

Owner's Manual



▶ P113

■ Product Safety Symbols

The symbols below are used on the scooter to identify warnings, mandatory actions, and prohibited actions. It is very important for you to read and understand them completely.



HAZARD IDENTIFICATION: The hazard identification surround shape is represented as a yellow symbol on a black triangle with a black border. It is used to indicate a potentially hazardous condition/situation that could result in personal injury, component damage, or malfunction.



Read and follow the information in the owner's manual.



Do not tie-down on power wheelchair



Maximum weight capacity of backpack is 2Kg.

⚠ WARNING

For your safety, please read the owner's manual before operating this product. Before reading through the owner's manual, please do not operate the product.

⚠ WARNING

For your safety, when you operate the power wheelchair or before you operate the power wheelchair, if you find any problem, please stop operating the power wheelchair immediately and contact with the dealer for solving the problem.

⚠ WARNING

For your safety, the user should be comply with the following condition for operating the power wheelchair:

1. Spirits in good condition, can clearly distinguish the surroundings condition and physical function are normal to operate the power wheelchair.
2. After drinking or eating of alcoholic beverages or food, do not operate the product.
3. Before operating the power wheelchair, do not take medicine which might affect sanity or mental state.

⚠ WARNING

For your own safety, Visually Impaired person can not operate this product

⚠ WARNING

If components of the surface of the product (such as car cover, seat, armrest, joystick handles, etc.) exposure to the sun, this may causing high temperature on the part surface, the high temperatures may cause dangers. Please use the power wheelchair after the tact, when the surface is cool down.

Table of Content

Introduction

Practice before operating	2
---------------------------------	---

Safety Instructions

Safety considerations	12
-----------------------------	----

Driving on various terrains	13
-----------------------------------	----

Familiarize yourself with your power wheelchair

Feature Diagram	14
-----------------------	----

General Specification Data	15
----------------------------------	----

Assembly	16
----------------	----

Adjustment for comfort

Adjustment of Joystick	17
------------------------------	----

Operation

A. Controls and Indicators	18
----------------------------------	----

B. Driving, Steering and Braking	18
--	----

C. Pushing the Powerchair by Hand	20
---	----

D. Shutdown	21
-------------------	----

E. Getting Ready for Permanent use	21
--	----

Batteries	22
------------------------	----

Battery Charging	24
-------------------------------	----

Folding the Wheelchair	25
-------------------------------------	----

Import and Safety Information	26
--	----

P&G VR2 Controller	29
--------------------------	----

Maintenance

A. Rear Wheel	34
---------------------	----

B. Front Wheel	34
----------------------	----

Troubleshooting Guide	35
------------------------------------	----

IEC Symbols	36
--------------------------	----

Disclosure Information(ISO)	37
--	----

Warranty	38
-----------------------	----

■ Introduction

Welcome aboard your new P113 powerchair and thank you for choosing our product. This latest model has been designed with specific practical user needs in mind. It combines solid rugged construction and modern high-tech electronics, safety and performance.

■ Seat

The level of resistance to ignition of materials and assemblies : Materials are tested according to ISO 7176-16 (seat, armrests).

■ Electrical Components

The level of resistance to ignition of materials and mains current are tested according to UL94-V0.

Note: The product meets all the requirements of ISO 7176-14:2008. Forces necessary to operate the control devices: engage should be less than 60N, disengage should be less than 60N, push buttons should be less than 1N.

Note: The product comply with EN 12184 Class A standard

■ Safety

Read well before operation

Read and follow all instructions, warnings, and notes in this manual and all other accompanying literature before operate this product for the first time. In addition, your safety depends upon you, as well as your provider, caretaker, or healthcare professional in using good judgement.

If there is any information in this manual which you don't understand, or if you require additional assistance for setup or operation, please contact your dealer. Failure to follow the instructions, warnings, and notes in this manual and those located on your product can result in personal injury or product damage and will void our product warranty.

Modification

WARNING

Do not modify your power wheelchair or change the programmed parameters of your power wheelchair controller in any way. Do not use any accessories if they have not been tested or approved. These may result in personal injury and damage the power wheelchair. Only from the manufacturer authorized personnel may perform any adjustments for you.

Pre-ride safety check

Get to know the feel of your scooter and its capabilities. We recommend that you perform a safety check before each use to make sure your power wheelchair operates smooth and safely.

Find an open area such as a park and have an assistant to help you practice until you have confidence operating the vehicle.

- Check for proper tire inflation.
- Make sure all electrical connections are tight and not corroded.
- Check the brakes.
- Check the battery charge.

Weight Limitations

Stay within the specified weight capacity for your scooter. Exceeding the weight capacity voids your warranty. We will not be held responsible for injuries or property damage resulting from failure to observe weight limitations.

WARNING

Do not carry passengers on your power wheelchair. Carrying passengers on your power wheelchair affect the center of gravity, resulting in a tip or a fall.

WARNING

User can not modify the controller parameters, it may result in personal injury and damage to your power wheelchair.

Inclement Weather Precautions

This product is only for indoor using, please don't operate in outdoor.

Obstacle

We recommend that you do not attempt to negotiate a curb that has a height greater than 15mm.

Freewheel mode

When your power wheelchair is in free wheel mode, the braking system is disengaged. Disengage the drive motors only on a level surface. Stand to the side of the power wheelchair to engage or disengage freewheel mode. Do not sit on a power wheelchair to do this. The freewheel mode is only to use with an assistant, who is able to engage again in a hazardous situation.

Stairs and elevators

Power wheel chair is not designed to travel down or up stairs or escalators. Always use an elevator. Drive your power wheelchair gently and slowly forward to push the door open. Or drive your power wheelchair gently and slowly rearwards to pull the door open.

Batteries

Always protect the battery pack from freezing. Charging a frozen battery pack may result in damage to the battery pack. Connect the battery harnesses in the proper manner.

Braking Information

Power wheelchair is equipped with the powerful braking system:

Electromagnetic regenerative brake: Use electricity to rapidly slow the vehicle when the joystick returns to the center position and act as a parking brake.

