



Operating instructions



Version 01

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Welcome to Hopper Mobility

We are pleased that you have chosen a Hopper Mobility vehicle and welcome you to the circle of Hopper drivers. Familiarize yourself with your vehicle so that you can move safely on the road.

About these operating instructions

Read these operating instructions before you start your first tour. You will find important information here on vehicle operation as well as maintenance and care. These instructions are intended to ensure operational and road safety. It is assumed that the users of this vehicle have basic knowledge in handling multi-track vehicles of this type. This is not a manual to learn how to drive the Hopper.

You will avoid accidents due to incorrect operation and receive the full manufacturer's warranty if you always follow the operating instructions.

If you still have questions after reading the operating instructions, please contact your dealer or call us.

Hopper Mobility wishes you much pleasure with your Hopper and a good and safe trip.



Table of contents

1.	Safety instructions.....	5
1.1.	Explanation of safety and warning instructions	5
1.2.	Intended use	5
1.3.	Application limits.....	6
1.4.	Basic dangers	6
2.	Operation of the hopper.....	8
2.1.	Before the first ride.....	8
2.2.	Control before each trip	8
2.3.	Overviews.....	8
2.3.1.	Structure	8
2.3.2.	Driver's cab.....	9
2.3.3.	Steering wheel with controls	10
2.3.4.	Display.....	10
2.3.5.	Switching on and off.....	12
2.3.6.	USB ports.....	12
2.3.7.	Heating ventilation	13
2.4.	Change battery.....	13
2.4.1.	Store battery	15
2.4.2.	Charge battery	16
2.5.	Configure hopper	16
2.5.1.	Adjust seat	16
2.5.2.	Adjusting the side mirrors	18
2.5.3.	Open and navigate master menu.....	18
2.5.4.	Trip Reset	19
2.5.5.	Set password.....	19
2.6.	Driving.....	20
2.6.1.	Operate thumb gas	21
2.6.2.	Reverse.....	21
2.6.3.	Set support level	22
2.6.4.	Range	22
2.7.	Brakes	23
2.7.1.	Operating the travel brakes.....	23
2.7.2.	Operating the parking brake	25
2.8.	Lighting.....	27
2.8.1.	Use low beam and high beam.....	27



Table of contents

2.8.2.	Use turn signal	27
2.8.3.	Use hazard warning lights	27
2.8.4.	Trunk light	27
2.9.	Operate windshield wiper	28
2.10.	Operate trunk.....	28
2.11.	Secure hopper against theft.....	29
3.	Troubleshooting	30
4.	Maintenance	32
4.1.	Cleaning and care.....	32
4.1.1.	Hopper clean.....	33
4.1.2.	Maintain tires	33
4.2.	Maintenance	33
4.2.1.	Regular checks and functional tests	33
4.2.2.	Checks and functional tests by the service department	33
4.2.3.	Scheduled maintenance	34
4.3.	Repair.....	34
5.	Warranty and liability for defects	35
6.	Decommissioning and disposal	35
6.1.	Decommissioning	35
6.2.	Waste disposal	35
7.	Technical data	36
8.	EC Declaration of Conformity	37
9.	Imprint	38



1. Safety instructions

This operating manual contains instructions and notes for your safety and for the safe operation of the hopper. Read all warnings and notes carefully before operating the Hopper. Keep the operating instructions for later use in a safe place and always close to your vehicle so that they are always available.

The manufacturer accepts no liability for damage resulting from non-compliance with these instructions. You may only use your vehicle in accordance with its intended use. Any other use may lead to technical malfunctions and accidents. Liability for defects and warranty are excluded in the event of improper use.

1.1. Explanation of safety and warning instructions

Note

Special instructions for better handling during operation, control and adjustment procedures as well as maintenance work.

Attention

Special instructions and precautions. Non-observance can lead to damage to the vehicle or accessories and thus to the exclusion of the warranty.

Caution

Hazard with low degree of risk. Non-avoidance may result in a minor or moderate injury.

Warning

Hazard with medium degree of risk. Non-avoidance can lead to death or serious injury.

Danger

Hazard with a high degree of risk. Non-avoidance leads to death or serious injury

1.2. Intended use

The Hopper is an electric bicycle designed to be ridden on paved roads. If the Hopper is equipped as required by national legislation, it may be used on public roads. Since the Hopper is a multi-track vehicle, it does not have to use bicycle paths that are subject to mandatory use if they are unacceptable. Reasons for this may be, for example, narrow paths or poor surface conditions.

The hopper is designed to transport one to two persons. The transport of additional persons is not permitted. Please note the permissible total weight of 300kg.



The starting and pushing assistance supports you up to a speed of 6km/h. In addition, the electric motor supports you up to a speed of 25km/h. The parking brake can secure the hopper at maximum load on slopes up to 10%.

The driving style must be adapted to the traffic conditions, the load condition and your own abilities. If faults impair safety, they must be rectified immediately by an authorized specialist workshop.

Manufacturer and dealer are not liable for any use beyond the intended use. This applies in particular to non-compliance with the safety instructions and resulting damage, for example due to:

- Disregarding the StVO and national traffic regulations
- Use outside the limits of use
- Use by untrained drivers
- Exceeding the maximum permissible total weight
- Exceeding the maximum driving speed of 25 km/h (also downhill)
- Curve speeds of max. 14 km/h
- Off road driving
- Driving over stairs and high curbs (more than 6 cm)
- Passing through deep water (deeper than 6 cm)
- Modification of the vehicle to increase speed

1.3. Application limits

- Temperature range from - 20 °C to + 45 °C
- Recommended tire pressure (alternatively, observe the information on the tire sidewalls)
 - Front 4 bar
 - Rear 2 bar
- Passage of obstacles narrower than 1.15 m
- Passage of obstacles lower than 1.60 m
- Driving up to 25 km/h
- Tight cornering of max. 14 km/h
- Turning with max. 6 km/h
- Slope from 15% to 20 m distance
- Slope from 8% to 250 m distance
- Parking brake can secure the vehicle at maximum load on slopes up to 10%.

1.4. Basic dangers

The basic hazards summarize all safety measures thematically and apply at all times. Please observe the following warnings.

Dangers during maneuvering

Due to the rear steering of the hopper, it swings out at the rear. At the same time, there are blind spots to the side and behind the hopper. Persons must avoid all these danger areas. Please only maneuver if there is no person in the danger area. If necessary, direct strangers away from these areas or find a third person to assist you.



Hazards during loading and unloading

Heavy items should be loaded as low as possible and light items should be loaded above to ensure continued safe driving. Placing cargo outside the hopper, especially on the roof, is prohibited. Ensure that the load is always adequately secured and cannot shift while driving. Improper load securing can affect the balance of the vehicle and lead to serious accidents and property damage.

When unloading, be aware that cargo could be slipped while driving and it could fall out when opening the trunk lid. The trunk has an IP44 protection rating. It therefore offers protection against the ingress of foreign bodies $\geq 1\text{mm}$ and against splashing water or light drizzle. Therefore, do not place any sensitive objects in the trunk.

