



OWNER'S MANUAL



World Leader in Personal Independent Mobility
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Welcome aboard your new powerbase wheelchair, and thank you for choosing our product. Please read this manual carefully, and follow all instructions before attempting to operate your powerbase wheelchair for the first time. If there is anything in this manual that you do not understand, or if you require additional assistance for setting up your powerbase wheelchair, please contact customer service.

This latest model is designed for specific practical user needs, combining solid, rugged construction, and modern high-tech electronics, to enhance safety and performance.

With a state-of-the-art, programmable electronic control system, your powerbase wheelchair can be programmed and adjusted within a given range of its performance characteristics, to suit your individual needs. The controller is set up at the factory to give the powerbase wheelchair nominal operating performance characteristics.

After becoming familiar with the basic operation of the powerbase wheelchair, you may wish to customize the settings to fit your own personal preferences. A wide range of customization options can be adjusted such as acceleration, deceleration, maximum speed, turning speed, safety controls, better maneuverability of the joystick, and so on. Contact your qualified service agent for advice on additional equipment you may need.

Have your powerbase wheelchair checked regularly by your local service agent to ensure smooth operation, and safety.

This manual provides users practical tips and information on safety issues, operation, and maintenance. Please read it very carefully to ensure your maximum enjoyment and to fully benefit from your independence and mobility.

Whenever special advice or attention is needed, please do not hesitate to contact Electric Mobility Corporation service agent, who has the tools and know-how to provide expert servicing for your powerbase wheelchair.

■ General Warnings

Read and understand these Warnings and the entire manual before using your Power Chair. This unit may tip over if the following instructions are not adhered to.

Warning!

Failure to follow these instructions may result in damage to the vehicle or serious injury

Read Carefully

1. **DO NOT** exceed the specifications of this unit, modify this unit in any way, or use the unit for other than a powerchair.
2. **DO NOT** operate this unit if your health or medications you are taking cause you to feel dizzy, affect your vision, or in any way impact your thought process, coordination, or ability to safely operate the unit. Check with your physician should you experience any of these symptoms.
3. **DO NOT** operate this unit after consuming any alcoholic beverages.
4. **DO NOT** transfer "on" or "off" the unit until it is turned "off", completely stopped, and when it is on a stable and level surface
5. **DO NOT** attempt to ride over curbs or other obstruction higher than 1-1/2 inches.
6. **DO NOT** stop when going up an incline. If you must do so, always lean forward when you start to move. This will shift your center of gravity forward to prevent the unit from tipping over backwards.
7. **DO NOT** climb inclines that pose a concern for stability. The ability to climb or descend grades varies with the load rating of the powerchair. See the specification section for the maximum grade recommendation.
8. **DO NOT** drive across an incline or attempt to turn while on an incline.
9. **DO NOT** back down an incline or allow the unit to be backed down an incline.
10. **DO NOT** turn off the power while the unit is moving.
11. **DO NOT** operate on a ramp or incline unless the seat is in an upright position and the seatlift is in the lowest position.
12. **ALWAYS** remember vehicle capacity is limited to one occupant only. This unit is not approved for towing or for weight in excess of the published maximum.
13. **ALWAYS** drive straight up and down inclines.

14. **ALWAYS** turn the power off when the unit is not in use. This will not only extend the life of the battery but will keep the unit from being accidentally moved.
15. **ALWAYS** use a 3-prong grounded receptacle for the battery charger. If you must use an extension cord, use a UL approved 3-prong cord with 16 gauge wire.
16. **ALWAYS** reduce speed when making a turn.
17. **ALWAYS** use a positioning belt and keep arms and legs within the confines of the unit. Do not carry passengers, animals or packages while operating the powerchair.
18. **ALWAYS** keep your feet on a footrest when operating the PowerChair.
19. **USE EXTRA CAUTION** when climbing inclines (ramps, hills, driveways, etc.)
20. **USE CAUTION** when braking on an incline or wet or slippery surfaces as the unit will take longer to come to a complete stop.
21. **USE CAUTION** when driving over soft, uneven or unprotected surfaces such as grass, gravel and decks.
22. **USE CAUTION** when operating the unit in bad weather or driving through water as moisture could affect the control system or other parts of the unit either temporarily or permanently.
23. **NEVER** hose off your PowerChair, use it in a shower or steam room, or allow it to come in direct contact with water.
24. **NEVER** charge batteries that may be frozen.
25. **SET** the speed control knob according to your driving ability and the environment in which you are going to operate it. We recommend that you keep the speed at the slowest (fully counter-clock-wise) until you are familiar with the driving characteristics of this vehicle.
26. **NEVER** occupy your PowerChair when transporting it in a motor vehicle. When transporting, make sure it is securely strapped with an approved tie-down system
27. **NEVER** drive on the roadway. Leave and join sidewalk curb-cuts perpendicular to the road. Always cross street intersections via the most direct route and make sure that you are visible to traffic.
28. **NEVER** use electronic radio transmitters such as CB's, walkie-talkies, portable computers or cellular phones while using the vehicle without first turning the vehicle off.

■ 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 powerchairs 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 States Food and Drug Administration (FDA) suggests that the following statement be incorporated to the user's manual for all powerchairs.

Powerchairs and motorized scooters (in this text, both will be referred to as powered wheelchairs) may be susceptible to electromagnetic 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 30V/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 powerchair 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 powerchair 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 powerchair off as soon as it is safe.
- 4) Be aware that adding accessories or components, or modifying the powerchair, 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 powerchair).
- 5) Report all incidents of unintended movement or brake release to the powerchair retailer, and note whether there is a radio wave source nearby.

TURN OFF YOUR POWERCHAIR AS SOON AS POSSIBLE WHEN EXPERIENCING THE FOLLOWING:

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. This letter says that powered wheelchairs should have an immunity level of at least 30V/m, which provides a reasonable degree of protection against the more common sources of EMI. The higher the level, the greater the protection.

Your power chair has an immunity level of 30V / m which should protect against EMI.

■ Environmental Conditions

Environmental conditions may affect the safety and performance of your powerchair.

Water and extreme temperatures are the main elements that can cause damage and affect the performance.

A) Rain, Sleet and Snow

If exposed to moisture, your powerchair is susceptible to damage of electronic or mechanical components. Water will cause electronic malfunction or promote premature corrosion of electrical and frame components.