In freewheel mode an assistant has to operate the parking brake by engaging the drive system again. No battery power is necessary for this function.

Transport

Do not remain seated in your power wheelchair while traveling in a motor vehicle. The power wheelchair should be stowed in the trunk of a car with batteries removed and properly secured. All power wheelchair parts should be removed and properly secured during motor vehicle transport.

WARNING

Avoid putting all your weight on the scooter armrests and do not use the armrests for weight bearing purposes, such as transfers. It may cause the scooter to tip, resulting in a fall from the scooter.

Alcohol

Do not operate your scooter while you are under the influence of alcohol, as this may impair your ability to drive safely.

Pre-sale Information

The power wheelchair is for disabled person to improve their mobility ,by driving by themselves. What people can not use this power wheelchair mentally handicapped people, persons with insufficient eyesight, one-hand people, children under 6 years, drunken people.

Note: Position belts is optional kit. For installing the position belt, please kindly contact with the dealer.

Note: This product can be used for temperature $-25^{\circ}\text{C}\sim 50^{\circ}\text{C}$ on the hard ground environment.

 **WARNING**

When braking while moving down hill, the power wheelchair will take longer to come to a complete stop.

Recycle

According to local government information on the recycling of used batteries and other parts of the power wheelchair; use only special recycling for the power wheelchair parts, on general disposal (e.g. batteries, electronics).

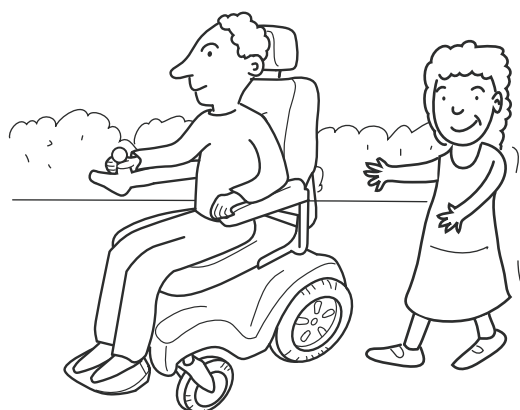
Failure to follow these instructions may result in damage to the powerbase wheelchair or serious injury.

■ Practice Before Operating

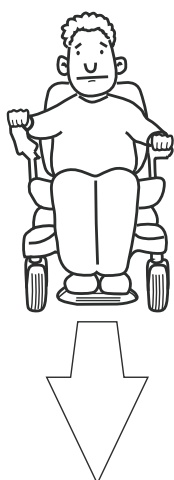
Find an open area such as a park and have an assistant to help you practice until you have confidence operating this vehicle.

Make sure that the power is off before getting in or out of the seat. Set the speed control button according to your driving ability.

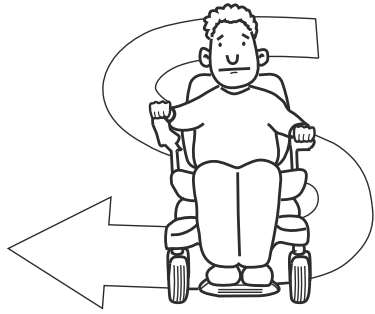
We recommend that you keep the speed control at the slowest position until you are familiar with the driving characteristics of this vehicle. Users should have no hearing and vision impairment, and responsive.



Getting familiar with this vehicle



**First, practice moving forward.
Be sure to set the speed to the lowest setting.**



After becoming familiar with moving forward, practice marking "S" turns.



Once you are familiar with "S" turns, practice moving in reverse. Note that for any speed control setting, the vehicle moves more slowly in reverse than forward.

This vehicle has an immunity level of 20 V/m which should protect it from Electromagnetic Interference(EMI) from Radio Wave Sources. The rapid development of electronics, especially in the area of communications, has saturated our environment with electromagnetic (radio) waves that are emitted by television, radio and communication signals. These EM waves are invisible and their strength increases as one approaches the source. All electrical conductors act as antennas to the EM signals and, to varying degrees, all power wheelchairs and scooters are susceptible to electromagnetic interference (EMI). This interference could result in abnormal, unintentional movement and/or erratic control of the vehicle. The United Statement be incorporated to the user's manual for all electric scooter.

Powered wheelchairs and electric scooters(in this text, both will be referred to as powered wheelchairs) may be susceptible to electomagnetic interference(EMI), which is interfering electromagnetic energy 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 wheelchair to release its brakes, move by itself or move in unintended directions. It can also permanently damage the powered wheelchair's control system. The intensity of the EM energy can be measured in volts per meter (V/m). Each powered wheelchair can resist EMI up to a certain intensity. This is called the "immunity level." The higher the immunity level, the greater the protection. At this time, current technology is capable of providing at least 20 V/m of immunity level which would provide useful protection against common sources of radiated EMI.

Following the warnings listed below should reduce the chance of unintended brake release or powered wheelchair movement that 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 wheelchair 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 wheelchair off as soon as it is safe.
- 4) Be aware that adding accessories or components, or modifying the powered wheelchair, may make it more susceptible to interference from radio wave sources. (Note: there is no easy way to evaluate their effect on the overall immunity of the powered wheelchair).
- 5) Report all incidents of unintended movement or brake release to the powered wheelchair manufacturer, and note whether there is a radio wave source nearby.

 **WARNING**

1. The power wheelchair might disturb the operation of devices in its environment that EMIT electromagnetic fields (e.g. alarm systems of shops, automatic doors, etc.).
2. The driving performance of the power wheelchair maybe influenced by electromagnetic fields (e.g. those emitted by portable telephones, electricity generators or high power sources).

TURN OFF YOUR SCOOTER AS SOON AS POSSIBLE WHEN EXPERIENCING ANY OF THE FOLLOWEING:

1. Unintentional motions.
2. Unintended or uncontrollable direction.
3. Unexpected brake release.

The FDA has written to the manufacturers of power wheelchairs, asking them to test their new products to be sure they provide a reasonable degree of immunity against EMI. The letter says that powered wheelchairs should have an immunity level of at least 20 V/m, which provide a reasonable degree of protection against the more common sources of EMI. The higher the level, the greater the protection.

