HERCULES

IMPORTANT
READ CAREFULLY BEFORE USE
KEEP SAFE FOR LATER REFERENCE

TRANSLATION OF THE ORIGINAL OPERATING INSTRUCTIONS

EN

ELECTRIC BICYCLES

Robert/a R7, Robert/a F7

18-Q-0053 | 18-Q-0054 | 18-Q-0057 | 18-Q-0058 | 18-Q-0059

034-11401 • 1.0 • 24.08.2017

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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:

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**

Display

Internal lithium ion battery	3.7 V, 240 mAh
Storage temperature	5 °C - 25 °C
Charging ambient temperature	10 °C - 30 °C

Table 3: **Display technical data**

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.**

USB port

Charge voltage	5 V
Charging current	max. 500 mA

Table 5: **USB port technical data**

Tightening torque

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

Table 6: **Tightening torque values**

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

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/EG,
- 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 and
- EN ISO 17100:2016-05 Translation Services – Requirements for translation service.

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	034-11401_1.0_24.08.2017

Table 7: Identification number of the operating instructions

2.6.2 Bicycle

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

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

Type number	*Model*	*Bicycle type*
18-Q-0053	Robert/a R7	City and trekking bicycle
18-Q-0054	Robert/a R7	City and trekking bicycle
18-Q-0057	Robert/a F7	City and trekking bicycle
18-Q-0058	Robert/a F7	City and trekking bicycle
18-Q-0059	Robert/a F7	City and trekking bicycle

Table 8: 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 use, 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 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 the website 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. These operating instructions must be submitted to each rider in printed form and must be acknowledged and adhered to.

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:

DANGER	Will lead to serious or even fatal injuries if ignored. High-risk hazard.
WARNING	May lead to serious or even fatal injuries if ignored. Medium-risk hazard.
CAUTION	May lead to minor or moderate injuries. Low-risk hazard.
NOTICE	May lead to material damage if ignored.

Table 9: 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

Table 10: **Safety markings on the product**

2.8 For your information

2.8.1 Instructions for actions

Instructions for actions are structured in accordance with the pattern:

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

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:

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

Table 11: **Area of use**

	City and trekking bicycle
	Child's bicycle / bicycle for young adults
	BMX bicycle
	Mountain bike
	Racing bicycle
	Carrier bicycle
	Folding bicycle

Table 12: **Bicycle type**

 	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)
	EC conformity
	Recyclable material
	Protect from temperatures above 50 °C and direct sunlight

Table 13: **Information on the type plate**

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 [▷ *Table 11, page 15*]. 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

Table 14: **Simplified terms**

The following conventions are used in these operating instructions:

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

Table 15: **Conventions**

2.8 Type plate

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

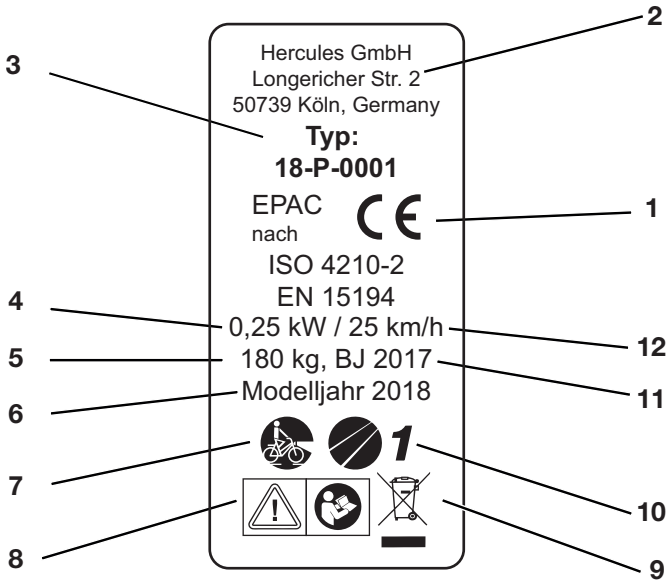


Illustration 1: **Type plate, example**

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 *Type plate information*
10 *Area of use*
11 Year of manufacture
12 Shut-off speed

3 Safety

3.1 Requirements for the rider

The physical and mental abilities of the rider must be sufficient for riding on public roads. The legal guardians hold sole responsibility for determining whether minors are suitable to use the bicycle.

3.2 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.

3.3 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.

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.

3.4 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 Duty of care

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

3.5.1 User

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

The user:

- 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.

