

# **Kaabo Mantis Electric Scooter User Manual**



**Read this manual carefully  
BEFORE operating your scooter!**

## **BEFORE YOU START**

**It is important to read through, understand, and adhere to all instructions and safety warnings before charging and operating this scooter.**

Upon receiving and opening your box, please inspect the contents for signs of damage or loose screws from transport. If something doesn't feel right, please take a few pictures and contact your place of purchase immediately.

Make sure you understand and adhere to local rules and regulations for riding electric scooters. Riding an electric scooter comes with inherent risks and hazards. To minimize risk of falling or being injured, make sure you understand how to safely operate and control this scooter.

**Always use good judgement, common sense and protective gear.**

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## GENERAL SAFETY WARNINGS

- **Always wear a helmet and protective safety equipment.**
- **Wear closed shoes without heels and ensure your laces are tied.**
- **Do not ride with more than one rider or exceed the weight limit of 120kg/265lbs in any other way.**
- **Only use your scooter in line with its intended purpose.**
- Check your scooter for any loose parts or screws, flat tires, signs of damage or excessive wear before every ride. Stop operation immediately and contact your place of purchase if something does not feel right.
- Start riding slowly to familiarize yourself with the behavior of your scooter. Start in first gear and slowly try out the brakes. Always slow down when riding over bumps or on rough road conditions.
- Keep the scooter away from children. It is not a toy. 16+ riders only.
- Do not use your electric scooter in heavy rain, on surfaces covered by more than ½ inch of water. Do not submerge the scooter in liquid or let any liquid near the battery or electrical components.
- Do not lend your scooter to anybody unfamiliar with its operation. Ensure any new riders are familiar with these instructions and are wearing proper safety gear.
- Once riding in public space, you are subject to the risks faced by all traffic participants just like when you're riding a bike.
  - Other traffic participants may not obey traffic regulations or ride carelessly.
  - The faster you ride your scooter, the longer it will take you to stop.
  - The scooter may slip on slippery surfaces leading to subsequent injuries to the rider. Pay special attention crossing train tracks and when it is wet.
  - Always use caution, adapt your speed to road/traffic conditions and keep distance from other traffic participants.
  - Watch out for pedestrians. Do not use your scooter in any way that could harm pedestrians. Slow down when you are passing them to avoid accidents.
- You must follow all local traffic rules and regulations.

# MANTIS OVERVIEW

## What's in the Box



Mantis Electric Scooter  
(with detached handle bar)



