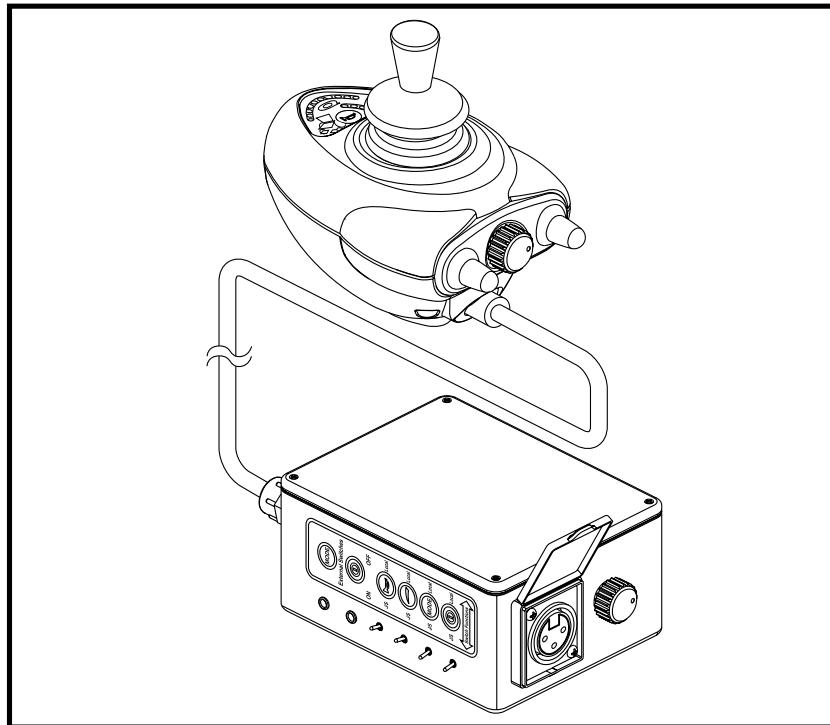


BASIC OPERATION INSTRUCTIONS

MicrodriveTM Controller

ACN# 088 609 661



Pride
Mobility Products Corp.

INFORMATION LABELING

The symbols below are used throughout this owner's manual and on the power chair to identify warnings and important information. It is very important for you to read them and understand them completely.



WARNING! Indicates a potentially hazardous condition/situation. Failure to follow designated procedures can cause either personal injury, component damage, or malfunction. On the product, this icon is represented as a black symbol on yellow triangle with black border.



MANDATORY! These actions should be performed as specified. Failure to perform mandatory actions can cause personal injury and/or equipment damage. On the product, this icon is represented as a white symbol on a blue dot with a white border.



PROHIBITED! These actions are prohibited. These actions should not be performed at any time or in any circumstances. Performing a prohibited action can cause injury to personnel and/or damage to equipment. On the product, this icon is represented as a black symbol with a red circle and a red slash.



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



Avoid exposure to rain, snow, ice, salt, or standing water whenever possible. Maintain and store in a clean and dry condition.



Disposal and recycling - Contact your authorized Pride Provider for information on proper disposal and recycling of your Pride product and its packaging.

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INFMANU2581/Rev B/November 06

Microdrive Controller

www.pridemobility.com

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INTRODUCTION

WELCOME to Pride Mobility Products Corporation (Pride). The product you have purchased combines state-of-the-art components with **safety**, comfort, and styling in mind. We are confident that the design features will provide you with the conveniences you expect during your daily activities. Understanding how to **safely** operate and care for this product should bring you years of trouble free operations and service.

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

This manual is to be used in addition to the power base owner's manual that came with your power chair. If there is any information in this manual which you do not understand, or if you require additional assistance for setup or operation, please contact your authorized Pride Provider. **Failure to follow the instructions, warnings, and notes in this manual and those located on your Pride product can result in personal injury and/or product damage and will void Pride's product warranty.**

PURCHASER'S AGREEMENT

By accepting delivery of this product, you promise that you will not change, alter, or modify this product or remove or render inoperable or unsafe any guards, shields, or other safety features of this product; fail, refuse, or neglect to install any retrofit kits from time to time provided by Pride to enhance or preserve the safe use of this product.