Driving hazards

The Hopper is a three-wheeled vehicle with rear-wheel drive and steering. This concept results in a different driving behavior than you are used to from bicycles or other multi-track vehicles. Use the first kilometers to get used to the vehicle.

The operating limits must be observed while driving. Jerky movements or negligent handling while driving can lead to danger for road users and the environment. Observe the blind spot and the increased swing radius before and during direction changes. Always adapt the driving speed to the ambient conditions, the load condition and the curve radii to be driven. In addition, the braking distance changes depending on the load condition, slope and wear condition of the vehicle.

Parking and parking hazards

When parking, unintentional vehicle movements and improper vehicle securing can lead to serious injuries and property damage. Therefore, the parking brake must be applied each time the vehicle is parked.

Other hazards

- Improper or irregular care, cleaning, maintenance and repair impair safety and can lead to serious accidents and failures.
- Sharp edges can cause minor cuts.
- The vehicle is too heavy to be carried.
- Work on the electrical system requires special knowledge and experience and must always be carried out by a specialist workshop



2. Hopper operation

2.1. Before the first ride

Due to the rear-wheel steering, the Hopper behaves differently than usual. Before driving, practice operating the Hopper on a safe, untraveled area and carefully get used to the new innovative driving experience. Additionally, the braking action will change in wet, slippery conditions and when the vehicle is fully loaded. Familiarize yourself with the operation and contents of this manual and perform the regular checks. -' Chap.

4.2.1 "Regular checks and functional tests", p.33

Please change the password to prevent theft. -' chap. 2.5.5 "Set password", p.19

2.2. Control before each ride

Perform the regular checks. -' Chap. 4.2.1 "Regular checks and functional tests", p.33

2.3. Overviews

2.3.1. Structure



Figure 1: Hopper overview

1	Trunk	6	Mirror with position light and turn signal
2	Driver's seat	7	Front headlights
3	Rear lighting	8	Battery compartment with battery
4	Rear tire with hubcap and reflector	9	Front tire with hubcap
5	Steering wheel, front brake and HMI		



2.3.2. Driver's cab

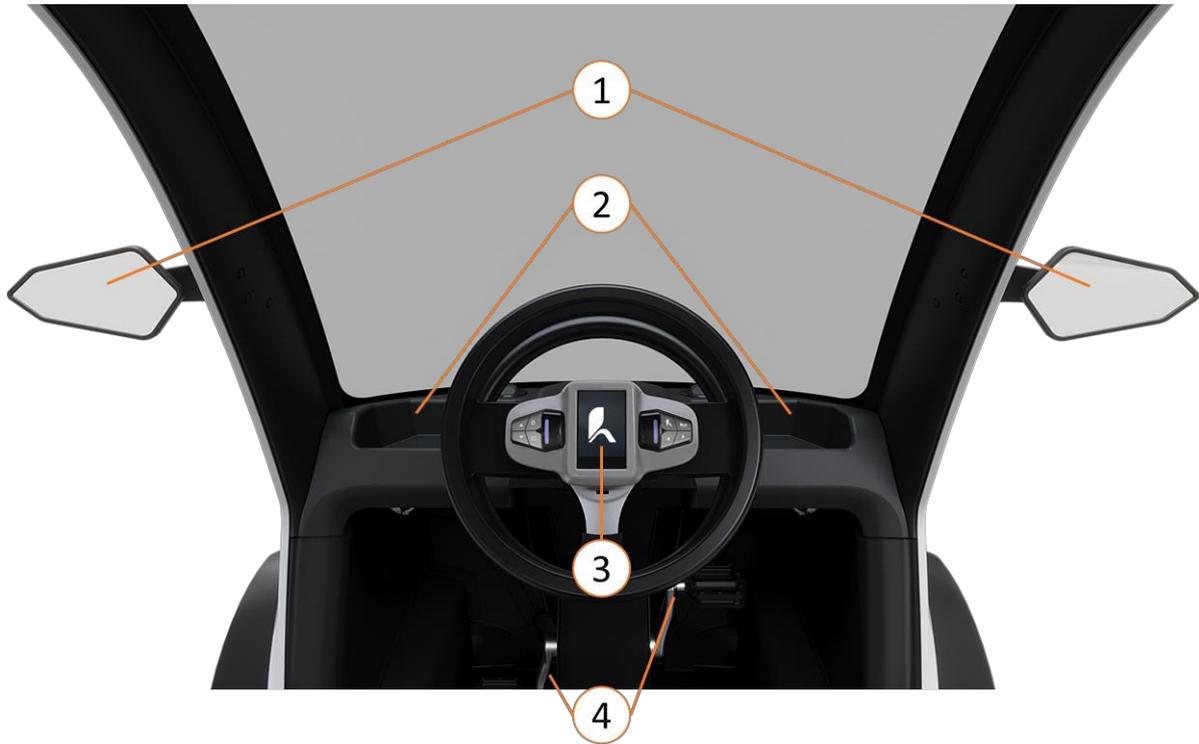


Figure 2: Overview of driver's cab

-
- 1 Mirror
 - 2 Storage compartments
 - 3 Control unit with touch screen
 - 4 Pedals
-



2.3.3. Steering wheel with controls



Figure 3: Overview of operating elements

1	Mode high	6	Heating
2	Switch on/off	7	Horn
3	Mode down, reverse gear	8	Turn signal left
4	Light, high beam	9	Turn signal right
5	Touchscreen display		

2.3.4. Display

Enter password



If you have activated the password protection, the system asks for it before each start of the hopper. In the input window you can enter each digit of the password using the "Up" and "Down" commands. Enter the first digit of the password using the "Up" and "Down" commands. By means of the "Confirm" command you will move from one digit to the right to the next. The menu closes automatically after you "Confirm" the entry of the fourth digit. -' Chap. 2.5.3 "Opening and navigating the master menu", p. 18

The hopper is now ready to be driven.

Figure 4: Enter password

By means of the "Confirm" command you will always move to the next number to the right. You cannot navigate back to the left. If you have entered a number incorrectly, you must enter the password incorrectly once. Then the input window restarts and you have access to all four digits again.

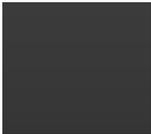


Display



Figure 5: Overview display

1	Current speed	6	Header for info icons
2	Error message area	7	Current steering angle of the rear wheel
3	Battery state of charge	8	Turn signal
4	Kilometers traveled (Trip)		
5	Kilometers traveled (Total)		

Meaning	Info icons in header	Function
Light	  	Light switched off Light switched on High beam switched on
Connection with diagnostic device	 	Shows the service technician that he is connected to the system.
Time		Displays the current time.
Heating	 	Window heater deactivated Window heater activated
Drive mode	  	Reverse gear Drive mode 4 Driving mode 5



2.3.5. Switch on and off

Switch on

1. Insert the charged battery. -' Chap. 2.4 "Replacing the rechargeable battery", p.13
2. Press and hold the "START-STOP" button for at least 2 seconds. -' Chap. 2.3.3 "Steering wheel with controls", p.10
3. Enter password via touchscreen
4. Confirm input The

hopper is now ready to run.