2.0A UL certified charger



Manual



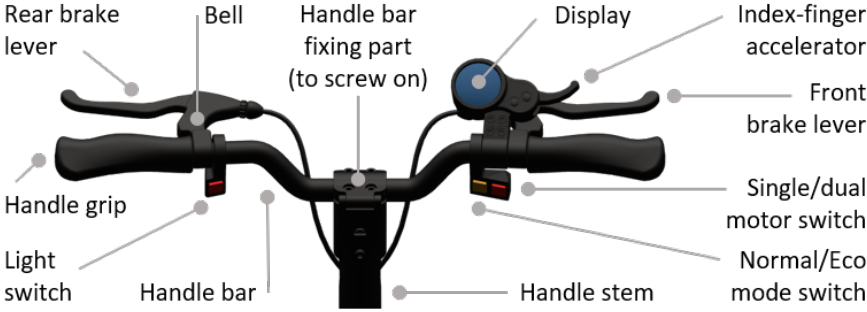
Set of tools

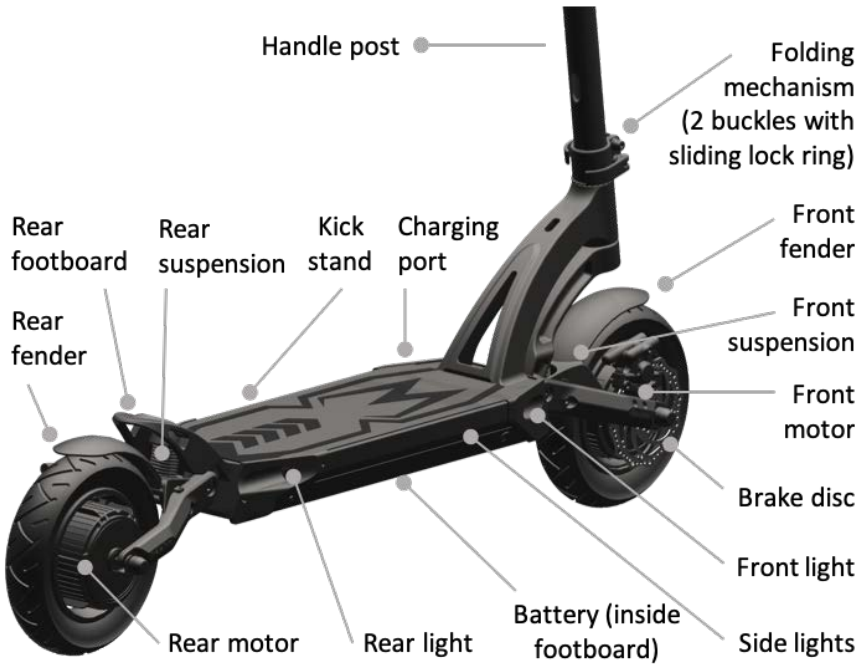
## Technical Specifications

| Configuration        | Mantis 800W   | Mantis 1500W  | Mantis PRO 24.5Ah   |
|----------------------|---|---|---|
| Motor                | 800W brushless (Single Motor)   | 1500W brushless (Single Motor)  | 2x 1000W brushless (Dual Motor)                                       |
| Battery              | 48V 18Ah FST Li-Ion   | 60V 18,2Ah LG Li-Ion  | 60V 24.5Ah LG Li-Ion  |
| Top speed            | 50 km/h   | 60 km/h   | 60 km/h   |
| Range (eco mode)     | 70 km   | 80 km   | 110 km  |
| Brakes               | Front and rear hydraulic disk brake + electric (regenerative) braking | Front and rear hydraulic disk brake + electric (regenerative) braking | Front and rear hydraulic disk brake + electric (regenerative) braking |
| Suspension           | Front and rear spring shock absorber                                  | Front and rear spring shock absorber                                  | Front and rear spring shock absorber                                  |
| Tire Size            | 10" x 3" (pneumatic)  |   |   |
| Weight – Scooter     | 24 kg   | 28 kg   | 30 kg   |
| Weight – Rider limit | 120 kg  | 120 kg  | 120 kg  |
| Charger              | 110-240V / 2A   |   |   |

|                     |                         |
|---------------------|-------------------------|
| Dimensions – Opened | 123.5 x 57.5 x 126.7 cm |
| Dimensions – Folded | 47.4 x 21 x 33.5 cm     |
|                     |                         |

### Key Components





## CHARGING AND BATTERY SAFETY

### Charging the Mantis

1. Turn your scooter off
2. Locate the charging port
3. Open the charging port cover
4. Connect the charger to the scooter
5. Connect the charger to the wall power outlet

The LED on the charger will turn red while charging and turn green when the scooter is ready for use. Remove the charger and cover the plug. Charging time with the included 2A charger is ca. 7-9 hours for the Mantis 17.5 Ah version, and 10-12 hours for the Mantis PRO 24.5Ah version.