INFORMATION EXCHANGE

We want to hear your questions, comments, and suggestions about this manual. We would also like to hear about the safety and reliability of your new Pride product, and about the service you received from your authorized Pride Provider. Please notify us of any change of address, so we can keep you apprised of important information about safety, new products, and new options that can increase your ability to use and enjoy your Pride product.

NOTE: If you ever lose or misplace your product registration card or your copy of this manual, contact us and we will be glad to send you a new one immediately.

My authorized Pride Provider Is:

Name: _____

Address: _____

Phone Number: _____

Purchase Date: _____

MICRODRIVE CONTROLLER

The Microdrive Controller is a fully-programmable, modular electronic controller system that allows you to operate your power chair. It is designed to allow the user to have complete control over chair movement and speed.

The controller has been pre-programmed to meet a typical user's needs. The program is set using either a personal computer with software provided by the controller manufacturer or with a hand-held programmer, also provided by the controller manufacturer.



WARNING! The controller program can affect speed, acceleration, deceleration, dynamic stability, and braking. If it is programmed incorrectly or outside of the safe limits as determined by your healthcare professional, it can create a dangerous situation. Only the power chair manufacturer, an authorized representative of the manufacturer, or a trained service technician should program the controller.

PRECAUTIONARY GUIDELINES

Before operating the Microdrive Controller, please read the following. These guidelines are provided for your benefit and will aid you in the safe operation of the control system.

- Turn off the power to the controller when transferring to or from your power chair.
- Follow all of the procedures and heed the warnings as explained in your power chair owner's manual.

Failure to heed the above warnings can result in personal injury and/or equipment damage.

Electromagnetic and Radio Frequency Interference (EMI/RFI)



WARNING! Laboratory tests have shown that electromagnetic and radio frequency waves can have an adverse affect on the performance of electrically-powered mobility vehicles.

Electromagnetic and Radio Frequency Interference can come from sources such as cellular phones, mobile two-way radios (such as walkie-talkies), radio stations, TV stations, amateur radio (HAM) transmitters, wireless computer links, microwave signals, paging transmitters, and medium-range mobile transceivers used by emergency vehicles. In some cases, these waves can cause unintended movement or damage to the control system. Every electrically-powered mobility vehicle has an immunity (or resistance) to EMI. The higher the immunity level, the greater the protection against EMI. This product has been tested and has passed at an immunity level of 20 V/m.

WARNING! Be aware that cell phones, two-way radios, laptops, and other types of radio transmitters may cause unintended movement of your electrically-powered mobility vehicle due to EMI. Exercise caution when using any of these items while operating your mobility vehicle and avoid coming into close proximity of radio and TV stations.



WARNING! The addition of accessories or components to the electrically-powered mobility vehicle can increase the susceptibility of the vehicle to EMI. Do not modify your power chair in any way not authorized by Pride.

WARNING! The electrically-powered mobility vehicle itself can disturb the performance of other electrical devices located nearby, such as alarm systems.

NOTE: For further information on EMI/RFI, go to the Resource Center on www.pridemobility.com. If unintended motion or brake release occurs, turn your controller off as soon as it is safe to do so. Contact Pride or your authorized Pride Provider to report the incident.

Microdrive Controller Features

Figure 1 provides information on the Microdrive components and connections. Use this diagram to familiarize yourself with the function and location of each component before using the Microdrive Controller.

