



FOLDING POWER WHEELCHAIR



PW-1800

OWNER'S MANUAL

TABLE OF CONTENT

1. PW1800 : Power Wheelchair	
1.1. Specifications-----	2
1.2. Outline-----	3
1.3. Assembling-----	4~5
1.4. Folding & Disassembling-----	6
2. Caution-----	7~8
3. Controller Description & Security Function-----	9
3.1 Security Function-----	9
4. Operation guide-----	11
5. Special Features-----	12
6. Battery Charger-----	13
6.1 Specifications-----	13
6.2 Features-----	14
6.3 Operation Instruction (Please follow the steps)-----	14
6.4 Usage environment-----	14
6.5 Note-----	15
7. Maintenance & Warranty-----	16
7.1 Maintenance (consuming parts) -----	16
7.2 Warranty-----	16
8. EMC statements-----	18~19
9. Assembling Drawing-----	20

1.1. Specification:

1. Frame Material: high-quality SPCC steel pipe
2. Framework: foldable
3. Motor output: 200W × 24V × 2pcs
4. Battery: 36AH × 12V × 2pcs
5. Charger: 5Amp, Off-board
6. Brake: Electromagnetic brake /Manual brake
7. Max. Speed: 6.4km/h
8. Continuous trip distance: 32km / 20mile
9. Climbing ability : 12°
10. Front wheel: 8" foam filled tire
11. Rear wheel: 12-1/2" foam filled tyres
12. Seat depth: 16"/40cm
13. Seat height: 20"
14. Seat width: 18"
15. Max. Loading: 115kgs
16. Available color: Red, Blue, Grey and Black
17. Net weight: 42.2kgs / 92.8 lbs (W/o including 2pcs batteries)
18. Packing size: 34-1/4" × 15" × 32-3/4"

*** Remark: The continuous trip distance depends on the user's weight, road condition, batteries life, and so on. The above reasons will influence the performance.**

1.2. Outline: PW-1800

FRONT VIEW



- | | | | |
|----------------|--------------------------------|----------------|------------------|
| 1. Push handle | 2. Backrest | 3. Armrest | 4. Side panel |
| 5. Drive motor | 6. Rear wheel | 7. Joystick | 8. Controller |
| 9. Footrest | 10. Heel loop | 11. Foot plate | 12. Front caster |
| 13. Rear bag | 14. Backrest Folding Mechanism | 15. Main cable | |
| 16. Batteries | 17. Anti-tipper | | |

1.3. Assembling:

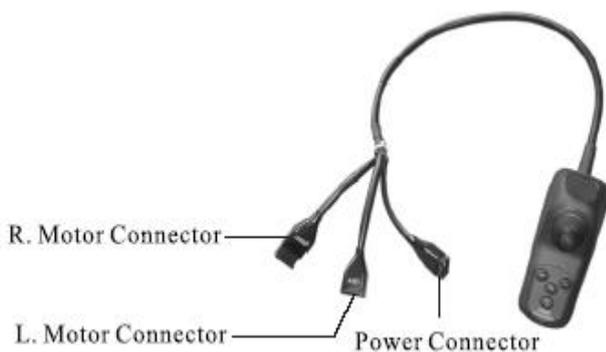
1. Press down the seat tubes with your both hands and please make sure the tubes are tightly fixed on the crossbar guides. (Fig. 1& 3)
2. The backrest Folding Mechanism can adjust the backrest. (Fig.2)
3. Attach the bottom of the backrest with the seat. (Fig.4)
4. Place two batteries underneath the seat and connect battery connectors (Fig.5&6)
5. Assemble the footrest on the wheelchair and lock it by latch. (Fig.7)
6. Fix the heel loop above the footrest. (Fig.8)
7. Connect the three main cables to controller. Left motor connector to left one; right motor connector to right one; power connector to battery connector. (Illustration on p.6)
8. Turn on the power (press the power button), the battery gauge will be turn on, the power system is standing by. (Fig.9)





DO NOT OPERATE THIS ELECTRIC WHEELCHAIR WITHOUT FIRST READING AND UNDERSTANDING THIS MANUAL.

