



HERCULES

**IMPORTANT
READ CAREFULLY BEFORE USE
KEEP SAFE FOR LATER REFERENCE**

TRANSLATION OF THE ORIGINAL OPERATING INSTRUCTIONS

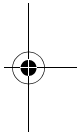
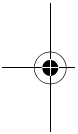
EN

ELECTRIC BICYCLES

Montfoort, Rob Cross, Rob Fold

18-Q-0076, 18-Q-0001, 18-Q-0002, 18-Q-0003, 18-Q-0089, 18-Q-0090, 18-Q-0091, 18-Q-0092, 18-Q-0093,
18-Q-0105, 18-Q-0106, 18-Q-0107, 18-Q-0108, 18-Q-0086, 18-Q-0087, 18-Q-0088, 18-Q-0089, 18-Q-0090,
18-Q-0091, 18-Q-0092, 18-Q-0093, 18-Q-0105, 18-Q-0106, 18-Q-0107, 18-Q-0108, 18-Y-0011

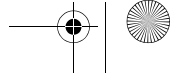
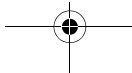
034-11471 • 1.1 • 11.10.2017



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Data sheet

Surname, first name of the purchaser:

Date of purchase:

Model:

Frame number:

Type number:

Unladen weight (kg):

Tyre size:

Recommended tyre pressure (bar)*: front: rear:

Wheel circumference (mm):

Company stamp and signature:

*After a tyre change, refer to the tyre markings for the permitted tyre pressures and make sure that they are observed. The recommended tyre pressure must not be exceeded.

Technical data

1 Technical data

Bicycle

Transportation temperature	5 °C - 25 °C
Ideal transportation temperature	10 °C - 15 °C
Storage temperature	5 °C - 25 °C
Ideal storage temperature	10 °C - 15 °C
Operation temperature	5 °C - 35 °C
Working environment temperature	15 °C - 25 °C
Charging temperature	10 °C - 30 °C
Power output/system	250 W (0.25 W)
Shut-off speed	25 km/h

Table 1:

Bicycle technical data

Battery

Transportation temperature	5 °C - 25 °C
Ideal transportation temperature	10 °C - 15 °C
Storage temperature	5 °C - 25 °C
Ideal storage temperature	10 °C - 15 °C
Charging ambient temperature	10 °C - 30 °C

Table 2:

Battery technical data

Technical data

Command console with display

Internal button cell batteries	3 V, 90 mAh
Type	CR2016
Storage temperature	5 °C - 25 °C

Table 3:

Technical data for battery of the command console with display

Emissions

A-weighted emission sound pressure level < 70 dB(A)

Total vibration level for the hands and arms < 2.5 m/s²

Highest effective value of weighted acceleration for the entire body < 0.5 m/s²

Table 4:

Emissions from the bicycle*

***The safety requirements as per Electromagnetic Compatibility Directive 2014/30/EU have been met. The bicycle and the charger can be used in residential areas without restriction.**

Tightening torque

Axle nut tightening torque	35 Nm - 40 Nm
Handlebars clamping screw maximum tightening torque*	5 Nm - 7 Nm

Table 5:

Tightening torque values*

***if there is no other data on the component**

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About these instructions

2 About these instructions

Read these operating instructions before commissioning the bicycle in order to use all the functions correctly and safely. They are not a substitute for personal training by the supplying HERCULES specialist dealer. The operating instructions are a component part of the bicycle. Therefore, if it is re-sold at a later time, they must be handed over to the subsequent owner.

These operating instructions are mainly directed at the rider and user of the cycle. In general, they are technical laypersons.



Text passages which are directed expressly at specialist staff (e.g. bicycle mechanics), are clearly marked with a blue tool symbol.

Staff at all HERCULES specialist dealers have specialist training and qualifications, and are therefore capable of identifying risks and preventing hazards which may arise during maintenance, servicing and repairs on the bicycle. Information for specialist staff does not require technical laypersons to take any action.

2.1 Manufacturer

The manufacturer of the bicycle is:

HERCULES GMBH
Longericher Straße 2
50739 Köln, Germany

Tel.: +49 4471 18735 0
Fax: +49 4471 18735 29
E-mail: info@hercules-bikes.de
Internet: www.hercules-bikes.de

2.2 Laws, standards and directives

These operating instructions comply with the essential requirements from:

- the Machinery Directive 2006/42/EC,
- EN ISO 12100:2010 Safety of machinery – General principles of design – Risk assessment and reduction,
- EN ISO 4210-2:2015, Cycles – Safety requirements for bicycles – Part 2: Requirements for city and trekking, young adult, mountain and racing bicycles,
- EN 15194:2009+A1:2011 Cycles – Electrically power assisted cycles – EPAC bicycles,
- EN 11243:2016, Cycles – Luggage carriers for bicycles – Requirements and test methods,
- the Electromagnetic Compatibility Directive 2014/30/EU,
- EN 82079-1:2012, Preparation of instructions for use – Structuring, content and presentation – Part 1: General principles and detailed requirements,
- EN ISO 17100:2016-05, Translation Services – Requirements for translation service.

About these instructions

2.3 Other valid documents

These operating instructions are only complete in conjunction with the other valid documents.

The following document applies for this product:

- Charger operating instructions.

No other information is also applicable.

The constantly updated lists of approved accessories and parts are available to HERCULES specialist dealers.

2.4 Subject to change

The information contained in these operating instructions are the approved technical specifications at the time of printing. Any significant changes are included in a new issue of the operating instructions.

2.5 Language

The original operating instructions are written in German. A translation is not valid without the original operating instructions.

2.6 Identifying

2.6.1 Operating instructions

These operating instructions are printed in colour and glued (PUR glue) in an outer cover made of thin paper. HERCULES GMBH assumes no liability for copies of any kind, for example, black and white copies, loose pages or electronic copies.

The identification number of these operating instructions is made up of the document number, the version number and the release date. It can be found on the cover page and in the footer.

Identification number	034-11471_1.1_11.10.2017
------------------------------	--------------------------

Table 6:

Identification number of the operating instructions

2.6.2

Bicycle

These HERCULES operating instructions refer to the *model year* 2018. The production period is from July 2017 to June 2018. They are issued in July 2017.

The operating instructions are a component part of the following bicycles:

Type number	Model	Bicycle type
18-Q-0076	Montfoort Cruise F7	City and trekking bicycle
18-Q-0001	ROBERT/A 8	City and trekking bicycle
18-Q-0002	ROBERT/A 8	City and trekking bicycle
18-Q-0003	ROBERT/A 8	City and trekking bicycle
18-Q-0089	Rob Cross Elite	City and trekking bicycle
18-Q-0090	Rob Cross Comp	City and trekking bicycle
18-Q-0091	Rob Cross Comp	City and trekking bicycle
18-Q-0092	Rob Cross Sport	City and trekking bicycle

Table 7:

Type number, model and bicycle type categorisation

About these instructions

Type number	Model	Bicycle type
18-Q-0093	Rob Cross Sport	City and trekking bicycle
18-Q-0105	Rob Cross Comp	City and trekking bicycle
18-Q-0106	Rob Cross Comp	City and trekking bicycle
18-Q-0107	Rob Cross Sport	City and trekking bicycle
18-Q-0108	Rob Cross Sport	City and trekking bicycle
18-Q-0086	Rob Cross Pro	City and trekking bicycle
18-Q-0087	Rob Cross Pro	City and trekking bicycle
18-Q-0088	Rob Cross Elite	City and trekking bicycle
18-Q-0089	Rob Cross Elite	City and trekking bicycle
18-Q-0090	Rob Cross Comp	City and trekking bicycle
18-Q-0091	Rob Cross Comp	City and trekking bicycle
18-Q-0092	Rob Cross Sport	City and trekking bicycle
18-Q-0093	Rob Cross Sport	City and trekking bicycle
18-Q-0105	Rob Cross Comp	City and trekking bicycle
18-Q-0106	Rob Cross Comp	City and trekking bicycle
18-Q-0107	Rob Cross Sport	City and trekking bicycle
18-Q-0108	Rob Cross Sport	City and trekking bicycle
18-Y-0011	Rob Fold F7	Folding bicycle

Table 7: Type number, model and bicycle type categorisation

2.7

For your safety

The safety concept of the bicycle comprises four elements:

- the instruction of the rider and/or user, and maintenance and repair of the bicycle by the HERCULES specialist dealer,
- the chapter on general safety,
- the warnings in these instructions and
- the safety marking on the type plates.

2.7.1

Instruction, training and customer service

The HERCULES specialist dealer and supplier provides customer service. Contact details can be found on the back page of these operating instructions and in the data sheet. If you are unable to contact your specialist dealer, you will find further HERCULES specialist dealers on www.hercules-bikes.de. They will also be able to attend to your customer service needs.



The HERCULES specialist dealer commissioned to perform repairs and maintenance work receives regular training.

The rider or the user of the bicycle will be instructed in person on the functions of the bicycle, in particular its electrical functions and correct use of the charger, at the latest when the bicycle is handed over by the supplying HERCULES specialist dealer.

Each rider to whom this bicycle is made available, must receive instruction on the functions of the bicycle. The operating instructions must be submitted to each rider in printed form and must be acknowledged and adhered to.

About these instructions

2.7.2 Basic safety notes

These operating instructions have a chapter with general safety notes [▷ *Chapter 3, page 20*]. The chapter stands out because of its grey background.

2.7.3 Warnings

Hazardous situations and actions are marked with warnings. The warnings in these operating instructions are shown as follows:





SIGNAL WORD	Type and source of the danger
	Description of the danger and the consequences.
	▶ Measures
	The following pictograms and signal words are used in the operating instructions for warnings and information notices:
	Will lead to serious or even fatal injuries if ignored. High-risk hazard.
	May lead to serious or even fatal injuries if ignored. Medium-risk hazard.
	May lead to minor or moderate injuries. Low-risk hazard.
	May lead to material damage if ignored.

Table 8: Meanings of the signal words

2.7.4 Safety markings

The following safety markings are used on the type plates of the bicycle:



General warning



Adhere to the instructions for use

2.8 For your information

2.8.1 Instructions for actions

Instructions for actions are structured in accordance with the following pattern:






- ✓ Requirements (optional)
- ▶ Instruction for action
- ⇒ Result of the action (optional)

About these instructions

2.8.2

Information on the type plate

Alongside the warnings, the type plates of the products also contain other important information on the bicycle:

-
-  **1** only suitable for the road, no off-road riding or jumps
 -  **2** suitable for roads, off-road riding and jumps of up to 15 cm
 -  **3** suitable for rough off-road riding and jumps of up to 61 cm
 -  **4** suitable for rough off-road riding and jumps of up to 122 cm
 -  **5** suitable for the most difficult terrain
-



City and trekking bicycle



Child's bicycle / bicycle for young adults



BMX bicycle



Mountain bike



Racing bicycle



Carrier bicycle



Folding bicycle

About these instructions



Read the instructions



Separate collection of electrical and electronic devices



Separate collection of batteries



Must not be thrown into fire (burning prohibited)



Battery must not be opened



Device of protection class II



Only suitable for use indoors



Fuse (device fuse)



EU conformity



Recyclable material



Protect from temperatures above 50 °C and direct sunlight

About these instructions

2.8.3 Language conventions

The bicycle described in these operating instructions may be equipped with alternative components. The equipment of the bicycle is defined by the respective type number. If applicable, the notes *alternative equipment* and *alternative version* make reference to the use of alternative components.

Alternative equipment describes additional components which are not necessarily an integral part of every bicycle in these instructions. *Alternative version* explains the various variants of components if they differ in use.

