



C.T.M. MOBILITY SCOOTER

1-Series Instruction Booklet



HS-115



HS-118

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INTRODUCTION

Thank you and congratulations on purchasing your new C.T.M. Mobility Scooter. It is designed to provide you with transportation ability indoors and outdoors.

We pride ourselves on providing safe and comfortable products. Our goal is to ensure your complete satisfaction with our product. We are certain that you will enjoy your C.T.M. mobility scooter.

Please read and observe all warning and instruction provided in the owner's manual before operating this scooter. Also, retain this booklet for future reference.

In case of a serious incident with the product, you should inform the manufacturer and the competent authority in your country.

If you have any questions, you can contact:



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IMPORTANT PRECAUTIONS

- Only one person at a time could ride a C.T.M. Mobility Scooter.
- Maximum load is 115 kg / 255 lbs.
- Turn key off before getting on or off.
- Always drive carefully and be aware of others using the same area.
- If the mobility product is to be operated on public roads, the vehicle driver is responsible for ensuring that it is in an operationally reliable condition. Inadequate or neglected care and maintenance of the mobility product will result in a limitation of the manufacturer's liability.
- If at all possible, avoid driving on slippery surfaces (such as snow, gravel, ice, etc.) Where there is a danger of you losing control over the vehicle, especially on a gradient!
- Never attempt to ascend or descend a slope on slippery surfaces or where there is a danger of skidding.
- Always use pedestrian crossings wherever possible. Take extreme care when crossing roads.
- Do not drive on slope exceeding 6 degree, and take extreme care when turning on slope.
- Do not use full power when turning to sharp corner, always use slow speed and avoid shifting the center of gravity when turning left or right.
- Take great care and drive in low speed when backing up, riding downhill or on uneven surface, and climbing curb.
- Please use the lowest speed when driving through the descending road or uneven terrain. If speed is too fast, leave your hand off the throttle lever, let the scooter stop. Make sure safety and start again.
- The weight capacity limit will vary at ramp degree (please refer to following picture).



- A slow speed must always be used when ascending, descending or traversing a slope or incline and also on uneven terrain, ramps and soft or loose surfaces, such as gravel or grass.
- To prevent any danger, do not turn around at high speed on ascending, descending ramp.
- Scooter may not operate well in high humidity.
- Do not leave the powered scooter in a rain storm of any kind.
- Do not use the powered scooter in a shower.
- Direct exposure to rain or dampness will cause the scooter to malfunction electrically and mechanically; may cause the powered scooter to prematurely rust.
- Never put scooter in neutral when staying on slopes.
- Follow traffic laws when riding outside.
- When scooter on moving transport vehicles, do not sit or stay on scooter.
- Any unauthorized modification is prohibited. Please do not attempt to modify the scooter. Any change to the drive program can affect driving characteristics and stability of the scooter.
- Never use the scooter while under the influence of fireworks. Keep away from flammable objects while charging as it may lead to fire or explosion of battery or oxygen tank.
- Do not smoke while charging as the battery may release hydrogen gas. Please charge your battery in a well-ventilated space.
- Do not operate on staircases or escalators.
- Do not perform wheelies, exercises, or stretching while operating the device.
- Do not operate the device while charging.

SAFETY INFORMATION ON ELECTROMAGNETIC INTERFERENCE (EMI)

CAUTION : It is very important that you read this information regarding the possible effects of Electromagnetic Interference on your motorized scooter.

Powered wheelchairs and motorized scooters 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 motorized scooter to release its brakes, move by itself, or move in unintended directions. It can also permanently damage the motorized scooter control system. The intensity of the interfering EM energy can be measured in volts per meter (V/m). Each motorized scooter can resist EMI up to 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 immunity level of this motorized scooter model is 30 V/m.

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 warnings 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 (transmitters-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;



Some cellular telephones and similar devices transmit signals 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 vehicle; and
3. Long-range transmitters and transceivers such as commercial broadcast transmitters (radio and TV broadcast antenna towers) and amateur (HAM) radios.



Other types of hand-held devices, such as cordless phones, laptop computers, AM/FM radios, TV sets, CD players, 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 motorized scooter.

Motorized Scooter Electromagnetic Interference :

Because EM energy rapidly becomes more intense as one move 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 motorized scooter control system while using these devices. This can affect motorized scooter movement and braking. Therefore, the warnings listed below are recommended to prevent possible interference with the control system of the motorized scooter.

Warnings :

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

1. Do not operate hand-held transceivers (transmitters-receivers), such as citizens band (CB) radios, or turn ON personal communication devices, such as cellular phones, while the motorized scooter 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 motorized scooter OFF as soon as it is safe;
4. Be aware that adding accessories or components, or modifying the motorized scooter, may make it more susceptible to EMI; and



There is no easy way to evaluate their effect on the overall immunity of the motorized scooter.

5. Report all incidents of unintended movement or brake release to the distributor listed on the inside front cover of this manual. 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 (as of May 1994). The higher the level, the greater the protection.
2. The immunity level of this product is 30 V/m.

PRODUCT OVERVIEW

Before attempting to drive this scooter on your own, it is important that you familiarize yourself with the controls, and how to operate them.