## **Battery Maintenance**

- We recommend to charge your scooter after every use. This is not required.
- A lithium-ion battery is a consumable device. Please replace with a new battery once capacity drops below 50% of what you experienced initially. Contact your place of purchase for a replacement.
- Make sure the battery is charged and that the scooter is turned off before storing your scooter for extended periods at a time.
- Store your scooter in a dry and cool place. Do not keep it outdoors or in outdoor sheds for extended periods of time as excessive cold, heat, sunlight, rain, or other environmental conditions may impact safe operation and reduce the scooter's lifespan.
- Charge your battery at minimum every 3 months to prevent it from running completely empty. Once the battery runs completely empty due to slow discharge while in storage, it may have to be replaced.
- Batteries perform poorly at low temperatures. For instance, if the temperature is around 0°F (-18°C), battery capacity reduces by 50%. Capacity will restore to normal when temperatures rise.
- Battery life and riding ranges will vary depending on usage, climate, conditions, rider weight, and/or riding style, proper care and maintenance.

## **Battery Disposal**

- Do not dispose of your battery by way of landfilling, incineration or household trash.
- We recommend disposing through a local recycling program suitable for lithium-ion batteries. Contact your local waste management service for more information.
- Mishandling of used batteries may do tremendous harm to the environment. You must abide by local laws and regulations to properly dispose of used batteries.

## **Charging Warnings and Battery Safety Warnings**

- Use caution when using outlets to prevent electric shock.



- Do not leave the charger plugged in for extended period of times (>24 hours).
- Only charge your scooter in a safe, clean, and dry environment. Keep the charger and scooter away from inflammable materials as they may get hot.
- Only use the original battery packs and the original charger supplied with your electric scooter. Contact your place of purchase if you need a replacement. Use of other models or brands may not be safe.
- Do not touch any part of the USB charging prongs and keep them away from metal objects to prevent short circuit which may result in battery damage or physical injuries and death.
- Do not place the battery in direct contact with heat or near high temperatures. Do not expose the battery to direct sunlight. Do not leave the scooter in a car where the battery might get hot.
- Do not pierce the battery with sharp objects. Do not subject it to impact or force.
- Stop charging if the battery fails to recharge within the approximate charging time. This will prevent the battery from overheating, rupturing, or igniting.
- Do not charge the battery in temperatures below 32°F (0°C) or above 104°F (40°C) as this can hamper performance, result in breaking, overheating, rupturing, or igniting and could cause personal injury or property damage.
- Do not charge your scooter if the charging port on the scooter is damaged or wet. Do not charge if there is excessive heat, odor or leakage coming from the battery or it looks abnormal in any way.
- If the battery leaks and you accidentally get in touch with the liquid, rinse thoroughly with water and then seek medical care.
- Never attempt to disassemble, modify, perform repairs or maintenance on the battery. You run the risk of damaging the protective and safety components that prevent incidents, personal injury or property damage. Professionals only!
- Mishandling or misuse of the battery can result in lower performance, shorter lifespan, rupturing, igniting, or other incidents and could increase the risk of serious personal injury.

- Do not discharge the battery using any other product than the scooter it comes with. Doing so could result in damage to the other product or the battery and reduced lifespan. The battery could overheat, rupture, or ignite and cause personal injury or property damage.

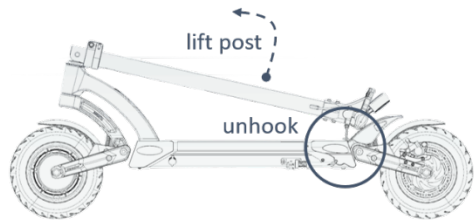
# OPERATIONS

## Assembling the Mantis

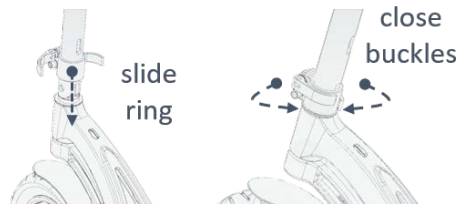
Carefully open the box and take the scooter out with both hands. **Do not pull the steering bar out by itself as it is attached to the rest via the cablework.** Also pay attention not to lose the metal plaque with the fluid logo which you will need to screw on to secure the steering bar to the scooter.

