Owner's Manual

QUANTUM® 1402 JAZZY®

QUANTUM® REHAB

INNOVATIVE REHAB SOLUTIONS

A Division of Pride Mobility Products® Corp.

Unit 106, Heyford Park Camp Road ● Upper Heyford, Oxfordshire ● OX25 5HA ● www.quantumrehab.com

SAFETY GUIDELINES

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! Failure to follow designated procedures can cause either personal injury, component damage or malfunction.

MANDATORY! These actions should be performed as specified. Failure to perform mandatory actions can cause injury to personnel and/or damage to equipment.

PROHIBITED! These actions should be 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.

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INFMANU2973/Rev C/November 2005

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This owner's manual is compiled from the latest specifications and product information available at the time of publication. We reserve the right to make changes as they become necessary. Any changes to our products may cause slight variations between the illustrations and explanations in this manual and the product you have purchased.

I. INTRODUCTION

SAFETY

WELCOME to Quantum Rehab, a division of 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 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 dealer, carer or healthcare professional in using good judgement.

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 Quantum Rehab Specialist. **Failure to follow the instructions, warnings and notes in this manual and those located on your Pride product can result in personal injury or product damage and 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 Quantum Rehab Specialist. 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. Please feel free to contact us at the address below:

Pride Mobility Products Ltd.
Unit 106, Heyford Park Camp Road
Upper Heyford, Oxfordshire OX25 5HA

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 Quantum Rehab Specialist is:

Name:_____

Address:_____

Phone Number:_____

Purchase Date:_____

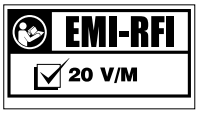
II. SAFETY

PRODUCT SAFETY SYMBOLS

The symbols below are used on the power chair to identify warnings, mandatory actions and prohibited actions. It is very important for you to read and understand them completely.

Pinch/Crush points created during assembly.

Corrosive chemicals contained in battery. Use only AGM or Gel-Cell batteries to reduce the risk of leakage or explosive conditions.



EMI-RFI! This product has been tested and passed at an immunity level of 20 V/m.

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

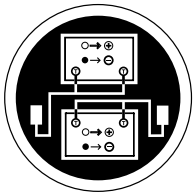
Maximum seating weight. Refer to specifications table.

Unlocked and in freewheel mode.

Place unit on level ground and stand in front or to one side when changing from drive mode to freewheel mode or freewheel mode to drive mode.

Locked and in drive mode.

II. SAFETY



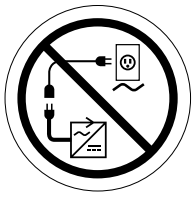
Battery Configuration:
T = Terminal Post
Connect Red wire to **T** with **+**
Connect Black wire to **T** with **–**

Do not remove anti-tip wheels.

Do not use a cell phone, walkie/talkie, laptop or other radio transmitter while operating.

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

Removal of grounding prong can create electrical hazard. If necessary, properly install an approved 3-pronged adapter to an electrical outlet having 2-pronged plug access. Failure to heed could result in personal injury and/or property damage.



Prevent personal injury and equipment damage. Do not connect an extension lead to the AC/DC converter or the battery charger.

II. SAFETY

SAFETY

MANDATORY! Do not operate your new power chair for the first time without completely reading and understanding this owner's manual.

Your power chair is a state of the art life-enhancement device designed to increase mobility. Pride provides an extensive variety of products to best fit the individual needs of the power chair user. Please be aware that the final selection and purchasing decision regarding the type of power chair to be used is the responsibility of the power chair user, who is capable of making such a decision, and his/her healthcare professional (i.e., medical doctor, physical therapist, etc.).

The contents of this manual are based on the expectation that a mobility device expert has properly fitted the power chair to the user and has assisted the prescribing healthcare professional and/or the Quantum Rehab Specialist in the instruction process for the use of the product.

There are certain situations, including some medical conditions, where the power chair user will need to practice operating the power chair in the presence of a trained attendant. A trained attendant can be defined as a family member or care professional specially trained in assisting a power chair user in various daily living activities.

As you begin using your power chair during daily activities, you will probably encounter situations in which you will need some practice. Simply take your time and you will soon be in full and confident control as you manoeuvre through doorways, on and off of lifts, up and down ramps and over moderate terrain.

Below are some precautions, tips and other safety considerations that will help the user become accustomed to operating the power chair safely.

Modifications

Pride has designed and engineered your power chair to provide maximum mobility and utility. A wide range of accessories is available from your Quantum Rehab Specialist to further customise your power chair to better suit your needs and/or preferences. However, under no circumstances should you modify, add, remove or disable any feature, part or function of your power chair.

WARNING! Do not modify your power chair in any way not authorised by Pride. Unauthorised modifications may result in personal injury and/or damage to your power chair.

Pre-Ride Safety Check

Get to know the feel of your power chair and its capabilities. Pride recommends that you perform a safety check before each use to make sure your power chair operates smoothly and safely.

Perform the following inspections prior to using your power chair:

- Check for proper tyre inflation. Maintain but do not exceed **2.4 bar (35 psi)** in each tyre if equipped with pneumatic tyres.
- Check all electrical connections. Make sure they are tight and not corroded.
- Check all controller connections to the electronics tray. Make sure they are secured properly.
- Check the brakes. See VIII. "Care and Maintenance."
- Check battery charge. See VI. "Batteries and Charging."

NOTE: If you discover a problem, contact your Quantum Rehab Specialist for assistance.

II. SAFETY

Weight Limitations

Your power chair is rated for a maximum weight capacity. Please refer to the specifications table for this limit.

WARNING! Exceeding the weight capacity voids your warranty and may result in personal injury and/or damage to your power chair. Pride will not be held responsible for injuries and/or property damage resulting from failure to observe weight limitations.

WARNING! Do not carry passengers on your power chair. Carrying passengers on your power chair may result in personal injury and/or property damage.

Tyre Inflation

If your power chair is equipped with pneumatic tyres, you should check or have the air pressure checked regularly. Proper inflation pressures will prolong the life of your tyres and help ensure the smooth operation of your power chair.

WARNING! It is important that 2.4 bar (35 psi) tyre pressure be maintained in pneumatic tyres at all times. Do not underinflate or overinflate your tyres. Low pressure may result in loss of control, and overinflated tyres may burst. Failure to maintain 2.4 bar (35 psi) tyre pressure in pneumatic tyres at all times may result in tyre and/or wheel failure, causing serious personal injury and/or damage to your power chair.

WARNING! Inflate your power chair drive tyres from a regulated air source with an available pressure gauge. Inflating your tyres from an unregulated air source could overinflate them, resulting in a burst tyre and/or personal injury.

WARNING! When changing a tyre, remove only the centre lug nut, then remove the tyre. If any further disassembly is required, deflate the tyre completely or it may explode, possibly resulting in personal injury.

Incline Information

More and more buildings have ramps with specified degrees of inclination, designed for easy and safe access. Some ramps may have turning switchbacks (180-degree turns) that require you to have good cornering skills on your power chair.

- Proceed with extreme caution as you approach the downgrade of a ramp or other incline.
- Take wide swings with your power chair's front wheels around any tight corners. If you do that, the power chair's rear wheels will follow a wide arc, not cut the corner short and not bump into or get hung up on any railing corners.
- When driving down a ramp, keep the power chair's speed adjustment set to the slowest speed setting to ensure a safely controlled descent. See VII. "Operation."
- Avoid sudden stops and starts.

When climbing an incline, try to keep your power chair moving. If you must stop, start up again slowly and then accelerate cautiously. When driving down an incline, set your power chair to the slowest setting and drive in the forward direction only. If your power chair starts to move down the incline faster than you anticipated or desired, allow it to come to a complete stop by releasing the joystick, then push the joystick forward slightly to ensure a safely controlled descent.

WARNING! When climbing an incline, do not zigzag or drive at an angle up the face of the incline. Drive your power chair straight up the incline. This greatly reduces the possibility of a tip or a fall. Always exercise extreme caution when negotiating an incline.

WARNING! You should not travel up or down a potentially hazardous incline (i.e., areas covered with snow, ice, cut grass or wet leaves).

WARNING! When on any sort of an incline or decline, never place the power chair in freewheel mode while seated on it or standing next to it. Doing so may result in personal injury and/or damage to your power chair.

WARNING! Never travel down an incline rearwards. This may result in personal injury.

WARNING! Your power chair may be equipped with a reclining seatback. This feature is intended for use on a flat, level surface. Do not negotiate inclines with the seat in a reclined position as this may result in the power chair tipping over and causing personal injury and/or product damage.

WARNING! Even though your power chair is capable of climbing slopes greater than those illustrated in figure 1, do not, under any circumstances, exceed the incline guidelines or any other specifications presented in this manual. Doing so could cause instability in your power chair, resulting in personal injury and/or damage to your power chair.

Most handicap public access ramps are required to have a maximum slope of 8.7% (5°). Therefore, Pride recommends that the maximum slope of an incline you attempt to safely ascend or descend on your power chair does not exceed 8.7% (5°). See figure 1.

WARNING! Any attempt to climb or descend a slope steeper than 8.7% (5°) may put your power chair in an unstable position and cause it to tip, resulting in personal injury.

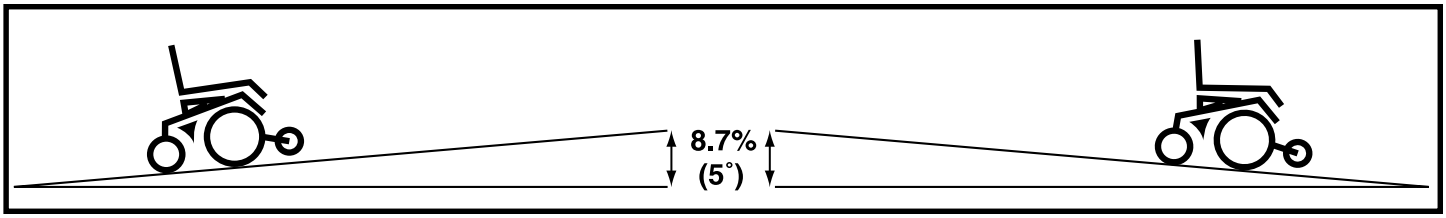


Figure 1. Maximum Safe Slope (Ascending and Descending)

Braking Information

Your power chair is equipped with two powerful brake systems:

1. Regenerative — uses electricity to rapidly slow the vehicle when the joystick returns to the center/stop position.
2. Disc Park Brake — activates mechanically after regenerative braking slows the vehicle to near stop, or when power is removed from the system for any reason.

Cornering Information

While your power chair is equipped with castor wheels and anti-tip wheels, excessively high cornering speeds can still create the possibility of tipping. Factors which affect the possibility of tipping include, but are not limited to: cornering speed, steering angle (how sharply you are turning), uneven road surfaces, inclined road surfaces, riding from an area of low traction to an area of high traction (such as passing from a grassy area to a paved area – especially at high speed while turning) and abrupt directional changes. High cornering speeds are not recommended. If you feel that you may tip over in a corner, reduce your speed and steering angle (i.e., lessen the sharpness of the turn) to prevent your power chair from tipping.

WARNING! When cornering sharply, reduce your speed. This greatly reduces the possibility of a tip or fall. To avoid personal injury and/or property damage, always exercise common sense when cornering.

Outdoor Driving Surfaces

Your power chair is designed to provide optimum stability under normal driving conditions—dry, level surfaces composed of concrete, blacktop or tarmac. However, Pride recognises that there will be times when you will encounter other surface types. For this reason, your power chair is designed to perform admirably on packed soil, grass and gravel. Feel free to use your power chair safely on lawns and in park areas.

- Reduce your power chair's speed when driving on uneven terrain and/or soft surfaces.
- Avoid tall grass that can entangle the running gear.
- Avoid loosely packed gravel and sand.
- If you feel unsure about a driving surface, avoid that surface.

Freewheel Mode

Your power chair is equipped with two manual freewheel levers to allow for manual manoeuvrability by a trained attendant. For more information about how to place your power chair into and out of freewheel mode, see III. "Your Power Chair."

WARNING! Do not use your power chair in freewheel mode without an attendant present. Personal injury may result.

WARNING! Do not attempt to personally place your power chair in freewheel mode while seated on it. Personal injury may result. Ask an attendant for assistance if necessary.

WARNING! Do not place your power chair in freewheel mode while on an incline. The chair could roll uncontrollably on its own, causing personal injury.

Stationary Obstacles (Steps, Kerbs, etc.)

Proceed with extreme caution when driving near raised surfaces, unprotected ledges and/or drop-offs (kerbs, porches, stairs, etc.). The correct method for approaching a kerb is illustrated in figure 2.

WARNING! Do not attempt to have your power chair climb or descend an obstacle that is higher than 10 cm (4 in.) unless you have the assistance of an attendant.

WARNING! If your power chair is equipped with a kerb climber, do not attempt to climb any kerb in excess of 10 cm (4 in.) in height. Do not approach kerbs at an angle; instead approach any kerb you intend to ascend or descend in the forward position.

WARNING! Do not attempt to have your power chair proceed rearward down any step, kerb or other obstacle. This may cause the power chair to tip and cause personal injury.