Intended use : The C.T.M. Mobility Scooters provide a means by which a disabled occupant i.e. a disabled person or a person not having the full capacity to walk unaided to have mobility and the freedom to travel.

Indication : The occupant is a person who requires a mobility scooter due to current or anticipated mobility limitations. The C.T.M. Mobility Scooters are intended to be applicable to at least 50% of adult users, based upon the body size of adult users within the range 50th percentile adult female to 50th percentile adult male the abilities and with vary in weight.

Contra-indications : None known.

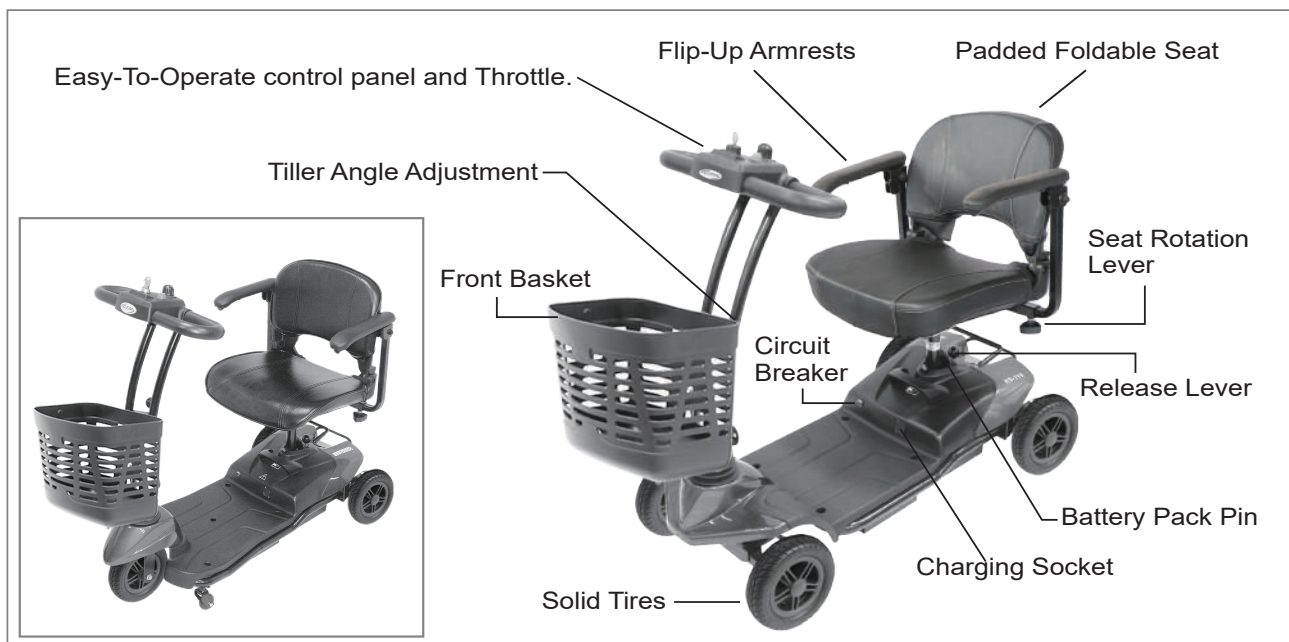


Figure 1 - HS-115.118 Front View

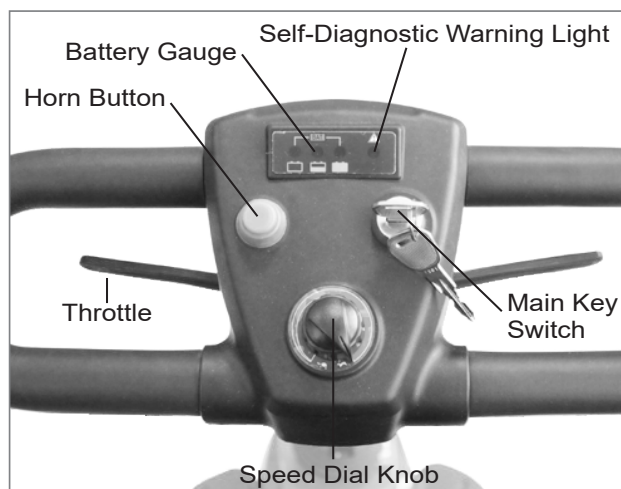


Figure 2 - HS-115.118 Top Control Panel

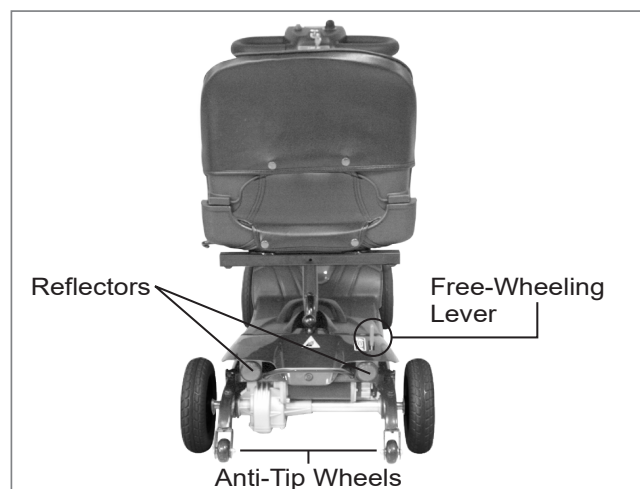


Figure 3 - HS-115.118 Back View

SAFETY WARNING & INSTRUCTION LABELS



Figure 4 - HS-115.118 Front View