The following functions are available with the Microdrive Controller:

- Joystick Control
The joystick is used to control the direction and speed of the power chair.
- Actuator Adjustment
The user can control positioning of power accessory actuators with the Microdrive.
- Drive Profile Selection
The user can select one of five available drive profiles, if programmed.
- Speed Adjustment
The user can increase or decrease the maximum speed of the power chair. This adjustment can be overridden by the Joystick Interface Module.
- Sleep Mode
This feature is designed to preserve battery charge, and can be disabled through programming.
- Thermal Rollback
This is a safety feature designed to prevent the power chair from overheating and causing damage to the motors or controller.

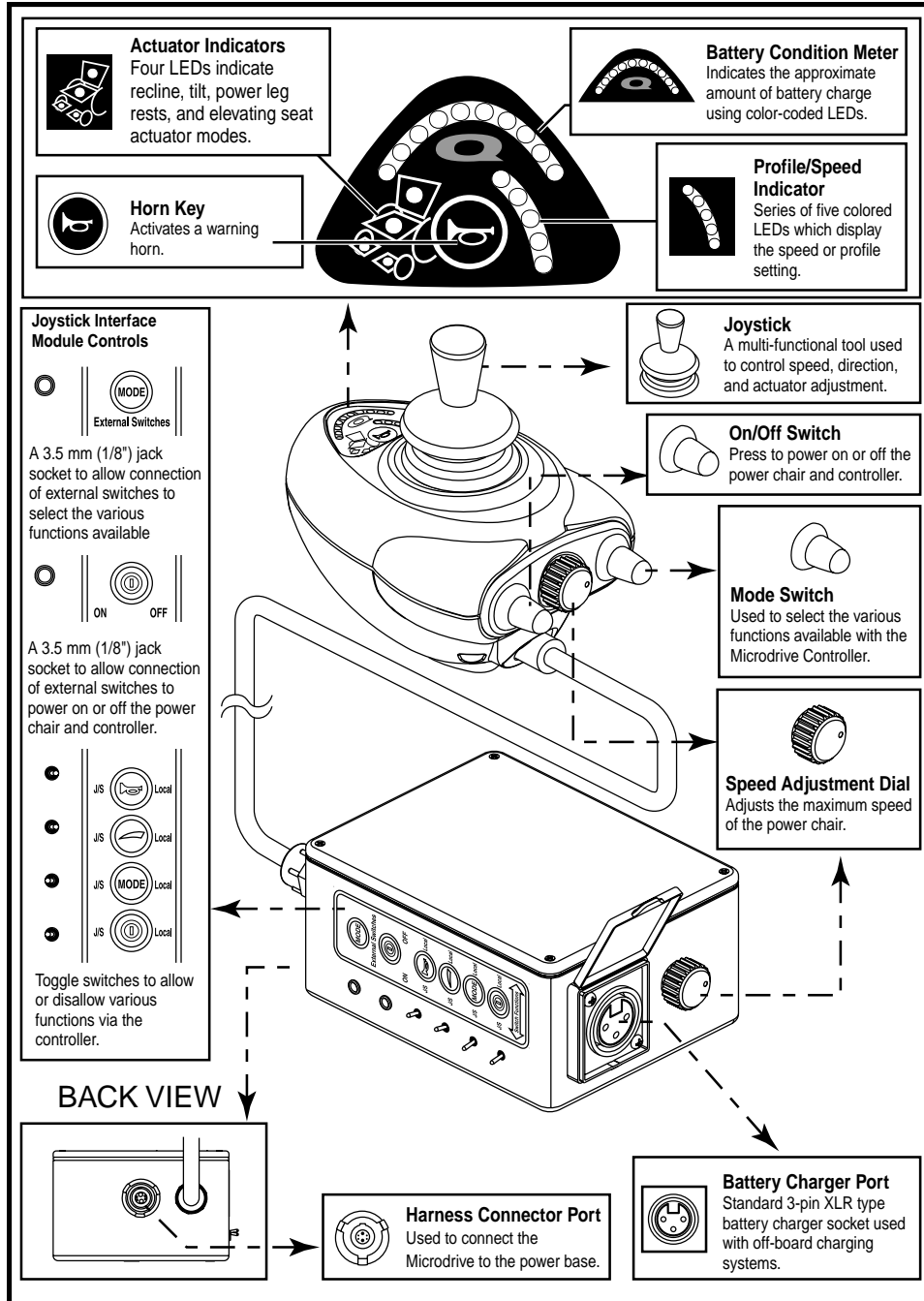


Figure 1. Microdrive Components and Connections

