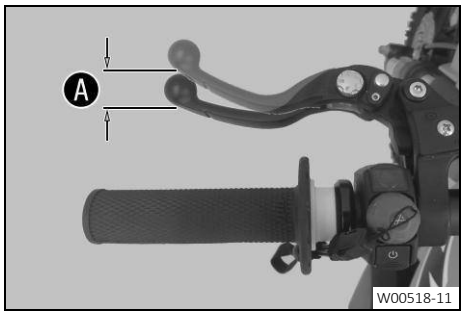
Immediately clean up any brake fluid that has overflowed or spilled using water.

Reworking

– Remove the motorcycle from the lift stand. (p. 33)

14.8 Checking the play of the rear brake lever

WARNING
Danger of accidents The brake system fails in the event of overheating.
If there is no free travel on the brake lever, pressure builds up in the brake system.
– Set the free travel on the brake lever as specified.



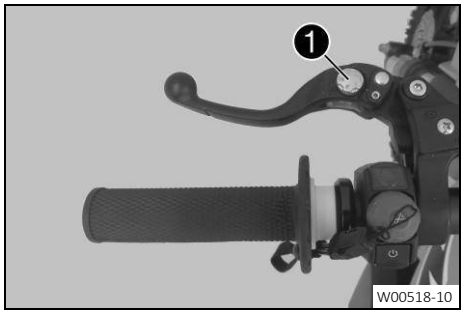
– Push the rear brake lever forward and check play A.

Play of the rear brake lever	12 mm … 25 mm (0.47 in … 0.98 in)

» If the play does not meet specifications:
– Inspect the brake system for damage and dirt.

14.9 Adjusting the basic position of the rear brake lever

WARNING
Danger of accidents The brake system fails in the event of overheating.
If there is no free travel on the brake lever, pressure builds up in the brake system.
– Set the free travel on the brake lever as specified.



– Adjust the basic position of the rear brake lever with adjusting screw 1 to the rider's hand size.
– Push the foot brake lever forward to change the basic position.

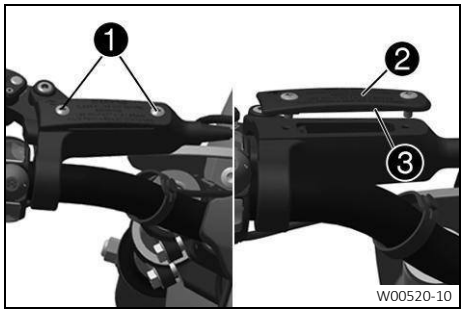
Adjust the lever so that the lever can be reached comfortably, but cannot be pulled all the way to the handle.

Note
Turn the adjusting screw clockwise to increase the distance between the rear brake lever and the handlebar.
Turn the adjusting screw counterclockwise to decrease the distance between the rear brake lever and the handlebar.
The range of adjustment is limited.

14.10 Checking the brake fluid level for the rear brake

WARNING
Danger of accidents Brake fluid which is too old or of the wrong type impairs the function of the brake system.
– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.
– Make sure that only clean, approved brake fluid from a tightly sealed container is used.

WARNING
Danger of accidents An insufficient brake fluid level will cause the brake system to fail.
If the brake fluid level drops below the specified marking or the specified value, the brake system has a leak or the brake pads are worn down.
– Have the brake system checked and make sure that the problem has been eliminated before the vehicle is used again.



– Move the brake reservoir mounted on the handlebar to a horizontal position.
– Remove screws ❶.
– Take off cover ❷ with membrane ❸.
– Check the brake fluid level at the marking inside the compensating tank.
  » If the brake fluid level is below the marking:
    – Add brake fluid for the rear brake. (p. 55)
– Position the cover with diaphragm. Mount and tighten the screws.

Immediately clean up any brake fluid that has overflowed or spilled using water.

14.11 Adding brake fluid for the rear brake

WARNING
Danger of accidents Brake fluid which is too old or of the wrong type impairs the function of the brake system.
– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.
– Make sure that only clean, approved brake fluid from a tightly sealed container is used.

WARNING
Danger of accidents An insufficient brake fluid level will cause the brake system to fail.
If the brake fluid level drops below the specified marking or the specified value, the brake system has a leak or the brake pads are worn down.
– Have the brake system checked and make sure that the problem has been eliminated before the vehicle is used again.

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

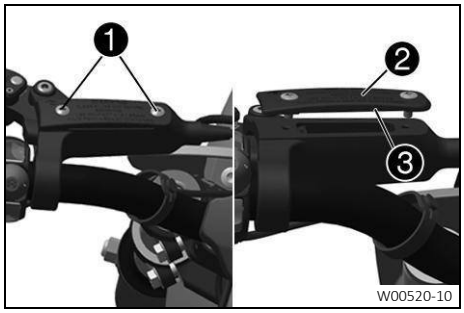
NOTE

Environmental hazard Hazardous substances cause environmental damage.

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

Note

Avoid contact between brake fluid and painted parts. Brake fluid corrodes paint.



Preparatory work

– Raise the motorcycle with a lift stand. (p. 33)
– Check that the brake pads of the rear brake are secured. (p. 56)

Main work

– Remove screws 1.
– Take off cover 2 with membrane 3.
– Correct the brake fluid level.

Add brake fluid to the marking on the inside of the compensating tank.
Brake fluid DOT 5.1 (p. 83)

– Position the cover with diaphragm.
– Mount and tighten the screws.

Immediately clean up any brake fluid that has overflowed or spilled using water.

Reworking

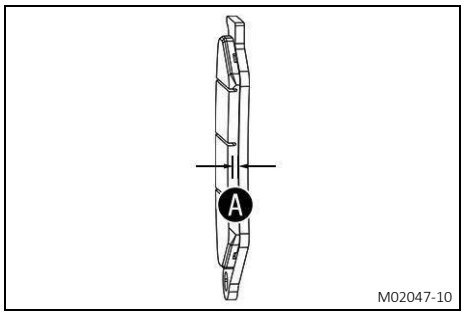
– Remove the motorcycle from the lift stand. (p. 33)

14.12 Checking that the brake pads of the rear brake are secured

WARNING

Danger of accidents Worn brake pads reduce the brake action.

– Make sure that worn brake pads are replaced immediately.



– Check the brake linings for lining thickness A.

Minimum thickness A	≥ 1 mm (≥ 0.04 in)

» If the minimum thickness is less than specified:
– Change the rear brake pads. (p. 57)

– Check the brake pads for damage and cracking.

» If damage or wear is encountered:
– Change the rear brake pads. (p. 57)

– Check that the brake pads are secured.

» If the brake pads are not secured correctly:
– Secure brake pads, replace with new parts if necessary.

14.13 Changing the rear brake pads

WARNING
Danger of accidents Brake pads which have not been approved alter the braking action.
– Only use brake pads approved and recommended by the vehicle manufacturer.

WARNING
Danger of accidents Incorrect servicing will cause the brake system to fail.
– Ensure that service work and repairs are performed professionally.

WARNING
Danger of accidents Brake fluid which is too old or of the wrong type impairs the function of the brake system.
– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.
– Make sure that only clean, approved brake fluid from a tightly sealed container is used.

WARNING
Danger of accidents Oil, grease or wax on the brake discs reduces the brake action.
– Always keep the brake discs free of oil, fat and wax.
– Clean the brake discs with brake cleaner when necessary.

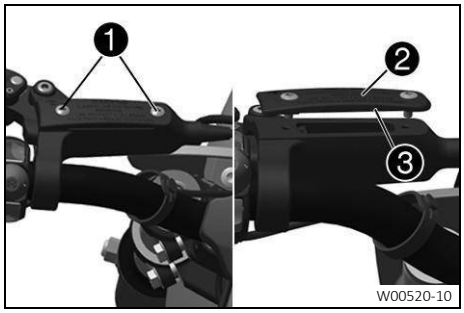
WARNING
Health hazard Brake fluid is a harmful substance.
– Keep brake fluid out of the reach of children.
– Wear suitable protective clothing and safety glasses.
– Do not allow brake fluid to come into contact with the skin, the eyes, or clothing.
– Consult a doctor immediately if brake fluid has been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

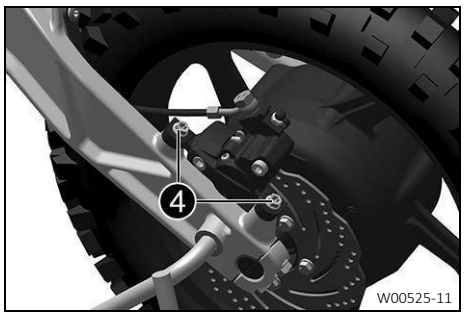
NOTE
Environmental hazard Hazardous substances cause environmental damage.
– Dispose of oils, grease, cleaning agents, brake fluid etc. properly and in compliance with the applicable regulations.

Note
Avoid contact between brake fluid and painted parts. Brake fluid corrodes paint.

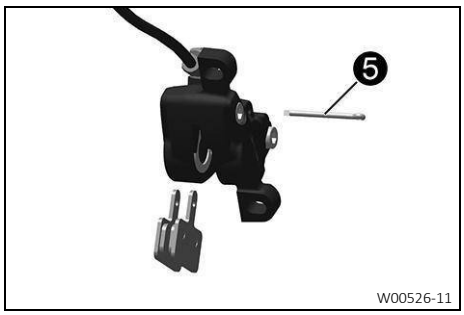
Preparatory work
– Raise the motorcycle with a lift stand. (p. 33)

Main work
– Remove screws ❶.
– Take off cover ❷ with membrane ❸.





– Remove screws 4.
– Press the brake pads back by slightly tilting the brake caliper laterally on the brake disc. Carefully pull the brake caliper backward from the brake disc.
– Press the brake piston back to its basic position and make sure that no brake fluid overflows from the brake reservoir, extract some brake fluid if necessary.



– Remove pin 5.
– Remove the brake pads.
– Clean brake caliper and brake caliper support.
– Position the new brake linings and retainer spring.

Always replace brake pads in sets.
Ensure that the brake pads are correctly positioned in the retaining spring.

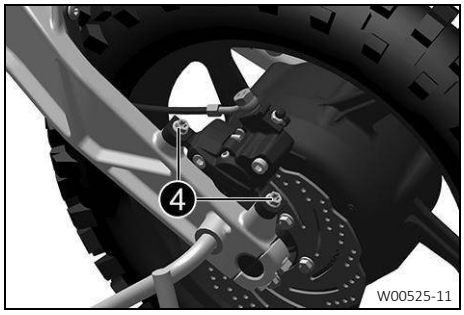
– Fit and lock pin 5.

WARNING

Danger of accidents Oil, grease or wax on the brake discs reduces the brake action.

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

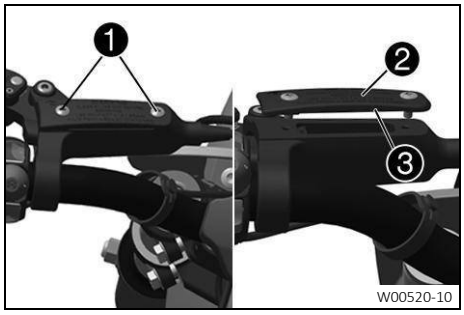
– Check the brake discs. (p. 48)



– Position brake caliper, fit screw 4, but do not tighten yet.
– Operate the foot brake lever repeatedly until the brake linings are in contact with the brake disc, there is a pressure point and the brake caliper is in position.
– Hold the foot brake lever in place.
– Tighten screws 4.

Screw, rear brake caliper	
M6×20	10 Nm (7.4 ft·lb$_f$) **Loctite® 243**

– Release the rear brake lever.



– Check the brake fluid level and correct if necessary.

Add brake fluid to the marking on the inside of the compensating tank.

Brake fluid DOT 5.1 (p. 83)

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

Immediately clean up any brake fluid that has overflowed or spilled using water.

Reworking

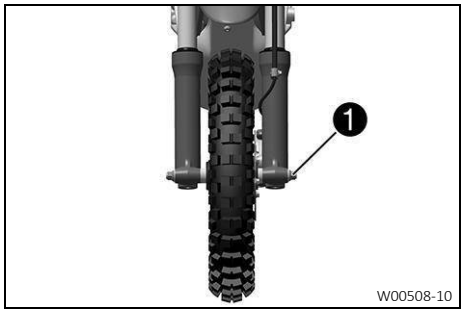
– Remove the motorcycle from the lift stand. (p. 33)

15.1 Removing the front wheel

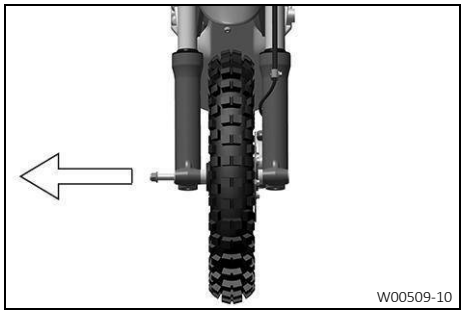
Preparatory work

– Raise the motorcycle with a lift stand. (p. 33)

Main work



– Remove nut 1.



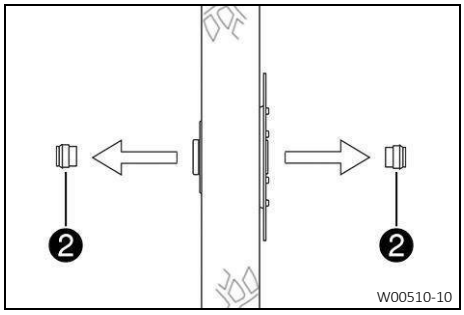
WARNING

Danger of accidents Damaged brake discs reduce the braking action.

– Always lay the wheel down in such a way that the brake disc is not damaged.

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

Do not operate the front brake lever when the front wheel is removed.



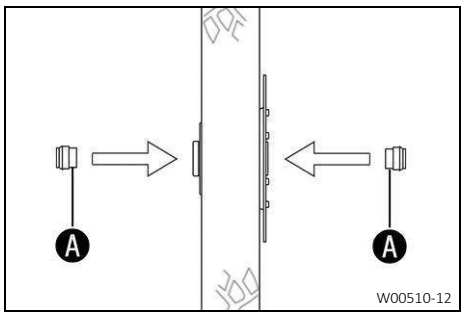
– Remove spacers 2.

15.2 Installing the front wheel

WARNING

Danger of accidents Oil, grease or wax on the brake discs reduces the brake action.