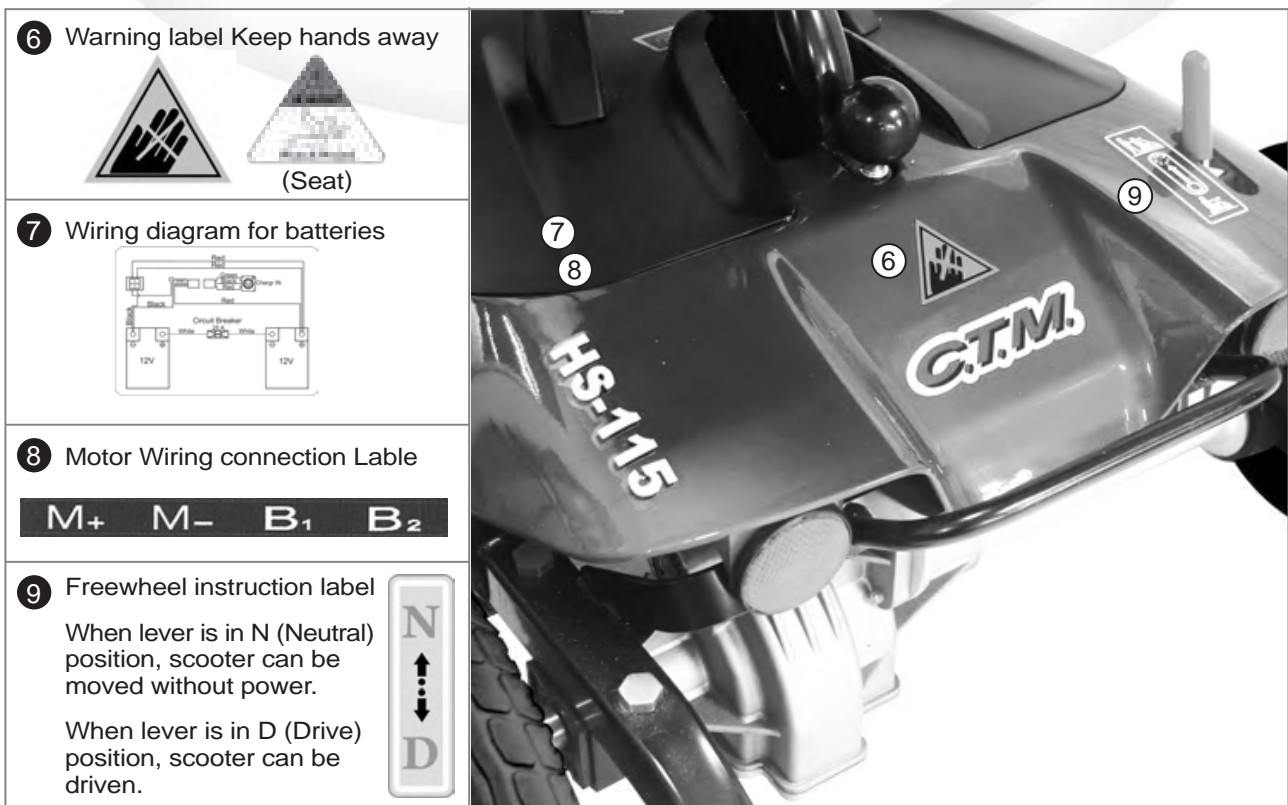


Figure 5 - HS-115.118 Back View

OPERATING YOUR SCOOTER

Before operation, please remove the Lock Nut (A) and press button of Circuit Breaker (B) to activate the system.

FUNCTION OF PARTS :

Main Key Switch (C)

1. Turn the key to the right
Turn the scooter on.
2. Turn the key to the left
Turn the scooter off.

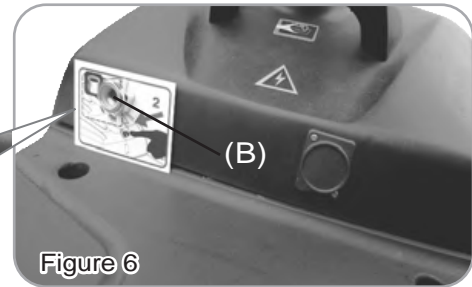
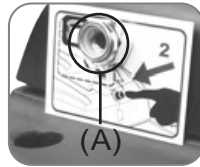


Figure 6



Always ensure that the scooter is switched off before getting on or off the scooter and before removing any items of the scooter.



The ON/OFF key switch must only be operated, when in motion, in an emergency. Turning the scooter OFF whilst driving will bring the scooter to an abrupt stop.

Speed Dial Knob (D)

The image of rabbit means fast or high speed.

The image of turtle means slow or low speed.

By turning this knob towards chosen image you can control overall speed of the scooter.

