

# VELOX

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POWER CHAIR USER MANUAL



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## BEFORE OPERATING YOUR VELOX POWER CHAIR



### **Attention Velox User**

To avoid serious injury, read this manual fully before operating your power wheelchair for the first time. Further operating instruction can be gained from your Velox authorized dealer.



### **Attention Service Technician**

Please ensure you have received sufficient training in the maintenance procedures for Velox power wheelchairs. Please contact Velox Manufacturing for further service instruction.



### **Disposing of Your Velox Power Chair**

If you no longer have need for your power chair, please return it to your local Velox authorized dealer or service center to have them recycle the equipment materials responsibly.

## INTRODUCTION

Thank you for purchasing a Velox power chair. This sophisticated piece of machinery has been designed specifically for the empowerment and assistance of your daily routines and social activities.

This manual includes the guidelines for the maintenance, storage and usage of your Velox power chair. The safety of this machine and of you, its user, is based on adherence to the appropriate usage and instruction. Serious personal injury, damage to the power chair, property damage and/or third party injury may occur if the operational instructions of this power chair are not strictly followed. Further, please be aware that improper use may also result in the warranty for your power chair being voided.

Please read each section of this manual carefully, and keep it in a safe place for future reference. Should you require further operating instructions, please contact your Velox authorized dealer.

## SETUP

Every Velox power chair has a specifically designed setup procedure that should be adhered to in order to guarantee fit, drivability, and serviceability. At the time of delivery, ensure your Velox authorized dealer has set up the chair for peak performance.

## GUIDELINES & PRECAUTIONS

### Basic Safety

Be sure to read and follow all instructions contained in this user manual. Failure to comply with these instructions and warnings may result in serious injury and/or damage to the power chair.

- Prior to use, ensure you have received the appropriate safety and efficiency training from a Velox authorized dealer and/or a health care advisor.
- Ensure the power chair is fully charged prior to each use.
- Take time to practice bending, reaching and transferring, while supervised, to familiarize yourself with the parameters of your new power chair.  
**NOTE:** Ensure power is turned off.
- Never try a new manoeuvre on your own, until you have confidence you can complete it in a safe manner.
- Survey and evaluate the areas where you will be using your wheelchair to ensure you know how to navigate safely; note any hazards to be avoided.
- Slower speeds are recommended during normal use.
- Always ensure that the wheels roll smoothly and all parts are functioning correctly prior to use. Noise, vibrations, and changes to the way the power chair drives may indicate loose fasteners or damage to the chair – contact a Velox authorized dealer for service and repairs.
- Never use a chair if the joystick does not return to neutral on its own, or if the joystick or boot is damaged in any way.
- **Never release the brakes on a hill.** Serious injury or death may occur if brakes are released on a hill causing the wheelchair to roll uncontrollably.



## Equipment Guidelines & Precautions

- Do not exceed the published weight limit of 300 lbs.  
**NOTE:** “Weight limit” refers to the user and all items carried or loaded onto the chair. Activities such as lifting weights or towing may damage the chair and void the warranty.
- Unauthorized modification of the wheelchair or the use of non-Velox parts may change the performance of the wheelchair and could represent a safety hazard as well as voiding the warranty.
- Never travel or transport the chair in a vehicle while the power chair is occupied, unless the vehicle has been properly outfitted with an EZ Lock, or equivalent, system. The seatbelt on the power chair has not been crash-tested and may fail to prevent movement while in transit. Serious injury or death may result from failing to use authorized lock-down components.
- Never transport this chair if unsecured in a cargo space.
- Do not attach straps or tie downs to the wheels, as the chair may tip over resulting in serious injury and/or damage to the wheelchair.
- Do not stand on the footplates during transfers.
- Never lift the wheelchair by the armrests or any other detachable component.
- If the chair is equipped with pneumatic tires, the air pressure in the tires should be checked frequently and air added when necessary in accordance with the specifications noted on the tires. Failure to do so will result in loss of performance and pose a safety hazard.

## User Warnings

- **YOU ARE CONSIDERED A PEDESTRIAN.** Do not attempt to operate the chair on streets or highways. When crossing the street, ensure to make eye contact with motorists, and wait until you are confident it is safe to proceed.
- If using the chair at night or in poor lighting, use the light switch to engage the under-glow lighting, and always use reflective clothing to ensure visibility.
- Do not use the chair on sandy, wet, oily, or icy surfaces.

## Safety & Handling

Regular and frequent use of your Velox power chair will provide you the mobility you need to expand your horizons, and, observing the following safety guidelines will ensure your safety while you do so:

- Do not carry passengers.
- Do not back up your wheelchair unless the speed is set to low speed. Never back up onto uneven inclines or surfaces.
- Do not turn suddenly at full speed.
- Do not ride your Velox power chair where it would not be safe or legal to walk.
- Do not ride your power chair over deep, soft terrain. (e.g. soft dirt, deep grass, loose gravel or sand)
- Do not drink alcoholic beverages before operating your power chair.
- Always approach curbs at a 90-degree angle. Do not stop with rear wheels butting up to the curb, and then accelerate.
- Always proceed carefully while riding, especially as you approach the downgrade of a ramp or hill and while riding on uneven surfaces. When on a downgrade, select lower speed setting.
- Always strap down the wheelchair before transferring to vehicle seat. Always fasten your safety belt.
- Please consult your physician or therapist if in doubt about your ability to operate a wheelchair.
- If the situation arises where “freewheel” is needed to move your power chair:
  1. Ensure your joystick is turned **off**.
  2. If you are able: Dismount the power chair, reach down to the each side of the chair and push the small lever at the back of the motor downwards. The power chair is now free to push from behind using the provided push bar.

## Handling & Operation

### Basic Handling

Below are basic handling tips that will help you master through any scenario quickly, allowing you to be in full control through heavy doors, in and out of elevators, up and down ramps, up and over curbs, through grass, gravel, and upgrades with surprising ease.

### Moving Forward

1. Ensure you are properly seated on the wheelchair and that the Speed Control Dial is turned to slow.
2. Pull or push on the joystick, as described earlier, to gently accelerate. Release the joystick and you will gently stop.

**NOTE:** Practice these two basic functions until you become comfortable with them.

### Steering

Steering your power chair is easy and logical. Simply move your joystick in the direction you would like to go and the power chair will follow.

**NOTE:** Be sure to always give wide clearance when turning. Avoid making rapid turns; instead make an exaggerated wide arc around the obstacle.

Chances are good that when you start really using your Velox, you will meet some obstacles that will require some practice to drive through smoothly. If you must steer in a tight spot, such as entering a doorway or when turning around:

1. Stop
  2. Turn the Speed Control Dial to **slow**
  3. Gently move the joystick in the direction you wish to travel.
- With practice, you will gain confidence in the fact that the power chair will move gently and with complete stability.

### Backing up

Backing up your power chair requires special attention. Before backing up:

1. Be sure your Speed Control Dial is turned to **slow**
2. Pull the joystick towards you and remember that the wheelchair will move in the direction you point the joystick. Practice is required here.

### Navigating Inclines

Going up and down ramps and hills is safe and simple. Because of the power of the chair, you are able to keep your speed control turned down low, allowing you full control going up or down an incline, ramp or curb. With a little practice, you'll always be in control.