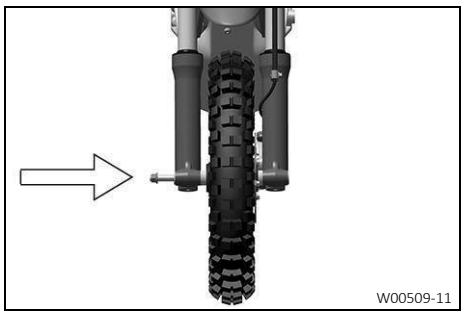
– Always keep the brake discs free of oil, fat and wax.
– Clean the brake discs with brake cleaner when necessary.



– Check the wheel bearing for damage and wear.
  » If the wheel bearing is damaged or worn:
    – Change the front wheel bearing.
– Clean and grease the contact surfaces Ⓐ of the spacers.

Long-life grease (p. 83)

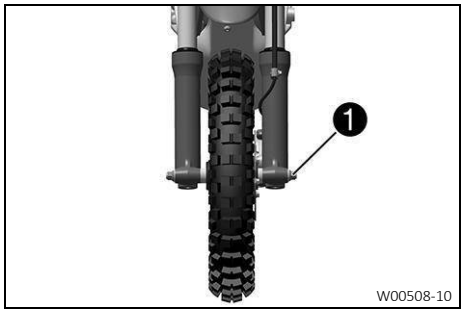
– Insert spacers.



– Clean and lightly grease the wheel spindle.

Long-life grease (p. 83)

– Position the front wheel.
  ✓ The brake pads are positioned correctly.
– Insert the wheel spindle.



– Mount and tighten nut ❶.

Front wheel spindle nut	
M10	40 Nm (29.5 ft·lb$_f$)

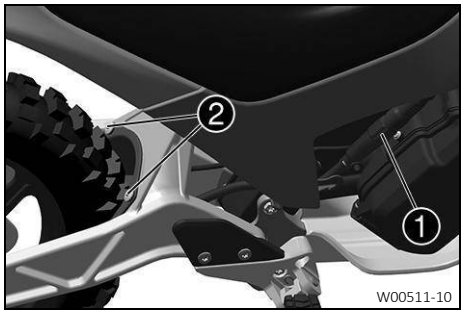
– Operate the front brake lever several times until the brake linings are in contact with the brake disc.
– Remove the motorcycle from the lift stand. (p. 33)
– Operate the front brake and compress the fork a few times firmly.
  ✓ The fork legs straighten.

15.3 Removing the rear wheel

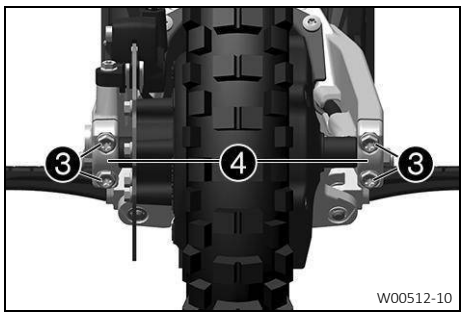
Preparatory work

– Raise the motorcycle with a lift stand. (p. 33)

Main work



– Unplug connector ❶.
– Loosen screws ❷ and remove them together with the cable guide.



– Hold the rear wheel.
– Remove screws ❸.
– Take off clamps ❹.



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

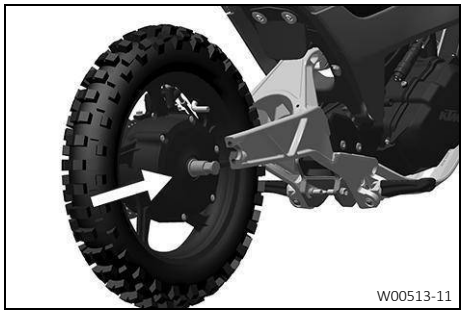
– Take off the rear wheel to the rear.
– Carefully slip the cable out of the frame and the link fork.

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

15.4 Installing the rear wheel

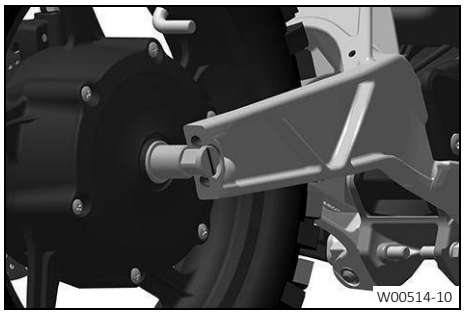
WARNING
Danger of accidents Oil, grease or wax on the brake discs reduces the brake action.
– Always keep the brake discs free of oil, fat and wax.
– Clean the brake discs with brake cleaner when necessary.

Main work



– Position the rear wheel on the link fork.
– Carefully route cable forward past the link fork and frame.

Make sure that the cable outlet on the motor shaft is correctly positioned.



– Position the motor shaft on the link fork.

Align the marking on the motor shaft parallel to the edge of the link fork.



– Mount the clamp with screws ❶, but do not tighten them yet.
– Mount the clamp with screws ❷, but do not tighten them yet.
– Tighten screws ❶.

Motor shaft clamp screw	
M8×30	25 Nm (18.4 ft·lb$_f$) **Loctite® 243**

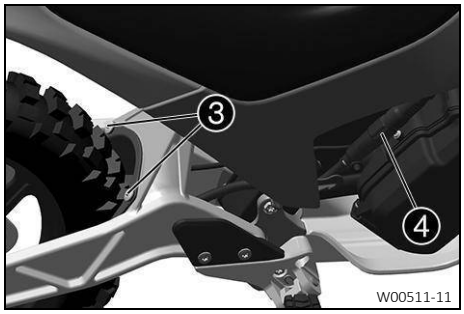
Make sure the installed gap widths are even.

– Tighten screws ❷.

Motor shaft clamp screw	
M8×30	25 Nm (18.4 ft·lb$_f$) **Loctite® 243**

Make sure the installed gap widths are even.

– Operate the rear brake lever several times until the brake linings are in contact with the brake disc and there is a pressure point.



– Position the cable guide.

Check for correct positioning and freedom of movement on the brake lines and cables.

– Mount and tighten screws ❸.

Cable guide on link fork screw	
M5×12	4 Nm (3.0 ft·lb$_f$) **Loctite® 243**

– Mount connector ❹.

Reworking

– Remove the motorcycle from the lift stand. (p. 33)

15.5 Checking the tire condition

Note

The tyres are the only contact between the vehicle and the road. In every riding situation, safety depends on a relatively small contact surface on the road. It is therefore vital that the tires are in good condition at all times and the correct spare parts are used when tires are changed.

Only fit tires approved and/or recommended by GASGAS and only allow technical personnel with the required equipment and experience to fit the tires.

Other tires could have a negative effect on handling characteristics.

Used tires should not be fitted if their origin is unknown.

The type, condition, and pressure of the tires all have a major impact on the handling of the motorcycle.

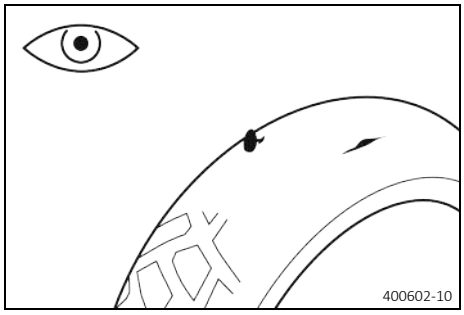
The tires mounted on the front and rear wheels must have a similar profile. Tires and rims must not deviate from their original size and type designations.

Worn tires have a negative effect on handling characteristics, especially on wet surfaces.

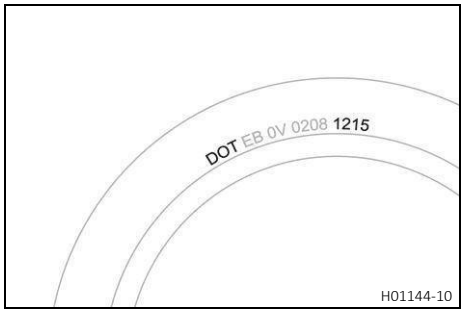
The remaining tire tread pattern must be checked regularly. The more worn the tire tread pattern, the more reduced the grip.

In the event of a flat tire, stop as soon as possible to have the tire removed and inspected. If repairs are possible and permissible, they must be performed by technical personnel.

Deformed or damaged rims must be replaced.



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



– Check the tire age.

Note

The tire date of manufacture is usually contained in the tire label and is indicated by the last four digits of the **DOT** number. The first two digits indicate the week of manufacture and the last two digits the year of manufacture.

GASGAS recommends that the tires be changed after 5 years at the latest, regardless of the actual state of wear.

Tires age, even if they are barely or never used. Cracks in the tire tread pattern and side rubber, sometimes associated with distortions in the carcass is a sign of aging.

Old and used tires must be checked by specialist tire technicians to ascertain their suitability for further use.

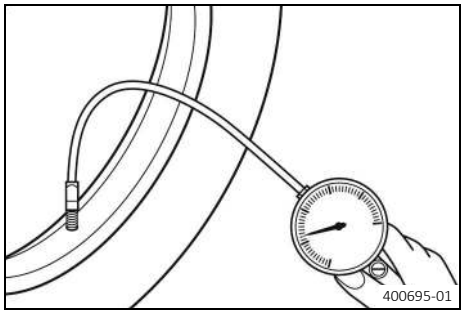
  » If the tires are older than five years:
    – Change the tires.

15.6 Checking the tire pressure

Note

Low tire pressure leads to abnormal wear and overheating of the tire.

The correct tire pressure is vital for safety and ensures optimal riding comfort as well maximum service life for the tires.



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

Off-road tire pressure	
front	1.0 bar (14.5 psi)
rear	1.0 bar (14.5 psi)

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

16.1 Positioning the battery charger

WARNING

Risk of injury There is a risk of electric shock if the battery charger or the cables have been manipulated or damaged.

The battery charger does not contain any parts which require maintenance.

- Do not modify the battery charger or the cables.
- Only use original cables.
- Do not open the housing of the charger.
- Do not insert any objects into the battery charger housing from the outside.
- Do not use the battery charger if cables, plugs, or parts of the battery charger have been damaged or are soiled.

WARNING

Risk of injury There is a risk of electric shock in a moist environment.

The battery charger is not waterproof.

- Only use the battery charger in dry conditions.
- Ensure that no fluids flow or drip onto the battery charger.

WARNING

Risk of injury If the battery charger is used incorrectly, its intrinsic safety cannot be guaranteed.

The battery charger is only suitable for use with a traction battery.

- Only use the battery charger with a traction battery.
- Only operate the battery charger using household sockets.
- Do not use any additional adapters or extensions.
- Follow the applicable safety instructions of the power connection.

Note

The battery charger contains sensitive electronics and must be handled with appropriate care.

The battery charger may be damaged or destroyed if it is dropped, knocked or otherwise subject to mechanical overload.

When transporting the battery charger, ensure appropriate means of securing the cargo.

Damage caused due to improper handling or improper transport is excluded from the manufacturer warranty.

Note

Further information can be found in the manuals for the LV traction battery and the battery charger.



W00485-10

- Place the battery charger on a firm, level, and horizontal surface.
- Check the battery charger and mains cable for external damage.
- Ensure the battery charger is adequately ventilated.
- Use the battery charger in the temperature range permitted.

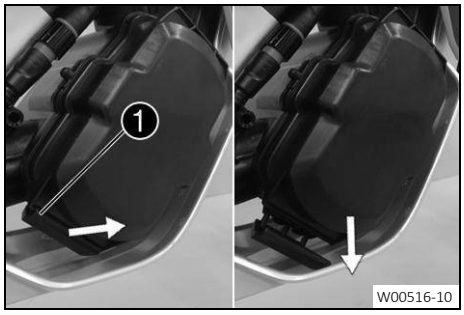
Ambient temperature	5 °C … 40 °C (41.0 °F … 104.0 °F)
Temperature range of the LV traction battery	−10 °C … 40 °C (14.0 °F … 104.0 °F)
Do not operate the battery charger directly in a warm environment if it has previously been stored in a cold environment.	

Note
The change in temperature can cause condensation to form on the battery charger.

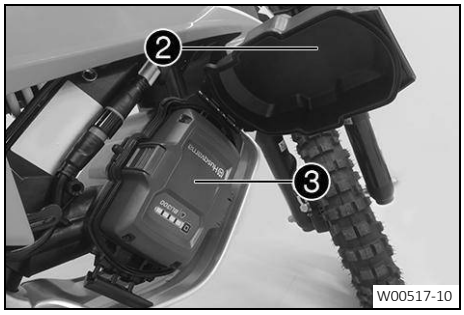
– Ensure that the power plug for the battery charger always remains easily accessible.

16.2 Removing the LV traction battery

NOTE
Environmental hazard The lithium ion accumulator contains elements and components that are harmful to the environment.
– Do not dispose of the traction battery in household waste.
– Dispose of the traction battery properly and in compliance with the applicable regulations.

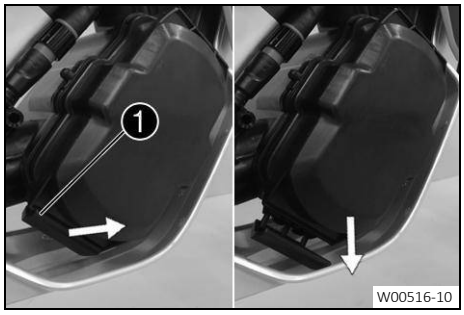


– Pull quick release ❶ on the battery compartment to the front.
– Push the quick release down.

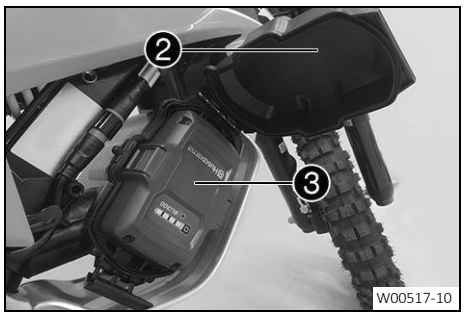


– Open cover ❷ of the battery compartment.
– Press both release buttons on LV traction battery ❸ and pull the LV traction battery out of the battery compartment.
– Close cover ❷ of the battery compartment.
– Lock quick release ❶.

16.3 Installing the LV traction battery



– Pull quick release ❶ on the battery compartment to the front.
– Push the quick release down.