3.5.2 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

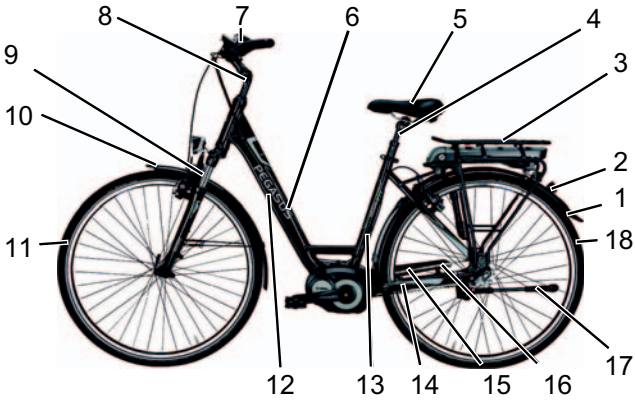


Illustration 2: **Bicycle from left, example**

1 Rear mudguard
2 Reflector
3 Pannier rack
4 Saddle
5 Seat post
6 Frame
7 *Handlebars*
8 *Stem*
9 *Fork*
10 Front mudguard
11 *Front wheel*
12 *Type plate*
13 *Frame number*
14 Chain stay
15 Chain guard
16 Chain
17 Kickstand
18 *Rear wheel*

4.2 Handlebars

Illustration 3: **Detailed view of bicycle from rider position, example of mountain bike**

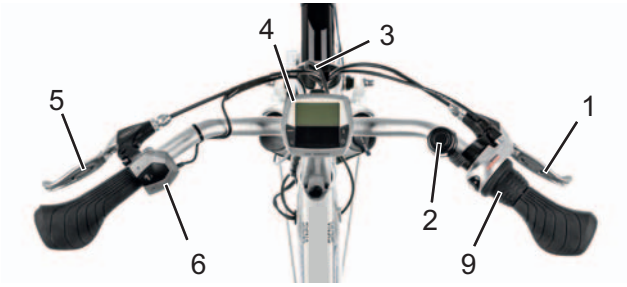


Illustration 4: **Detailed view of bicycle from rider position, example of city and trekking bicycle**

1 Front brake lever
2 Bell
3 Lamp
4 *Display*
5 Front brake lever
6 *Command console*
7 Fork lock on *suspension fork head*
8 Shifter
9 Gear shift twist grip

4.2.1 Stem

The stem connects the fork to the handlebars. The sitting position of the rider is changed and optimised by changing the length and the angle of the stem.

Illustration 5: **Detailed view of the stem, example of stem which can be set without tool**

1 Stem clamping lever
2 *Handlebars*
3 Locking button
4 Stem

4.3 Wheel and fork

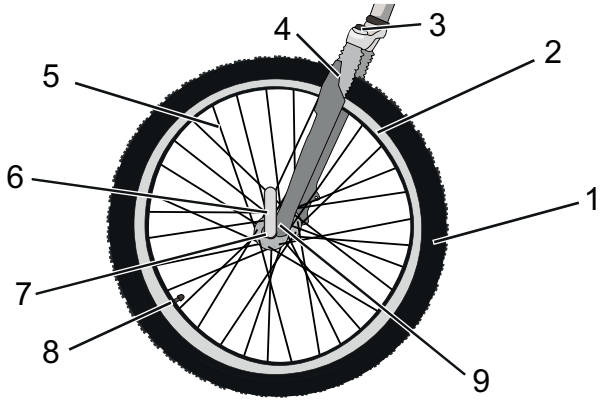


Illustration 6: **Components of the wheel, example of front wheel**

1 Tyre
2 Rim
3 Suspension fork head with setting wheel
4 Fork
5 Spoke
6 Quick release
7 Hub
8 *Valve*
9 Fork end of the suspension fork

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* or a *Presta valve.*

4.3.2 Suspension

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

Illustration 7: **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.

The compressed suspension fork then returns to its original position. The damper decelerates the movement and thus prevents the suspension system from springing back in an uncontrolled manner, and the fork from oscillating up and down.

Dampers which dampen the compressive deflection movements, i.e. the compression load, are called compression dampers or dashpots. Their operational parts are blue.

Dampers which dampen the rebound deflection movements, i.e. the rebound load, are called rebound dampers or dashpots. Their operational parts are red.

4.4 Brake system

The bicycle's brake system comprises:

- a rim brake on the front and rear wheels.

4.4.1 Rim brake

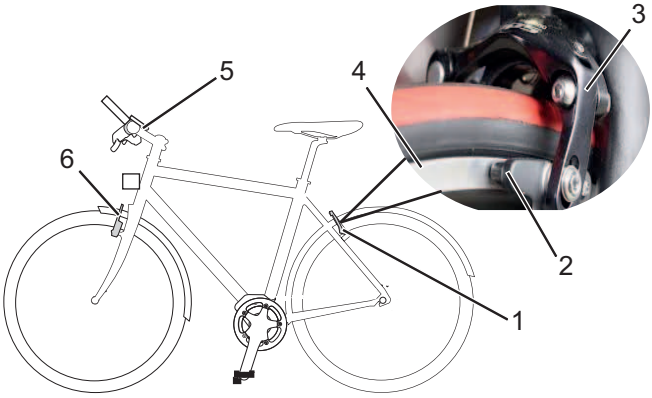


Illustration 8: **Components of the rim brake with details, example**

1 Rear wheel brake
2 Brake pad
3 Brake arm
4 *Rim*
5 *Handlebars* with *brake lever*
6 Front wheel 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.