- It's important to be aware that some ramps have a switchback in the middle, and good cornering is required.
- Always approach hills so that gravity is pulling you either forward or backward. Never let gravity pull you sideways, as this can be a stability problem. In other words, go straight up, or straight down, but do not turn on the hill, and do not steer toward one side or the other.
- Going down the ramp, keep the Speed Control Dial set to **slow**. This will ensure a safe and controlled descent.
- To stop at any time simply release your joystick.
- Never go up or down hills on an angle, as this can cause stability problems.

## Navigating Elevators

Elevator doors have a safety mechanism in the form of a rubber protrusion that senses a foreign object in its path. When the rubber is pressed, for example, by hitting your power chair, it moves into the door causing the door to stop and then reopen. The door will remain open for a few seconds, or for as long as the rubber is pressed. Although elevator safety functions are universal, it is important to be aware that some elevators are rather jerky and unpredictable.

1. Approach the elevator button and press it. A button-pushing wand can assist you in doing so without dismounting.
2. Line yourself up to pass through the elevator doors quickly and easily once opened. If there is a choice of doors, and no indication which one will open, position yourself centrally.
3. Once the doors have opened, entering the elevator straight, without turning, works best. If, however, it is a very short elevator, you may need to turn just a little as you go in. Be sure the back wheel is clear of the door's path. If it isn't, the doors will not close.
4. When the doors open at your floor, back out slowly, avoiding the feet of those who may be entering. Practice will be helpful, and, in a short time, elevators won't present a problem.

## Transferring & Dismounting

### Dismounting

Before dismounting:

1. Ensure the power chair is at a full stop on a flat surface with enough room around for you to comfortably dismount.
2. Turn the power off by depressing the **on/off** button. The screen will turn off. You may now safely dismount.

## Transferring

Transferring requires exceptional balance and agility. Attempting an unaided transfer can potentially put you and your power chair in danger.

To ensure safety during transfers:

1. Before attempting a transfer for the first time, work with your healthcare advisor to learn how to best position your body for maximum support.  
**NOTE:** Ensure you have assistance for until you can confidently complete the transfer process repeatedly.
2. Turn the power off by depressing the **on/off** button. The screen will turn off.
3. Move the chair as close to the surface you are transferring to (or from) as possible – employ a transfer board to bridge the distance if you can.
4. Remove the armrests if they interfere with the direction of the transfer.
5. Position yourself as far back into the chair as possible when transferring into the chair.

## Operation on terrain

Some obstacles that you will meet on your drives will require some practice.

### Curbs

Most curbs have wheelchair access ramps at intersections. If a ramp is not available, you may be able to go over the curb, if it is small enough. If you do, please proceed with caution and observe the following:

- Going up or down a curb must be approached straight on, at a 90 degree angle **ONLY**. Always approach the curb so that both back wheels go over at the same time, in the same way.
- Going down a curb:
  1. **Slowly** drive the front wheels over the curb, using as little power as possible, to avoid a jarring thump.
  2. Drive ahead so the back wheels are at the edge together.

- Going up a curb:
  1. Turn your speed adjustment dial up to top speed.
  2. Starting two to three feet back from the curb, apply power gently, increasing as needed.
  3. Steer straight and proceed over the curb. Your Velox power chair has been engineered to reduce the bump of a curb cut significantly.

### **In Control Over Grass, Gravel, and Grades**

The Velox power chair performs admirably in grass, gravel and on hills. In order to remain in control of your chair in all terrain, do not exceed the parameters set in this manual. Your safety must come first; if you are unsure about a situation, avoid it.

- Feel free to use your Velox power chair on lawns and in park areas.
- Avoid long, unkempt grass.
- Packed gravel, such as on driveways or roads, will present no problems and your ride will remain smooth in your Velox power chair.
- Loose, deep gravel and loosely packed sand should be avoided.

## **Storage**

When storing your Velox power chair for long periods of time, be sure to keep the charger plugged in to the chair. For optimal battery maintenance, store the chair in a location where the temperature is between 8 and 30 degrees Celsius. The charger should be placed flat on a hard cool surface to ensure proper cooling.

### **Storage Warnings**

- Outdoor charging at your own risk.
- This product must be stored and charged in a dry place.
- Damage and serious circumstance causing fire and property damage may occur if the power chair and charger are left uncovered and exposed to the elements.

## Charging

Velox uses 12-volt gel-cell batteries. These batteries are maintenance-free and do not require any servicing. When the distance you're able to travel per trip or the performance of your power chair has decreased significantly, see your Velox authorised dealer for battery testing and replacement.

1. Park your power chair perpendicular to the wall and within three feet of the electrical outlet
2. Turn the power off by depressing the **on/off** button. The screen will turn off.
3. Plug in the approved charger to the 3 prong socket located on the front of the joystick.

**NOTE:** Be sure to plug in the charger correctly by lining up the three prongs accordingly. Plugging in a misaligned charger can cause damage to the charge socket and electronics, and can result in a non-charging status.

- While charging, the status light on the charger should have amber/red light indicating charging and a green light indicating power.
  - Once charging has completed, the charger will display two green lights.
4. Unplug the charger from the joystick.
  5. Store the end of the charge plug off the ground to avoid damage.
  6. Once seated securely in the power chair, turn on the joystick and read voltage display. If the charging indicator is satisfactory, begin usage.

## Charge schedule

Plug in your Velox Power Chair in at the end of every day of use to allow for a full charge to occur before using again. Other charging should only occur when the battery's power is running low. Batteries are kept healthy by discharging them all the way and recharging them back up to full. This type of charge cycle will ensure your batteries are healthy and strong for the continued enjoyment of your Velox power chair.

**NOTE:** Excess weight increases the overall amperage draw of your battery and decreases your travel distance and performance. To ensure best performance, do not carry heavy backpacks or excess weight on the chair.



## Charging Warnings

- Do not partially charge your Velox power chair. It is not healthy for the batteries to be run down, partially charged, then used again and left uncharged.
- Do not plug the charger into the chair while near water.
- Do not use automotive style charger.
- Batteries may emit gases during charging. Keep in a ventilated area, and be sure there are no open flames or sparks near batteries.
- Use **only** the supplied charger to charge your Velox power chair.
- Do not modify or repair a charger. See your Velox authorized dealer for inspection and repair.  
This includes, but is not limited to:
  - Removing the ground prong
  - Cutting or modifying two-prong extension cords
- Do not open the charger at any time
- The charger gets hot while charging. Place on a flat, hard surface to ensure adequate cooling.
- Do not block cooling fan on charger or insert objects into the fan blades.

## Cleaning

Use warm, soapy water or disinfectant spray on a soft cloth to wipe down outer plastic areas and metal only. Use non-acidic sprays sparingly.

- Do not spray cleaner or moisture directly onto electronics.
- Do not use a hose or excess water to clean your Velox power chair.
- Do not take through car washes or use any kind of garden hose near this product.
- Do not take this power chair into the shower, sauna, or any areas with excess moisture for cleaning.

## Basic troubleshooting:

Below are common errors and symptoms along with the required action for each. For further assistance, please contact your Velox authorized dealer.