– Open cover ❷ of the battery compartment.
– Press LV traction battery ❸ into the battery compartment until the release buttons engage.

Make sure the LV traction battery terminals are clean and correctly positioned.

– Close cover ❷ of the battery compartment.
– Lock quick release ❶.

16.4 Charging the LV traction battery

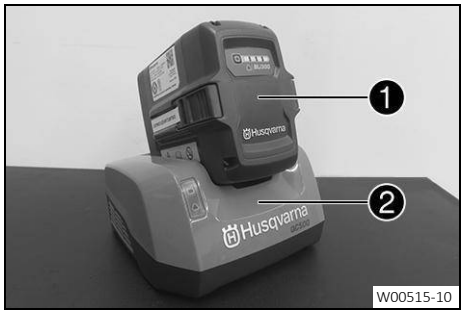
WARNING
Risk of injury Using an incorrect battery charger can cause the lithium-ion battery (traction battery) to overheat, explode or catch fire.
– Only use the traction battery and battery charger combination specified by the manufacturer.

NOTE
Environmental hazard The lithium ion accumulator contains elements and components that are harmful to the environment.
– Do not dispose of the LV traction battery in household waste.
– Dispose of the LV traction battery properly and in compliance with the applicable regulations.

Note
Further information can be found in the manuals for the LV traction battery and the battery charger.

Preparatory work
– Position the battery charger. (p. 65)
– Remove the LV traction battery. (p. 66)

Main work



– Push LV traction battery ❶ into battery charger ❷.

EU battery charger for LV traction battery (A901460000)
Work material (Alternative 1 / 1)
US/CA battery charger for LV traction battery (A90146100000)

✓ Charging starts automatically.
✓ The battery charger indicates the charging level.
– When charging is complete, disconnect the power plug and remove the LV traction battery from the battery charger.

Reworking
– Install the LV traction battery. (p. 66)

17.1 Cleaning the motorcycle

NOTE

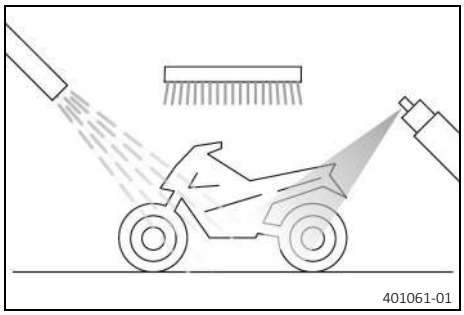
Environmental hazard Hazardous substances cause environmental damage.

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

Note

Clean the motorcycle regularly to maintain its value and appearance over a long period.

Avoid direct sunshine when cleaning the motorcycle.



– Remove the coarse dirt particles with a gentle water jet.
– Spray the heavily soiled parts with a standard commercial motorcycle cleaner and clean using a brush.

Environmentally neutral universal cleaning agent (p. 84)

Note

Use warm water containing standard motorcycle cleaner and a soft sponge.

Never apply motorcycle cleaner to the dry motorcycle. Always rinse the motorcycle with water before use.

– Clean the motorcycle thoroughly with a soft water jet, then allow to dry.

WARNING

Danger of accidents Moisture and dirt impair the brake system.

– Explain to your child that he or she must brake carefully several times to dry out and remove dirt from the brake linings and the brake discs.

– After cleaning, your child should ride a short distance until the brake system has dried through careful braking.

Note

The heat causes the water to evaporate even in inaccessible parts of the vehicle.

– After the motorcycle has cooled off, lubricate all moving parts and pivot points.
– Treat bare metal with a corrosion inhibitor.

Corrosion inhibitor must not come into contact with the brake discs.

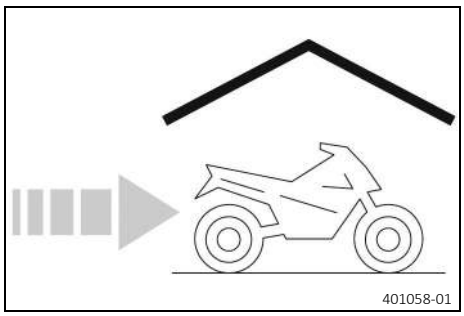
Preserving materials (p. 84)

– Treat all plastic parts and powder-coated parts with a mild cleaning and care product.

Cleaning agents for plastics, glass, lacquers, metals, windshields and visors (p. 84)

18.1 Store the vehicle.

Note
If the vehicle will not be ridden for an extended period, additional steps are recommended.
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 (workshops less busy). This allows you to avoid long waiting periods when the next season starts.


401058-01

- Clean the motorcycle. (p. 68)
- Check the tire pressure. (p. 64)
- Store the vehicle in a dry location that is not subject to large fluctuations in temperature.

Ideal storage temperature	5 °C … 25 °C (41.0 °F … 77.0 °F)

Note
GASGAS recommends jacking up the motorcycle.

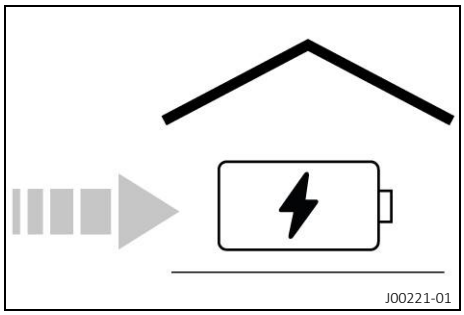
- Raise the motorcycle with a lift stand. (p. 33)
- Cover the motorcycle with a tarp or cover that is permeable to air.

Do not use any non-porous materials, as moisture cannot escape and corrosion can occur.

- Storing the LV traction battery (p. 69)

18.2 Storing the LV traction battery

Note
If the vehicle is not operated for a month or longer, removing the LV traction battery and storing it separately is recommended.


J00221-01

- If the charging level of the LV traction battery is above 50%, discharge the LV traction battery to a charging level between 25% and 50%.

Note
If the charge level indicator on the LV traction battery is pressed, 2 of the 4 indicator lamps light up in this charge state.

- Remove the LV traction battery. (p. 66)
- Charge the LV traction battery to a charging level between 25% and 50%.

Note
If the charge level indicator on the LV traction battery is pressed, 2 of the 4 indicator lamps light up in this charge state.

- Store the LV traction battery in a dry location that is not subject to large fluctuations in temperature.

Ideal storage temperature	5 °C … 25 °C (41.0 °F … 77.0 °F)

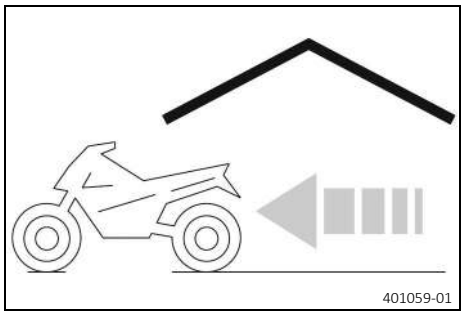
Note

The LV traction battery ages faster if the charging level is either very high or very low. The LV traction battery charging level slowly reduces during storage due to self-discharge. Aging decreases the capacity of the LV traction battery. Proper and correct storage maximizes its service life.

– Check the charging level every month.

If the charging level has fallen below 25%, charge the LV traction battery to a charging level between 25% and 50%.

18.3 Preparing for use after storage



– Remove the motorcycle from the lift stand. (p. 33)
– Charge the LV traction battery. (p. 67)
– Perform checks and maintenance measures when preparing for use. (p. 23)
– Take a test ride.

19.1 Flash code

Note
Have faults rectified immediately by an authorized contractual partner.

Flash code ride mode display	01: Ride mode display flashes red/green
Error level condition	Battery error

Flash code ride mode display	02: Ride mode display flashes red/white
Error level condition	No response from control unit

Flash code ride mode display	03: Ride mode display flashes red/blue
Error level condition	Vehicle is lying on its side

Flash code ride mode display	04: Ride mode display flashes red
Error level condition	Control unit does not recognize position of throttle grip

Flash code ride mode display	05: Ride mode display flashes red
Error level condition	Motor control unit error

Flash code ride mode display	06: Ride mode display flashes red/violet
Error level condition	Power button pressed too long

Flash code ride mode display	07: Ride mode display flashes red/yellow
Error level condition	Motor too hot

20 Technical specifications

20.1 Engine

20.1.1 Engine

Design	Brushless DC motor
Nominal power	0.75 kW (1.006 hp)
Maximum electric power	1.8 kW (2.41 hp)
Maximum torque depending on ride mode approx.	
Riding mode **1**	35 %
Riding mode **2**	60 %
Riding mode **3**	100 %
Theoretical maximum speed (unloaded)	
Riding mode **1**	7 km/h (4.3 mph)
Riding mode **2**	20 km/h (12.4 mph)
Riding mode **3**	33 km/h (20.5 mph)
Maximum engine speed	3,000 rpm (50.00 Hz)

20.2 Chassis

20.2.1 Technical data - chassis

Frame	Central tube frame made of aluminum, KTL coated
Fork **(All E 2 models)**	**WP RSD**
Fork **(All E 2.12 models)**	**WP RSD**
Shock absorber	**WP shock absorber**
Maximum rider weight	35 kg (77.2 lb)
Maximum rider height	130 cm (51.2 in)
Maximum permissible total weight	64 kg (141.1 lb)
Ready-to-ride weight approx.	29 kg (63.9 lb)
Triple clamp offset	20 mm (0.79 in)
Steering head angle	63° (1.10 rad)
Suspension travel:	
front	90 mm (3.54 in)
rear	70 mm (2.76 in)
Brake system	

front	Disc brake with 2 piston brake caliper
rear	Disc brake with 2 piston brake caliper
Brake discs - diameter	
front	140 mm (5.51 in)
rear	140 mm (5.51 in)
Brake disc wear limit	
front	2 mm (0.08 in)
rear	2 mm (0.08 in)
Off-road tire pressure	
front	1.0 bar (14.5 psi)
rear	1.0 bar (14.5 psi)
Wheelbase **(All E 2 models)**	
Low	860 mm (33.86 in)
High	870 mm (34.25 in)
Wheelbase **(All E 2.12 models)**	
Low	878 mm (34.57 in)
High	888 mm (34.96 in)
Seat Height unloaded **(All E 2 models)**	
Low	470 mm (18.50 in)
High	500 mm (19.69 in)
Seat Height unloaded **(All E 2.12 models)**	
Low	536 mm (21.10 in)
High	566 mm (22.28 in)
Ground clearance unloaded **(All E 2 models)**	
Low	146 mm (5.75 in)
High	152 mm (5.98 in)
Ground clearance unloaded **(All E 2.12 models)**	
Low	158 mm (6.22 in)
High	168 mm (6.61 in)

20.2.2 Technical data - tires

Validity	Tire front	Rear tire
(All E 2 models)	**2.50 - 10 38M TT** Kenda K-760 Trakmaster	**2.50 - 10 38M TT** Kenda K-760 Trakmaster
(All E 2.12 models)	**2.50 - 12 38M TT** Kenda K-760 Trakmaster	**2.50 - 10 38M TT** Kenda K-760 Trakmaster
The tires specified represent one of the possible series production tires. For alternative manufacturers, if any, contact an authorized manufacturer or qualified tire dealership. If local road approval regulations apply, these and the respective technical specifications must be observed.		

20.3 Electrics

20.3.1 Battery

EU lithium-ion battery (LV traction battery)	A90146000000	Voltage (nominal): 36 V Capacity: 9.4 Ah Power: 337 Wh (1,213,200 J)
US/CA lithium-ion battery (LV traction battery)	A90146100000	Voltage (nominal): 36 V Capacity: 9.4 Ah Power: 337 Wh (1,213,200 J)

20.3.2 Charger

EU battery charger for LV traction battery	A90145075000	Nominal voltage: 220 V … 240 V Grid frequency: 50 Hz … 60 Hz (3,000 rpm … 3,600 rpm) Power: 500 W (0.671 hp)
US/CA battery charger for LV traction battery	A90145175000	Nominal voltage: 100 V … 240 V Grid frequency: 50 Hz … 60 Hz (3,000 rpm … 3,600 rpm) Power: 500 W (0.671 hp)

20.3.3 Protection class

Protection class	IP65

20.4 Fork

20.4.1 Technical data - fork (All E 2 models)

Fork part number	A90101000044

Fork	**WP RSD**
Fork length	469.9 mm (18.500 in)

20.4.2 Technical data - fork (All E 2.12 models)

Fork part number	A91601000044

Fork	**WP RSD**

Fork length	492.2 mm (19.378 in)

20.5 Shock absorber

20.5.1 Technical data - shock absorber

Shock absorber part number	A90104010044

Shock absorber	**WP shock absorber**
Installation position	171.6 ±2 mm (6.756 ±0.08 in)

20.6 Chassis tightening torques

20.6.1 Chassis tightening torques

Screw, magnetic switch on handlebar M3	0.5 Nm (0.37 ft·lb$_f$)
Screw, fixed grip M4	5 Nm (3.7 ft·lb$_f$) **Loctite® 243**
Screw, throttle twist grip M4	3 Nm (2.2 ft·lb$_f$)
Screw, number plate M5×12	6 Nm (4.4 ft·lb$_f$)
Remaining screws on chassis M5	5 Nm (3.7 ft·lb$_f$)
Remaining nuts on chassis M5	5 Nm (3.7 ft·lb$_f$)
Brake assemblies screw M5	3 Nm (2.2 ft·lb$_f$)
Cable guide on link fork screw M5×12	4 Nm (3.0 ft·lb$_f$) **Loctite® 243**
Screw, trim M5×16	2 Nm (1.5 ft·lb$_f$)
Brake line holder on fork screw M5×12	2 Nm (1.5 ft·lb$_f$) **Loctite® 243**
Screw, heel guard M5×12	6 Nm (4.4 ft·lb$_f$)
Screw, control unit M5×12	0.6 Nm (0.44 ft·lb$_f$)
Screw, stop for steering on underbody M5×12	3 Nm (2.2 ft·lb$_f$)
Remaining nuts on chassis M6	10 Nm (7.4 ft·lb$_f$)
Remaining screws on chassis M6	10 Nm (7.4 ft·lb$_f$)