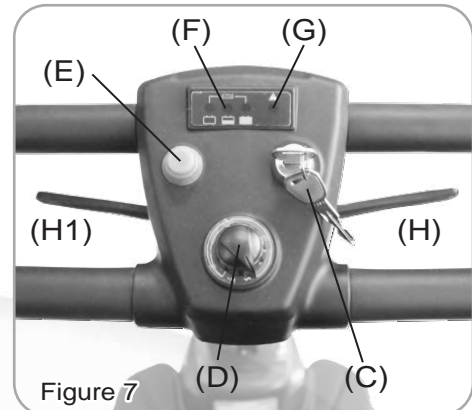


Figure 7



Before driving the scooter, set the speed to low speed by turning the knob towards turtle image,



Drive in high speed when encounter an up slope, and drive in low speed when encounter a down slope.

Horn Button (E)

Press Horn Button (E) once to sound warning tone when necessary.

Battery Gauge (F)

The meter gives an approximation of battery strength. Three coloured lights illuminated indicate batteries are fully charged. The green followed by the amber light will go out as the batteries are used. When only the red light remains on, the batteries need to be charged immediately.

Self Diagnostic Warning Light (G)

Flashing light indicates there is a problem within scooter. See page 16 for more information.

Throttle (H) (H1)

Pulling right Throttle moves scooter forward. (H) Pulling left Throttle moves the scooter backward. (H1) (This can be reversed if required by local dealer.) Releasing both, engages automatic brake. These are also your accelerator. The further you depress them, the faster you go. (Subject to the position of the Rabbit/Turtle control).



Releasing the Throttle engages the automatic brake, but will taxi for a short buffering distance, please keep safe distance when stopping to prevent any danger.

Tiller Angle Adjustment :

1. Lift up the lever (I) to disengage the pin.
2. Simultaneously, adjust the steering fore-aft to the most comfortable angle. Release lever (I) and ensure the pin is fully engaged to lock the steering column in position.

Seat Rotation Adjustment :

1. Lift lever (J) upward to disengage pin.
2. Simultaneously, rotate seat (K) (or lift up to disassemble the seat) to the most comfortable angle. Release lever (J) and ensure the pin is fully engaged to lock the seat in position.

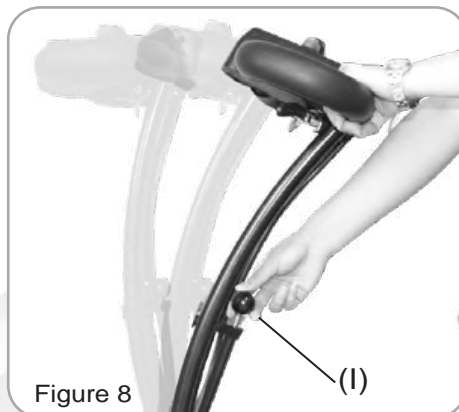


Figure 8

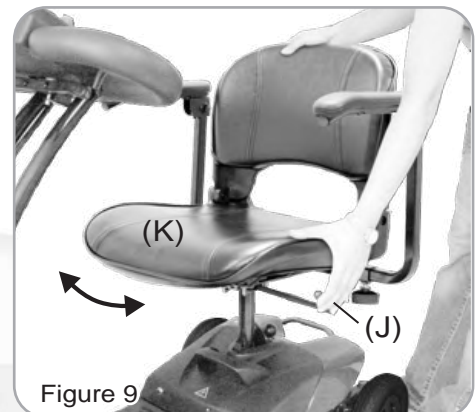


Figure 9

Circuit Breaker :

If scooter's circuit system malfunctions or over loaded, the circuit system will automatic shut down the power to ensure driver's safety. After the power is off, press button (L) to regain power.

Free-Wheeling Lever :

To push scooter for short distances, put it in freewheel mode by pushing forward on free-wheel lever to N. This disables the drive system and brake system. To take the scooter out of freewheel mode, pull the free-wheel lever backward to D to re-engage the drive and brake system.

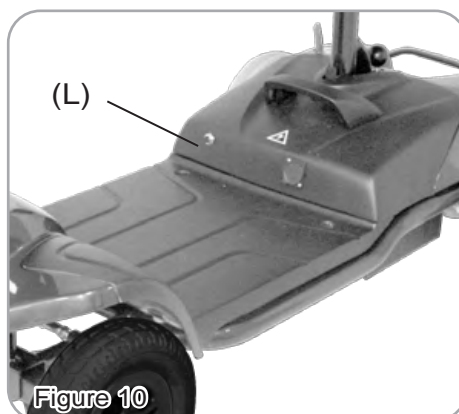


Figure 10

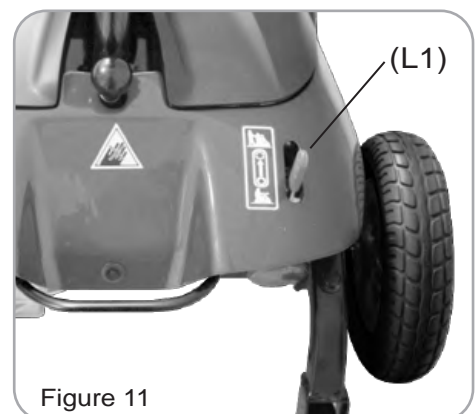


Figure 11

Basket assembling and disassembling :

Remove the Front Basket (L2) and place it off to the side.