The following terms are used for better legibility:

Term	Meaning
Operating instructions	Original operating instructions or translation of the original operating instructions
Bicycle	Electric motor driven cycle
Motor	Drive motor

The following conventions are used in these operating instructions:

Convention	Use
<i>Italics</i>	Entry in the index
SPACED	Displays on the <i>display screen</i>
[▷ <i>Example, page numbering</i>]	Cross references
•	Bulleted lists

2.9 Type plate

The type plate is situated on the *frame*. The type plate features the following information:

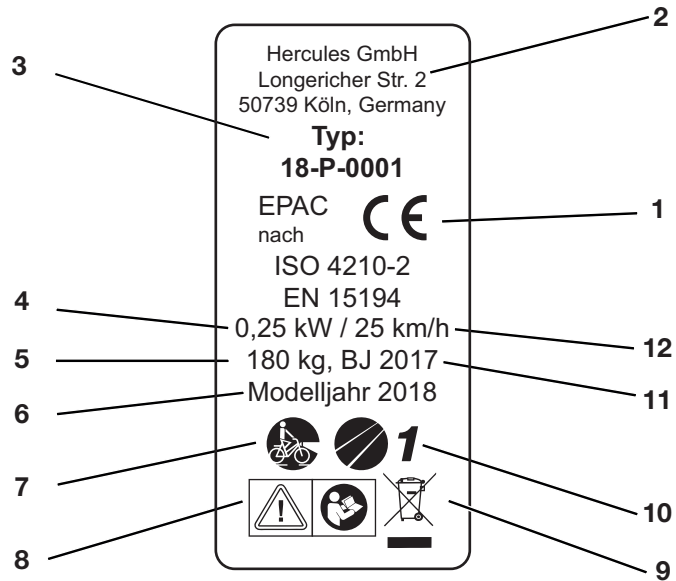


Figure 1:

Type plate, example

- 1 CE marking
- 2 Manufacturer
- 3 Type number
- 4 Maximum power output
- 5 Permitted total weight
- 6 Model year
- 7 *Bicycle type*
- 8 *Safety notes*
- 9 *Disposal information*
- 10 *Area of use*
- 11 Year of manufacture
- 12 Shut-off speed

Safety

3

Safety

3.1

Requirements for the rider

If there are no legal requirements for the rider of electrically power assisted cycles, we recommend that the rider should be a minimum 15 years of age and have experience with muscle-powered bicycles.

The physical and mental abilities of the rider must be sufficient for the use of a muscle-powered bicycle.

If the bicycle is used by minors, as well as thorough instruction to be provided by or in the presence of the legal guardians, supervised use should also be scheduled until there is certainty that the bicycle is being used in accordance with these operating instructions. The legal guardians hold sole responsibility for determining whether minors are suitable to use the bicycle.

3.2

Hazards for vulnerable groups

The battery and the charger must be kept out of the reach of children.

3.3

Proper use

The bicycle must only be used in perfect, fully functional condition. National requirements may apply to the bicycle which differ from the standard equipment. For riding on public roads, some special regulations apply in relation to *running light*, *reflectors* and other components.

The general laws and the regulations for the prevention of accidents and environmental protection in the respective country of use must be adhered to. Proper use also includes all instructions for actions and check lists in these operating instructions. Approved accessories can be installed by specialist staff.

Each bicycle is assigned to a *bicycle type* which determines the proper use.

3.3.1



City and trekking bicycle

City and trekking bicycles are designed for daily, comfortable use on asphalted roads and paths. They are suitable for riding on public roads.

City and trekking bicycles are not sports bicycles. If used for sports, reduced riding stability and diminished comfort are to be expected. City and trekking bicycles are not suitable for riding off-road.

3.3.2



Folding bicycle

A folding bicycle is designed for use on asphalted public roads. A folding bicycle can be folded up and is thus suitable for space-saving transportation, for example on public transport or in a car.

A folding bicycle is not a touring bicycle or a sports bicycle. The folding function of the folding bicycle makes it necessary to use smaller wheels and longer brake cables and Bowden cables. Therefore, in case of an increased load, a reduction in riding stability and braking power, diminished comfort and reduced durability are to be expected.

Safety

3.4

Improper use

Failure to adhere to the proper use causes a risk of personal injury and material damage. The bicycle is not suitable for the following uses:

- riding with a damaged or incomplete bicycle,
- riding over steps,
- riding through deep water,
- lending the bicycle to untrained riders,
- carrying further passengers,
- riding with excessive luggage,
- riding with no hands,
- riding on ice and snow,
- improper servicing,
- improper repair,
- demanding areas of use, such as professional competition, and
- stunt riding or acrobatics.

3.5

Personal protective equipment

We recommend that you wear a suitable safety helmet. We also recommend that you wear typical, close-fitting cycling clothing and sturdy footwear.

3.6

Duty of care

The safety of the bicycle can only be assured if all the necessary measures are taken.

3.6.1

User

The user has the duty of care and responsibility for scheduling these measures and checking that they are implemented.

The user:

- makes these operating instructions available to the rider for the duration of use of the bicycle. If necessary, he translates the operating instructions into a language which the rider understands.
- familiarises the rider with the functions of the bicycle before the first ride. Only riders who have received instruction must be allowed to ride the bicycle.
- instructs the rider on proper use and the wearing of personal protective equipment.
- employs specialist staff only for maintenance and repair of the bicycle.

The printed EC declaration of conformity in the appendix is valid as long as the bicycle remains in original condition. As soon as the user makes any relevant modifications or additions, he legally becomes the manufacturer. He must independently guarantee compliance with the EC directives again in order to:

- circulate the bicycle again,
- apply the CE marking and
- avoid compromising occupational safety.

Safety

3.6.2

Rider

The rider:

- receives instruction before the first ride. He/she can clarify any questions relating to the operating instructions with the user or the HERCULES specialist dealer.
- wears personal protective equipment.
- assumes all the obligations of the user in case the bicycle changes hands.

4 Description

4.1 Overview



Figure 2:

Bicycle, viewed from the right, example

- 1 *Front wheel*
- 2 *Fork*
- 3 *Front mudguard*
- 4 *Lamp*
- 5 *Handlebars*
- 6 *Stem*
- 7 *Frame*
- 8 *Seat post*
- 9 *Saddle*
- 10 *Pannier rack*
- 11 *Battery*
- 12 *Reflector and rear light*
- 13 *Rear mudguard*
- 14 *Kickstand*
- 15 *Rear wheel*
- 16 *Chain guard*
- 17 *Frame number and type plate*

Description

4.2 Handlebars

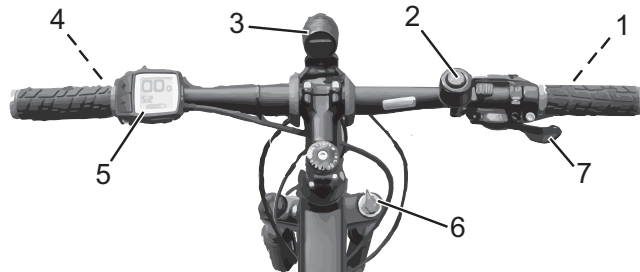


Figure 3: Detailed view of bicycle from rider position, example

- 1 Rear brake lever
- 2 Bell
- 3 Lamp
- 4 Front brake lever
- 5 *Command console with display*
- 6 Fork lock on *suspension fork head*
- 7 Shifter

4.3 Wheel and fork

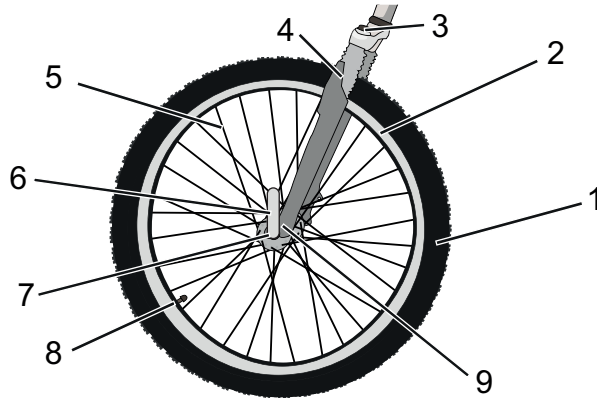


Figure 4: Components of the wheel, example of front wheel

- | | |
|---|---|
| 1 | Tyre |
| 2 | Rim |
| 3 | Suspension fork head with setting wheel |
| 4 | Shock absorber |
| 5 | Spoke |
| 6 | Quick release |
| 7 | Hub |
| 8 | Valve |
| 9 | Fork end of the shock absorber |

4.3.1 Valve

Each wheel has a valve. It is used to fill the *tyre* with air. There is a valve cap on each valve. The screw-on valve cap keeps out dust and dirt.

The bicycle either has a classical *Dunlop valve*, a *Presta valve* or a *Schrader valve*.

Description

4.3.2 Suspension

A suspension fork has two functions which improve the floor contact and the comfort: the suspension and the damping.

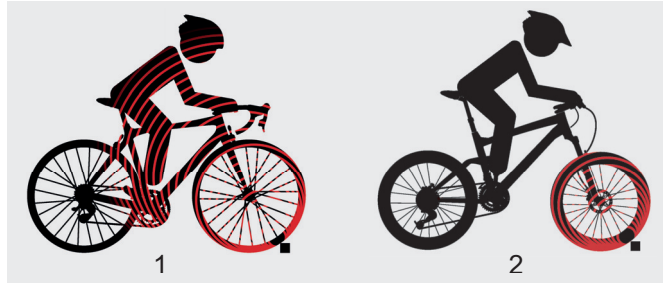


Figure 5: Bicycle without suspension (1) and with suspension (2) when riding over an obstacle

The suspension prevents an impact, e.g. caused by a stone lying in the way, from being directed directly into the rider's body via the fork. Instead, it is absorbed by the suspension system. This causes the suspension fork to compress. The compression can be disabled so that a suspension fork reacts like a rigid fork.

4.4 Brake system

The bicycle's brake system comprises:

- a rim brake on the front and rear wheels or
- a disk brake on the front and rear wheels.

4.4.1 Rim brake

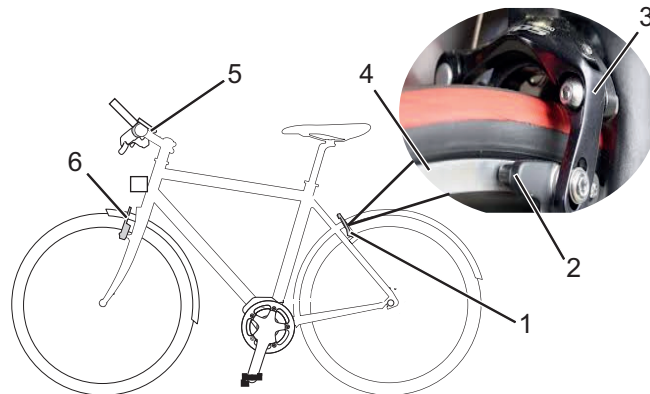


Figure 6: Components of the rim brake with details, example

- | | |
|---|-------------------------------------|
| 1 | Rear wheel rim brake |
| 2 | Brake pad |
| 3 | Brake arm |
| 4 | <i>Rim</i> |
| 5 | <i>Handlebars with brake levers</i> |
| 6 | Front wheel rim brake |

The rim brake stops the movement of the wheel when the rider pulls the *brake lever*, causing two brake pads, positioned opposite one another, to be pressed onto the *rims*.

There are two *alternative versions* of the rim brake:

- the hydraulically operated rim brake and
- the cable-operated rim brake.

Description

4.4.1.1 Locking lever (Alternative equipment)

The bicycle with hydraulically operated rim brakes is equipped with a locking lever on both the front wheel brake and the rear wheel brake.

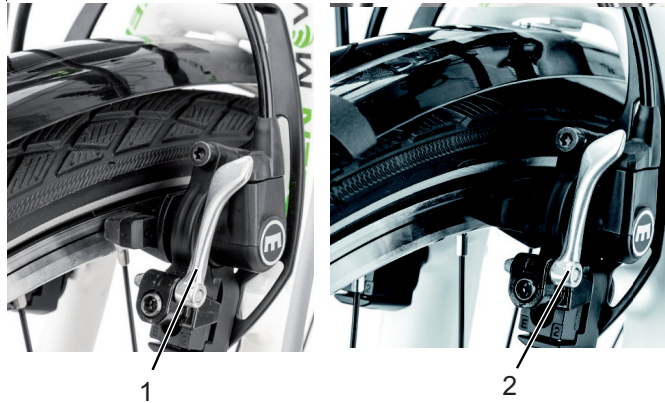


Figure 7:

Rim brake locking lever, on front wheel (1) and rear wheel (2)



The locking levers are not labelled. The locking levers must only be set by a HERCULES specialist dealer.

4.4.2 Disk brake (Alternative equipment)

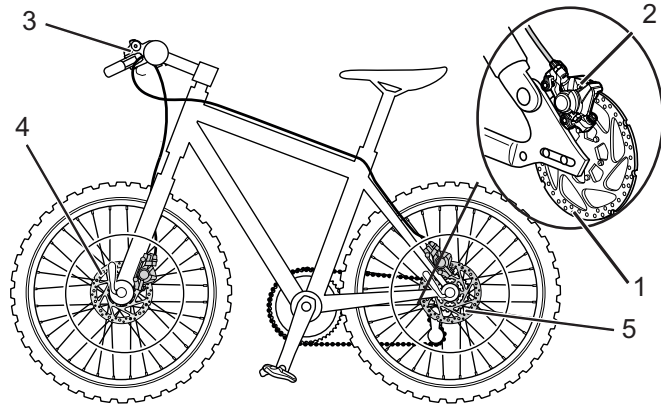


Figure 8:

Brake system with a back-pedal brake, example

- 1 Brake disk
- 2 Brake caliper with brake linings
- 3 *Handlebars with brake levers*
- 4 Front wheel brake disk
- 5 Rear wheel brake disk

On a bicycle with a disk brake, the brake disk is connected permanently to the hub of the wheel. If the brake lever is pulled, the brake linings are pressed against the brake disk, and the movement of the wheel is stopped.