Screw, rear brake disc M6×16	14 Nm (10.3 ft·lb$_f$)
Screw, front brake disc M6×16	14 Nm (10.3 ft·lb$_f$)
Screw, splash protector, shock absorber M6×20	6 Nm (4.4 ft·lb$_f$)
Screw, fender M6×16	6 Nm (4.4 ft·lb$_f$)
Screw, rear brake caliper M6×20	10 Nm (7.4 ft·lb$_f$) **Loctite® 243**
Screw, front brake caliper M6×20	10 Nm (7.4 ft·lb$_f$) **Loctite® 243**
Screw, seat installation M6×20	6 Nm (4.4 ft·lb$_f$)
Screw, swingarm pivot M8×105	25 Nm (18.4 ft·lb$_f$)
Remaining nuts on chassis M8	25 Nm (18.4 ft·lb$_f$)
Remaining screws on chassis M8	25 Nm (18.4 ft·lb$_f$)
Top shock absorber screw M8×65	20 Nm (14.8 ft·lb$_f$)
Bottom shock absorber screw M8×45	25 Nm (18.4 ft·lb$_f$) **Loctite® 243**
Screw, top triple clamp M8×25	20 Nm (14.8 ft·lb$_f$)
Screw, bottom triple clamp M8×25	20 Nm (14.8 ft·lb$_f$)
Screw, subframe, top M8×65	20 Nm (14.8 ft·lb$_f$)
Screw, subframe, bottom M8×25	20 Nm (14.8 ft·lb$_f$)
Screw, handlebar clamp M8×25	15 Nm (11.1 ft·lb$_f$)
Screw, steering stem M8	20 Nm (14.8 ft·lb$_f$)
Motor shaft clamp screw M8×30	25 Nm (18.4 ft·lb$_f$) **Loctite® 243**
Screw, skid plate to frame M8×70	20 Nm (14.8 ft·lb$_f$)
Battery compartment on frame screw M8×20	20 Nm (14.8 ft·lb$_f$)
Screw, footpeg bracket M8×25	25 Nm (18.4 ft·lb$_f$) **Loctite® 243**

Screw, skid plate to foot pegs bracket set M8×25	20 Nm (14.8 ft·lb$_f$) **Loctite® 243**
Screw, foot pegs to frame M8×25	20 Nm (14.8 ft·lb$_f$) **Loctite® 243**
Front wheel spindle nut M10	40 Nm (29.5 ft·lb$_f$)
Remaining nuts on chassis M10	45 Nm (33.2 ft·lb$_f$)
Remaining screws on chassis M10	45 Nm (33.2 ft·lb$_f$)
Screw, handlebar mount M10×35	40 Nm (29.5 ft·lb$_f$) **Loctite® 243**
Nut, steering head M20×1.5	10 Nm (7.4 ft·lb$_f$)
Screw, battery compartment **EJOT PT® –** K40×12	0.4 Nm (0.30 ft·lb$_f$)
Screw, battery compartment **EJOT PT® –** K40×18	1 Nm (0.7 ft·lb$_f$)
Remaining screws on chassis **EJOT PT® –** K45×12	1 Nm (0.7 ft·lb$_f$)
Remaining screws on chassis **EJOT PT® –** K50×16	2 Nm (1.5 ft·lb$_f$)
Remaining screws on chassis **EJOT PT® –** K50×18	2 Nm (1.5 ft·lb$_f$)
Remaining screws on chassis **EJOT PT® –** K50×14	1 Nm (0.7 ft·lb$_f$)
Remaining screws on chassis **EJOT PT® –** K50×12	1 Nm (0.7 ft·lb$_f$)
Fender on start number plate screw **EJOT PT® –** K60×20	2 Nm (1.5 ft·lb$_f$)
Lower subframe screw **EJOT PT® –** K70×25	6 Nm (4.4 ft·lb$_f$)
Screw, frame to top part **EJOT PT® –** K70×25	6 Nm (4.4 ft·lb$_f$)

21 Relevant documents

21.1 Safety handbook

PARENTS, YOUNGSTERS & OFF-HIGHWAY MOTORCYCLES

THE MSF DIRTBIKE SCHOOL℠



The information contained in this publication is offered for the benefit of those who have an interest in riding off-highway motorcycles. The information has been compiled from publications, interviews and observations of individuals and organizations familiar with the use of off-highway motorcycles. Because there are many differences in product design, riding terrain and riding styles, there may be organizations and individuals who hold differing opinions. Consult your local motorcycle dealers or experienced off-highway motorcycle riders about appropriate riding locations in your area. Although the Motorcycle Safety Foundation will continue to publish responsible viewpoints on this subject, it must disclaim specific or general liability for the views expressed herein.

The Motorcycle Safety Foundation® (MSF) is a national not-for-profit organization promoting the safety of motorcyclists with programs in rider training, operator licensing and public information. The MSF is sponsored by BMW, BRP, Ducati, Harley-Davidson, Honda, Kawasaki, KTM, Piaggio, Polaris Motorcycles, Suzuki, Triumph and Yamaha.

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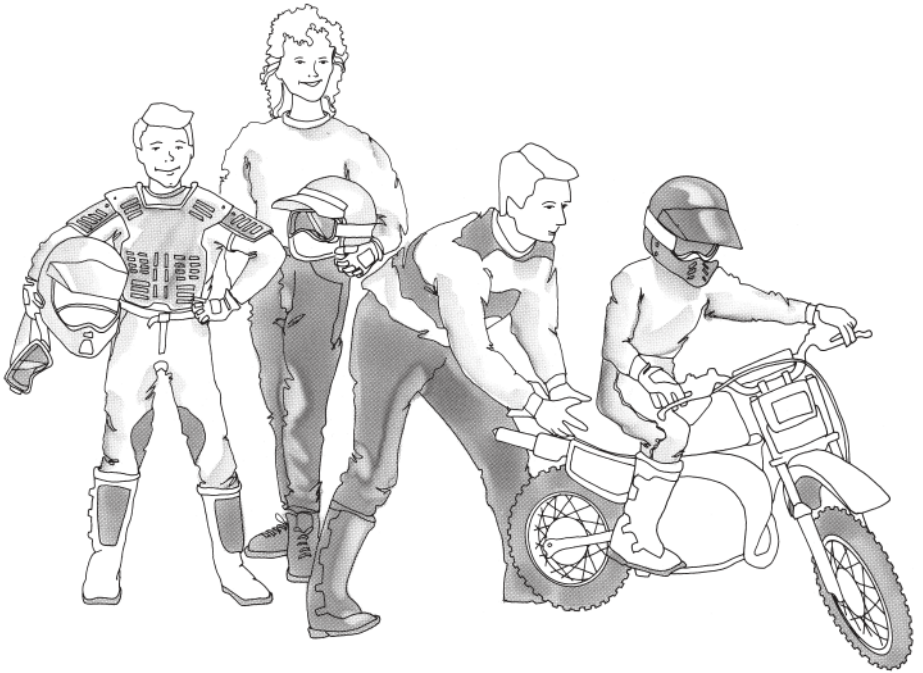
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Printed: March 2015

Parents...Be Cautious

Riding Off-Highway Motorcycles (OHMs) can be an enjoyable form of outdoor recreation when done properly. With preparation, practice, and parental supervision your youngster can safely develop and expand his or her riding skills. Remember, off-highway motorcycles are not toys.

This manual is designed to assist you in the important task of teaching your youngster the safe and responsible use of an off-highway motorcycle. We urge you to read this booklet thoroughly. Also read other information provided with the motorcycle. The owner's manual contains important warnings and features of the motorcycle.

Deciding if your youngster is ready to ride an off-highway motorcycle is an important decision. The MSF strongly urges you to carefully determine your youngster's readiness to ride. There is a Readiness Checklist in Part 4 of this booklet. **Do not permit youngsters to ride an off-highway motorcycle if you doubt that they will operate the motorcycle safely.**



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INTRODUCTION

Purpose of the Booklet

Parents, Youngsters and Off-Highway Motorcycles is designed to assist you in determining if your youngster is ready to ride off-highway motorcycles (OHMs). It also provides you and your youngster with important safety information and tips on learning to ride. This booklet is divided into four parts: Part 1: Determining Your Youngster's Readiness to Ride an Off-highway Motorcycle; Part 2: Pre-operating Procedures; Part 3: Operating Procedures; Part 4: Readiness Checklist. There is information about protective gear, mounting, control operation and starting the engine. Operating procedures include starting, shifting, stopping and turning.

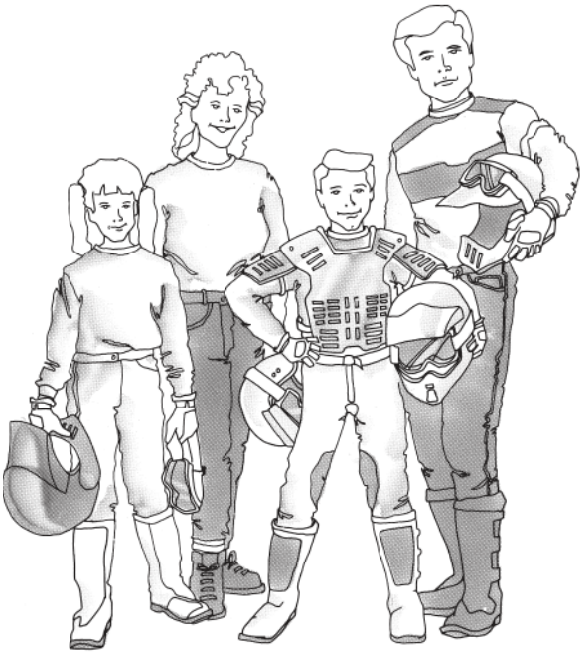
Important Note To Parents

Once your youngster is ready to learn to ride, YOU must be familiar with the motorcycle. You will be serving as teacher, coach, and safety supervisor for your youngster. You must know the controls, handling characteristics, maintenance requirements, and proper riding techniques. Read and understand the owner's manual and the labels provided with the vehicle. Review all instructions, requirements, and warnings with your youngster. Find out about state or local off-highway motorcycle requirements.

Other Sources Of Information

In addition to the information provided in *Parents, Youngsters and Off-Highway Motorcycles*, there are other sources for obtaining safety information. The owner's manual provides specific maintenance and operating procedures for your motorcycle. It also includes warnings and cautions, as well as operating tips. Motorcycle dealers may have other literature and safety information. Another booklet, *Tips and Practice Guide for the Off-Highway Motorcyclist*, gives detailed riding procedures.

The MSF *DirtBike School*SM offers training on how to ride off-highway motorcycles. The course is available to youth as young as six years of age, as well as to adults. Call toll-free 877.288.7093 to enroll or for more information. To find out more on the internet, visit dirtbikeschool.com.



PART 1 DETERMINING YOUR YOUNGSTER'S READINESS TO RIDE AN OFF-HIGHWAY MOTORCYCLE

The first important decision you will have to make concerning your youngster and off-highway motorcycles (OHMs) is whether your youngster is ready to ride. There are several factors that you must consider carefully.

There is no certain way to predict that your child is able to ride an OHM safely. However, the following information is a guide to help you determine your youngster's readiness to ride. Only parents can decide if their youngster has the qualities necessary to operate an off-highway motorcycle safely.

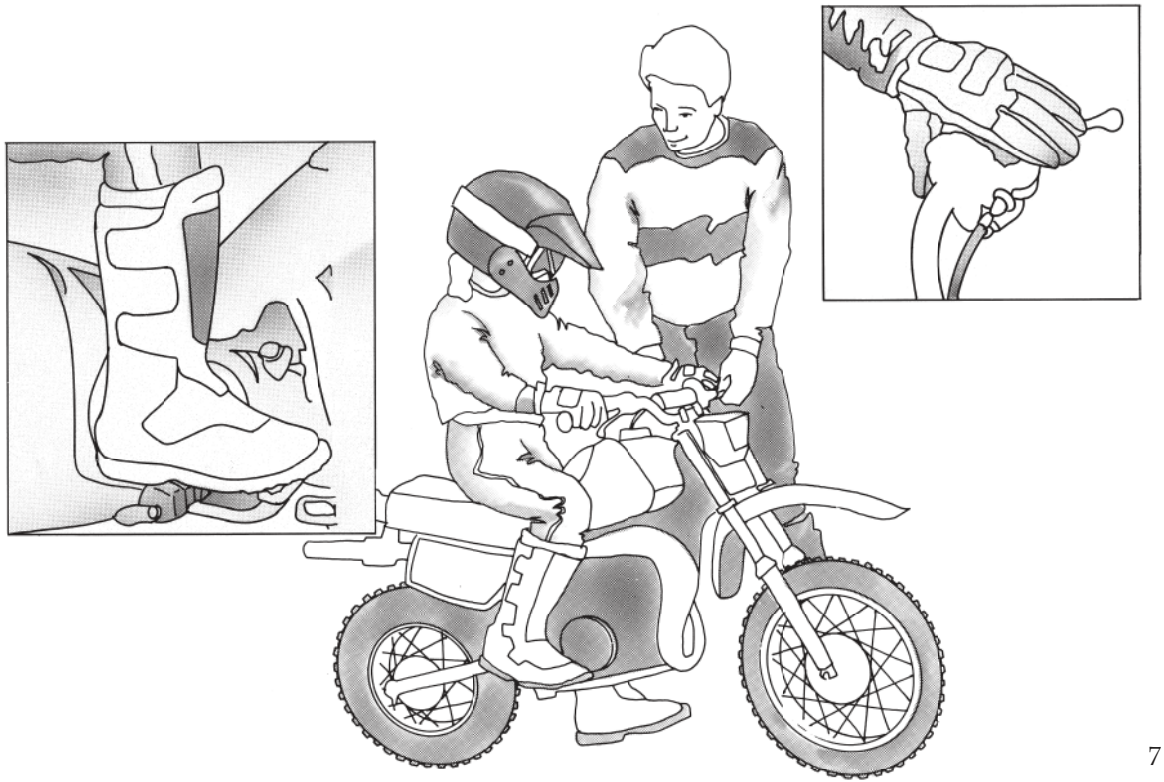
Readiness Guidelines

PHYSICAL DEVELOPMENT

Physical size and ability are important considerations. For example, a youngster must be big enough to hold the motorcycle up, get on, and comfortably sit on the seat with both feet touching the ground.

Also make sure your youngster can comfortably reach and work all the controls. For example, can they turn the handlebars all the way to the right and left? Can they easily use their feet to work the brake pedal and gearshift lever? Can they operate the throttle and brake levers while they hold onto the handgrips? If not, the youngster is not physically ready to ride this OHM. Refer to the owner's manual to check for possible adjustments in the position of some of the controls.