Armrest assembling and angle adjustment :

- 1.Remove plugs (L3) at both sides.
- 2.Assembling armrests.
- 3.Adjust armrest to most comfortable angle, then lock with knob (L4).
- 4.Adjust screw's (L5) height, to control armrest's angle.



Figure 12

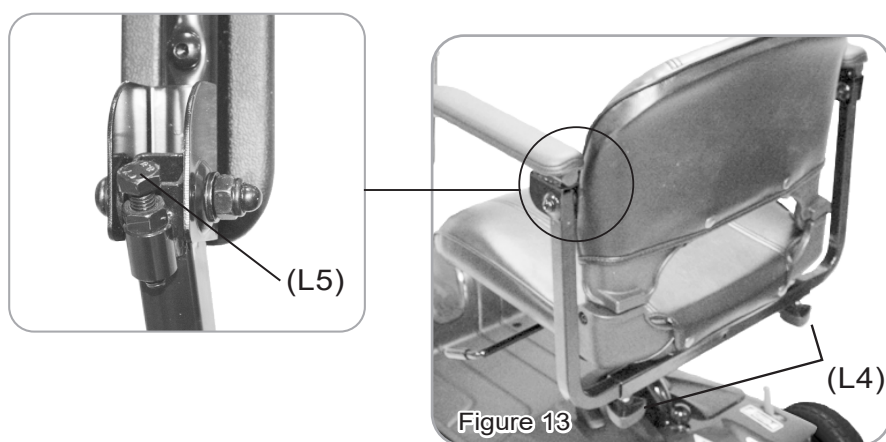


Figure 13

Seat Height adjustment :

- 1.Remove the seat, and then remove screw, nut and washer from seat post.
- 2.Adjust seat post to desired height, then attached tightly with screw, nut and washers.
- 3.Assemble the seat back to its original position.
- 4.Seat height adjustability 370mm / 390mm / 410mm.



Figure 14

CHARGING THE BATTERIES

Your C.T.M. scooter is equipped with two sealed, maintenance free 12V. 12Ah. rechargeable batteries and one HS-115 24V/2A charger & HS-118 24V/2A charger. Batteries must be charged before using scooter for first time and should be recharged after each day's use. Be sure power switch is in OFF position and free-wheeling lever is not in freewheel mode.

For safety reasons, only sealed non-spillable batteries that meet DOT CFR 173.159(d), IATA Packing Instructions, and IATA Provision A67 shall be installed in the scooters. If you need new batteries, contact your dealer. Only 12V. 12Ah Valve-regulated Lead Acid batteries should be used.

1. Insert battery charger cord into Charging Socket (M) on battery pack.
2. Plug other end of power cable into a standard electrical wall outlet.
3. The charging indicator (M) will normally be red or yellow at this point.
4. Allow batteries to charge until charging indicator turns green.
5. After indicator turns green, unplug battery charger from scooter and wall outlet.
6. If at any time battery charger light flashes green over 40 minutes, this indicates abnormal charging occurred.

You should check the following:

- Charger plug is correctly positioned
- Scooter is turned off
- If none of these are the problems, contact your local authorized dealer.

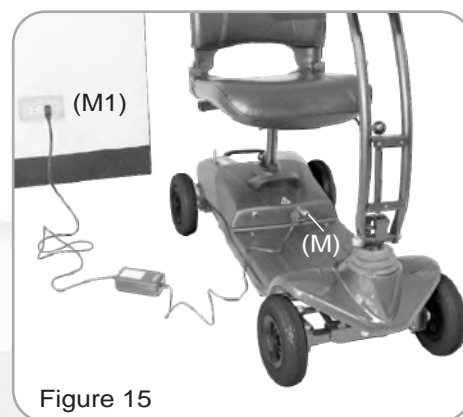


Figure 15



The time needed to recharge will vary depending on the depletion of the batteries. Charging for longer than necessary will not harm the batteries. They can not be overcharged.

Keep in mind these rules :

- Fully charge batteries at least once a month, or more if you use scooter regularly. Charge after each trip exceeding 3 kilometers.
- If storing your scooter for some time (1 month or more), make sure that batteries are fully charged, and on returning, charge them again before using scooter.
- Batteries will only give maximum performance after scooter has been used, and batteries have been recharged up to 10 times. A bit like breaking in a new car.

Please be aware that the travelling range of your mobility scooter is impacted by how fast the batteries are discharged. This will depend on many circumstances, such as ambient temperature, condition of the surface of the road, tyre pressure, weight of the driver, driving environment (inclines etc.) and utilisation of your lighting system if fitted. We recommend that you test your local ride with a family member to ensure a safe journey.