Power Wheelchair Owner's Manual

■ Safety Considerations

DO NOT do any of the following



NO!

Do not carry any passengers



NO!

Do not drive across a slope



NO!

Do not drink and drive
Consult your physician to
determine if your medications
impair your ability to control this
vehicle



NO!

Do not tow a trailer



NO!

Do not turn on or use hand-held personal
communication devices such as citizens band(CB)
radios and cellular phones

■ Driving on Various Terrains

Driving on hills is more dangerous than on level surfaces. If you fail to heed these warnings, a fall, tip-over or loss of control may occur and cause severe injury to the vehicle user or others.



NO!

Do not attempt to climb a hill greater than 3°



NO!

Do not reverse while driving up a hill.

Forward only. If you reverse while moving up a hill, it may cause the vehicle to tip over.



NO!

Do not attempt to drive across a sloping surface greater than 3°

Driving across a slope greater than 3° is very dangerous and may cause the vehicle to tip over.



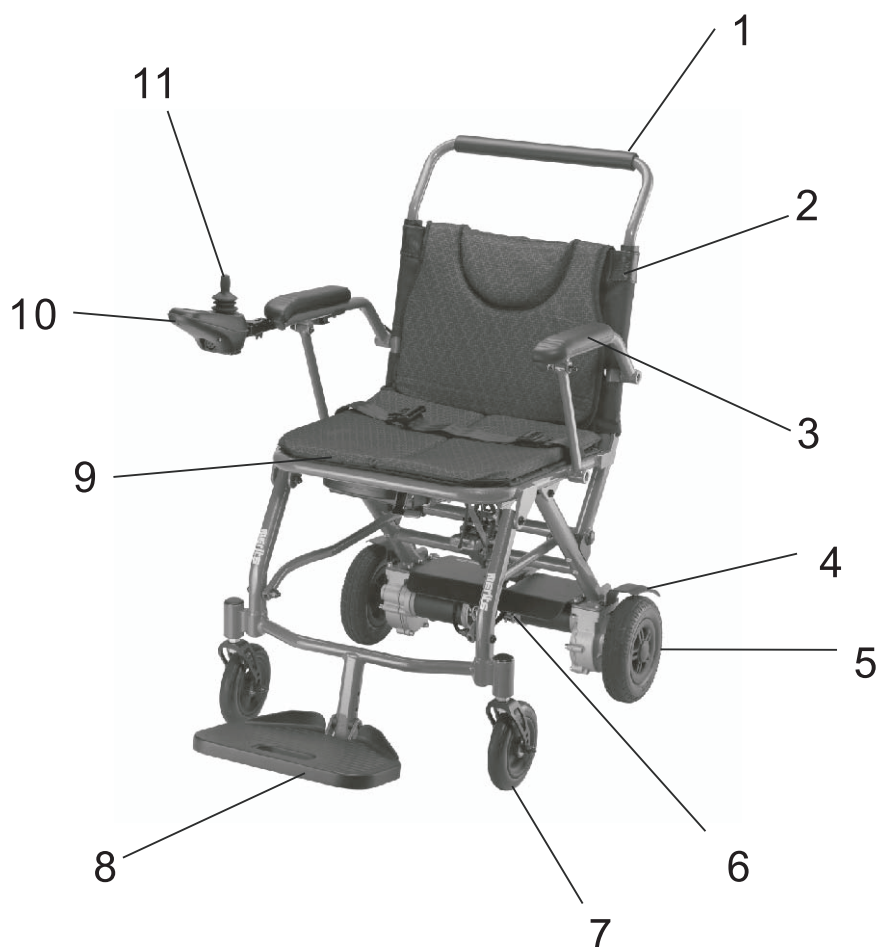
NO!

Do not drive over soft, uneven or unprotected surfaces

Familiarize Yourself With Your Power Wheelchair

■ Feature Diagram

P113



1. Handle
2. Backrest
3. Armrest
4. Fender
5. Rear wheel
6. Drive motor

7. Caster
8. Footrest
9. Seat
10. Controller
11. Joystick

Note: The product of the driving function can operate on occupant or assistant operations.

■ General Specification Data

Model No.	MP1 Series
	P113
Seat width	460mm/18"
Seat depth	420mm/16.5"
Height of seat	520mm/20.5"
Overall length	970mm/38"
Overall width (unfolded)	590mm/23"
Overall height	950-1000mm/37.5"-39"
Total weight (without batteries)	20.9kg/461lbs
Folded size (L*W*H)	590mm*370mm*810mm/23" *15" *32"
Maximum speed up to	7.5kph/4.7mph
Range up to	11km/7.1mi or 15km/11.6mi
Ground clearance	30mm/1.2"
Gradient	3°
Li-ion Battery pack	24V/11.4AH x 1pcs or 24V/17.1AH x 1pcs
Battery weight (11.4AH/17.1AH)	2.1kg/4.6lbs or 3.0kg/6.6lbs
Motor	DC24V, 70W
Controller	PG VR2
Caster	6"(150mm x 30 mm)/7"(178mm x 45mm) Foam Filled tire
Drive wheel	8"(200mm x 50mm) Solid tire
Brake	Electromagnetic brakes
Capacity	114kg/250lbs
Measured sound power level	<65dB

NOTE: Recommended temperature for storage and transportation without battery -20°C~60°C (-4° F~140° F).

Note: The range might be different when driving uphill or on uneven road.

■ Assembly



Figure 1-1

- 1). Ensure that you receive the battery box, and controller.
- 2). Open the power chair.

