

USER'S MANUAL & WARRANTY



 **Revolution
Mobility**
Freedom In Motion

Commander Extra Heavy Duty




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1. PREFACE AND INTRODUCTION

Please carefully read this owner's manual before using the vehicle. Improper use of the vehicle could result in harm, injury or traffic accidents. Therefore for maximum pleasure while using the vehicle please read this owner's manual.

- ◆ This owner's manual includes operation instructions for every aspect of the vehicle, assembly instructions, as well as instructions for how to deal with possible accidents.
- ◆ The symbols used in this manual are explained below:
Read especially the notes marked with these symbols:

 Warning	Improper usage could result in serious injury or death.
 Attention	Improper usage could lead to injury and/or damage to your scooter.
 Suggestion	Follow these instructions to keep your vehicle in a good operating order.

- ◆ This manual includes a copy of repair and maintenance record chart and warranty information. Please keep it in a safe place or in the scooter.
- ◆ If someone else uses the scooter, please make sure that you provide them with the instruction manual for his or her consideration.
- ◆ As designs change some illustrations and pictures in the manual may not correspond to the vehicle that you purchased. We reserve the right to make design modifications.

Our scooters have been designed and manufactured to provide a comfortable and secure yet affordable solution for some mobility requirements.

 Suggestion
To maximize your batteries efficiency and service life, please fully recharge your new battery before its first time use.

2. SAFETY NOTICE

2.1 BEFORE DRIVING

The user needs to be familiar with the usage and operation of this vehicle before driving. Therefore, please always keep the following safety notices in mind.

■ **The same traffic rules apply to the use of this vehicle as apply to pedestrians**

For your safety, please therefore follow the rules that apply to pedestrians.

- ◆ Ride on the pavement, single carriage roads, or pedestrian areas only. Never ride on motorways or dual carriageways.
- ◆ Be aware of traffic when crossing or using road.
- ◆ Be extremely cautious when driving your scooter on busy streets or in shopping malls.
- ◆ Please do not drive your scooter after consuming alcohol or when you are tired.
- ◆ Please be careful when driving your scooter in low light. It has not been designed for use at night.
- ◆ The scooter may only be used on the pavement or pedestrian areas at 6mph or less. Use the 8mph switch to ensure you keep within this limit. The scooter may be used on single carriage roads in the 8mph switch speed mode.

■ **Practice operating your vehicle**

Before using the scooter in busy or potentially dangerous areas, familiarize yourself with the operation of your scooter. Please practice in a wide and open area like a park. In order to avoid accidents with your scooter while driving, please bear in mind driving motions, such as accelerating, stopping, turning, reversing, up-and down ramps.

- ◆ Please turn the speed dial to value 3 for your initial practice.
- ◆ Be sure someone accompanies you for safety when driving on the roads for the first time.
- ◆ Only use higher speed setting when you are confident that you can easily operate and control your scooter.

■ **The Scooter is only to be used by one person at a time**

Do not carry passengers on your scooter (including children)

■ **Do not use this vehicle to carry or haul goods**

- ◆ As the maximum weight can be carried please refer to “MAX USER WEIGHT” in “9. SPECIFICATION”
- ◆ Maximum loading weight for basket is 3kg (7lb).

2.2 WHILE DRIVING

■ **Please carry out daily inspections.** Refer to the section entitled “DAILY CHECKING”

■ **Do not move your body out of the vehicle while moving**

2. SAFETY NOTICE

- ◆ Pay attention that your clothes do not tangle in the wheels.
- ◆ Such action may cause you to lose balance and risk injury from falling.
- Do not use your vehicle under the circumstances below.
 - ◆ On roads with heavy traffic or roads that are muddy, gravelly, bumpy, narrow, snowed over, icy, or canal towpaths not guarded by any fence or hedge. Keep away from places where you might get the wheels stuck.
 - ◆ Do not drive at night or when it is raining, snowing, misty, or windy.
 - ◆ Do not drive your vehicle in an “S” pattern or make erratic turnings.
 - ◆ Do not take the scooter onto escalators.
 - ◆ UNDER NO CIRCUMSTANCES SHOULD THE SCOOTER BE USED AS A SEAT IN A MOTOR VEHICLE (E.G. CARS, BUSES, TRAINS, ETC).
- About Mobile Phones and other electrical equipment
 - ◆ Do not use a mobile phone or other wireless communication devices while driving.
 - ◆ Always switch off the scooter and remove the ignition key before using a mobile phone.
 - ◆ Do not charge the mobile phone or any other electrical devices from your scooter’s battery.
- Automatic Power Shut Down

In order to avoid accidental battery run down, your scooter is equipped with an automatic power shut down facility. If the scooter is switched on, after remaining undisturbed for a period of thirty minutes it will automatically turn off. Should this occur, simply switch your scooter off and back on and it will be ready to use once again.
- Ramps, inclines and drops
 - ◆ Do not drive onto steep ramps greater than the specified gradient. Refer to the section entitled “CLIMBING ANGLE” in “9. SPECIFICATION”
 - ◆ Always use a low speed setting when ascending or descending a gradient.
 - ◆ Do not drive on roads with large drops or potholes. Refer to the section entitled “MAX. GROUND CLEARANCE” in “9. SPECIFICATION”.
 - ◆ Do not cross water gutters where the width is too big and where is a risk of getting the wheels struck.
 - ◆ Please slow down when driving on roads with inclines.
 - ◆ Do not make sudden turns when driving on gravel roads or ramps.
 - ◆ Always lean forward when climbing a steep gradient.