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.

Illustration 9: **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.

4.5 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.

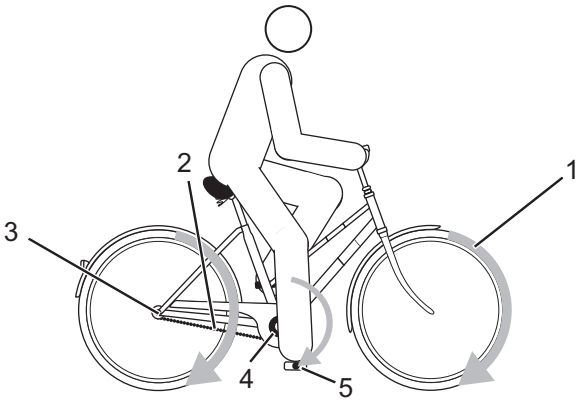


Illustration 10: **Diagram of electric drive system**

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

The bicycle also has an integrated, electric drive system. The electric drive system is made up of 8 components:

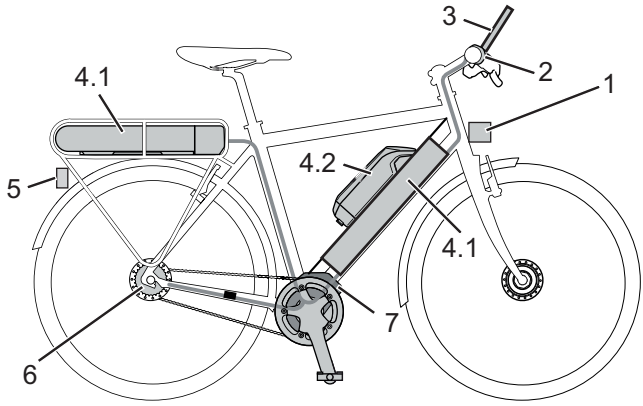


Illustration 11: **Diagram of electric drive system**

1 Rear light
2.1 Pannier rack battery and/or
2.2 Down tube battery
3 *Command console*
4 *Display*
5 *Lamp*
6 Motor
7 Electric gear shift (*optional*)
• 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.

The bicycle does not have a separate EMERGENCY STOP or EMERGENCY SHUT-OFF button. The drive system 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 [▷ *Chapter 5.2, page 45*]. 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.

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 16: **Battery technical data**

The bicycle has a down tube battery and/or a pannier rack battery.

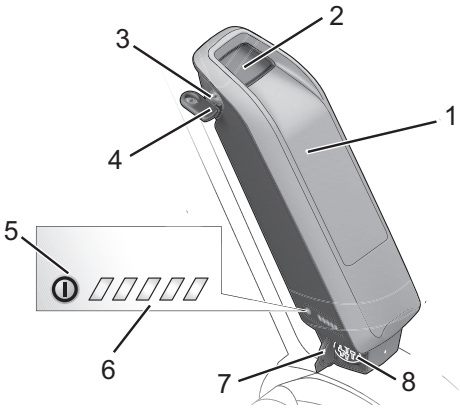


Illustration 12: **Details of the down tube battery**

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

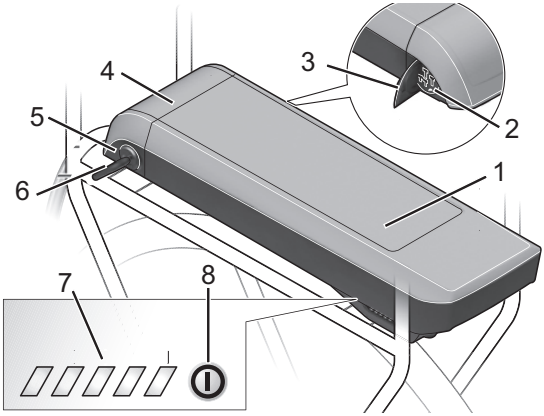


Illustration 13: **Details of pannier rack battery**

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 of the battery 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.

4.5.3 Display

The display controls the drive system with four operating controls and displays the journey data. The rider can switch off the drive system by removing the display.

The bicycle's battery supplies the display with energy when the display is inserted in the mount, a sufficiently charged battery is inserted on the bicycle, and the drive system is switched on.

If the rider removes the display from the mount, the display draws its energy from the internal, rechargeable battery.

Internal lithium ion battery	3.7 V, 240 mAh
Storage temperature	5 °C - 25 °C
Charging ambient temperature	10 °C - 30 °C

Table 17: **Display technical data**

4.5.3.1 Operative elements

The *display* has four buttons and a USB port.