OPERATING THE MICRODRIVE CONTROLLER

The Microdrive Controller is used to operate your power chair and all of its components.

The Microdrive controller consists of:

1. joystick
2. display pad
3. mode switch
4. on/off switch
5. speed adjustment dial
6. joystick interface module

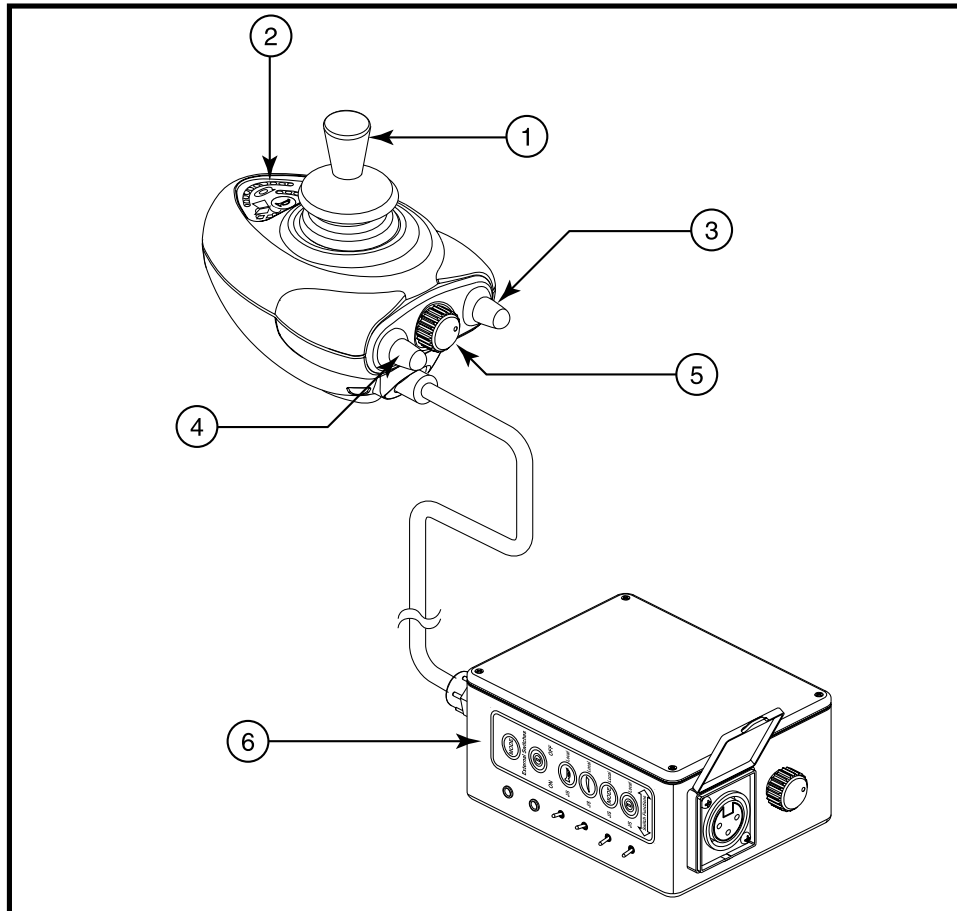


Figure 2. Microdrive Controller and Joystick Interface Module

Joystick Control

The joystick controls the direction and speed of your power chair. When you move the joystick from the neutral (center) position, the electromagnetic brakes release and allow the power chair to move. The farther you push the joystick from its neutral position, the faster the power chair moves. When you release the joystick and allow it to return to the neutral position, the electromagnetic brakes engage and the power chair comes to a complete stop.