2. SAFETY NOTICE

■ Starting and Driving

1. Make sure the seat is installed properly.
2. Make sure the tiller has been secured properly.
3. Fold down the armrests so you can rest your arms on them.
4. Turn the power switch to “ON”. If necessary, turn on the headlights.
5. Check battery indicator to see whether there is enough power for your journey. If you have any doubt about the remaining power, please recharge the batteries before departure.
6. Set the speed dial to a position you feel safe and comfortable with.
7. Check the forward/reverse speed lever works correctly.
8. Make sure the electromagnetic brake works correctly.
9. Make sure it is safe around you before you drive on the street. Engage the 6mph switch if you are driving on the pavement.

⚠ WARNING!

- ◆ Do not set in the freewheel mode when driving on a gradient.
- ◆ Always re-engage the anti-freewheel device before use. Fail to do so may result in injury.
- ◆ To protect your safety, the power will automatically cut off and electromagnetic brake system will activate while you are driving down a steep gradient. This will limit the speed to a safe level. Turn the power on again to re-start your scooter.
- ◆ **Maximum User Weight Limit**
Refer to section entitled “MAX. USER WEIGHT” in “9. SPECIFICATION.” Overloading past the weight limit may lead to damage of your scooter or cause it to malfunction and will endanger your safety. The warranty does not cover this type of damage.

👉 Attention

1. Do not push both RH & LH sides of the speed control lever simultaneously. This might leave you unable to control your scooter.
2. Do not turn the power switch to OFF while driving as this will lead to an emergency stop and possible risk of accident and injury.
3. Do not set to the highest speeds while driving indoors.
4. Do not adjust the speed dial while driving, a sudden change in speed may cause danger to you and others, and may cause damage to your scooter.
5. Do not place magnetic devices near the area of the operation handle as this could affect the safe operation of your scooter.
6. Do be careful while driving in heavy traffic or crowded areas.
7. While reversing the vehicle, beware of people or objects behind you.
- 8.

2. SAFETY NOTICE

■ Stopping

1. Release the speed control lever completely. The vehicle will naturally brake and stop.
2. Turn the power switch to (OFF). Then pull out the key.

2.3 LABELING

Please carefully read all labels on the scooter before driving it. For your future reference, do not remove them.



2. SAFETY NOTICE

1.

WARNING

- *Before lifting up the rear shroud, please make sure to adjust the T-handlebar to the front most position. After lifting the rear shroud, please ensure that the prop levers are in lock position before proceeding on any operation.
- *When retrieving the rear shroud to the original position, please make sure to hold the lift bar with one hand and lift down the shroud slowly. It is dangerous and prohibited to put head or hands under the shroud in any circumstance.

2.

WARNING

- Never operate the freewheel lever while seated on the scooter or on an incline!
OPERATION OF THE FREEWHEEL LEVER
- *Always pull UP FIRMLY for freewheel mode
 - *Always push DOWN FIRMLY for drive mode

3.

WARNING

- ⊗ Do not operate the scooter unless the handle bar is in the lock position.
- ⊗ Do not lean against or pull forward on the handle bar while mounting or dismounting from the scooter. Serious harm or injury can occur.

The manufacturer disclaims all responsibility for any personal injury or property damage which may occur as a result of improper or unsafe use of its products.

4.

NEVER LIFT SCOOTER OR POWERCHAIR UP BY THE FRONT OR REAR SHROUD

5.

WARNING

Please hold the tiller before loosening the tiller adjustment knob. Otherwise a fall from the scooter could occur causing bodily injury or/and damage to the scooter.

6.

WARNING:

- Radio wave sources may affect Scooter or Scooter control
Radio wave sources, such as radio stations, TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones, can affect powered motorized scooters or scooter. Following the warning listed below should reduce the chance of unintended brake release or powered scooter or scooter movement which could result in serious injury.
1. Do not turn ON hand-held personal communication devices, such as citizens band (CB) radios and cellular phones, while the powered scooter or scooter is turned ON.
 2. Be aware of near by transmitters, such as radio or TV stations, and try to avoid coming close to them.
 3. If unintended movement or brake release occurs, turn the powered scooter or Scooter OFF as soon as it is safe.
 4. Be aware that adding accessories or components, or modifying the powered scooter or scooter, may make it more susceptible to interference from radio wave sources. (Note: There is no easy way to evaluate their effect on the over all immunity of the powered scooter or scooter.) Report all incidents of unintended movement or brake release to the powered scooter or scooter manufacturer, and note whether there is a radio wave source nearby.
 - 5.