### No Power

1. Ensure the power chair is adequately charged
2. Inspect joystick cable and other cables and ensure they are plugged in
  - If the cables are plugged in, cable may be pinched internally – see your Velox authorized dealer for assistance
3. Check the main circuit breaker located on the back of the power chair has not been tripped

### Not Charging

1. Check that the charger is plugged in and showing power

**If plugged into GFI wall plug, check that the power outlet reset button has not been tripped**

2. Check that the breaker located at the rear of the power chair has not been tripped

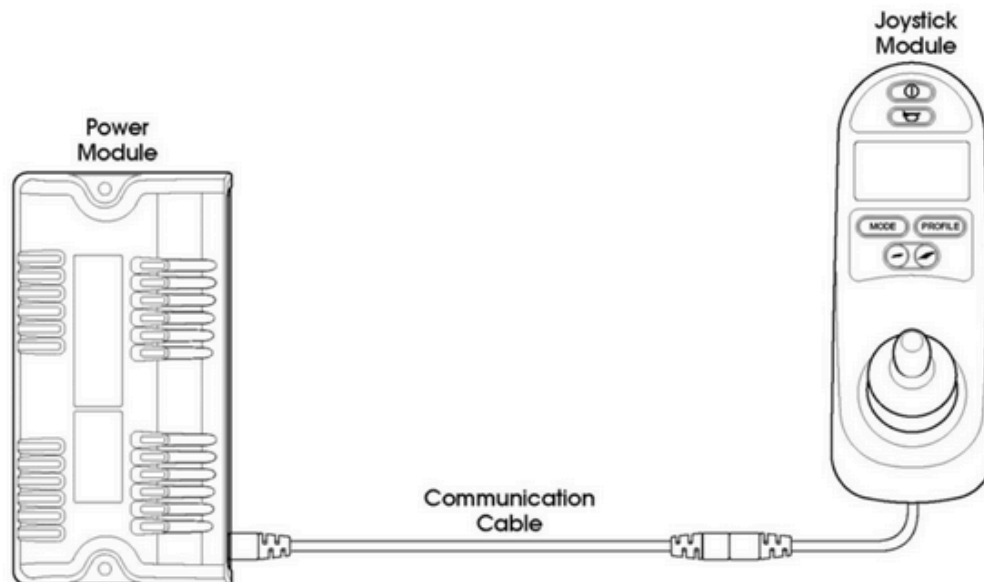
### Joystick shows a lock

See user manual for instructions on how to lock and unlock joystick

## Controls

### About Your Controls

An R-net control system comprises a minimum of two modules - Joystick Module and Power Module. Because of the modular design, the depth of the control system can be greatly increased. The following diagram shows the basic set-up.



### Handling

- Avoid knocking your control system and especially the joystick. Be careful not to strike obstacles with the control system or joystick when you drive. Never drop the control system.
- When transporting your wheelchair, make sure that the control system is well protected. Avoid damage to cables.

### Operating Conditions

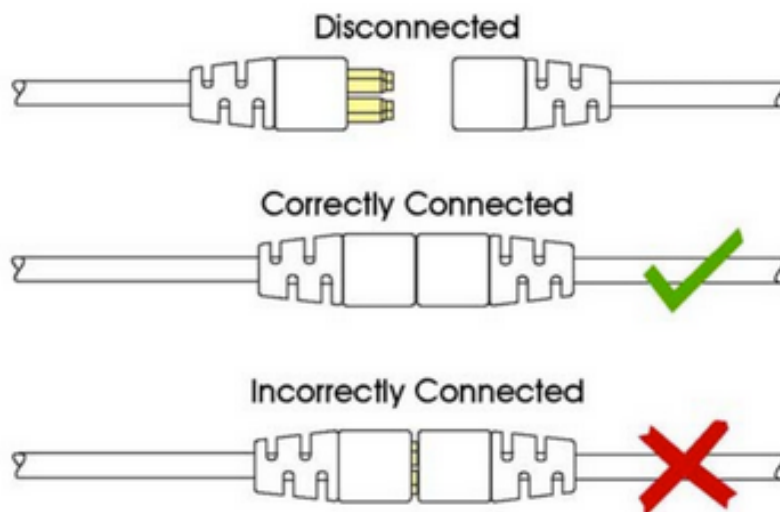
- Your control system uses industrial-grade components throughout, ensuring reliable operation in a wide range of conditions.
- However, you will improve the reliability of the control system if you keep exposure to extreme conditions to a minimum.
- Do not expose your control system or its components to damp for prolonged periods. If the control system becomes contaminated with food or drink clean it off as soon as possible.

### Cleaning Your Controls

- Clean the control system and the joystick with a cloth dampened with diluted detergent. Be careful when cleaning the joystick and screen.
- Never use abrasive or spirit-based cleaners.

### Mating Connectors

- To connect the Communication Cables:
  - Holding the connector housing, firmly push the connector into its mate until you can no longer see the yellow plastic.
- The connectors are secured using a friction system.



- To disconnect the Communication Cables:
  - Holding the connector housing firmly, pull the connectors apart.



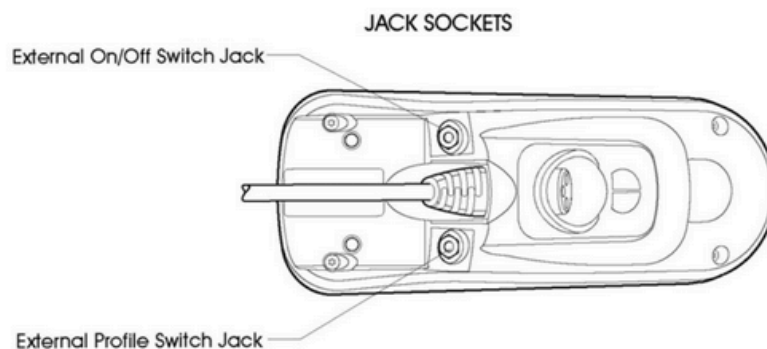
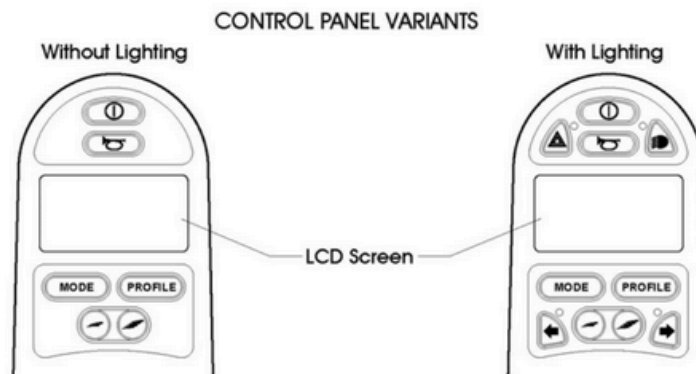
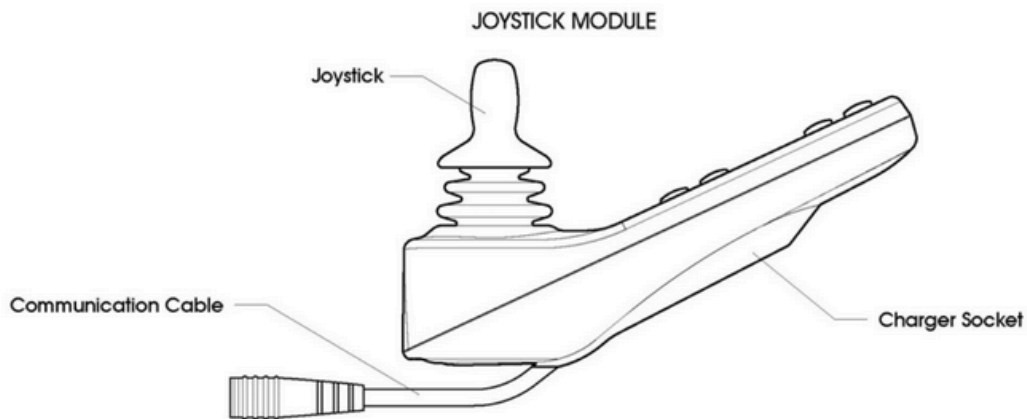
Do not hold or pull on the cable. Always grip the connector when connecting and disconnecting.