Description

4.5 Electric drive system

The bicycle is driven by muscle power via the chain drive. The force which is applied by pedalling in the direction of travel, drives the front chain wheel. The chain transmits the force onto the rear chain wheel and then onto the rear wheel.

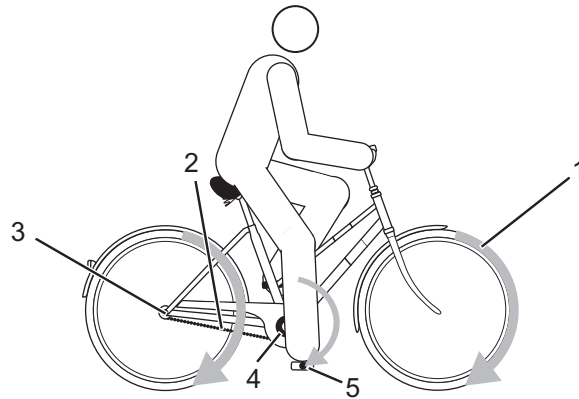


Figure 9:

Diagram of mechanical drive system

- 1 Direction of travel
- 2 Chain
- 3 Rear chain wheel
- 4 Front chain wheel
- 5 Pedal

In addition, the bicycle has an integrated, electric drive system, with a *command console with display*.

Description

The electric drive system is made up of six components:

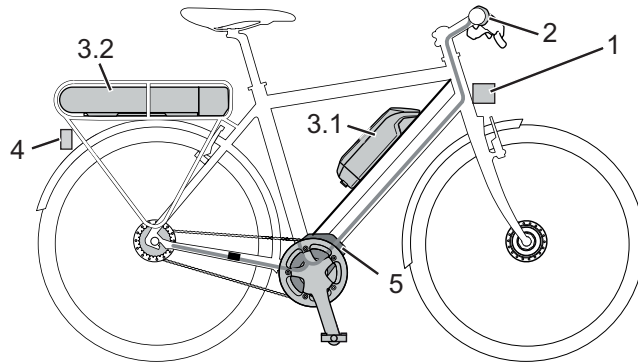


Figure 10:

Diagram of electric drive system, example

- 1 *Lamp*
- 2 *Command console with display*
- 3.1 *Down tube battery*
- 3.2 *Pannier rack battery*
- 4 *Rear light*
- 5 *Motor*
- *a charger which is designed for this battery.*

As soon as the required muscle power from the rider pedalling passes a certain level, the motor is activated gently and assists the pedalling motion of the rider. The motor force is determined by the set level of assistance.

Description

The bicycle does not have a separate emergency stop or emergency shut-off button. The drive system with removable display can be stopped in case of emergency by removing the *display*.

The motor switches off automatically as soon as the rider no longer pedals, the temperature is outside the permitted range, there is an overload or the shut-off speed of 25 km/h has been reached.

A pushing aid can be activated. The pushing aid continues to drive the bicycle as long as the rider pushes the plus button on the *handlebars*. The maximum speed in the process is 6 km/h. The drive stops when the plus button is released.

4.5.1

Battery

The lithium ion battery has an internal electronic protection circuit. It is matched to the charger and the bicycle. The temperature of the battery is monitored constantly. The battery is safeguarded against deep discharge, overcharging, overheating and short circuit. In case of a risk the battery is switched off automatically by a protective circuit. The battery also switches to sleep mode for self-protection when not used for a longer period.

The service life of the battery can be extended if it is well cared for and, above all, stored at the correct temperatures. Even if the battery is cared for properly, the charge status of the battery reduces as it ages. If the operating time is severely shortened after charging, this is a sign that the battery is spent.

Description

Transportation temperature	5 °C - 25 °C
Ideal transportation temperature	10 °C - 15 °C
Storage temperature	5 °C - 25 °C
Ideal storage temperature	10 °C - 15 °C
Charging ambient temperature	10 °C - 30 °C

Table 9: Battery technical data

The bicycle has a down tube battery.

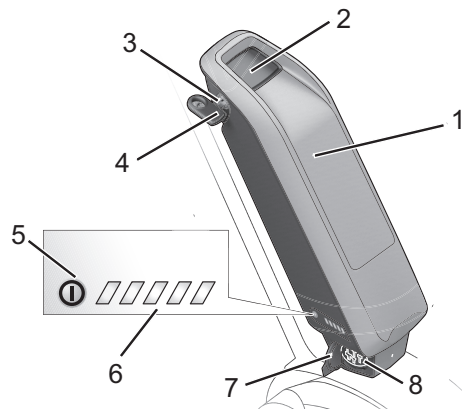


Figure 11: Details of the down tube battery

- 1 Battery housing
- 2 Battery lock
- 3 Key for the battery lock
- 4 Battery lock cover
- 5 On-Off button (battery)
- 6 Operating and charge status indicator
- 7 Charging port cover
- 8 Port for charger plug

Description

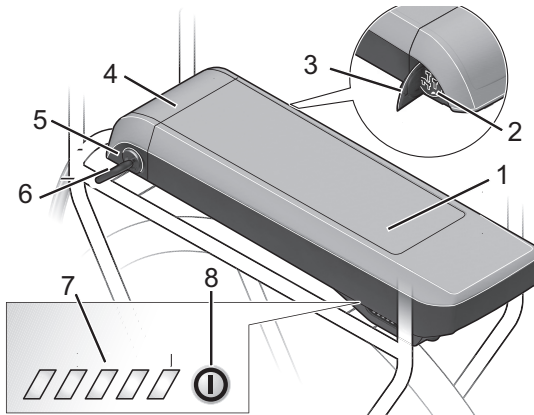


Figure 12:

Details of pannier rack battery

- 1 Battery housing
- 2 Charging port for charger plug
- 3 Charging port cover
- 4 Pannier rack battery mount
- 5 Battery lock
- 6 Key for battery lock
- 7 *Operating and charge status indicator*
- 8 On-Off button (battery)

4.5.1.1**Operating and charge status indicator**

The five green LEDs of the operating and charge status indicator indicate the charge status when the battery is switched on. Each LED represents 20% of the charge status. The charge status of the activated battery is also shown on the *display*.

If the charge status of the battery is below 5%, all the LEDs of the operating and charge status indicator go out. However, the charge status is still shown on the *display*.

4.5.2**Running light**

When the running light is activated, the *lamp* and the rear light are switched on together.

4.5.3**Command console with display**

The *command console with display* controls the drive system with four operating controls, and displays the journey data.

The bicycle's battery supplies the *command console with display* with energy. The *command console with display* also has two internal non-rechargeable button cell batteries. This ensures that the system can be switched on using the *command console with display*.

Internal button cell batteries	3 V, 90 mAh
Type	CR2016
Storage temperature	-10 °C to +60 °C

Table 10:**Technical data for battery of the command console with display**

Description

The pane of glass on the display may steam up from the inside in the event of abrupt temperature fluctuations. This is not a malfunction.

The *command console with display* has four buttons.

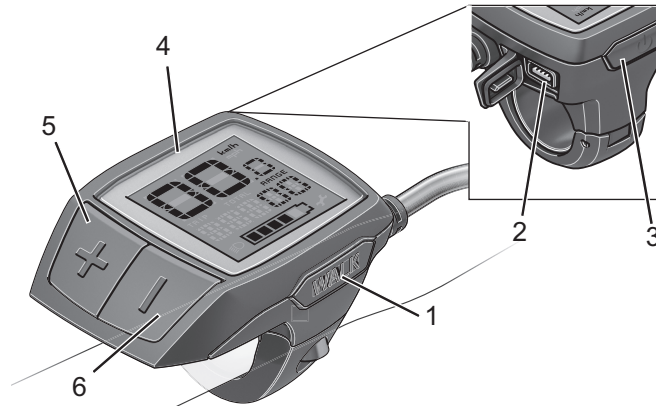


Figure 13:

Overview of the command console with display

	Symbol	Surname
1	WALK	Pushing aid button
2		USB port
3		On-Off button
4		Display
5	+	Plus button
6	-	Minus button

Table 11:

Overview of the command console with display

4.5.3.1 USB port

Test instruments can be connected to the USB diagnostics port to check the drive system. The USB diagnostics port does not have any other functions.

4.5.3.2 Displays

The *command console with display* has seven display screens:

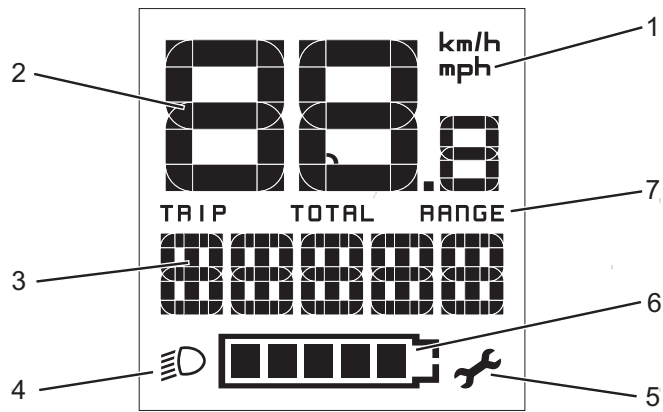


Figure 14: Overview of the screen displays

Use	
1	Unit of measure for speed
2	Current speed
3	Function display
4	Running light symbol
5	Service symbol
6	Battery charge status
7	Level of assistance

Table 12: Overview of the screen display

Description

Level of assistance

The higher the level for assistance, the more the drive system assists the rider when pedalling. The following levels of assistance are available.

Level of assistance	Use
OFF	When the drive system is switched on, the motor assistance is switched off. The pushing aid cannot be activated with this level of assistance.
ECO	Low assistance
TOUR	Normal assistance
SPORT	Powerful assistance
TURBO	Maximum assistance

Table 13: Overview of levels of assistance

Current speed

In the system settings, you can select whether the speed is displayed in kilometres or miles.

Function display

The function display shows three different items of information:

- Journey information,
- System data and
- system messages.

Description

Journey information

The *command console with display* shows one of three items of journey information. The displayed item of journey information can be switched

Display	Function
TRIP	Distance travelled since the last RESET
TOTAL	Display of the total distance travelled (cannot be changed)
RANGE	Anticipated range of the available battery charge, calculated based on the most recent manner of riding

Table 14:

Journey information**System data**

To view all the information on the system being used and the software, the rider has to call up the *system data*.

Display	Function
SERIENNUMMER DU	Serial number of the drive system
SERIENNUMMER HMI	Serial number of the command console with display
SW-VERSION HMI	Software version of the command console with display
SW-VERSION DU	Software version of the drive system
SW-VERSION PP	Software version of the battery

Table 15:

System data, not changeable**System message**

The drive system monitors itself continuously and if an error is detected, it is indicated by a system message. The system may switch off automatically depending on the type of error. There is a table with all the system messages at the end of the operating instructions.

Transportation, storage and assembly

5 Transportation, storage and assembly

5.1 Transportation



Crash caused by unintentional activation

There is a risk of injury if the drive system is activated unintentionally.

- ▶ Remove the battery before the bicycle is transported.
-



Risk of fire and explosion due to high temperatures

Excessively high temperatures damage the batteries. The batteries may self-ignite and explode.

- ▶ Never expose the battery to sustained direct sunlight.
-



If the bicycle is lying flat, oil and grease may leak from the bicycle.

If the shipping carton with a bicycle is lying flat or on one end, it does not provide sufficient protection from damage to the *frame* and the wheels.

- ▶ Only transport the bicycle in an upright position.
-



Bicycle rack systems which secure the bicycle standing on its head by the *handlebars* or *frame*, generate inadmissible forces on the components during transportation. This can cause the supporting parts to break.

- ▶ Never use bicycle rack systems which secure the bicycle standing on its head by the *handlebars* or *frame*.
-

Transportation, storage and assembly

- ▶ Take into account the weight of the roadworthy bicycle when transporting it.
- ▶ Remove the *display* and the battery before transportation of the bicycle.
- ▶ Protect the electrical components and connections on the bicycle from the elements with suitable protective covers.
- ▶ Remove accessories, for example drinking bottles, before transportation of the bicycle.
- ▶ When transporting by car, you must use a suitable bicycle rack system.



The HERCULES specialist dealer will advise you on how to select a suitable rack system properly and how to use it safely.