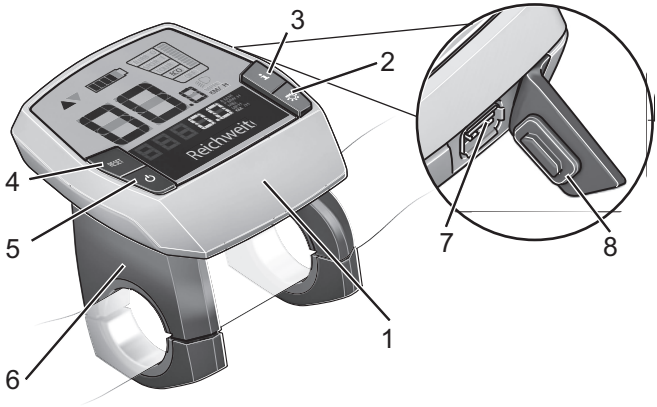


Illustration 14: **Overview of the structure of the display's operating controls:**

	Symbol	Use
1		Display housing
2	☼	Running light button
3	ℹ	Info button (display)
4	*RESET*	RESET button
5	⏻	On-Off button (display)
6		Display mount
7		USB port
8		USB port protective flap

Table 18: **Operating control overview**

4.5.3.2 USB port

There is a USB port underneath the rubber cover on the right-hand edge of the *display*.

Charge voltage	5 V
Charging current	max. 500 mA

Table 19: **USB port technical data**

4.5.3.3 Displays

The *display* has seven screen displays:

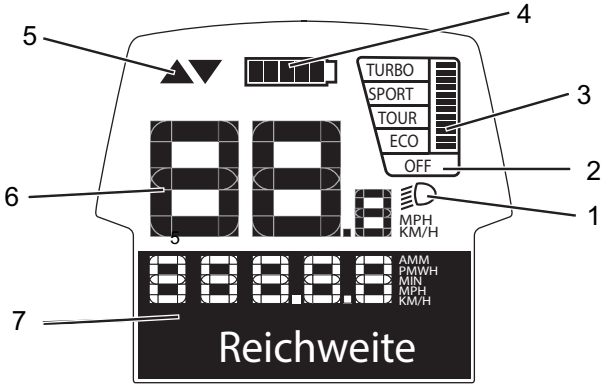


Illustration 15: **Overview of the screen displays**

	Use
1	Running light symbol
2	Level of assistance
3	Motor power used
4	Battery charge status
5	Gear recommendation
6	Current speed
7	Function display

Table 20: **Overview of the screen display**

Level of assistance

The higher the selected 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 21: **Overview of levels of assistance**

Gear recommendation

The gear recommendation function reacts to excessively slow or excessively quick pedalling and recommends a change of gear.

✓ The gear recommendation function has to be switched on in the system settings.

Symbol	Use
▲	Pedalling frequency is too high, a higher gear is recommended
▼	Pedalling frequency is too low, a lower gear is recommended

Table 22: **Symbols of the gear recommendation function**

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 settings and data, and
- System messages.

Journey information

Depending on the type of bicycle, the function display may show up to seven items of journey information. The displayed journey information can be switched.

Display	Function
CLOCK	current time
MAX SPEED	Maximum speed reached since the last RESET
AVG SPEED	Average speed reached since the last RESET
TRIP TIME	Journey time since last RESET
RANGE	Anticipated range of the available battery charge
ODOMETER	Display of the total distance travelled (cannot be changed)
TRIP DISTANCE	Distance travelled since the last RESET

Table 23: **Journey information**

System settings and data

In order to see the system settings and data, the rider has to call up the system settings. The rider can change the values of the system settings, but not the system data.

Display	Function
- CLOCK +	Changes the time
- WHEEL CIRCUM +	Value of the wheel circumference in mm
- ENGLISH +	Changes the language
- UNIT KM/H +	Selects whether the speed and distance are displayed in kilometres or miles
- TIME FORMAT +	Selects whether the time is displayed in 12-hour clock or 24-hour clock format
- SHIFT RECOM. OFF +	Switches the gear recommendation on and off

Table 24: **Changeable system settings**

Display	Function
POWER ON HOURS	Display of the total journey duration
DISPL. VX.X.X.X	Display software version
DU VX.X.X.X	Drive system software version
DU# XXXX XXXXX	Drive system serial number
SERVICE MM/YYYY	(Optional) defined inspection date
SERV. XX KM/MI	
BAT. VX.X.X.X	Battery software version
1.BAT VX.X.X.X	Battery software version
2.BAT VX.X.X.X	Battery software version

Table 25: **System data, not changeable**

System message

The drive system monitors itself continuously and if a fault is detected, it is indicated by a system message. The system may switch off automatically depending on the type of fault. There is a table of system messages in the appendix [▷ *Chapter 8.5.5, page 97*].

4.5.4 Command console

The command console has four buttons.