When the control system is first switched on after a connection, or system component change the Timer will be displayed whilst the system checks itself and then the Re-start icon will be displayed. Switch the control system off and on again to operate.

## Controls

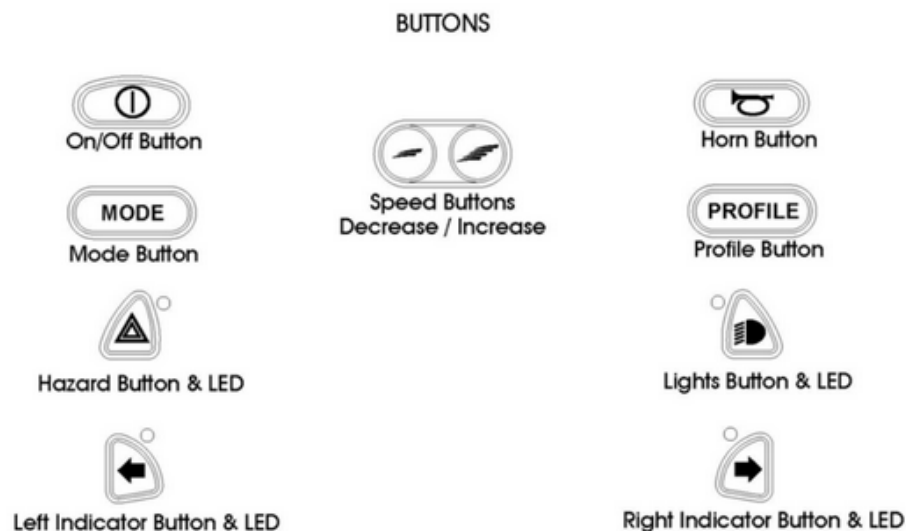
The R-net control system has two versions of Joystick Module – with and without lighting control. Most of the controls are common to both however, the lighting buttons are only included on Joystick Module with lighting control. Each of the controls is explained within this section.



## Joystick

The primary function of the joystick is to control the speed and direction of the wheelchair. The further you push the joystick from the center position the faster the wheelchair will move. When you release the joystick the brakes are automatically applied. If the wheelchair is fitted with actuators, the joystick can also be used to move and select actuators, refer to section 5.5 for more details.

## Buttons



### On/Off Button

The On/Off button applies power to the control system electronics, which in turn supply power to the wheelchair's motors. Do not use the On/Off button to stop the wheelchair unless there is an emergency. (If you do, you may shorten the life of the wheelchair drive components).

### Horn Button

The Horn will sound while this button is depressed.

### Speed Decrease Button

This button decreases the maximum speed setting. Depending on the way the control system has been programmed a momentary screen may be displayed when the button is pressed.

**Speed Increase Button**

This button increases the maximum speed setting. Depending on the way the control system has been programmed a momentary screen may be displayed when the button is pressed.

**Mode Button**

The Mode button allows the user to navigate through the available operating Modes for the control system. The available modes are dependent on programming and the range of auxiliary output devices connected to the control system.

**Profile Button**

The Profile button allows the user to navigate through the available Profiles for the control system. The number of available Profiles is dependent on how the control system is programmed. Depending on the way the control system has been programmed a momentary screen may be displayed when the button is pressed.

**Hazard Warning Button and LED**

This button activates and de-activates the wheelchair's hazard lights. Depress the button to turn the hazards on and depress the button again to turn them off. When activated the hazard LED and the indicator LEDs will flash in sync with the wheelchair's indicators.

**Lights Button and LED**

This button activates and de-activates the wheelchair's lights. Depress the button to turn the lights on and depress the button again to turn them off. When activated the lights LED will illuminate.

**Left Indicator Button and LED**

This button activates and de-activates the wheelchair's left indicator. Depress the button to turn the indicator on and depress the button again to turn it off. When activated the left indicator LED will flash in sync with the wheelchair's indicator(s).

**Right Indicator Button and LED**

This button activates and de-activates the wheelchair's right indicator. Depress the button to turn the indicator on and depress the button again to turn it off. When activated the right indicator LED will flash in sync with the wheelchair's indicator(s).

### External On/Off Switch Jack

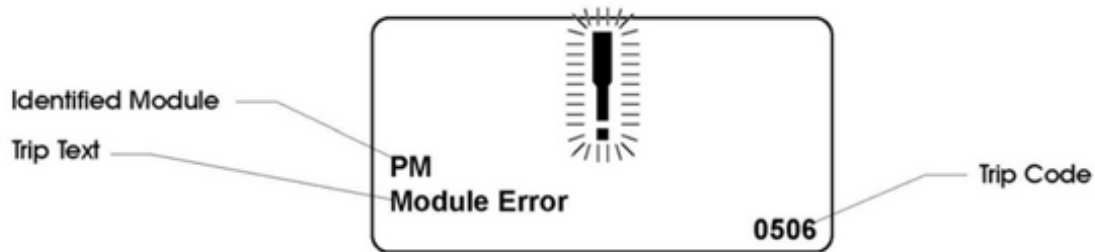
This allows the user to turn the control system on and off using an external device, such as a buddy button.

### Momentary Screens

If the momentary screens are programmed to be displayed then pressing the Speed or Profile Buttons will display screens such as below.



### Speed Momentary Screen Profile Momentary Screen



### Diagnostic Screen

When the control system safety circuits have operated and the control system has been prevented from moving the wheelchair a diagnostics screen will be displayed. This indicates a system trip, i.e. the R-net has detected a problem somewhere in the wheelchair's electrical system. If the error is in a non-active module, for example in the ISM but with a drive Profile is selected, then drive will still be possible, however, the diagnostic screen will appear intermittently.

### Identified Module

This identifies which module of the control system has registered the problem, such:

- PM Power Module
- JSM Joystick Module
- ISM Intelligent Seating/lighting Module



### Trip Text

The Trip Text gives a brief description of the trip type.

### Trip Code

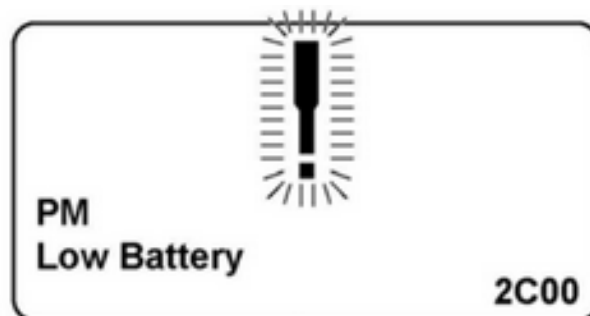
The 4 digit code displayed gives the exact trip that has been recorded.