2. SAFETY NOTICE

2.4 EMI

This portion of the content will provide the user with basic information that describes the problems with EMI, known sources of EMI, protective measures either to lessen the possibility or exposure or to minimize the degree of exposure, and suggested action should unexpected or erratic movement occur.

Caution: It is very important that you read this information regarding the possible effects of electromagnetic interference on your electric NEO SCOOTER.

■ ELECTROMAGNETIC INTERFERENCE (EMI) FROM RADIO WAVE SOURCES

Powered vehicle may be susceptible to electromagnetic interference (EMI), which is interfering electromagnetic energy (EM) emitted from sources such as radio stations, TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones. The interference (from radio wave sources) can cause the powered vehicle to release its brakes, move by itself, or move in unintended directions. It can also permanently damage the powered vehicle's control system. The intensity of the interfering EM energy can be measured in volts per meter (V/m). Each powered vehicle can resist EMI up to a certain intensity. This is called its "immunity level," the higher the immunity level, the greater the protection. At this time, current technology is capable of achieving at least a 20 V/m immunity level, which would provide useful protection from the more common sources of radiated EMI. This powered vehicle model as shipped, with no further modification, has an immunity level of 20 V/m without any accessories.

There are a number of sources of relatively intense electromagnetic fields in the everyday environment. Some of these sources are obvious and easy to avoid. Others are not apparent and exposure is unavoidable. However, we believe that by following the warning listed below, your risk to EMI will be minimized.

The sources of radiated EMI can be broadly classified into three types:

1. Hand-held portable transceivers (transmitter-receivers with the antenna mounted directly on the transmitting unit. Examples include: citizens band (CB) radios, "walkie talkie", security, fire, and police transceivers, cellular telephones and other personal communication devices.

Note: Some mobile telephones and similar transmit signal while they are ON, even when not being used;

2. Medium-range mobile transceivers, such as those used in police cars, fire trucks, ambulances and taxis. These usually have the antenna mounted on the outside of the

2. SAFETY NOTICE

Vehicle,

3. Long-range transmitters and transceivers, such as commercial broadcast transmitter (radio and TV broadcast antenna towers) and amateur (HAM) radios;

Note: Other types of hand-held devices, such as cordless phones, laptop computers, AM/FM radios, TV sets, CD player, and cassette players, and small appliances, such as electric shavers and hair dryers, so far as we know, are not likely to cause EMI problems to your powered vehicle.

■ **POWERED VEHICLE ELECTROMAGNETIC INTERFERENCE (EMI)**

Because EM energy rapidly becomes more intense as one moves closer to the transmitting antenna (source), the EM fields from hand-held radio wave sources (transceivers) are of special concern. It is possible to unintentionally bring high levels of EM energy very close to the powered vehicle's control system while using these devices. This can affect powered vehicle movement and braking. Therefore, the warnings listed below are recommended to prevent possible interference with the control system of the powered vehicle.

■ **WARNINGS**

Electromagnetic interference (EMI) from sources such as radio and TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones can affect powered vehicles and motorized scooter. Following the warnings listed below should reduce the chance of unintended brake release or powered vehicle movement which could result in serious injury.

1. Do not operate hand-held transceivers-receivers), such as citizens band (CB) radios, or turn ON personal communication devices, such as cellular phones, while the powered vehicle is turned ON;
2. Be aware of nearby transmitters, such as radio or TV stations, and try to avoid coming close to them;
3. If unintended movement or brake release occurs, turn the powered vehicle OFF as soon as it is safe;
4. Be aware that adding accessories or components, or modifying the powered vehicle, may make it more susceptible to EMI (Note: There is no easy way to evaluated their effect on the overall immunity of the powered vehicle);
5. Report all incidents of unintended movement or brake release to the powered vehicle manufacturer, and note whether there is a source of EMI nearby;

■ **IMPORTANT INFORMATION**

1. 20 Volts per meter (V/m) is a generally achievable and useful immunity level against EMI (the higher the level, the greater the protection);
2. This product has an immunity level of 20 V/m without any accessories and connected to it.

3. PARTS INTRODUCTION

PARTS DESCRIPTION

- | | | |
|---------------------------|----------------------|-------------------------|
| 1. Speed Dial | 2. Armrest | 3. Front Indicator Lamp |
| 4. Charger Socket Cover | 5. Basket | 6. Tiller |
| 7. Tiller Adjustment Knob | 8. Head Lamp | 9. Seat |
| 10. Seat Rotation Lever | 11. Hand Brake Lever | 12. Side Reflector |
| 13. Rear Lamp | 14. Rear Reflector | 15. Freewheel Lever |
| 16. Anti-tip wheels | 17. Reset Switch | 18. Rear Indicator Lamp |



4. OPERATION

4.1 CONTROL PANEL

1. Speed Dial
2. Horn Button
3. Indicator lamp switch
4. Head light / Rear Light Button
5. Speed Control Lever
6. Battery Indicator
7. Power Switch
8. Indoor/Outdoor switch



4.2 HOW TO OPERATE YOUR SCOOTER

■ Power switch

Turn the key to power ON or OFF

(ON) : Power is turned on

(OFF) : Power is turned off

■ Speed Dial

Turn this dial to determine to the speed range of the scooter.