DISASSEMBLING YOUR SCOOTER

I. Seat Disassembling :

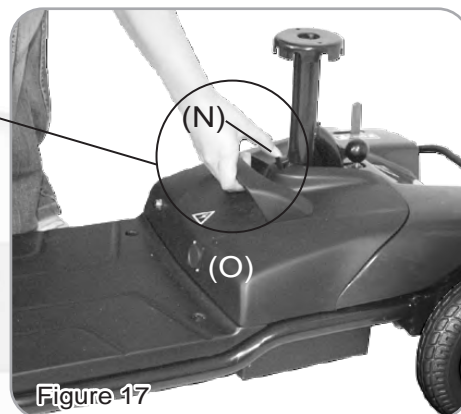
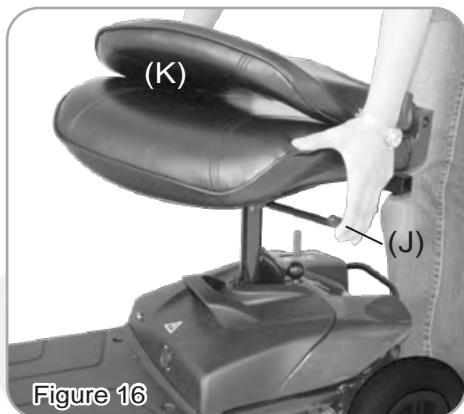
Remove seat by pulling up Seat Rotation Lever (J). Then lift up away from scooter.

II. Battery Pack Disassembling :

As indication, Push Release Lever (N) backward and pull Battery Pack Handle (O) to remove batteries from scooter. Caution: batteries are heavy. When lifting please use correct lifting posture to avoid injury. Ask for assistance if necessary.



When assembling battery pack (O), make sure to aim for the battery terminal connection for proper electricity conductivity.



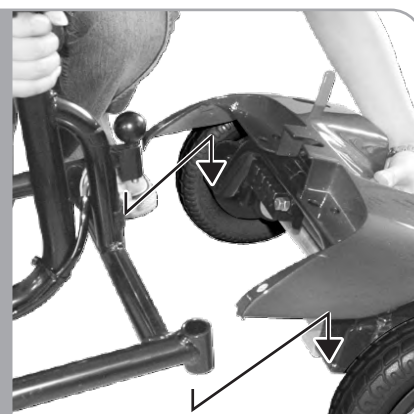
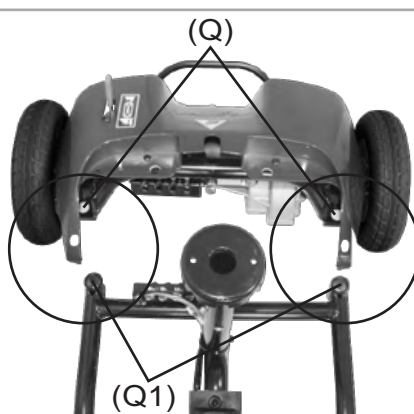
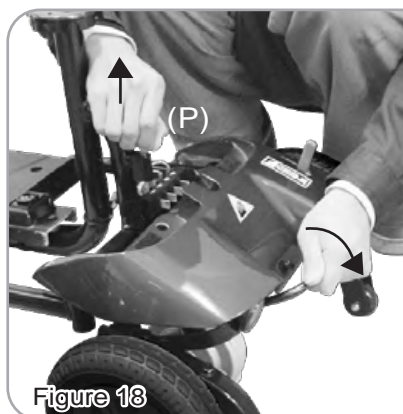
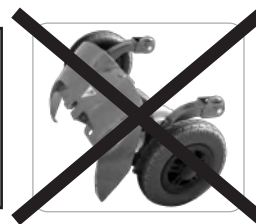
III. Front & Rear Frame Disassembling :

Lift up front & rear frame's fixation pin (P); and hold and pull rear frame as arrow indicates direction to disassembling front and rear frame.



To prevent shroud damage, do not lean disassembled rear frame forward.

When assembling front & rear frame, align left and right sides' stickers and push in to complete the assembly.



Steering Fold Method :

Lift up the lever (I) to bend down the steering to the lowest hole position and fold down the steering column as shown in Figure 19.



Re-assembling your scooter by vise versa above disassembling procedures.

**Fuse Replacement :**

- 1.Remove front shroud's (R) 5 screws (be careful screws' size are different); lift up front shroud (R) as arrow indicates direction.
- 2.Open fuse box (R1) and replace with backup fuse (R2).

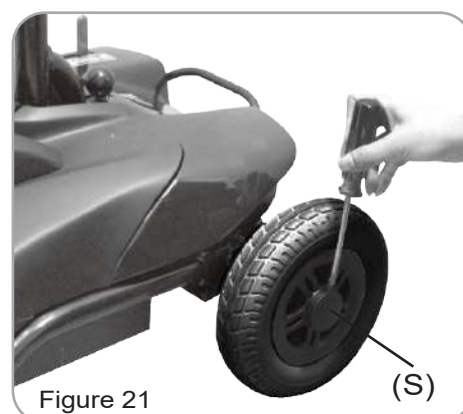
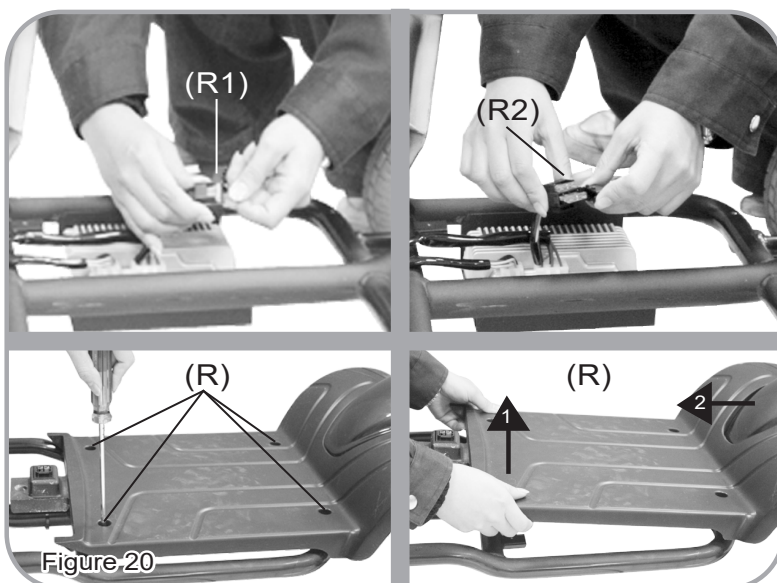