### Diagnostic Procedure

Please follow this procedure:

- Read and note the Trip Text displayed, the identified Module and the Trip Code.
- Switch off the control system.
- Make sure that all connectors on the listed Module and the wheelchair are mated securely.
- Check the condition of the battery.
- Note the Trip Text description, and take the required action.
- Switch on the control system again and try to drive the wheelchair. If the safety circuits operate again, switch off and do not try to use the wheelchair. Contact your service agent.

Example:



Identified Module	Power Module.
Trip Text	Low Battery
Trip Code	2C00

This means 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.

## Locking the Control System

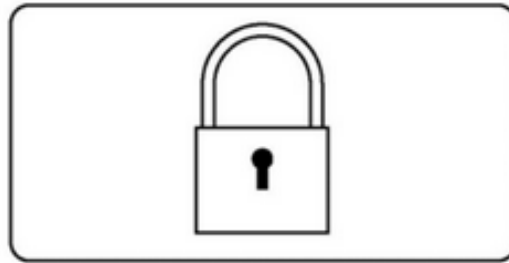
The Control System can be locked in one of two ways. Either using a button sequence on the keypad or with a physical Key. How the Control System is locked depends on how the wheelchair manufacturer has programmed the system.

### ***Keypad Locking***

To lock the wheelchair using the keypad;

- While the control system is switched on, depress and hold the On/Off button.
- After 1 second the control system will beep. Now release the On/Off button
- Deflect the joystick forwards until the control system beeps.
- Deflect the joystick in reverse until the control system beeps.
- Release the joystick, there will be a long beep.

The wheelchair is now locked. The following screen will be displayed, the next time the Control System is switched on.



If an LED Joystick Module is fitted the Speed Indicator LEDs will ripple from left to right.

To unlock the wheelchair:

- If the control system has switched off, press the On/Off button.
- Deflect the joystick forwards until the control system beeps.
- Deflect the joystick in reverse until the control system beeps.
- Release the joystick, there will be a long beep.

The wheelchair is now unlocked.

### **Key Locking**

To lock the wheelchair with a key;

- With the Control System switched on, insert and remove a PGDT supplied key into the Charger Socket on the Joystick Module. A short beep will be heard.

The wheelchair is now locked. The lock screen will be displayed, the next time the Control System is switched on.

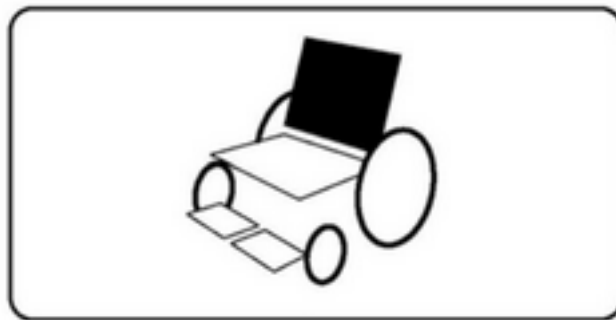
To unlock the wheelchair:

- If the control system has switched off, press the On/Off button.
- Insert and remove a PGDT supplied key into the Charger Socket on the Joystick Module.

A short beep will be heard. The wheelchair is now unlocked.

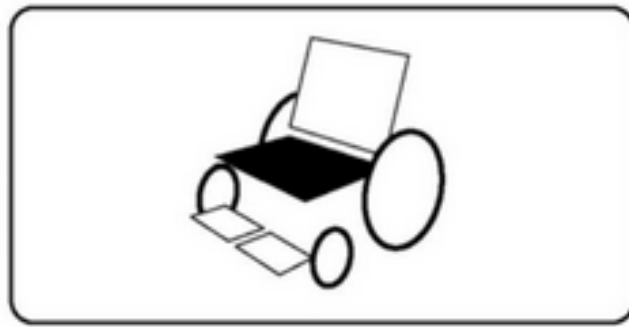
### **Actuator Selection Screen**

To adjust the seat position the actuator screen must be visible. Depress the Mode Button to scroll through the Mode screens until you reach the actuator screen, displayed below.



Actuator adjustment is achieved as follows.

- Move the Joystick sideways to select the desired axis. (This is indicated by the section of the wheelchair that is highlighted)
- Move the joystick forwards and backwards to move the actuator.



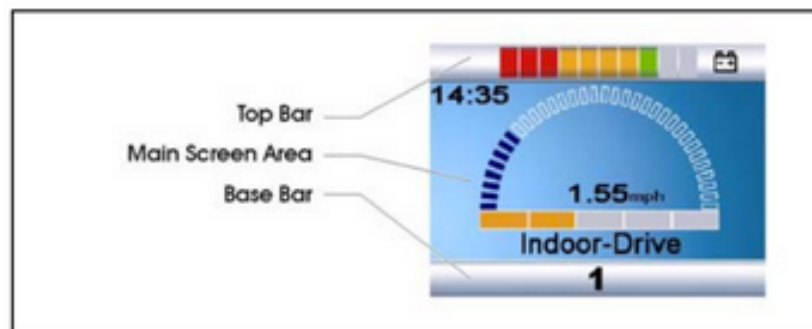
- Repeat these steps for each actuator that requires adjustment.

To drive again depress the Mode button until the Drive screen is reached or, in the case of the LED joystick module, until the Speed Indicator returns to its normal state.

### LCD Screen - Color

This section covers those Joystick Modules that are fitted with a color LCD screen.

The color LCD screen is split into 3 areas of information. The Top Bar, the Base Bar and the Main Screen Area.



Each area is covered separately within this section.

## Top Bar

### **Battery Indicator**



This displays the charge available in the battery and can be used to alert the user to the status of the battery.

**Steady:** This indicates that all is well.

**Flashing Slowly:** The control system is functioning correctly, but you should charge the battery as soon as possible.

**Stepping Up :** The wheelchair batteries are being charged. You will not be able to drive the wheelchair until the charger is disconnected and you have switched the control system off and on again.

### **Focus**



When the control system contains more than one method of direct control, such as a secondary Joystick Module or a Dual Attendant Module, then the Module that has control of the wheelchair will display the In Focus symbol.

## Base Bar

### **Current Profile**



The currently selected Profile is shown in numeric form.

### **Motor Temperature**



This symbol is displayed when the control system has intentionally reduced the power to the motors, in order to protect them against heat damage.

### **Control System Temperature**



This symbol is displayed when the control system has intentionally reduced its own power, in order to protect itself against heat damage.

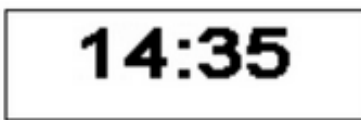
## Main Screen Area: Drive Screen

### *Profile Name*



This is a text string that displays the name of the currently selected Profile. The name is programmable. Refer to the programming section for details.

### *Clock*



This displays the current time in a numeric format. The clock is user adjustable.

Adjustable options are:

- Visibility, whether the clock is displayed on screen.
- The display format, 12 or 24 hour.
- The time, the user can adjust the time.

These adjustments are made within the Settings Menu. Refer to section 8 for details.

### *Speed Display*



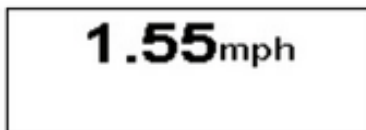
This gives a proportional display of the wheelchairs speed. The Arc begins at 0% and has a programmable maximum. The programmable parameter is Max Displayed Speed. Refer to the Programming Chapter.