Turn the dial anti-clockwise to go slower and clockwise to go faster.



■ Forward, Reverse, and Braking

- ◆ Push the speed control lever forwards with your right thumb and the vehicle will move forward.
- ◆ Push the speed control lever backwards with your left thumb and the vehicle will move backward.
- ◆ The horn will beep when the vehicle is in reverse.
- ◆ Release the speed control lever freely while either going forward or reverse, and the electromagnetic brake in the motor will be activated and the vehicle will stop.

■ Indicator Lamp Switch

The light will flash and buzzer will make a beeping sound when turning the switch to the left or right.

- ◆ Return the switch back to the middle, the indicator will be cancelled.

4. OPERATION

■ Indicator Lamp Switch

- ◆ Return the switch back to the middle, the indicator will be cancelled.
- ◆ The light will flash and buzzer will make a beeping sound when turning the switch to the left or right.

■ Horn Button

Press the horn button to sound the horn. Release the button to stop the horn.

■ Light Button

Push the light button to switch the front and rear lights on. Push the button again to turn the lights off.

■ Battery Indicator

- ◆ When the power switch is turned on the battery indicator will light up with indicating the remaining battery power. Green indicates (50% ~ 100%) capacity, yellow a draining charge (20 ~ 40%), and red indicates that immediate recharge is necessary.
- ◆ The remaining power indicated by the battery indicator will vary by the actual driving time incurred and how you drive. Repeated starting, stopping, climbing will consume the power more quickly.



📖 Suggestion

1. You should recharge the batteries after each time the vehicle is used to ensure maximum range. The batteries should be charged up at least once a week even if the scooter is not used.
2. After charging or replacing a new battery, drive the vehicle for 2-3 minutes to make sure the battery capacity is sufficient.
3. In wintertime, the battery may respond more slowly and the battery range may be reduced.
4. When driving on a gradient, the battery indicator light might move up and down. This is a normal phenomenon so please do not worry.
5. Even if the battery is used properly, it is natural for the battery's capacity to reduce with time, which results in reduced battery range compared to a brand new battery. Therefore, when you find the battery's range is about only 50% of the range when the batteries were new, it is time to replace the batteries. Please see your dealer for replacement batteries. If you continue to use the old battery when it should be replaced, it could lead to a rapid decline in performance.
6. The battery range will be reduced when driving frequently on a slope or rough terrain, as this leads to greater consumption of power.

4. OPERATION

■ Braking

Electro-magnetic brake: Release the speed control lever completely, and the electromagnetic brake will be activated automatically, and the scooter will stop.

⚠ Warning

When on a gradient NEVER switch the vehicle to the freewheel mode. The electromagnetic brakes will not be applied. This may result in injury.

■ Seat

- ◆ The seat can be turned to 45 degrees or 90 degrees.
- ◆ Push the seat adjustment lever forward and swivel seat.
- ◆ Release the lever, and then continue swiveling the seat until it locks in position.

☞ Attention

- ◆ Return the seat to the forward position before driving.

■ How to adjust the armrest width

Loosen the knobs at the back of the seat frame firstly, and then adjust the armrest width by sliding the armrest. Once satisfied with the width, tighten the knob.

■ How to re-position the seat

The distance between seat and tiller can be adjusted by reposition the seat forward or backward. Loosen the four bolts under the seat which is on the seat platform firstly, and then tighten the bolts securely after move the seat to satisfied position.

How to set to free wheel mode

- ◆ Engaged mode : Lift the lever down completely, the scooter can be driven by motor power.
- ◆ Freewheel Mode : Push the lever up completely, the scooter can be moved manually.



■ Tiller Adjustment

The Tiller can be adjusted in to several positions by following steps.

1. Loosen the knob to adjust the tiller to position you want.
2. Once decide the position, tighten the knob to secure the tiller.



4. OPERATION

⚠ Warning

Never operate the freewheel lever while seated on the scooter or on an incline.!

OPERATION OF THE FREEWHEEL LEVER]

*Always pull UP FIRMLY for freewheel mode

* Always pull DOWN FIRMLY for drive mode

⚠ Warning

1. Please hold the tiller before loosening the tiller adjustment knob. Otherwise a fall from the scooter could occur causing bodily injury and/or damage to scooter.
2. Never attempt to adjust the tiller while the scooter is motion.

■ Manual Brake

As well as an electromagnetic brake, the COMMANDER XL has a manual cable brake. Squeeze the brake lever to apply the brake and then release the lever to release the brake. The manual brake tightness can be adjusted by the brake cable adjuster near the left hand side wheel.