Three main connectors from the controller

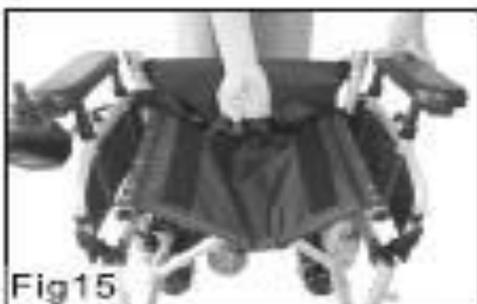


(Indications are labeled on the wires)

To connect the power cables from the controller to the motor and the battery connectors, you need to connect left motor connector to left one, right motor connector to right one, power connector to battery connector.

1.4. Folding & Disassembling:

1. Turn off the power (press the power button again), the battery gauge will turn off. (Fig.10)
2. Disconnect the battery connectors and take out two batteries. (Fig.11 & 12)
3. Unlatch the heel loop (Fig. 13) (optional)
4. Fold-up the footplate. If need to remove the footrest, unlock the latch, swing the footrest outward and then take out them. (Fig. 14)
5. Gather up the wheelchair. (Fig.15& 16)

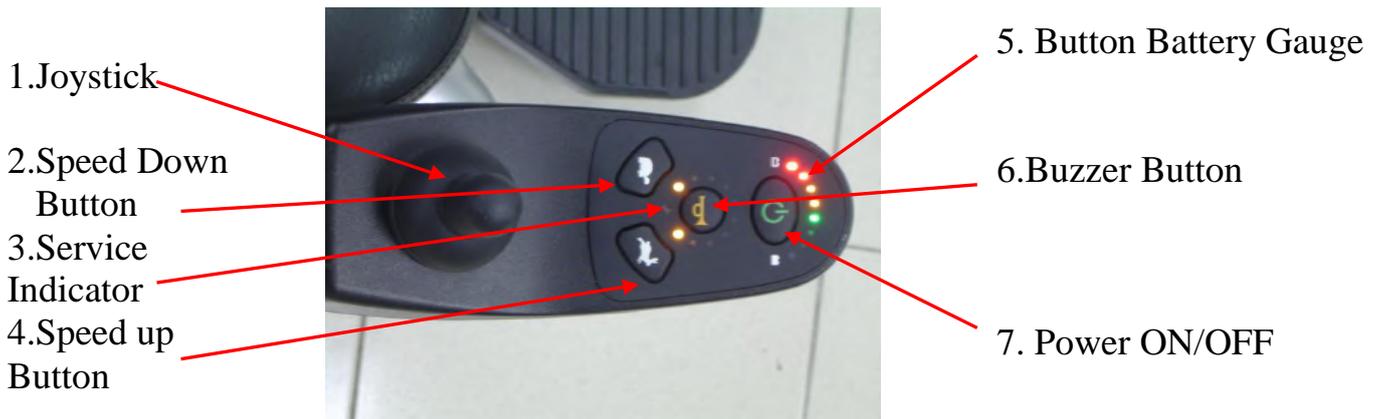


2. Caution:

1. Always make sure the power is off when getting off or on the power wheelchair.
2. Always make sure the clutch levers are in engaged mode before getting on or getting off the wheelchair. (Paralleled to the wheels)
3. Before using the wheelchair, make sure that there is enough power to complete the intended trip; please do not go outdoor for long distance if the battery is not charged sufficiently.
4. To keep battery life longer, it is suggested to charge your battery after every trip. If not drive for a long time, you have to do a full charge on your battery every 3 months.
5. If the battery gauge goes to RED light, charging the battery as soon as possible. When battery is deeply discharged, it could be damaged and can also shorten its life.
6. When the battery is old and deteriorated, the battery gauge will go down quickly.
7. In cold weather, the battery capacity will decrease.
8. When you are charging the battery, please make sure that the input-voltage (115V/230V) switch of your charger must match your power source.
9. Avoid unnecessarily moving of the power-chair.
10. Please fasten the seat belt while driving and check the proper position of anti-tipper.
11. Our products function best at temperature between 0°C ~ 50°C.
12. Disassembling of controller, motor or charger by user-self is prohibited; the dealer will not take any responsibility on these kinds of situation.
13. In order to prevent controller, charger and battery from getting wet to cause the function fault, do not irrigate them with water directly.
14. 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 and down slope etc.
15. Please turn off the power before charging the battery or at resting condition.
16. 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.