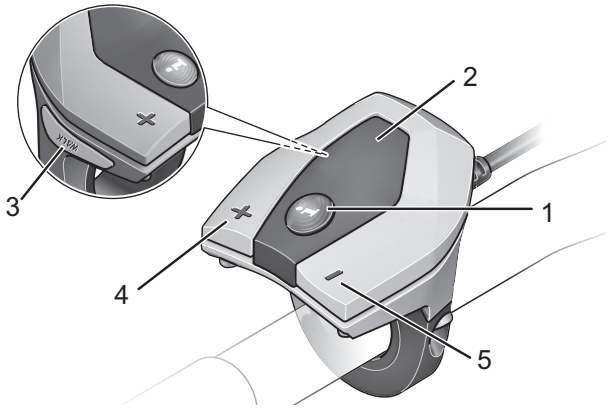


Illustration 16: **Overview of the command console**

	Symbol	Surname
1	i	Info button (command console)
2		Command console
3	*WALK*	Pushing aid button
4	+	Plus button
5	-	Minus button

Table 26: **Overview of the command console**

5 Transportation, storage and assembly

5.1 Transportation

CAUTION

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.

CAUTION

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.

NOTICE

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.

NOTICE

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*.

- ▶ 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 battery 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.

5.2 Storing

CAUTION

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.

NOTICE

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 27: Storage temperature for the battery, the bicycle and the charger

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.

NOTICE

The internal battery in the display discharges when it is not used. This can cause it to be irreparably damaged.

▶ Charge the internal battery in the display every 3 months for at least 1 hour.

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.

▶ Charge the internal battery in the display every 3 months for at least 1 hour.

▶ 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%.

5.6 Assembly

CAUTION

Crash and falling 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

✓ 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 the HERCULES GMBH, must be available.

5.6.1 Unpacking

CAUTION

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.

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

5.6.2 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 and all other valid documents.

5.6.3 Commissioning

CAUTION

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.

Initial commissioning includes the following work:

▶ Check the battery [▷ *Chapter 5.6.3.1, page 50*].

▶ The battery is supplied partially charged. In order to guarantee full power, charge the battery fully.

▶ *Install the wheel* 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

▶ 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.

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, the *shifter* and show the purchaser the settings.
- ▶ Instruct the user or rider how to use all the functions of the bicycle.

5.6.3.1 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.

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 s*addle*, handlebars, suspension fork and the spring damper elements to the rider.

6.1 Adjusting the saddle

6.1.1 Determining the seat height

CAUTION

Crash caused by an excessively high seat post setting

A *seat post* with 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

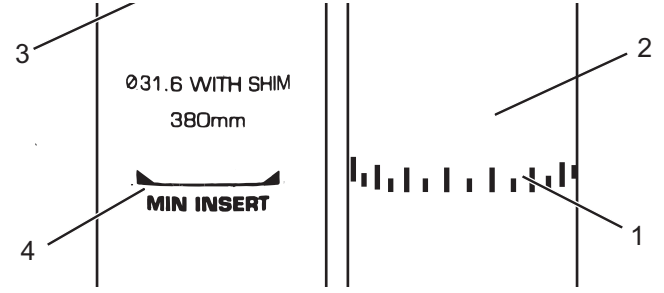


Illustration 17: **Detailed view of the seat post, examples of the minimum insertion depth marking**

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

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.

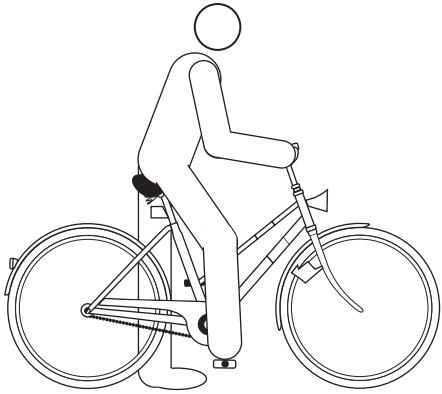


Illustration 18: **Determining the saddle height**

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.

Illustration 19: **Seat post quick release in the final position**

1 Seat post clamping lever
2 Seat post
3 Knurled nut

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 release*

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.

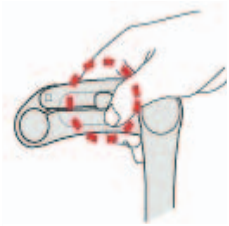
▶ Unfasten and adjust the designated screw connections, and clamp them with the maximum tightening torque for the clamping screws of the handlebars.

Maximum tightening torque for the clamping screws of the handlebars*	5 Nm - 7 Nm
***if there is no other data on the component**	

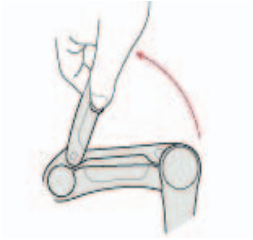
Table 28: **Handlebars clamping screw maximum tightening torque**

6.3 Stem adjustable without tools (Alternative version)

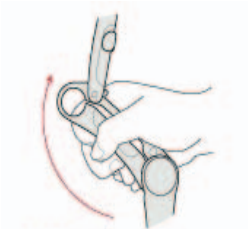
✓ The setting for the *stem which can be adjusted without tools* must only be made when the bicycle is stationary.