### *Maximum Speed Indicator*



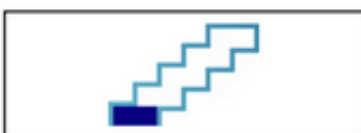
This displays the current maximum speed setting.

### *Digital Speed Display*



This displays the actual speed of the wheelchair derived from the motors. The display can be set to mph or km/h. These adjustments can be made in the OBP Menu.

### *Latched*



When the control system is operating in a latched condition this symbol will be displayed.

### ***Inhibit***



If the speed of the wheelchair is being limited; for example, by a raised seat, then this orange symbol will be displayed. If the wheelchair is being inhibited from driving, then this red symbol will be flashing.

### **Main Screen Area: Mode Screens**

#### ***Actuator Mode***



Displays the sections of the chair currently selected for movement, the name given to the selection and a direction arrow showing what sort of movement is available.

#### ***Bluetooth Mode***



When Bluetooth Mode is entered the following screen will be displayed.

#### ***Message Window***



The R-net displays warning icons and informational messages, in a dedicated message window.

#### ***Restart***



When the control system requires a reboot; for example, after a module re-configuration, this symbol will be flashed.

### **Timer**



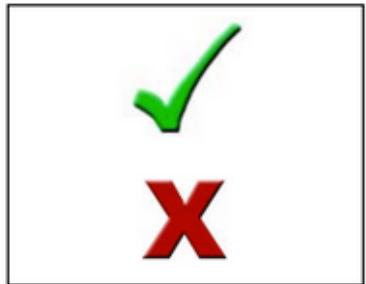
This symbol is displayed when the control system is changing between different states. An example would be entering into Programming Mode. The symbol is animated to show the sands falling.

### **Sleep**



This symbol will be displayed for a short time before the R-net enters into a sleep state.

### **Cross & Tick**



Displayed during configuration procedures.

- Process completed correctly.
- Process not completed correctly.

### **E-stop**



If the External Profile Switch is activated during drive, or actuator operation, this symbol will be displayed.



### **Joystick Displaced**

If you operate the Joystick before or just after you switch the control system on, the screen will flash the joystick displaced screen.

You must release and center the Joystick to resume normal operation. If you do not release the Joystick within five seconds the wheelchair will not be able to move, even if you release the Joystick and operate it again. The screen will display a diagnostic screen at this time. You can reset this condition by switching the control system off and on again.

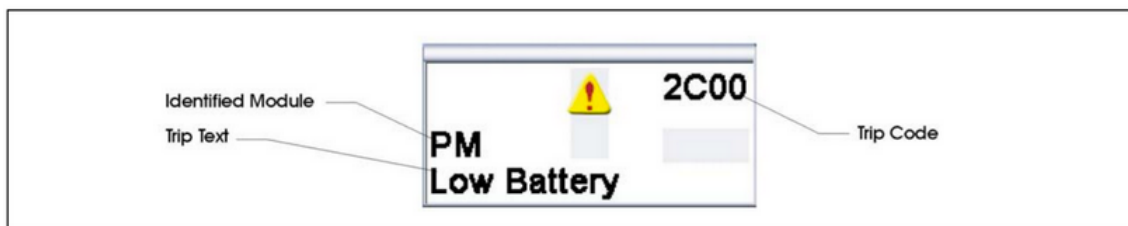


### ***Control System Locked***



The Control System can be locked in one of two ways. Either using a sequence of deflections and presses with a Joystick or with a physical Key. How the Control System is locked depends on how the wheelchair manufacturer has programmed it.

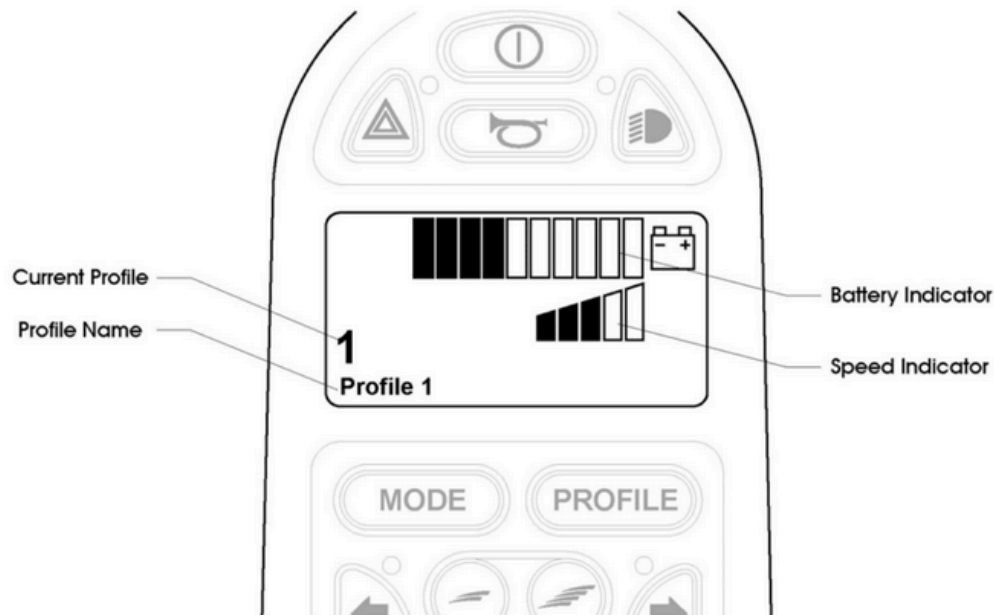
### ***Diagnostic Screen***



When the control system safety circuits have operated and the control system has been prevented from moving the wheelchair a diagnostics screen will be displayed. This indicates a system trip, i.e. the R-net has detected a problem somewhere in the wheelchair's electrical system.

## Getting Ready to Drive

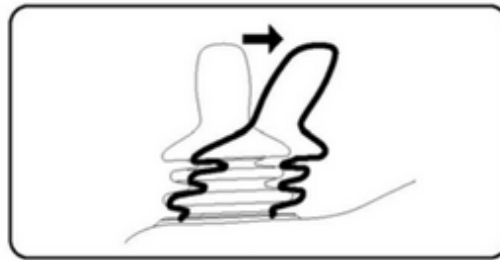
- Operate the On/Off switch. The screen will go through an initializing process then show the base screen as follows. In the case on an LED Joystick Module the battery gauge will illuminate.
- 



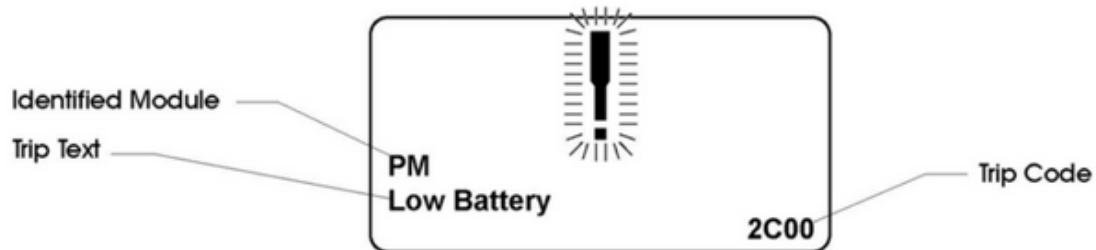
- Check that the Speed Setting is at a level that suits you.
- Push the joystick to control the speed and direction of the wheelchair.