- ▶ Transport the bicycle in a dry, clean place which is protected from direct sunlight.



For shipping the bicycle, we recommend that you have the bicycle partially dismantled in the proper manner and packaged by the HERCULES specialist dealer.

Transportation, storage and assembly

5.2 Storing



Risk of fire and explosion due to high temperatures

Excessively high temperatures damage the battery. The battery may self-ignite and explode.

- ▶ Never expose the battery to sustained direct sunlight.



If the bicycle is lying flat, oil and grease may leak from the bicycle.

If the shipping carton with a bicycle is lying flat or on one end, it does not provide sufficient protection from damage to the *frame* and the wheels.

- ▶ Only store the bicycle in an upright position.

- ✓ Store the bicycle, battery and charger in a dry and clean place.

Storage temperature	5 °C - 25 °C
Ideal storage temperature	10 °C - 15 °C

Table 16:

Storage temperature for the battery, the bicycle and the charger

Transportation, storage and assembly

5.2.1 Break in operation

NOTICE

The battery discharges when it is not used. This can cause damage to the battery.

- ▶ The battery has to be recharged every 8 weeks.

NOTICE

The battery may become damaged if it is connected permanently to the charger.

- ▶ Do not connect the battery to the charger permanently.

If the bicycle is to be removed from service for longer than four weeks, e.g. in winter, a break in operation has to be prepared.

5.2.1.1 Preparing a break in operation

- ✓ Remove the battery from the bicycle.
- ✓ Charge the battery to around 60% (three to four LEDs of the charge status indicator light up).
- ✓ The bicycle has to be cleaned with a damp cloth and preserved with wax spray. Never wax the friction surfaces of the brake.
- ✓ Before longer periods without use, it is recommendable for the HERCULES specialist dealer to carry out servicing, basic cleaning and apply preservative agent.

5.2.1.2 Carrying out break in operation

- ▶ Store the bicycle, battery and charger in a dry and clean environment.
- ▶ Check the charge status of the battery after 8 weeks. If only one LED of the charge status indicator lights up, recharge the battery to around 60%.

Transportation, storage and assembly

5.3 Assembly



Crushing caused by unintentional activation

There is a risk of injury if the drive system is activated unintentionally.

- ▶ Remove the battery if the battery is not absolutely necessary for assembly.



- ✓ Assemble the bicycle in a clean and dry environment.
- ✓ The working environment should have a temperature of 15 °C - 25 °C.

Working environment temperature	15 °C - 25 °C
--	---------------

Table 17:

Working environment temperature

- ✓ If a fitting stand is used, it must be approved for a maximum weight of 30 kg.
- ✓ To reduce the weight, we recommend that you always disconnect the battery from the bicycle for the duration of use of the fitting stand.
- ✓ Universal tools, a torque spanner with an operating range of 5 Nm to 40 Nm and the special tools, as recommended by HERCULES GMBH, must be available.

5.3.1 Unpacking



Hand injuries caused by cardboard packaging

The shipping carton is closed with metal staples. There is a risk of puncture wounds and cuts when unpacking and crushing the packaging.

- ▶ Wear suitable hand protection.
- ▶ Remove the metal staples with pliers before the shipping carton is opened.

The packaging material consists mainly of cardboard and plastic film.

Transportation, storage and assembly

- ▶ The packaging has to be disposed of in accordance with the regulations of the authorities.

5.3.2**Scope of delivery**

The bicycle was completely assembled in the factory for test purposes and then dismantled for transportation.

The scope of delivery includes:

- the bicycle, 98% pre-assembled,
- the front wheel,
- the battery or batteries,
- the charger,
- the pedals,
- the operating instructions.

5.3.3**Commissioning****Fire and explosion caused by incorrect charger**

Batteries which are charged with an unsuitable charger, may become internally damaged. This may result in fire or an explosion.

- ▶ Only ever use the battery with the supplied charger.
- ▶ To prevent mix-ups, mark the supplied charger and these operating instructions clearly, for example with the *frame number* or *type number* of the bicycle.

Given that initial commissioning of the bicycle requires special tools and specialist knowledge, it must be performed by trained specialist staff only.

Experience has shown that a bicycle which has not yet been sold, is spontaneously handed to consumers as soon as it appears ready to ride.

- ▶ Every bicycle must be prepared so that it is in fully usable condition immediately after being set up.

Transportation, storage and assembly

Initial commissioning includes the following work:

- ▶ Check the battery [▷ *Chapter 5.3.3.1, page 49*].
- ▶ The battery is supplied partially charged. In order to guarantee full power, charge the battery fully.
- ▶ Install the *wheels with quick release* and the *pedals*.
- ▶ Move the *handlebars* and *saddle* into the functional position.
- ▶ Check all the components to make sure that they are firmly in place.
- ▶ Check all the settings and the tightening torque of the axle nuts.

Axle nut tightening torque

35 Nm - 40 Nm

Table 18:

Axle nut tightening torque

- ▶ Check the entire cable harness to make sure that it is routed properly:
 - You must prevent the cable harness from coming into contact with moving parts.
 - The cable routes must be smooth and free from sharp edges.
 - Moving parts must not apply any pressure or tension to the cable harness.
- ▶ Set the *lamp*.
- ▶ Check the drive system, the light equipment and the brakes to make sure that they are fully functional and effective.
- ▶ Set the drive system has to the national language and the appropriate system of measurement.
- ▶ Check the software version of the drive system and update it as necessary.

5.3.3.1

Sale of the bicycle

- ▶ Fill out the data sheet on the first page of the operating instructions.
- ▶ Adjust the bicycle to the rider.
- ▶ Set the *kickstand* and the *shifter*, and show the purchaser the settings.
- ▶ Instruct the user or rider how to use all the functions of the bicycle.

Checking the battery

The battery has to be checked before it is charged for the first time.

- ▶ Press the *On-Off button (battery)*.
- ⇒ If none of the LEDs on the operating and charge status indicator light up, the battery may be damaged.
- ⇒ If at least one of the LEDs of the operating and charge status indicator lights up, but not all of them, the battery can be charged.
- ▶ Once the battery has been charged, insert the battery on the bicycle.
- ⇒ Confirm, that the battery is an original Shimano battery or a BMZ battery.

Transportation, storage and assembly

5.4 Installing the wheels with quick release



CAUTION

Crash caused by unfastened quick release

A faulty or incorrectly installed quick release may become caught in the brake disk and block the wheel. This will cause a crash.

- ▶ Install the front wheel quick release lever on the opposite side to the brake disk.



CAUTION

Crash caused by faulty or incorrectly installed quick release

The brake disk becomes very hot during operation. Parts of the quick release may become damaged as a result. The quick release comes loose. This will result in a crash and injuries.

- ▶ The front wheel quick release lever and the brake disk must be situated on opposite sides.



CAUTION

Crash caused by incorrectly set clamping force

Excessively high clamping force will damage the quick release and cause it to lose its function.

Insufficient clamping force will cause a detrimental transmission of force. The suspension fork or the frame may break. This will result in a crash and injuries.

- ▶ Never fasten a quick release using a tool (e.g. hammer or pliers).
 - ▶ Only use the clamping lever with the specified set clamping force.
- ▶ Open the clamping lever.
 - ▶ Push the opened clamping lever with the wheel axle from the right-hand side through the hub.
 - ▶ Clamp the wheel and set the clamping force, depending on the version.

Adjusting the bicycle to the rider

6 Adjusting the bicycle to the rider



The HERCULES specialist dealer checks all the factory settings and, when the bicycle is sold, adapts the settings of the *saddle*, *handlebars*, *suspension fork* and the *spring damper element* to the rider.

6.1 Adjusting the saddle

6.1.1 Determining the seat height



Crash caused by an excessively high seat post setting

A *seat post* which is set too high will cause the *seat post* or the *frame* to break. This will result in a crash and injuries.

- ▶ Do not pull the seat post out of the frame beyond the minimum insertion depth marking.

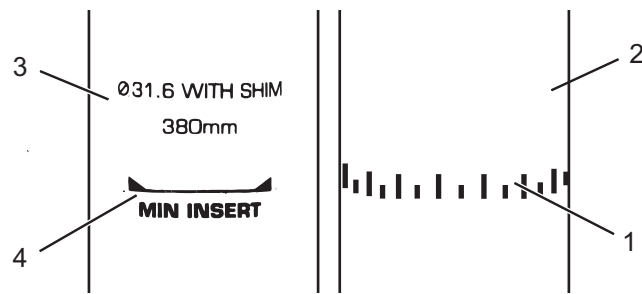


Figure 15:

Detailed view of the seat post, examples of the minimum insertion depth marking

- 1 III marking for minimum insertion depth
- 2 Seat post I
- 3 Seat post II
- 4 MIN marking for minimum insertion depth

Adjusting the bicycle to the rider

From an ergonomic point of view, the seat height should be set so that the heel touches the lowest point of the pedal when the leg is outstretched.

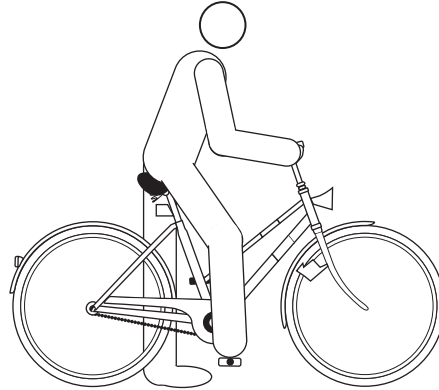


Figure 16: Determining the saddle height

6.1.2



Clamp the seat post with the quick release

The HERCULES specialist dealer demonstrates the function of the quick release to the rider or user.



Figure 17: Seat post quick release in the final position

- 1 Seat post clamping lever
- 2 Seat post
- 3 Knurled nut

Adjusting the bicycle to the rider

Clamping

- ✓ Only clamp the *seat post* when the bicycle is stationary.

The *seat post clamping lever* is not marked with any lettering. You can tell whether it is open or closed from its shape.

- To close it, push the *seat post clamping lever* as far as it will go into the *seat post*.
- To open it, pull the *seat post clamping lever* away from the *seat post*.

▶ Check the *clamping force of the quick releases*.

6.1.3



Adjusting the sitting position and saddle tilt

Special tools are required to adjust the seat length and the saddle tilt. The HERCULES specialist dealer adjusts the saddle setting to the rider.

6.2



Setting the handlebars

- ✓ The handlebars setting must only be made while the bicycle is stationary.
- ▶ Unfasten and adjust the designated screw connections, and clamp them with the maximum tightening torque for the clamping screws of the handlebars.

Maximum tightening torque for the clamping screws of the handlebars*

5 Nm - 7 Nm

*if there is no other data on the component

Table 19:

Handlebars clamping screw maximum tightening torque

Adjusting the bicycle to the rider

6.3 Adjusting the stem

6.3.1 With quick release (Alternative version)



Crash caused by incorrectly set clamping force

Excessively high clamping force will damage the quick release and cause it to lose its function.

Insufficient clamping force will cause a detrimental transmission of force. This will result in a crash and injuries.

- ▶ Never fasten a quick release using a tool (e.g. hammer or pliers).
 - ▶ Only use the clamping lever with the specified set clamping force.
-
- ▶ Open the clamping lever for the quick release on the stem.
 - ▶ Pivot the handlebars into the desired position.
 - ⇒ The handlebars click into place with an audible noise.
 - ▶ Lock the quick release.
 - ▶ Check the clamping force of the quick releases.

Adjusting the bicycle to the rider



Figure 18: Stem, version II with clamping lever (1), unlocking knob (2) and knurled nut (3)

6.4 Checking the clamping force of the quick releases

- ▶ Open and close the quick releases on the stem or the seat post.
- ⇒ The clamping force is sufficient if the clamping lever can be moved easily from the open final position into the middle and has to be pressed with the fingers or base of the thumb from the middle point onwards.

Setting the clamping force

- ▶ If the *clamping lever on the handlebars* cannot be moved into its final position, screw out the *knurled nut*.
- ▶ If the clamping force of the *clamping lever on the seat post* is not sufficient, screw in the *knurled nut*.



If the clamping force cannot be set, the HERCULES specialist dealer will need to check the quick release.

Adjusting the bicycle to the rider

6.5 Basic setting for suspension and damping

The adjustment shown here represents a basic setting. The rider should change the basic setting to suit the surface and his/her preferences.

- ▶ It is recommendable to make a note of the basic setting. This way, it can be used as the starting point for subsequent, optimised settings and to safeguard against unintentional changes.