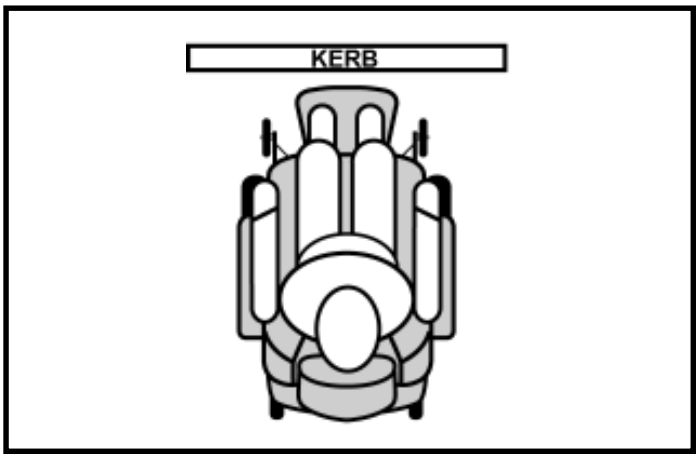


Figure 2. Correct Kerb Approach

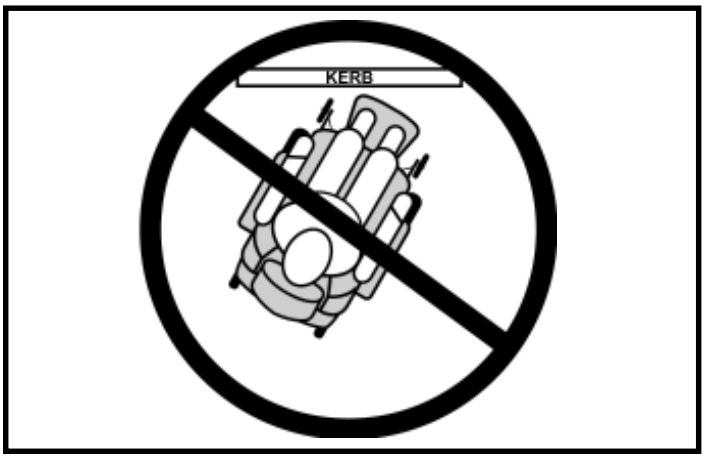


Figure 3. Incorrect Kerb Approach

Public Streets and Roadways

WARNING! You should not operate your power chair on public streets and roadways. Be aware that it may be difficult for traffic to see you when you are seated on your power chair. Obey all local pedestrian traffic rules. Wait until your path is clear of traffic, and then proceed with extreme caution.

Stairs and Escalators

Power chairs are not designed to travel up or down stairs or escalators. Always use a lift.

WARNING! Never use your power chair to negotiate steps or escalators. You may cause injury to yourself and to others and/or damage your power chair.

Doors

- Determine if the door opens toward or away from you.
- Drive your power chair gently and slowly forward to push the door open. Or drive your power chair gently and slowly rearward to pull the door open.

Lifts

Modern lifts have a door edge safety mechanism that, when pushed, reopens the lift door(s).

- If you are in the doorway of a lift when the door(s) begin to close, push on the rubber door edge or allow the rubber door edge to contact the power chair and the door will reopen.
- Use care that handbags, packages or power chair accessories do not become caught in lift doors.

Lift/Elevation Products

If you will be traveling with your power chair, you may find it necessary to use a lift/elevation product to aid in transport. Pride recommends that you closely review the instructions, specifications and safety information set forth by the manufacturer of the lift/elevation product before using that product.

Motor Vehicle Transport

Currently, there are no standards approved for tie-down systems in a moving vehicle of any type to transport a person while seated in a power chair.

WARNING! Do not sit on your power chair while it is in a moving vehicle. Personal injury and/or property damage may result.

WARNING! Always be sure your power chair and its batteries are properly secured when it is being transported. Failure to do so may result in personal injury and/or damage to your power chair.

Positioning Belts

Your Quantum Rehab Specialist, therapist(s) and other healthcare professionals are responsible for determining your requirement for a positioning belt in order to operate your power chair safely.

WARNING! If you require a positioning belt to safely operate your power chair, make sure it is fastened securely. Serious personal injury may result if you fall from the power chair.

WARNING! The positioning belt is not designed for use as a seat belt in a motor vehicle. Nor is your power chair suitable for use as a seat in any vehicle. Anyone traveling in a vehicle should be properly belted into seats approved by the vehicle manufacturer.

Transfers

Transferring onto and off of your power chair requires a good sense of balance. Always have an attendant or healthcare professional present while learning to properly transfer yourself.

To eliminate the possibility of injury, Pride recommends that you or a trained attendant perform the following tasks before attempting a transfer:

- Turn off the power to the controller. See VII. "Operation."
- Ensure your power chair is not in freewheel mode. See III. "Your Power Chair."
- Turn both castor wheels toward the transfer destination to improve power chair stability during transfer.
- Make sure both armrests are flipped up or removed from your power chair.
- Flip up the foot platform or move the leg rests aside; this will help to keep your feet from getting caught on the foot rigging during the transfer.
- Reduce the distance between your power chair and the object you are transferring onto.

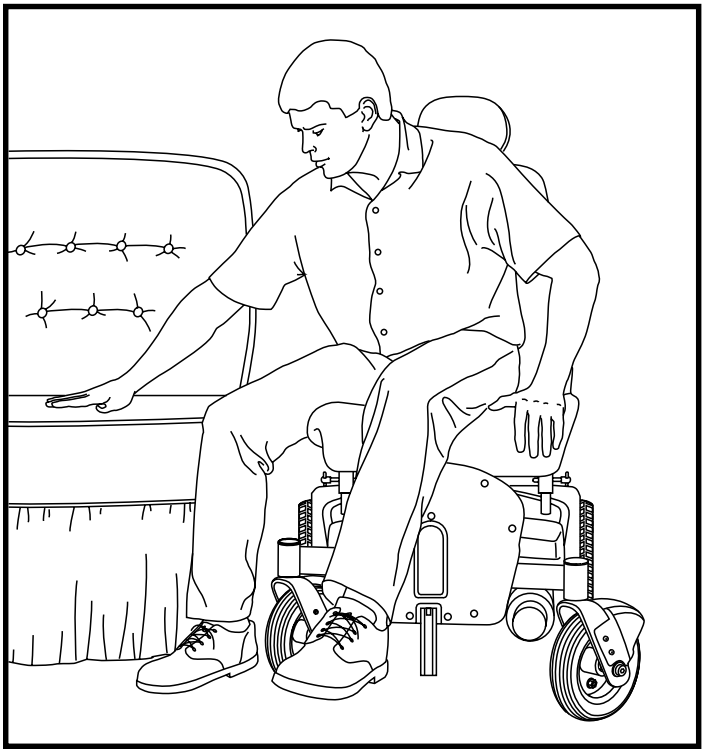


Figure 4. Ideal Transfer Position

WARNING! Before transferring, position yourself as far back as possible in the power chair seat to prevent the power chair from tipping forward during transfer and causing injury.

WARNING! Avoid using your armrests for weight bearing purposes. Such use may cause the power chair to tip and cause personal injury.

WARNING! Avoid putting all of your weight on the foot riggings. Such use may cause the power chair to tip and cause personal injury.

Inclement Weather Precautions

Exposure of your power chair to inclement weather conditions should be avoided whenever possible. If suddenly caught up in rain, snow, severe cold or heat while operating your power chair proceed to shelter at the earliest opportunity. Thoroughly dry your power chair before storing, charging or operating your power chair.

WARNING! Operating in rain, snow, salt, mist/spray conditions and on icy/slippery surfaces can cause personal injury and/or damage to the power chair and electrical system. Maintain and store your power chair in a dry and clean condition.

Preventing Unintended Movement

WARNING! If you anticipate being seated in a stationary position for an extended period of time, turn off the power. This will prevent unexpected motion from inadvertent joystick contact. This will also eliminate the possibility of unintended chair movement from electromagnetic (EM) sources. Failure to do so may result in personal injury.

Reaching and Bending

Never reach, lean or bend while driving your power chair. If it is absolutely necessary to reach, lean or bend while seated on your power chair, it is important to maintain a stable centre of gravity and keep the power chair from tipping. Pride recommends that the power chair user determine his/her personal limitations and practice bending and reaching in the presence of a qualified healthcare professional.

WARNING! Do not reach, lean or bend for objects if you have to pick them up from the floor by reaching down between your knees. Movements such as these may change your centre of gravity and the weight distribution of the power chair. This may cause your power chair to tip, possibly resulting in personal injury.

WARNING! Prevent personal injury. Keep your hands away from the tyres when driving. Be aware that loose fitting clothing can become caught in drive tyres.

Batteries

In addition to following the warnings below, be sure to comply with all other battery handling information. For more information about your power chair's batteries, see VI. "Batteries and Charging."

WARNING! Power chair batteries are heavy. Refer to the specifications table. If you are unable to lift that much weight, be sure to get help. Lifting beyond your capacity can result in personal injury.

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

WARNING! Always protect the batteries from freezing and never charge a frozen battery. Charging a frozen battery may result in personal injury and/or damage to the battery.

Prescription Drugs/Physical Limitations

Users must exercise care and common sense when operating a power chair. This includes awareness of safety issues when taking prescribed or over-the-counter drugs or when the user has specific physical limitations.

WARNING! Consult your physician if you are taking prescribed or over-the-counter medication or if you have certain physical limitations. Some medications and limitations may impair your ability to operate your power chair in a safe manner.

Alcohol

The power chair user must exercise care and common sense when operating his/her power chair. This includes awareness of safety issues while under the influence of alcohol.

WARNING! Do not operate your power chair while you are under the influence of alcohol, as this may impair your ability to operate your power chair in a safe manner.

Removable Parts

WARNING! Do not attempt to lift or move a power chair by any of its removable parts. Personal injury and/or damage to the power chair may result.

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 authorised 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 power chair off as soon as it is safe to do so. Contact your Quantum Rehab Specialist to report the incident.

THE QUANTUM 1402

Your Quantum 1402 has two main assemblies: the seat and the power base. See figure 5. Typically, the seating assembly includes the armrests, seatback and controller. The power base assembly includes two drive wheels, two anti-tip wheels, two rear castor wheels, a power seat connector (optional), harness connectors and a body shroud. See figures 5 and 6.

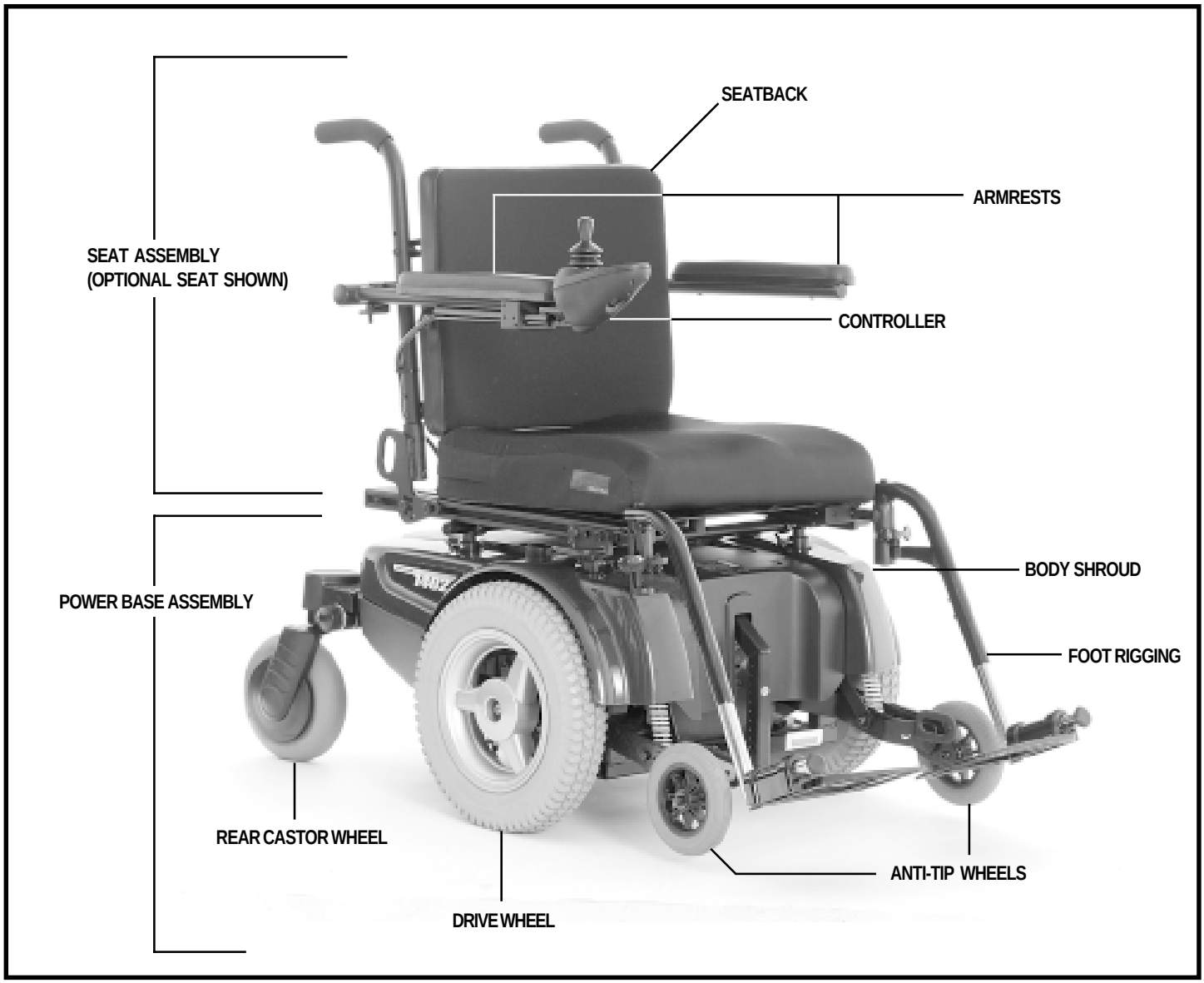


Figure 5. The Quantum 1402

Specifications	
Suspension:	Active-Trac system and rear suspension
Drive Wheels:	35.5 cm (14 in.), pneumatic, center-mounted (solid tyres are optional)
Castor Wheels:	20 cm (8 in.), solid, rear articulating
Anti-tip Wheels:	15 cm (6 in.), solid, front-mounted
Overall Size:	Length: 103 cm (40.5 in.) Width: 64.5 cm (25.4 in.)
Turning Radius:	53 cm (21 in.)
Ground Clearance:	8 cm (3.25 in.)
Maximum Obstacle Climbing Ability:	10 cm
Maximum Safe Slope:	8.7% (5°)
Maximum Climbing Ability:	8.7% (5°)
Maximum Speed:	Up to 7.24 km/h (4.5 mph) with high-torque motors (standard) Up to 9.6 km/h (6.0 mph) with high speed motors (optional)
Seating Options:	Medium-back Seat (standard) Solid Seat Pan High-back Seat Power Elevating Seat Euro Seat Specialty Seat Synergy Seat TRU-Balance Power Positioning Systems
Electronics: Drivetrain:	70-amp PG Remote Plus Controller 70-amp Microdrive Controller Two-motor, mid-wheel
Brakes:	"Intelligent Braking," electronic, regenerative disc brakes
Batteries:	Two 12-volt, Group 24 batteries (AGM or Gel-Cell type recommended) (NF-22 batteries with power elevating seat option)
Range:	Up to 40 km (25 miles)*
Battery Charger:	5-amp, onboard Off-board (optional)
Weight Capacity:	181 kg (400 lbs/29 stone) with high-torque motors (standard) 147 kg (325 lbs/23 stone) with high-speed motors (optional)
Component Weights	Base: 58.5 kg (136 lbs) Standard Seat: 16.5 kg (36.5 lbs) Batteries: 24 kg (53.5 lbs) each

**Depending on user weight, battery amp hour rating (AH) and terrain.*

Electronics Tray

The electronics tray is located on the rear of your power chair. The electronics tray is located underneath the rear sliding door and consists of the ammeter, the charger power lead receptacle, the main circuit breaker, accessory connector (optional equipment) and the controller connector(s).