B) Temperature

Some parts of the power chair are susceptible to changes in temperature. At extremely low temperatures, the batteries may freeze, and your power chair may not be able to operate. In extremely high temperatures, it may operate at slower speeds due to the controller's safety feature to prevent damage to the motors and other electrical components.

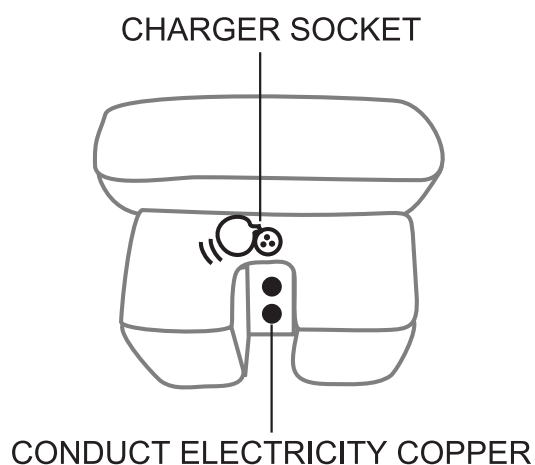
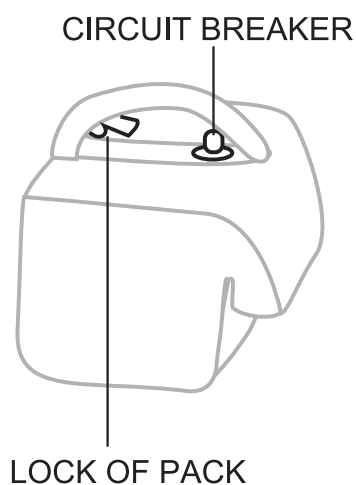
Familiarize yourself with your powerbase wheelchair

■ Feature Diagram

In this section, we will acquaint you with the many features of your powerbase wheelchair and how they work. Upon receipt of your powerbase wheelchair, inspect it for any damage. Your powerbase wheelchair consists of the following components.



DISASSEMBLY



■ Micro Compact Powerbase Wheelchair Specifications



Model No. 320/MP3CJ	Specifications
Length	32.5" (825mm)
Width	22" (555mm)
Seat Width	18.5" (475mm)
Seat Height(from deck)	15"~17" (380~430mm)
Seat Height(from ground)	18"~20" (460~510mm)
Speed	4.5 mph (7.2 kph)
Weight Capacity	250 lbs (113.5 kg)
Total Weight(without battery)	79 lbs (35.8 kg)
Motor	DC24V, 120W, 4000rpm
Controller	Dynamic Shark
Battery	12V, 22Ah * 2 pcs
Charger	3A off board
Gradient	8°
Front Wheel	7 x 1-3/4" Foam Filled
Rear Wheel	9" Foam Filled

■ Terminology

Joystick: The device used to "move" the powerbase wheelchair.

Controller: The device that allow joysticks to function. Not all joysticks have a controller.

Armrests: Where arms can rest during time spent on powerbase wheelchair.

Footrest: Where feet rest during time spent on the powerbase wheelchair.

Drive Wheel: The wheels that move the powerbase wheelchair. These are the main wheels.

Caster Wheel: The front swivel wheels.

Controller Harness Connectors: Joystick cables connect to the powerbase wheelchair.

Freewheel Lever: For convenience, your powerbase wheelchair is equipped with freewheel levers. These levers allow you to disengage the drive motors and maneuver the chair manually.



WARNING: DO NOT use the powerbase wheelchair without the presence of an attendant while the drive motors are disengaged! **DO NOT** disengage the drive motors when your powerbase wheelchair is on an incline, as the chair could roll down on its own, causing injury!

To engage or disengage the drive motors:

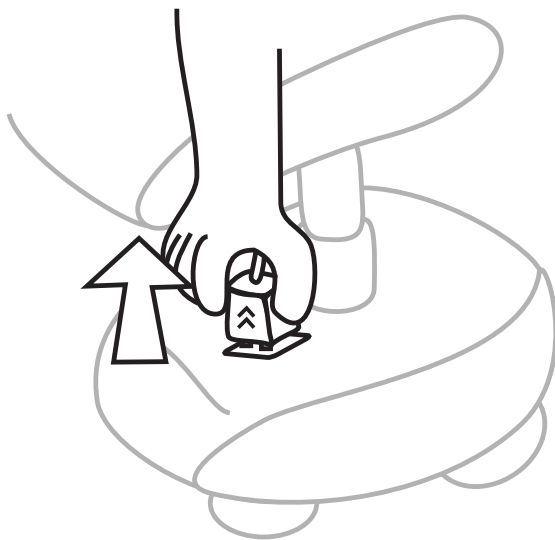
1. Turn the freewheel levers outward to disengage the drive motors.
2. Turn the freewheel levers toward the front of the powerbase wheelchair to engage the drive motors.

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

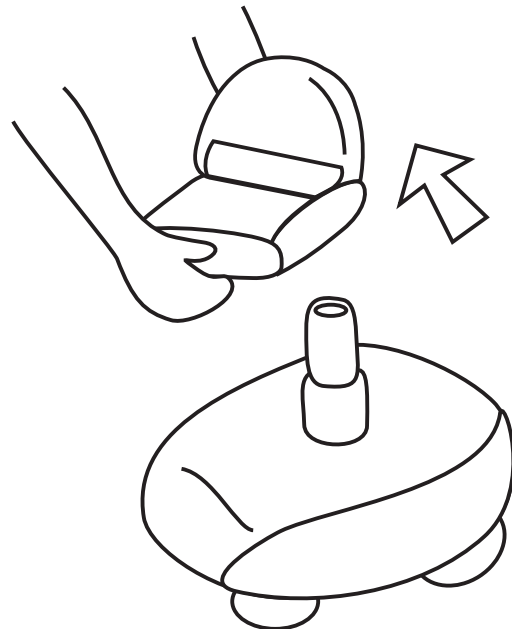
■ Disassembly the Powerbase wheelchair

To remove the seat:

1. Disconnect controller harness from shroud.
2. Take off the seat from the seat post vertical.
3. Press the lock to take off the battery box.