1. Place the scooter on the floor and secure it by pulling out the kickstand

2. Lift the handle post into a vertical position. **Pay attention as the steering bar is not yet fixed to the handle post but only loosely connected via the cablework.**



3. Slide the locking ring downwards. This prevents the handle post from moving out of its vertical position. Close the two quick release buckles around the locking ring and ensure the buckles are tight.



**Before every ride, make sure the buckles are locked tightly around the locking ring.**

4. Place the steering bar onto the handle post and screw the metal plaque (with fluid logo) onto it with the four screws provided. For the most comfortable riding position, we recommend you place the handlebar in the most upward position when tightening the screws.

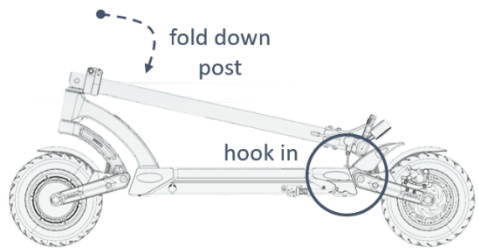


## Folding your Scooter

1. Loosen the quick release buckles and slide the locking ring upwards.



2. Fold the handle post downwards until it touches the scooter's deck and attach it to the hook in the rear of the board. This will lock the handle post in folded position and enable you to carry your scooter with one hand while folded.



## Your First Ride

Before using your scooter, make sure to visually inspect it for any signs of damage or loose parts/screws. Every scooter is individually tested before shipping from the factory, but we recognize that it has travelled far and in rare cases, it can get damaged during transport. If something does not feel right, reach out to your place of purchase.

Also pull the brake levers and ensure there is sufficient tension on the brakes BEFORE your first and any subsequent ride.

- Ensure you have sufficient run way ahead of you. Do not use the scooter indoors.
- Put both of your hands on the handle bar.
- Step with one foot on the scooter, kick it lightly with your other foot to bring it slightly in motion.
- Step with your second foot onto the board, hold on tight and pull the accelerator. Do prepare for strong acceleration and start slowly.

## **Braking Correctly**

The Mantis scooter has dual front and rear disc brakes.

For braking, use the rear brake first for decelerating (the left braking lever on the handle bar) before engaging the front brake (the right lever) to come to a full stop.

**When travelling at higher speeds, exercise caution when braking as the brakes are sensitive.** This is especially true for the front brake as you risk falling over the handle bar if your center of gravity is too high while performing a hard stop with the front brake alone.

## **Hydraulic Disc Brake Check**

Pull the brake lever and ensure there is sufficient tension on the disc brake before riding. Check integrity of hydraulic systems frequently (no leakage of oil) to ensure brakes are working properly.

## DISPLAY & KEY SETTINGS

### Driving Mode Selection



Located underneath the main display on the right side of the handle bar you can find two switches to configure driving modes:

The ECO/TURBO switch regulates the power of your scooter. By pressing down the button, ECO mode is activated which will reduce torque and top speed to maximize range. When the button is not pressed, TURBO mode is activated and there is no restriction of power.

The SINGLE/DUAL switch toggles single or dual motor drive. By pressing down the button DUAL motor drive is activated. When the button is not pressed, SINGLE (rear) motor drive is activated.

For Maximum range, select ECO mode and SINGLE motor drive. For maximum power and speed, select TURBO mode and DUAL motor drive.

### Display Settings – Mantis 800W and 1500W

The Mantis scooter is equipped with the following display:



**Gear change.** To change the gear (1=slow, 2=medium, 3=fast), while the scooter is powered ON, press the POWER button to enter gear setting mode. Press MODE to switch between gears. To return to operating mode either press POWER or wait for 2 seconds.