PART 1



Additional signs of physical readiness can be observed in your youngster's other play activities. In general, a youngster should be well-coordinated, having good balance and agility. This coordination can be demonstrated by the abilities to jump rope, skate, skateboard, ride a bicycle, etc. If a youngster cannot perform well in these types of activities, more physical development is needed.

SOCIAL/EMOTIONAL DEVELOPMENT

How a youngster behaves in a social setting can be a sign of social/emotional development. A youngster needs to know about and understand rules. Certain rules are necessary for the safe operation of any vehicle. Youngsters must be willing to follow rules. A good sign is a youngster who obeys rules set by parents. A youngster who does not follow rules is not ready for an OHM.

One indicator that a youngster is ready to ride an OHM is when they demonstrate a safety-conscious attitude and are aware of possible injury from reckless OHM operation. If the youngster has a habit of recklessness or is often involved in accidents while using bicycles or skateboards, the youngster is not ready to ride an OHM.

REASONING AND DECISION-MAKING ABILITY

Youngsters should have some knowledge about what may happen if something is done wrong. They must understand that unsafe actions can result in injury. An example of this is knowing the need to look in both directions before crossing a street when walking to school. The ability to make good decisions relates to a youngster's ability to reason. When presented with a problem, the youngster should be able to come up with a sensible answer. Ask your youngster to tell you what causes accidents and injuries. Your youngster needs to be able to tell

what causes accidents and how to avoid them. In general, a youngster should understand that he or she can get hurt as a result of making poor choices.

VISUAL PERCEPTIONS AND MOTOR DEVELOPMENT

This area involves how well a youngster sees and how vision is used with other physical movements. In other words, can a youngster see and react with the proper hand, foot, or body movement?

Several types of visual characteristics are important. The ability to see to the sides while looking straight ahead is called peripheral or side vision. You can determine a youngster's side vision by having him or her look straight ahead while you move objects to the side. The youngster should be able to see objects ninety degrees to the side while looking straight ahead. Rider awareness and safety improves with good side vision.

Being able to judge distance is another visual skill helpful when operating an OHM. Is your youngster able to tell how far one object is from another, or which of two objects is closer? OHM riding requires a person to judge distance and react properly.

Being good at playing video games, hitting a baseball, etc., is a good sign that a youngster's eye and hand movements are fairly well coordinated.

In summary, you must consider many things before you decide to put your youngster on an OHM. There is no exact formula to use in making this decision. The Readiness Checklist, Part 4, can assist you with some points to evaluate. If you are not able to check-off most of the statements, your youngster is probably not ready to ride an OHM.

PART 1

Steps For Safe And Responsible OHM Riding

Once you determine that OHM use is proper for your youngster, it is time to prepare yourself as a good OHM teacher and supervisor.

STEP ONE: Educate Yourself about OHM Safety and Proper Riding Techniques

You must learn as much as possible about off-highway motorcycles in general, and especially your youngster's motorcycle. You must be qualified to instruct and supervise your youngster. This means that you will need to understand the features of the motorcycle and proper riding techniques. The best source of information is the owner's manual supplied with the motorcycle. Read the owner's manual before you begin to instruct your youngster about OHM safety. Pay particular attention to the warning labels and stickers on the motorcycle.

STEP TWO: Teach Your Youngster Safe and Proper Riding Techniques

Teaching your youngster off-highway motorcycling is a step-by-step process. It begins with safety rules and moves to actual riding techniques. Since youngsters learn at different rates, it will be up to you to set the pace of your youngster's progress. At some point you may decide that he or she is not ready to ride an OHM.

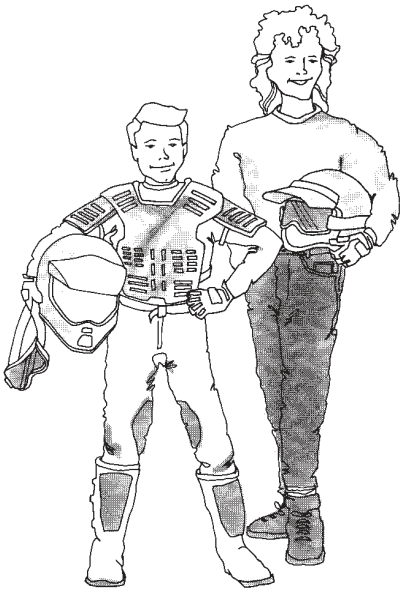
STEP THREE: Avoid Unsafe Situations Through Close Supervision

ALWAYS closely supervise your youngster's riding. This is true even if your youngster has learned and mastered the rules and skills of safe OHM riding. Youngsters can get tired easily and become careless. They do not always see everything that is important around them. Your close supervision and good judgment are important.

Protective Gear And Clothing

The nature of off-highway riding demands that your youngster wear proper protective gear. Motorcycle riders should ALWAYS wear a helmet, eye protection, gloves, long pants, a long-sleeved shirt or jacket, and over-the-ankle boots. Anything less is not adequate protection. NEVER let anyone ride an off-highway motorcycle without a Department of Transportation (DOT) compliant motorcycle helmet. Be sure the fit is correct. It should be snug but not tight. It must be properly fastened.

Protective gear is necessary in any weather, even when the temperature is warm. In cooler weather you should dress your youngster with additional layers of clothing. Some riders choose to wear a kidney belt and chest or back protector for additional protection. On the right is a drawing of well-equipped riders. Show this drawing to your youngster and point out what is important.



PART 2

Mounting/Dismounting

Have your youngster wear safety gear whenever getting on a motorcycle. This action will stress the importance of safety gear and help develop safe riding habits.

Mounting is typically from the left side. To mount from the left, point the handlebars straight. While squeezing the front brake lever, swing the right leg over the seat and place the right foot on the ground. Both feet should be in contact with the ground while sitting on the motorcycle. Dismounting reverses the procedure: the kickstand is placed fully down. With the left foot on the ground, the handlebars straight and the front brake lever squeezed, the right leg is swung over the seat and the foot touches the ground.

Correct riding posture helps your youngster operate the controls. Proper straight line riding posture includes:

- Head and eyes up, looking well ahead.
- Shoulders relaxed, back straight.
- Elbows bent, slightly out and away from the body.
- Hands on the handlebars.
- Knees in toward the tank.
- Feet on the footpegs, toes pointing straight ahead.

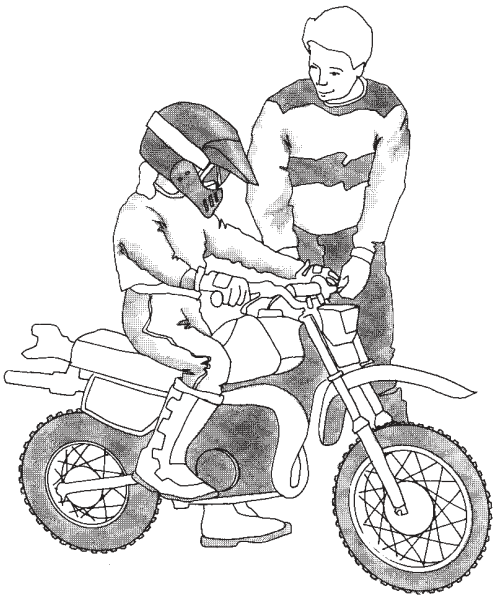
The hand and foot controls are important to riding safely. While riding, both hands should be kept on the handlebars and both feet on the footpegs of the motorcycle. Removing a hand or foot can reduce the ability to control the motorcycle.

An off-highway motorcycle rider will need to shift body weight in certain situations. This is especially true in maneuvers such as turning, negotiating hills, and riding on bumpy terrain. Your youngster should be able to operate the controls during these maneuvers. Now is a good time to make sure your youngster can reach the controls from different body positions. Have the youngster remount. Turn the handlebars full left

and full right. See that this can be done easily. Next have the youngster slide up and back on the seat. Mention that body movement is important. Body movement and shifting weight help to control the motorcycle.
(Go through these control exercises with the motorcycle's engine OFF.)

Mastering The Controls

Show your youngster how to use each control as you describe its action. Refer to the owner's manual to learn control location and function before instructing your youngster. Test yourself by operating the controls. Have your youngster dress in the proper protective gear and sit on the machine as you point out each control. It is important to have your youngster wear all the protective gear whenever sitting on an off-highway motorcycle.



PART 2

BRAKES

Most small off-highway motorcycles have a hand lever on the right handlebar which operates the front brake. Most also have a foot pedal on the right side to operate the rear brake. Refer to the owner's manual for correct brake location and operation.

Explain and demonstrate proper braking procedure. Be sure your youngster can apply the brake(s) properly while seated and without looking down. Smooth operation should be encouraged.

THROTTLE CONTROL

Explain to your youngster that twisting the throttle control back will make the motorcycle go faster. Closing the throttle control slows the motorcycle.

Youngsters need practice using the throttle control smoothly. They tend to use it like an on/off switch. With the engine off, have your youngster move the throttle to various positions. Practice turning the handlebars and using the throttle at the same time.

ENGINE STOP SWITCH

Explain to your youngster how to use the engine stop switch to turn off the engine. With the engine off, show how the stop switch works. Later, your youngster can practice using the stop switch when the engine is actually running.

CLUTCH/SHIFT LEVER

Some small OHMs do not have a clutch lever; some don't have a shift lever either. This section applies only to motorcycles with a shift lever. Those that do have a shift lever may have different shift patterns. Refer to your owner's manual for proper shifting instructions. It is important to learn how the shift lever works.

Explain that it is possible to shift the motorcycle with the shift lever in order to ride at different speeds.

Have your youngster practice shifting with the engine off. The shift lever, clutch lever (if equiped), and throttle control work together to move the motorcycle. When shifting to first gear from neutral the throttle is closed, the clutch lever is squeezed, and the front brake is applied before moving the shift lever into first gear. When starting out, the front brake is released. The throttle is gradually opened while the clutch is slowly released. If the clutch is released too quickly, or too much throttle is applied, the motorcycle may lunge forward causing loss of control. With the engine off, have your youngster practice upshifts, downshifts, and locating neutral.

SPEED LIMITERS

(supervisor control feature)

Some models come equipped with a removable exhaust restrictor, or another feature which reduces maximum speed. Refer to your owner's manual or talk to your dealer about this.

PART 2

Learning Activities

Here are some activities that your youngster can use to help learn about motorcycle parts and controls

CROSSWORD PUZZLE

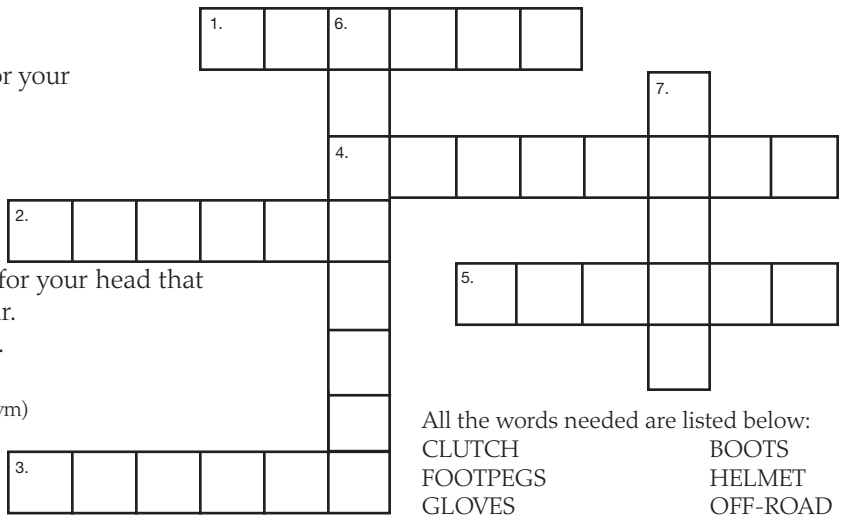
Here is a crossword puzzle for your youngster to complete.

Across

1. What this booklet is all about.
2. A piece of safety equipment for your head that you must never forget to wear.
3. Protective gear for the hands.
4. Where you should always ride your motorcycle. (a synonym)
5. Hand lever you use when shifting gears.

Down

6. The place on which you keep your feet when riding.
7. Protective gear for the feet and ankles.



All the words needed are listed below:

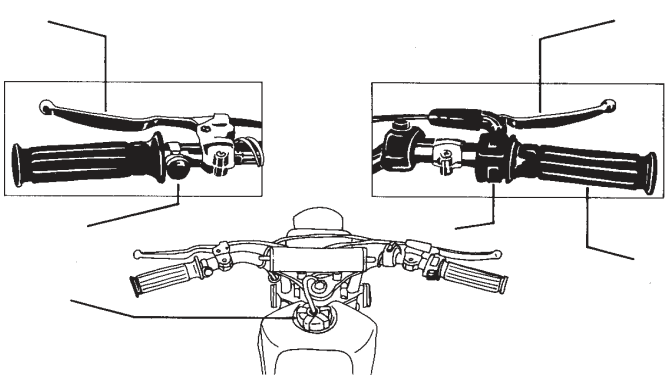
CLUTCH
FOOTPEGS
GLOVES
SAFETY
BOOTS
HELMET
OFF-ROAD

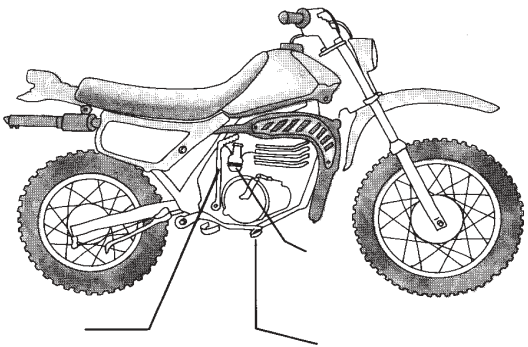
Answer Guide on Page 41

NAME THE MOTORCYCLE PARTS (Typical)

Have your youngster write the number of the motorcycle part or control on the correct line for the diagrams shown. *(Answer Guide on Page 42)*

1. Clutch lever
2. Hand brake lever
3. Foot brake lever or pedal
4. Throttle
5. Choke or enrichening device
6. Engine stop switch
7. Gas cap/tank vent
8. Starter (kick)
9. Electric starter (if equipped)





PART 2

LOCATING THE CONTROLS GAME

Now that you have shown your youngster the controls, it is your youngster's turn to show you. The engine remains OFF for this exercise and your youngster will be on the motorcycle. The youngster should be wearing the proper protective gear to develop this safety habit.