Disconnect controller harness



Take off the seat



Take off the Battery Pack

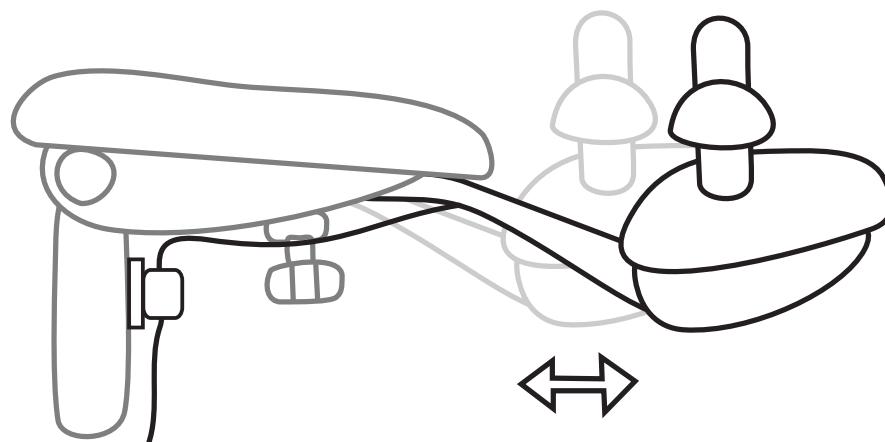
Adjusting for Comfort

■ Adjusting the Joystick:

You can position the joystick for either left-hand or right-hand use:

To change the joystick position:

1. Do not disconnect the joystick controller harness from the shroud.
2. Push tie-mount that attaches the joystick cable to the armrest.
3. Loosen the knob to slide the joystick mounting out of the armrest and place it in the other armrest.
4. Tighten the knob.
5. Connect the joystick cable to the armrest on the clamp tie-mount.



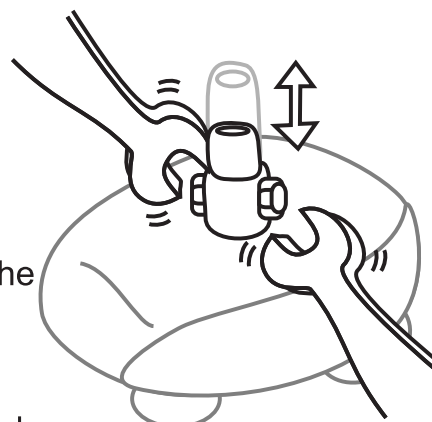
PUSH (CLAMP) TIE-MOUNT

LOOSEN THE KNOB TO ADJUST JOYSTICK

■ Adjusting the Seat Height:

To adjust the seat height:

1. Turn the power off.
2. Disconnect the controller harness and remove the
3. Using two 17mm wrenches, remove the bolt securing the inner seat pedestal.
4. Slide the inner pedestal to the desired height and re-insert the bolt.
5. Tighten the bolt and replace the seat.

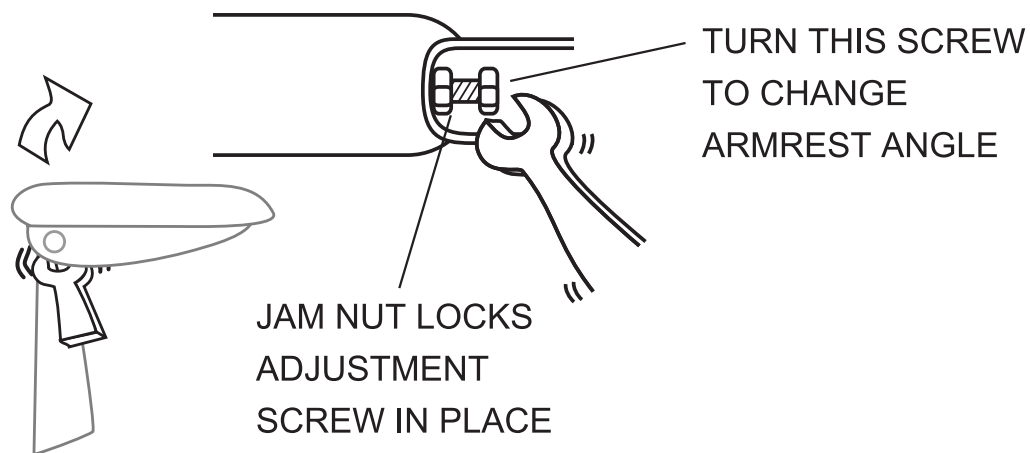


■ Adjusting the Armrest Angle:

You can increase or decrease the armrest angle to fit your specific needs.

To change the tilt angle:

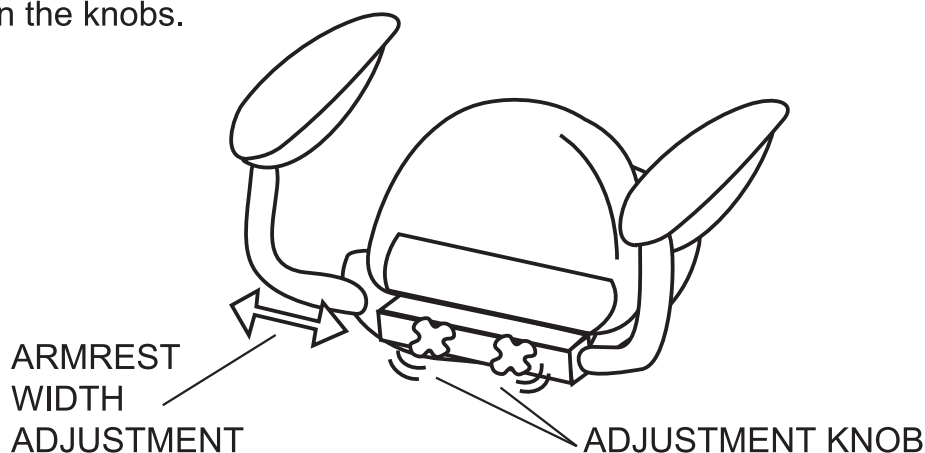
1. Lift the armrest straight up so that it is perpendicular to the floor.
2. Use the wrench to loosen the jam nut.
3. Use the wrench to loosen the adjustment screw.
4. Turn the set screw counter-clockwise to raise the armrest and clockwise to lower the front of armrest.