5. DRIVING ON THE ROAD

■ Starting and Driving

1. Make sure the seat is installed properly.
2. Make sure the tiller has been secured properly.
3. Fold down the armrests so you can rest your arms on them.
4. Turn the power switch to “ON”.
5. Check battery indicator to see whether there is enough power for your journey. If you have any doubt about the remaining power, please recharge the batteries before departure.
6. Set the speed dial to a position you feel safe and comfortable with.
7. Check the forward/reverse speed lever works correctly.
8. Make sure the electromagnetic brake works correctly.
9. Before driving, ensure it is safe to do so in the environment around you.

☞ Attention

1. Do not push both RH & LH sides of the speed control lever simultaneously. This might leave you unable to control your scooter.
2. Do not turn the power switch to OFF while driving as this will lead to an emergency stop and possible risk of accident and injury.
3. Do not set to the highest speeds whilst driving indoors.
4. Do not adjust the speed dial whilst driving, a sudden change in speed may cause danger to you and others, and may cause damage to your scooter.
5. Do not place magnetic devices near the area of the operation handle as this could affect the safe operation of your scooter.
6. Do be careful whilst driving in heavy traffic or crowded areas.
7. Whilst reversing the vehicle, beware of people or objects behind you.

◆ Stopping

1. Release the speed control lever completely. The vehicle will naturally brake and stop.
2. Turn the scooter off at the key. Then pull out the key.

☞ Attention

- ◆ The stopping distance will vary with your forward / reverse speed. Therefore please begin braking as early as you can.
- ◆ While parking your scooter, be sure to park on flat ground and then turn the power to “OFF” before you get off.

5. DRIVING ON THE ROAD

◆ Main Circuit Breaker (Reset Button)

When the voltage in your scooter's batteries becomes low or the scooter is heavily strained because of excessive loads or steep inclines, the main circuit breaker may trip to protect the motor and electronics from damage.

The location of the circuit breaker is shown by the arrow on the photograph (below).



6. BATTERY CHARGING AND CARE

6.1 CHARGING THE BATTERY

Follow the procedure below step by step:

1. Turn the power switch to (OFF)
2. Connect the charger's power cord into the power outlet.
3. Open the charging socket cap on the scooter's tiller. Then connect the charger's round plug to the charging socket.
4. Turn on the switch on the charger.
5. Both the charger's red and orange LEDs will be lit when beginning charging. The charging duration is about 6 hours. To ensure optimum performance a 10-hour charge is recommended. But we do not recommend a charging more than 24 consecutive hours.
6. Both the charger's LEDs will be lit during the charging process.
The orange LED will turn green when charging is complete.
7. Turn off the charger; disconnect the power cord and the round plug from charger socket on the scooter.



Suggestion

1. Do not disconnect the charger cord if charging is not completed. The battery life will be seriously shortened or decayed if the battery is repeatedly used without being fully charged. Therefore be sure to charge the battery fully every time.
2. Always complete the charging until the orange LED light turns green. NEVER stop charging before it is complete.
3. When fully charged, the battery charger will still trickle charge the battery to ensure optimum range.
4. If you do not use your scooter for a long time, it should be charged at least every week to keep the battery in a fully usable condition.
5. Charging time will be affected by the ambient temperature. Charging time will be longer in the winter.
6. After charging, do not leave the charger socket plugged in to the scooter, as this will cause a power drain on the scooter and temporarily reduce its range.
7. The batteries carry a six-month manufacturer's warranty. This warranty only covers issues relating to manufacturing faults, and not faults relating to failure to recharge the batteries as instructed above.

6. BATTERY CHARGING AND CARE

Attention: Please follow the rules below to avoid accidents while charging.

1. Please use the charger only, and recharge the battery to its full capacity every time. You may damage the battery and scooter if you use a charger which is not to the correct specification.
2. Never disassemble or modify the charger.
3. Please charge in a well-ventilated space where it is not directly exposed to the sunlight. Do not charge in surroundings where it is humid or under rainfall and morning dews.
4. Do not cover with a waterproof cloth or other objects while charging.
5. Do not charge in temperatures less than -10°C or higher than $+50^{\circ}\text{C}$ as the charger may not work well and the batteries may become damaged.

Warning

1. Keep away from flammable objects while charging as it may lead to fire or explosion of battery.
2. Do not smoke while charging as the battery may release hydrogen gas. Always charge your battery in a well-ventilated space.
3. Never connect or disconnect the plug or cord with wet hands while charging. Do not connect or disconnect the plug or cord when they are wet, it may lead to electric shock.

NOTE: The immovable function will be activated while your scooter is in charging status, which will make your scooter not run.

6.2CHARGER

Both the chargers red and orange LEDs will be switched ON during charging. The orange LED will turn green when charging completed.

Warning

- ◆ The fan inside the charger will be activated accordingly when you turn on the charger. If the fan does not work when connected to the charger or the green light is not showing, DO NOT use this charger. It may lead to overheating of the charger and cause a fire as a result.
- ◆ There is a red LED present on the charger to illustrate operation. If this LED does not illuminate the charger is defective, please contact your dealer.