17. Please do not drive your power-chair without the illuminate facilities during the nighttime.
18. Please do not lower the footplate to less than 50mm(2") above the ground, because accidents might occur owing to insufficient ground clearance.
19. 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.
20. When the power cannot turn on, please check every connector is fully inserting to the receptacle.
21. Please check the fixed screws periodically and make sure they are not loosened. Tighten them with the tools provided if needed.

3. Controller description



* **Battery gauge :**

When the indicators are turned on, the battery gauge is showed below:

Green lights: The battery has full capacity.

Orange lights: Do not drive power-chair for a long trip.

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

Service indicators:

Diagnostic information is provided to enable a fault to be identified and localized to a major component.

Service Schedule

A-Series controller provide a service reminded function, the service indicator will flash 3 times when turn on the power switch initially.

3.1 Security Function :

1. The forward/backward/turn speed, acceleration and deceleration can be programmable.
2. Thermal overload protection.
3. Current overload protection.
4. The fault diagnostics of the controller. (Ref. Last page).
5. The power-chair will not turn on while charging the batteries.

The following system diagnostics are provided as below table:

Flash Code	Description	Recommended Action
1	Motor Current Over Limit Fault	Motor current is over the controller set limit. Release the joystick to neutral and try again.
2	Battery Fault	Try charging the batteries. Batteries may require replacing. Check the batteries and cabling.
3	Left Motor Fault	Check the left motor, connections and cabling.
4	Right Motor Fault	Check the right motor, connections and cabling.
5	Left Park Brake Fault	Check the left park brake, connections and cabling.
6	Right Park Brake Fault	Check the right park brake, connections and cabling.
7	User Interface Fault	Display PCB Fault. Consult a service agent.
8	Controller Fault	Consult a service agent.
9	A-series Bus Communications Fault	Consult a service agent.

If more than one fault exists then the fault having the highest priority (and lowest number of flashes) is indicated. All faults latch disabling the controller and require the controller to be turned off then on again if the source of the fault is removed.

4. Operation Guide:

1. Rotate the clutch lever of gearbox inward to connect the drive. (paralleled to the wheels)
2. After seated on the wheelchair, turn on the power (Press the power button), and the battery gauge will turn on.
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 of time before going to a higher 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 steep slope, position your body forward to prevent the front wheels from lifting.
7. When you operate your power-chair down a slope, drive slowly and prepare for an emergency stop if you feel difficult to control the power-chair. If the speed increases, release the joystick to let it return to the center position to slow down or to 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. Elevating swing-away footrest: Pull back the release-lever to adjust the elevating angle of the footrest, and release the lever to fix the footrest angle.

5. Special Features

Freewheel Levers

The power wheelchair is equipped with two freewheel levers. These levers allow you to disengage the drive motors and maneuver the chair manually.

WARNING! DO NOT use your wheelchair while the drive motors are disengaging unless you are in the presence of on an incline. The chair could roll down on its own, causing injury!

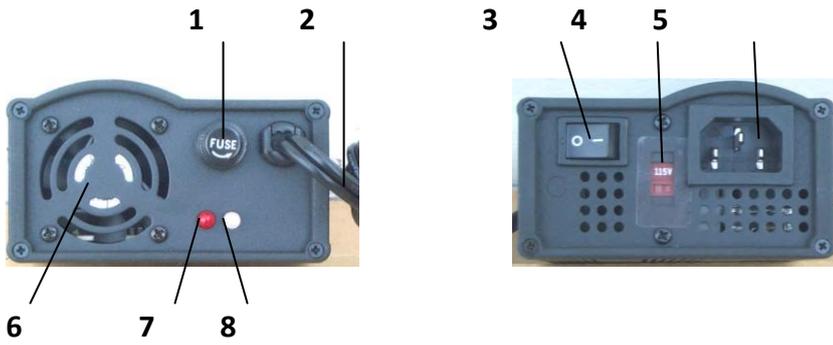
To engage or disengage the freewheel feature:

1. Turn the freewheel levers outward to disengage the drive motors.
2. Turn the freewheel levers inward to engage the drive motors.

Note: It is important to remember that when your power wheelchair is in freewheel mode, the braking system is disengaged.