■ Adjusting the Armrest Width:

To change the armrest width:

1. Locate the two knobs on the armrest receiver bracket.
2. Loosen the knobs and slide the armrests in or out to the desired width.
3. Tighten the knobs.



■ Adjusting the Footrest Angle:

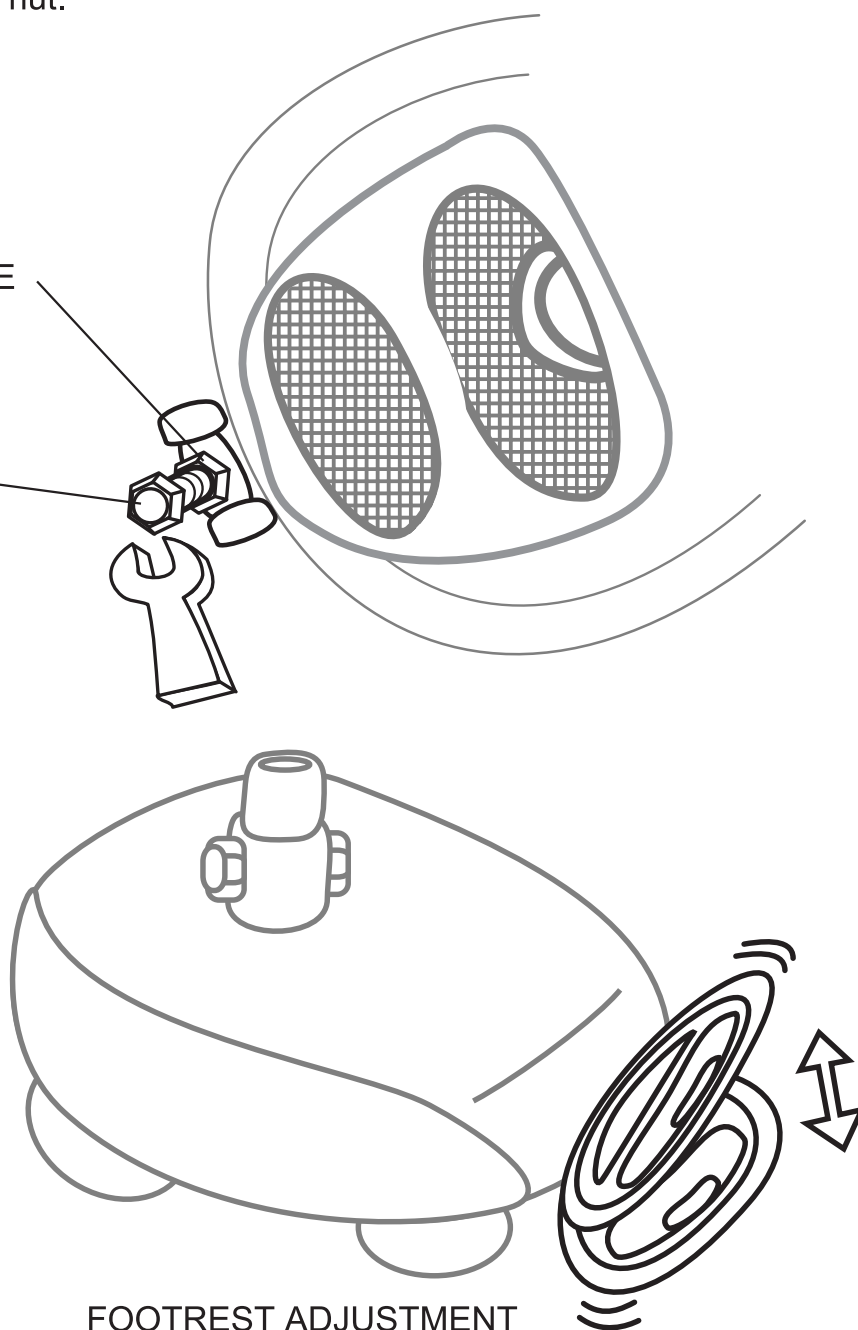
You can adjust the angle of the footrest with a wrench.

To adjust the footrest angle:

1. Flip up the armrest for easy access.
2. Use a wrench to loosen the jam nut.
3. With wrench, simply turn the bolt clockwise to increase the angle or counter-clockwise to decrease it.
4. Tighten the jam nut.