Display Pad

The display pad is located directly in front of the joystick. It contains keys that you will use to control your power chair. See figures 2 and 3.

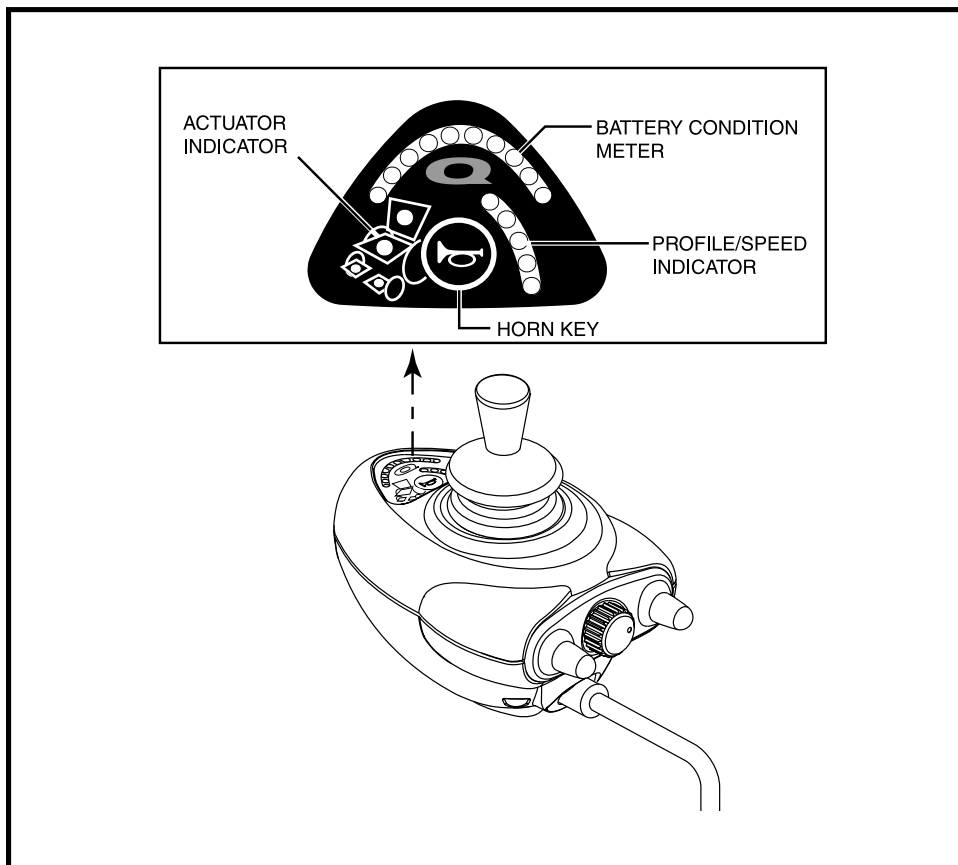


Figure 3. Microdrive Display Pad

Horn Key

The horn key activates the horn.

Battery Condition Meter

The battery condition meter is a 10-segment illuminated display that indicates that the Microdrive is powered on and also gives the status of the batteries, the controller, and the power chair electrical system.

- **Red, yellow, and green lights lit:** Batteries charged; controller and electrical system OK.
- **Red and yellow lights lit:** Charge batteries if possible; controller and electrical system OK.
- **Red lights only lit or slow flash:** Charge batteries as soon as possible; controller and electrical system OK.
- **Rapid flash of lights:** Indicates a fault in the controller or the electrical system. See “Error Codes.”
- **Ripple side to side of lights:** The joystick was not in the neutral position when the controller was turned on. If you get “ripple side to side of lights,” turn off the controller, allow the joystick to return to the neutral position, then turn on the controller.