Switch off

1. Press and hold the "START-STOP" button for 2 seconds and release it. -' Chap. 2.3.3 "Steering wheel with controls", p.10
2. The system switches off.

2.3.6. USB ports

On the right side of the dashboard you will find a USB-A and a USB-C port (5 V 3 A each).



Figure 6: Position USB ports



2.3.7. Heating ventilation

The Hopper is equipped with two heater fans in the dashboard, which can assist in defrosting the windshield. The heater fans can be activated via the controls in the steering wheel. -' Chap. 2.3.3 "Steering wheel with controls", p.10



Figure 7: Position fan heater

The fan heaters turn off automatically after 5 minutes of continuous operation.

When the fan heaters are switched on, the heating air symbol on the display lights up. In addition, the symbol in the controller lights up red.

2.4. Change battery

Remove battery

1. Unlock and open battery lock
2. Carefully pull out the battery using the loop The

battery has been removed.

Insert battery

1. Fully charged Insert the battery into the battery compartment
2. Consider correct orientation of the battery
3. Lock battery lock The

battery has been inserted.

Always observe the correct orientation of the battery.



Hopper operation



Figure 8: Overview battery compartment

-
- 1 Insertion compartment for the battery
 - 2 Battery lock
-

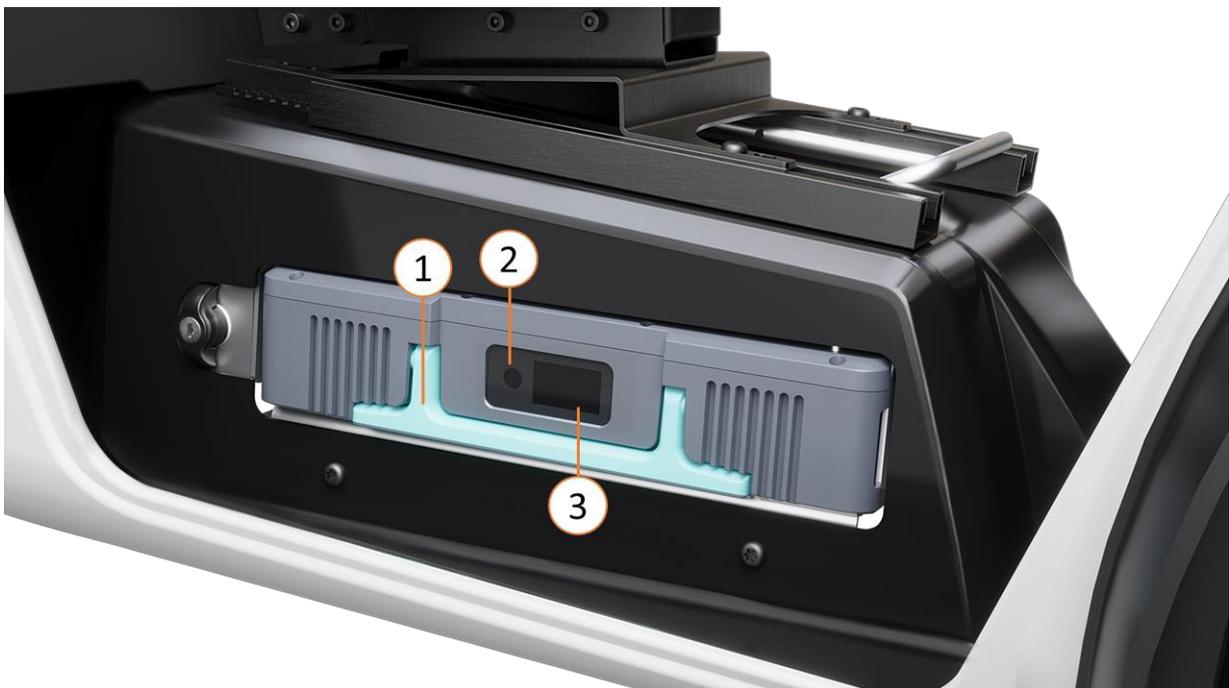


Figure 9: Overview battery in battery compartment

-
- 1 Battery handle
 - 2 Button for displaying the battery level
 - 3 Battery display
-



Figure 10: Battery lever pulled



Figure 11: Removing the battery

2.4.1. Store battery

Caution: Material damage to the battery due to deep discharge!

If a rechargeable battery is stored for a longer period of time, it may become deeply discharged when the battery level is low. The charge cells of the rechargeable battery can be damaged or even destroyed in the event of a deep discharge.

- Fully charge the battery before storage.
- Check battery charge monthly and recharge if necessary.



Note: Note on the optimal storage condition: Charging and storing the battery at temperatures below 10°C, can drastically reduce the capacity. The optimal storage conditions are at 20°C.

1. POWERPACK PLUS observe the manufacturer's documentation.
2. Fully charge the battery. -' Chap. 2.4.2 "Charging the battery", p.16
3. Store the battery in a dry place and away from direct sunlight.
4. Check the charge of the battery every month.

2.4.2. Charge battery

AES POWERPACK PLUS® Observe the manufacturer's documentation.

2.5. Configure hopper

On the Hopper, the seat and side mirrors can be adjusted. This increases road safety, ergonomics and driving pleasure.

2.5.1. Adjust seat

The driver's seat can be moved in the direction of the vehicle. In addition, the seat position can be fine-tuned.



Figure 12: Overview driver's seat

- | | | | |
|---|-----------------------------------|---|-----------------------------|
| 1 | Direction of movement lever | 6 | Button for folding the seat |
| 2 | Lever for seat adjustment | | |
| 3 | Direction of movement of the seat | | |
| 4 | Seat | | |
| 5 | Backrest | | |



Figure 13: Driver seats folded down

Adjusting the driver's seat

1. Press down the lever underneath the seat and keep it pressed.
2. Adjust correct position by sliding.
3. When the correct position is found, release the lever.
4. The seat snaps into the seat rail.

Fine tuning of the seat

Tool needed: 5 Allen key

Backrest

1. Loosen the screws on the back of the backrest
2. Select correct position
3. Screw the screws back on

Seat

1. Loosen the screws on the underside of the seat cushion
2. Select correct position
3. Screw the screws back on

Folding down the driver's side

The driver's seat can be folded down for easy boarding of the passenger in the back seat.

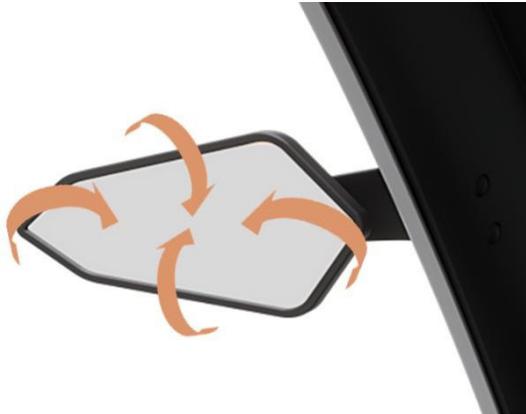
1. Pull the lever on the left side of the driver's seat.
2. Fold down the backrest.