6.5.1 Adjusting the hardness of the spring elements

6.5.1.1 Adjusting the hardness of the steel suspension fork

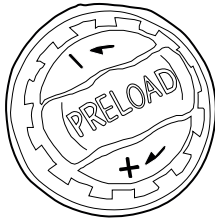


Figure 19:

Suspension fork setting wheel, example

- ✓ Only make the steel suspension fork setting with the bicycle stationary.
- ▶ The setting wheel may be located under a plastic cover on the head of the left-hand shock absorber. Remove the plastic cover by pulling it off upwards.
- ▶ Use the *setting wheel* on the left-hand *suspension fork head* to adjust the hardness of the steel suspension fork. Adjust the hardness of the steel suspension fork by turning the *setting wheel* in the plus or minus direction.
- ⇒ The ideal setting in relation to the weight of the rider has been achieved when the shock absorber deflects 3 mm under the stationary load of the rider.
- ▶ If applicable, re-attach the plastic cover after setting the suspension fork.

7 Operation



Crash caused by loose clothing

Laces, scarves and other loose items may become entangled in the spokes on the *wheels* and the *chain drive*. This may result in a crash and injuries.

- ▶ Wear sturdy footwear and close-fitting clothing.



Crash caused by soiling

Heavy soiling can impair the functions of the bicycle, for example, the function of the brakes. This may result in a crash and injuries.

- ▶ Remove coarse soiling before riding.



Crash caused by poor road conditions

Loose objects, for example, branches and twigs, may become caught in the wheels and cause a crash.

- ▶ Be aware of the road conditions.
- ▶ Ride slowly and brake in good time.

NOTICE

When riding downhill, high speeds may be reached. The bicycle is only engineered for exceeding a speed of 25 km/h briefly. In particular the *tyres* can fail if exposed to a continuous load.

- ▶ Decelerate the bicycle with the brakes if higher speeds than 25 km/h are reached.

NOTICE

Heat or direct sunlight can cause the *tyre pressure* to increase above the permitted maximum pressure. This can destroy the *tyres*.

- ▶ Never park the bicycle in the sun.
- ▶ On hot days, regularly check the *tyre pressure* and adjust it as necessary.

Operation

The bicycle can be ridden within a temperature range of 5 °C - 35 °C. The effectiveness of the drive system is restricted outside of this temperature range.

Operation temperature 5 °C - 35 °C

As a result of the open construction, penetration from moisture at cold temperatures may impair individual bicycle functions.

- ▶ Always keep the bicycle dry and free from frost.
- ▶ If the bicycle is to be operated at temperatures below 3 °C, the HERCULES specialist dealer must first prepare the bicycle for winter service.



Off-road riding subjects the joints in the arms to severe strain. Take a break from riding every 30 to 90 minutes, depending on the condition of the roads.

7.1 Before each ride



Crash caused by unidentified damage

After a crash, accident or if the bicycle falls over, there may be barely identifiable damage, e.g. to the brake system, the quick releases or the *frame*. This may result in a crash and injuries.

- ▶ Remove the bicycle from service and have a HERCULES specialist dealer carry out an inspection.



Crash caused by material fatigue

A component may suddenly fail in case of material fatigue. This may result in a crash and injuries.

Remove the bicycle from service immediately in case of any signs of material fatigue. Have the HERCULES specialist dealer check the situation.

- ▶ Have the HERCULES specialist dealer carry out basic cleaning regularly. During basic cleaning, the HERCULES specialist dealer inspects the bicycle for any signs of material fatigue.

- ▶ Check the bicycle before each ride.
- ⇒ In case of any discrepancies from the *Check list before each ride*, or any anomalies of any kind, the bicycle must not be used until the cause has been clarified.

Operation

Check list before each ride

<input type="checkbox"/>	Check that the bicycle is complete.
<input type="checkbox"/>	Check that the lighting, reflector and brake, for instance, are sufficiently clean.
<input type="checkbox"/>	You must check that the mudguards, the pannier rack and the chain guard are securely installed.
<input type="checkbox"/>	Check that the front and rear wheels run true. This is particularly important if the bicycle has been transported or secured with a lock.
<input type="checkbox"/>	Check the valves and the tyre pressure. Adjust as necessary before each ride.
<input type="checkbox"/>	Check the front and rear wheel brakes to make sure that they are working properly. To do so, operate the brake levers while the bicycle is stationary in order to check whether resistance is generated in the usual brake lever position.
<input type="checkbox"/>	Check that the running light is working.
<input type="checkbox"/>	Check for unusual noises, vibrations, smells, discolouration, deformation, abrasion and wear. This indicates material fatigue.
<input type="checkbox"/>	Be alert to any unusual operating sensations when braking, pedalling or steering.
<input type="checkbox"/>	Check the quick releases to make sure that they are fully closed in their final position.
<input type="checkbox"/>	On a bicycle with a hydraulic rim brake, check whether the locking levers are fully closed in their final positions.

7.2 Using the kickstand



Crash caused by a lowered kickstand

The kickstand does not fold up automatically. There is a risk of crashing if riding with the kickstand lowered.

- ▶ Raise the kickstand completely before the ride.

NOTICE

Because of the heavy weight of the bicycle, the kickstand may sink into soft ground, the bicycle may topple and fall over.

- ▶ The bicycle must only be parked on level, firm ground.
- ▶ It is particularly important to check the stability if the bicycle is equipped with accessories or loaded with luggage.

Raising the kickstand

- ▶ Before the ride, raise the kickstand completely with your foot.

Parking the bicycle

- ▶ Before parking, lower the kickstand completely with your foot.
- ▶ Park the bicycle carefully and check that it is stable.

Operation

7.3 Using the pannier rack



Crash caused by loaded pannier rack

The riding performance of the bicycle changes with a loaded *pannier rack*, in particular when steering and braking. This can lead to a loss of control. This may result in a crash and injuries.

- ▶ You should practice how to use a loaded *pannier rack* safely and reliably before using the bicycle in public spaces.



Crash caused by unsecured luggage

Loose or unsecured objects on the *pannier rack*, e.g. belts, may become caught in the rear wheel. This may result in a crash and injuries.

Objects which are fastened to the pannier rack may cover the bicycle's *reflectors* and the *running light*. The bicycle may be overseen on public roads. This may result in a crash and injuries.

- ▶ Secure any objects which are attached to the *pannier rack* sufficiently.
- ▶ Objects fastened to the *pannier rack* must never cover the *reflectors*, the *lamp* or the *rear light*.



Crushing the fingers in the spring flap

The spring flap on the *pannier rack* operates with a high clamping force. There is a risk of crushing the fingers.

- ▶ Never allow the spring flap to snap shut in an uncontrolled manner.
 - ▶ Be careful where you position your fingers when closing the spring flap.
-

NOTICE

The maximum load bearing capacity is indicated on the *pannier rack*.

- ▶ Never exceed the permitted *total weight* when packing the bicycle.
 - ▶ Never exceed the maximum load bearing capacity of the *pannier rack*.
 - ▶ Never modify the *pannier rack*.
-
- ▶ Distribute the luggage as evenly as possible on the left and right-hand side of the bicycle.
 - ▶ We recommend the use of panniers and luggage baskets.

Operation

7.4 Battery



Risk of fire and explosion due to faulty battery

The safety electronics on damaged or faulty batteries may fail. The residual voltage can cause a short circuit. The batteries may self-ignite and explode.

- ▶ Remove batteries with external damage from service immediately and never charge them.
- ▶ If the battery becomes deformed or begins to smoke, keep at a safe distance, disconnect the power supply at the socket, and notify the fire service immediately.
- ▶ Never extinguish damaged batteries with water or allow them to come into contact with water.
- ▶ If a battery is dropped or struck but shows no signs of external damage, remove the battery from service and observe it for at least 24 hours.
- ▶ Faulty batteries are hazardous goods. Dispose of faulty batteries properly and as quickly as possible.
- ▶ Store in a dry place until disposal. Never store in the vicinity of flammable substances.
- ▶ Never open or repair the battery.



Risk of fire and explosion due to high temperatures

Excessively high temperatures damage the battery. The battery may self-ignite and explode.

- ▶ Never expose the battery to sustained direct sunlight.

**Fire and explosion caused by short circuit**

Small metal objects may jumper the electrical connections of the battery. The batteries may self-ignite and explode.

- ▶ Keep paper clips, screws, coins, keys and other small parts away from the battery and do not insert them into the battery.

**Chemical burns to the skin and eyes caused by faulty battery**

Liquids and vapours may leak from damaged or faulty batteries. They can irritate the airways and cause burns.

- ▶ Avoid contact with leaked liquids.
- ▶ Immediately consult a doctor in case of contact with the eyes or any discomfort.
- ▶ In case of contact with the skin, rinse off immediately with water.
- ▶ Ventilate the room well.

**Fire and explosion caused by penetration by water**

The battery is only protected from simple spray water. Penetration by water can cause a short circuit. The battery may self-ignite and explode.

- ▶ Never immerse the battery in water.
- ▶ If there is reason to believe that water may enter into the battery, the battery must be removed from service.

Operation

NOTICE

If a key is left inserted when transporting the bicycle, or when riding, it may break off or the compartment may open accidentally.

- ▶ Remove the key from the battery lock immediately after use.
 - ▶ We recommend that you attach the key to a key ring, for example.
-

7.4.1 Down tube battery (Alternative version)

- ✓ Before the battery is to be removed or inserted, switch off the battery and the drive system.

7.4.1.1 Removing the down tube battery

- ▶ Open the battery lock with the key.
- ▶ Tip the down tube battery out of the top mount.
- ▶ Pull the down tube battery out of the bottom mount.

7.4.1.2 Inserting the down tube battery

- ▶ Place the down tube battery on the contacts in the bottom mount.
- ▶ Remove the key from the lock.
- ▶ Tip the battery into the top mount as far as it will go.
- ⇒ There is an audible clicking noise.
- ▶ Check the battery to make sure it is firmly in place.

7.4.2 Pannier rack battery (Alternative version)

- ✓ Before the battery is to be removed or inserted, switch off the battery and the drive system.

7.4.2.1 Removing the pannier rack battery

- ▶ Open the battery lock with the key.
- ▶ Pull the pannier rack battery backwards and out of the *pannier rack battery mount*.

7.4.2.2 Inserting the pannier rack battery

- ▶ Remove the key from the lock.
- ▶ Insert the pannier rack battery into the *pannier rack battery mount* with the contacts first so that it clicks into place.
- ▶ Check the battery to make sure it is firmly in place.

Operation

7.4.3 Charging the battery



Fire caused by overheated charger

The charger heats up when charging the battery. In case of insufficient cooling, this can result in fire or burns to the hands.

- ▶ Never use the charger on a highly flammable surface (e.g. paper, carpet etc.).
 - ▶ Never cover the charger during the charging process.
-



Electric shock caused by penetration by water

If water penetrates into a charger, there is a risk of electric shock.

- ▶ Never charge the battery outdoors.
-



Electric shock in case of damage

Damaged chargers, cables and plug connectors increase the risk of electric shock.

- ▶ Check the charger, cable and plug connector before each use. Never use a damaged charger.
 - ▶ The ambient temperature during the charging process must be within the range from 10 °C to 30 °C.
-

Charging temperature	10 °C - 30 °C
-----------------------------	---------------

- ✓ The battery can remain on the bicycle or be removed for charging.
- ✓ Interrupting the charging process does not damage the battery.
- ✓ On a bicycle which is equipped with two batteries, the charging process for both batteries is started from the pannier rack battery.

Operation

- ▶ Remove the rubber cover from the battery.
- ▶ Connect the mains plug of the charger to a normal domestic, grounded socket.

Connection data	230 V, 50 Hz
------------------------	--------------

- ▶ Connect the charging cable to the battery's charging port.
- ⇒ The charging process starts automatically.
- ⇒ During the charging process the operating and charge status indicator indicates the charge status. When the drive system is switched on, the *display* shows the charging process.
- ⇒ The charging process is complete when the LEDs of the operating and charge status indicator go out.

CAUTION **Risk of fire and explosion caused by damaged batteries.** The safety electronics on damaged or faulty batteries may fail. The residual voltage can cause a short circuit. The batteries may self-ignite and explode. If the battery becomes deformed or begins to smoke, keep at a safe distance, disconnect the power supply at the socket, and notify the fire service immediately. Never extinguish damaged batteries with water or allow them to come into contact with water.

NOTICE If an error occurs during the charging process, a system message is displayed. Remove the charger and the battery from operation immediately and follow the instructions.

Operation

7.4.4 Waking the battery

- ✓ When not used for a longer period, the battery switches to sleep mode for self-protection. The LEDs of the operating and charge status indicator do not light up.
- ▶ Press the *On-Off button (battery)*.
- ▶ The battery's operating and charge status indicator indicates the charge status.