JAM NUT LOCKS
ADJUSTMENT
SCREW IN PLACE

TURN THIS
SCREW TO
CHANGE



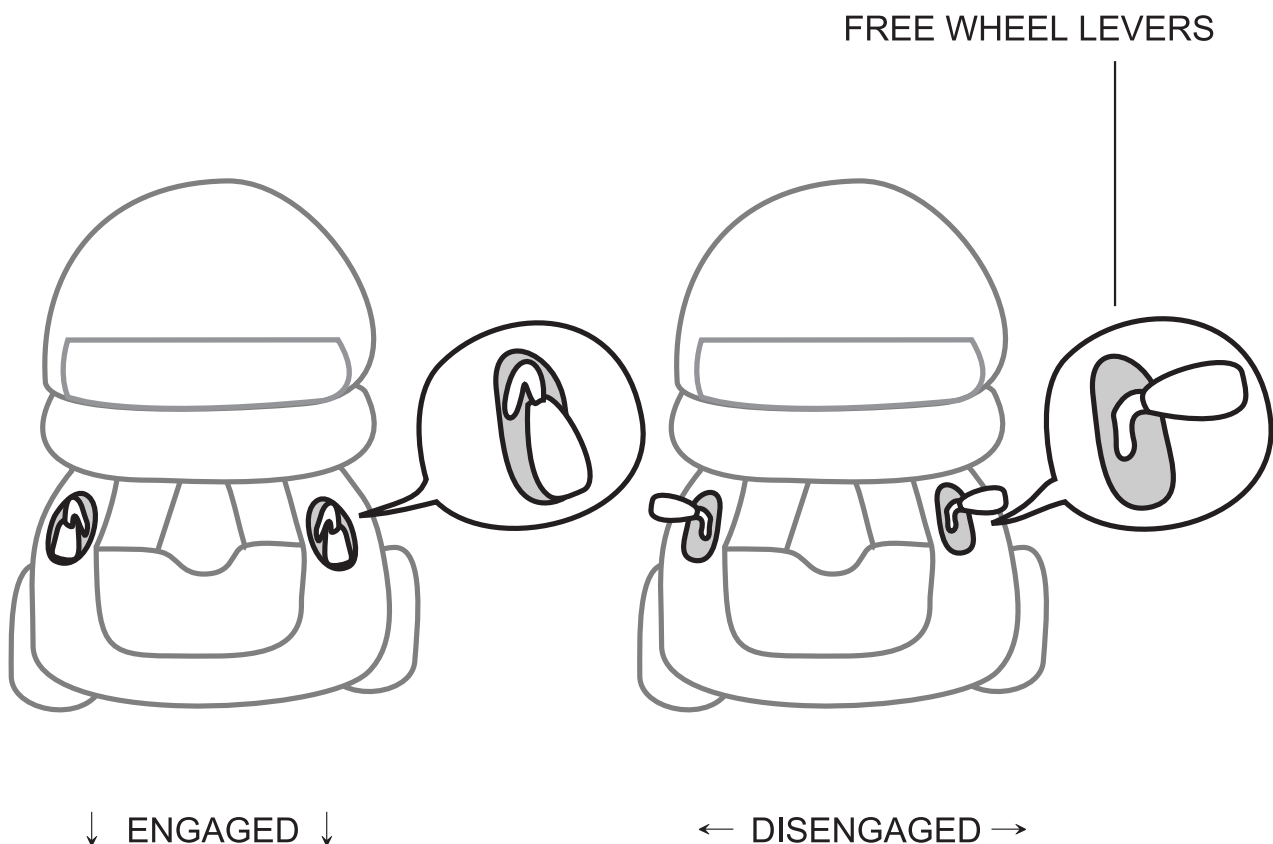
Operating your powerbase wheelchair

■ **Freewheeling:**

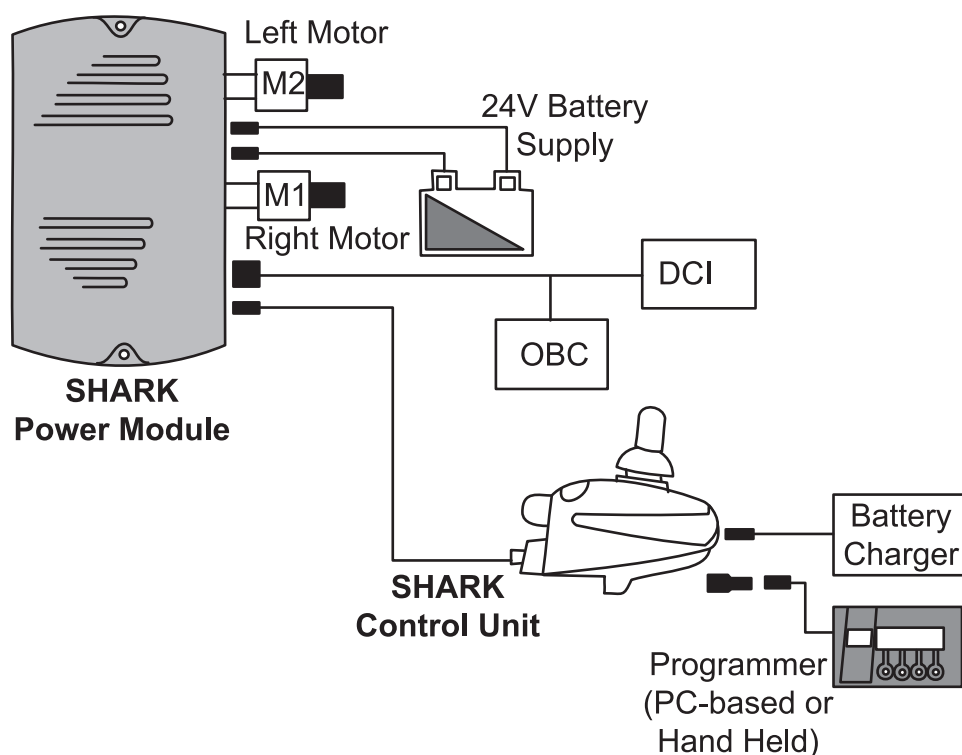
Because the motors are designed to engage the electromagnetic brakes when the vehicle is not in use or when the power is OFF, they also have a manual feature that allows them to "free-wheel". Free-wheel is accomplished by turning the free-wheel levers to the release position as shown.

The drive motors to engage or disengage:

1. Turn the freewheel levers toward the front to engaged the drive motors.
2. Turn the freewheel levers outward to disengaged the drive motors.