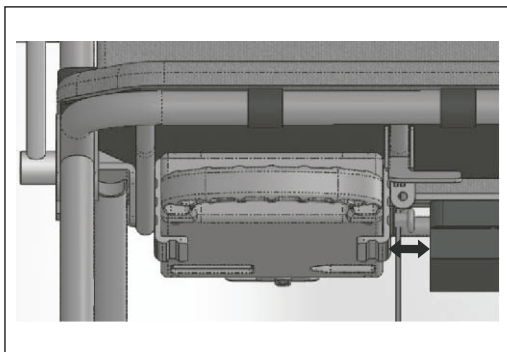


Figure 1-2

- 3). Pull out the spring pin button. Ensure the pin out from the holder.
- 4). Insert the battery box into the holder.
- 5). Loosen the pin button. Lock the battery

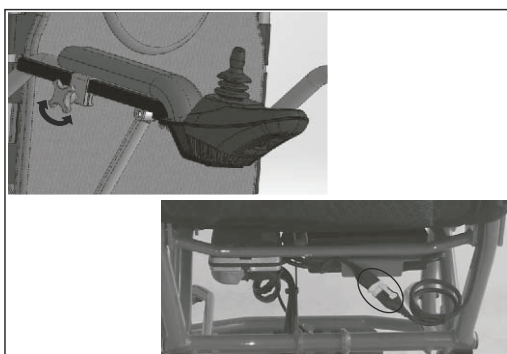


Figure 1-3

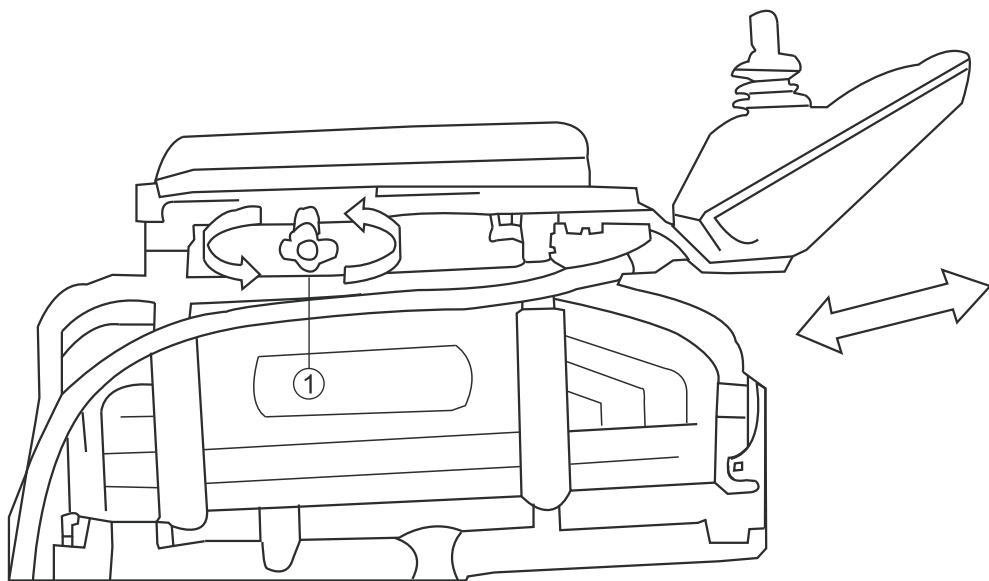
- 6). Insert the controller into the fixing clamp and adjust it in a convenient position.
- 7). Screw the knob to lock the controller.
- 8). Plug in the controller connector to the lower connector which under the seat at the rear of the power chair (Black to Black)

NOTE: Make sure the hook fastened before riding. The wheelchair meets the need to leave home for a short walk or some fresh air, commonly in the perimeter of the home.

Adjustment of Joystick

Once seated check to see that the controller is in a convenient position so that you can reach it easily and safely. To adjust the controller forward or rearward, loosen star knob and retighten after adjustment.

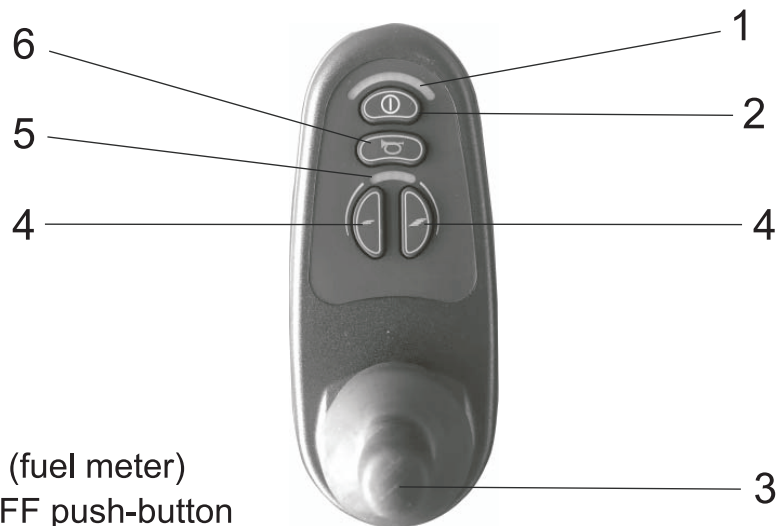
Figure 2



Operating

■ A. Controls and Indicators

Figure 3



It comprises:

1. Battery gauge (fuel meter)
2. Power ON / OFF push-button
3. Joystick
4. Speed adjust button
5. Speed adjust display
6. Horn button

P&G VR2

Only drive within your control limitations. Loss of control of your power wheelchair could result in serious injury to yourself or others. If your speed becomes difficult to control, release the speed engage lever and your power wheelchair will come to complete stop. Only use on/off switch to stop your power wheelchair in an emergency.

■ B. Driving, Steering and Braking

Press the power ON/OFF push-button. Move the joystick gently forward. The more you push the joystick forward the faster you will travel, but you will not exceed the speed limit imposed by the speed limit control, regardless of the joystick position.

To reverse, pull the joystick to the rear, beyond its center (neutral) position. The joystick is also your steering lever. Move it to the left and you turn left. Move it to the right and you turn right.