To reset the seat, the lever must also be pulled.



If the steering wheel is in the way when the seat is folded down, the driver's seat can be adjusted on the seat rail beforehand.

2.5.2. Adjusting the side mirrors



The position of the mirror on the left and right can be adjusted by hand on the mirror. After adjustment, the traffic situation should be clearly visible.

Figure 14: Adjusting the mirror

2.5.3. Open and navigate master menu

The vehicle menu can be operated with the "Up", "Down" and "Confirm" commands. You can operate these commands either via keys 1,2 and 3 or via the touchscreen by means of corresponding movements.

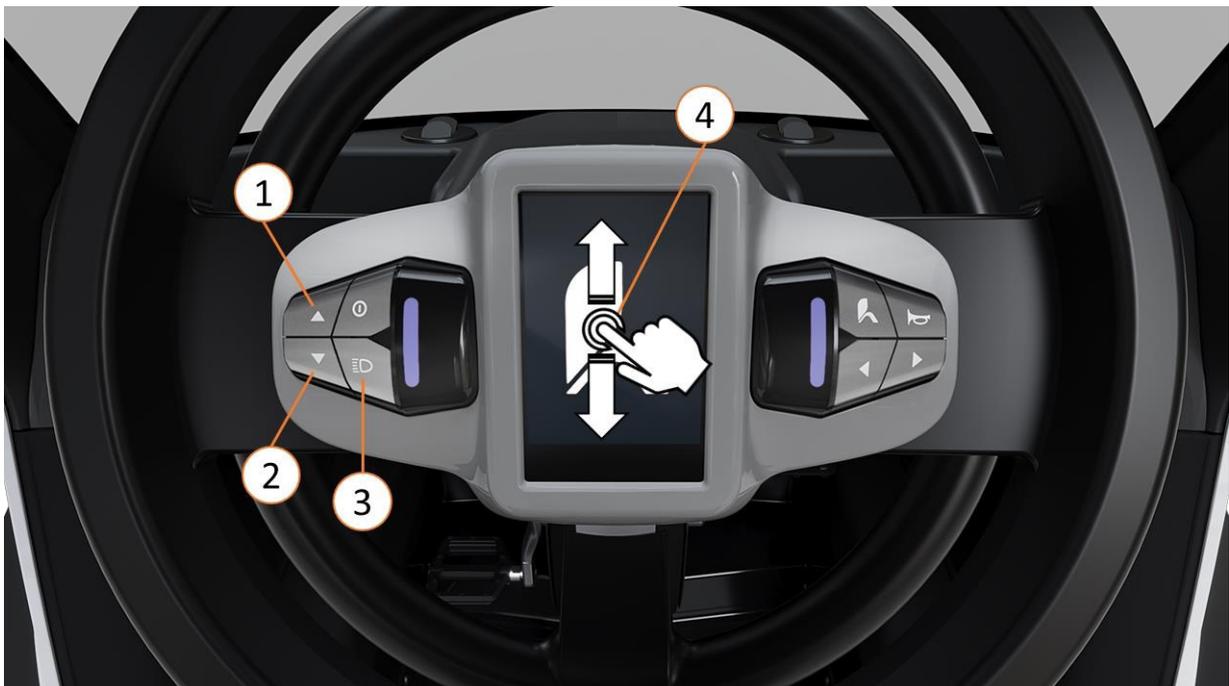


Figure 15: Navigation through the menu

-
- 1 High" command
 - 2 Down" command
 - 3 Confirm" command
 - 4 Touchscreen input options
-

From bottom to top → "Up" command
From top to bottom → "Down" command
Tap → "Confirm" command



You can open the master menu by swiping from the bottom to the top. In the master menu you can navigate via the three commands.



Figure 16: Opening the master menu

2.5.4. Trip Reset

Go down in the master menu until "Trip Reset" is highlighted. You can set "Trip Reset - YES" by clicking "Confirm". The trip is reset as soon as you exit the menu via "EXIT".

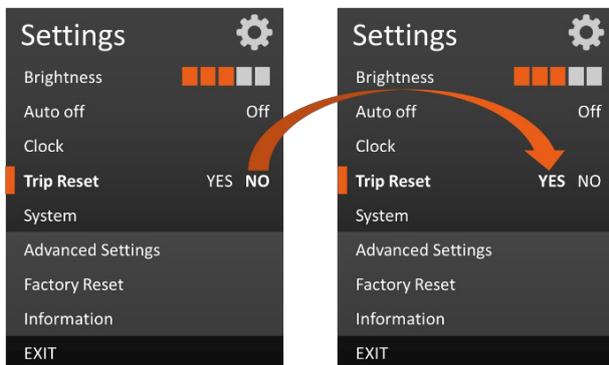


Figure 17: Trip Reset

2.5.5. Set password

Open the Master menu. In the Master menu, navigate to "Advanced Settings" and open the submenu by clicking "Confirm". Navigate there to "Factory Settings" and open the submenu via "Confirm". Navigate there to "Set Password" and open the submenu by means of "Confirm". You can now change every single digit of the password using the Change "Up" and "Down" commands. By means of the "Confirm" command you move from one digit to the right to the next. The menu closes automatically after you "Confirm" the entry of the fourth digit. The password is automatically saved.

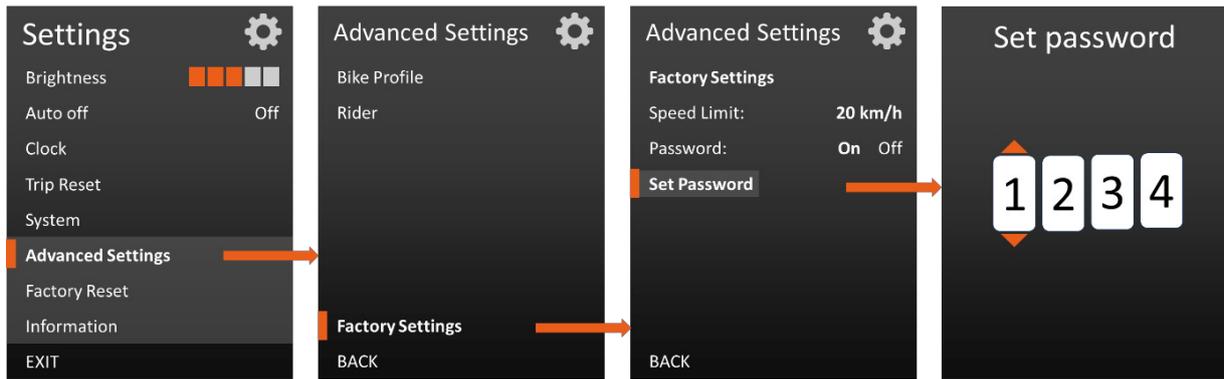


Figure 18: Change password

Keep your password in a safe place outside the vehicle. The password cannot be recovered remotely. If you forget your password, the vehicle must be returned to the manufacturer for a fee.