Replace with same power fuse is required.

After replacement, vise versa assembling procedure to original condition.

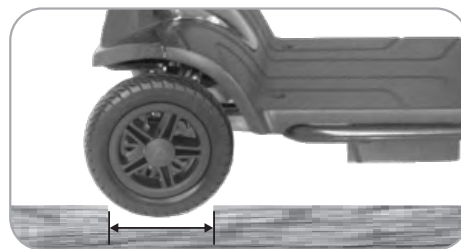
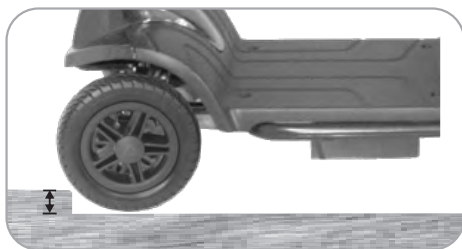
Rim Disassembling :

- 1.By using a screw driver, to lift up rim (S).



CAUTION**1. Obstacle Climbing :**

Your scooter can climb obstacles and curbs of up to 35mm / 1.4" in height. Never attempt to overcome an obstacle when on an uphill or downhill gradient! Always approach obstacles straight on! Ensure that the front wheels and rear wheels move over the obstacle in one stroke, do not stop halfway!

2. The maximum gap the scooter can drive over is 100mm / 4",

- When driving scooter on ramp, adjust body center of gravity to keep scooter more safety.



General driving posture



On ramp, forward your body will let scooter more safety.



In unlikely event of a panel display error, you need to re-set the display system by cycling the on/off main switch. The display circuitry is independent of the motor control system. A display console error does not affect scooter speed control.

OTHER

1. Charge the batteries after each trip. If the scooter is not used for some time, batteries may lose their charge. Batteries should be charged at least once a month.
2. Check the battery gauge before driving to prevent power depletion.
3. Batteries will have an aging phenomenon, where the storage capacity will gradually decrease. If batteries are damaged, please wrap them in a plastic bag and contact your local dealer for proper disposal.
4. Do not disassemble battery and open sealed parts by yourself to prevent electric shock and burns from acid leakage,
5. Adjust speed to a slow speed when starting off to prevent sudden acceleration.
6. Never attempt to drive downhill backwards.
7. Try not to drive scooter at night or in rain or bad weather.
8. If storing your scooter for a long time (1 month or more), make sure that battery are fully charged, then disconnect the two batteries plugs (W), and store the scooter in a dry location.
9. Front basket (accessory), weight capacity 3kgs(6.5lbs).

CARE AND MAINTENANCE

DAILY CHECK

Please always check your scooter before you start your every journey.

Check point	Inspection	What to do if the inspection is failed
N-D lever	Check for correct function	Contact your dealer.
Horn	Check for correct function	Contact your dealer.
Throttles	Pull the wigwag to test the scooter movement	Contact your dealer.
Electro-mechanical brake and Emergency hand brake	Pull the wigwag a little bit and release it to test if brake works. If your scooter comes with emergency handbrake, please check it as well.	Contact your dealer.
Battery Gauge	Check if the battery gauge is displayed and whether it is at low power.	<ul style="list-style-type: none"> • Contact your dealer if battery gauge is not working. • Recharge the battery immediately if low
Rear mirror (s)	Check if the parts are clean and firmly tighten to the scooter and do not wobble.	<ul style="list-style-type: none"> • Clean up the dirt by damp cloth. • Tighten the screw or clamping stem that holds the mirror(s)
Lighting	Check if all lights, such as head lights, rear lights, and turn signal are functioning correctly.	Contact your dealer.

WEEKLY CHECK

Check point	Inspection	What to do if the inspection is failed
Speed Dial Knob	Check for correct function	Contact your dealer.
Armrests	Check if the parts are clean and firmly tighten to the scooter and do not wobble. Tighten the screw knob that holds the armrest.	Contact your dealer.
Wheels/Tires	Inflate the tire to the correct pressure and check that <ol style="list-style-type: none"> 1. Drive wheels rotate without wobbling. 2. Tire tread depth is not less than 0.5mm. 3. No foreign objects in tires. 	Contact your dealer.
Motor	Check for correct function	Contact your dealer.
Battery Charger	Check if the charger is functioning correctly and the batteries are charged.	Contact your dealer.

MONTHLY CHECK

Check point	Inspection	What to do if the inspection is failed
Seat / Upholstery	Check for movement and if it's worn	Contact your dealer.
Electronics	Check if all the battery cables and connectors are firmly tighten to the scooter	Contact your dealer.