Ammeter: The ammeter displays the charger's current output in amps. For more information, see VI. "Batteries and Charging" in this manual. See figure 6.

Charger Power Lead Receptacle: This receptacle is used whenever your battery needs recharging. See figure 6.

Main Circuit Breaker: The main circuit breaker is a safety feature built into your power chair. When the batteries and the motors are heavily strained (e.g., from excessive loads), the main circuit breaker trips to prevent damage to the motors and the electronics. If the circuit trips, allow your power chair to "rest" for approximately one minute. Next, push in the circuit breaker button, turn on the controller and continue normal operation. If the main circuit breaker continues to trip repeatedly, contact your Quantum Rehab Specialist. See figure 6.

Accessory Connector (Optional): This is where optional power harnesses connect to the controller.

Controller Connector(s): This is where the controller connects to the motors, batteries and charger.

Power Elevating Seat Connector (Optional): This is for the optional power elevating seat switch. See figure 6.

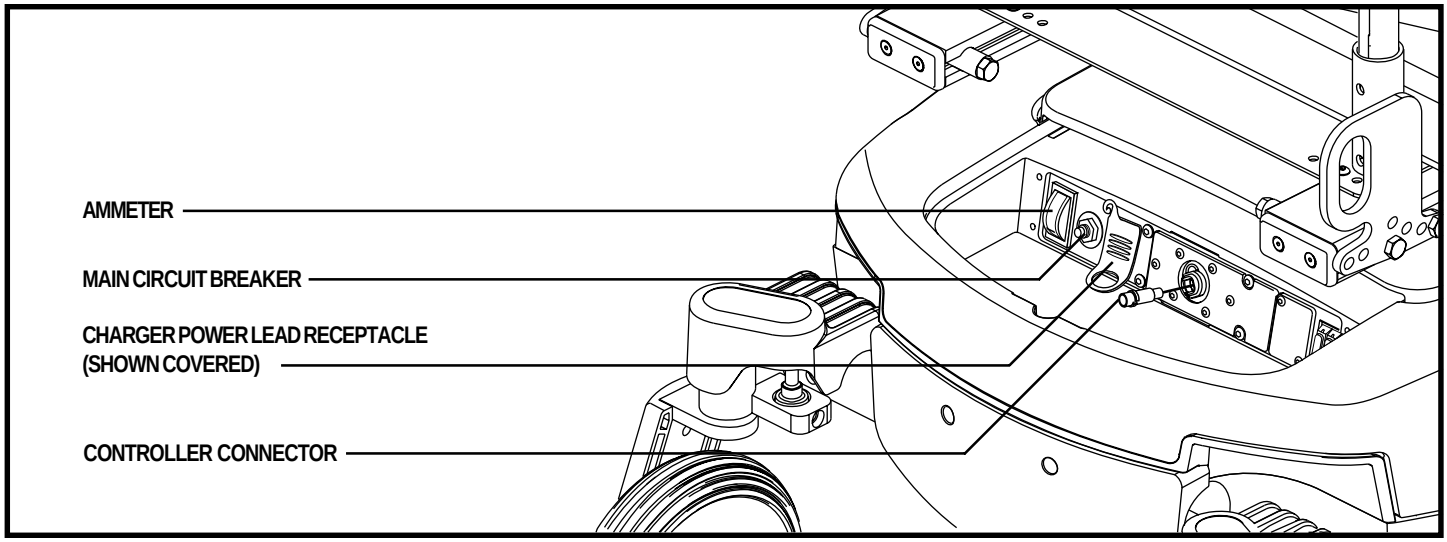


Figure 6. Electronics Tray

Dual Manual Freewheel Levers

For your convenience, your power chair is equipped with dual manual freewheel levers. The levers are located on the inside of the anti-tip wheels. The levers allow you to disengage the drive motors and manoeuvre the chair manually.

WARNING! In freewheel mode, the braking system is disengaged. Only engage the freewheel mode when on a level surface.

WARNING! Prevent personal injury and/or equipment damage. Do not use the freewheel lever handles as tie-down points to secure this product. Failure to comply could result in personal injury and/or equipment damage.

To operate the dual manual freewheel levers:

1. Pull up both manual freewheel levers for freewheel mode (drive motor disengaged). See figure 7.
2. Push down both manual freewheel levers for drive mode (drive motor engaged). See figure 8.

NOTE: If a lever is difficult to move in either direction, rock your power chair back and forth slightly. The lever should then move to the desired position.

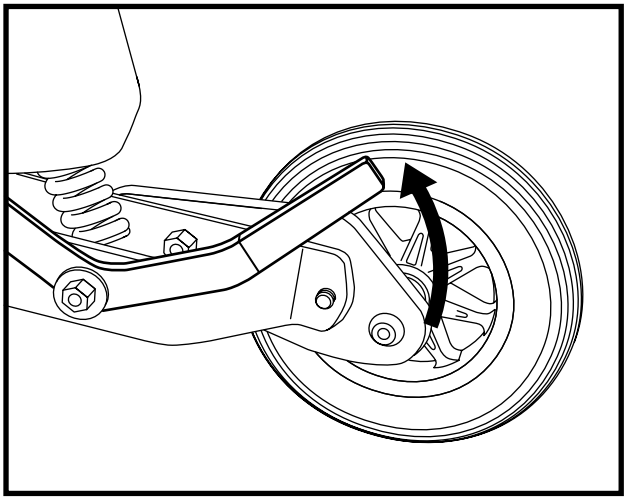


Figure 7. Freewheel Mode (left side shown)

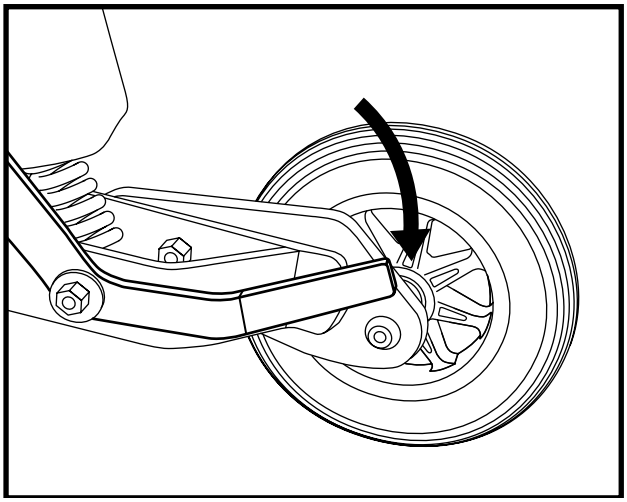


Figure 8. Drive Mode (left side shown)

Active-Trac Suspension

Your power chair is equipped with Active-Trac Suspension (ATS). ATS is a suspension system designed to make your power chair traverse different types of terrain and obstacles while maintaining smooth operation. With ATS, the front anti-tip wheels work in conjunction with the motor suspension to help you manoeuvre over obstacles.

As the front anti-tip wheels come in contact with an obstacle, the front anti-tip wheel assembly is drawn upward. At the same time, the motors are forced downward. This allows the motors to push the power chair over an obstacle and limits the possibility of your power chair getting caught on the obstacle.

ATS also helps in day-to-day operating conditions. For instance, when you release the joystick, your power chair begins to slow down. As the chair slows down, the front anti-tip wheels will automatically drop toward the ground. This will reduce the forward tip that is typically encountered with mid-wheel drive chairs.

Rear Suspension

Your power chair is equipped with rear suspension. See figure 9. This suspension system works in conjunction with ATS and is designed to maintain a smooth ride when driving over rough terrain and up and down kerbs. This system works by allowing the castor forks to respond to weight transfers and uneven terrain. The rear castor wheels will pivot as you drive over obstacles. This system also enhances performance when the front anti-tip wheels are set lower to the surface.

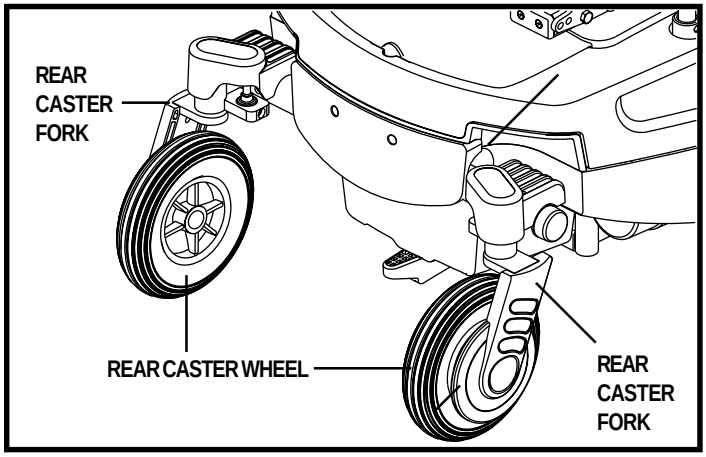


Figure 9. Rear Suspension System

IV. ASSEMBLY

INITIAL ASSEMBLY

Your power chair may require some assembly either before initial use or after transportation. It may also require disassembly to make some comfort adjustments. Figure 10 details those parts of the power chair that are designed to be disassembled and assembled by an end user or by a qualified carer before using the product or making comfort adjustments.

NOTE: Any nylon insert lock nut removed during the disassembly or adjustment of the power chair must be replaced with a new nut. Nylon insert lock nuts should not be reused as it may cause damage to the nylon insert, resulting in a less secure fit. Replacement nylon insert lock nuts are available at local hardware stores or through your Quantum Rehab Specialist.

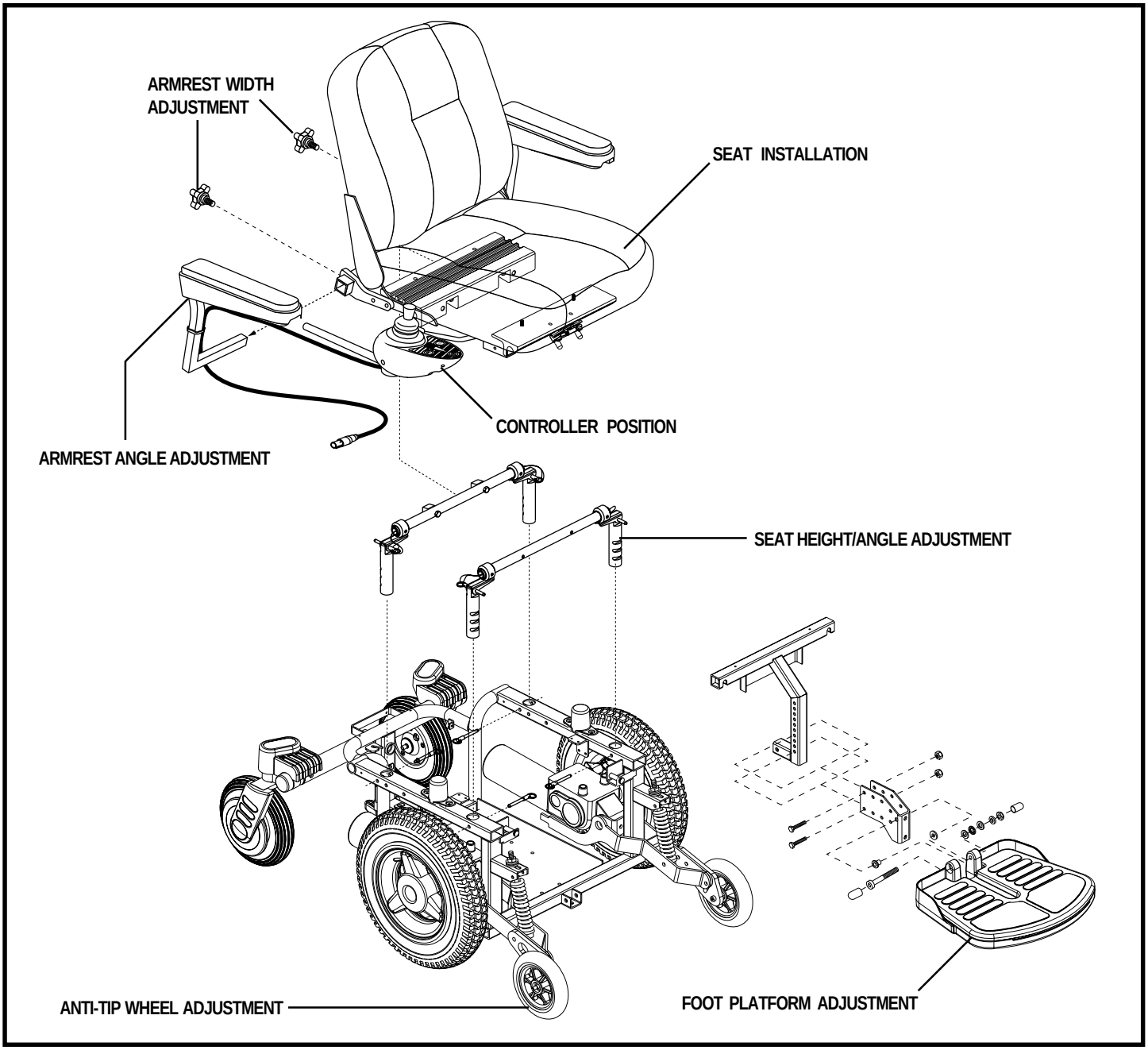


Figure 10. Quantum 1402 Assembly View

Seat Installation

It may be necessary to install the seat either prior to initial operation or after transporting your power chair. Most seats are attached to the power base with the Universal Mounting System (UMS). The UMS consists of universal parts that may be attached to any medium-back or high-back seat, regardless of seat width or seat depth. The two main components are aluminum extrusions mounted to the seat base. These extrusions attach to a pair of trapeze bars that are mounted to the power base. If your power chair is equipped with an optional seating system, please refer to the information provided in separate manuals.