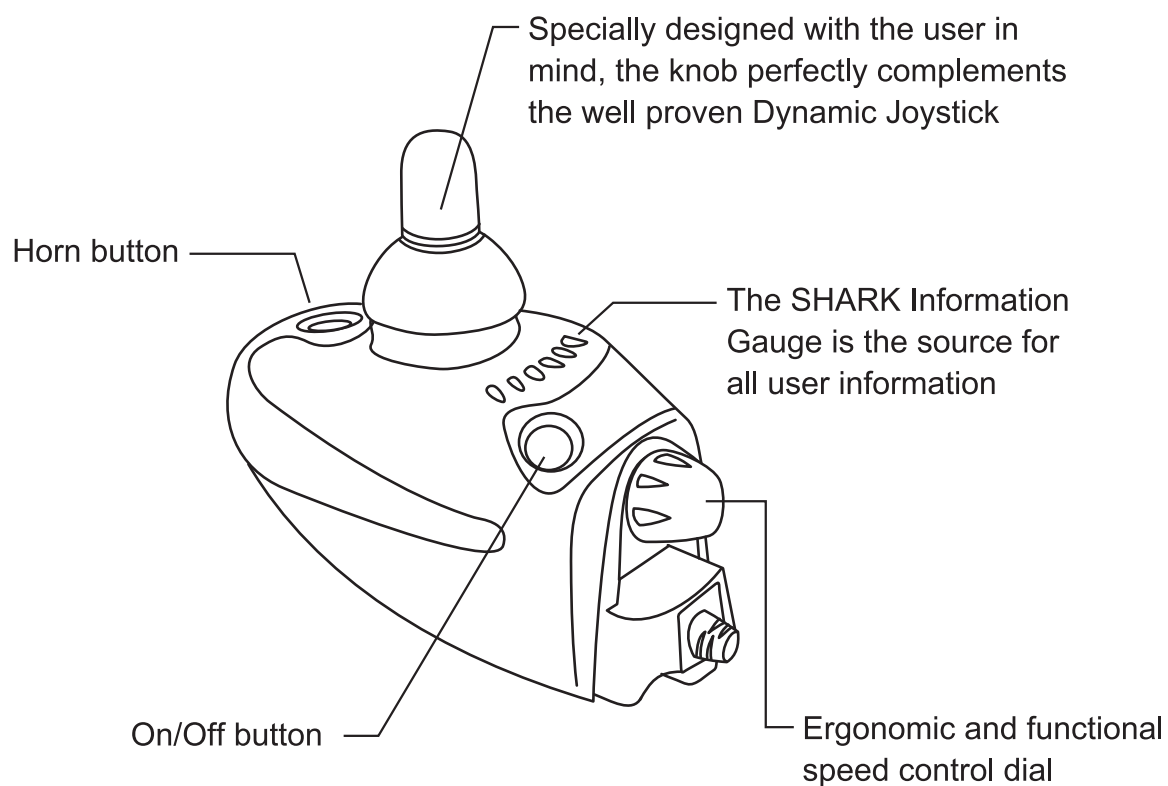


■ Dynamic Shark Controller Operation:

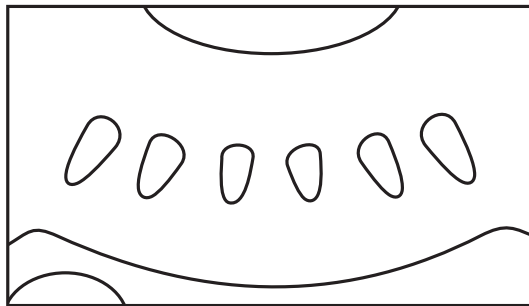


Shark Controller Introduction

The Shark Controller Unit



The Shark Information Gauge



The SHARK Information Gauge is the primary source of user feedback. It displays every possible status the SHARK may have, including;

- SHARK Power ON

True state-of-battery-charge, including notification of when the battery desperately requires charging.

- **Any green** LED's lit indicates well-charged batteries.

- If only **amber and red** LED's are lit, the batteries are moderately charged. Recharge before undertaking a long trip.



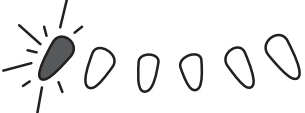
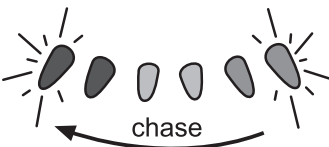




- If **only red** LED's are lit, the batteries are running out of charge. Recharge as soon as possible.

- SHARK Lock Mode countdown

- Program, inhibit or charge modes

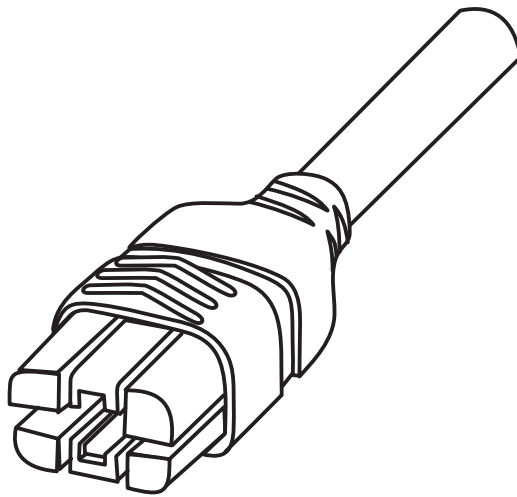
- Fault indication (Flash Codes)

The following table indicates what the gauge will display for any given state.

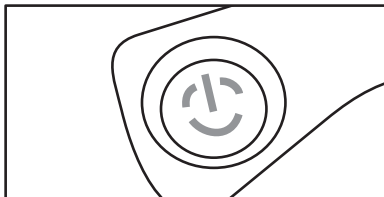
Display	Description	This means...	Notes
	All LED's OFF	Power is OFF	
	All LED's ON steady	Power is ON	Less LED's imply a reduced battery charge.
	Left RED LED is flashing	Battery charge is low	The batteries should be charged as soon as possible.
	Right to left 'chase'	SHARK is being brought out of Lock mode	To unlock SHARK, press the Horn button twice with in 10 seconds.
	Left to right 'chase' alternating with steady display	SHARK is in programming, inhibit and/or charging mode	The steady LED's indicate the current state of battery charge.
	Right GREEN LED is flashing	SHARK is in SPEED LIMIT mode	The current state of battery charge will be displayed at the same time.
	All LED's flashing slowly	SHARK has detected an Out Of Neutral At Power Up (OONAPU) condition	Release the joystick back to neutral.
	All LED's flashing quickly	SHARK has detected a fault	SHARK uses Flash Codes to indicate faults. Refer to the Diagnostics section for further information about fault diagnostics.

The Shark Controller Harness

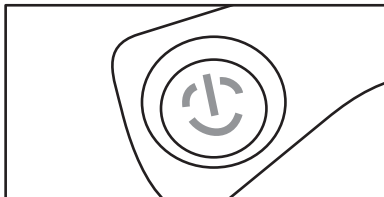
The SHARK Power Module communicates to the Control Unit through the SHARK Controller harness. The harness also supplies power to the Control Unit. The connector is 'keyed' and can only be plugged in one way - the control Unit symbol on top of the plug should be facing up.