6. Battery Charger



- 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

6.1. Specifications:

Mode	HP 8204B
Specifications	
Input Voltage	115V/230V Option Switch 115V(95V-132V)/230V(180V-264V)
Output Voltage	24V
Output Current	3A~6A 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

6.2. Features:

1. Ensures the battery connection automatically.
2. Monitoring in all procedure until the battery is fully charged.
3. For protecting exhausted batteries, slow charge in the beginning and fast charge until it goes up to the normal voltage.
4. Compact, portable and light-weighted.
5. Approvals: UL, CSA, CE, TUV, JAPAN (T-mark)

6.3. Operation instruction (Please follow the steps):

1. Select the input voltage (115/230V) and make a correct option by 115/230V option switch
2. Assure charging on lead-acid battery only.
3. Keep the AC power switch off (p14. No.3) before battery and charger have been connected.
4. Make sure the output end of the charger corresponds with the positive/negative pole of battery.
5. Turn on the AC power switch to “I”(the fan (p14. No6) should begin to run). When LED turns to red/yellow (p14. No.7&8), it means the charger has been under normal charging condition.
6. When LED turns to red/green (p14. No.7&8), it means the battery has been fully charged. The charging procedure has completed.
7. Under the condition of yellow/green LED, it may have a temporary alternating occurrence around 1~60 seconds during switching. Please note that this is normal.

6.4.Usage environment :

1. To reduce the heat when charging, please keep the charger away from other objects at least 5 cm
2. Do not use it on wet and filthy places.
3. Do not place the charger on the battery.
4. Prevent charger from shock.

6.5. Note:

1. Ensure the output-DC voltage corresponds to the battery type and voltage. Otherwise might cause explosion.
2. Switch off the charger (O) before connecting the charger and the battery.
3. Do not expose the charger to the rain, water or near fire materials. Do not store the charger in humid places or in closed places.
4. 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.

7. Maintenance & Warranty:

7.1 Maintenance (consuming parts):

1. Battery: Please charge instantly after long distance driving to prolong the battery. And does the full charge per 2 weeks if long time no drive. Please use maintenance/water-free battery to avoid trouble.
2. Motor: Carbon brush connector & brakes are consuming parts. Please replace them regularly.

How to check electrical brake:

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, pushing the joystick forward slowly until you hear the electrical brake operates. The power wheelchair may start to move. Immediately release the joystick, you must be able to hear each electrical brake operates within a few seconds. Repeat the test three times, pushing the joystick backward, left and right respectively

Tyres: Check front/rear tire regularly and replace them when worn out.

■ **Warranty:**

1. Frame components: 3 years.
 2. Gear motor: 18 months.
 3. Electronics: 12 months.
 4. Charger: 12 months.
 5. Batteries: 3 months.
 6. tyres: 3 months.
- 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.

8. 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 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.
2. Examples include: citizens band (CB) radios, “ walkie talkie”, security, fire, and police transceivers, cellular telephones and other personal communication devices.
3. 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
4. Long-range transmitters and transceivers, such as commercial broadcast transmitter (radio and TV broadcast antenna towers) and amateur (HAM) radios.