1. Have your youngster show you the location of the following:

   Brakes (lever and pedal)
   Throttle Control
   Engine Stop Switch
   Shift Lever (if equipped)
   Clutch (if equipped)

2. Have your youngster show you how the controls work. Be sure he or she understands the proper operation of each control. Skilled use of these controls should develop with practice. Under actual riding conditions the rider will have to watch ahead while operating the controls. Your youngster should be able to find the controls quickly without looking for them.

3. With your youngster looking ahead (pick out a point to look at), have him or her operate the controls. Repeat often while changing the order.

4. Ask your youngster to operate the controls as if actually riding. Look for smooth and precise operation.

PRE-RIDE CHECK

Before you continue:

1. Have you determined your youngster's readiness to ride an OHM? Do not let your youngster ride if you have any doubt. (Refer to the Readiness Checklist, Part 4)

2. Have you read the owner's manual and reviewed it with your youngster?

3. Does your youngster fit the motorcycle properly?

4. Have you inspected the vehicle and maintained it according to the owner's manual?

5. Is your youngster wearing the proper protective gear? Is the mounting procedure correct?

6. Has your youngster learned to locate the motorcycle controls without looking at them? Does he or she know how to operate them smoothly?

7. Does your youngster understand that he or she must always ride off-road?

8. Have you stressed to your youngster to keep his or her feet on the footpegs while riding?

If you have completely covered all these areas, you are ready to go on to Part 3.

PART 3 OPERATING PROCEDURES AND PRACTICE

Carefully observe your youngster's first use of the motorcycle. Observe his or her readiness to ride. Only permit your youngster to continue to ride if they have the size, strength, and attitude needed to ride safely.

Show your youngster the engine, exhaust pipe, and muffler. Tell him or her not to touch these parts because they are hot while the engine is running. Explain that they will remain hot after the engine is stopped. Also explain that hands and feet must be kept away from moving parts of the motorcycle.

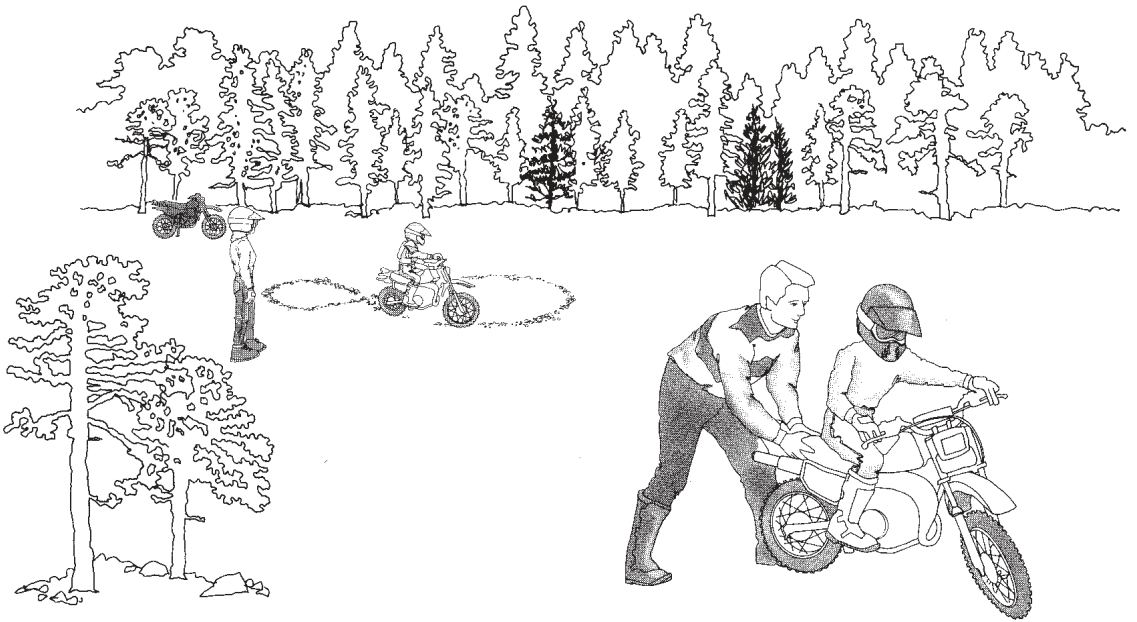
Your youngster's safety depends in part on the mechanical condition of the motorcycle. Be sure to inspect it thoroughly before each use. Starting and refueling of the vehicle should be done by responsible adults only. Follow a regular maintenance program. See the owner's manual for inspection details.

Even after young riders have learned the basic riding skills, direct supervision by an experienced adult is necessary AT ALL TIMES. Make sure that all off-highway motorcycle users under your supervision get proper riding instructions. Stress that an OHM is not a toy. Follow safety precautions strictly to provide a "safety first" approach to off-highway motorcycle riding. Teaching your youngster how to ride an OHM safely will increase the enjoyment of off-highway motorcycle riding.

Learning Area/Riding Area

The best place for learning is a level area 100' x 200' that is free from obstacles such as rocks, stumps, or holes. The learning area may have a loose or hard dirt surface. A grassy surface is also acceptable. It should not have two different surfaces. **Under no circumstances should the surface be concrete or asphalt.** Be sure there is room enough to maneuver, and that no other riders are close.

PART 3



PART 3

Getting Used To The Vehicle In Motion

GETTING THE FEEL OF THE BRAKES

Be sure your youngster is wearing all of the proper protective gear. With the engine still OFF, have your youngster mount the motorcycle. If you physically can, push the motorcycle slowly. Have your youngster brake to feel how much pressure is needed for a smooth stop. If your youngster's motorcycle has more than one brake, both should be applied with even pressure. Practice this several times until you are sure this skill is developed. Remind your youngster to keep his or her head up and look forward.

GETTING THE FEEL OF THE THROTTLE

With the engine OFF, have your youngster practice smooth throttle control. Your youngster will learn how much throttle it takes to start moving in a later exercise. Explain that opening the throttle will increase speed and that closing the throttle will decrease speed. Releasing the throttle and applying the brakes will slow the motorcycle. Ask your youngster to tell you how throttle control and braking affect the motorcycles speed.

GETTING THE FEEL OF THE CLUTCH

(if equipped)

With the engine OFF, have your youngster practice smooth clutch control. Have your youngster shift the motorcycle into first gear. While you push the motorcycle have the youngster slowly release the clutch lever. The point which the motorcycle stops moving indicates the clutch engagement point or "friction zone." The "friction zone" is the point at which engine power begins to be transmitted to the rear wheel. Explain that this is the point the motorcycle will start moving when the engine is running. Smooth operation will prevent stalling and

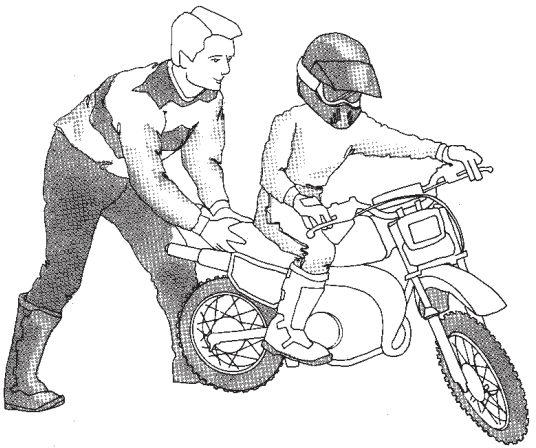
allow smooth shifting. Remind the youngster that the throttle should be closed when shifting gears. Practice this exercise several times until the skill is developed.

GETTING THE FEEL OF TURNING

With the vehicle stopped and the engine OFF, have your youngster practice the proper turning technique:

1. For a right turn, look to the right and lean the motorcycle to the right.
2. For a left turn, look to the left and lean the motorcycle to the left.

Repeat this exercise with the kickstand up as you push the motorcycle. Make sure he or she can turn the vehicle in both directions using this technique while you maintain balance of the motorcycle.



PART 3

BEING PREPARED FOR RIDING PRACTICE

Be sure to observe all the safety precautions covered in the Introduction and Parts 1 and 2. Double check that the riding area is free from hazards. Your youngster should wear all the proper protective gear, and the speed limiter (if equipped) should be installed and working correctly.

STARTING THE MOTORCYCLE

Always start the motorcycle for your youngster. To remember the proper starting technique use "FINE-C."

Double check for neutral. Start the engine. Have your youngster carefully mount. Let your youngster operate the engine stop switch and shut off the motor. Re-start the engine and repeat. Allow the engine to warm up until it runs smoothly with the choke off.

F	FUEL VALVE	Put to "on" position.
I	IGNITION	Ignition on.
N	NEUTRAL	Motorcycle in neutral (the motorcycle rolls with the clutch lever released).
E	ENGINE	Stop switch in run/on start position.
C	CHOKE	On (for cold engine only).



Start the motorcycle for your youngster

Let's Start Riding

Walk next to the motorcycle when your youngster first starts riding. You can also let the beginner ride back and forth between you and another adult. Help your youngster with the turns as he or she practices throttle control and braking.

STARTING OUT AND STOPPING

Before your youngster moves the motorcycle under power, take a few moments to practice smooth clutch control. After shifting to first gear, have your youngster rock the motorcycle a few inches back and forth by moving the clutch in and out of the"friction zone." The clutch is not fully released while doing this. It is important that clutch operation is smooth before riding in the practice area.

The next practice session is straight-line starts and stops. Keep the riding under control.

However, riding too slowly will make balance more difficult. Both brakes should be used together for smooth stops. The left foot should be placed on the ground first, keeping the right foot on the rear brake.

Be sure your youngster develops a good feel for the use of the throttle and controls. After the youngster has mastered starting and stopping at slower speeds, increase speeds by shifting.

TURNING

Remind your youngster of the two steps for turning:

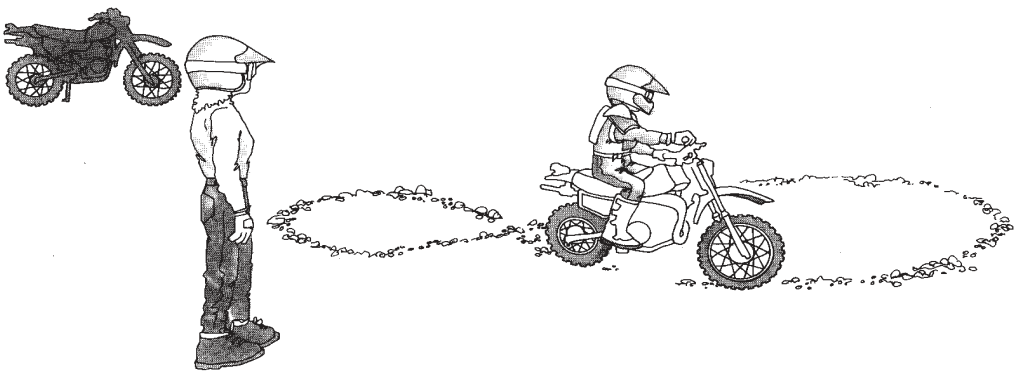
1. For a right turn, look to the right and lean the motorcycle to the right.
2. For a left turn, look to the left and lean the motorcycle to the left.

Have your youngster practice turning in both directions at slow speeds. Allow enough room to make a wide turn. After your youngster is skilled in making wide turns, try tighter turns.

Keep speed slow.

Your youngster should master these skills at low speeds before going faster. Next, practice some figure eights. This will help your youngster make left and right turns. Make sure your youngster keeps both feet on the footpegs and looks ahead in the turns.

Once these skills are mastered, refer to the Tips & Practice Guide for the Off-Highway Motorcyclist, for additional skills used in off-highway riding.



PART 4 READINESS CHECKLIST

This Readiness Checklist is provided to help you determine your youngster's readiness to learn to safely operate and control an OHM. There is a significant amount of judgment needed in determining a youngster's readiness to ride an OHM. The ultimate decision is the responsibility of the parent, guardian, or supervising adult. It is important that parents make informed decisions about whether or not their youngster becomes involved in off-highway motorcycle activity.

There are four developmental areas considered in the Readiness Checklist. These include: visual perception/motor development, physical development, social/emotional development, and reasoning and decision-making ability. Several questions are listed to help you determine if your youngster possesses the skills and capabilities to safely learn to operate an OHM.

The best way to utilize the Readiness Checklist is to read the particular ability, consider the answers to the questions for that ability, and check those abilities that you determine are present in your youngster. There are no suggestions as to how many abilities or the degree of ability that your youngster should possess. This Readiness Checklist may help you consider the appropriateness of OHM operation for your child. The ultimate decision for your youngster's involvement with off-highway motorcycles belongs to you, the parent.

PART 4

VISUAL PERCEPTION/MOTOR DEVELOPMENT

Ability	✓	**Points to Evaluate**
1. Youngster can see with sufficient clarity.	☐	Can youngster see letters and numbers at least as well as you?
	☐	Can youngster distinguish colors?
	☐	Has youngster demonstrated adequate vision in other activities (riding bicycles, running, sports, or other recreational activities)?
2. Youngster possesses ability to perceive depth or distance.	☐	When looking at two objects in the distance, can youngster tell which is farther or closer?
3. Youngster has adequate side vision/ peripheral vision.	☐	Can youngster see objects 90 degrees to each side while looking straight ahead?
4. Youngster can judge the speed of objects.	☐	Does the youngster judge the speed of objects (fast, medium, slow) that agree with your judgments? (For example, a car on the highway, a train moving past a crossing, a dog running, people walking.)

PART 4

Ability	✓	Points to Evaluate
5. Youngster can state the distances of objects in terms of feet, yard, miles.	☐	Can youngster tell how many feet or yards it is from the house to the road?
	☐	Can youngster tell how wide a hallway is, or the width of a room?
6. Youngster can follow movement of objects.	☐	Can youngster follow the path of such things as: a hit or thrown baseball, a moving car, objects in a video game?
7. Youngster can visualize distances as displayed by a picture or photograph.	☐	Can youngster estimate distance between objects in a family photograph?
	☐	Can youngster estimate distance between objects when looking at a landscape picture?
8. Youngster can follow a moving object while accomplishing hand manipulation.	☐	Can youngster dribble a basketball without looking at it?
	☐	Can youngster manipulate video game controls while following objects on a screen?
9. Youngster can describe cause-and-effect experiences.	☐	Can youngster describe a minor injury he or she received and correctly describe the causes?
	☐	Can youngster describe settings or situations that can produce injury if precautions are not taken?