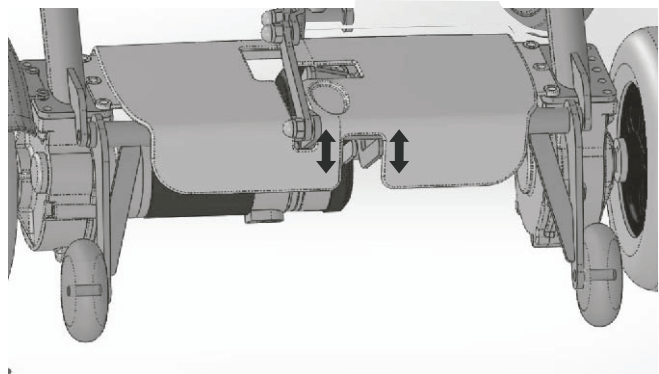
The same applies when you travel downhill. The armature brake and the electromagnetic safety brake give you full control over your powerchair at all times. This unique brake system enables you to descend at a constant slow speed.

You can stop at any time while you are climbing or descending. Simply release the joystick as on the flat. The electromagnetic safety brake will ensure that the powerchair is positively locked and secured in parking position until you are ready to continue your journey.

The stopping distance on slopes might be significantly longer than minimum brake distance under max speed. of the home.

■ **C. Pushing the Powerchair by Hand**

Figure 4



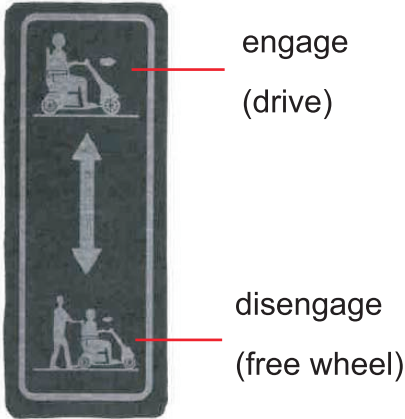
Note: The product of the driving function can operate on assistant operations.

If the powerchair is to be pushed by hand, proceed as follows:

From behind the vehicle, turn the two uncoupling levers (Figure 4) of the electric motors down.

The brake release lever is situated at the rear of the power wheelchair. This lever allows you to disengage the drive mechanism and push the power wheelchair in 'freewheel mode'. To disengage the drive, push the lever down to the 'freewheel' position. The power wheelchair can be pushed by hand.

Simply pull up the lever to drive position to re-engage the brake.



The powerchair is very responsive and maneuverable. It can turn within its own length. You should avoid making abrupt turns and jerky steering while you are moving at a brisk speed.

If you want to slow down, move the joystick toward its center position. When you want to stop or have to make an emergency brake application, simply release the joystick. It will automatically return to the center (neutral) position. At this moment the armature brakes of the electric motors will cut in and bring the powerchair smoothly to a standstill.

Once the powerchair is at a standstill, it is automatically locked in its parking position by the electromagnetic safety brake system.

When climbing curbs, even with no curb riders fitted, you will find that your powerchair will smoothly overcome low to medium high curbs without the need for drastic speed variations, because the micro-computer of the electronic controller automatically compensates for any extra power required.

Negotiating Gradients

Caution

On loose ground (sand, gravel, grass, etc.) The maximum gradient should not exceed 20% (1 in 5).

Always approach an incline directly, not at an angle, and follow it up or down directly, not in a zig-zag movement.

Caution

Never attempt to climb or descend an incline which has a slippery or icy surface.

While going uphill or downhill there is no need for drastic corrective joystick movements. The electronic controller ensures that the extra power required for climbing is automatically applied to the motors, so that the selected speed is maintained.

Warning

1. Never move the uncoupling levers while the vehicle is operating with powered drive.
2. When the electric motors are disengaged the armature brakes and the electromagnetic safety brakes are out of action, so ensure the powerchair is secured with the hand-brakes when it is parked.

When normal powered operation is to be restored, retun both uncoupling levers to normal position.

Important: The vehicle will not operate with powered drive unless both uncoupling levers are in normal position.

■ D. Shutdown

Before you leave your powerchair, press the ON / OFF push-button. The Warning lamp and voltmeter indicator will extinguish.

Make this shutdown sequence a standard procedure and a habit. It is essential for your personal safety.

■ E. Getting Ready for Permanent Use

Now that you have had a good look at your brand new powerchair and taken it for a test drive in your home and around the house.

It is absolutely necessary to carry out a battery charging procedure before you start normal operation and take your powerchair on its first long-range outing. Read the next section carefully.

■ Batteries

The powerchair has one battery (See General Specification Data) which is accommodated in battery box under the seat of the powerchair. The battery is sealed and maintenance free.

***Warning* Do not attempt to open the batteries.**

Regular monitoring of the battery charge condition and timely recharging are essential to ensure reliability and performance of your powerchair as well as long battery service life.

The intervals at which the batteries have to be recharged (hours traveled or mileage covered) depend on various factors. It is not possible to specify a generally valid fixed date. Observe the following and you will soon establish a cycle in accordance with your individual requirements and driving routine.

At full battery charge all LED segments of the battery gauge, are lit continuously. With the progressive discharge of the batteries, successive segments will extinguish.

Note: Volt meter is only supplied on this model.

If the battery gauges show just red and yellow. Depending on age and condition of the batteries, you are then left with a limited driving range before you must recharge the batteries. (approx. 2mi.) To avoid this critical condition, we recommend charging the batteries overnight whenever you have used your powerchair. It will not only spare your unpleasant situations en route but will also prolong the battery service life.

Should you ignore this warning, while the battery, gauge is on red, and allow the batteries to become almost fully discharged, the electronic controller will automatically shut down the entire electrical system of the powerchair and bring it to a halt.

This automatic shutdown of the powerchair, accompanied by fast flashing of the ON / OFF push-button will also occur in the event of any fault in the wiring, the motors, or the controller itself.

Note: While climbing a steep gradient, you may find that the battery warning lamp begins to flash. This does not necessarily mean that the batteries are discharged to the critical level. Recheck the warning lamp after you reach level ground.

If during the course of the day, you have used your powerchair for more than one hour of actual traveling time, it is recommended that you charge the batteries overnight. The special-design charger will switch off automatically when the batteries are charged, so it is completely safe and does not use excess electricity regardless of the time the batteries are connected to the charger.

If your powerchair remains unused for any length of time (approximately four weeks or more), the batteries must be charged. Charge them at least once a month to maintain their charge.

 **WARNING**

Disposing and recycling of used batteries. Batteries must always be recycled correctly. Do not dispose of them with your trash bin.