2.6. Driving

The Hopper accelerates as soon as you start pedaling.

Please observe the following instructions for driving the hopper:

- Always follow the rules of the StVO while driving.
- Always adjust driving speed to the traffic, surrounding and weather conditions.
- Maintain a maximum cornering speed of 14 km/h.
- Drive with foresight and responsibility.
- Put on an adapted and suitable bicycle helmet. Use the helmet for every ride, even for short distances! Consult the helmet manufacturer's instructions for the correct fit of the helmet.
- Always wear light-colored clothing or sportswear with reflective elements when driving.
- Your shoes should have non-slip and stiff soles
- Brake in front of bumps and edges and drive over them slowly and at a slight angle.
- The vehicle is wider than conventional single-track bicycles or pedelecs.
- Make sure that the load is evenly distributed.
- Never drive hands-free!
- Never drive if you are not in complete control of your driving. This is especially true if you have consumed medication, alcohol, or other drugs.
- Never drive with headphones on.
- Do not talk on the phone while driving.
- Do not pay too much attention to the display while driving, otherwise you could fall or cause an accident.
- Make sure that you are familiar with the starting characteristics. Otherwise, accidents may occur if the vehicle starts abruptly.
- For your own safety and the safety of others, never exceed the speed of 25 km/h. Especially when driving downhill, we recommend a controlled regulation of the speed.



Failure to follow the instructions may result in accidents and injuries.

Danger of accident due to lack of control! Driving the hopper in a condition which is not technically faultless can lead to life-threatening accidents. A check must therefore be carried out before each ride.

Risk of accident due to excessive cornering speed! Sharp cornering with high travel speed can cause the hopper to fall over and result in life-threatening injuries.

Rear wheel steering! The Hopper has rear-wheel steering. Therefore, the driving experience of the Hopper is different from a vehicle with front wheel steering. This requires a familiarization phase in which the Hopper should be driven particularly carefully.

Always be aware that there are dangers involved in driving the Hopper. You are at particular risk as a rider. Always be aware that you are not as protected as you are, for example, in a car. Nevertheless, you are traveling faster than with a vehicle/bicycle without electric drive. Other road users may misjudge this.

Practice operating and driving in a quiet, safe place before participating in public traffic.

Prolonged or intensive use of the hopper may expose you to stressful vibrations. Take sufficient rest breaks. This will help you to avoid health problems.

If you get out on a downhill slope, there is a risk that the vehicle will roll away without control. Serious accidents can result. You may only get out and push on level ground if the parking brake is not activated.

The performance of the hopper is limited due to the legal regulation of the rated continuous output. Therefore, depending on the gradient, the speed of the hopper is throttled. In addition, the climbing ability of the hopper depends on the payload and charge state of the battery.

2.6.1. Operate thumb gas

The hopper has a starting aid, which allows the vehicle to accelerate to 6 km/h.

1. Press and hold the "Mode up" key. -' Chap. 2.3.3 "Steering wheel with controls", p.10
2. The hopper accelerates to 6 km/h.

2.6.2. Reverse

To be able to drive the hopper backwards, the following 3 conditions must be fulfilled at the same time.

1. The hopper must be brought to a complete stop.



2. The "Mode down" key must be pressed and held for the duration of the reverse travel. - > Chap. 2.3.3 "Steering wheel with controls", p.10
3. Pedal backwards.

Reverse accelerates very slowly and then speeds up. Pedal backward several revolutions before reverse begins.

2.6.3. Set support level

The level of assistance depends on the set riding mode. The riding speed is controlled by the cadence. Mode 4 supports up to the lowest cadence, mode 5 up to the highest. As soon as you stop pedaling or when you reach the maximum speed of 25 km/h, the drive switches off. The assistance is automatically reactivated as soon as the speed has dropped below the maximum speed and you apply pressure on the pedals again.

The mode can be decreased via the "Mode down" key and increased via the "Mode up" key. -' Chap. 2.3.3 "Steering wheel with controls", p.10

If the pedal resistance is too high on an incline, the hill assist can be used.

1. Keep the "Mode up" key pressed and continue pedaling. -' Chap. 2.3.3 "Steering wheel with controls", p.10
2. The hopper travels with lower resistance.

The hill assist only supports up to 15 km/h.

The uphill drive aid may only be used for driving on inclines.

Despite the hill-climbing aid, the maximum climbing capacity must not be exceeded -' Section 1.3 "Application limits", p.6

2.6.4. Range

You will achieve the best result if you charge your battery when the temperature is warm and only use it shortly before the journey

The range can be influenced by the following factors:

- Ride mode: The lower the selected cadence, the higher the energy consumption and the lower the range.
- Driving style: You can save energy by optimally using the driving modes. In higher cadence you need less energy and support, so your vehicle also consumes less power.
- Vehicle weight and loading: cargo increases the weight and thus the energy required.
- Ambient temperature: In cold outdoor temperatures, the battery discharges faster and thus has a shorter range.
- Terrain: More energy is required in hilly terrain, reducing range.



- Weather: In addition to the ambient temperature, wind conditions can also affect the range. Strong headwind when driving requires more power
- Technical condition of your vehicle: Underinflated tires increase driving resistance, especially when driving on a smooth surface such as asphalt. A dragging brake can affect the range of the vehicle.
- Battery charge level: The charge level indicates the amount of electrical energy stored in the battery at a given time. More energy means a longer range.

2.7. Brakes

Learn brake operation and braking force before riding for the first time. Practice braking and emergency braking first on an untraveled, safe area before participating in road traffic.

If you are driving down a long or very steep slope, do not brake continuously. This could cause the brake to overheat, resulting in a loss of braking power. Instead, apply the brakes for a shorter time and with more force. This gives the brakes time to cool down. This preserves the braking force.

Brake before cornering. Brake shorter and harder to protect the brakes.

Never touch one of the brake discs when it is rotating or immediately after braking. There is a risk of injury and burns.

If the road is wet or slippery, adapt your driving style to the requirements. Drive more slowly and brake carefully and early, as the braking distance is significantly increased. Brake before bumps and edges and then drive over them slowly and at a slight angle.

2.7.1. Operate travel brakes

The Hopper has two brakes. One front wheel brake and one rear wheel brake.

Front brake

The front brake is located behind the steering wheel and is activated by pulling it towards the steering wheel.

The brake lever can rotate freely, so you can steer and brake in any driving situation.



Figure 19: Overview front brake

-
- 1 Steering wheel
 - 2 Brake lever
 - 3 Brake lever movement
-

Rear brake

The rear brake is activated by operating the brake lever with the foot.

