



[Top Longmax Products Co., Ltd.](http://www.TopLongmaxProductsCo.,Ltd.)

TOP-POWER-A1 / A2 / A3 / A4



Owner's Manual

“Caution: Federal law restricts this device to sale by or on the order of a practitioner licensed by the law of the State in which he/she practices.”

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Preface

Thank you for buying our product.

Before using your wheelchair,
firstly assemble, operate
and maintain the electric wheelchair
according to this manual,
pay special attention to
adjustment and safety sections.

Design and specifications subject to change without notice.

Products Power Wheelchair Serials



[TOP-POWER-A1](#)



[TOP-POWER-A2](#)



[TOP-POWER-A3](#)



[TOP-POWER-A4](#)

1. Feature

1) The controller position can be adjusted upward, downward, forward and backward, it's according to user's need.

2) Left hand or right hand drive is available at user's option.

3) Flip-back and height adjustable armrest is provided.

([Pic 1A](#), [Pic 1B](#))

4) Safety belt is provided. ([Pic 1C](#))

5) Larger front wheels are adapted. It provides good ability of climbing the curb and crossing the groove. ([Pic 1D](#))

6) Footrests are detachable. Only a small space is needed for transportation. ([Pic 1E](#))

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Pic 1A



Pic 1B



Pic 1C



Pic 1D



Pic 1E

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2. Specification TOP-POWER- (A1 / A2 / A3 / A4)

Frame Material : (A1) High-Quality SPCC Steel Pipe
(A2/A3/A4) Aluminum alloy Pipe.

Framework : (A1/A2) Folding (A3/A4) Fixed

Motor Output : 250W * 24V * 2pcs

Battery : 36AH * 12V * 2pcs

Charger : DC24V , 5Amps

Brake : ElectroMagnetic Brakes

Max. Speed : (A1/A3/A4) 8.0 km/h (A2) 12.00 km/h

Continuous Trip distance : 32 km

Climbing Ability : 12°

Casters : (A1/A2) 8" x 2" / 200 x 50mm PU tyre
(A3/A4) 2.5"/2.8" – 4" Flatless tires

Rear Wheel : (A1) 12.5" x 2.25" PU tyre
(A2) 24" x 1-3/8" Flatless tires
(A3/A4) 4" – 8" Flatless tires

Curb Climbing Ability : 75mm

Groove Crossing Ability : 100mm

Seat Depth : 16"

Seat Height : 19"

Seat Width : 18" ~ 20"

Armrest Height : 8-1/2"~12-1/2"

Max. Loading : 130kgs / 260 lbs

Net Weight : About 67kgs (W/ Battery)

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3. Outline

Push Handle Backres





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4. Assembling

- 1) Connect the wire with the battery. ([Pic 4A](#))
- 2) Put the battery into battery box. ([Pic 4B](#))
- 3) Use the straps to fasten the upper and under seats of the battery box. ([Pic 4C](#))
- 4) Put the battery box onto the battery bracket of the frame. ([Pic 4D](#))

- 5) Connect the joints of the two battery boxes. ([Pic 4E](#))
- 6) Plug the battery joint into the joint of the controller. ([Pic 4F](#))
- 7) Fasten the nut. ([Pic 4G](#))
- 8) Insert the footplate tube in, and push the tube from outside into its place.
- 9) Loosen the bolt on the tube of footplate and adjust to a most comfortable position between the seat and the footplate, then you can fasten the bolt.
- 10) Rotate the clutch lever of the gearbox backward to connect the drive gear.
- 11) Turn on the power (press the power button), the battery gauge will be turn on, the power system is standing by.

Do not operate this electric wheelchair without first reading and understanding this manual.

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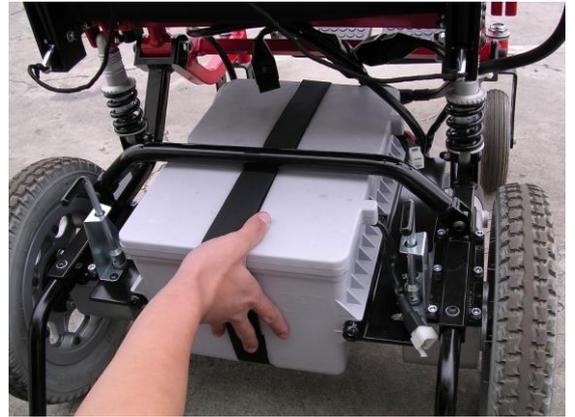
Pic 4A