***NOTE:** If you have attempted to resolve the problem and still get “ripple side to side of lights,” contact an authorized Pride Provider.*

***NOTE:** When the batteries approach a discharged state, the first red light will begin to slowly flash, reminding you the batteries need to be charged immediately!*

Profile and Speed Indicator

The profile and speed indicator is a 5-segment illuminated display that indicates speed setting as well as drive profile.

Actuator Indicator

The actuator indicator is a 4-segment illuminated display that indicates power recline, power tilt, power leg rest, and power elevating seat actuator modes.

JOYSTICK INTERFACE MODULE

The joystick interface module provides a means to enable or disable the horn key, mode switch, on/off switch, and speed adjustment dial. See figure 4.

The joystick interface module consists of:

- | | |
|--------------------------|---|
| 1. external switch jacks | 5. power toggle |
| 2. horn toggle | 6. redel connector port |
| 3. speed toggle | 7. off-board charger/programming socket |
| 4. mode toggle | 8. speed adjustment dial |

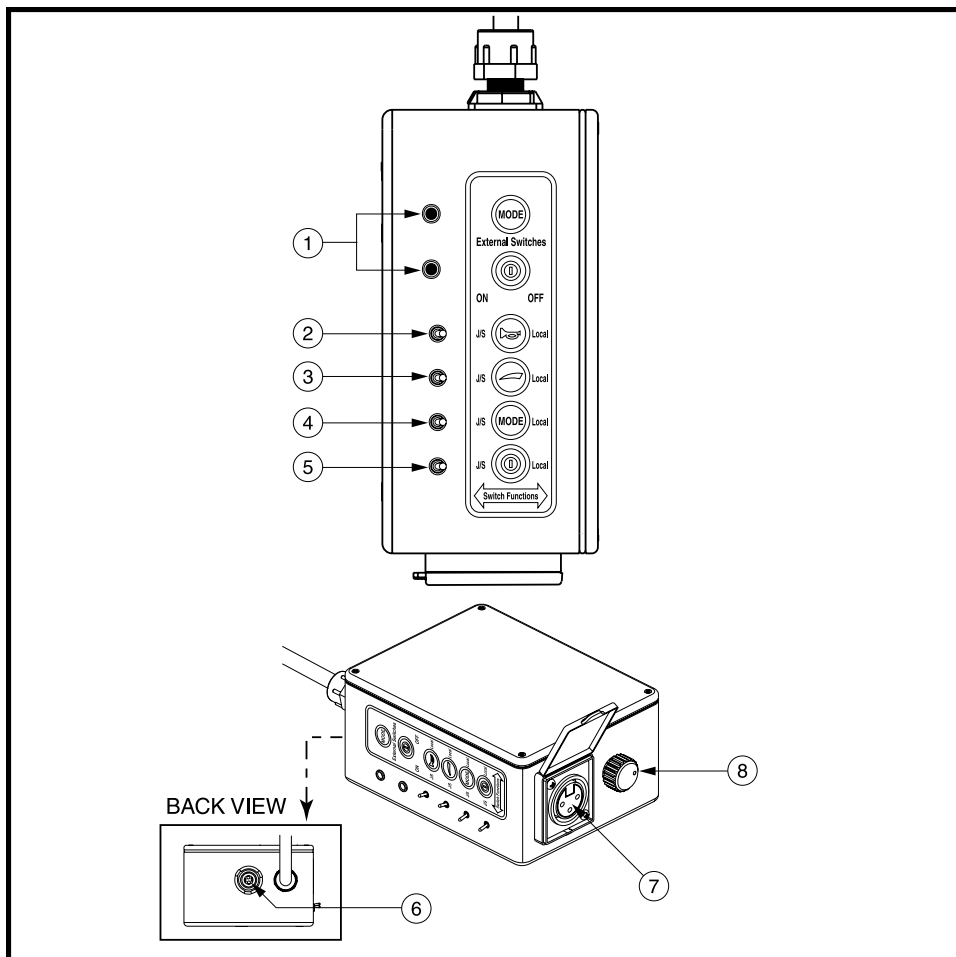


Figure 4. Joystick Interface Module

NOTE: When a toggle switch is set to “J/S,” the joystick has control of a particular function. When the toggle switch is set to “Local,” control of this function is disabled at the joystick.