6. BATTERY CHARGING AND CARE

6.3 BATTERY

- ◆ Do not expose the battery to temperatures below 10°C or above 50°C when charging or storing the vehicle. Under the above temperature range can cause the battery either to freeze or over heat. This will damage the batteries and shorten their life.
- ◆ These batteries are maintenance free and there is no need to refill with water.
- ◆ You are required to recharge the batteries on a regular basis. Even if the scooter is stood idle, you should charge the batteries at least once a week.

Warning

Do not open the battery sealed cap at any time.

■ **Cleaning the battery**

If the batteries are contaminated by water, battery acid, dust or other substances, they will discharge quickly. The batteries supplied with the scooter are sealed and as such are maintenance free with no risk of battery leakage. Please follow the steps below to clean the battery.

1. Turn the scooter power switch to “OFF”.
2. Remove the seat and dust cover.
3. Remove the shroud and unplug the terminal of the taillight and signal lights.
4. Use a clean cloth to wipe off the soiled area.
5. Take out the battery.
6. Clean the battery with a clean cloth. If the terminal is covered by white powder, please wipe it clean using warm water.

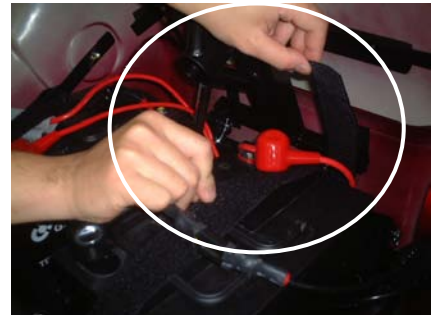
■ **Changing the battery**

Follow the procedure below step by step to replace the batteries:

1. Switch off the scooter the key ignition.
2. Loose the knob make sure to adjust the handle bar to the front most position
3. Remove the pin lock of absorbers.
4. Swing the seat lean on the tiller.
5. Discount the cables from the four battery terminals.
6. Undo the hook-and-loop strap and remove the batteries.
7. Place new batteries on scooter.
8. Connect the red cable to the positive (+) battery terminal and black cable to negative (-) on the other battery.
9. Swing the seat on the frame .
10. Install the pin lock into the absorbers.

6. BATTERY CHARGING AND CARE

11. Move the tiller in to the required position then retighten the knob to secure the tiller.



⚠ Warning

1. Before lifting up the rear shroud, please make sure to adjust the handlebar to the front most position .After lifting the rear shroud, please ensure that the prop lever is in lock position before proceeding on any operation.
2. When retrieving the rear shroud to the original position, please make sure to hold the lift bar with one hand and lift down the shroud slowly. It is dangerous and prohibited to put head or hands under the shroud in any circumstance.

7. INSPECTION AND MAINTENANCE

Suggestions

If necessary, ask for help from your dealer for advice about maintaining and replacing the battery.

Suggestions

1. Make sure the terminals are installed properly and put the cover back on.
2. Do not use the battery to charge telecom equipment or other items.
3. Battery efficiency will vary with outside conditions; the driving distances will be shorter in the winter. If the vehicle is not used for a long time, please charge the battery at least every week.
4. Replace both batteries together.

7.1 INSPECTION

Check following items before driving. If you find anything abnormal, contact your dealer for further inspection or advice before using the battery.

Item	Inspection Content
Handlebar	<ul style="list-style-type: none">◆ Is there any looseness?◆ Can it turn left and right smoothly?
Speed Control Dial	<ul style="list-style-type: none">◆ Can it be adjusted freely and does it function well?
Speed Control Lever	<ul style="list-style-type: none">◆ Does the scooter move when the lever pressed down?◆ Does the scooter stop when the lever is released completely?
Motor	<ul style="list-style-type: none">◆ Are there an abnormal noise coming from the motor?◆ Do the electromagnetic brakes work properly?
Freewheel Mode	<ul style="list-style-type: none">◆ Does the free wheel mode lever work properly?
Battery Indicator	<ul style="list-style-type: none">◆ Is the light on when the power is switched on?◆ Is the remaining power enough for your trip?
Horn	<ul style="list-style-type: none">◆ Does the horn work?
Seat	<ul style="list-style-type: none">◆ Can the seat swivel smoothly?
Reflector	<ul style="list-style-type: none">◆ Is the reflector present and correct?
Tyres	<ul style="list-style-type: none">◆ Are there any cracks or other damage to the tires?◆ Check the tire treads depth.
Other	<ul style="list-style-type: none">◆ Are there any abnormal noises?◆ Is there oil leakage from transmission box?

Attention

Go to your dealer for inspection and maintenance if you find anything wrong.

7. INSPECTION AND MAINTENANCE

7.2 REGULAR CHECKING RECORD

To make sure your scooter is correctly serviced, take it to your dealer for regular maintenance checks. This should be at intervals of six months after the first inspection after one month. Your dealer may charge a fee for this service.