7.5 Electric drive system

7.5.1 Switching on the drive system



Crash caused by lack of readiness for braking

A drive system which has been switched on can be activated by the application of force on the pedals. There is a risk of a crash if the drive is activated unintentionally, and the brake is not reached.

- ▶ Never start the electric drive system, or switch it off immediately, if the brake cannot be reached safely and reliably.

- ✓ A sufficiently charged battery has been inserted on the bicycle.
- ✓ The battery is firmly in place. The key has been removed.
- ✓ After switching off, the drive system shuts down. It is not possible to switch back on immediately. Wait a moment as necessary.

There are two options for switching on the drive system.

1 Battery On-Off button

- ▶ Press the **On-Off button (battery)** once.

2 On-Off button, command console with display

- ▶ Press the **On-Off button (command console with display)** once.
- ⇒ If the drive system is switched on, the drive is activated as soon as the pedals are moved with sufficient force.

Operation

7.5.2 Switching off the drive system

The system switches off automatically ten minutes after the last command. There are two options for switching off the drive system manually.

1 On-Off key, command console with display

- ▶ Press the **On-Off button (command console with display)** once.

2 Battery On-Off key

- ▶ Press the **On-Off button (battery)**.

7.6 Command console with display

7.6.1 Using the USB diagnostics port

NOTICE

Test instruments can be connected to the USB diagnostics port to check the drive system. The USB diagnostics port does not have any other functions.

- ▶ Never connect a charger or current consumer (e.g. mobile phone or computer) to the USB diagnostics port.

7.6.2 Using the pushing aid

NOTICE

The pedals turn when using the pushing aid because of the design.

- ▶ When the pushing aid is in use, the bicycle must be steered securely with both hands.
- ▶ Allow for enough freedom of movement for the pedals.

The pushing aid provides the rider with assistance when pushing the bicycle. The maximum speed in the process is 6 km/h.

- ✓ The tractive power of the pushing aid and its speed can be influenced by the selection of gear. To spare the drive, first gear is recommended for travelling uphill.
 - ✓ The level of assistance OFF must not be selected.
 - ▶ Press the **pushing aid button** once, holding it for less than a second, to activate the pushing aid.
 - ▶ Press and hold the **plus button** within three seconds.
- ⇒ The motor starts.

Operation

Switching off the pushing aid

The pushing aid is switched off in case of three events.

- The **plus button** is released.
- The wheels are blocked.
- At speeds above 6 km/h.

7.6.3

Using the running light

✓ To switch on the *running light*, the drive system has to be switched on already.

▶ Press and hold the **plus button** for around two seconds.

⇒ The *running light* is switched on, the *running light symbol* is displayed.

▶ Press and hold the **plus button** for longer than three seconds.

⇒ The *running light* is switched off, *running light symbol* is not displayed.

7.6.4

Selecting the level of assistance

▶ Press the **plus button** once, holding it for less than one second.

⇒ The level of assistance is increased.

▶ Press the **minus button**, holding it for less than one second.

⇒ The level of assistance is reduced.

7.6.5 Journey information

The displayed *journey information* can be changed and partially reset.

7.6.5.1 Switching the displayed journey information

- ▶ Press and hold the **minus button (command console with display)** again for around two seconds, until the desired item of *journey information* is displayed.

7.6.5.2 Resetting the journey distance

- ▶ Press and hold the **plus** and **minus buttons** simultaneously for around three seconds.
- ⇒ RESET is shown on the display.
- ▶ Continue to press the **plus** and **minus buttons** together.
- ⇒ The item of journey information *TRIP* is reset.

7.6.5.3 Changing the unit of measure for speed

The speed can be displayed in either kilometres or miles.

- ▶ Press and hold the **minus button** for longer than three seconds.
- ▶ Press the **On-Off button**, holding it for less than one second.
- ⇒ The speed display changes to the other unit of measure.

7.6.5.4 Displaying system data

- ✓ The drive system is switched off.
- ▶ Press the **plus** and **minus buttons** simultaneously.
- ▶ After three seconds, press the **On-Off button (command console with integrated display)**.
- ▶ Press the **plus** or **minus button** repeatedly until the desired item of system data is displayed.

Operation

7.7

Gear shift

The selection of the appropriate gear is a prerequisite for a physically comfortable ride and making sure that the electric drive system functions properly. The ideal pedalling frequency is between 40 and 60 revolutions per minute.

- ▶ Select the appropriate gear with the *gear shift shifter*.
- ⇒ The gear shift switches the gear.

7.8**Brakes**

**Crash caused by incorrect use**

Handling the brake improperly can lead to loss of control or crashes, which may result in injuries.

- ▶ Practise braking and emergency braking before the bicycle is used in public spaces.
- ▶ Shift your weight back and down as far as possible.

**Crash caused by wet conditions**

The *tyres* may slip on wet roads. In wet conditions you must also expect a longer braking distance. The braking sensation differs from the usual sensation. This can cause loss of control or a crash, which may result in injuries.

- ▶ Ride slowly and brake in good time.

**Crash after cleaning, servicing or repair**

After cleaning, servicing or repairing the bicycle, the braking effect may be temporarily unusually weak. This may result in a crash and injuries.

- ▶ After cleaning, servicing or repair, carry out a few test brake applications.

**Burns caused by heated brake**

The brakes may become very hot during operation. There is a risk of burns in case of contact.

- ▶ Never touch the components of the brake directly after the ride.
-

Operation

The drive force of the motor is shut off during the ride as soon as the rider no longer pedals. The drive system does not switch off when braking.

- ▶ In order to achieve optimum braking results, do not pedal while braking.

7.8.1

Using the brake

- ▶ Pull the *brake levers* until the desired speed has been reached.

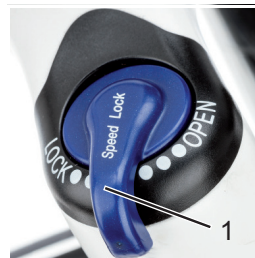
7.9 Suspension and damping

7.9.1 Locking the front wheel suspension

When the *fork lock* is in the open position, the *suspension system* has activated suspension and thus provides the rider and the bicycle with relief. Riding with the *fork lock* open should therefore be preferred for everyday riding.

When riding downhill or at high speed, for instance, the force which is exerted on the drive is absorbed by the *suspension system* and reduced by up to 50%. In these cases it is recommendable to close the suspension fork.

The *fork lock* may be situated directly on the fork or on the handlebars, depending on the version. Fork lock on the suspension head



▶ In order to lock the *front wheel suspension*, shift the *locking lever* to the LOCK position.

▶ In order to release the *front wheel suspension*, shift the *locking lever* to the OPEN position.

Figure 20: Fork lock on the suspension head with locking lever (1), example

Operation

7.10 Folding (Alternative equipment)

NOTICE

- ▶ Never crush or bend cables, electric cables or brake cables when folding.

7.10.1 Folding the folding bicycle

The bicycle is folded in eight steps.

- ▶ Switch off the *electric drive system*.
- ▶ Use the *kickstand*.
- ▶ Remove the *display*.
- ▶ Remove the *battery* if necessary.
- ▶ Fold the *pedal*.
- ▶ Fold the *stem*.
- ▶ Push in the *seat post*.
- ▶ Fold the *frame*.

7.10.1.1 Folding the pedal

- ▶ Push the pedal against the pedal crank with the foot.

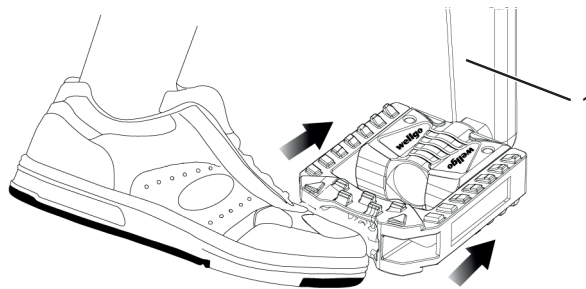


Figure 21: Pushing the pedal against the pedal crank (1)

- ▶ Fold the pedal against the pedal crank.

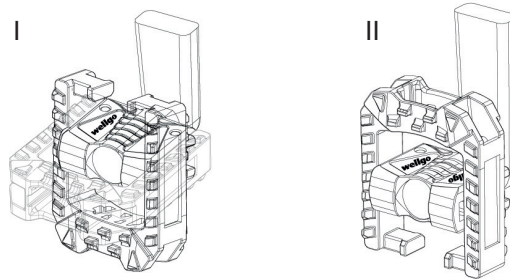


Figure 22: Folding the pedal up (I) or down (II)

7.10.2 Folding the stem, version I (Alternative version)

- ▶ Open the *clamping lever on the stem quick release*.
- ▶ Pull the *locking lever on the stem* upwards and simultaneously pivot it 90° to the right or the left.
- ⇒ You feel the *handlebars* click into place.
- ▶ Push in the *handlebars*.
- ▶ Close the *clamping lever on the stem quick release*.



Figure 23: Opened clamping lever on the stem quick release (3) on the stem (2), version I, with locking lever on the stem (1)

Operation

7.10.2.1 Folding the stem, version II (Alternative version)

- ▶ Open the *clamping lever on the stem quick release*.
- ▶ Push the *unlocking knob*.
- ▶ Pivot the *handlebars* 90° to the right or left.
- ⇒ You feel the *handlebars* click into place.
- ▶ Close the *clamping lever on the stem quick release*.



Figure 24: Stem, version II with clamping lever on the stem quick release (1) and unlocking knob (2)

7.10.2.2 Pushing in the seat post

- ▶ Open the *clamping lever for the quick release on the seat post*.
- ▶ Push in the *saddle* to the minimum position.
- ▶ Close the *clamping lever for the quick release on the seat post*.

7.10.2.3 Folding the frame

- ▶ Pivot the *frame locking lever* upwards.
- ⇒ The *frame clamping lever* can be opened freely.
- ▶ Open the *frame clamping lever*.
- ▶ Pivot in the frame as far as it will go.



Figure 25:

Frame, with closed frame clamping lever (1) and open frame locking lever (2)

7.10.3



Preparing the bicycle so that it is ready to ride again

The HERCULES specialist dealer shows the user or rider how the bicycle is folded, how it is prepared so that it is ready to ride again, and how the quick releases are used.

The bicycle is prepared so that it is ready to ride again in eight steps.

- ▶ Switch off the *drive system*.
- ▶ Use the *kickstand*.
- ▶ Fold out the *frame*.
- ▶ Adjust the *stem*.
- ▶ Adjust the *saddle*.
- ▶ Fold out the *pedal*.
- ▶ Insert the *battery*.
- ▶ Attach the *display*.

Operation

7.10.3.1 Folding out the frame

- ▶ Completely fold out the frame.
- ▶ Close the *frame clamping lever*.
- ⇒ The *frame clamping lever* rests on the limit stop. The *frame locking lever* holds the *frame clamping lever*. The *frame clamping lever* is closed.



Figure 26: Frame, with closed frame clamping lever (1) and closed frame locking lever (2)

7.10.3.2 Folding out the pedal

- ▶ Push the pedal against the pedal crank with the foot from the front.

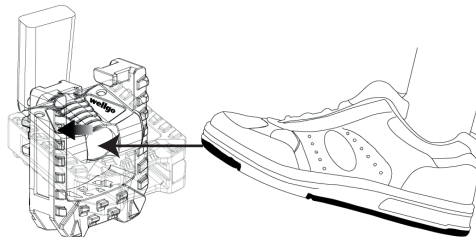


Figure 27: Pushing the pedal against the pedal crank (1)

Operation

► Use the foot to fold the pedal up or down.

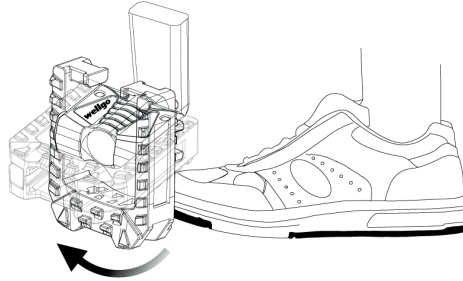


Figure 28: Folding up the pedal

Maintenance

8 Maintenance**Cleaning check list**

<input type="checkbox"/>	Lubricating the chain	once a month
<input type="checkbox"/>	Cleaning the battery	once a month
<input type="checkbox"/>	Basic cleaning and preservation of all components	at least every six months
<input type="checkbox"/>	Cleaning the charger	at least every six months

Maintenance check list

<input type="checkbox"/>	Checking the position of the USB rubber cover	before each ride
<input type="checkbox"/>	Checking for tyre wear	once a week
<input type="checkbox"/>	Checking for rim wear	once a week
<input type="checkbox"/>	Checking the tyre pressure	once a week
<input type="checkbox"/>	Checking for brake wear	once a month
<input type="checkbox"/>	Checking the electrical cables and Bowden cables for damage and to make sure they are fully functional	once a month
<input type="checkbox"/>	Checking the chain tension	once a month
<input type="checkbox"/>	Checking the tension of the spokes	every three months
<input type="checkbox"/>	Checking the gear shift setting	every three months
<input type="checkbox"/>	Checking the suspension fork for wear and to make sure it is fully functional	every three months

Service check list

<input type="checkbox"/>	Service by the specialist dealer	every six months
--------------------------	----------------------------------	------------------

8.1 Cleaning and servicing



Crash and falling caused by unintentional activation

There is a risk of injury if the drive system is activated unintentionally.