Turning the Power ON


	<p>Press the Power button.</p> <p>All indicators will light briefly.</p> <p>Either the current battery charge or Lock Mode will then be indicated.</p>
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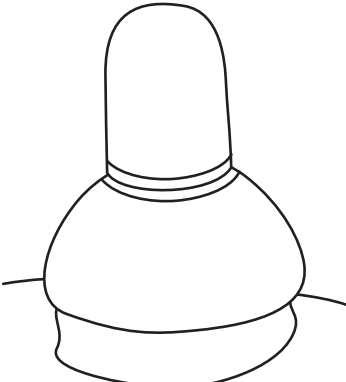
Turning the Power OFF

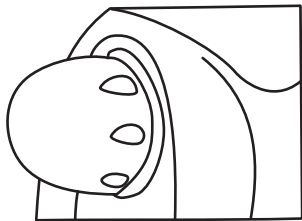
	<p>Press the Power button.</p> <p>The LED's will turn off.</p>
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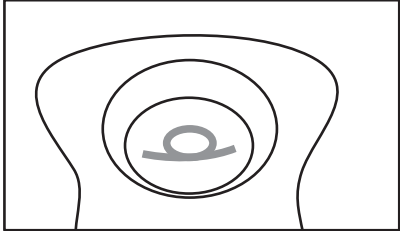


The Power button can also be used to turn SHARK off in case of an emergency.

	<p>After a certain amount of time with no joystick movement SHARK will automatically turn itself off. Sleep mode will not be entered while programming.</p> <p>Any button press (or joystick movement if Wakeup style has been set to 'Joystick or Button') will bring the system out of sleep mode.</p>
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	<p>Moving the joystick will cause the powerchair to drive in that direction. The amount of joystick movement will determine the speed that the powerchair will move in that direction.</p>
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	<p>A user may adjust the top speed of their powerchair to suit their preference or environment by turning the speed control dial.</p> <p>Simply turn the dial fully clockwise to travel at top speed when the joystick is pushed fully forward. The top speed progressively reduces as the dial is turned counter-clockwise.</p>
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	<p>Press the Horn button.</p> <p>The horn will sound for as long as the button is pressed.</p>
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Flash codes indicate the nature of an abnormal condition directly from the SHARK Information Gauge. Without the use of any servicing tools, the condition can be simply diagnosed.

Flash Code	Description	
1	User Fault	<p>Possible stall timeout or user error.</p> <p>Release the joystick to neutral and try again.</p>
2	Battery Fault	<p>Check the batteries and cabling.</p> <p>Try charging the batteries.</p> <p>Batteries may require replacing.</p>
3	Left Motor Fault	<p>Check the left motor, connections and cabling.</p>
4	Right Motor Fault	<p>Check the right motor, connections and cabling.</p>
5	Left Park Brake Fault	<p>Check the left park brake, connections and cabling.</p>

Flash Code	Description	
6	Right Park Brake Fault	Check the right park brake, connections and cabling.
7	SHARK Control Unit Fault	Check the SHARK Controller Harness connections and wiring. Replace the Control Unit.
8	SHARK Power Module Fault	Check SHARK connections and wiring. Replace the Power Module.
9	SHARK Communications Fault	Check SHARK connections and wiring. Replace the SHARK Control Unit.
10	Unknown Fault	Check all connections and wiring. Consult a service agent.
11	Incompatible Control Unit.	Wrong type of Control Unit connected. Ensure the branding of the Power Module matches that of the Control Unit.

► Operating your powerbase wheelchair ◀

Batteries and Charging

Your Power Wheelchair uses two long-lasting, 12-volt batteries. These batteries are sealed, maintenance free, deep-cycle batteries. Since they are sealed, there is no need to check the electrolyte (fluid) level. Deep-cycle batteries are designed to handle a deep discharge. Though they are similar in appearance to automotive batteries, they are not interchangeable. Automotive batteries are not designed to handle a long, deep discharge, and are also unsafe for use in power wheelchairs.

WARNING! Battery posts, terminals and related accessories contain lead and lead compounds. Wash hands after handling.

BATTERY BREAK-IN

To break in your power wheelchair new batteries for maximum efficiency:

1. Fully recharge any new battery prior to initial use. This will bring the battery up to about 90% of its peak performance level.
2. Run your power wheelchair about the house and yard. Move slowly at first, and do not stray too far until you become accustomed to the controls and break in the batteries.
3. Give the batteries another full charge of 8 to 14 hours and operate the power wheelchair again. The batteries should now perform at over 90% of their potential.
4. After four or five charging cycles, the batteries will top off at 100% charge and last for an extended period.

IMPORTANT INFORMATION ABOUT BATTERIES

A fully charged deep-cycle battery provides reliable performance and extended battery life. Keep your batteries fully charged whenever possible. Batteries that are regularly discharged, infrequently charged, or stored without a full charge may be permanently damaged, causing unreliable operation and limited battery life.

If you do not use your power wheelchair regularly, we recommend maintaining battery vitality by charging the batteries at least once a week.

Note: If you are storing a power wheelchair for an extended period of time, you may wish to block the unit up off the ground with several boards under the frame. This keeps the tires off the ground to prevent the possibility of flat spots developing.

If you intend to use public transportation while using your power wheelchair, you must contact in advance the transportation provider to determine their specific requirements.

Sealed Lead Acid and Gel Cell batteries are designed for application in wheelchairs and in other mobility vehicles. Generally, Sealed Lead Acid batteries that are marked as "Non-Spill" are safe for all forms of transportation such as aircraft, buses, and trains. We suggest that you contact your transportation provider to determine specific requirements of transportation and packaging.

If you wish to use a freight company to ship the power wheelchair to your final destination, repack the power wheelchair in the original shipping container and ship its batteries in separate boxes.

Charging Your Batteries

The battery charger is one of the most important parts of your power wheelchair. Optimize your power wheelchair performance by charging the batteries safely, quickly, and easily. Use only the charger supplied with the vehicle.

Charging Procedures

1. Keep charger output plug inserted into the charging socket in the front of the controller before having the charger input plugged into an electrical outlet.
2. Follow the instructions on the front panel of the charger for operating and learn the meanings of the different indicators accordingly.
3. Minimum charging time varies depending on battery condition and discharge level. It is recommended to charge the batteries overnight.

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

4. Once charging is complete, disconnect the charger from the electrical outlet and then disconnect the charger from the controller socket. Do not leave the charger connected to controller when input power is disconnected. It is dangerous and will jeopardize the power charging to the batteries.

► Three Year Limited Warranty ◀

Three Year Warranty

For three years from the date of purchase, Electric Mobility will repair or replace at our option to the original purchaser, the main frame if found upon examination by an authorized representative of Electric Mobility to be defective in material and/or workmanship.