1. *Speedometer.* Shows the speed at which you are travelling.
2. *Battery Indicator.* Charge your scooter frequently, do not let it run out of battery. As a rough guideline, charge at or below 2 bars.
3. *Power Button.* To turn the scooter on or off press button for 2 seconds.
4. *Accelerator.* Pull to accelerate. The stronger you pull, the faster it accelerates. The scooter is delivered in “Non-Zero Start” setting (Kick-

And-Go is ON), i.e. the accelerator only works if the scooter is already in motion.

5. **Mode Button.** Press to select various display options:

| MODE   | COMMENT   |
|--------|---|
| TIME   | Time since powering on the scooter.   |
| TRIP   | Distance travelled since powering on the scooter.   |
| ODO    | Total distance travelled.   |
| VOL    | Current battery voltage.  |
| CH2:00 | Charging mode. Time (2 hours) scooter stays ON (overrides auto-switch off) so you can use display's USB port to charge e.g. your phone. |

**Detailed P-settings mode.** To access P-settings to make various advanced changes, press POWER [3] and MODE [5] simultaneously for 2 seconds.

Cycle through the P-settings using the MODE button. To select a P-setting in order to make changes press the POWER button. Change the value (up or down) using the MODE (Up) and POWER (Down) buttons. To return to the P-settings menu after changing a value, wait 2 seconds. To return to operating mode, wait a further 2 seconds. Only

| P-SETTINGS |   |
|------------|---|
| P0         | Tire diameter (10 = 10 inch). Do not change.  |
| P1         | Controller shut-down voltage. Default set to 52V (minimum is 48V – we recommend 52V to preserve battery life).                                |
| P2         | Motor magnetic pole setting. Default is 30. Do not change.  |
| P3         | Speed signal selection. Default is 0. Do not change.  |
| P4         | Distance / speed unit. 0=km, 1=miles  |
| P5         | Start setting. 1=non-zero start (Kick-and-Go), accelerator won't work if scooter not in motion; 0=immediate start (CAUTION while using this!) |
| P6         | Cruise control. 0=cruise control OFF, 1=cruise control ON.  |
| P7         | Initial acceleration. 0=strong, 1=soft.   |
| P8         | Electric (regenerative) braking (E-ABS). 0=E-ABS off, 1=E-ABS on  |
| P9         | Speed limit as % of top speed, i.e. 100=no speed limit.   |
| PA         | Clear total distance travelled (ODO).   |
| PB         | Scooter auto-turn off time in minutes.  |
| PC         | Display brightness (1=low, 3=high)  |

**Cruise Control.** Cruise control allows you to maintain your driving speed automatically without continuing to hold down the accelerator. In order to enter Cruise Control, activate it first in the P-settings [P6].

While driving, keep the accelerator steady for a few seconds until Cruise Control kicks in and scooter travels at constant speed without driver holding down the accelerator. When you activate the brakes Cruise Control will be cancelled. **CAUTION:** Ride in a position where you can immediately access the brake to cancel Cruise Control if necessary.

## Display Settings – Mantis PRO 24.5Ah

The Mantis PRO scooter is equipped with the following LCD display:



1. *Speedometer.* Shows the speed at which you are travelling.
2. *Battery Indicator.* Charge your scooter frequently, do not let it run out of battery. As a rough guideline, charge at or below 2 bars.
3. *Gear.* Shows the selected gear.
4. *Gear selector.* Press to set gear (1=slow, 2=medium, 3=fast).
5. *Power Button.* To turn the scooter on or off press button for 2 seconds.
6. *Accelerator.* Pull to accelerate. The stronger you pull, the faster it accelerates. The scooter is delivered in “Non-Zero Start” setting (Kick-And-Go is ON), i.e. the accelerator only works if the scooter is already in motion.