- ▶ Remove the battery before cleaning.

The following servicing measures must be carried out regularly [\triangleright *Check list, page 86*]. Servicing can be performed by the user and rider. In case of any doubt, consult the HERCULES specialist dealer.

8.1.1 Battery



Fire and explosion caused by penetration by water

The battery is only protected from simple spray water. Penetration by water can cause a short circuit. The battery may self-ignite and explode.

- ▶ Never clean the battery with a high-pressure water device, water jet or compressed air.
- ▶ Never immerse the battery in water.
- ▶ Remove the battery from the bicycle before cleaning.

- ▶ Only clean the electrical connections of the battery with a dry cloth or brush.
- ▶ Wipe off the decorative sides with a damp cloth.

8.1.2 Display



If water enters into the *display*, it will be destroyed.

- ▶ Never immerse the *display* in water.
- ▶ Remove the *display* from the bicycle before cleaning.

Maintenance

- ▶ Carefully clean the *display* with a damp, soft cloth.

8.1.3

Basic cleaning and preservation



Crash caused by brake failure

After cleaning, servicing or repairing the bicycle, the braking effect may be temporarily unusually weak. This may result in a crash and injuries.

- ▶ Never apply care products or oil to the brake disks or brake pads, or the braking surfaces on the rims.
- ▶ After cleaning, servicing or repair, carry out a few test brake applications.

NOTICE

Water may enter into the inside of the bearings if you use a steam jet. The lubricant inside is diluted, the friction increases and, as a result, the bearings are destroyed in the long term.

- ▶ Never clean the bicycle with a steam jet.

NOTICE

Greased parts, e.g. the seat post, the handlebars or the stem, may no longer be safely and reliably clamped.

- ▶ Never apply grease or oil to the clamping areas.
- ▶ Clean the bicycle with a damp cloth. Mix a little neutral soap with the cleaning water.
- ▶ Then use wax or oil on the bicycle as a preservative agent.

8.1.4

Chain

- ▶ Clean and lubricate the *chain* and the *chain wheels* using the stipulated care products.

8.2 Maintenance



Crash and falling caused by unintentional activation

There is a risk of injury if the drive system is activated unintentionally.

- ▶ Remove the battery before maintenance.

The following maintenance measures must be carried out regularly [▷ *Check list, page 86*]. They can be carried out by the user and rider. In case of any doubt, consult the HERCULES specialist dealer.

8.2.1 Wheel

NOTICE

If the pressure is too low in the tyre, the tyre does not achieve its load bearing capacity. The tyre is not stable and may come off the rim.

If the pressure in the tyre is too high, the tyre may burst.

- ▶ Check the tyre pressure against the specifications [▷ *Data sheet, page 1*]
- ▶ *Adjust the tyre pressure as necessary.*

- ▶ Check the *tyre* wear.
- ▶ Check the *rim* wear.
 - The rims of a rim brake with invisible wear indicator are worn as soon as the wear indicator becomes visible in the area of the rim joint.
 - The rims with visible wear indicator are worn as soon as the black, all-round groove on the pad friction surface becomes invisible. We recommend that you also replace the *rims* with every second brake lining replacement.
- ▶ Check the tension of the spokes.

Maintenance

8.2.2 Brake system

- ▶ Replace the brake linings on the disk brake when the pad thickness has reached 0.5 mm.

8.2.3 Electrical cables and brake cables

- ▶ Check all visible electrical cables and cables for damage. If, for example, the sheathing is compressed, the bicycle will need to be removed from service until the cables have been replaced.
- ▶ Check all electrical cables and cables to make sure they are fully functional.

8.2.4 Gear shift

- ▶ Check the gear shift and the *shifter* or the *twist grip* setting and adjust it as necessary.

8.2.5 USB port

NOTICE

Any moisture which enters through the USB port may trigger a short circuit in the *display*.

- ▶ Regularly check the position of the *cover on the USB port* and adjust it as necessary.

8.2.6 Chain or belt tension

NOTICE

Excessive chain or belt tension increases wear.

If the chain or belt tension is too low, there is a risk that the *chain* or belt will slip off the *chain wheels*.

- ▶ Check the chain and belt tension once a month.

Maintenance



- ▶ Check the chain or belt tension in three or four positions, turning the crank a full revolution.
 - ▶ If the *chain* or the belt can be pushed more than 2 cm, the *chain* or belt will need to be tensioned again by the HERCULES specialist dealer.
 - ▶ If the *chain* or the belt can only be pushed less than 1 cm, the *chain* or belt will need to be relieved of tension accordingly.
- ⇒ The ideal chain or belt tension has been achieved if the *chain* or the belt can be pushed a maximum of 2 cm in the middle between the pinion and the toothed wheel. The crank must also turn without resistance.

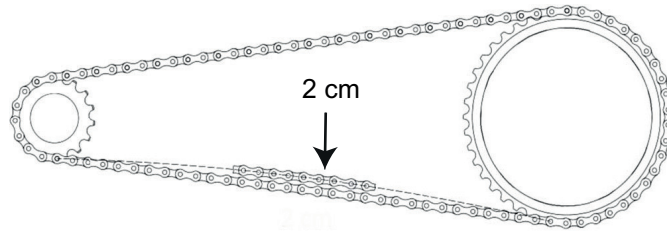


Figure 29:

Checking the chain and belt tension

Maintenance

8.3

Service



CAUTION

Crash and falling caused by unintentional activation

There is a risk of injury if the drive system is activated unintentionally.

- ▶ Remove the battery before the service.



CAUTION

Crash caused by material fatigue

If the service life of a component has expired, the component may suddenly fail. This may result in a crash and injuries.

- ▶ Have the HERCULES specialist dealer carry out six-monthly basic cleaning of the bicycle, preferably at the same time as the stipulated servicing work.

A service must be performed by the HERCULES specialist dealer at least every six months [*▶ Check list, page 86*]. This is the only way to ensure that the bicycle remains safe and fully functional.



- ▶ During basic cleaning, the HERCULES specialist dealer inspects the bicycle for any signs of material fatigue.
- ▶ The HERCULES specialist dealer checks the software version of the drive system and updates it. The electrical connections are checked, cleaned and preservative agent is applied. The electrical cables are inspected for damage.
- ▶ The further servicing measures correspond to those which are recommended for a bicycle as per EN 4210. Particular attention is paid to the rim and brake wear. The spokes are re-tightened in accordance with the findings.

8.4 Correcting and repairing

8.4.1 Using original parts only

The individual parts of the bicycle have been selected carefully and to matched to each other.

Only original parts must be used for maintenance and repair.

The constantly updated lists of approved accessories and parts are available to HERCULES specialist dealers.

Maintenance

8.4.2 Wheel quick release



CAUTION

Crash caused by unfastened quick release

A faulty or incorrectly installed quick release may become caught in the brake disk and block the wheel. This will cause a crash.

- ▶ Install the front wheel quick release lever on the opposite side to the brake disk.
-



CAUTION

Crash caused by faulty or incorrectly installed quick release

The brake disk becomes very hot during operation. Parts of the quick release may become damaged as a result. The quick release comes loose. This will result in a crash and injuries.

- ▶ The front wheel quick release lever and the brake disk must be situated on opposite sides.
-



CAUTION

Crash caused by incorrectly set clamping force

Excessively high clamping force will damage the quick release and cause it to lose its function.

Insufficient clamping force will cause a detrimental transmission of force. The suspension fork or the frame may break. This will result in a crash and injuries.

- ▶ Never fasten a quick release using a tool (e.g. hammer or pliers).
 - ▶ Only use the clamping lever with the specified set clamping force.
-

The clamping lever for the quick release is marked OPEN and CLOSE. If you can read the word OPEN, the quick release is open. If you can read the word CLOSE, the quick release is clamped.

⇒ The wheel clamping lever is clamped if the clamping lever can be moved easily from the open final position into the middle and has to be pressed with the fingers or base of the thumb from the middle point onwards.

8.4.2.1

Clamping the quick release

- ▶ Hold the open clamping lever. Fasten the setting nut on the opposite side.
 - ▶ Clamp the clamping lever.
- ⇒ The final position of the clamping lever is at a right angle to the fork or frame.

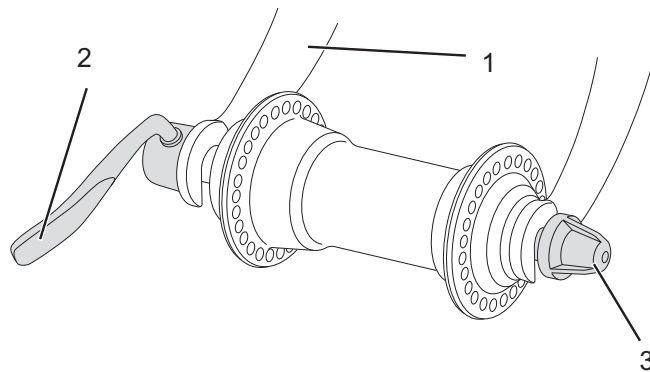


Figure 30:

Wheel quick release, version I, with clamping lever (2), fork (1) and setting nut (3)

Maintenance

Checking and setting the clamping force of the quick releases

If the clamping lever cannot be moved into its proper final position by pushing it with the hand, or if it is too loose, its clamping force will need to be readjusted.

- ▶ Open the clamping lever completely.
- ▶ Unfasten the setting nut a little.
- ▶ Clamp the clamping lever.
- ▶ If the clamping lever is not yet in the proper final position, repeat the steps until the proper final position has been achieved.

8.4.3 Adjusting the tyre pressure

8.4.3.1 Dunlop valve

The tyre pressure cannot be measured on the simple Dunlop valve. The tyre pressure is therefore measured in the filling hose when pumping slowly with the bicycle pump.

- ✓ It is recommendable to use a bicycle pump with a pressure gauge. The operating instructions for the bicycle pump must be adhered to.
- ▶ Unscrew and remove the valve cap.
- ▶ Connect the bicycle pump.
- ▶ Pump up the tyre slowly and pay attention to the tyre pressure in the process.
- ⇒ The tyre pressure has been adjusted as per the data [*> Data sheet, page 1*].
- ▶ If the tyre pressure is too high, unfasten the union nut, let off air and tighten the union nut again.
- ▶ Remove the bicycle pump.
- ▶ Screw the valve cap tight.
- ✓ Screw the rim nut gently against the rim with the tips of your fingers.

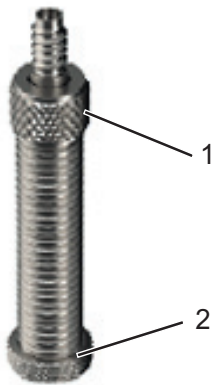


Figure 31: Dunlop valve with union nut (1) and rim nut (2)

Maintenance

8.4.3.2

Presta valve

- ✓ It is recommendable to use a bicycle pump with a pressure gauge. The operating instructions for the bicycle pump must be adhered to.
- ▶ Unscrew and remove the valve cap.
- ▶ Open the knurled nut around four turns.
- ▶ Carefully apply the bicycle pump so that the valve insert is not bent.
- ▶ Pump up the tyre slowly and pay attention to the tyre pressure in the process.
- ⇒ The tyre pressure has been adjusted as per the data [▷ *Data sheet, page 1*].
- ▶ Remove the bicycle pump.
- ▶ Tighten the knurled nut with your finger tips.
- ▶ Screw the valve cap tight.
- ▶ Screw the rim nut gently against the rim with the tips of your fingers.

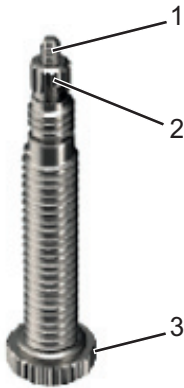


Figure 32:

Presta valve with valve insert (1), knurled nut (2) and rim nut (3)

8.4.3.3**Schrader valve**

- ✓ It is recommendable to use a bicycle pump with a pressure gauge. The operating instructions for the bicycle pump must be adhered to.
- ▶ Unscrew and remove the valve cap.
- ▶ Connect the bicycle pump.
- ▶ Pump up the tyre slowly and pay attention to the tyre pressure in the process.
- ⇒ The tyre pressure has been adjusted as per the data [[▷ Data sheet, page 1](#)].
- ▶ Remove the bicycle pump.
- ▶ Screw the valve cap tight.
- ▶ Screw the rim nut gently against the rim with the tips of your fingers.