If you push the joystick before or just after you switch the control system on, the screen will flash the joystick displaced screen. You must release and center the joystick to resume normal operation. If you do not release the joystick within five seconds the wheelchair will not be able to move, even if you release the joystick and push it again. The screen will display the diagnostic screen at this time. You can reset this condition by switching the control system off and on again.

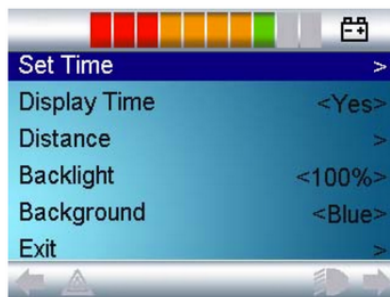


If you do not push the joystick as you switch the wheelchair on and the diagnostic screen is displayed, as in the following diagram, then the R-net has detected a problem somewhere in the wheelchair's electrical system.



## Settings Menu

The Settings Menu allows the user to adjust the CJS display in terms of clock adjustment and display format, the brightness of the backlight, the background color and the behaviour of the odometer. The menu is accessed by depressing the Speed Down and Speed Up buttons simultaneously. A typical Settings Menu display would be as below:



Each of the menu items are described in the following sections.

### Set Time

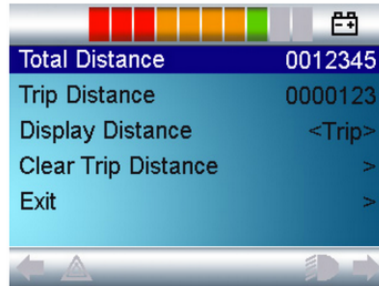
A right joystick deflection will enter a clock adjustment screen in which further joystick deflections are used to set the time.

## Display Time

This sets the format of the time display or turns it off. The options are 12hr, 24hr or Off. Left and right joystick deflections are used to change between the options.

## Distance

This sets the functionality of the odometer and a screen as below will appear.



**Total Distance:** This is a value held in the Power Module and relates to the total distance driven using that Power Module.

**Trip Distance:** This is a value held in the CJSM and relates to the total distance driven since the last reset.

**Display Distance:** Sets whether Total Distance or Trip Distance appears as the odometer display on the CJSM.

**Clear Trip Distance:** A right joystick deflection will clear the Trip Distance value.

**Exit:** A right joystick deflection will retune to the Settings Menu.

## Backlight

This sets the intensity of the LCD backlight. The adjustable range is 0% to 100% in steps of 10%. Adjustments are made with left and right joystick deflections.

## Background

This sets the color of the screen background. Blue is the standard, but in very bright sunlight then a white background will make the display more visible. The options are Blue, White and Auto. Left and right joystick deflections are used to change between the options. Blue means the background will be blue in all Profiles. White means the background will be white in all Profiles. Auto means the color will be set by the programmable parameter, Background, which can be set to be different across the Profiles.

## Exit

Exits the Settings Menu back to normal operation.

## Tips for Using Your Control System

### Driving - General

Make sure that the control system is mounted securely and that the joystick position is correct. The hand or limb you use to operate the joystick should be supported, for example by the wheelchair arm pad. Do not use the joystick as the sole support for your hand or limb - wheelchair movements and bumps could upset your control.

### Driving Technique

The control system interprets your joystick movements and produces appropriate movements of your wheelchair. You will need very little concentration to control the wheelchair, which is especially useful if you are inexperienced. One popular technique is to simply point the joystick in the direction you want to go. The wheelchair will “home-in” on the direction you push the joystick. The further you push the joystick away from the rest position, the faster the wheelchair will go. Releasing the joystick will stop the wheelchair. The intelligent speed control system minimizes the effects of slopes and different types of terrain.



The wheelchair user must be capable of driving a wheelchair safely. PGDT accepts no liability for losses of any kind arising from failure to comply with this condition.

### Slow or sluggish movement

If the wheelchair does not travel at full speed or does not respond quickly enough, and the battery condition is good, check the maximum speed setting. If adjusting the speed setting does not remedy the problem then there may be a non-hazardous fault. Contact your service agent.

### Precautions for Use



In the event of the wheelchair moving in an unexpected way RELEASE THE JOYSTICK. This action will stop the wheelchair under any circumstances.

## Hazards

Do not drive the wheelchair:

- Beyond restrictions indicated in your wheelchair user manual, for example maximum inclines, curb height etc.
- In places or on surfaces where a loss of wheel grip could be hazardous, for example on wet grassy slopes.
- If you know that the control system or other crucial components require repair.



Although the R-net control system is designed to be extremely reliable and each unit is rigorously tested during manufacture, the possibility of a system malfunction always exists (however small the probability). Under some conditions of system malfunction the control system must (for safety reasons) stop the chair instantaneously. If there is any possibility of the user falling out of the chair as a result of a sudden braking action, it is imperative that a restraining device such as a seat belt is supplied with the wheelchair and that it is in use at all times when the wheelchair is in motion. PGDT accepts no liability for losses of any kind arising from the unexpected stopping of the wheelchair, or arising from the improper use of the wheelchair or control system.



Do not operate the control system if the chair behaves erratically, or shows abnormal signs of heating, sparks or smoke. Turn the control system off at once and consult your service agent. PGDT accepts no liability for losses of any kind arising from failure to comply with this condition.



Electronic equipment can be affected by Electro Magnetic Interference (EMI). Such interference may be generated by radio stations, TV stations, other radio transmitters and cellular phones. If the chair exhibits erratic behaviour due to EMI, turn the control system off immediately and consult your service agent. PGDT accepts no liability for losses of any kind arising from failure to comply with this condition.



It is the responsibility of the chair manufacturer to ensure that the wheelchair complies with appropriate National and International EMC legislation. PGDT accepts no liability for losses of any kind arising from failure to comply with this condition.



The wheelchair user must comply with all wheelchair safety warnings. PGDT accepts no liability for losses of any kind arising from failure to comply with this condition.

## Safety Checks

The electronic circuits in your control system have been designed to be extremely safe and reliable. The on-board microcomputer carries out safety checks at up to 100 times per second. To supplement this safety monitoring you should carry out the following periodic checks. If the control system fails any of these checks, do not use the wheelchair and contact your service agent.

### Daily Checks

**Joystick:** With the control system switched off, check that the joystick is not bent or damaged and that it returns to the center when you push and release it. If there is a problem do not continue with the safety checks and contact your service agent.

### Weekly Checks

**Parking brake:** This test should be carried out on a level floor with at least one meter clear space around the wheelchair.

- Switch on the control system.
- Check that the screen remains on after initialization and that the battery gauge is displaying a reasonable amount of charge.
- Push the joystick slowly forwards until you hear the parking brakes operate. The chair may start to move.
- Immediately release the joystick. You must be able to hear each parking brake operate within a few seconds.
- Repeat the test a further three times, pushing the joystick slowly backwards, left and right.

**Connectors:** Make sure that all connectors are securely mated.

**Cables:** Check the condition of all cables and connectors for damage.

**Joystick gaiter:** Check the thin rubber gaiter or boot, around the base of the joystick shaft, for damage or splitting, check visually only, do not handle the gaiter.

**Mounting:** Make sure that all the components of the control system are securely mounted. Do not over tighten any securing screws.

### Servicing

To ensure continued satisfactory service, we suggest you have your wheelchair and control system inspected by your service agent after a period of 1 year from commencement of service. Contact your service agent for details when the inspection is due.