WARNING! Do not pick up the seat frame by the armrests. They are free to pivot, and you may lose control of the seat if they do so, resulting in personal injury or damage to the chair.

To install the seat:

1. Set the trapeze bars to the desired height. To change the trapeze bar height, see V. "Comfort Adjustments."
2. Tilt the seat back and slide the rear extrusion onto the rear trapeze bar. See figure 11.
3. Lower the front extrusion onto the front trapeze bar until the seat locks into place.
4. Flip the seat latch safety down. See figure 12.

WARNING! Make sure the seat latch safety is flipped down before using your power chair.

5. Install the controller into one of the armrests. See V. "Comfort Adjustments."
6. Plug the controller cable into the connector on the electronics tray. See figure 6.
7. Plug the power elevating seat switch cable (if so equipped) into the connector on the electronics tray.
8. Secure the controller cable to the armrest receiver with one or more wire ties.
9. Route the cable to ensure that the cable cannot be pinched in the seat hinge.

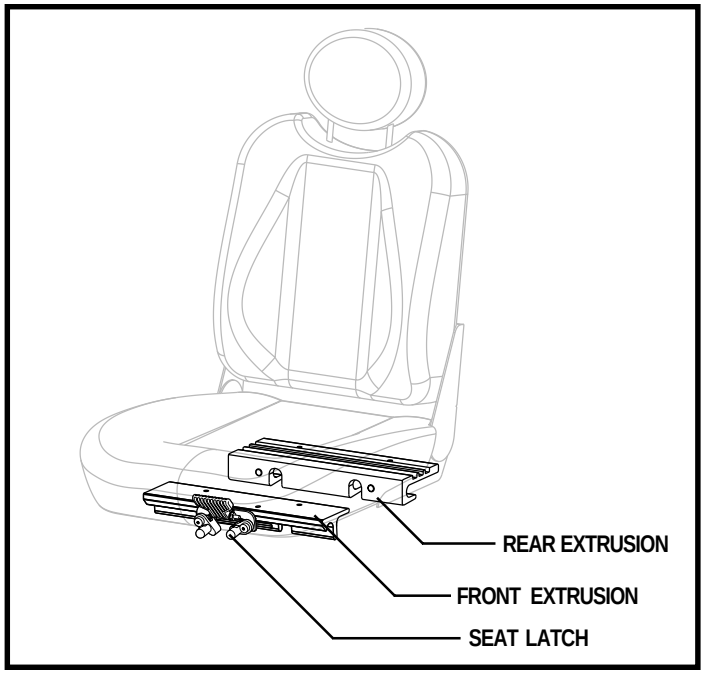


Figure 11. Universal Mounting System (UMS)

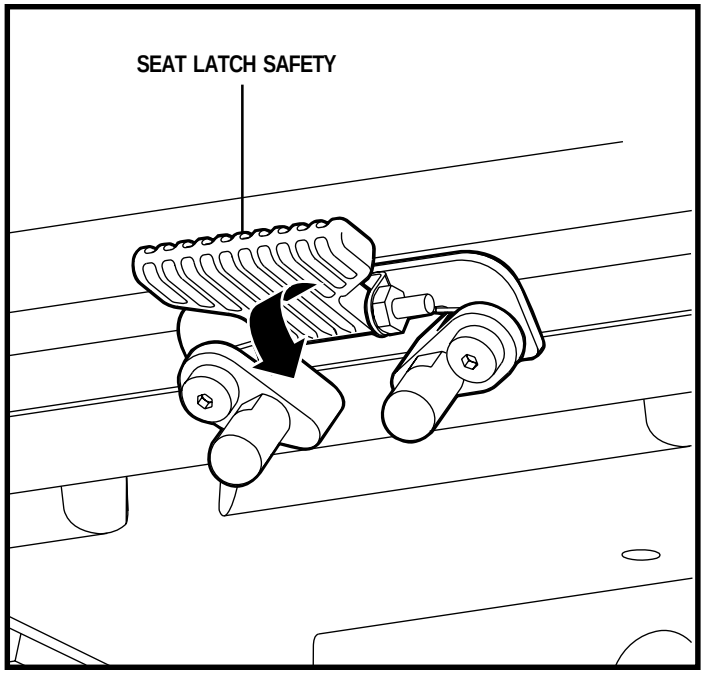


Figure 12. Seat Latch Safety

Power Seat Option Installation

Your Quantum 1402 may be equipped with the power elevating seat option.

To install the power seat:

l. Position the seat post on the bottom of the power seat frame over the actuator.
2. Insert the seat post into the actuator and push the friction lock lever forward to lock the seat frame into place. See figure 13.
3. Install the seat onto the power seat frame and secure it in place.
4. Route the power seat harness to the back of the power base.
5. Plug the power seat harness into the connector on the electronics tray.

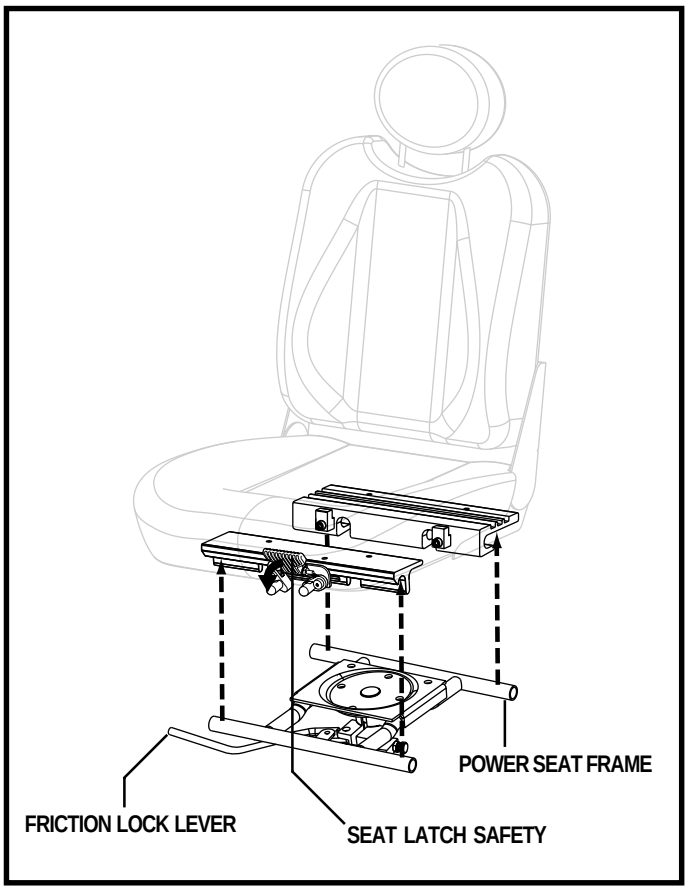


Figure 13. Power Elevating Seat Installation

COMFORT ADJUSTMENTS

Once you become familiar with your power chair's operation, there are some adjustments you can make to increase your comfort, such as seat height and angle, armrest width, angle and height, controller position and foot platform height, depth and angle. If your power chair is equipped with an optional seating system, refer to the information provided in separate manuals. If you power chair is equipped with a medium-back or high-back seat, refer to the following information.

WARNING! If your power chair was configured by your Quantum Rehab Specialist or at a service centre, please consult your health care professional before changing the seat position or making any other adjustment. Some adjustments may degrade the performance and safety of your power chair by changing its centre of gravity.

You may need the following tools to make comfort adjustments:

- metric/standard hex key set
- adjustable spanner

Seat Height and Seat Angle Adjustment

The seat is attached to the power base through the UMS. You can change the seat height by raising the front and rear trapeze bars. If you raise or lower only one trapeze bar (front or rear), you can also change the seat base angle (dump).

To change the seat height:

1. Turn off the power to the controller.
2. Unplug the controller connector(s) from the electronics tray.
3. Flip up the seat latch safety. See figure 14.
4. Squeeze the seat latch and release the seat from the front trapeze bar.
5. Slide the seat forward and remove it from the power base.

NOTE: To remove a power seat, disengage the friction lock lever and lift the seat up and away from the power base

6. Remove the power base front cover.
7. Use a slotted screwdriver to rotate the power base middle cover fasteners one-quarter turn and remove the power base middle cover.
8. Remove the ball detent pin from each of the four seat towers. See figure 15.
9. Move the trapeze bars up or down to the desired height.

NOTE: Change the seat dump by raising or lowering only one set of towers (front or back).

10. Reinstall the ball detent pin into each seat tower.
11. Reinstall the power base middle cover and front cover.
12. Reinstall the seat.
13. Plug the controller connector(s) into the electronics tray.

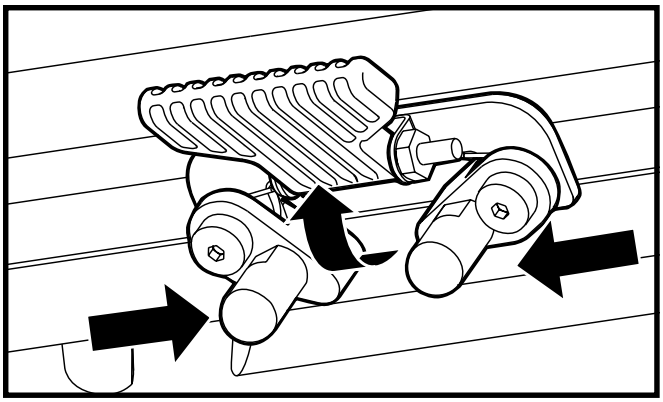


Figure 14. Seat Height Adjustment - Seat Latch Safety

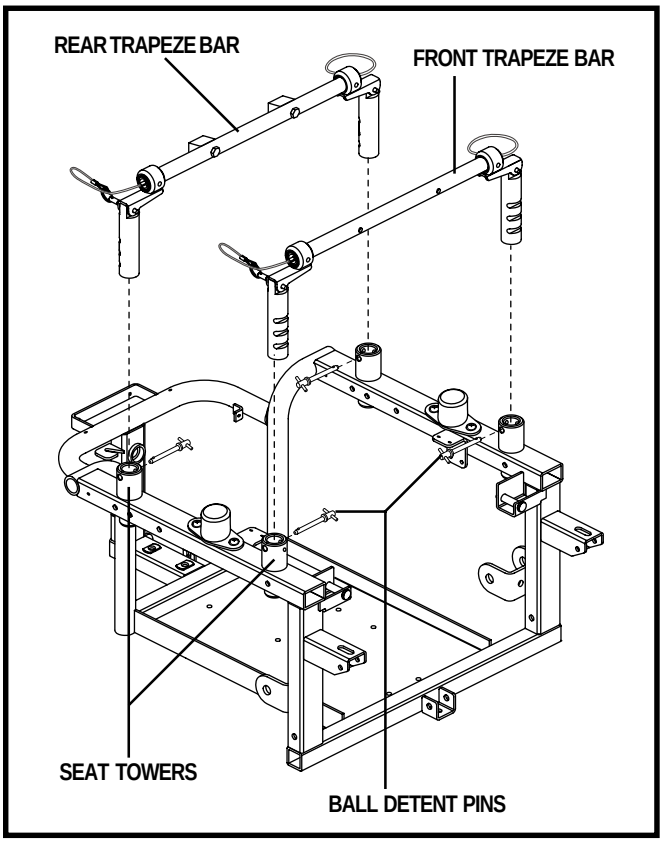


Figure 15. Seat Height Adjustment - Trapeze Bars

V. COMFORT ADJUSTMENTS

Seat Position

You can move the seat forward or rearward by changing the extrusion mounting position.

To change the position:

1. Turn off the power to the controller.
2. Unplug the controller connector(s) from the electronics tray.
3. Remove the seat from the power base.
4. Remove both extrusions from the bottom of the seat.
5. Reposition the extrusions on a different set of mounting holes. You must move both extrusions the same number of holes either forward or backward. See figure 16.
6. Fasten the extrusions back onto the bottom of the seat.
7. Reinstall the seat.
8. Reconnect the controller to the electronics tray.