Pic 4B



Pic 4C



Pic 4D



Pic 4E



Pic 4F



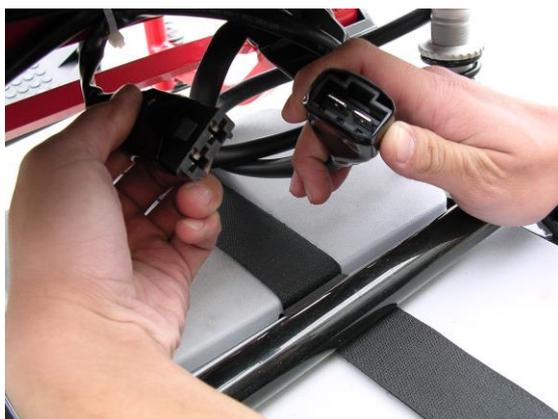
Pic 4G

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5. Disassembling

- 1) Turn off the power (press the power button again), the battery gauge will be turned off.
- 2) Disconnect the main cable from the controller. If need to remove the controller. You must loose the holder of controller.
- 3) Separate the joint of controller stick from the battery joint. ([Pic 5A](#))

- 4) Separate the joints of the two battery. ([Pic 5B](#))
- 5) Loosen the nuts. ([Pic 5C](#))
- 6) Take away the two batteries from the battery rods. ([Pic 5D](#))
- 7) Loosen the straps of the battery box. ([Pic 5E](#))
- 8) Unwind the wires of the battery ,and the battery can be taken off. ([Pic 5F](#)、 [Pic 5G](#))
- 9) Take off the footplate. If the footplate tube needs to be taken down, press down the release and push the tube outward to take off the piece.([Pic 1E](#))
- 10) Gather up the wheelchair.



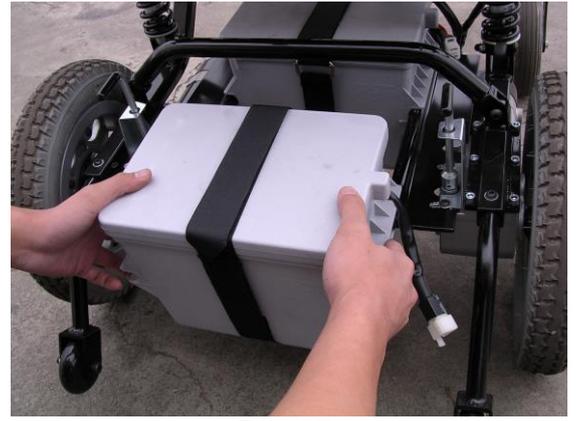
Pic 5A



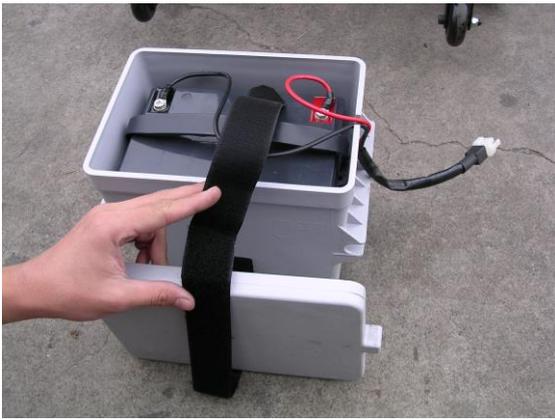
Pic 5B



Pic 5C



Pic 5D



Pic 5E



Pic 5F



Pic 5G

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6. Caution

- 1) Always make sure the power is off when you are getting off or on the power wheelchair.
- 2) Before operation your wheelchair, make sure that you have enough power to complete your intended trip, if the battery is not charged sufficiently please don't go outdoor for long distance operation.
- 3) To keep battery life longer, please do charge your battery after every trip is suggested. If not drive for a long time, you have to do a full charge on your battery per 3 months.