## Battery Gauge

The battery gauge is included to let you know how much charge is left in your batteries. The best way for you to use the gauge is to learn how it behaves as you drive the wheelchair. Like the fuel gauge in a car, it is not completely accurate, but it will help you avoid running out of “fuel”.

The battery gauge works in the following way:

When you switch on the control system, the battery gauge shows an estimate of the remaining battery charge. The battery gauge gives you a more accurate reading about a minute after you start driving the wheelchair.



When you replace worn out batteries, fit the type recommended by the wheelchair manufacturer. If you use another type the battery gauge may be inaccurate.

The amount of charge in your batteries depends on a number of factors, including the way you use your wheelchair, the temperature of the batteries, their age and the way they are made. These factors will affect the distance you can travel in your wheelchair. All wheelchair batteries will gradually lose their capacity as they age.

The most important factor that reduces the life of your batteries is the amount of charge you take from the batteries before you recharge them. Battery life is also reduced by the number of times you charge and discharge the batteries.


To make your batteries last longer, do not allow them to become completely flat. Always recharge your batteries promptly after they are discharged.

If your battery gauge reading seems to fall more quickly than usual, your batteries may be worn out.

## How to Read a Battery Gauge

- If the battery gauge shows red, yellow and green, the batteries are charged. (Bars 1 – 10)
- If the battery gauge shows just red and yellow, then you should charge the batteries as soon as you can. (Bars 1 – 7)
- If the battery gauge shows just red, either steady or flashing slowly, then you should charge the batteries immediately. (Bars 1 – 3)

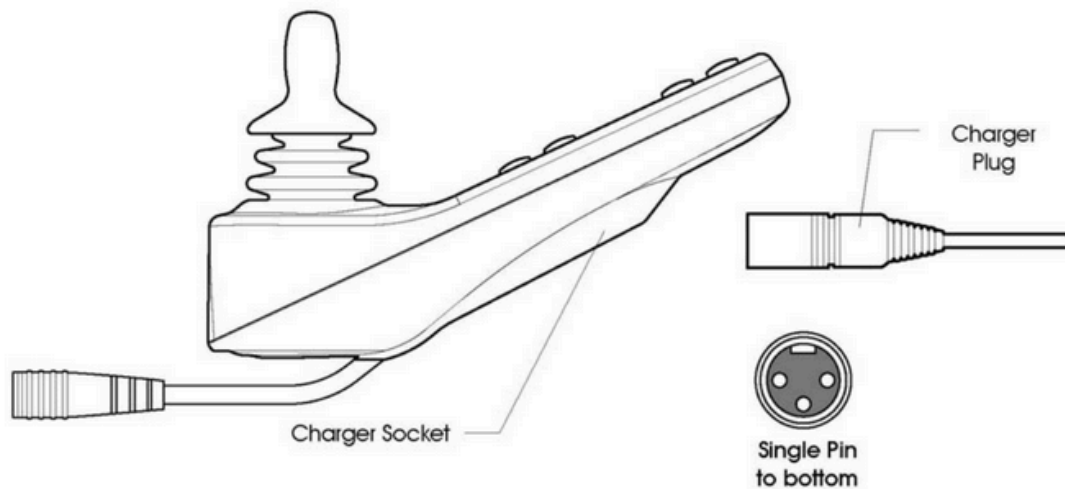



 Do not operate the control system if the battery is nearly discharged. Failure to comply with this condition may leave the user stranded in an unsafe position, such as in the middle of a road. PGDT accepts no liability for losses of any kind arising from failure to comply with this condition.

## Battery Charging

To charge the wheelchair batteries connect the charger plug into the battery charger socket on the R-net JSM. You will not be able to drive the wheelchair when the charger is connected.

To connect the charger plug, ensure the single pin is at the bottom, as shown in the following illustration, then offer the charger plug to the R-net in a horizontal orientation. The moulded guide on the R-net will help you to locate the plug. Ensure the plug is pushed fully in position.



 Do not exceed the maximum charging current of 12Arms. Always use an off-board charger fitted with a Neutrik NC3MX plug. Failure to observe these conditions could result in poor contact resistance in the charger connector resulting in overheating of the charger plugs. This presents a potential burn hazard for the user. PGDT accepts no liability for losses of any kind arising from failure to comply with this condition.



Ensure that the charger plug pins are of the correct polarity to be compatible with the pin polarity shown on the control system's specific data sheet. Failure to observe this condition could result in a burn hazard or fire hazard. PGDT accepts no liability for losses of any kind arising from failure to comply with this condition.



Do not disconnect batteries or open-circuit the circuit breaker while charging is in progress. Failure to observe this condition could result in a burns hazard or fire hazard. PGDT accepts no liability for losses of any kind arising from failure to comply with this condition.



Only use the battery charger that has been supplied with your wheelchair. The use of incorrect chargers could damage the batteries, wheelchair, control system or charger itself, or may result in parts overheating creating the potential for burns or even fire. PGDT accepts no liability for losses of any kind if the charger is incompatible with the control system

## Servicing

All repairs and servicing must be carried out by authorized service personnel. Opening or making any unauthorized adjustments or modifications to the control system or its components will invalidate any warranty and may result in hazards to yourself or other people, and is strictly forbidden.



PGDT accepts no liability for losses of any kind arising from unauthorized opening, adjustment or modifications to the R-net control system.



If the control system is damaged in any way, or if internal damage may have occurred through impact or dropping, have the product checked by qualified personnel before operating. PGDT accepts no liability for losses of any kind arising from failure to comply with this condition.

## Warranty

The R-net control system is covered by a warranty period defined by the wheelchair manufacturer. For details of the warranty period, please contact your service agent.

The warranty will be void if the R-net control system has:

- Not been used in accordance with the R-net control system Technical Manual, SK77981.
- Been subject to misuse or abuse.
- Been modified or repaired by non-authorized persons.



The warranty will be void if the R-net has not been used in accordance with Technical Manual SK79668, the R-net has been subject to misuse or abuse, or if the R-net has been modified or repaired by unauthorized persons.

*\*Pages 19-43 used with permission from PGDT.*

## Velox Limited Warranty

Your Velox Power Chair has been built with your safety and comfort in mind. This warranty allows you to easily enjoy your new freedom and independence in your Velox power chair.

### Manufacturer's Warranty

- Velox Manufacturing Inc. warrants all Velox Mobility products against manufacturer's defect on parts for a period of two years from the date of delivery to your chosen dealer. This includes all components that were installed at our factory.
- Wearable parts such as arm pads, tires, etc. are **not** covered under any such warranty unless such parts have failed due to manufacturing faults and were not caused by user error.
- Any unauthorized alteration to the Velox power chair will result in a voided warranty.

**NOTE:** This manufacturer's warranty covers replacement parts only for parts that fail through a defect in the product, not from user error.

**NOTE:** This warranty is non-transferable as your Velox Power Chair is assessed as being appropriate for your specific needs.

### Service Guarantee

Velox Manufacturing Inc. further guarantees that your Velox authorized dealer has been equipped to provide **speedy service and repairs** within and beyond the scope of this warranty. Pick-up and delivery to any authorized dealer is your responsibility, however, is available from your dealer at a minimal cost.

Enjoy the superior quality of your Velox Power Chair. Dependability and service that is second-to-none are the foundations for the Velox Power Chair and the company that stands behind it.