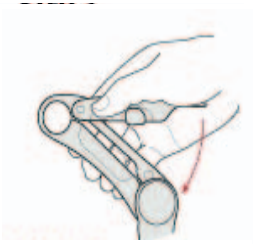
▶ Press the *locking button* on the left-hand side of the *stem*.



▶ Hold the *locking button* and pull the *stem clamping lever* upwards.



▶ Adjust the *stem* individually in the open position.



▶ Once the *stem* has been adjusted, push the *stem clamping lever* down and lock it.

Illustration 20: **Steps for adjusting the stem without tools**

⇨ An audible clicking noise signals that the *stem clamping lever* has been locked in the final position. The locked *stem clamping lever* can no longer be raised.

6.4 Basic suspension setting

The adjustment shown here represents a basic setting. The rider should therefore 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.

6.4.1 Adjusting the hardness of the spring elements

6.4.1.1 Adjusting the hardness of the steel suspension fork

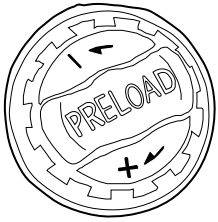


Illustration 21: **Suspension fork setting wheel, example**

✓ 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 and minus directions.

⇨ 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

CAUTION

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.

CAUTION

Crash caused by soiling

Coarse soiling can disrupt the functions of the bicycle, e.g. the functions of the brakes, the lighting or the reflectors. This may result in a crash and injuries.

▶ Remove coarse soiling before riding.

CAUTION

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.

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 functions of the bicycle.

- ▶ Always keep the bicycle dry and free from frost.

- ▶ If the bicycle is to be operated are 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 riding

CAUTION

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.

CAUTION

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 a HERCULES specialist dealer check the situation.

▶ Have the HERCULES specialist dealer carry out basic cleaning regularly. While basic cleaning is being performed, 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.

Check list before each ride

☐	Check that the bicycle is complete.
☐	Check that the lighting, reflector or brake, for instance, are sufficiently clean.
☐	You must check that the mudguards, the pannier rack and the chain guard are securely installed.
☐	Check that the front and rear wheels run true. This is particularly important if the bicycle has been transported or secured with a bicycle lock.
☐	Check the valves and the tyre pressure. Adjust as necessary before each ride.
☐	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.
☐	Check that the running light is working.
☐	Check for unusual noises, vibrations, smells, discolouration, deformation, abrasion and wear. This indicates material fatigue.
☐	Watch out for any unusual operating sensations when braking, pedalling or steering.
☐	Check the quick releases to make sure that they are fully closed in their final position.
☐	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

CAUTION

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.

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

7.3 Using the pannier rack (Alternative equipment)

CAUTION

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.

CAUTION

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 cove the *reflectors*, the *lamps* or the *rear light*.

CAUTION

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

▶ Never modify the *pannier rack* .

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.

▶ 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.

7.4 Battery

WARNING

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.

CAUTION

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.

CAUTION

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.

CAUTION

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.

CAUTION

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.

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

✓ The down tube battery can be removed and inserted with the drive system switched on or off.

7.4.1.1 Removing the down tube battery (Alternative version)

- ▶ 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 (Alternative version)

- ▶ 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

The *pannier rack battery* can be removed and inserted with the drive system switched on or off.

7.4.2.1 Removing the pannier rack battery (Alternative version)

- ▶ 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 (Alternative version)

- ▶ 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.

7.4.3 Charging the battery

CAUTION

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.

CAUTION

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.

CAUTION

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.

▶ 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 a fault occurs during the charging process, a system message is displayed. Remove the charger and the battery from operation immediately and follow the instructions [▷ *Chapter 8.5.5, page 97*].

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

CAUTION

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.

There are two options for switching on the drive system.

✓ A sufficiently charged battery has been inserted on the bicycle.

✓ The *display* has been inserted correctly into the mount.

✓ The battery is firmly in place. The key has been removed.

1 Battery On-Off button

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

2 Display On-Off button

▶ Press the *display On-Off button* once on the inserted *display*.

⇨ As soon as the system has been activated, ACTIVE LINE/PERFORMANCE LINE appears briefly on the *display*.

⇨ After switching on, a speed of 0 KM/H is displayed on the *display*. If this is not the case, you must check whether the *display* has been engaged properly in place.

⇨ If the drive system is switched on, the drive is activated as soon as the pedals are moved with sufficient force.

7.5.2 Switching off the drive system

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

1 Display On-Off key

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

2 Battery On-Off key

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

3 Removing the display

▶ Remove the *display* from the mount.

⇨ The LEDs of the operating and charge status indicator go out.

7.6 Display

7.6.1 Using the USB port

The USB port can be used to operate external devices which can be connected using a standard micro A/ micro B USB 2.0 cable.