**Figure 33:****Schrader valve with rim nut (1)**

Maintenance

8.4.4 Setting the gear shift

If the gears cannot be selected cleanly, the tension of the shift cable will need to be readjusted.

- ▶ Carefully pull the *adjusting sleeve* away from the shifter housing, turning it in the process.
- ▶ Check the function of the gear shift after each adjustment.



If the gear shift cannot be set this way, the assembly of the gear shift will need to be inspected by the HERCULES specialist dealer.

8.4.4.1

Cable-operated gear shift, single-cable

- ▶ For a smooth gear shift, set the adjusting sleeves on the gear shift housing.



Figure 34: Adjusting sleeve (1) for the single-cable cable-operated gear shift with gear shift housing (2), example

8.4.5 Offsetting brake lining wear

8.4.5.1 Hydraulically operated rim brake (Alternative equipment)

The *setting bolt* on the *brake lever* of the hydraulic rim brake is used to offset the brake lining wear. If the profile of the brake pads has a remaining depth of only 1 mm, the brake pads will need to be replaced.

- ▶ In order to reduce the free travel and offset the brake lining wear, screw the *setting bolt* in.
 - ▶ To increase the free travel, screw the *setting bolt* out.
- ⇒ With the optimum setting the action point, i.e. the point at which the brake takes effect, is reached after 10 mm of empty travel.



Figure 35: Brake lever (1) of the hydraulically operated rim brake with setting bolt (2)

Maintenance

8.4.5.2 Cable-operated rim brake (Alternative equipment)

The *setting bolt* on the *brake lever* of the cable-operated rim brake is adjusted to offset the brake lining wear.

The free travel is the distance *brake lever* travels from the initial position until it reaches its action point, i.e. the point at which the brake takes effect.

- ▶ In order to reduce the free travel and offset the brake lining wear, screw the *setting bolt* out.
 - ▶ In order to increase the free travel, screw the *setting bolt* in.
- ⇒ When the ideal setting has been made, the action point is reached after 10 mm of free travel.



Figure 36: Brake lever (1), lock nut (2) and setting bolt (3) of the cable-operated rim brake

8.4.5.3 Disk brake (Alternative equipment)

The brake pad wear on the disk brake does not require readjustment.

8.4.6 Replacing the lighting

Alternatively a 3 watt or 1.5 watt lighting system can be installed.

- ▶ Only use components of the respective power class for replacement.

8.4.7 Setting the lamp

- ▶ The *lamp* must be set so that its light beam meets the road 10 m in front of the bicycle.

8.4.8 Repair by the specialist dealer



Special knowledge and tools are required for many repairs. Only a HERCULES specialist dealer must carry out the following repairs, for instance:

- Replacing *tyres* and rims,
- Replacing the brake pads and brake linings,
- Replacing and tensioning the *chain*.

Maintenance

8.4.9 First aid for system messages



Fire and explosion due to faulty batteries

The safety electronics on damaged or faulty batteries may fail. The residual voltage can cause a short circuit. The batteries may self-ignite and explode.

- ▶ Batteries with external damage must be removed from service immediately.
- ▶ Never allow damaged batteries to come into contact with water.
- ▶ If a battery is dropped or struck but shows no signs of external damage, remove the battery from service and observe it for at least 24 hours.
- ▶ Faulty batteries are hazardous goods. Dispose of faulty batteries properly and as quickly as possible.
- ▶ Store in a dry place until disposal. Never store in the vicinity of flammable substances.
- ▶ Never open or repair the battery.

The components of the drive system are checked constantly and automatically. If an error is detected, the respective fault code appears on the *display*. The drive may be shut off automatically, depending on the type of error.

8.4.9.1 First aid

If an error message is displayed, run through the following actions:

- ▶ Make a note of the system message.
- ▶ Shut off and re-start the drive system.
- ▶ If the system message is still displayed, remove and then re-insert the battery.

- ▶ Re-start the drive system.
- ▶ If the system message is still displayed, contact the HERCULES specialist dealer.

8.4.9.2

Specific error eradication

- ▶ Make a note of the system message.

Error	Remedy
LOW BAT	▶ Replace the internal display battery. Contact the HERCULES specialist dealer.
540, 604, 605	The bicycle is outside the permitted temperature range. ▶ Switch off the bicycle. ▶ Allow the system components to cool down or warm up. ▶ Re-start the drive system.
430	▶ Charge the internal display battery.
410, 418	▶ Check whether the keys are jammed, e.g. because dirt has got into them. ▶ Clean the keys as necessary.
460, 550	▶ Disconnect the consumer from the USB port. ▶ Re-start the drive system.
592	▶ Insert a compatible display. ▶ Re-start the drive system.
606	▶ Check the cabling. ▶ Re-start the drive system.

Table 20:

Error eradication using the code

- ▶ If the system message is still displayed, contact the HERCULES specialist dealer.

Maintenance

8.4.10

The electric drive system of drive system does not start up

If the display and/or the drive system do not start up, proceed as follows:

- ▶ Check whether the battery is switched on. If not, start the battery.
- ⇒ If the LEDs of the charge status indicator do not light up, contact the HERCULES specialist dealer.
- ▶ If the LEDs of the charge status indicator light up, but the drive system does not start up, remove the battery.
- ▶ Insert the battery.
- ▶ Start the drive system.
- ▶ If the drive system does not start up, remove the battery.
- ▶ Clean all the contacts with a soft cloth.
- ▶ Insert the battery.
- ▶ Start the drive system.
- ▶ If the drive system does not start up, remove the battery.
- ▶ Fully charge the battery.
- ▶ Insert the battery.
- ▶ Start the drive system.
- ▶ If the drive system does not start up, contact the HERCULES specialist dealer.

8.5 Accessories

<i>Description</i>	<i>Article number</i>
Protective cover for electrical components	080-41000 ff
Panniers system components*	080-40946
Rear wheel basket system components*	051-20603
Bicycle box system components*	080-40947

Table 21: Accessories

*System components are matched to the pannier rack and provide sufficient stability due to special transmission of force.

Maintenance

8.5.1 Child seat



CAUTION

Crash caused by improper handling

When using child seats, the riding properties and the stability of the bicycle change considerably. This can cause a loss of control, a crash and injuries.

- ▶ You should practice how to use the child seat safely and reliably before using the bicycle in public spaces.



CAUTION

Risk of crushing due to exposed springs

The child may crush his/her fingers on exposed springs or open mechanical parts of the saddle or the seat post.

- ▶ Never install saddles with exposed springs if a child seat is being used.
- ▶ Never install seat posts with suspension with open mechanical parts or exposed springs if a child seat is being used

NOTICE

- ▶ Observe the legal regulations on the use of child seats.
 - ▶ Observe the operating and safety notes for the child seat system.
 - ▶ Never exceed the total weight of the bicycle.
-



The HERCULES specialist dealer will advise you on the choice of right child seat system for the child and the bicycle. The scope of delivery of commercially available child seats does not usually contain any of the material which is required to adapt the bicycle to the child seat.

Moreover, knowledge, skills and tools which a technical layperson does not have, may be required.

Therefore, the initial installation of a child seat must be performed by the HERCULES specialist dealer in order to maintain operational and product safety. When installing a child seat, the HERCULES specialist dealer makes sure that the seat and the fastening mechanism for the seat suit the bicycle, that all components are installed and firmly fastened, that shift cables, brake cables, hydraulic and electrical cables are adjusted as necessary, that the freedom of movement of the rider is not restricted, and the permitted total weight of the bicycle is not exceeded.

The HERCULES specialist dealer provides instruction on how to handle the bicycle and the child seat.

Maintenance

8.5.2 Bicycle trailer



CAUTION

Crash caused by brake failure

The brake may not work sufficiently if there is an excessive trailer load. The long braking distance can cause a crash or an accident and injuries.

▶ Never exceed the specified trailer load.



NOTICE

▶ The operating and safety notes for the trailer system must be observed.

▶ The legal regulations on use of bicycle trailers must be observed.

▶ Only use type approved coupling systems.

A bicycle which is approved for towing a trailer is equipped with the respective information sign. Only bicycle trailers with a support load and total mass which do not exceed the permitted values, must be used.



The HERCULES specialist dealer will advise you on the choice of right trailer system for the bicycle. The scope of delivery of commercially available bicycle trailers does not usually contain any of the material which is required to adapt the bicycle to the trailer. Moreover, knowledge, skills and tools which a technical layperson does not have, may be required.

Therefore, the initial installation of a trailer must be performed by the HERCULES specialist dealer in order to maintain operational and product safety.

9 Recycling and disposal



Risk of fire and explosion

The safety electronics on damaged or faulty batteries may fail. The residual voltage can cause a short circuit. The batteries may self-ignite and explode.

- ▶ Remove batteries with external damage from service immediately and never charge them.
- ▶ If the battery becomes deformed or begins to smoke, keep at a safe distance, disconnect the power supply at the socket, and notify the fire service immediately.
- ▶ Never extinguish damaged batteries with water or allow them to come into contact with water.
- ▶ Faulty batteries are hazardous goods. Dispose of faulty batteries properly and as quickly as possible.
- ▶ Store in a dry place until disposal. Never store in the vicinity of flammable substances.
- ▶ Never open or repair the battery.



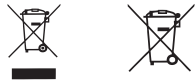
Chemical burns to the skin and eyes

Liquids and vapours may leak from damaged or faulty batteries. They can irritate the airways and cause burns.

- ▶ Avoid contact with leaked liquids.
- ▶ Immediately consult a doctor in case of contact with the eyes or any discomfort.
- ▶ In case of contact with the skin, rinse off immediately with water.
- ▶ Ventilate the room well.

Recycling and disposal

The bicycle, the battery, the display and the charger are recyclable materials. They have to be disposed of separate from the domestic waste in accordance with the valid legal regulations, and recycled.



Separate collection and recycling saves reserves of raw materials and ensures that all the regulations for protection of health and the environment are adhered to when recycling the product and/or the battery.

- ▶ Never dismantle the bicycle, the battery or the charger for disposal.
- ▶ The bicycle, the display, the unopened and undamaged battery and the charger can be returned to any HERCULES specialist dealer free of charge. Depending on the region, further disposal options may be available.
- ▶ Store the individual parts of the decommissioned bicycle in a dry place, free from frost, where they are protected from direct sunlight.

10 EC declaration of conformity

Translation of the original EC declaration of conformity

The manufacturer:

HERCULES GMBH
Longericher Straße 2
50739 Köln

hereby declares that the bicycles of the following types:

18-Q-0076, 18-Q-0001, 18-Q-0002, 18-Q-0003, 18-Q-0089, 18-Q-0090, 18-Q-0091,
18-Q-0092, 18-Q-0093, 18-Q-0105, 18-Q-0106, 18-Q-0107, 18-Q-0108, 18-Q-0086,
18-Q-0087, 18-Q-0088, 18-Q-0089, 18-Q-0090, 18-Q-0091, 18-Q-0092, 18-Q-0093,
18-Q-0105, 18-Q-0106, 18-Q-0107, 18-Q-0108, 18-Y-0011

year of manufacture 2017 and year of manufacture 2018,

comply with all applicable requirements of **Machinery Directive 2006/42/EC**. Furthermore, the electrically power assisted cycles comply with all applicable basic requirements of **Electromagnetic Compatibility Directive 2014/30/EU**.

The following standards were applied: **EN ISO 12100:2010** Safety of Machinery – General principles for design – Risk assessment and risk reduction, **EN ISO 4210-2:2015**, Cycles – Safety requirements for bicycles – Part 2: Requirements for city and trekking, young adult, mountain and racing bicycles, **EN 15194:2009+A1:2011**, Cycles – Electrically power assisted cycles – EPAC bicycles, **EN 11243:2016**, Cycles – Luggage carriers for bicycles – Requirements and test methods.

Mr. Harald Guoth Dipl.-Ing. (FH) (Quality Management Officer, Compliance Officer),
c/o HERCULES GMBH, Longericher Str. 2, 50739 Köln

is authorised to compile the technical documentation.



Cologne, 16.08.2017

Place, date and signature

Georg Honkomp

-Managing Director-

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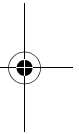
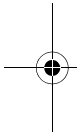
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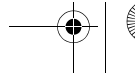
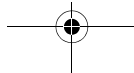
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