1. Remove right foot from pedal
2. Operate the brake lever with your foot.
3. The hopper slows down

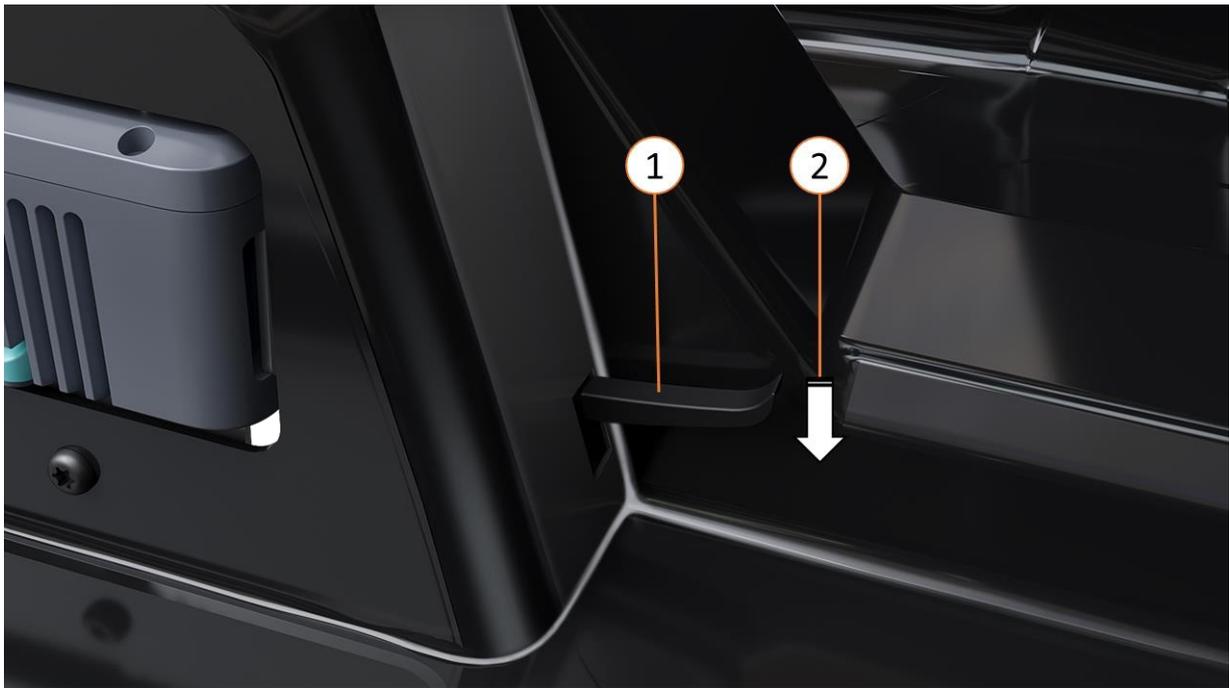


Figure 20: Overview foot brake

-
- 1 Brake lever
 - 2 Brake lever movement
-

2.7.2. Operate parking brake

The hopper is equipped with a parking brake. The brake lever is located on the right under the dashboard.

Apply parking brake

1. Make sure that the hopper is stationary at the desired parking position.
2. Grasp the parking brake lever with your right hand.
3. Pull the brake lever towards you.
4. Stop pulling when the pressure gets higher.
5. The hopper no longer moves

If the hopper can be moved despite the handbrake being applied, then pull the lever a little further.

If the hopper can be moved despite the handbrake being applied to the maximum, the brake calipers must be readjusted.

Release parking brake

1. Grasp the brake lever with your right hand.
2. Pull the brake lever slightly towards you and simultaneously press the release button with your thumb.
3. Move the brake lever back to the zero position.
4. The hopper is ready to be driven.



Keep the travel brake applied while releasing the parking brake. This prevents the hopper from rolling away after the parking brake has been released.



Figure 21: Parking brake overview

-
- 1 Parking brake
 - 2 Direction of movement of the parking brake
 - 3 Release button for releasing the parking brake
-



Figure 22: Parking brake in parking position



2.8. Lighting

The Hopper has position lights, low beam, high beam, tail light and turn signals as well as front and rear reflectors. The position lights and tail light are automatically turned on and off when the hopper is turned on and off.

Slight burn due to hot headlights! The headlights and the housings can heat up during prolonged use. Touching them can cause minor burns. For this reason, switched-on dipped beam headlights must not be touched. The headlights must cool down before maintenance work.

2.8.1. Use low beam and high beam

The **low beam** is switched on when the button with the light symbol is held down for two seconds. -' Chap. 2.3.3 "Steering wheel with controls", p.10

The **high beam** is switched on when the key is pressed again. To **switch off** the **high beam**, the key must be pressed again.

The position of the headlights can be adjusted horizontally. To do this, loosen the screw on the headlight slightly using a 5 mm Allen key, then adjust to the desired position and finally tighten the screw again slightly.

When the high beam is switched on, the high beam symbol lights up on the display.

2.8.2. Use turn signal

The right and left turn signal is activated by the respective arrow key. The respective symbol is shown in the display and in addition the symbol on the controller lights up green. -' Chap. 2.3.3

The turn signal switches off automatically after 10 seconds.

If the turn signal is to be interrupted, this can be done by pressing the turn signal button or the respective other turn signal button.

2.8.3. Use hazard warning lights

You activate the hazard warning flasher by pressing the "Turn signal left" and "Turn signal right" keys simultaneously. -' Chap. 2.3.3 "Steering wheel with controls", p.10

The hazard warning flasher is active until you deactivate it by pressing a turn signal button.

2.8.4. Trunk light

There is a USB lamp with motion sensor in the trunk. The lamp turns on automatically when the sensor detects human contact in the dark. The light turns off automatically when no motion is detected for 15 seconds. In bright environments, the light will not turn on automatically.

In addition, the lamp can be operated manually.

- Tap once: Switch on and off
- Double tap: Continuous operation for more than 30 minutes (tap once to exit this mode).
- Triple tap: Completely off



- Tap and hold: Brightness control

If the battery is empty, then you need to charge the lamp. The lamp is attached with Velcro and can be charged in the front of the driver's compartment or at home.

Note on charging. If the LED display lights up green, the battery is charged. If the LED indicator lights up red, the battery is being charged.

If the battery is low, then the light turns on with the lowest brightness.

2.9. Operate windshield wiper

For better visibility through the windshield of the hopper, the windshield wiper can be operated when it rains. To do this, you must rotate the handle of the windshield wiper. In doing so, the windshield wiper can only be operated in the area provided for this purpose.