External Switch Jacks

The external switch jacks are used for an external control (e.g., buddy button, single switch, etc.). There are two external jacks on the joystick interface module: mode and power. The switches can work in conjunction with or in replacement of switches on the joystick.

Horn Toggle

The horn toggle disables the horn key on the controller.

Speed Toggle

The speed toggle disables the speed adjustment dial on the controller.

Mode Toggle

The mode toggle disables the mode switch on the controller.

Power Toggle

The power toggle disables the on/off switch on the controller.

Redel Connector Port

The redel connector port is used for the power module interface.

Off-board Charger/Programming Socket

The off-board charger/programming socket is used for off-board charger connection and controller programming. If you use an off-board charger, the charger current should not exceed 8 amps. Contact your authorized Pride Provider for more information.



WARNING! Only chargers with Neutrik NC3MX plugs should be connected to the off-board charger/programming socket. See your authorized Pride Provider for more information. Failure to heed can result in personal injury and/or product damage.

ACTUATOR ADJUSTMENT

The Microdrive controller can control five power accessory actuators using the mode switch and the joystick.

To select and adjust an actuator:

1. Use the on/off switch to power on the chair and the controller.
2. To activate the actuator adjustment mode, press the mode switch down twice.
3. Push the joystick to the right to cycle through the available actuators. The actuator indicator will display which actuator is activated. See figure 5.
4. When the desired actuator is selected, give a forward command to the joystick to adjust position in one direction or give a reverse command to the joystick to adjust position in the opposite direction.
5. Press the mode switch down again to return to the drive mode.