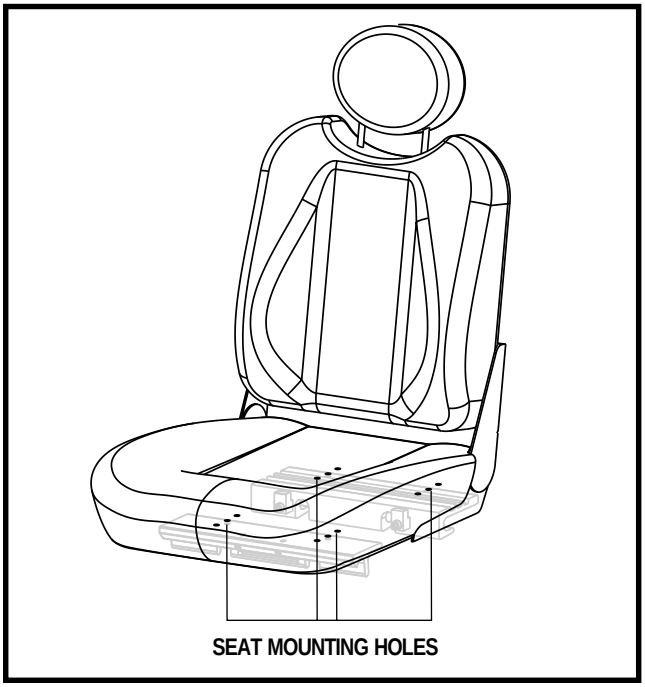


Figure 16. Seat Mounting Holes

Manual Recline Adjustment

If your power chair is equipped with an optional reclining seat, you can adjust the seatback angle with the seatback release lever located on the side of the seat base.

To adjust the seatback angle:

1. Pull up on the seatback release lever.
2. Move the seatback down or up to the desired position.
3. Release the seatback release lever.

Seatback Angle Adjustment

If your power chair is equipped with an adjustable seatback, you can adjust it to four (4) different angles: 90°, 102°, 105° or 107°.

To adjust the seatback angle:

1. Remove the adjusting screws from both seat hinges. See figure 17.
2. Set the seatback at the desired angle.
3. Reinstall the screws to both seat hinges and tighten.

Armrest Width Adjustment

To change the armrest width:

1. Locate the two adjustment knobs on the armrest receiver bracket. See figure 17.
2. Loosen the knobs.
3. Slide the armrests in or out to the desired width.
4. Retighten the knobs.

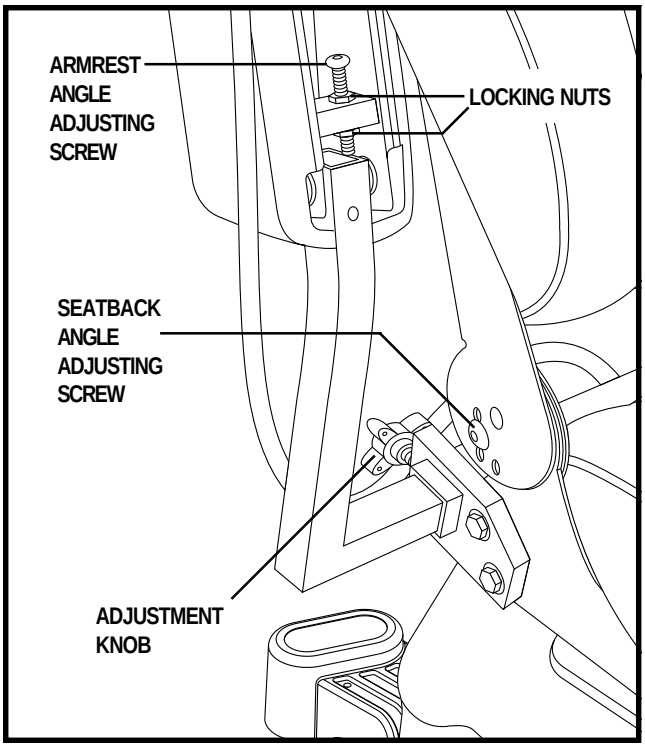


Figure 17. Seatback and Armrest Adjustments

Armrest Angle Adjustment

You can adjust the armrest angle to fit your specific needs.

To change the armrest angle:

1. Lift the armrest straight up so that it is perpendicular to the floor.
2. Loosen the locking nuts. See figure 17.
3. Loosen the adjusting screw.
4. Turn the screw clockwise to lower the front of the armrest, or turn the screw anticlockwise to raise the front of the armrest.
5. Lock the adjusting screw into place by retightening the locking nuts.

Armrest Height Adjustment

Your Quantum 1402 may be equipped with height-adjustable armrests.

To change the armrest height:

1. Remove the ball detent pin from the armrest.
2. Move the armrest up or down to the desired height.
3. Align the holes and reinsert the ball detent pin.

Controller Extension Adjustment

The controller can easily slide out away from the armrest or in toward the armrest.

To extend the controller:

1. Locate the setscrew on the underside of the armrest.
2. Loosen the setscrew. See figure 18.
3. Slide the controller mounting bracket into or out of the armrest to the desired position.
4. Retighten the setscrew.

Foot Platform Height Adjustment

The foot platform height is easily adjusted to one of six different heights in 2.5 cm (1 in.) increments.

To raise or lower the foot platform:

1. Remove the mounting hardware from the foot platform bracket. See figure 19.
2. Raise or lower the foot platform to the desired height.
3. Reinstall the mounting hardware into the foot platform bracket and tighten.

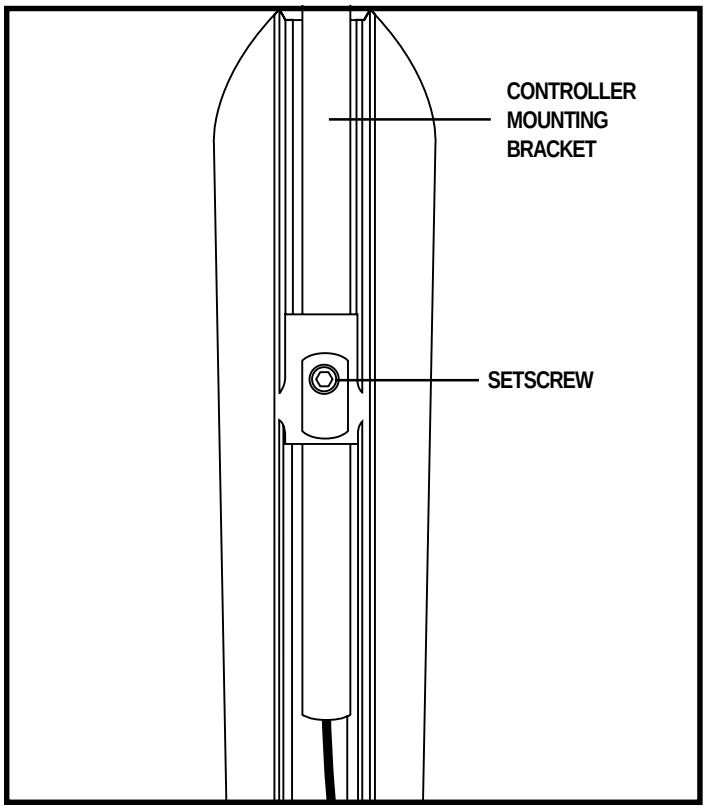


Figure 18. Controller Extension

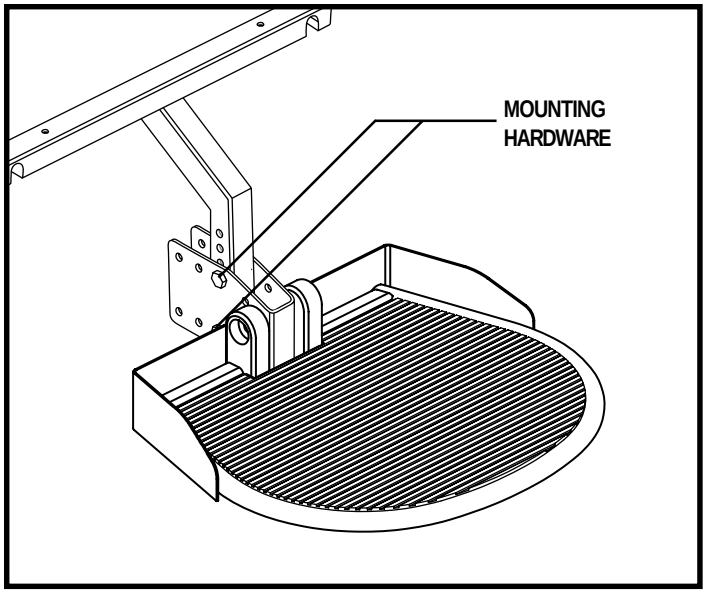


Figure 19. Foot Platform Height Adjustment

Foot Platform Depth Adjustment

To adjust the foot platform depth:

1. Remove the mounting hardware from the foot platform bracket. See figure 19.
2. Move the foot platform in or out to the desired depth.
3. Reinstall the mounting hardware into the foot platform bracket and tighten.

Foot Platform Angle Adjustment

You can adjust the angle of the foot platform with a hex key. See figure 20.

To adjust the foot platform angle:

1. Locate the setscrew on the underside of the foot platform.
2. Turn the setscrew clockwise to raise the front of the foot platform.
3. Turn the setscrew anticlockwise to lower the front of the foot platform.

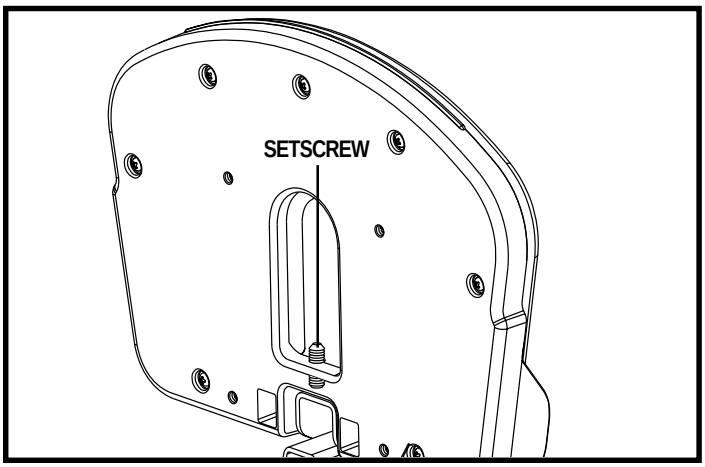


Figure 20. Foot Platform Angle Adjustment

Swing-away Footrests

Your power chair may be equipped with optional Swing-away Footrests (SFRs) that enable you to swing the footrests to the side before transferring onto or off of your power chair.

To swing the footrests:

1. Push in the SFR release lever. See figure 21.
2. Swing the footrest to the side.

To adjust the SFR length:

1. Remove the two adjustment screws from the side of each footrest extension. See figure 21.
2. Slide the footrest up or down to the desired length.
3. Reinstall the two adjustment screws.

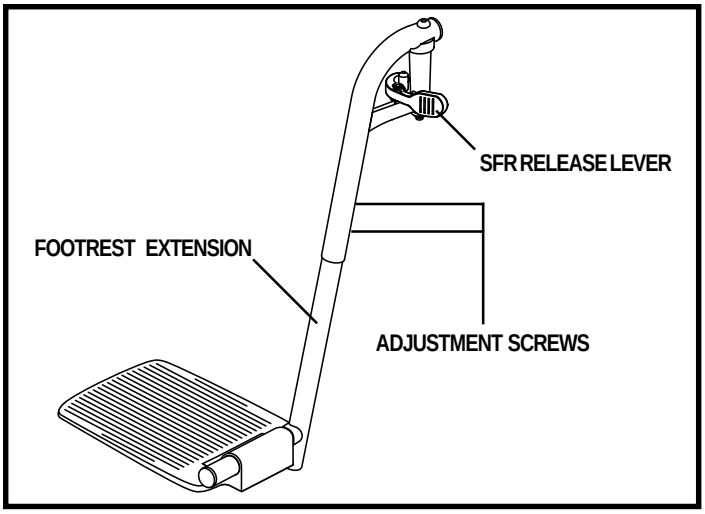


Figure 21. Swing-Away Footrests

Elevating Leg Rests

Elevating Leg Rests (ELRs) offer an infinite range of adjustment for the leg angle and a footrest adjustment range of 30.5–48 cm (12–19 in.).

To rotate the ELRs:

1. Push in release lever A. See figure 22.
2. Rotate the ELRs.

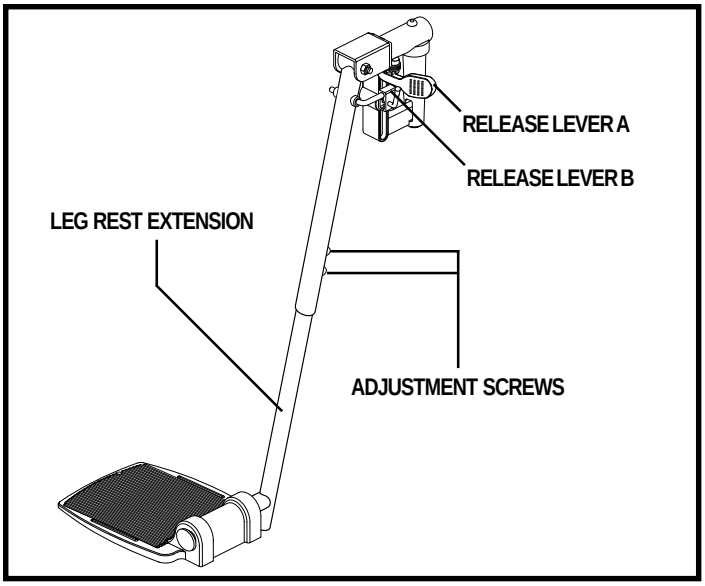


Figure 22. Elevating Leg Rests

To adjust the ELR angle:
1. Push down release lever B. See figure 22.
2. Move the leg rest to the desired angle.

To adjust the ELR length:
1. Remove the two adjustment screws from the side of each leg rest extension. See figure 22.
2. Slide the leg rest up or down to the desired length.
3. Reinstall the two adjustment screws.

Power Elevating Seat (Optional)

If your power chair is equipped with a power elevating seat option, you can change the seat height automatically. The power elevating seat is operated through a switch located either on one of the armrests or on the controller.

To change the seat height using the power elevating seat switch on the armrest:
1. Press forward on the power elevating seat switch to raise the seat.
2. Pull back on the power elevating seat switch to lower the seat.

WARNING! Do not allow the motor to run more than a few seconds after the mechanism reaches the top or bottom limit.

WARNING! The power elevating seat option is intended for use on a level surface only. Never raise the seat from its lowest position on an inclined surface. Failure to heed this warning can result in the power chair tipping over and causing injury.