2.10. Operate trunk

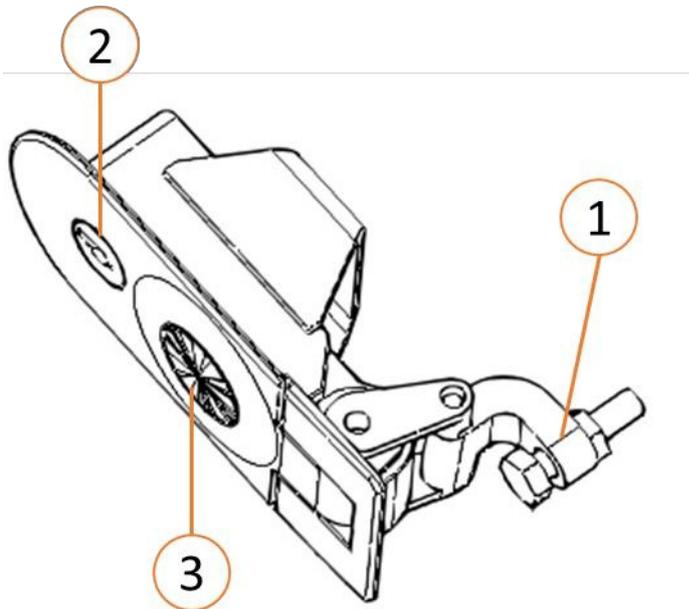


Figure 23: Overview trunk lock

-
- | | |
|---|---------------------------|
| 1 | Adjusting screw |
| 2 | Lock for key |
| 3 | Push button for unlocking |
-

Open trunk

1. Unlock the lock with the appropriate key.
2. Press the push button on the lock.
3. The trunk opens.

Watch out for parts falling out. Open the trunk lid carefully. Parts of the load may come towards you.



Close trunk

1. Press the trunk lid against the hopper.
2. Press the protruding lock so that it snaps back into place.
3. Lock the lock with the key.

Adjust trunk lock

The trunk has a set screw with a rubber head. If the trunk does not close properly, then you need to find the correct position of the set screw. To do this, turn the screw further in or out.

2.11. Secure hopper against theft

Your Hopper can only be started by entering the PIN code. However, we still recommend that you secure your vehicle with a bicycle lock or chain.

Some bicycle insurance policies require the bicycle to be locked to another object, such as a wall anchor, street light, bicycle stand.



3. Troubleshooting

The following overview helps to identify possible malfunctions and their causes and to carry out measures to eliminate the malfunction. In the event of a fault that cannot be rectified, you can contact the Hopper service hotline (+49 0176 85608446, service@hopper-mobility.com):

Malfunction	Cause	Remedy
Display does not respond	Software error	Restart Hopper - ' Chap. 0 " Switching on and off", p. 12
Starting aid does not work	Hopper not switched on	Switch on hopper - ' Chap. 0 " Switching on and off", p. 12
	Parking brake applied	Release parking brake - ' chap. 2.7.2 "Operating the parking brake", p. 25
Windshield is scratched	Wiper blade is worn out	Replace wiper blade
Hopper does not start, or goes out while driving	Battery empty	Insert charged battery - ' Chap. 2.4 "Replacing the battery", p. 13
	Battery missing	Insert charged battery - ' Chap. 2.4 "Replacing the battery", p. 13
	Battery does not sit properly in holder	Check connection between battery and holder. - ' Chap. 2.4 "Replacing the battery", p. 13
	Battery error	Remove battery - ' Chap. 2.4 "Replacing the battery", p. 13 Press and hold the power button on the battery for at least 30 seconds Insert battery Restart Hopper - ' Chap. 0 " Switching on and off", p. 12
Lower range and power	Increased stress due to heavy load, incline or head wind	<ul style="list-style-type: none"> • Observe the permissible total mass of 300kg. • Reduce support level. • Increase own pedaling power.
	Tire pressure too low	Check tire pressure. - ' Section 4.1.2 "Maintaining tires", S. 33



Troubleshooting

Pedal resistance too high/too low	Driving mode not adapted to the driving situation	Set mode -1 Chap. 2.6.3 "Setting the support level", p. 22
	Driving resistance too high	<ul style="list-style-type: none">• Increase support level



Troubleshooting

		<ul style="list-style-type: none"> -' Chap. 2.6.3 "Setting the support level", p. 22 • Use start-up aid <ul style="list-style-type: none"> -' Chap. 2.6.1 "Operating the thumb gas" p. 21 • Release parking brake <ul style="list-style-type: none"> -' Section 2.7.2 "Parking brake operate", p. 25
Battery does not charge	Contacts dirty or damaged	Unplug the charger from the power outlet. Contacts on the battery and on the Check charger and clean if necessary.
	Battery does not sit properly in charger	Check connection between battery and charger. Insert battery correctly.
	Charger defective	Replace charger.
	Battery defective	Replace battery.
Rusty brake disc	Long service life in moist Environment	Brake discs due to strong Grind brakes free.
Braking power reduced	Brake pads worn	Renew brake pads.
	Brake discs dirty or worn	Keep brake discs free of grease and oil. Degrease brake discs with brake cleaner.
Trunk goes during the Drive up	Adjusting screw is not correct set	Adjust the set screw.
Trunk does not close Correct	Adjusting screw is not correct set	Adjust the set screw.
Vehicle rolls on the slope	Parking brake not activated	Activate parking brake. -' chap. 2.7.2 "Operating the parking brake", p. 25
Vehicle rolls on slope, despite activated parking brake	Slope too strong	<ul style="list-style-type: none"> • Place hopper across the slope. • Move hopper out of slope area and park.



4. Maintenance

Maintenance serves to maintain the functionality of the hopper, as well as the prevention of premature wear and the associated increased risk of accidents. Maintenance is divided into:

- Cleaning and care
- Maintenance
- Repair

The following preparations must be made before any maintenance work:

1. Place hopper in a suitable place.
2. Activating the parking brake-> chap. 2.7.2 "Operating the parking brake", p. 25
3. Remove the rechargeable batteries. -' Chap. "5.2 Replacing the battery" p. 36

4.1. Cleaning and care

Danger of accident due to lubricated disc brakes! The contact of lubricants with the brake discs or the brake pads, reduces the braking force and thus increases the risk of accidents.

- Keep lubricants, oils and greases away from the disc brakes.
 - Only use suitable brake cleaners.
 - Clean disc brakes and then allow to dry completely.
-

Environmental damage due to chemicals! During cleaning and maintenance work, lubricants and cleaning agents can get into the wastewater and pose a lasting threat to the environment.

- Do not allow lubricants and cleaning agents to seep into drains, sewers or the ground.
 - Dispose of lubricants and cleaning agents properly and in an environmentally friendly manner.
 - Observe national environmental regulations
-

Material damage caused by high-pressure cleaners! The use of a high-pressure cleaner can damage surfaces as well as sensitive components such as the gearshift, the brakes or the electrical system and impair driving safety.

- Keep a minimum distance of approx. 0.5 m.
- Do not direct the water jet directly at sensitive components.
- Do not direct the water jet into the driver's cab.
- After using a high-pressure cleaner, check all lubrication points and relubricate if necessary.

Material damage due to incompatible cleaning agents! Incompatible cleaning agents can damage surfaces and safety-relevant components and destroy lines, hoses and seals.

- Only use pH-neutral cleaning agents that are compatible with the surfaces and seal materials.
 - Wash with clean water (< 60°C).
-

Note on environmental protection: Carry out cleaning and care only at washing stations suitable for this purpose in order to avoid environmental pollution.



4.1.1. Clean hopper

- Clean surfaces with water and a pH-neutral cleaning agent.
- Carefully clean electrical components with a dry and clean cloth. Make sure that the battery connections are free of chips and dirt.
- Clean disc brakes and steering chain only with a suitable cleaner
- Grease steering chain

Avoid washing your vehicle with a pressure washer.