YEAR	1	2	3	4	YEAR	1	2	3	4
Service Dates					Service Dates				
Controller					Upholstery				
On/off switch					Seat				
Control Lever					Back				
Braking					Armrests				
Recharge point					Electrics				
Batteries					Connections condition				
Levels					Lights				
Connections					Test run				
Discharge test					Forwards				
Wheels and Tyres					Reverse				
Wear					Emergency stop				
Pressure					Left turn				
Bearings					Right turn				
Wheel nuts					Slope test				
Motors					Over obstacles				
Wiring					List Items repaired				
Noise									
Connections									
Brake									
Brushes									
Chassis									
Condition									
Steering									

7.3 BATTERY, FUSE AND TYRE

■ Battery

Refer to the section entitled “6 BATTERY” in “6. BATTERY CHARGING AND CARE.”

■ Fuse

If the battery charger is turned on and no LEDs are lit, check the fuse.

Suggestion

Ask for help from your scooter dealer to inspect or replace the fuse, since the tiller shroud has to be removed first before you can replace the fuse.

■ Tires

The condition of the tires depends on how you drive and use your scooter.

◆ Inspecting Tire Tread

◆ Please check the tread depth regularly. Replace the tires when the tread depth is less than 0.5 mm.

7. INSPECTION AND MAINTENANCE

Attention

1. When tread depth is below 0.5mm it can easily lead to vehicle slippage, making braking distances longer. Therefore replace the tires as early as possible when they do not have insufficient tread depth.
2. The tire pressure shall be kept at about 26 PSI (approx. 1.8KG/cm) for the best ride and handling.

Attention

When conducting maintenance of your vehicle, please turn the power switch to OFF and remove the charger cords.

Suggestions

- ◆ Do not splash water directly to wash your scooter as this could lead to malfunction of the system electrics.
- ◆ Do not use petrol, solvents or vaporizing solution as these may deform or damage the shrouds.
- ◆ Do not use wax.

7.4 STORAGE

Make sure the vehicle is stored under the following circumstances:

- Make sure the seat is set in the “Forward” position
- Make sure the Power switch is turned to OFF

Suggestion

Please store the scooter in a location where it is away from the direct sunlight, rain, or dew. When storing for a long time, please charge the battery to full power and then disconnect the battery terminal. For details inquire to your scooter dealer.

7.5 MOVING ABOUT

- ◆ Turn the power switch “OFF” before moving.
- ◆ Lift the scooter by the chassis, and not by the bumpers. Lifting the scooters by the bumper could cause damage or injury.
- ◆ For your safety, always ask for help if required. You will need 2 or 3 persons when moving or lifting the vehicle.

8. DISASSEMBLY AND ASSEMBLY

8.1 DISASSEMBLING THE SCOOTER

The procedures for assembling and disassembling are very similar for the scooters. The following procedure is to disassemble the scooter for transportation:

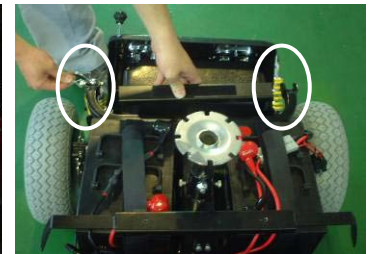
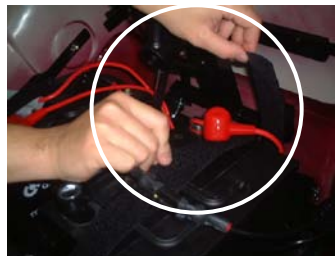
1. Switch off the scooter at the key ignition.
2. Unscrew the seat hand wheels and remove seat.

Be careful with the seat as it is heavy.

3. Remove the bolts of shroud then Lift up the rear shroud.
4. Disconnect the cables from the four battery terminals.
5. Undo the hook-and-loop strap and remove the batteries. Be careful with the seat as it is heavy.



6. Disconnect the main loom to separate the wiring between the front and rear of the scooter.
7. Disconnect the connector of main circuit breaker.
8. It is necessary to slacken off the two frames in order that the pin lock may be removed. Pull up and remove the pin lock, which hold the separate chassis frames together finally pull the chassis of the scooter apart to separate.



8. DISASSEMBLY AND ASSEMBLY

Suggestion

The assembly process is essentially the disassembly process in reverse. First study the text and photographs in the disassembly procedure before re-assembly the scooter.

8.2 ASSEMBLING THE SCOOTER

1. Push the two halves of the scooter together and reinsert the locking pin, also tightening tension bolts.
Reconnect the main loom.
2. Reinstall the batteries and secure them with the hook-and-loop strap.
3. Reconnect the batteries ensuring the two red connectors are together, and the two black connectors are together. **DO NOT CONNECT A RED CONNECTOR TO A BLACK CONNECTOR.**
4. Reconnect the rear light loom and replace the rear shroud and rubber shroud cover.
5. Replace the seat and secure with the knob.