WARNING! Never raise the seat from its lowest position when operating your power chair on bumpy or uneven surfaces. Failure to heed this warning can result in the power chair tipping over and causing injury.

WARNING! Never raise the power elevating seat while your power chair is in the freewheel mode.

WARNING! Always fasten the positioning belt when operating the power elevating seat.

NOTE: The power elevating seat option is equipped with a system that reduces the speed of the power chair by one-half when the seat is elevated more than 2.5-5 cm (1-2 in.). Always check to be sure this system is operating properly before using your power chair.

Anti-tip Wheel Adjustment

The anti-tip wheels are designed to give your power chair increased stability on rough surfaces. The anti-tip wheels are preset at the factory for smooth surfaces or indoor use only. If you plan on using your power chair on rough surfaces, it may be necessary to adjust the anti-tip wheels to better suit your needs. The anti-tip wheels may need adjustment if the following occurs:
- When coming to a stop, your power chair tips forward excessively.
- The anti-tip wheels constantly rub the ground.

NOTE: Each drive tyre must be inflated to 2.4 bar (35 psi) in order for the anti-tip wheels to be properly adjusted.

To adjust the anti-tip wheels:

1. Place an adjustable spanner on the inner locknut of the anti-tip bracket located right after the shock strut. See figure 23.
2. Turn the locknut anticlockwise to loosen.
3. Place spanner on the adjustable cam located on the other side of the locknut. See figure 24.
4. To adjust the anti-tip upward, turn the cam anticlockwise. To adjust the anti-tip downward, turn the cam clockwise.
5. Tighten the locknut.
6. Make the same adjustment to the other anti-tip wheel.

WARNING! Consult your Quantum Rehab Specialist before attempting to change the anti-tip height! Changing the anti-tip wheel height affects handling under deceleration!

WARNING! The higher you raise the anti-tip wheels, the more tendency your power chair has to tilt forward when coming to a stop. You can compensate for this by making a small adjustment to the pre-programmed deceleration setting in the controller or by moving the seat assembly farther to the rear of your power chair. Failure to do so may result in personal injury.

PROHIBITED! Do not remove the anti-tip wheels.

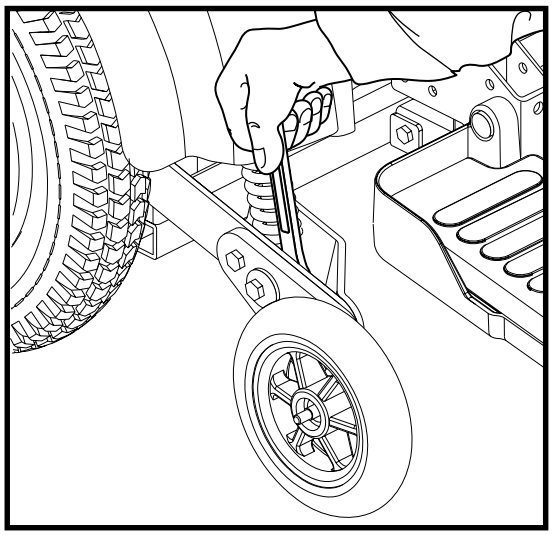


Figure 23. Anti-Tip Bracket (Inner Locknut)

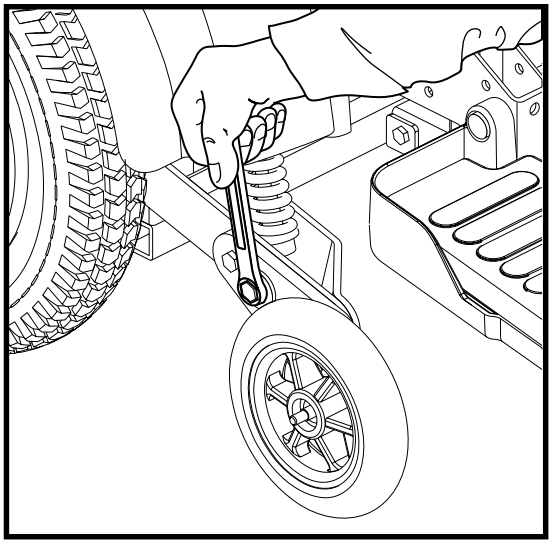


Figure 24. Anti-Tip Wheel Adjustment (Cam)

VI. BATTERIES AND CHARGING

BATTERIES AND CHARGING

Your power chair uses two long-lasting, 12-volt, deep-cycle batteries. These batteries are sealed and maintenance free. Since they are sealed, there is no need to check the electrolyte (fluid) level. Deep-cycle batteries are designed to handle a longer and deeper 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 also are unsafe for use in power chairs.

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

Charging the Batteries

The battery charger is essential in providing long life to your power chair batteries. The battery charger is designed to optimise the performance of your power chair by charging the batteries safely, quickly and easily. Your power chair uses either an onboard or an optional off-board charger to charge the batteries. The onboard charger is plugged into the charger power lead receptacle on the electronics tray. The off-board charger is plugged into a port on the front of your controller. See VII. "Operation."

WARNING! You must recharge the batteries with the supplied charger. Do not use an automotive-type battery charger.

PROHIBITED! Removal of grounding prong can create electrical hazard. If necessary, properly install an approved 3-pronged adapter to an electrical outlet having 2-pronged plug access. Failure to heed could result in personal injury and/or property damage.

PROHIBITED! Never use an extension lead to plug in your battery charger. Plug the charger directly into a properly wired standard electrical outlet.

To charge the batteries using an onboard charger:

1. Position the rear of your power chair close to a standard electrical outlet.
2. Be certain the controller power is turned off and the freewheel levers are in the engaged position. See III. "Your Power Chair."
3. Open the rear sliding door and plug the charger power lead into the charger power lead receptacle.
4. Extend the charger power lead and plug it into the electrical outlet.

NOTE: Your power chair incorporates an inhibit function that disables the power chair when the charger is plugged into an electrical outlet.

5. We recommend you charge the batteries for 8 to 14 hours.

NOTE: The ammeter indicates how much charge is needed to fully charge the batteries. Wait about a minute for the charger to warm up. The ammeter may move as high as 5.5 amps, then gradually move back down to 0 amps as the batteries charge.

6. When the batteries are fully charged, the ammeter needle vibrates on or about the 0 mark on the ammeter scale. Unplug the charger power lead from the electrical outlet, wind the lead up and secure it with a hook and loop strap, then store it in the electronics tray for future use.
7. Close the rear sliding door.

To charge the batteries using an off-board charger:

1. Position the front of your power chair next to a standard electrical outlet.
2. Be certain the controller power is turned off and the freewheel levers are in the drive mode. See III. "Your Power Chair."
3. Open the rear sliding door.
4. Remove the run plug located on the electronics tray.
5. Plug the 3-pin charger power lead into the off-board charger socket on the controller.
6. Plug the charger into the electrical outlet and follow the instructions supplied with the charger.

NOTE: We recommend you charge the batteries for 8 to 14 hours.

7. When the batteries are fully charged, disconnect the charger from the electrical outlet.
8. Disconnect the charger power lead from the off-board charger socket.
9. Reconnect the run plug into its connector.

NOTE: If the run plug is not reconnected, your Quantum 1402 will not operate.

10. Close the rear sliding door.

Battery Break-in

To break in new batteries for maximum efficiency:

1. Fully recharge any new battery prior to its initial use. This brings the battery up to about 90% of its peak performance level.
2. Operate your power chair about the house and grounds. Move slowly at first, and do not travel 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 your power chair again. The batteries should now perform at over 90% of their potential.
4. After four or five charging cycles, the batteries reach 100% charge and last for an extended period.

Batteries and Charging—Frequently Asked Questions (FAQs)

How does the charger work?

The battery charger takes the standard electrical outlet voltage (alternating current) and converts it to 24 VDC (direct current). The batteries use direct current to run your power chair. When the battery voltage is low, the charger works harder to charge the batteries. As the battery voltage approaches full charge, the charger does not work as hard to complete the charging cycle. When the batteries are fully charged, the amperage from the charger is nearly at zero. This is how the charger maintains a charge but does not overcharge the batteries.

Can I use a different battery charger?

Use only the charger supplied with the Quantum 1402. It is the safest, most efficient tool to charge the batteries. We do not recommend using other types of chargers.

NOTE: The charger will not operate after the batteries have been discharged to nearly zero voltage. If this happens, call your Quantum Rehab Specialist for assistance.

VI. BATTERIES AND CHARGING

How often must I charge the batteries?
Many factors come into consideration when deciding how often to charge the batteries. You may use your power chair all day on a daily basis or you may not use it for weeks at a time.

- **Daily Use**
  If you use your power chair on a daily basis, charge the batteries as soon as you are finished. Your power chair will be ready each morning to give you a full day's service. It is recommended that you charge the batteries 8 to 14 hours after daily use.

- **Infrequent Use**
  If you use your power chair infrequently (once a week or less), you should charge the batteries at least once per week for 12 to 14 hours.

NOTE: Keep your batteries fully charged and avoid deeply discharging your batteries. Do not charge the batteries for more than 24 hours at a charging cycle.

How can I get maximum range or distance per charge?
Rarely do you have an ideal driving situation such as smooth, flat, hard terrain with no wind, hills or curves. More often you are presented with hills, pavement cracks, uneven and loosely packed surfaces, curves and wind. All of these factors affect the distance or running time per battery charge. The following are a few suggestions for obtaining the maximum range per charge.

- Always fully charge the batteries prior to your trip.
- Maintain **2.4 bar (35 psi)** in pneumatic drive wheels.
- Plan your trip in advance to avoid inclines if possible.
- Limit baggage weight to essential items.
- Try to maintain an even speed and avoid stop-and-go driving.

What type of battery should I use?
We recommend deep-cycle batteries that are sealed and maintenance free. Both AGM and Gel-Cell are deep-cycle batteries that are similar in performance.

WARNING! Corrosive chemicals are contained in batteries. Use only AGM or Gel-Cell batteries to reduce the risk of leakage or explosive conditions.

Why do my new batteries seem weak?
Deep-cycle batteries employ a much different chemical technology than that used in car batteries, nickel-cadmium batteries (nicads) or in other common battery types. Deep-cycle batteries are specifically designed to provide power, drain down their charge and then accept a relatively quick recharge. AGM or Gel-Cell batteries should be charged as often as possible. They do not have a "memory" like nickel-cadmium batteries.

We work closely with our battery manufacturer to provide a battery that best suits the specific demands of your power chair. During shipping, the batteries encounter temperature extremes that may influence initial performance. Heat robs the charge from the batteries, and cold slows the power available and extends the time needed to recharge the batteries (just as with car batteries). It might take a few days for the temperature of the batteries to stabilise and adjust to their new ambient temperature. More importantly, it takes a few "charging cycles" (a partial drain—then a full recharge) to establish the critical chemical balance that is essential to a battery's peak performance and long life. It is well worth it to take the time to break in your batteries properly.

VI. BATTERIES AND CHARGING

How can I ensure maximum battery life?
A fully charged, deep-cycle battery provides reliable performance and extended battery life. Keep the batteries fully charged whenever possible. Batteries that are regularly and deeply discharged, infrequently charged or stored without a full charge may be permanently damaged, causing unreliable power chair operation and limited battery life.

How should I store my power chair and its batteries?
If you do not use your power chair regularly, we recommend maintaining battery vitality by charging the batteries at least once a week.

If you do not plan on using your power chair for an extended period, fully charge the batteries prior to storage. Disconnect the battery harnesses and store the power chair in a warm, dry environment. Avoid temperature extremes, such as freezing and excessively hot conditions, and never attempt to charge a frozen battery. A cold or frozen battery should be warmed for several days prior to recharging.

NOTE: If you are storing your power chair for an extended period of time, you may wish to elevate it with several boards under the frame. This keeps the tyres off the ground and prevents the possibility of flat spots developing on the tyres.

What about public transport?
AGM and Gel-Cell batteries are designed for application in power chairs and other mobility vehicles, allowing safe transport on aircraft, buses and trains, as there is no danger of spillage or leakage. We suggest you contact the carrier's ticket counter in advance to determine that carrier's specific requirements.

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

REMOTE PLUS CONTROLLER

The electronic controller is what you use to operate your power chair. It takes the battery voltage and sends it to the appropriate system. The electronic controller also enables you to monitor battery charge, electronic controller functions and the condition of your electrical system. Also, it may be used to control some optional systems such as power elevating seats and lights. The Remote Plus is a modular electronic control system. The electronics necessary to operate the power chair are contained in several modules located on different parts of your power chair. Typically, the Remote Plus is mounted to one of the armrests and is connected to the motors, batteries and the electronics tray.

The controller supplied with your power chair has been pre-programmed to meet your needs. The program is set using either a personal computer with software supplied 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 and braking, but 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 authorised representative of the manufacturer or a trained service technician should program the controller.

The Remote Plus system consists of the following components:

- master remote
- communications cable(s)
- power module
- motor wiring harnesses
- battery wiring harnesses
- actuator lighting module (for optional equipment)

Remote Plus Master Remote

The Remote Plus master remote consists of the following:

1. joystick
2. keypad
3. controller communications cable
4. off-board charger/programming socket

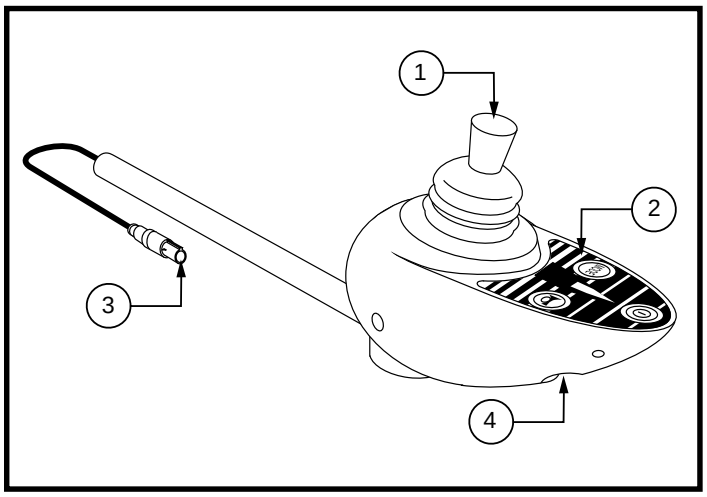


Figure 25. Remote Plus Master Remote

Joystick

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

WARNING! If your power chair begins to move in an unexpected manner, immediately release the joystick. Unless the joystick is damaged, this action should stop your power chair.