For further information, please contact your nearest recycling facility or local authority.

 **WARNING**

- Inspect the battery charger, wiring, and connectors for damage before each use.
- Do not attempt to open the battery charger case.
- Use only the original battery charger, which was accompanied with your power wheelchair.
- Do not operate the scooter with depleted batteries since the occupant could be stranded.

■ Battery Charging

The batteries of your powerchair are different from ordinary car batteries. Only use the charger specifically designed for the motive-power type batteries installed.

Charging procedure

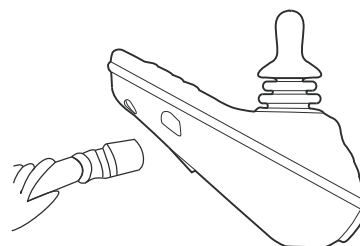
1. Always insert the charger output plug into the charging socket on the controller. Only then connect the charger input cable to an electrical outlet.
2. Follow the instructions on the front panel of the charger for its operation and the meaning of its indicators.
3. The minimum time required for charging varies and depends on battery condition and discharge level. We recommend, however, that the batteries be charged overnight.

Note: The specially designed charger ensures that excess power is not consumed regardless of how long it is switched on and connected to the batteries.

4. On completion of the charging cycle, first disconnect the charger input from the electrical outlet and only then disconnect the charger from the controller socket. Do not leave the charger connected to the controller when its input power is disconnected. This will cause the batteries to discharge.

For replacement of the batteries, contact your dealer.

Figure 5



■ Folding the Power Wheelchair

Figure 6



P113(Unfolded)



P113(Folded)

The powerchair can be folded to a neat and compact size within minutes.

1. Loosen the star knob for adjustment of the controller position and slide the controller back as far as it will go. Tighten the star knob.
2. Fold up the footrest.
3. Pull up the lever which under the seat at the front of the chair and press the handle tube simultaneously. Seat and back will close together to compact stowing size.
4. If the folded powerchair is stowed or transported in a horizontal position, place it so that the side with controller is uppermost to prevent damage to the controller.
5. please refer the instruction of page 7 for the transport when the power wheelchair is folded.
6. please refer the instruction of page 35 for the storing when the power wheelchair is folded.

■ Important Safety Information

Foam Filled Tires

No inflation necessary

6" (150X30) caster 8" drive wheel

Never stand on the footrests while entering or exiting the powerchair. Standing on the footrests could cause the powerchair to tip over.

The owner should enter or exit the powerchair only after the power is turned off.

Turning Radius

It is very important, especially when traveling on inclines, to reduce your speed with the control joystick before making a sharp turn. Never try to turn the powerchair suddenly while traveling at full speed.

Your powerchair should not be operated on streets except when using the crosswalks. Operate your powerchair with extreme caution.

Anti-Tipper

Anti-Tipper are standard with the powerchair. Replacements for these parts are available through your authorized dealer. Anti-Tipper prevent the powerchair from tipping backwards. We suggest that Anti-Tipper be used on this model powerchair at all times.

Parts

Special high strength fasteners are used on the powerchair. Replacements for these parts should be ordered through an authorized dealer.

Warnings

Never stand on the footrests as it may cause the powerchair to tip over.

Never connect the battery charger to the main supply until after you have connected it to the powerchair.

It is important to develop safe techniques before attempting to negotiate obstacles such as curbs, ramps and inclines. Never try to go up a steep incline without assistance. Avoid uneven and hilly terrain as the powerchair may tip over. Avoid grades steeper than 10% (1 foot rise in a ten foot distance) without assistance.

Control your speed carefully when traveling downhill. Slow speeds should be used when traveling on downgrades.

Do not use the ON / OFF switch to turn off the power to the powerchair while it is moving. Using this switch, while the powerchair is still in motion causes it to come to an abrupt stop and may cause injury to the owner or damage to the power chair.

Many power wheelchair controllers have been affected by high power radio transmitters, such as CB radios and cellular telephones. If any of these devices are being used near your powerchair, you should use caution in operation. If loss of control occurs, shut off your powerchair immediately and leave it off until the interfering devices are no longer operating.

The user should be trained by a healthcare professional to assure safe operation of the powerchair during the performance of daily activities.

Weight Limit

Maximum weight limit should not exceed standards (See General Specification Data).

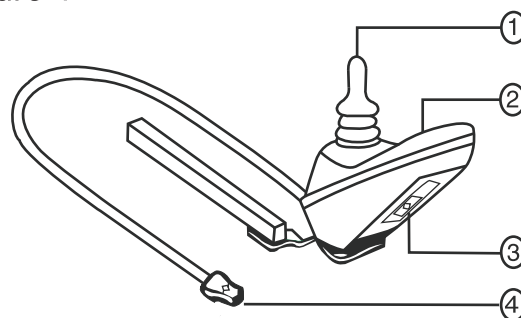
Controller

The electronic controller is what you use to operate your powerchair. It takes the battery voltage and sends it to the appropriate system. The electronic controller enables you to move the powerchair, as well as monitor battery status, electronic controller functions, and the conditions of your electrical system. The controller is an integral electronic controller. All of the electronics necessary to operate the powerchair are contained in one module.

Figure 7

The controller consists of:

1. Joystick
2. Keypad
3. Off-board charger / programming socket
4. Motor connector



Typically, the controller is mounted to one of the armrests and is connected to the motors and batteries.

Joystick

The joystick controls the direction and speed of your powerchair. When you move the joystick from the neutral position (center), the electromagnetic brakes release and allow your powerchair to move. The further you push the joystick from its neutral position, the faster the powerchair will move. When you release the joystick and allow it to return to the neutral position, you engage the electromagnetic brakes. This causes the powerchair to decelerate and come to a complete stop.