Ability	✓	**Points to Evaluate**
	☐	Can youngster describe what may cause injury when doing such things as running, swimming, bicycling, riding in a car?
10. Youngster can concentrate on more than one element at a time in solving a puzzle or problem.	☐	Can youngster pick out or describe several items within a picture?
	☐	Can youngster assemble a puzzle without unusual problems or delays?
	☐	Can youngster describe what to do if a house fire should occur?
11. Youngster can maintain relative spans of attention when given a variety of stimuli.	☐	Can youngster complete school homework assignments without being easily distracted?
	☐	Can youngster assemble more difficult puzzles; for example, a nature scene or picture?

PART 4

PHYSICAL DEVELOPMENT

Ability	✓	**Points to Evaluate**
1. Youngster can sit comfortably on the motorcycle and reach the controls easily.	☐	Can youngster place his or her feet firmly on the footpegs?
	☐	Do the youngster's fingers reach comfortably around the handlebars and control levers? How about with the handlebars turned? How about in different seating positions?
	☐	Can youngster stand (with knees slightly bent) and have a few inches of space from the seat?
	☐	Can youngster easily reach the foot controls?
	☐	Can youngster dress with proper protective gear including putting on helmet and fastening the chin strap?
2. Youngster has sufficient strength and familiarity to operate the controls with ease.		While sitting on the vehicle, can youngster:
	☐	Squeeze the hand controls?
	☐	Operate the shift lever (if equipped)?
	☐	Operate the choke and fuel valve with ease?
	☐	Press the brake lever with sufficient pressure
	☐	Operate the controls without looking at them?

Ability	✓	**Points to Evaluate**
3. Youngster is sufficiently coordinated.	☐	Can youngster walk a "balance beam" (2" x 4" x 8') flat on floor?
	☐	Can youngster ride a bicycle, rollerskate or skateboard safely?
	☐	Can youngster walk on tiptoes for 10 feet?
	☐	Can youngster jump rope?
	☐	Can youngster catch a ball with hands rather than with arms?
4. Youngster has sufficient endurance to maintain strength over a period of time.	☐	Can youngster play outdoor games without fatigue?
	☐	Can youngster participate in indoor games and sports without tiring before other youngsters?

PART 4

SOCIAL/EMOTIONAL DEVELOPMENT

Ability	✓	**Points to Evaluate**
1. Youngster can understand and follow rules.	☐	Does youngster follow rules established at home?
	☐	Do teachers say that the youngster follows rules?
	☐	Does youngster listen and respond to adult supervision?
	☐	Does youngster comprehend the importance and seriousness of having rules and regulations?
2. Youngster generally will obey parents and supervisors.	☐	Does youngster avoid challenging authority or rebelling when rules are imposed?
3. Youngster controls behavior according to expectations?	☐	Does youngster show evidence of self-control...doesn't get easily frustrated or upset?
	☐	Does youngster understand consequences associated with certain actions (like not wearing a safety belt in the car)?
	☐	Does youngster think about results before performing some action (like crossing the street, hitting or throwing a ball)?

Ability	✓	**Points to Evaluate**
4. Youngster understands other youngsters may be permitted to do what he/she may not be allowed to.	☐	Does youngster recognize unsafe actions of other youngsters?
	☐	Does youngster appreciate being safer than others?
	☐	Does youngster accept rules that are more stringent than what other youngsters have to follow?
5. Youngster can give reasons and/or solutions to problems seen in the environment.	☐	Can youngster explain how land (or grass) gets worn?
	☐	Can youngster explain how even small damage to land can take years to recover?
	☐	Can youngster distinguish between untouched land and used land?
6. Youngster can make decisions based on reality and not fantasy.	☐	Can youngster complete a task in a step-by-step fashion (assemble a toy, clean a room)?
	☐	Does youngster comprehend real injury as opposed to "cartoon" injury?
	☐	Does youngster respond with logical solutions when asked to solve a problem?

PART 4

REASONING AND DECISION-MAKING ABILITY

Ability	✓	**Points to Evaluate**
1. Youngster comprehends that interaction with others and things can result in injury.	☐	Can youngster describe how and why a person received physical injury or pain?
	☐	Does youngster notice impending accidents or potential injury-producing events, such as in sports activities or bicycle riding?
	☐	Can youngster explain why it takes distance to stop?
	☐	Can youngster explain how moving at even low speed can result in injury if stopped suddenly or by hitting something?
2. Youngster has a basic understanding of what being careful means.	☐	Does youngster know why rules are established?
	☐	Does youngster notice or recognize others being careful in action-oriented activities?
	☐	Does youngster notice professional athletes use protective gear as part of their sport?

Ability	✓	**Points to Evaluate**
3. Youngster understands that rules are made to reduce injury and provide long-term enjoyment.	☐	Can youngster explain the reason for rules at home or school?
	☐	Does youngster understand the value of prevention? Of wearing protective gear?
	☐	Can youngster recognize that not following rules can eliminate future fun and enjoyment?
4. Youngster has basic understanding of the physical limitations of stopping and turning.	☐	Can youngster explain what may happen if moving too fast while going around a curve on a bicycle? On a skateboard? On an off-highway motorcycle?

FINAL NOTE TO PARENTS

We hope this booklet has helped you and your youngster take a "safety first" approach to off-highway motorcycle riding. All off-highway motorcycle riders must use good judgment and be responsible. It is up to YOU to set a good example about motorcycle safety. You must help your youngster ride sensibly and safely at all times.

After your youngster has mastered the riding skills in this booklet and has matured to a higher level of skills, he or she may be ready to practice more advanced riding. The Motorcycle Safety Foundation's *Tips & Practice Guide for the Off-Highway Motorcyclist* booklet provides information about riding on hills, riding across slopes, and other more advanced skills. Youngsters should have a good understanding of riding skills before using unfamiliar areas. They should ride on flat areas, gentle hills, and gradual slopes. Be sure that your youngster rides slowly over unfamiliar terrain to locate and avoid bumps, holes, and other possible hazards. You should check the area first.

The Motorcycle Safety Foundation also recommends a video program, *The MSF DirtBike School: Learn to Ride Safely*. It demonstrates and discusses responsible riding practices.

It is also recommended that you and your youngster read the information in the owner's manual. To find out more about rider education and off-highway motorcycle safety programs offered, or to order the video or publications, contact the **Motorcycle Safety Foundation at 2 Jenner, Suite 150, Irvine CA 92618, 949.727.3227 or visit dirtbikeschool.com**

BRAKES - The parts of a motorcycle which allow the operator to slow down or stop the machine.

BRAKE LEVER - The hand brake located on the handlebar.

BRAKE PEDAL - The foot brake which is operated by the right foot.

CABLES - Heavy insulated wires. There are two kinds: mechanical and electrical. Brake cables are mechanical. The headlamp cable is electrical.

CARBURETOR - Device which provides the engine the proper mixture of fuel and air.

CHOKE - A device which enriches the mixture of gasoline and air supplied to the engine for cold engine starting.

CLUTCH LEVER - The hand lever used to disengage the clutch when changing gears.

DRIVE CHAIN - The chain which connects the engine to the rear axle to give a motorcycle motion.

ENGINE STOP SWITCH - Switch used to stop the engine without removing the hands from the handlebars.

EXHAUST - Leftover gases from the combustion process that come out of the tailpipe when the motorcycle engine is running. Exhaust contains deadly carbon monoxide gases.

EYE PROTECTION - Goggles or a shatter resistant shield worn over the eyes while riding to protect against dust, flying insects, or other debris. Such eye protection, when tinted, may be effective against bright sun or snow-glare conditions.

FINE-C - A pre-start routine. A way to remember the pre-start routine:
F - Fuel valve on
I - Ignition on
N - Neutral
E - Engine stop switch in run position
C - Choke

FOOTPEGS - Pivoting pegs on which a motorcycle operator should keep his/her feet while riding.

FUEL VALVE - A valve, usually hand operated, with an on, off and "reserve" position. Controls gasoline flow to the carburetor.

GLOSSARY

HANDLEBAR - The metal bar attached to the front end of the motorcycle that turns the front wheel for steering. Many of the controls for the motorcycle are located on the handlebar.

HELMET - The most important protective clothing to be worn when operating a motorcycle. It covers the head and helps protect against skull fracture or brain injury in an accident.

OFF-HIGHWAY or OFF-ROAD VEHICLE - Any vehicle, including off-highway motorcycles and ATVs, which is restricted by law from operating on public roads.

OHM - Off-Highway Motorcycle

PSI - Refers to air pressure in the tires and stands for "Pounds per Square Inch."

READING THE TERRAIN - Looking well ahead while riding, anticipating hazards.

SHIFT LEVER - On those motorcycles equipped with a shift lever, it allows the operator to change gears. The shift lever is operated by the left foot.

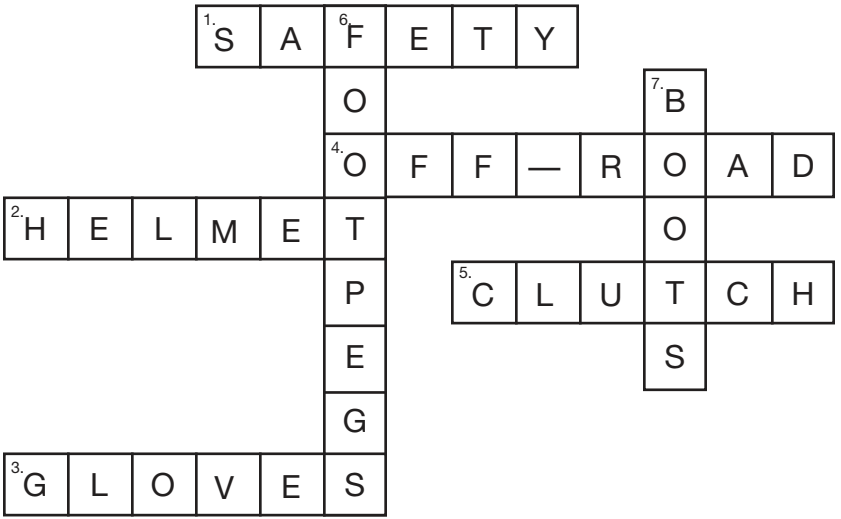
TAILPIPE - That part of the exhaust system which expels waste gases.

THROTTLE - The control operated by the right hand which controls the engine speed.

TRACTION - Tread friction between the ground and the tires.

TRANSMISSION - Mechanism used to transmit power from the engine to the wheels.

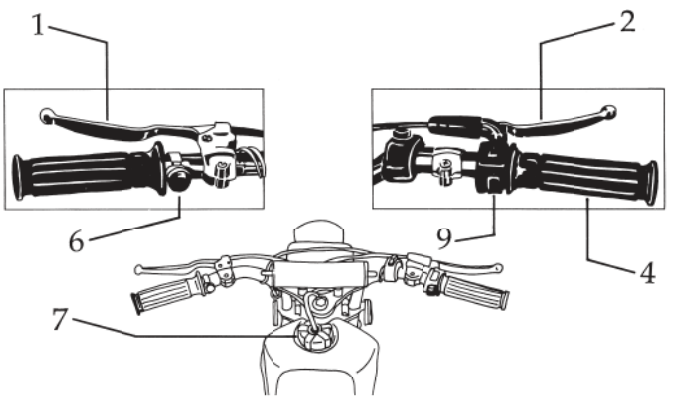
ANSWERS

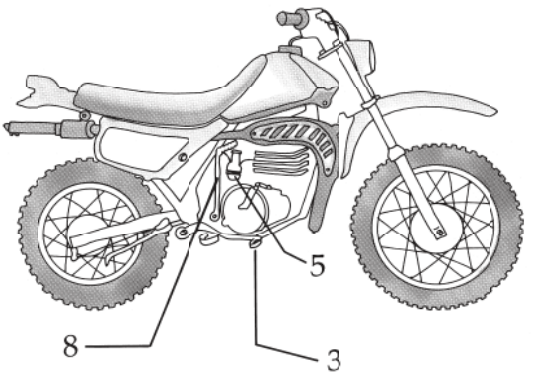


ANSWERS

NAME THE MOTORCYCLE PARTS (Typical)

1. Clutch lever
2. Hand brake lever
3. Foot brake lever or pedal
4. Throttle
5. Choke or enrichening device
6. Engine stop switch
7. Gas cap/tank vent
8. Starter (kick)
9. Electric starter (if equipped)





NOTES

NOTES



For the rider training location nearest you,
call: (877) 288-7093

dirtbikeschool.com

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(949) 727-3227 • msf-usa.org

PN MSPU3444NC00

21.2 Declaration of conformity MC-E 2/MC-E 2.12

KTM AG

EU Declaration of Conformity

CE

Object of the declaration:

Models: EE 2.12, SX-E 2.12, MC-E 2.12 / SX-E 2, EE 2, MC-E 2
Product: Electric Mini Motorcycle

Name and address of the manufacturer: KTM AG
Stallhofnerstraße 3
5230 Mattighofen, Austria

This declaration of conformity is issued under the sole responsibility of the manufacturer.