9. TROUBLE SHOOTING AND SPECIFICATION

■ TROUBLE SHOOTING

You can inspect the following before taking you scooter to the dealer.

<i>Symptom</i>	<i>Remedy</i>
The scooter will not switch on	<ul style="list-style-type: none">• Try recharging the battery• Check the fuse and circuit breaker in the scooter
The scooter switches on, but the scooter will not move.	<ul style="list-style-type: none">• Ensure there is enough power in the batteries. If not, recharge the batteries.• Ensure the free wheel lever is engaged in the 'DRIVE' position.
The scooter appears slow	<ul style="list-style-type: none">• Check the battery power level and recharge• Check the speed dial is not set to slow.
The seat turns when in operation	<ul style="list-style-type: none">• Slowly rotate the seat until it drops in to place and is secure
The handlebar appears loose	<ul style="list-style-type: none">• Tighten the height adjustment handle to secure the handlebar
Involuntarily horn sounds	<ul style="list-style-type: none">• Ensure that the wigwag paddle is released.• Switch the scooter off and on.• Recharge the batteries.• If problem persists contact your REVOLUTION MOBILITY dealer.

If you cannot solve the problem by yourself, contact your dealer for help.

9. TROUBLE SHOOTING AND SPECIFICATION

SPECIFICATION	
Model Reference	COMMANDER XHD
Dimension (L x W x H mm) (L x W x H inch)	1560 x 740 x 920mm 61.4" x 29.1 " x 36.2 "
Weight ,w/I battery without battery	168 kg / 370 lbs
	116 Kg / 255 lbs
Battery	12V 75Ah x 2
Charger	24V 8A
Front Tire	4.00-5 x 2
Rear Tire	4.00-5 x 2
Driving System	Direct drive the rear wheels (with differential gear)
Brake System	Electromagnetic brakes
Control Method	By speed control lever
Max. Speed	6mph /9.6Km/h
Climbing angle	10°
Cruising range	20-25 mile/32-40 km
Max. user weight	550 lbs/250 kg

Remark: The manufacturer reserves the right to modify the specification if necessary. The final specification is subject to the individual scooter you purchase from your dealer.

Note:

Maximum driving distance is based on an ambient temperature of 20°C, a 100kg driver and a brand new fully charged battery by a constant driving speed at 6 km/h with 70% battery power discharged.

10. WARRANTY

WARRANTY

There is a comprehensive twelve-month warranty from the date on which your new scooter is delivered. The warranty covers the scooter for repairs or replacement during this period. For more detail, please see the Warranty Conditions below.

Warranty Conditions:

- Any work or replacement part installation must be carried out by an authorized REVOLUTION MOBILITY Tech dealer / service agent.
- To apply the warranty should your scooter require attention please contact the designated service agent listed below.
- Should any part of the scooter require repair or full or part replacement, as a result of a manufacturing or material defect within twelve months of receiving the scooter, the work will be carried out free of charge.
 - Frame : 3Years limited warranty
 - Electronic parts : 1Years limited warranty

Note: The warranty is not transferable
- Any repaired or replaced parts will be covered by this warranty for the balance of the warranty period on the scooter.
- Parts replaced after the original warranty has expired will be covered by a three months warranty.
- Consumable items supplied will not generally be covered during the normal warranty period unless such items require repair or replacement clearly as a direct result of a manufacturing or material defect.

Such items include (among others): upholstery, tires and batteries.
- The above warranty conditions apply to brand new scooters purchased at the full retail price. If you are unsure whether your scooter is covered, check with the service agent.
- Under normal circumstances, no responsibility will be accepted where the scooter has failed as a direct result of:
 - The scooter part not having been maintained in accordance with the manufacturer's recommendations.
 - Failure to use the manufacturer's specified parts
 - The scooter or part having been damaged due to neglect, accident or improper use
 - The scooter or part having been altered from the manufacturer's specifications or repairs having been attempted before the service agent is notified

Please note your local service agent's contact details in the box below. In the event of your scooter requiring attention, contact them and give all relevant details so they can act quickly.

The manufacturer reserves the right to alter without notices any weights, measurements or other technical data shown in this manual. All figures, measurements and capacities shown in this manual are approximate and do not constitute specifications.

REVOLUTION MOBILITY Authorized Service Agent

Name
Address
Tel
Postcode

10. WARRANTY

10.1 VIN (VEHICLE INDIFICATION NUMBER)

To ensure the correct after sales service and warranty service support, please write down the vehicle identification number that is stuck on the back right-hand side of the frame.



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Model	COMMANDER XHD		
Chassis NO.			
Motor serial #		Key #	

Warranty Application Form

Name				
Sex	<input type="checkbox"/> Male <input type="checkbox"/> Female			
Date of Birth	Year Month Day			
Address				
Model	COMMANDER XHD			
Vehicle Data	Scooter Chassis No.:			
	Motor Serial No:		Key #	
Date of Purchase	Year Month Day			
Purchaser Signature				



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PART NO. C37-022-00202