One Year Warranty

For one year from the date of purchase, Electric Mobility will repair or replace at our option to the original purchaser, any of the following parts found upon examination by an authorized representative of Electric Mobility to be defective in material and/or workmanship:

- Electronic controller and joystick modules
- Motor/gear box assembly
- Main frame sub-assemblies (forks, torsion bar, metal seat base, foot rest)
- Plastic components except body shell
- Rubber components except tires
- Bearings and bushings
- Casters and anti-tip wheels

One Year Warranty Exceptions:

Motor: Commutator damage as a result of not replacing motor brushes after heavy wear to the brushes.

Brushes are wear items and are not warranted.

Brakes: One year warranty for electrical functionality of the brake.

Brake pads are wear items and are not warranted.

Batteries: Battery warranties are covered by the battery manufacturer.

Battery warranty is not covered by Electric Mobility.

Note: Warranty service can be performed by an authorized dealer or service center.

Warranty Exclusions:

- Plastic body shell is a wear item and is not warranted.
- Batteries are warranted by the battery manufacturer and not by Electric Mobility.
- Tires and tubes.
- Seating and upholstery
- Damage caused by: battery fluid spillage or leakage; abuse, misuse, accident, negligence; improper operation, maintenance or storage; commercial use or use other than normal; repair and/or modifications made to any part without prior consent by Electric Mobility, or any circumstances beyond the control of Electric Mobility.
- Labor, service calls, shipping, and other charges incurred for repair of the product unless specifically authorized by Electric Mobility.
- There is no other expressed warranty.

Positioning Belt, Joystick & Joystick Cable Installation

The normal position for the joystick is on the right side. In this position the swing away arm will move the joystick outward. Alternately, the joystick may be positioned on the left side. However, when in the left side position, the swing away arm will swing the joystick inward.

After determining on which side the joystick will be positioned, attach the positioning belt(loop attachment type) as shown in Figure 6. The positioning belt loop is slid on the armrests prior to inserting the armrest into the armrest bottom mounting tube.

For positioning belts that have a hole instead of a loop, remove the rear seat base bolts then slide belt end between seat base and seat, align hole in end of belt with hole in base, then insert and tighten bolts.

Insert the armrest, obtain a comfortable armrest height and tighten the adjustment knobs. Make sure all adjustment knobs and set screws used to attach the armrests are tight.

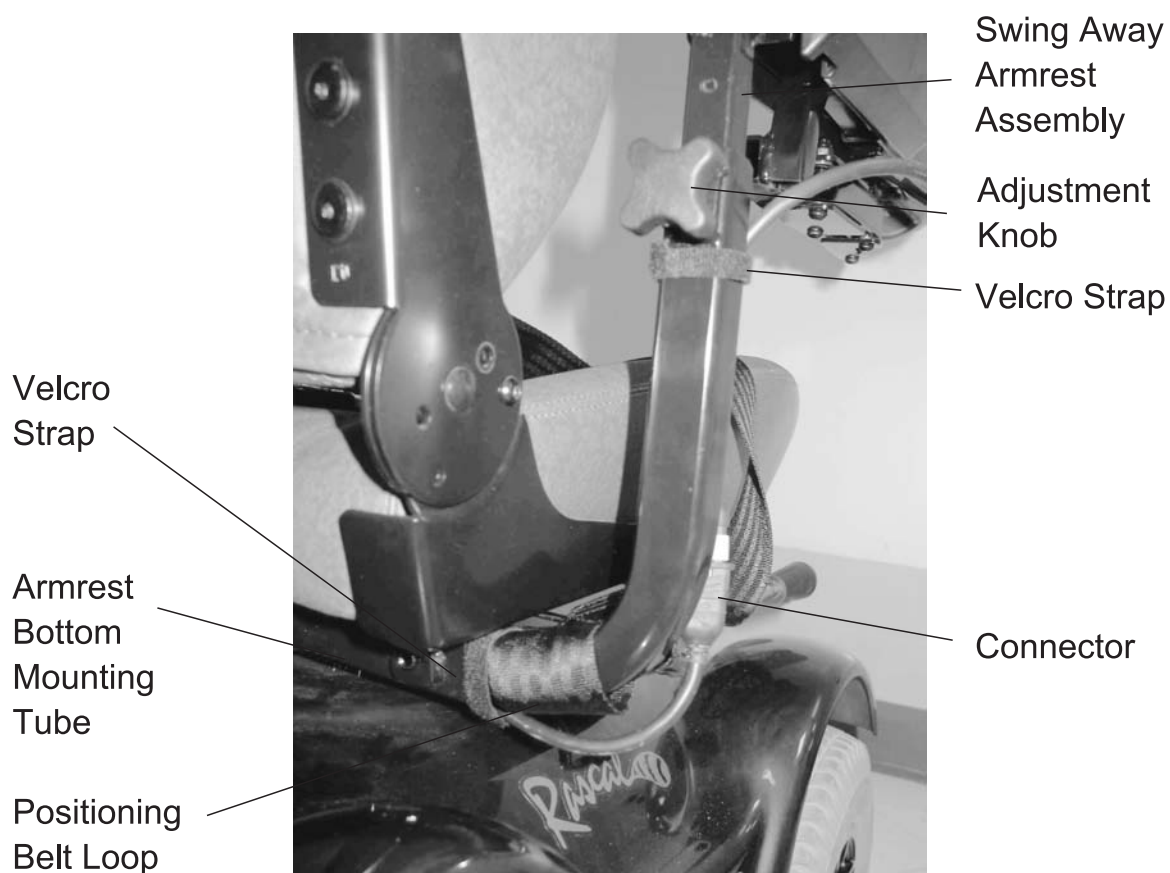


Figure 6 (right hand shown)

The velcro straps in the bag with this instruction are to secure the joystick cable to the powerchair as shown in the photos. The velcro strap is attached around the cable and seat bottom mounting tube as shown in Figure 6 and 7.



Figure 7

The velcro strap by the knob in Figure 6 is used for mounting the joystick cable to the left armrest. The velcro can be used to attach the cable for right mounted joystick if clip is not supplied.

To remove the chair assembly from the base remove the Velcro shown in Figure 7 and unplug the connector shown in Figure 6.

We wish you a safe and comfortable riding experience!