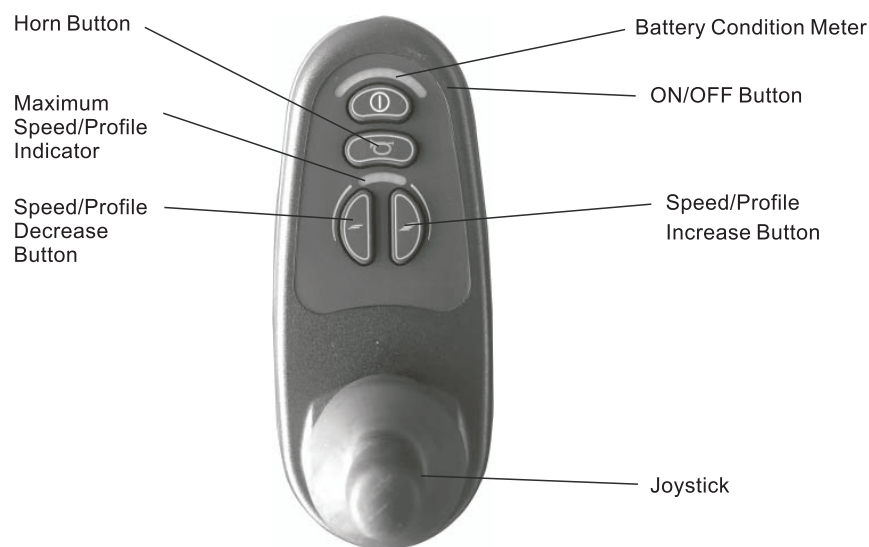
If your powerchair begins to move in an unexpected manner, immediately release the joystick. Unless the joystick is damaged, this action should stop your powerchair.

P&G VR2 Controller

Keypad

The keypad is located on the front of the joystick.
It contains keys necessary to operate your power chair.

Figure 8



P&G VR2

1. On / Off Button

The on / off button turns the controller on and off.



Unless faced with an emergency situation, do not use the on / off key to stop the chair. This will cause the power chair to stop abruptly. Always turn the power off when you are stationary to prevent unexpected movement.

2. Battery Condition Meter

P&G VR2:

The battery condition meter is located on the front of the joystick. This is a 10-segments illuminated display that indicated that the VR2 is turned on and also gives the battery status, the VR2 status, and the electrical system status.



The battery needs charging or there is a bad connection to the battery. Check the connections to the battery. If the connections are good, try charging the battery.



The left hand motor* has a bad connection. Check the connections to the left hand motor.



The left hand motor* has a short circuit to a battery connection. Contact your service agent.



The right hand motor* has a bad connection. Check the connections to the right hand motor.



The right hand motor* has a short circuit to a battery connection. Contact your service agent.



The wheelchair is being prevented from driving by an external signal. The exact cause will depend on the type of wheelchair you have, one possibility is the battery charger is connected.



A joystick fault is indicated. Make sure that the joystick is in the center position before switching on the control system.



A possible control system fault is indicated. Make sure that all connections are secure.



The parking brakes have a bad connection. Check the parking brake and motor connections. Make sure the control system connections are secure.



An excessive voltage has been applied to the control system. This is usually caused by a poor battery connection. Check the battery connections.



A communication fault is indicated. Make sure that the joystick cable is securely connected and not damaged.



An Actuator trip is indicated. If more than one actuator is fitted, check which actuator is not working correctly. Check the actuator wiring.

3. Speed / Profile Buttons

There are two buttons that control either the speed or the profile. This depends on how your controller was programmed. Press the speed / profile increase button to increase the speed or change the profile. Press the speed / profile decrease button to decrease the speed or change the profile.

The speed / profile setting is displayed on the maximum speed / profile indicator. If your powerchair was programmed with a drive profile, contact your authorized dealer to provide more information.

NOTE: We recommend that the first few times you operate your powerchair, you set the speed to the slowest setting until you become familiar with your new powerchair.

4. Horn Button

The horn button activated the horn.

Off - Board Charger / Programming Socket

You may use an off - board charger to charge the powerchair batteries through the 3 - pin socket located in the front of the controller. If you use an off - board charger, the charger current should not exceed 12 amps. contact your dealer for more information.

Note: The socket may also be used for programming the controller. Contact your dealer for more information.

NOTE: If any of the above LEDs flash rapidly, it means either a total short circuit, a single open circuit, or a total open circuit in the associated indicator has been detected.

CAUTION! Failure to properly align the connectors can result in damage to the controller, the charger, and the connectors.

Battery Connector

This connects the controller to the powerchair's battery box.

Motor Connector

This connects the controller to the powerchair's motors and brakes.

Thermal Rollback

The controller is equipped with a thermal rollback circuit. The circuit monitors the temperature of the controller, which roughly translates to motor temperature. In the event that the controller becomes excessively hot (above 140 deg. F), motor current (amperage) is reduced. For every degree above 140 deg. F, the motor current limit is reduced by 40 amps until the controller reaches 158 deg. F., at which time the current output is reduced to zero. This reduces your chair's "power", which also could reduce your chair's speed, and allows the electrical components and motors to cool down. When the temperature returns to a safe level, your powerchair resumes normal operation.

VR2 Error Codes

The VR2 controller is designed with the user's safety as the prime consideration. It incorporates many sophisticated self-test features which search for potential problems at a rate of 100 times per second.

If the VR2 detects a problem either in its own circuits or in the powerchair's electrical system, it may stop the powerchair, depending on the severity of the problem. The VR2 is designed to maximize the user's safety under all normal conditions. The table below identifies the individual error codes. Error codes are displayed as a rapid flashing of lights. If you get one of these error codes, please contact your dealer.

Flashing Lights	Diagnosis / Solution
1	The battery needs charging, or there is a bad connection to the battery. Check the connections to the battery. If the connections are good, try changing the battery.
2	The left motor has a bad connection. Check the motor connection.
3	The left motor has a short circuit to a battery connection. Contact your dealer.
4	The right motor has a bad connection. Check the motor connection.
5	The right motor has a short circuit to a battery connection. Contact your dealer.
6	The power chair is being inhibited by the battery charger. Unplug the battery charger.
7	A joystick fault is indicated. Make sure that the joystick is in the neutral (center) position before turning on the controller.
8	A controller fault is indicated, make sure that all connections are secure.
9	An excessive voltage has been applied to the controller system. This is usually caused by a poor battery connection. Check the battery connections.