- 4) If the battery gauge goes to RED light, charging the battery as soon as possible. Deep discharging the battery will damage the battery and can shorten its life.
- 5) When the battery is old and deteriorated, the battery gauge will go down quickly.
- 6) In cold weather, the battery capacity will decrease.
- 7) When you are charging the battery, please make sure that the input-voltage (115V/230V) switch of your charger must match your power source.
- 8) Avoid unnecessarily moving to the power-chair.
- 9) Please fasten the safety belt while driving and check the proper position of anti-tipper.
- 10) Our products suitable at condition where temperature is maintain within 0 ~ 50°C.
- 11) Disassemble the controller, motor or charger by user-self is inhibited, the dealer will not take any responsibility on maintenance and guarantee of this product when user does that.
- 12) In order to prevent controller, charger and battery from getting wet to cause the function fault, don't irrigate them with water directly.
- 13) In order to keep the user's safety and totally familiar with the power-chair's operating characters, the new driver have to practice at the spacious area, follow up the steps to forward , backward , turn left , turn right , brakes , up slope , down slope etc.
- 14) Please turn off the power before charging the battery or at resting condition.
- 15) The following areas and conditions can be dangerous and should be avoided. Darkness, dim light, steep slop, rain, snow, shoulder of the road, slippery area, etc.
- 16) Please do not drive your power-chair without the illuminate facilities during the night-time.
- 17) Please do not lower the footplate to less than 50mm(2") above the ground, otherwise and accident may occur owing to insufficient ground clearance.
- 18) Keep your feet on the footplate at all times during operation and do not stand on the footplate. If your feet are in the improper position, you can be seriously injured.
- 19) When the power can not turn on, please check every connectors is fully inserting to the receptacle.
- 20) Please check the fixed screw periodically make sure it does not loosen .If the screw was loosen, please tighten it with the tools provided.

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7. Controller Description & Security Function

1) Controller Description

Battery Gauge &
Diagnostics Indicators



Battery gauge & Diagnostics indicators

When the indicators turn on, it's in the battery gauge situation:

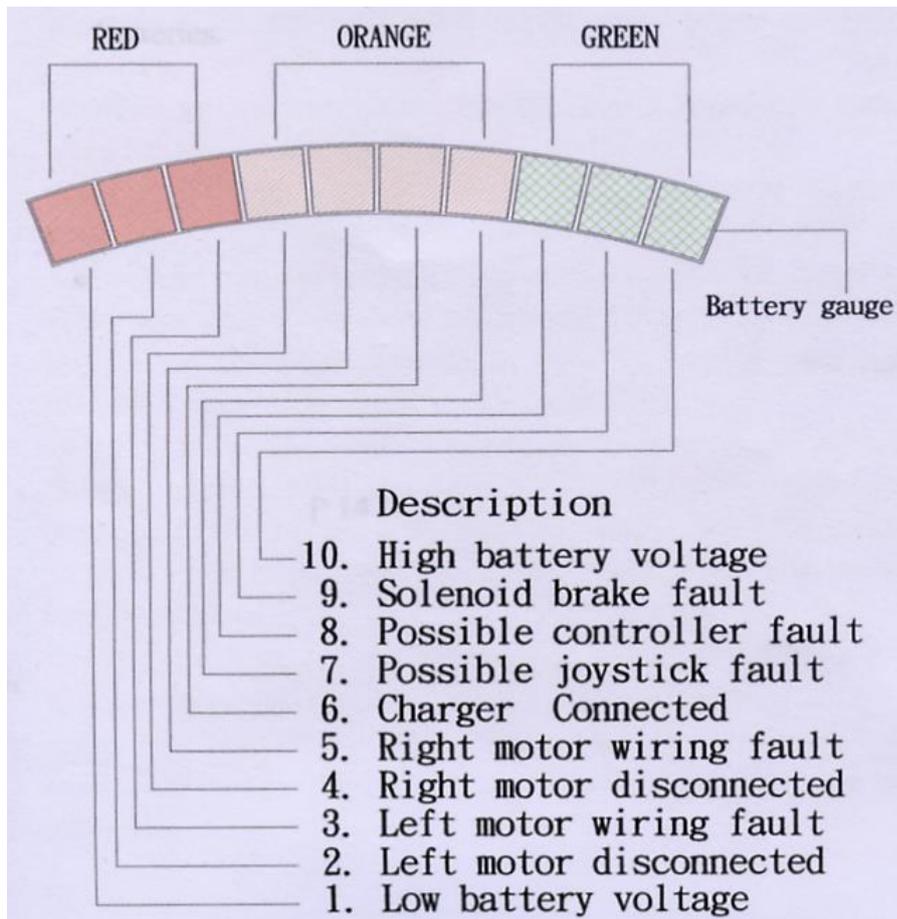
Green Lights : The battery has full capacity.