▶ Remove the rubber cover from the right-hand edge of the *display*.

▶ Replace the rubber cover after using the 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 rubber cover on the USB port and adjust it as necessary.

7.6.2 Charging the internal display battery

NOTICE

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

▶ Charge the internal display battery every 3 months for at least 1 hour.

✓ If the internal display battery is low when switching on the *display*, ATTACH TO BIKE appears for three seconds in the text display. The *display* then switches back off.

The internal display battery charges automatically during the ride. In addition there are two options for charging the battery.

1 Charging on the bicycle

▶ When a battery has been inserted on the bicycle, place the *display* in the *mount for the display*,

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

▶ Use the bicycle.

2 Charging using the USB port

▶ Open the protective flap on the USB port.

▶ Connect the USB port to a commercially available USB charger or the USB port on a computer (5 V charge voltage; max. 500 mA charge current), using a suitable USB cable.

✓ USB CONNECTED is displayed on the *display*.

7.6.3 Removing and attaching the display

NOTICE

If the rider is not present, the *display* can be used without authorisation, e.g. it may be stolen, the system settings may be changed or journey information may be read.

▶ Remove the *display* when the bicycle is parked.

The system is switched off by removing the *display*.

Removing the display

▶ Push the *display catch* down and simultaneously push the *display* forwards and out of the *mount*.

Attaching the display

▶ Place the *display* on the *mount*.

▶ Push the *display* back as far as it will go.

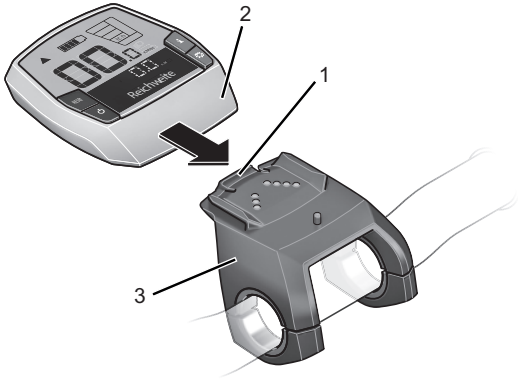


Illustration 22: **Attaching the display**

1 Display catch
2 Display
3 Mount

7.6.4 Using the pushing aid

NOTICE

The pedals may 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 to activate the pushing aid.
- ▶ Press and hold the *plus button* within 3 seconds to switch on the pushing aid.
- ▶ Release the *plus button* to shut off the pushing aid.

7.6.5 Using the running light

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

▶ Press the *running light button*.

⇨ The *running light* is switched on (*running light symbol* is displayed) or switched off (*running light symbol* is not displayed).

7.6.6 Selecting the level of assistance

▶ Press the *plus button* to increase the level of assistance.

▶ Press the *minus button* to reduce the level of assistance.

7.6.7 Journey information

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

7.6.7.1 Switching the displayed journey information

▶ Repeatedly press the *info button (display)* until the desired item of *journey information* is displayed.

7.6.7.2 Resetting the journey information

▶ Press the *RESET button*.

⇨ The items of *journey information Max Speed*, *Avg Speed*, *Trip Time* and *Trip distance* are reset. The *Odometer* item of journey information cannot be reset.

7.6.8 Changing the system settings

The *system settings* can be changed.

▶ Press the *info button (display)* and the *RESET button* together.

⇨ CONFIGURATION is displayed on the *display*.

▶ Repeatedly press the *info button (display)* until the *system setting which you wish to change,* is displayed.

▶ Press the *plus button* or the *minus button* to change the displayed setting.

▶ Press and hold the *RESET button* for 3 seconds to save the changed *system settings* and return to the *journey information*.

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

CAUTION

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.

CAUTION

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.

CAUTION

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.

CAUTION

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.

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 front wheel *brake lever* 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.

7.9.1.1 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.

Illustration 23: **Fork lock on the suspension head with locking lever (1), example**

7.9.2 Locking the compression damper

- In order to lock the suspension, turn the locking lever in the plus direction.
- In order to release the suspension, turn the locking lever in the minus direction.

Illustration 24: **Compression damper with locking lever (1), example**

8 Maintenance

Cleaning check list

☐	Lubricating the chain	once a month
☐	Cleaning the battery	once a month
☐	Basic cleaning and preservation of all components	at least every six months
☐	Cleaning the charger	at least every six months

Maintenance check list

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

Service check list

☐	Service by the specialist dealer	every six months

8.1 Cleaning and servicing

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 cleaning.

The following servicing measures must be carried out regularly [▷ *Check list, page 85*]. Servicing can be performed by the user and rider. In case of any doubt, consult the HERCULES specialist dealer.

8.1.1 Battery

CAUTION

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

NOTICE

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

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

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

8.1.3 Basic cleaning and preservation

CAUTION

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.
- ▶ 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

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 maintenance.

The following maintenance measures must be carried out regularly [▷ *Check list, page 85*]. 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 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.