CLEANING YOUR SCOOTER

- Do not use any abrasive or scouring liquids for cleaning. Only use a damp cloth and gentle detergent.
- Do not use hose pipe or splash water directly onto the scooter as this may cause damage to electronics.

MAINTENANCE

- User should inspect the scooter regularly to keep scooter in good running order.
- Check if the electrical cable connectors are fully connected.
- All maintenance and repair of scooter should be done by an authorized dealer.

Seat Upholstery :

Only use damp cloth and a little soap to wipe the seat. Do not use abrasive cleaners as this will damage the seat.

Storage :

- Please store the scooter in a dry location. If store the scooter in long time, please disconnect the battery terminals.
- Do not store your scooter where it will be exposed to source of direct heat, damp, oil, acid, alkaline, or where Ozone could be possibly generated. All of the above will minimize scooter / tire cycle and shorten its lifetime.

OTHER INFORMATION

RECYCLING & DISPOSAL

- The equipment wrapping is potentially recyclable.
- The metal parts are used for scrap metal recycling. The plastic parts are used for plastic recycling.
- Electric components and printed circuit boards are disposed of as electronic scrap.
- Exhausted or damaged batteries can be returned to your medical equipment supplier.
- Disposal must be carried out in accordance with the respective national legal provisions.
- Ask your city or district council for details of the local waste management companies.

SERVICE LIFE

We estimate a service life of five years for this product, provided it is used in strict accordance with the intended use as set out in this document and all maintenance and service requirements are met. The estimated service can be exceeded if the product is carefully used and properly maintained, and provided technical and scientific advances do not result in technical limitations. The service life can also be considerably reduced by extreme or incorrect usage. The fact that we estimate a service life for this product does not constitute an additional warranty.

TROUBLE SHOOTING

Here are some suggestions about solving problems you may have with your scooter. There is a self-diagnostic warning light on the control panel. To check the self-diagnostic warning light, turn on the key and count the number of blinks on the warning light.

SCOOTER WON'T MOVE WHEN KEY IS TURNED ON

Check point	Solution
Check if the power is off	Turn the power on.
Check if the N-D lever is in Neutral position	Switch to D (drive) position. Turn off the power and turn on again.
Check if the battery power is enough. (Battery gauge is under 25%)	Recharge the battery and then retest.
Check if the charger power cord is still plugged in scooter	Unplug the charger power cord.

ERROR CODE

Flash	Description	Initial check points
1	Battery Low	The batteries are running low. • Recharge the batteries
2	Low Battery Fault	The batteries have run out of charge. • Recharge the batteries.
3	High Battery Fault	Battery voltage is too high. This may occur if overcharged &/or traveling down a long slope. • If traveling down a slope, reduce your speed to minimize the amount of regenerative charging. • Check the battery and associated connections and wiring.
4	Current Limit Time-out	The motor has been exceeding its maximum current rating for too long. This may be due to a faulty motor. • Check the motor and associated connections and wiring. • Turn the controller off, leave for a few minutes and turn back on again.
5	Park Brake Fault	Either a park brake release switch is active or the park brake is faulty. • Check the park brake and associated connections and wiring. • Ensure any associated switches are in their correct positions.
6	Throttle OONAPU	The Throttle is out of neutral when turning the controller on. • Ensure the throttle is in neutral when turning the controller on. • The Throttle may require re-calibration.
7	Speed Pot Fault	The throttle, speed limit pot or their associated wiring may be faulty. • Check the throttle and speed pot and associated connections and wiring.
8	Motor Voltage Fault	The motor or its associated wiring is faulty. • Check the motor and associated connections and wiring.
9	Other error	The controller may have an internal fault. • Check all connections & wiring.

SPECIFICATION

SPECIFICATIONS	HS-115	HS-118
Overall Length	1010 mm / 39.8"	1000 mm / 39.4"
Overall Width	520 mm / 20.5" (Armrest Width)	
Overall Height	905 mm / 35.6"	890 mm / 35"
Front Wheels	195 mm / 8"	
Rear Wheels	195 mm / 8"	
Weight W/ Batteries	37 kg / 82 lbs	40 kg / 88 lbs
Weight Of Heaviest Piece	11 kg / 24 lbs	15 kg / 33 lbs
Max. Speed	6.4 kmph / 4 mph	
Weight Capacity	115 kg / 255 lbs	
Ground Clearance	30 mm / 1.2"	35 mm / 1.4"
Grade Climbable	6 degree	
Curb Climbable	40 mm / 1.6"	
Turning Radius	1090 mm / 43"	1315 mm / 52"
Brake	Electro-Mechanical	
Seat Type	Swivel Padded Foldable	
Seat Width	425 mm / 17"	
Motor Size	250W, 4700 r.p.m.	
Battery Size	(2) 12V. 12Ah	
Weight of Battery Pack	9.2 kg / 20 lbs	
Travel Range	10 km / 6.2 Miles	
Battery Charger	2A Off Board	
Electronics	On / Off Key Switch, Battery Level Indicator, Speed Control Knob	

*Subject to change without notice. (Rev. 13, 2024/06/05)