Keypad

The keypad is located directly in front of the joystick. See figure 26. It contains keys that you will use to control your power chair.

On/Off Key
The on/off keys toggles the system power on and off.

WARNING! Unless faced with an emergency situation, do not use the on/off key to stop the chair. This will cause the power chair to stop abruptly.

WARNING! Always turn the power off when you are stationary to prevent unexpected movement.

Mode Key
Press the key to change speed setting or to activate the power accessories. See "Speed Settings" or "Power Accessories."

Speed Setting Indicator
Indicates the selected speed setting.

Power Accessory Indicator
Indicates the selected power accessory. This is for optional accessories only.

Horn Key
The horn key activates the horn.

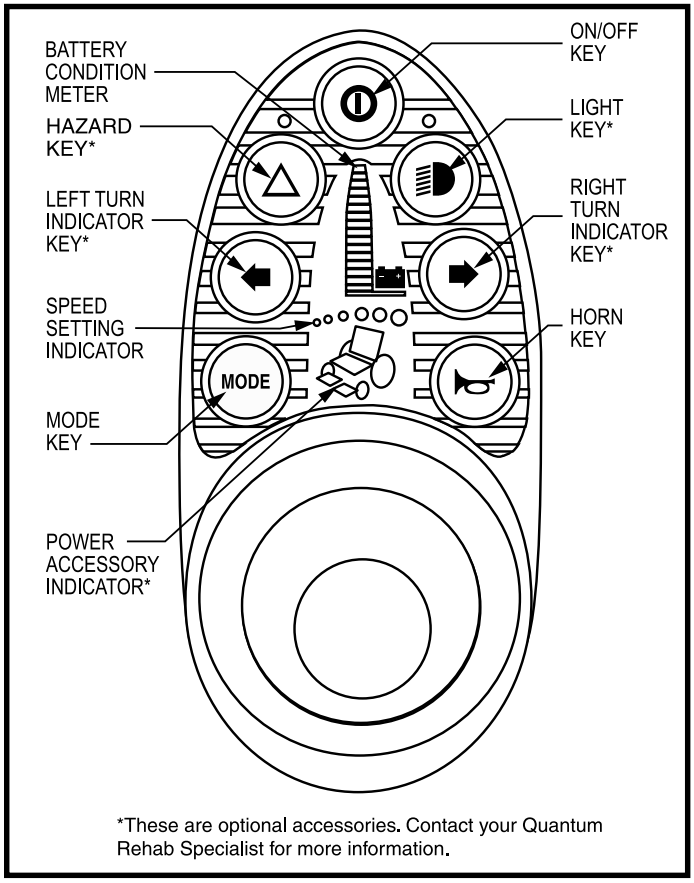


Figure 26. Remote Plus Keypad

Right/Left Turn Indicator Keys
The right/left turn indicator keys toggle either the left or right turn indicators. Press once to turn on and press again to turn off. You can also turn off the selected indicator by pressing the opposite indicator key or the hazard key.

Light Key
The light key turns headlights/taillights on and off independent of other indicators.

WARNING! Power chair users are required to use their lights when visibility is restricted-day or night. Failure to use the lighting system in periods of poor visibility may result in personal injury.

Hazard Key
The hazard key toggles both right and left turn indicators at the same time. You can only cancel this by pressing the hazard key again.

Battery Condition Meter
The battery condition meter is located in front of the joystick. This is a 10-segment illuminated display that indicates that the Remote Plus is turned on and also gives the status of the battery, 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. Refer to "Remote Plus Error Codes."

- **Ripple up and down of lights:** The joystick was not in the centre position when the controller was turned on. If you get "ripple up and down of lights," turn off the controller, allow the joystick to return to the neutral position, then turn on the controller.

NOTE: If you still get "ripple up and down of lights," contact your Quantum Rehab Specialist. 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!

Speed Settings

The Remote Plus speed settings range from 1 to 5. Typically, the slowest speed setting is 1 and the fastest speed setting is 5. The settings are indicated by the number of lights that are lit.

NOTE: The speed settings are preset at the factory. If your Quantum Rehab Specialist changes the order of these settings, please make note of these changes. Contact your Quantum Rehab Specialist for more information.

To select a speed setting:

1. Press the on/off key to power on the remote.
2. Press the mode key once.
3. To increase chair speed, push the joystick to the right. Each time you push the joystick, you will increase the speed setting.
4. To decrease chair speed, push the joystick to the left. Each time you push the joystick, you decrease the speed setting.
5. Once you select the desired speed setting, press the mode key once to keep the setting or push the joystick in the forward or reverse direction. The chair will resume operation at the selected speed.

NOTE: We recommend that the first few times you operate your power chair, you have your speed on the slowest setting until you become familiar with your new power chair.

Power Accessories

If your power chair is equipped with power accessories such as a power seat or power elevating leg rests, you can operate them through the remote keypad. Contact your Quantum Rehab Specialist for information on how to operate these accessories.

Off-board Charger/Programming Socket

The off-board charger/programming socket is located on the front of the Remote Plus. The off-board charger current should not exceed 8 amps. Contact your Quantum Rehab Specialist for more information.

WARNING! Only chargers with Neutrik NC3MX plugs should be connected to the off-board charger/ programming socket.

NOTE: The off-board charger/programming socket may also be used for reprogramming the Remote Plus. Contact your Quantum Rehab Specialist for more information.

Controller Communications Cable

The controller communications cable provides the joystick module with a connection to the power module at the back of the power base.

Power Module (Not Shown)
Typically, the power module is mounted to the power base. The power module provides a power interface for the controller module. It routes the battery power to the motors and other powered accessories such as lights and power seats.

Actuator Lighting Module (Optional, Not Shown)
The actuator lighting module is also located on the power base. The actuator lighting module provides a control and power interface between the power module, the lights and/or the power elevating seat actuator.

Sleep Mode
Your Remote Plus controller has a sleep mode feature. Sleep mode is a built-in circuit that automatically shuts off the main power if the joystick is not moved in any direction for approximately five minutes. The battery condition meter lights on the keypad indicate sleep mode by blinking once every five seconds. To restore power and continue, push the on/off key twice.

Thermal Rollback
The Remote Plus is equipped with a thermal rollback circuit. This circuit monitors the temperature of the motors, power module and remote. In the event that any of them become excessively hot (above 50°C/122°F), motor voltage is reduced. For every degree above 50°C/122°F, the voltage is reduced by 5 volts. This reduces your power chair's speed and allows the electrical components to cool down. When the temperature returns to a safe level, your power chair resumes its normal speed.

Remote Plus 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. The battery condition meter has ten lights. The lights provide information by the number of lights that are flashing. If any of the meter lights are flashing rapidly, the controller may be indicating a fault. For instance, if the first light is flashing rapidly, the battery voltage is nearly depleted. The following is a list of the possible errors signified by the rapidly flashing meter. When you get an error code, contact your Quantum Rehab Specialist.

TROUBLE CODE	DIAGNOSIS	SOLUTION
10	High Battery Voltage	Check batteries.
9	Solenoid Brake Fault	Check motor/brake wiring.
8	Possible Controller Fault	See Quantum Rehab Specialist.
7	Possible Joystick Fault	See Quantum Rehab Specialist.
6	Inhibit Active	Unplug charger. Check connections.
5	Right Motor Wiring Fault	Check right motor wiring.
4	Right Motor Disconnected	Check right motor wiring.
3	Left Motor Wiring Fault	Check left motor wiring.
2	Left Motor Disconnected	Check left motor wiring.
1	Low Battery Voltage	Check batteries/battery wiring.

THE MICRODRIVE CONTROLLER

The electronic controller is what you use to operate your power chair. It takes the battery voltage and sends it to the appropriate system. The electronic controller also enables you to monitor battery charge, electronic controller functions and the condition of your electrical system. Also, it may be used to control some optional systems such as power elevating seats and lights. The Microdrive electronic control system is a modular system. The electronics necessary to operate your power chair are contained in several modules located on different parts of your power chair. Typically, the Microdrive Controller is mounted to one of the armrests. See figure 27. The other components are located on or inside the power base.

The controller supplied with your power chair has been pre-programmed to meet your 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 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 authorised representative of the manufacturer or a trained service technician should program the controller.

The Microdrive Controller consists of:

1. joystick
2. display pad
3. mode switch
4. on/off switch
5. speed control knob
6. joystick interface module
7. off-board charger/programming socket

Joystick

The joystick controls the direction and speed of your power chair. When you move the joystick from the neutral (centre) 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.

WARNING! If your power chair begins to move in an unexpected manner, immediately release the joystick. Unless the joystick is damaged, this action should stop your power chair.

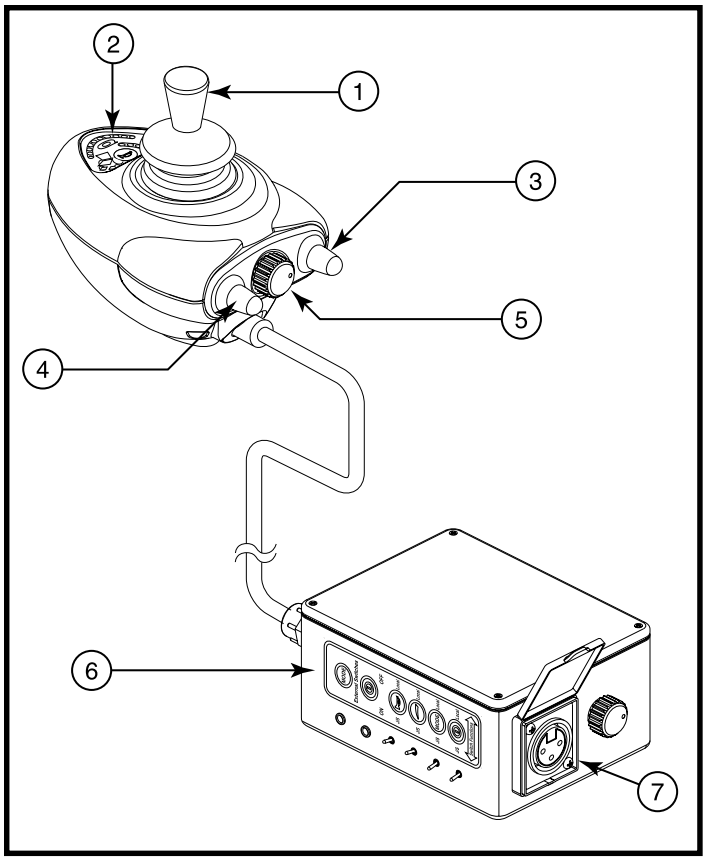


Figure 27. Microdrive Controller with Joystick Interface Module

Display Pad
The display pad is located directly in front of the joystick. It contains the horn key, battery condition meter, profile and speed indicator and the actuator indicator. See figure 28.

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 still get "ripple side to side of lights," contact your Quantum Rehab Specialist.

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 button, mode switch, on/off switch and speed adjustment dial.

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.

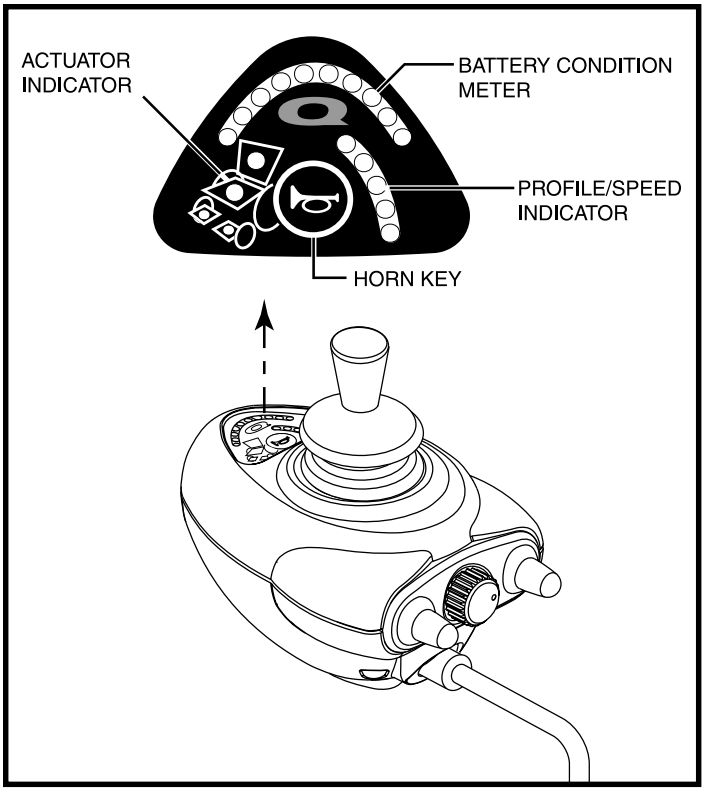


Figure 28. Microdrive Display Pad

VII. OPERATION

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 button.
3. Move the joystick left or right to select the desired drive profile. Each of the LEDs indicate a separate profile.

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

Speed Adjustment

The Microdrive controller provides a speed control knob 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 control knob clockwise.
3. To decrease your speed, turn the speed control knob anticlockwise.

Off-board Charger/Programming Socket

Used for off-board charger connectiona nd joystick programming. Off-board chargers sould not exceed 8 amps. Contact your Quantum Rehab Specialist for more information.

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 50° C/122° F, 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 following table identifies the individual error codes, probable causes and possible solutions. If you get one of these error codes, contact your Quantum Rehab Specialist.