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

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**

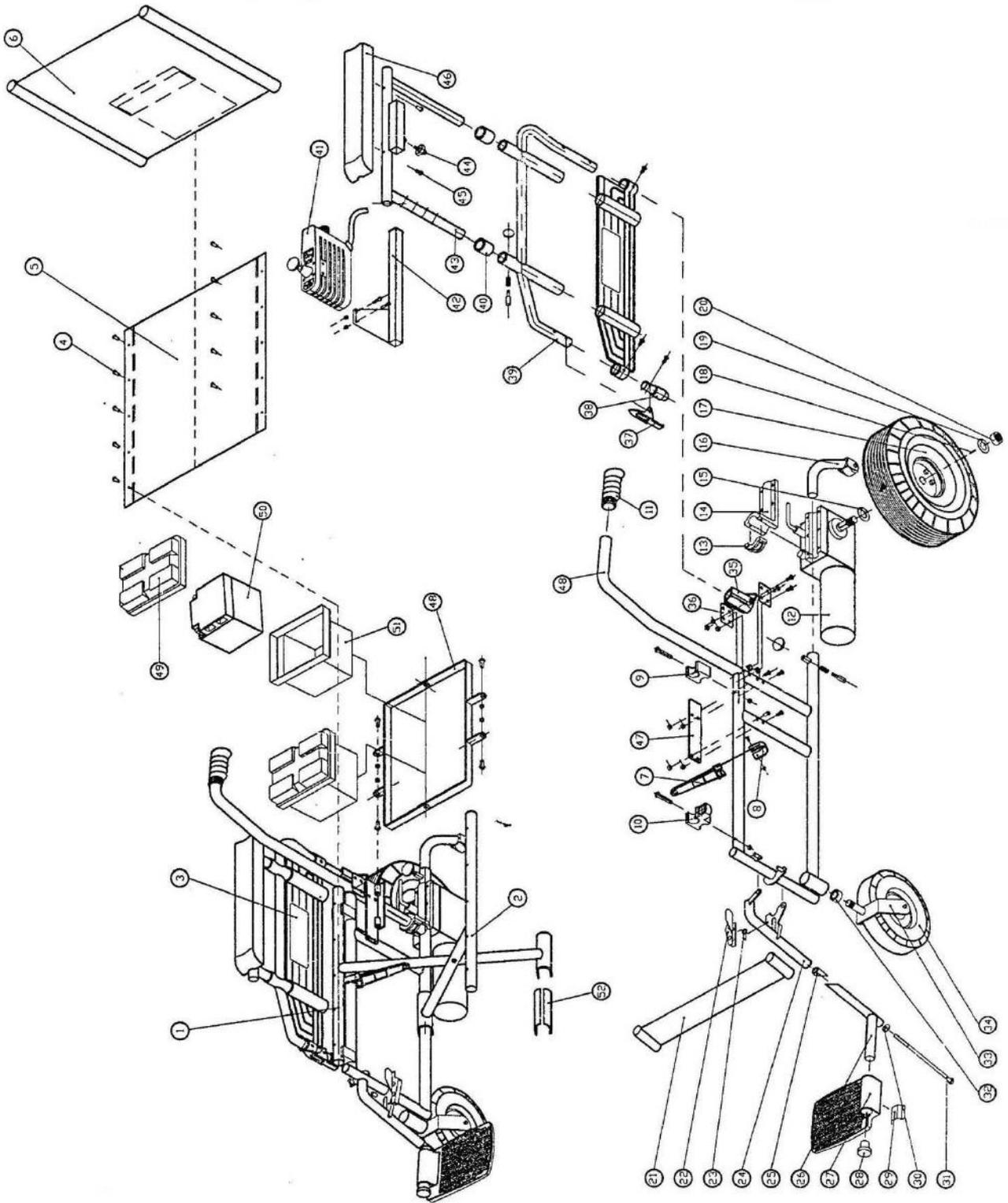
Electromagnetic interference (EMI) from sources such as radio and TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones can affect powered vehicles and motorized wheelchair. Following the warnings listed below should reduce the chance of unintended brake release or powered 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 evaluate 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.

1. Fork (Right)
2. Fork (Left)
3. Side Panel
4. Screw
5. Sponge Pad Seat
6. Backrest Pad
7. Rocker Arm
8. Arm Loop
9. Fixed Plate (Back)
10. Fixed Plate (Front)
11. Hand Grip
12. Motor
13. Motor Fixer
14. Motor Fixed Plate
15. Washer
16. Anti-Tipper
17. Rear Wheel
18. Key
19. Washer
20. Nut
21. Heel Loop
22. Legrest Buckle
23. Buckles Spring
24. Footrest Fixed Tube
25. Nut
26. Footplate Fixed Tube
27. Aluminum Footrest
28. Footplate Rubber Lid
29. Footplate Lead Spring
30. Bearing
31. Bolt
32. Bearing
33. Fork
34. Front Caster
35. Fixed Sleeve
36. Sleeve Fixer
37. Clip
38. Cover
39. Armrest
40. Plastic Cover
41. Controller
42. Adjustable Bar
43. Armrest Tube
44. Fixed Button
45. Screw
46. Armrest Pad
47. Battery Fixed Plate
48. Battery Rack
49. Battery Case Lid
50. Battery
51. Battery Case
52. Fork Cover



Notes

For all further information, contact your local dealer.

Dealer's details:



Komfi-Rider

One Rehab | Unit 1 Fernwood Estate | Shillinglee Road | Chiddingfold | Godalming | GU8 4SX