7. *Mode Button*. Press to select various display options:

| MODE | COMMENT   |
|------|---|
| TIME | Time since powering on the scooter.   |
| TRIP | Distance travelled since powering on the scooter.   |
| ODO  | Total distance travelled.   |
| VOL  | Current voltage.  |
| CHA  | Number of times battery has been charged (inaccurate as only full discharges are counted) |

**Detailed P-settings mode.** To access P-settings to make various advanced changes, press MODE [7] for 2-3 seconds.

Cycle through the P-settings using the MODE button [7]. In order to change a P-setting press GEAR button [4]. To return to operating mode, wait a few seconds.

| P-SETTINGS |   |
|------------|---|
| P0         | Tire diameter (10 = 10 inch). Do not change.  |
| P1         | System voltage. Default 60V. Do not change.   |
| P2         | Motor magnetic pole setting. Default 15. Do not change.   |
| P3         | Speed signal selection. Default is 0. Do not change.  |
| P4         | Distance / speed unit. 0=km, 1=miles  |
| P5         | Start setting. 1=non-zero start (Kick-and-Go), accelerator won't work if scooter not in motion; 0=immediate start (CAUTION while using this!)   |
| P6         | Cruise control. 0=cruise control OFF, 1=cruise control ON. Advanced riders only.  |
| P7         | Initial acceleration. 0=strong power, 5=least power.  |
| P8         | Speed limit as % of top speed, i.e. 100=no speed limit.   |
| P9         | Motor torque. 1=50% of max. torque, 2=75% of max. torque, 3=max. torque   |
| PA         | Electric (regenerative) braking strength (E-ABS). 0=None, 1=Weak, 2=Medium, 3=strong.   |
| PB         | Display brightness (0=off, 5=highest illumination)  |
| PC         | Scooter auto-turn off time in minutes (1-30 minutes).   |
| PD         | ABS (anti-lock braking system) setting. 0=ABS off, 1=ABS on (as in a car, the brake engages and disengages rapidly to prevent the wheel from blocking)<br>WARNING: Due to increased vibration and force and on scooter components when using ABS, do frequently check that all bolts are properly fastened. |

**Cruise Control.** Cruise control allows you to maintain your driving speed automatically without continuing to hold down the accelerator. In order to enter Cruise Control, activate it first in the P-settings [P6].

While driving, keep the accelerator steady for 3-5 seconds until Cruise Control kicks in and scooter travels at constant speed without driver holding down the accelerator. When you activate the brakes, Cruise Control will be cancelled. CAUTION: Ride in a position where you can immediately access the brake to cancel Cruise Control if necessary.

## SCOOTER MAINTENANCE & TRANSPORT

- Never perform maintenance on this product while the unit is powered on or charging. Always power off before performing maintenance. **Do not attempt to perform repairs or modify the scooter but contact your place of purchase or refer to a professional repair facility.**
- Clean stains on your scooter's body with a damp cloth. Do not use alcohol, gasoline, kerosene or other corrosive and volatile chemicals. Do not wash with high pressure cleaners. Make sure the scooter is turned off and unplugged during cleaning and ensure no moisture enters the charging port.
- When transporting your scooter, please take into account that it contains lithium-ion batteries that are considered a hazardous material.
- Always exercise caution and follow applicable rules and regulations when transporting your scooter. It is very likely that you will not be allowed to take your scooter including battery on a plane.

## **DECLARATION OF CONFORMITY**

This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This product may not cause harmful interference, and (2) this product must accept any interference received, including interference that may cause undesired operation.

### **FCC RELATED INFORMATION:**

This product has been tested and found to comply with the limits for a Class B digital product, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This product generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this product does cause harmful interference to radio or television reception, which can be determined by turning the product off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the product and receiver.
- Connect the product into an outlet on a circuit different from that to which the receiver is connected.
- Consult your place of purchase or an experienced radio/TV technician for assistance.

**NOTE:** INFORMATION, SPECIFICATIONS, WARNINGS AND ALL OTHER DETAILS INCLUDED IN THIS MANUAL ARE SUBJECT TO CHANGE AT ANY TIME, WITHOUT PRIOR WRITTEN NOTICE.