Do not use abrasive cleaning agents as they may damage surfaces or moving parts.

4.1.2. Maintain tires

Driving with deviating tire pressure can lead to increased wear and reduced range. Check the tire pressure monthly and top up if necessary.

4.2. Maintenance

Do not modify or replace any components except with parts of the same brand, type or with third-party products approved by the manufacturer. Otherwise, the warranty and guarantee will be voided.

Improperly performed maintenance work impairs safety and can lead to life-threatening accidents. Have maintenance work performed by authorized specialists only.

To ensure proper operating condition, regular inspections and functional tests, as well as scheduled maintenance, must be performed.

4.2.1. Regular checks and functional tests

Before daily operation, perform the following periodic checks:

Controls	before each Ride	monthly
The tight fit of the battery	✓	
Check the charge level of the battery for sufficient charge for the planned Ride	✓	
Seat and mirror adjustment	✓	
Lighting on function	✓	
Brake system on function	✓	
The loading for correct distribution and securing	✓	
Visual inspection for wear and damage	✓	
Tire pressure		✓
Clean hopper		✓

4.2.2. Checks and functional tests by the service

Have maintenance work performed by authorized specialists.

For questions, contact the Hopper service hotline (+49 0176 85608446, service@hopper-mobility.com).



4.2.3. Scheduled maintenance

Have maintenance work performed by authorized specialists.

For questions, contact the Hopper service hotline (+49 0176 85608446, service@hopper-mobility.com).

Maintenance	to	at the latest
Frame and attachments		
Check frame for cracks, corrosion and fractures		annual
Check side mirrors for cracks and breaks		annual
Check controls for cracks and breaks		annual
Check saddle for cracks and breaks		annual
Steering and drive		
Check front and rear pinions for wear and damaged teeth	5.000 km	Biennial
Check front and rear chain for wear and damage	2.500 km	Biennial
Check steering wire rope for wear and damage	500 km	annual
Check the tension of the steering system	500 km	semiannual
Check pedal fastening and bearing clearance		semiannual
Wheels		
Check tires for wear and tread depth		semiannual
Check bearing play of wheel hubs	500 km	semiannual
Check rims for cracks and deformation	500 km	semiannual
Brakes		
Check cables and brake line for cracks, kinks and breaks		annual
Check brake pads for wear	500 km	annual
Check brake discs for wear	5.000 km	annual
Electrical system		
Check cables for cracks, kinks and breaks		annual
Check battery for damage		annual
Check battery hold		annual
Check wheel hub motor for smooth running and function		annual
Check electrical plug connections		annual

4.3. Repair

Maintenance work includes the replacement and repair of components and is only necessary if components have been damaged by wear or external circumstances. All repair work must be carried out by authorized specialists.

For the professional staff applies:

- All repair work must be carried out professionally, and in accordance with the current state of the art and regulations.
- Worn components must not be repaired in a makeshift manner.
- Worn components must be disposed of properly and in an environmentally friendly manner.
- Welding work on the frame and other load-bearing components is prohibited.
- Only use original spare parts or spare parts authorized by the manufacturer



5. Warranty and liability for defects

Find out about the national regulations that apply to you. The Hopper is a complex vehicle. It is therefore necessary to conscientiously observe all maintenance intervals. Omission of maintenance jeopardizes the seller's liability if the defect could have been avoided by maintenance. Liability for material defects does not extend to normal wear and tear within the scope of intended use. Components of the drive, the brake system as well as battery, tires, illuminants and contact points of the driver with the vehicle are subject to function-related wear.

Contact our customer service department (+49 176 85608446, service@hopper-mobility.com) if a defect or liability case occurs. Keep all purchase receipts and inspection certificates as proof.

6. Decommissioning and disposal

6.1. Decommissioning

If the hopper is not used for a longer period of time, the tires, seals, hoses and lines can be damaged by standing damage and weather influences. Therefore, store the h o p p e r dry and protected from sunlight. Check the tire pressure regularly and secure the vehicle against rolling away. Additionally, remove the battery, charge it completely and store it. Please observe the manual of the battery manufacturer.

Carry out the steps in chapter 2.1, "Before the first ride", p.8, before recommissioning. Pay particular attention to structural damage to the tires and body and take the hopper for service if necessary.

6.2. Disposal

Please observe national and local regulations for the disposal of the hopper. The components of the hopper must be disposed of separately. Never dispose of rechargeable batteries in household waste. These are to be treated as hazardous goods and are therefore subject to a special labeling obligation.



7. Technical data

Legal classification	EPAC according to EN 15194:2017
Length	212 cm
Wide	105 cm without mirror, 115cm with mirror
Height	150 cm
Empty weight	135 kg
Permissible total weight	300 kg
Payload	165 kg
Loading volume trunk	Two seater: 126 l Cargo: 216 l
Battery	Removable with 1440 Wh
Range	up to 65 km ¹
Loading time	Up to 8 hours with 3A charger
Motor	Wheel hub motor with 250 W rated continuous power
Pedal assistance	up to max. 25 km/h
Start-up aid	up to max. 6 km/h
Permissible maximum speed	25 km/h
Tires	Front: 20 inch tires Rear: 10 inch tires
Air pressure	Front: 4 bar Rear: 2 bar

¹ The range may increase or decrease depending on driving style, road conditions, payload and outside temperature.



8. EC Declaration of Conformity

Hopper Mobility GmbH
Eichenhofstraße 25
86154 Augsburg
Tel: 015755022011

HOPPER
MOBILITY

EG-Konformitätserklärung

Der Hersteller

Hopper Mobility GmbH

erklärt hiermit, dass folgendes Produkt

Produkt: Hopper – Pioneers Edition
Seriennummern: HPPR400000052023001 und folgende
Baujahr: 2023

Beschreibung:

Bei dem Hopper handelt es sich um ein mehrspuriges Fahrrad mit elektrischer Unterstützung. Das Fahrrad zeichnet sich durch drei Räder, einer Hinterradlenkung und einem Dach aus und bietet Platz für einen Fahrer, einen Mitfahrer und/oder Gepäck.

Allen einschlägigen Bestimmungen der angewandten Rechtsvorschriften (nachfolgend) - einschließlich deren zum Zeitpunkt der Erklärung geltenden Änderungen - entspricht. Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller. Diese Erklärung bezieht sich nur auf die Maschine in dem Zustand, in dem sie in Verkehr gebracht wurde; vom Endnutzer nachträglich angebrachte Teile und/oder nachträglich vorgenommene Eingriffe bleiben unberücksichtigt.

Folgende Rechtsvorschriften wurden angewandt:

Maschinenrichtlinie 2006/42/EG
EMV-Richtlinie 2014/30/EU
RoHS-Richtlinie 2011/65/EU

Ort: Augsburg
Datum: 05.09.2023



Martin Hafama
Hopper Mobility GmbH



9. imprint

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The operating instructions are written in German and translated into other languages from German.