Battery Boxes

On the top right side of the rear battery box, you will see the reset button of a circuit breaker. This button must always be pressed in, otherwise the powerchair will not operate. *Refer to the Troubleshooting Guide* Also on the battery boxes are cables with connectors for connecting the batteries together and to connect batteries to the controller box.

■ Maintenance

There are no specific maintenance requirements for the joystick and the controller, but the service life of the equipment will be extended if you observe the following:

The joystick box and the controller are splash proof but should be protected from excessive spillage of liquid. Do not expose to direct heat (from an electric heater, for example). Check that the rubber boot on the joystick and switch cover are in good condition and show no holes or cracks.

Wheels - Removal / Installation

A. Rear Wheel

1. Ensure that the freewheel lever of the motor drive is engaged. (Figure 4)
2. Support or jack up the powerchair under the frame side-member.
3. Unscrew the hexagon nut and remove, together with the washer.
4. Withdraw the rear wheel from the drive axle.

Installation is a reversal of the removal procedure. Check that the threads of the hexagon nut are undamaged and clean. If necessary, wipe with a clean dry cloth. Do not use any sharp tools to clean the threads. Do not forget to slide the washer over the nut before it is screwed in. Tighten the nut firmly.

B. Front Wheel

1. Support or jack up the powerchair under the frame side-member.
2. Using the wrench provided, remove the axle bolt.
3. Slide the front wheel out of the fork.

Installation is a reversal of the removal procedure.

C. General Cleaning

The shrouds and seat of the wheelchair should be cleaned using a damp cloth and gentle detergent. Do not use abrasive cleaners or solvents, as this will damage the plastic components. Do not spray water (hose or pressure washer) onto the wheelchair as this may cause damage to the electronics.

D. Long-term storage

The packaging of the wheelchair should be stored for a further storage or transport that might become necessary.

■ Troubleshooting Guide

Nature of Fault	Problem Cause	Action
1. Powerchair will not move, power on lamp doesn't light up.	a) Master plug not inserted b) ON / OFF push-button in off position c) Batteries discharged to low level d) Loose plug connection at controller or battery	a) Insert master plug b) Press in c) Re-charge the batteries d) Press plugs firmly into sockets
2. Powerchair will not move, power on lamp lights up.	a) Drive motor not engaged b) Fault in controller electronics	a) Reset uncoupling lever(s) b) Consult dealer

Important







In all cases of an electrical fault, check that the circuit breaker (located on the rear battery box) is pressed in. If it has been tripped it must be pressed. If the reset button comes out again, even after the suspected cause of the fault has been corrected, consult your dealer.

Storing your power wheelchair

If you plan on not using your power wheelchair for an extended period of time, it is best to:

1. Fully charge its batteries prior to storage.
2. Disconnect the batteries from the power wheelchair.
3. Store your power wheelchair in a warm, dry environment.
4. Avoid storing your power wheelchair where it will be exposed to temperature extremes.

Recommended storage and shipping temperature: Dry (15%~95% Non-Condensing), Well ventialed area -20°C~60°C (-4°F~140°F) Without batteries.

IEC SYMBOLS	
	Caution, attention or consult accompanying documents.
	Alternating Current
	Type B ■ Equipment
	Double Insulation
	No Smoking or Naked Flames
	Not intended to use as a seat in a motor vehicle

Degree of protection against ingress of water is rated as IPx4
 Not intended to use as a seat in a motor vehicle.

Power Wheelchair Owner's Manual

Disclosure information(ISO)					
Standard reference	min.	max.	Standard reference	min.	max.
Overall length with legrest	---	970mm	Seat plane angle	---	5°
Overall width	---	590mm	Effective seat depth	---	420mm
Folded length	---	590mm	Effective seat width	---	460mm
Folded width	---	370mm	Seat surface height at front edge	---	520mm
Folded height	---	810mm	Backrest angle	---	12°
Total mass	23kg	23.9kg	Backrest height	---	330mm
Mass of the heaviest part	---	---	Footrest to seat distance	420mm	480mm
Static stability downhill	---	6 °	Leg to seat surface angle	---	95°
Static stability uphill	---	6 °	Armrest to seat distance	---	220mm
Static stability sideways	---	6 °	Front location of armrest structure	---	---
Enerhy consumption	10.5km	15km	Handdrim diameter	---	---
Dynamic stability uphill	---	3°	Horizongtal location of axle	76mm	100mm
Obstacle climbing	---	15mm	Minimum turing radius	---	825mm
Maximum speed forward	---	7.5km/h			
Minimum braking distance from max speed	---	1300mm			

■ Limited warranty

Corporation warrants to the original purchaser of this wheelchair product that it is free of defect in material and workmanship and that, when operated within the guidelines and restrictions of this manual, will remain so free of defect in material and workmanship for a period of One (1) year from the original date of purchase.

Excluded from this warranty is failure due to negligence, abuse, accident, operation outside of rated limits, commercial or institutional use, damage / wear to upholstery or tires and improper maintenance or storage. The batteries for this wheelchair product are not supplied by Corporation; contact the battery manufacturer / supplier if warranty replacement is requested.

This wheelchair product must not be modified in any way without the express written consent of Corporation. Any such unauthorized modification could cause unreliable and / or unsafe operation and will void this warranty.

Where a failure occurs within the 1- year warranty period that is not excluded above, the failed components will be replaced with similar new or reconditioned components at sole option. Corporation will not be responsible for labor and / or shipping charges.

The foregoing warranty is exclusive and in line of all other warranties expressed or implied including, but not limited to, the implied warranty of merchantability and fitness for a particular purpose. Corporation will not be liable for any consequential or incidental damages whatsoever.

NOTE: Service life of the frame is 5 years.

Power Wheelchair Owner's Manual

We wish you a safe and comfortable riding experience!





#merits®

Merits Healthcare Industries(suzhou)Co.,Ltd.
No29,Fuzhou Road,Taicang City,China
Tel : 0512-53510000
Fax: 0512-82775980
Web side:www.merits.com.cn