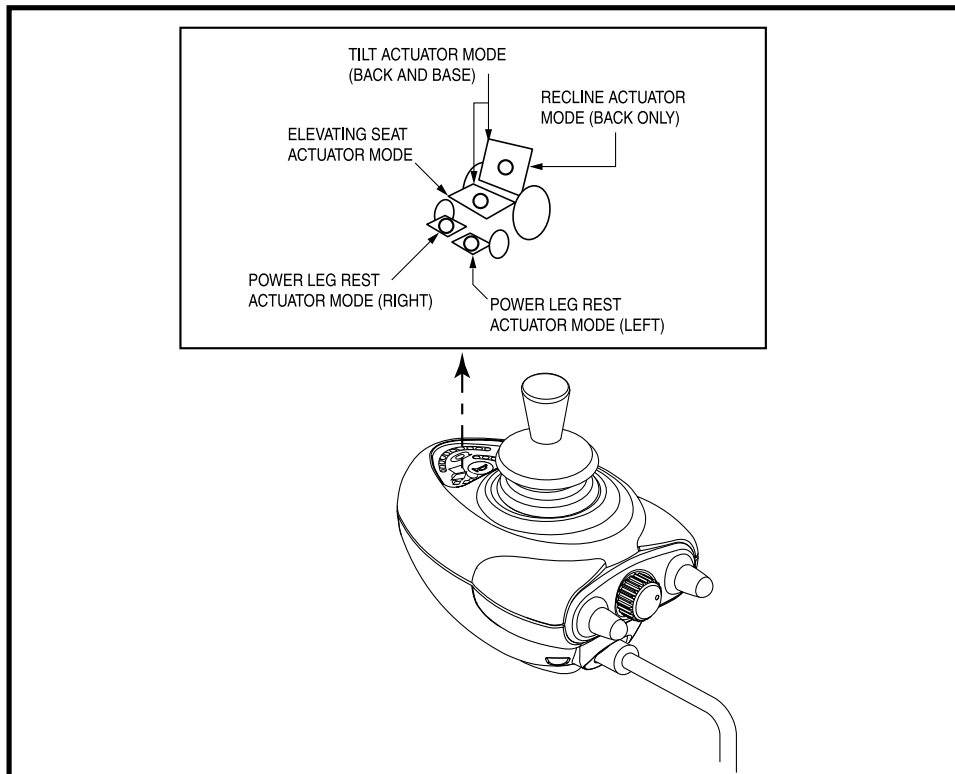


Figure 5. Actuator Indicators

DRIVE PROFILE SELECTION

Your Microdrive controller may be programmed for more than one drive profile that allows the system to be custom tailored to your environment.

To select a profile setting:

1. Use the on/off switch to power on the chair and the controller.
2. Press the mode switch.
3. Move the joystick left or right to select the desired drive profile. Each of the LEDs in the profile/speed indicator indicate a separate profile.

NOTE: The system can be programmed with up to 5 different profiles.

SPEED ADJUSTMENT

The Microdrive controller provides a speed adjustment dial to control the speed of the power chair.

To change the speed:

1. Use the on/off switch to power on the chair and the controller.
2. To increase your speed, turn the speed adjustment dial clockwise.
3. To decrease your speed, turn the speed adjustment dial counterclockwise.

SLEEP MODE

The Microdrive controller offers a sleep mode feature which will shut off the main power if the joystick remains stationary for a period of five minutes. The battery condition meter will indicate sleep mode by blinking once every five seconds. To restore power and resume operation of the chair, flip the on/off switch twice.

THERMAL ROLLBACK

The Microdrive controller is equipped with a thermal rollback circuit which monitors the temperature of the chair's motors and controller. If either exceeds 122° F/ 50° C, the controller reduces the motor voltage by 5 volts for every degree over. This reduces the chair's speed and allows a cool down period. Once the temperature returns to a safe level, the chair will resume normal operation.

ERROR CODES

In addition to indicating the current state of battery charge, the battery condition meter can also indicate possible problems with your power chair's electrical system. If any of the battery condition meter lights are flashing rapidly, the controller may be indicating an error. Error codes are displayed as a number of flashing lights. For instance, if the first light is flashing rapidly, the battery voltage is nearly depleted. The table below identifies the individual error codes, probable causes, and possible solutions. If you receive any of these error codes or if you experience any other problems, contact your authorized Pride Provider..

Fault Code	Probable Cause(s)	Possible Solution
1 Flash	The batteries need charging. There is a bad connection to the batteries.	Check the battery connections. If the battery connections are good, then try charging the batteries.
2 Flashes	There is a bad connection on the left motor.	Check the left motor connections and wiring harnesses.
3 Flashes	The left motor has a short to a battery connection.	Contact your authorized Pride Provider.
4 Flashes	There is a bad connection on the right motor.	Check the right motor connections and wiring harnesses.
5 Flashes	The right motor has a short to a battery connection.	Contact your authorized Pride Provider.
6 Flashes	The charge inhibit has been activated.	Make sure that the battery charger is not connected to the power base.
7 Flashes	There is a joystick fault.	Make sure the joystick is in the center position; power the unit off and then on again.
8 Flashes	There is a control system fault.	Check power module and joystick module connections and wiring.
9 Flashes	The park brakes have a bad connection.	Check the left and right motor connections and wiring.
10 Flashes	There is high battery voltage in the system.	Measure the battery voltage. If it exceeds 30VDC, replace the charger.

CARE AND MAINTENANCE

Refer to your power chair owner's manual for proper cleaning and disposal instructions.

WARRANTY

For two (2) years from the date of purchase, Pride will repair or replace at our option to the original purchaser, free of charge, the controller or any of its components found upon examination by an authorized representative of Pride to be defective in material and/or workmanship.

NOTES



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