8.2.2 Brake system

- On bicycles with a rim brake, check the position of the brake pads. The brake pads must be aligned exactly to the rims.
  Replace the brake pads on the rim brake when the profile (check notches) has reached a remaining depth of 1 mm.
- 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 brake cables for damage. If, for example, the sheathing is compressed, the bicycle will need to be removed from service until the brake cables have been replaced.
- Check all electrical cables and Bowden 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 rubber 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.

▶ 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.

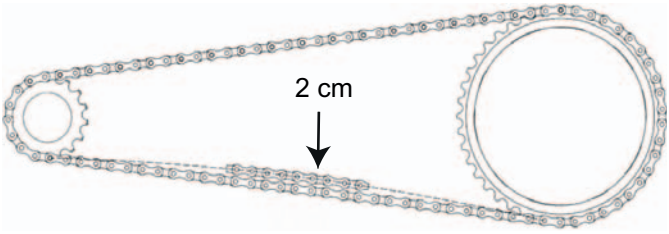


Illustration 25: **Checking the chain and belt tension**

8.3 Service

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.

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.

Servicing must be performed by the HERCULES specialist dealer at least every six months [▷ *Check list, page 85*]. This is the only way to ensure that all the parts work continuously.

▶ While basic cleaning is being performed, 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.

8.5.1 Adjusting the tyre pressure

8.5.1.1 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.

Illustration 26: **Dunlop valve with union nut (1) and rim nut (2)**

8.5.4 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 HERCULES specialist dealer will need to inspect the adjust of the gear shift.

8.5.4.1 Cable-operated gear shift, single-cable

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

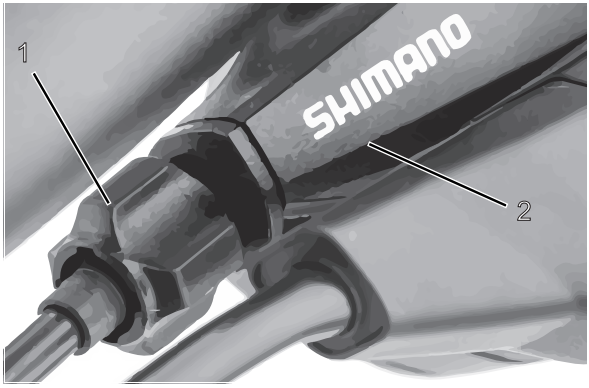


Illustration 27: **Adjusting sleeve (1) for the single-cable cable-operated gear shift with gear shift housing (2), example**

8.5.3 Offsetting brake lining wear

8.5.3.1 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.

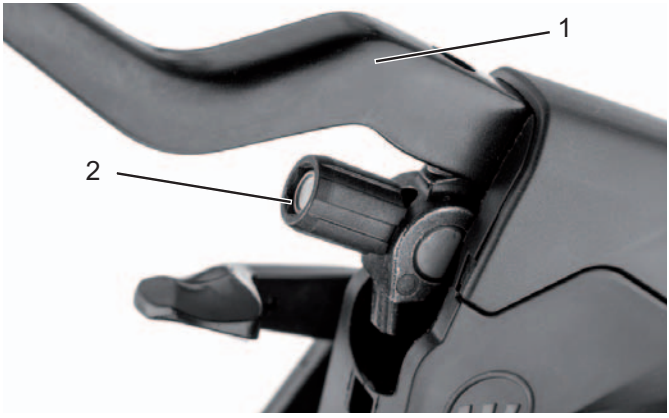


Illustration 28: **Brake lever (1) of the hydraulically operated rim brake with setting bolt (2)**

8.5.4 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.

8.5.5 Setting the lamp

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

8.5.6 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*.

8.5.5 First aid for system messages

WARNING

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 a fault is detected, the respective fault code appears on the *display*. The drive may be shut off automatically, depending on the type of fault.

8.5.5.1 First aid

If a fault 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.

8.5.5.2 Specific fault eradication

- ▶ Make a note of the system message.

Fault	Remedy
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 29: Fault eradication using the code

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

8.5.6 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, remove the display.
- ▶ Fasten the display.
- ▶ Start the drive system.
- ▶ If the drive system does not start up, contact the HERCULES specialist dealer.

9 Recycling and disposal

WARNING

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.

CAUTION

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.

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, Germany

hereby declares that the electrically power assisted cycles

types 18-Q-0053, 18-Q-0054, 18-Q-0057,18-Q-0058 and 18-Q-0059,

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. Burkhardt Budde (Product Manager),
c/o HERCULES GmbH, Bürgermeister-Winkler-Straße 23-25, 49661 Cloppenburg, Germany

is authorised to compile the technical documentation.

CE

Cologne, 27.09.2016
……

Place, date and signature

Bernhard Meyer

-Managing Director-

13 Index

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Operating instructions: 034-11401_1.0_24.08.2017

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YOUR HERCULES SPECIALIST DEALER