The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

(EU) 2023/1230	REGULATION (EU) 2023/1230 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 14 June 2023 on machinery and repealing Directive 2006/42/EC of the European Parliament and of the Council and Council Directive 73/361/EEC
2014/30/EU	DIRECTIVE 2014/30/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility (recast)
2011/65/EU	DIRECTIVE 2011/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (recast)
2014/53/EU	DIRECTIVE 2014/53/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 April 2014 on the harmonisation of the laws of the Member States relating to the radio equipment and repealing Directive 1999/5/EC

References to the relevant harmonised standards and other technical specifications:

EN ISO 12100:2010	Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)
EN 16029:2012	Ride-on, motorized vehicles intended for the transportation of persons and not intended for use on public roads - Single-track two-wheel motor vehicles - Safety requirements and test methods
EN 15194:2024	Electrically power assisted cycles (EPACs)
EN 61000-4-2:2009	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test
EN IEC 61000-6-3:2021	Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for equipment in residential environments

Signed for and on behalf of: KTM AG
Mattighofen, 15.06.2026

Miriam Berghammer
Team Lead Homologation & RA

KTM AG

Annex [en | de | fr | es | pt | it | nl | da | sv | fi | el | pl | cs | sk | hu | ro | bg | sl | hr | et | lv | lt]

[en] EU Declaration of Conformity | [de] EU-Konformitätserklärung | [fr] Déclaration UE de conformité | [es] Declaración UE de conformidad | [pt] Declaração UE de conformidade | [it] Dichiarazione di conformità UE | [nl] EU-conformiteitsverklaring | [da] EU-overensstemmelseserklæring | [sv] EU-försäkran om överensstämmelse | [fi] EU-vaatimustenmukaisuusvakuutus | [el] Δήλωση συμμόρφωσης ΕΕ | [pl] Deklaracja zgodności UE | [cs] EU PROHLÁŠENÍ O SHODĚ | [sk] EÚ vyhlásenie o zhode | [hu] EU-megfelelőségi nyilatkozat | [ro] Declarația UE de conformitate | [bg] ЕС декларация за съответствие | [sl] Izjava EU o skladnosti | [hr] EU izjava o sukladnosti | [et] ELi vastavusdeklaratsioon| [lv] ES atbilstības deklarācija | [lt] ES atitikties deklaracija

[en] Object of the declaration | [de] Gegenstand der Erklärung | [fr] Objet de la déclaration | [es] Objeto de la declaración | [pt] Objeto da declaração | [it] Oggetto della dichiarazione | [nl] Voorwerp van de verklaring | [da] Erklæringens genstand | [sv] Föremål för försäkran | [fi] Vakuutuksen kohde | [el] Στόχος της δήλωσης | [pl] Przedmiot deklaracji | [cs] Předmět prohlášení | [sk] Predmet vyhlásenia | [hu] A nyilatkozat tárgya | [ro] Obiectul declarației | [bg] Предмет на декларацията | [sl] Predmet izjave | [hr] Predmet izjave | [et] Deklareeritav toode | [lv] Deklarācijas priekšmets | [lt] Deklaracijos objektas

[en] Name and address of the manufacturer or his authorised representative | [de] Name und Anschrift des Herstellers oder seines Bevollmächtigten | [fr] Nom et adresse du fabricant ou de son mandataire | [es] Nombre y dirección del fabricante o de su representante autorizado | [pt] Nome e endereço do fabricante ou do respetivo mandatário | [it] Nome e indirizzo del fabbricante o del suo rappresentante autorizzato | [nl] Naam en adres van de fabrikant of zijn gemachtigde | [da] Navn og adresse på fabrikanten eller dennes bemyndigede repræsentant | [sv] Namn på och adress till tillverkaren eller dennes representant | [fi] Valmistajan tai hänen valtuutetun edustajansa nimi ja osoite| [el] Ονομα και διεύθυνση του κατασκευαστή ή του εξουσιοδοτημένου αντιπροσώπου του | [pl] Nazwa i adres producenta lub jego upoważnionego przedstawiciela | [cs] Jméno a adresa výrobce nebo jeho zplnomocněného zástupce | [sk] Meno a adresa výrobcu alebo jeho splnomocneného zástupcu | [hu] A gyártó vagy meghatalmazott képviselőjének neve és címe | [ro] Denumirea și adresa producătorului sau a reprezentantului său autorizat | [bg] Наименование и адрес на производителя или на неговия упълномощен представител | [sl] Ime in naslov proizvajalca ali njegovega pooblaščenega zastopnika | [hr] Ime i adresa proizvođača ili njegovog ovlaštenog zastupnika | [et] Tootja või tema volitatud esindaja nimi ja aadress | [lv] Ražotāja vai viņa pilnvarotā pārstāvja vārds, uzvārds jeb nosaukums un adrese | [lt] Gamintojo arba jo įgaliotojo atstovo pavadinimas ir adresas

[en] This declaration of conformity is issued under the sole responsibility of the manufacturer | [de] Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller | [fr] La présente déclaration de conformité est établie sous la seule responsabilité du fabricant | [es] La presente declaración de conformidad se expide bajo la exclusiva responsabilidad del fabricante | [pt] A presente declaração de conformidade é emitida sob a exclusiva responsabilidade do fabricante | [it] La presente dichiarazione di conformità è rilasciata sotto la responsabilità esclusiva del fabbricante | [nl] Deze conformiteitsverklaring wordt verstrekt onder volledige verantwoordelijkheid van de fabrikant | [da] Denne overensstemmelseserklæring udstedes på fabrikantens ansvar | [sv] Denna försäkran om överensstämmelse utfärdas på tillverkarens eget ansvar | [fi] Tämä vaatimustenmukaisuusvakuutus on annettu valmistajan yksinomaisella vastuulla | [el] Η παρούσα δήλωση συμμόρφωσης εκδίδεται με αποκλειστική ευθύνη του κατασκευαστή | [pl] Niniejsza deklaracja zgodności wydana zostaje na wyłączną odpowiedzialność producenta | [cs] Toto prohlášení o shodě se vydává na výhradní odpovědnost výrobce | [sk] Toto vyhlásenie o zhode sa vydáva na výhradnú zodpovednosť výrobcu | [hu] Ezt a megfelelőségi nyilatkozatot a gyártó kizárólagos felelőssége mellett adják ki | [ro] Prezenta declarație de conformitate este emisă pe răspunderea exclusivă a producătorului | [bg] Настоящата декларация за съответствие е издадена на отговорността на производителя | [sl] Ta izjava o skladnosti je izdana na lastno odgovornost proizvajalca | [hr] Za izdavanje EU izjave o sukladnosti odgovoran je isključivo proizvođač | [et] Käesolev vastavusdeklaratsioon on välja antud tootja ainuvastutusel | [lv] Šī atbilstības deklarācija ir izdota vienīgi uz ražotāja atbildību | [lt] Ši atitikties deklaracija išduota tik gamintojo atsakomybe

[en] The object of the declaration described above is in conformity with the relevant Union harmonisation legislation | [de] Der oben beschriebene Gegenstand der Erklärung erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Union: | [fr] L'objet de la déclaration décrit ci-dessus est conforme à la législation d'harmonisation de l'Union applicable | [es] El objeto de la declaración descrita anteriormente es conforme con la legislación de armonización pertinente de la Unión | [pt] O objeto da declaração acima descrito está em conformidade com a legislação de harmonização da União aplicável | [it] L'oggetto della dichiarazione di cui sopra è conforme alla pertinente normativa di armonizzazione dell'Unione | [nl] Het hierboven beschreven voorwerp is in overeenstemming met de desbetreffende harmonisatiewetgeving van de Unie | [da] Genstanden for erklæringen, som beskrevet ovenfor, er i overensstemmelse med den relevante EU-harmoniseringslovgivning | [sv] Föremålet för försäkran ovan överensstämmer med den relevanta harmoniserade unionslagstiftningen | [fi] Edellä kuvattu vakuutuksen kohde on asiaa koskevan unionin yhdenmukaistamislainsäädännön vaatimusten mukainen | [el] Ο στόχος της δήλωσης που περιγράφεται παραπάνω είναι σύμφωνος με τη σχετική ενωσιακή νομοθεσία εναρμόνισης | [pl] Wymieniony powyżej przedmiot niniejszej deklaracji jest zgodny z odnośnymi wymaganiami unijnego prawodawstwa harmonizacyjnego | [cs] Výše popsaný předmět prohlášení je ve shodě s příslušnými harmonizačními právními předpisy Unie | [sk] Uvedený predmet vyhlásenia je v zhode s príslušnými harmonizačnými právnymi predpismi Únie | [hu] A fent ismertetett nyilatkozat tárgya megfelel a vonatkozó uniós harmonizációs jogszabálynak | [ro] Obiectul declarației descris mai sus este în conformitate cu legislația relevantă de armonizare a Uniunii | [bg] Предметът на декларацията, описан по-горе, отговаря на съответното законодателство на Съюза за хармонизация | [sl] Predmet navedene izjave je v skladu z ustrezno zakonodajo Unije o harmonizaciji | [hr] Predmet navedene izjave u skladu je s mjerodavnim zakonodavstvom Unije o usklađivanju | [et] Eelkirjeldatud deklareeritav toode on kooskõlas asjaomaste liidu ühtlustamisaktidega | [lv] Iepriekš aprakstītais deklarācijas priekšmets atbilst attiecīgajam Savienības saskaņošanas tiesību aktam | [lt] Pirmiau aprašytas deklaracijos objektas atitinka susijusius derinamuosius Sąjungos teisės aktus

[en] References to the relevant harmonised standards and other technical specifications | [de] Angabe der einschlägigen harmonisierten Normen und anderer technischer Spezifikationen | [fr] Références des normes harmonisées pertinentes appliquées | [es] Referencias a las normas armonizadas pertinentes utilizadas | [pt] Referências às normas harmonizadas aplicáveis utilizadas | [it] Riferimento alle pertinenti norme armonizzate utilizzate | [nl] Vermelding van de toegepaste relevante geharmoniseerde normen | [da] Referencer til de relevante anvendte harmoniserede standarder | [sv] Hänvisningar till de relevanta harmoniserade standarder | [fi] Viittaus niihin asiaankuuluviin yhdenmukaistettuihin standardeihin | [el] Μνεία των σχετικών εναρμονισμένων προτύπων που χρησιμοποιήθηκαν | [pl] Odwołania do odnośnych norm zharmonizowanych | [cs] Odkazy na příslušné harmonizované normy | [sk] Odkazy na príslušné použité harmonizované normy | [hu] Az alkalmazott harmonizált szabványokra való hivatkozás vagy azokra az egyéb műszaki leírásokra való hivatkozások | [ro] Trimiteri la standardele armonizate relevante folosite | [bg] Позоваване на използваните хармонизирани стандарти | [sl] Sklicevanja na uporabljene harmonizirane standard | [hr] Upućivanja na relevantne primijenjene usklađene norme | [et] Viited kasutatud harmoneeritud standarditele | [lv] Atsauces uz attiecīgajiem izmantotajiem standartiem | [lt] Susijusių taikytų darniųjų standartų nuorodos arba kitų techninių specifikacijų

[en] Signed for and on behalf of | [de] Unterzeichnet für und im Namen von | [fr] Signé par et au nom de | [es] Firmado en nombre de | [pt] Assinado por e em nome de | [it] Firmato a nome e per conto di | [nl] Ondertekend voor en namens | [da] Underskrevet for og på vegne af | [sv] Undertecknat för | [fi] ... puolesta allekirjoittanut | [el] Υπογραφή για λογαριασμό και εξ ονόματος | [pl] Podpisano w imieniu | [cs] Podepsáno za a jménem | [sk] Opis príslušenstva a komponentov vrátane softvéru | [hu] A nyilatkozatot a nevében és megbízásából írták alá | [ro] Semnat pentru și în numele | [bg] Подписано за и от името на | [sl] Podpisano za in v imenu | [hr] Potpisano za i u ime | [et] Alla kirjutanud | [lv] Parakstīts šādas personas vārdā | [lt] Už ką ir kieno vardu pasirašyta

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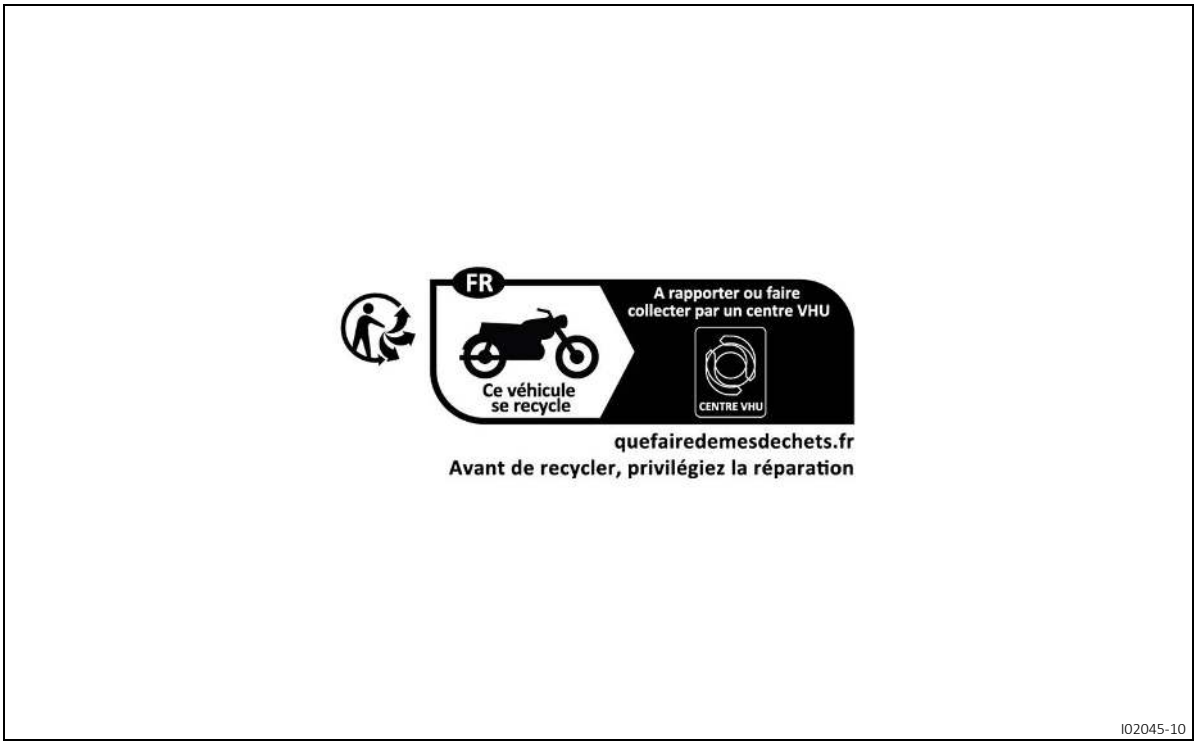
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22.1 Recycling



Further information is available at the following website.
Recycling information website: https://www.quefairedemesdechets.fr

A Operating material

Long-life grease

Recommended supplier

MOTOREX®

- **Bike Grease 2000**

High viscosity grease

Recommended supplier

SKF®

- **LGHB 2**

Brake fluid DOT 5.1

Recommended supplier

MOTOREX®

- **BRAKE FLUID DOT 5.1**

Standards

→ DOT

B Cleaning agents

Preserving materials

Recommended supplier
MOTOREX®
• **MOTO PROTECT**

Cleaning agents for plastics, glass, lacquers, metals, windshields and visors

Recommended supplier
MOTOREX®
• **QUICK CLEANER**

Environmentally neutral universal cleaning agent

Recommended supplier
MOTOREX®
• **MOTO CLEAN UNIVERSAL**

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