Orange Lights : Don't drive power-chair for long trip is suggested.

Red Lights : The power-chair should be charged as soon as possible.

When the indicators become flashing, the number of flashing bar indicates the possible fault.

Description below:



2) Security Function

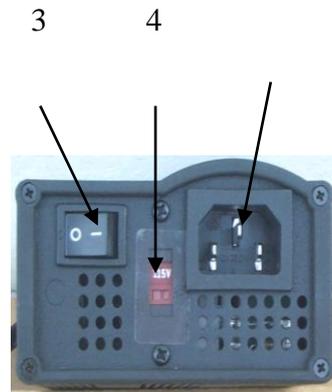
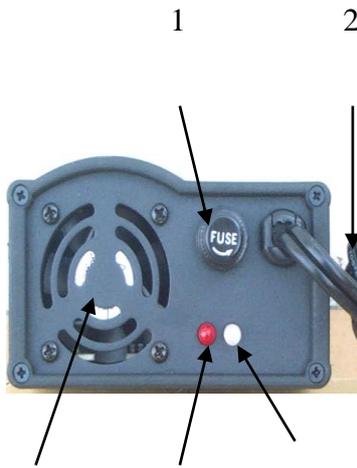
- a) The forward/backward/turn speed, acceleration and deceleration can be programmable.
- b) Thermal overload protection.
- c) Current overload protection.
- d) The fault diagnostics of the controller. (Ref. Last page).
- e) The power-chair will not turn on while charging the batteries.

8. Operation Guide

- 1) Turn on the power (Press the power button), and the battery gauge will turn on.
- 2) Rotate the clutch lever of gearbox inward to connect the drive.
- 3) Start to steer, moving the joystick to drive forward, backward, left and right. If you want to stop the wheelchair, just release the joystick, it will return to the center position to stop the power-chair automatically.
- 4) We suggest the beginner and the older people to operate the power-chair in low speed for a certain period before going into high speed.
- 5) Considering the user's safety, the speed will be reduced in half when the power-chair under turning conditions.
- 6) When you drive your power-chair on a slope in climbing condition, push the joystick entirely forward to keep the power-chair continuously climbing until you reach the top of the slope. While the power-chair is climbing a slope is steep, transfer the gravity of the power-chair to front by leaning your body forward to prevent the front wheels from lifting.
- 7) When you operate your power-chair down a slope, drive is slowly and prepare for an emergency stop if you feel difficult to control the power-chair. If the speed increase, release the joystick to let it return to the center position to slow down or stop, then start again slowly.
- 8) Flip-back armrest: Release the lock-pin and lift the armrest back to get on or get off the power-chair more convenient.
- 9) Loosen the bolt on the tube of footplate and adjust to a most comfortable position between the seat and the footplate, then you can fasten the bolt.

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9. Battery Charger



6 7 8

1. Output fuse of anti-polarity counter
2. Charge cable
3. Power switch
4. 115V/230V switch
5. Socket of power cable
6. Radiating fan
7. Red light: the power input indicator
8. Yellow light: being charged
9. Green light: charging finished

1) Specifications

Mode	HP 8204A
Specifications	
Input Voltage	115V/230V Option Switch 115V(95V-132V)/230V(180V-264V)
Output Voltage	24V
Output Current	5A Continuous
Max. Output Voltage	31V
Protection Against Over-Voltage	Above 32.5V-Automatic Shut-off
Protection Against Overload	Above 8A-Automatic Shut-off
Protection Against Short Circuit	Output Fuse Severs of Shut-off Automatically
Environmental Temperature of use	-10° ~ 50°
Environmental Temperature of Preservation	-25° ~ 85°

Dimensions	180mm(L) x 93mm (W) x 53mm (H)
Weight	0.83kg
Approvals	UL, CSA, CE, TUV, JAPAN

2) Features

- a) Checks the battery connection automatically.
- b) Automatic full charge maintenance – free sealed lead-acid battery.
- c) Monitor in all procedure until the battery is fully charged.
- d) For protecting exhausted batteries, slow charge in the beginning and fast charge until it goes up to the normal voltage.
- e) Compact, portable and light-weighted.
- f) Approvals: UL, CSA, CE, TUV, JAPAN(T-mark)

3) Operation instruction (Please follow the steps)

- a) Check current type of input (115V or 230v), and then switch accordingly at the charger.
- b) Check if the battery is 24V/12AH above lead acid battery.
- c) Please switch the AC power input “Off” before the battery cable is connected.
- d) Check if the negative and positive polar of the charger matches to the battery.
- e) After completing the steps as the above, switch the AC input button to “1”. The fan starts turning, and the LEDs red and yellow are on means the charger works normally. For the exceptional, please turn off the charger instantly and repeat step 1-4 and restart it.
- f) The cross-blink between Led yellow and Led green is normal while the charger is fully charged and the Led green is stable on.