FLASHING LIGHTS	DIAGNOSIS	SOLUTION
10	High Battery Voltage	Check batteries.
9	Solenoid Brake Fault	Check motor/brake wiring.
8	Possible Controller Fault	See Quantum Rehab Specialist.
7	Possible Joystick Fault	See Quantum Rehab Specialist.
6	Inhibit Active	Unplug charger. Check connections.
5	Right Motor Wiring Fault	Check right motor wiring.
4	Right Motor Disconnected	Check right motor wiring.
3	Left Motor Wiring Fault	Check left motor wiring.
2	Left Motor Disconnected	Check left motor wiring.
1	Low Battery Voltage	Check batteries/battery wiring.

VIII. CARE AND MAINTENANCE

CARE AND MAINTENANCE

Your Quantum 1402 is a sophisticated power chair. Like any motorised vehicle, it requires routine maintenance checks. You can perform some of these checks, but others require assistance from a Quantum Rehab Specialist. Preventive maintenance is very important. If you follow the maintenance checks in this section as scheduled, you can help ensure that your power chair gives you years of trouble-free operation. If you have any doubt as to the care or operation of your power chair, contact your Quantum Rehab Specialist.

Your Quantum 1402, like most electrical equipment, is susceptible to damage from the elements. Avoid damp areas of any kind.

WARNING! Direct exposure to water or dampness could cause the power chair to malfunction electronically and mechanically. Water can cause electrical components to corrode and the chair's frame to rust.

Should your power chair come in contact with water:

1. Dry your power chair as thoroughly as possible with a dry towel.
2. Allow your power chair to sit in a warm, dry place for 12 hours to allow unseen water to evaporate.
3. Check the joystick operation and the brakes before using your power chair again.
4. If any inconsistencies are found, take your power chair to your Quantum Rehab Specialist.

Temperature

- Some of the parts of your power chair are susceptible to extreme changes in temperature. Always keep your Quantum 1402 between the temperatures of -8° C/18° F and 50° C/122° F.
- In extremely cold temperatures the batteries may freeze. The specific temperature at which they freeze depends on a number of factors, such as battery charge, usage and composition of the batteries (e.g., AGM or Gel-Cell).
- Temperatures above 50° C/122° F may cause your Quantum 1402 to operate at a reduced speed. This reduced speed is a safety feature built into the controller that helps prevent damage to the motor and other electrical components. See VII. "Operation."

General Guidelines

- Avoid knocking or bumping the controller, especially the joystick.
- Avoid prolonged exposure of your power chair to extreme conditions, such as heat, cold or moisture.
- Keep the controller clean.
- Check all controller connectors on the electronics tray to ensure that they are all tight and secured properly.
- Make sure the drive tyres are inflated to **2.4 bar (35 psi)**.

WARNING! Overinflating tyres can cause them to explode and can result in personal injury.

WARNING! Do not use a high pressure hose to inflate your tyres.

- Use a rubber conditioner on the tyre sidewalls to help preserve them.

WARNING! Never use a rubber conditioner on the tread area of the tyres; doing so may make the tyres slippery and cause your power chair to skid.

- The body shroud has been sprayed with a clear sealant coating. You can apply a light coat of car wax to help it retain its high-gloss appearance.

- Check all electrical connections. Make sure they are tight and are not corroded. Batteries must sit flat within the battery well, with the battery terminals facing inward, toward each other. Refer to the frame decal for the correct wiring layout.
- All wheel bearings are prelubricated and sealed. They require no subsequent lubrication.

Daily Checks

- With the controller turned off, check the joystick. Make sure it is not bent or damaged and that it returns to the center when you release it. Check the rubber boot around the base of the joystick for damage. Visually inspect the boot. Do not handle or try to repair it. Contact your Quantum Rehab Specialist if there is a problem.
- Visually inspect the controller harnesses. Make sure that they are not frayed or cut or have any wires exposed. Contact your Quantum Rehab Specialist if there is a problem with any of these harnesses.

Weekly Checks

- Disconnect and inspect the controller and the charger harnesses from the electronics tray. Look for corrosion. Contact your Quantum Rehab Specialist if necessary.
- Ensure that all parts of the controller system are securely fastened to your Quantum 1402. Do not overtighten any screws.
- Check for proper tyre inflation. There should be **2.4 bar (35 psi)** in each tyre. If a tyre does not hold air, see your Quantum Rehab Specialist for replacement of the tube.
- Calibrate the joystick if a noticeable difference in performance is detected or if the joystick does not operate properly. You can only do this for the Remote Plus controller.
- Check the brakes. This test should be carried out on a level surface with at least one metre (3 feet) of clearance around your power chair.

To check the brakes:

1. Turn on the controller and turn down the speed level of your power chair.
2. After one second, check the battery condition meter. Make sure that it remains on.
3. Slowly push the joystick forward until you hear the electric brakes click. Immediately release the joystick. You must be able to hear each electrical brake operating within a few seconds of joystick movement. Repeat this test three times, pushing the joystick rearwards, then left and then right.

Monthly Checks

- Check that the anti-tip wheels do not rub the ground when you operate your power chair. Adjust them as necessary. See V. “Comfort Adjustments.”
- Check for extreme wear on the anti-tip wheels. Replace them as necessary.
- Check for drive tyre wear. See your Quantum Rehab Specialist for replacement.
- Check the rear casters for wear. Replace them as necessary.
- Check the rear forks for damage or fluttering which indicates that they may need to be adjusted or have the bearings replaced. See your Quantum Rehab Specialist for repair.
- Keep your power chair clean and free of foreign material, such as mud, dirt, hair, food, drink, etc.

Yearly Checks

Take your power chair to your Quantum Rehab Specialist for yearly maintenance. This helps ensure that your power chair is functioning properly and helps prevent future complications.

VIII. CARE AND MAINTENANCE

Storage

Your power chair should be stored in a dry place, free from temperature extremes. When storing, disconnect the batteries from the Quantum 1402. See VI. "Batteries and Charging."

WARNING! Improper storage of your power chair can result in rust to the frame and damage to electronics. Store and maintain your power chair in a dry and clean condition.

Cleaning Instructions

WARNING! Never hose off your power chair or place it in direct contact with water. Your power chair has a painted, ABS plastic body shroud that allows it to be easily wiped clean with a damp cloth.

WARNING! Never use any chemicals to clean a vinyl seat, as they may cause the seat to become slippery or dry out and crack. Use soapy water and dry the seat thoroughly.

Wheel Replacement

If you have pneumatic tyres and you have a flat tyre, you can replace the tube. If your chair is equipped with a solid tyre insert, then you must replace the entire wheel assembly. Replacement tyres, tubes and wheel assemblies are readily available through your authorised Pride Provider.

WARNING! To avoid possible injury, be sure that the controller is turned off and the power chair is not in freewheel mode before performing this procedure.

WARNING! Completely deflate the tyre before attempting repair.

Follow these easy steps for a quick and safe repair:

1. Completely deflate the tyre if pneumatic.
2. Use a socket spanner to remove the drive wheel nut and washer from the axle. See figure 29.
3. Pull the wheel off of the axle.
4. Remove the screws that hold the rim halves together. See figure 30.
5. Remove the old tube and/or tyre and replace it with a new tube and/or tyre.
6. Reassemble the wheel.

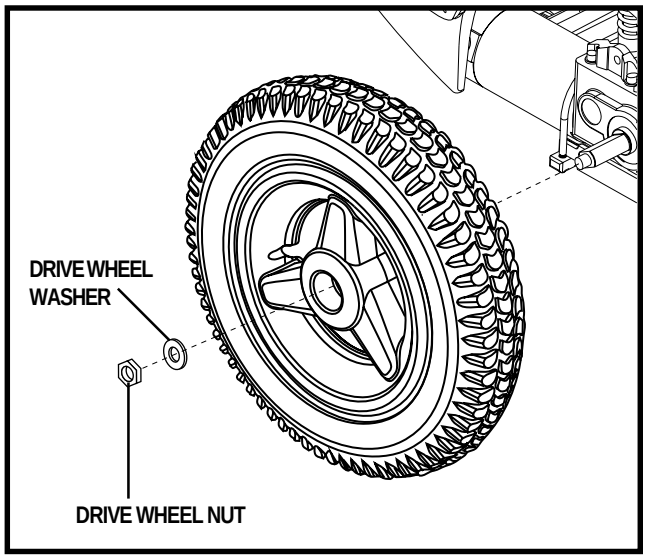


Figure 29. Drive Wheel Removal

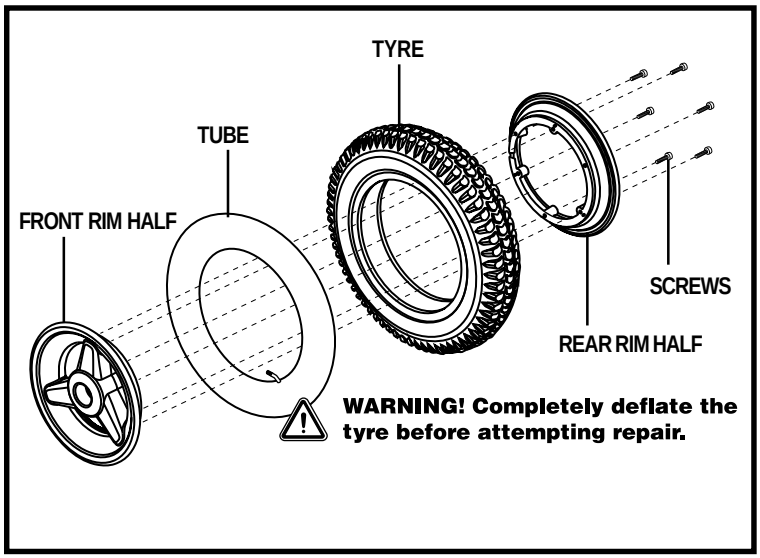


Figure 30. Drive Wheel Assembly

7. Slide the wheel back onto the axle.
8. Install the drive wheel nut and washer onto the axle and retighten.
9. Inflate the tyre to **2.4 bar (35 psi)**.

Battery Replacement

A diagram is printed on a decal on the Quantum 1402 frame near the battery tray.

To replace the battery:

1. Turn off the power to the controller.
2. Remove the detent pin from the bottom of the foot frame.
3. Lift the foot frame straight up to remove it from the mounting bracket.
4. Locate the two wiring harnesses that are attached to the batteries.
5. Disconnect the two harnesses from their respective quick disconnects by pulling the quick disconnects toward you.
6. Remove the batteries from the power base assembly.
7. Disconnect the battery harnesses from the positive and negative terminals.
8. Replace the old batteries with new ones.
9. Connect the wire labeled BAT (+) to the positive (red) terminal of one battery.
10. Connect the wire labeled BAT (-) to the negative (black) terminal of the same battery.
11. Install the battery into the rear of the battery tray with the battery terminals facing inward, toward the center of the power chair. Plug the wiring harness into a quick disconnect.
12. Connect the wire labeled BAT (+) to the positive (red) terminal of the other battery.
13. Connect the wire labeled BAT (-) to the negative (black) terminal of the same battery.
14. Install the battery into the front of the battery tray with the battery's terminals facing inward, toward the center of the power chair. Plug the wiring harness into a quick disconnect.

WARNING! Make sure you tighten the fasteners so that the connections are secure.

15. Replace the foot frame using the detent pin to secure.

When to See Your Quantum Rehab Specialist for Service

The following symptoms could indicate a serious problem with your Quantum 1402. If necessary, contact your Quantum Rehab Specialist. When calling, have the model number, serial number, nature of the problem and the trouble code if available.

- Motor noise
- Uneven wear on any of the tyres
- Bent or broken wheel assemblies
- Frayed harnesses
- Jerky motion
- Does not power up
- Cracked or broken connectors
- Pulling to one side
- Powers up, but does not move

Corrective Maintenance

If the battery condition meter does not light up when you turn on the power:

- Check the harness connections. Make sure they are tight.
- Check the circuit breaker. Reset it if necessary.
- Check the battery connections.

If the above conditions prove normal, you can load test the batteries with a battery load tester. These testers are available at automotive parts stores. Disconnect both batteries before load testing and follow the directions that come with the load tester. If either one of the batteries fails the load test, replace both of them. If your power chair still does not power up, contact your Quantum Rehab Specialist.

IX. WARRANTY

LIFETIME WARRANTY

Structural frame components, including: platform, fork, seat post and frame welds.

TWO-YEAR LIMITED WARRANTY

Drivetrain, including: motor and brake.

EIGHTEEN-MONTHS LIMITED WARRANTY

Controllers: Any attempt to open or dismantle these parts will lead to this warranty being void.

ONE-YEAR LIMITED WARRANTY

All electrical parts, including battery chargers, are covered for one year under warranty. Any attempt to open or dismantle these parts will lead to this warranty being void.

BATTERIES

Batteries are covered by a twelve-month warranty from the original manufacturer.

NOT COVERED UNDER WARRANTY

The following parts are classed as wear items, which may, under normal wear and tear, require replacing. These items are **not** therefore covered under warranty: tyres, positioning belts, bulbs, upholstery, plastic shrouds, motor brushes, fuses and batteries. Warranty will also be refused if damage is deemed to have been caused through misuse or accident for which Pride Mobility Products Ltd. cannot be deemed responsible.

NOTE: Pride Mobility Products Ltd. provides parts only under warranty. Your Quantum Rehab Specialist is responsible for labour and service. Please contact your Quantum Rehab Specialist for information about these services and for any applicable charges.

NOTES

Quantum 1402 Jazz

Quality Control - Quantum 1402

Thank you for making the Quantum 1402 your choice in power chairs.

We have thoroughly inspected your Quantum 1402. The following check marks indicate that it has been tested, driven and inspected.

#1 In Quality

Pride keeps a more detailed report on file at the factory.

Date Inspected

Inspector

INFMANU2973

Serial Number

Pride Mobility Products Ltd.