4) Usage environment

- a) Keep the charger and other objects above 5cm to reduce the heat.
- b) Do not use it on the wet and dirty place.
- c) Do not put charger on the battery.
- d) Prevent charger from shock.

5) Note

- a) Check the ground wire well for safety if the input wire of charger is equipped with ground wire.
- b) Check if the output-DC voltage corresponds to the battery type and voltage. Wrong voltage and battery type would explode the battery and wound the users.
- c) Switch off the charger to “O” position before connecting the charging wire and battery.
- d) Avoid exposing charger in rain, water and damp conditions.
- e) Contact the sales agent when the charger stays in yellow after charging more than 12 hours.

10. Maintenance & Warranty

1) Maintenance (consuming parts)

- a) Battery : Please charge instantly after long distance driving to prolong the battery life. And do the full charge per 3month if long time not drive. Please use maintenance/water-free battery to avoid trouble.
- b) Motor : Carbon brush connector & brakes are consuming parts, please replace them regularly.
- c) Tyre: check front/rear tyre pressure regularly, replace them when worn out.

How to check electrical brakes:

This test should be carried out on a level floor with at least one meter clear space around the power-chair.

Power on the controller, check that after 1second the battery gauge remains on or flashed slowly. Pushing the joystick forward slowly until you fear the electrical braked operate. The power-chair may start to move. Immediately release the joystick, you must be able to hear each electrical brake operate within a few seconds. Repeat the test three times, pushing the joystick backward, left and right respectively.

2) Warranty

- a) Main frame: 3 years.(consuming parts not include)
- b) Controller: 1 year.
- c) Charger: 1 year .

The warranty is given for use within normal operation condition, it does not cover accidental damage, or problem caused by user's neglect or misuse.

10A. Controller Lock & Un-Lock

- 1) Lock : Please push down “on/off” button one second and hear one sound “BE” then push the joystick forward to you can hear “BE” one sound, then push joystick backward hear “BE” one sound now the controller “Locked”.
- 2) Un-Locked : Please push down “on/off” button you can see the speed meter run, then push joystick forward you can hear “BE” one sound then push joystick backward you can hear one big sound “BE” now the controller “Un-Locked”.

11. Trouble Shooting

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PROBLEM	PROBALE CAUSE	SOULTION
Control unit Completely dead	Power switch “ OFF “	Check power switch On-Off position
	Battery cable plug loose	Check battery cable connector for insertion of plug in receptacle.
	Battery leads loose	Check battery lead connections at terminals for tightness.
	Controller cable plug loose	Check controller cable connector for insertion of plug in receptacle.
Controller fails to turn off one or both motors when control lever is released	Control leaver sticking and not returning to a neutral position	Return controller assembly to authorized dealer or factory for adjustment.
	Control potentiometers out of adjustment	
Both motors run erratically during operation	Controller cable plug loose	Check cable connectors for insertion of plug at receptacle.
	Wire broken loose in cable plug	Check for loose wire at plug connections. Re-solder if required.
One motor runs erratically during operation	Motor power cable plug loose	Check cable connectors at plug in receptacle.
	Wire broken loose in motor power cable plug	Check for loose wire at plug connections. Re-solder if required.
Wheelchair operates sluggishly and fails to run at normal top speed	Battery discharged	Recharge the battery. Replace the battery if it cannot be fully recharged. Check all connections from battery terminals.
	Battery Cable has loose connection	
One or both motors fail to operate	Failure in motor	Return to authorized dealer
Chair veers to one side	Clutch lever not in correct position	Check the clutch lever position.
	Bent caster fork	Check fork for damage. If bent out of alignment, replace fork.

12. EMC statements

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 TOP-POWER-WHEELCHAIR.

■ 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 cellular 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 vehicle; and
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 closer 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 wheelchair. 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); and
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.

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